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NASA Contractor Report 168106

Flight Summaries and Temperature Climatology at Airliner Cruise Altitudes from Gasp Data

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Corrected Copy

February 1985

Prepared for

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
Lewis Research Center
Under Contract NAS 3-21249

1. Introduction

Temperature in the atmosphere varies with latitude, season and height above the earth's surface. Temperature in the troposphere, the layer of the atmosphere closest to the earth, tends to decrease with height. In the lower stratosphere, the next higher layer, the temperature tends to remain constant to slowly rising with height. The coldest temperatures are found at or slightly above the tropopause, the imaginary surface separating the troposphere and the stratosphere.

The tropopause acts as a lid on the lower atmosphere, constraining all of what is commonly referred to as weather to the troposphere. The height of the tropopause varies with time and latitude but on the average is located at about 7 km near the poles to about 17 km at the equator. This general description is illustrated in Figure 1, where the tropopause is given as a heavy line. Note that above 30-40,000 feet (9-12 km) the coldest temperatures often can be found over the tropics.

Aircraft, in particular commercial aircraft, often fly near the tropopause, the level of minimum temperature. The temperatures to which an aircraft is exposed are of concern for problems such as the use of high freeze-point fuels. The purpose of this report is to present aircraft flight summaries of static air temperature and a geographical climatology of temperature compiled from data obtained during the Global Atmospheric Sampling Program. Appendix A describes the method used to obtain statistically inde-

pendent temperature observations from each flight while Appendices B and C present the flight summaries and geographical climatology, respectively.

2. Data

The NASA Global Atmospheric Sampling Program (GASP) ran from March 1975 to July 1979. During this program, four commercial B747 aircraft in routine service were instrumented to obtain measurements of aerosols, trace constituents and meteorological variables (refs. 1 and 2). The GASP system was automated to record data at nominal 5 minute intervals during flight above FL190 (19000 ft.; to be consistent with usual airline terminology, altitudes will hereafter be given in FL's). When turbulence was encountered, or on entire selected flights, data were recorded at 4-second intervals (ref. 3), but for this study only 1-minute interval data were retained. Temperature data were recorded in whole degrees celsius.

The data set used in this study consists of 6945 flights covering 273 different routes. Most of these routes are in the United States (including Hawaii) or are from the U. S. to Europe or to Japan. However, there also are numerous flights from the Northern Hemisphere to the Southern Hemisphere, within the Southern Hemisphere, between cities along the southern rim of Asia, and even some into Africa. The airports visited and their locations are listed in Table 1, and Table 2 presents a breakdown of the number of times each route was flown in either direction by month, in decreasing order of total flights.

3. Flight Summaries

Flight altitudes and temperatures along two GASP flights are given in Figure 2. Note that the flight altitudes are generally constant along relatively long legs, or segments, separated by relatively rapid ascent (descent) periods. This feature is typical of the flight altitude profiles for long duration flights (altitude profiles for all GASP flights on which cabin ozone was measured are given in refs. 4-6). In Figure 2, the average temperature along each altitude segment is plotted as a horizontal line, and a vertical line extends one standard deviation above and below the mean temperature. In the SFO-LHR flight in Figure 2, note that the temperature increases from the first to the second segment even though the flight level goes up from FL370 to FL390. This increase arises because the airliner is in the stratosphere in the second (and third) segment of this flight, and illustrates the coldest temperatures are often found very near the tropopause. Note that for both flights the segment means and standard deviations capture the salient features of temperature variability along each flight. The segment statistics, along with those for the entire route, for all GASP flights are given in Appendix B as discussed below.

Flight summaries are provided in Appendix B for all flights which had at least one hour of data at or above FL270. For ease of identifying particular flight routes, the routes have been alphabetically ordered with respect to the departure and arrival airports.

The route, date, number of observations and flight duration are provided in the first part of the summary. The coldest static (ambient) temperature observed, its associated flight level, latitude and longitude and time into the flight are shown in the next section followed by the mean flight level, mean temperature and the temperature standard deviation of all data above FL270. The last section of the table provides a breakdown of the temperature, flight level, standard deviation and duration for each flight segment. A flight segment is defined as any segment of the flight in excess of one hour during which the flight level changed by less than $\pm$ 500 feet. Some of the flights contain several flight segments, while for some flights no single segment met these criteria. On some flights time was missing from the GASP data records and in these cases the elapsed time was estimated using position data and a mean flight speed.

4. GASP Temperature Climatology

All climatological summaries should be based on statistically independent or properly weighted data to avoid biasing the results toward a particular time or situation. Temperature fields in the upper atmosphere are usually relatively smooth, dominated by large-scale troughs and ridges, so most of the variance in the fields can be described by samples taken every few hundred kilometers. In an effort to use only statistically independent observations in this study, the average distance between independent observation was estimated and then used to select samples along

each GASP flight. Details of this analysis are given in Appendix A. Based on this analysis, temperature observations can be considered to be independent if they are separated by 500 km in the troposphere or by 700 km in the stratosphere. Because one of the applications of the climatology presented in this report concerns the use of high freeze-point fuels, the minimum temperature in each of the 500 km or 700 km flight segments was used as the temperature representative of that segment.

Appendix C presents the GASP climatology of all the independent temperature data. In all, there are 100,693 observations. The grid used consists of 5^{o} latitude, 30^{o} longitude and 2000 feet vertical spacing from FL270 to FL430 for each month of the year. The mean and standard deviation for the N independent temperature observations are given for each grid box. In addition, the empirical 98, 50, 16, 2, and .3 probability percentiles were computed and are presented. These numbers represent the temperature for which the probability is x% that the temperature will be colder. All of the numbers in each grid box with the exception of N are given in tenths of degrees celsius (i.e., tabulated numbers = 10 * ^{o}C).

5. Summary

Temperature data obtained by the Global Atmospheric Sampling Program (GASP) during the period March 1975 to July 1979 have been compiled to form flight summaries of static air temperature and a geographic temperature climatology. The flight summaries

include the height and location of the coldest observed temperature and the mean flight level, temperature and the standard deviation of temperature for each flight as well as for flight segments. These summaries are ordered by route and month. The temperature climatology was computed for all statistically independent temperature data for each flight. The grid used consists of 5^{o} latitude, 30^{o} longitude and 2000 feet vertical resolution from FL270 to FL430 for each month of the year. The number of statistically independent observations, their mean, standard deviation and the empirical 98, 50, 16, 2 and .3 probability percentiles are presented.

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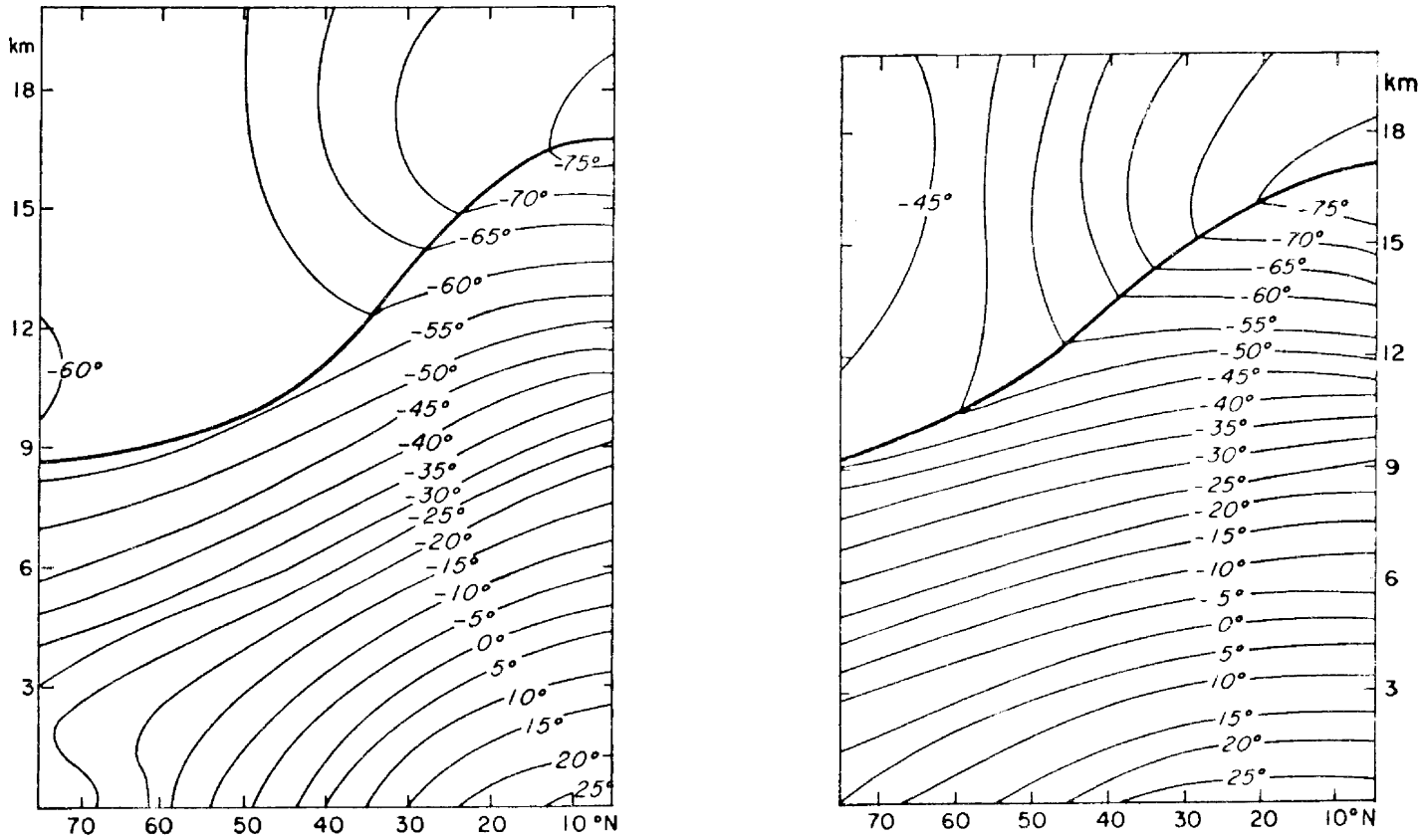
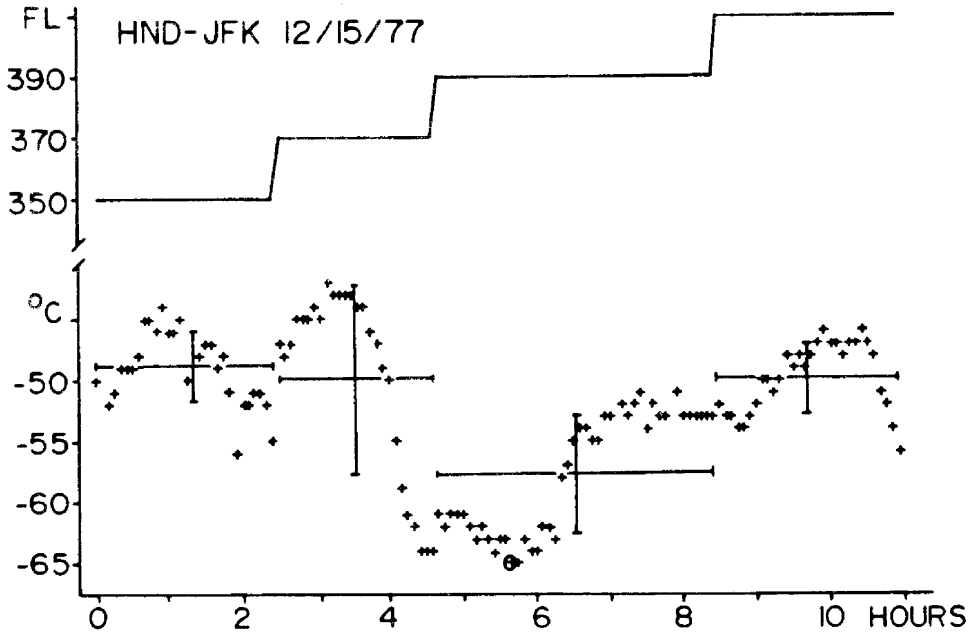


Figure 1. Vertical cross sections of the meridional distribution of temperatures in winter (left) and summer (right). (Figures adapted from ref. 7, fig. 4.1.)



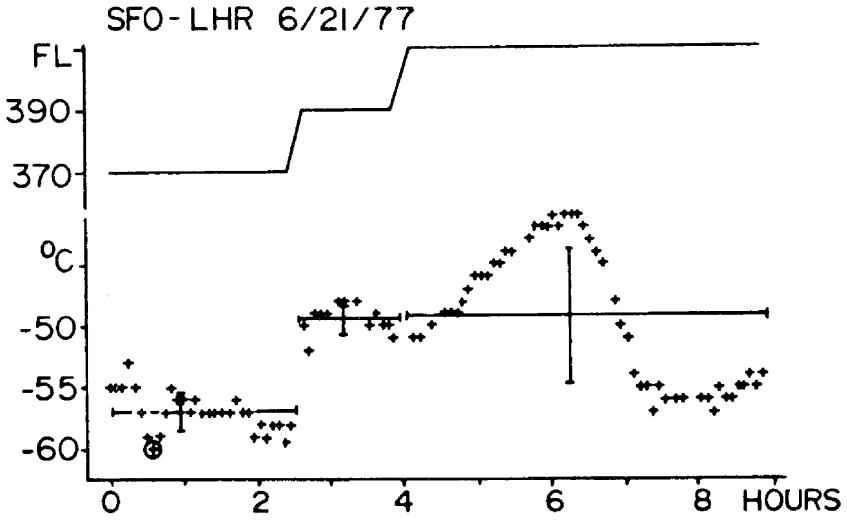


Figure 2. Flight level and static air temperature for flights from Tokyo to New York (upper) and San Francisco to London (lower). Small crosses depict observed temperature along flight segments and vertical bars extend one standard deviation above and below the mean. The coldest temperature on each flight is circled.

TABLE 1

AIRPORT/CITY CODES AND LOCATIONS

CITY	LAT.	LONG.
ACA - Acapulco, Mexico	16.75N	99.76W
AKL - Auckland, New Zealand	37.03S	174.81E
AMS - Amsterdam, Netherlands	52.30N	4.76E
ANC - Anchorage, Alaska	61.17N	149.98W
ATH - Athens, Greece	37.96N	23.73E
BAH - Bahrain Is., Arabian Gulf	26.00N	50.60E
BDA - Bermuda, Atlantic Ocean	32.36N	64.63W
BEG - Belgrade, Yugoslavia	44.82N	20.30E
BEY - Beirut, Lebanon	33.82N	35.49E
BGR - Bangor, Maine	44.81N	68.82W
BKK - Bangkok, Thailand	13.90N	100.60E
BNE - Brisbane, Australia	27.44S	153.12E
BOM - Bombay, India	19.15N	72.86E
BOS - Boston, Mass.	42.36N	71.01W
BRU - Brussels, Belgium	50.90N	4.49E
CCS - Caracas, Venezuela	10.62N	66.97W
CGN - Cologne, Germany	50.93N	7.32E
CHC - Christchurch, New Zealand	43.51S	172.52E
CLE - Cleveland, Ohio	41.41N	81.84W
CPH - Copenhagen, Denmark	55.54N	12.81E
CPT - Capetown, South Africa	33.90S	18.68E
CTS - Sapporo, Japan	42.80N	141.67E
CUN - Cancun, Mexico	21.03N	86.88W
CUR - Curacao, Neth. Antilles	12.25N	68.91W
DAM - Damascus, Syria	33.50N	36.50E
DEL - Delhi, India	28.56N	77.12E
DEN - Denver, Colorado	39.76N	104.89W
DFW - Dallas/Ft. Worth, Texas	32.88N	97.03W
DHA - Dhahrain, Saudi Arabia	26.28N	50.17E
DRW - Darwin, Australia	12.36S	130.89E
DTW - Detroit, Michigan	42.24N	83.39W
DUB - Dublin, Ireland	53.44N	6.26W
EZE - Buenos Aires, Argentina	34.81S	58.53W
FAI - Fairbanks, Alaska	64.82N	147.86W
FCO - Rome, Italy	41.80N	12.25E
FRA - Frankfurt, Germany	50.05N	8.58E
GIG - Rio de Janeiro, Brazil	22.84S	43.20W
GUA - Guatemala City, Guatemala	14.59N	90.52W
GUM - Guam Island, Mariana Islands	13.41N	144.80E
HKG - Hong Kong, Hong Kong	22.33N	114.21E
HND - Tokyo, Japan	35.54N	139.77E
HNL - Honolulu, Hawaii	21.33N	157.92W
IAD - Washington, D.C.	38.94N	77.44W
IAH - Houston, Texas	29.49N	95.28W
IST - Istanbul, Turkey	40.98N	28.83E

TABLE 1 (cont'd)

ITO - Hilo, Hawaii	19.64N	155.03W
JFK - New York, New York	40.63N	73.77W
JNB - Johannesburg, South Africa	26.12S	28.22E
KHI - Karachi, Pakistan	24.90N	67.15E
KUL - Kula Lumpur, Malaysia	3.12N	101.66E
LAS - Las Vegas, Nevada	36.08N	115.15W
LAX - Los Angeles, California	33.95N	118.40W
LHR - London, England	51.47N	.43W
LPA - Las Palmas, Canary Island	27.94N	15.39W
MEL - Melbourne, Australia	37.67S	144.84E
MEX - Mexico City, Mexico	19.45N	99.05W
MIA - Miami, Florida	25.79N	80.27W
MIQ - Caracas, Venezuela	10.60N	66.99W
MNL - Manila, Philippines	14.49N	121.02E
MRU - Mauritius, Indian Ocean	20.45S	57.68E
MUC - Munich, Germany	48.08N	11.60E
NAN - Nandi, Fiji Island	17.75S	177.46E
NCE - Nice, France	43.57N	7.41E
NOU - Noumea, New Caledonia	22.01S	166.24E
NRT - Tokyo, Japan	35.72N	140.32E
OKA - Okinawa, Japan	26.20N	127.63E
OMA - Omaha, Nebraska	41.34N	95.89W
ORD - Chicago, Illinois	41.97N	87.90W
OSA - Osaka, Japan	34.78N	135.42E
ORY - Paris, France	48.77N	2.38E
PDX - Portland, Oregon	45.85N	122.47W
PER - Perth, W. Australia	31.92S	115.94E
PHL - Philadelphia, Pennsylvania	39.90N	75.07W
PIK - Glasgow, Scotland	55.60N	4.70W
PPG - Pago Pago, Samoa	14.06S	170.68W
PPT - Papeete, Tahiti	17.55S	149.60W
PTY - Panama City, Panama	9.08N	79.38W
SEA - Seattle, Washington	47.44N	122.30W
SFO - San Francisco, California	37.61N	122.39W
SIN - Singapore, Singapore	1.44N	103.85E
SNN - Shannon, Ireland	52.69N	8.91W
STL - St. Louis, Missouri	38.75N	90.36W
STR - Stuttgart, Germany	48.55N	9.21E
SYD - Sydney, Australia	33.87S	151.34E
THR - Tehran, Iran	35.68N	51.31E
TPE - Taipei, Taiwan	25.07N	121.54E
VIE - Vienna, Austria	48.11N	16.58E
YQX - Gander, Newfoundland, Canada	48.98N	54.50W
YVR - Vancouver, B.C. Canada	49.20N	123.18W
YYZ - Toronto, Ontario, Canada	43.67N	79.61W

Table 2

ROUTE-FLIGHT SUMMARY

	ROUTE		LAT	LONG	LAT	LONG	J	F	M	A	M	J	J	A	S	O	N	D	TOT
1	HNL	SFO	21.3N	157.9W	37.6N	122.4W	68	56	32	61	37	50	42	23	35	32	24	55	515
2	LAX	HNL	33.9N	118.4W	21.4N	157.9W	27	42	31	37	34	57	66	35	19	15	28	43	434
3	SYD	MEL	33.9S	151.2E	37.7S	144.8E	22	25	5	10	13	17	24	30	4	14	19	25	208
4	JFK	HND	40.6N	73.8W	35.5N	139.8E	10	20	24	36	13	4	13	13	21	19	25	8	206
5	LHR	JFK	51.5N	.4W	40.6N	73.8W	12	10	26	14	19	12	13	10	28	26	8	7	185
6	LAX	JFK	34.0N	118.4W	40.6N	73.8W	17	24	20	15	13	32	12	6	4	8	14	15	180
7	HND	LAX	35.5N	139.8E	34.0N	118.5W	10	19	22	37	6	3	10	12	18	21	10	7	175
8	ORD	HNL	42.0N	87.9W	21.3N	157.9W	10	9	23	19	19	22	22	9	13	7	5	12	170
9	SFO	LAX	37.6N	122.4W	34.0N	118.4W	21	10	16	14	18	15	18	20	14	7	5	7	165
10	LAX	ORD	33.9N	118.4W	42.0N	87.9W	12	17	18	14	14	16	14	11	8	5	6	22	157
11	SYD	AKL	33.9S	151.2E	37.0S	174.8E	9	16	4	9	15	15	13	8	4	15	9	31	148
12	JFK	SFO	40.6N	73.8W	37.6N	122.4W	18	7	11	13	15	12	9	14	9	11	5	22	146
13	JFK	FRA	40.6N	73.8W	50.1N	8.6E	10	5	20	16	12	2	3	8	22	14	8	2	122
14	NAN	SYD	17.8S	177.5E	34.0S	151.2E	16	7	5	10	5	9	9	6	10	14	5	18	114
15	ORD	JFK	42.0N	87.9W	40.6N	73.8W	9	8	9	5	9	12	13	9	5	8	4	10	101
16	HNL	NAN	21.3N	157.9W	17.8S	177.5E	10	7	5	6	3	10	7	6	10	12	5	16	97
17	SFO	ORD	37.6N	122.4W	41.9N	87.9W	9	5	5	17	4	12	7	6	9	7	1	11	93
18	NRT	JFK	35.8N	140.4E	40.6N	73.9W	11	9	2	10	2	15	9	8	8	8	2	9	93
19	LHR	AMS	51.5N	.4W	52.3N	4.8E	3	0	4	3	8	7	18	6	16	14	5	4	88
20	LHR	FRA	51.5N	.5W	50.1N	8.6E	7	8	10	5	11	7	2	5	5	9	8	5	82
21	LAX	DEN	33.9N	118.4W	39.7N	104.9W	3	6	10	9	7	6	8	2	4	7	9	8	79
22	HNL	GUM	21.3N	157.9W	13.4N	144.8E	0	1	6	15	13	3	12	5	0	1	4	8	68
23	LAX	GUA	34.0N	118.4W	14.6N	90.5W	10	0	10	10	14	4	8	8	2	0	2	0	68
24	LAX	ITO	34.0N	118.4W	19.6N	155.0W	5	7	6	5	7	8	4	8	3	1	3	8	65
25	SYD	HNL	33.9S	151.2E	21.4N	157.9W	14	16	1	7	2	2	0	0	12	5	0	0	59
26	LAX	NRT	34.0N	118.4W	35.7N	140.3E	6	6	1	3	4	10	4	6	6	4	2	7	59
27	JFK	FCO	40.7N	73.8W	41.8N	12.3E	4	2	4	4	4	5	2	5	12	4	6	7	59
28	SEA	LHR	47.4N	122.3W	51.5N	.2W	1	2	10	7	0	18	2	1	2	7	1	7	58
29	IAD	LHR	38.9N	77.4W	51.5N	.5W	2	0	3	5	5	4	6	2	13	9	5	3	57
30	NRT	SFO	35.8N	140.4E	37.6N	122.2W	8	5	2	6	4	7	5	4	4	6	2	4	57
31	LAX	LHR	34.0N	118.4W	51.5N	.5W	1	1	0	1	3	6	13	6	8	8	5	2	54
32	SYD	SIN	33.9S	151.2E	1.4N	103.9E	8	3	2	2	4	1	3	6	2	5	10	7	53
33	LAX	AKL	34.0N	118.4W	37.2S	174.8E	3	4	0	3	6	6	7	2	0	7	2	11	51
34	SFO	HKG	37.6N	122.4W	22.3N	114.1E	12	7	0	5	7	5	0	7	7	0	0	1	51
35	SFO	HND	37.6N	122.4W	35.5N	139.8E	4	2	8	9	8	2	1	2	2	11	0	2	51
36	THR	FRA	35.7N	51.3E	50.0N	8.6E	1	4	3	4	5	6	2	5	4	9	3	4	50
37	PER	BOM	32.0S	116.0E	19.2N	72.9E	5	0	0	6	2	2	7	6	4	7	6	5	50
38	DEN	ORD	39.8N	104.9W	42.0N	87.9W	2	3	9	7	1	4	4	0	2	3	7	6	48
39	HKG	SIN	22.3N	114.2E	1.3N	103.9E	12	8	0	2	4	0	0	6	6	0	2	8	48
40	HKG	BKK	22.3N	114.2E	13.9N	100.6E	2	2	8	5	2	4	1	6	5	9	1	3	48

Table 2 (Cont.)

ROUTE-FLIGHT SUMMARY (CONT.)

	ROUTE		LAT	LONG	LAT	LONG	J	F	M	A	M	J	J	A	S	O	N	D	TOT
41	LHR	BOS	51.5N	.5W	42.4N	71.0W	0	0	2	1	5	0	4	2	11	20	0	2	47
42	ORD	YYZ	42.0N	87.9W	43.7N	79.6W	8	4	8	4	6	0	0	2	4	2	0	8	46
43	BOM	LHR	19.1N	72.9E	51.5N	.5W	5	0	0	6	2	1	7	6	4	6	4	5	46
44	GUM	MNL	13.5N	144.8E	14.5N	121.0E	0	2	6	8	6	2	8	3	0	1	3	6	45
45	LHR	BRU	51.5N	.4W	50.9N	4.5E	3	3	3	4	3	0	8	4	7	6	4	0	45
46	HNL	PPG	21.3N	157.9W	14.1S	170.7W	1	2	2	0	9	6	4	7	0	1	3	8	43
47	JFK	BAH	40.7N	73.8W	26.0N	50.6E	9	2	2	0	2	2	2	4	2	4	5	9	43
48	ORD	PIT	42.0N	87.9W	40.5N	80.2W	2	2	0	2	8	4	4	6	5	0	2	8	43
49	THR	DEL	35.7N	51.3E	28.6N	77.1E	2	2	6	4	4	4	2	3	2	8	0	4	41
50	MNL	HKG	14.5N	121.0E	22.3N	114.2E	4	4	4	2	0	2	6	3	1	6	5	4	41
51	MEL	PER	37.7S	144.9E	32.0S	116.0E	2	4	2	4	2	3	7	3	2	3	4	4	40
52	BOS	DTW	42.4N	71.0W	42.2N	83.4W	0	0	2	2	4	0	4	0	8	18	0	2	40
53	SFO	LHR	37.6N	122.4W	51.5N	.5W	0	0	0	0	3	23	2	4	2	5	0	0	39
54	SIN	BKK	1.4N	103.9E	13.9N	100.6E	2	5	2	0	5	3	4	2	0	2	8	4	37
55	HND	HKG	35.5N	139.8E	22.3N	114.2E	2	4	8	3	1	2	1	3	2	9	0	2	37
56	SFO	AKL	37.6N	122.4W	37.0S	174.7E	1	3	1	2	5	2	2	3	2	5	0	10	36
57	HNL	SEA	21.3N	157.9W	47.4N	122.2W	0	3	5	8	3	6	4	0	0	0	2	5	36
58	SFO	SEA	37.6N	122.4W	47.4N	122.3W	2	2	8	5	0	1	0	0	1	3	3	7	32
59	MEL	SIN	37.7S	144.8E	1.2N	104.0E	0	2	0	0	5	4	3	5	0	4	4	5	32
60	SEA	FAI	47.4N	122.3W	64.8N	147.9W	0	2	0	2	4	10	6	0	0	0	2	4	30
61	GIG	JFK	22.8S	43.2W	40.7N	73.8W	1	4	4	8	3	0	1	2	0	0	7	0	30
62	ORD	SEA	42.0N	87.9W	47.4N	122.3W	0	1	1	9	2	4	6	4	0	0	0	3	30
63	BKK	DEL	13.9N	100.6E	28.6N	77.1E	2	0	8	4	0	0	1	3	1	7	0	3	29
64	HNL	HND	21.3N	157.9W	35.6N	139.8E	0	3	2	0	6	6	4	1	0	0	2	4	28
65	GUA	CCS	14.6N	90.5W	10.6N	67.0W	4	0	0	8	3	0	6	4	1	0	2	0	28
66	BOM	BAH	19.1N	72.9E	26.3N	50.6E	6	0	0	0	0	0	0	2	2	4	5	8	27
67	ORD	LAS	42.0N	87.9W	36.1N	115.2W	3	0	8	3	6	2	0	0	2	2	0	0	26
68	KUL	BAH	3.1N	111.7E	26.3N	50.6E	5	0	0	1	3	0	0	2	1	3	6	4	25
69	THR	IST	35.7N	51.3E	41.0N	28.8E	2	1	4	0	0	0	2	3	1	0	6	6	25
70	ATH	FCO	37.9N	23.7E	41.8N	12.3E	0	2	0	0	2	3	2	6	0	2	4	4	25
71	HKG	NRT	22.3N	114.2E	35.7N	140.4E	2	3	1	1	4	5	1	1	2	2	1	2	25
72	FCO	IST	41.8N	12.3E	41.0N	28.8E	2	2	2	0	0	0	2	3	1	0	6	7	25
73	SYD	PER	33.9S	151.2E	31.9S	115.9E	5	0	0	2	0	1	1	4	2	4	3	2	24
74	IAD	DTW	38.9N	77.4W	42.2N	83.4W	0	0	0	2	2	4	6	0	1	5	2	2	24
75	HKG	DEL	22.3N	114.2E	28.6N	77.1E	2	5	2	1	3	5	1	1	1	2	0	1	24
76	PPG	PPT	14.3S	170.7W	17.6S	149.6W	0	0	2	0	9	0	0	2	0	1	1	8	23
77	BAH	SIN	26.3N	50.6E	1.2N	103.9E	1	0	0	1	1	2	2	7	1	4	0	4	23
78	NRT	HNL	35.8N	140.4E	21.3N	157.9W	2	3	2	1	2	5	2	0	0	4	1	0	22
79	SIN	KUL	1.4N	103.9E	3.1N	101.6E	4	0	0	0	3	0	0	2	1	3	5	4	22
80	ORD	DTW	42.0N	87.9W	42.2N	83.3W	0	4	4	0	0	6	4	0	2	2	0	0	22

Table 2 (Cont.)

ROUTE-FLIGHT SUMMARY (CONT.)

	ROUTE		LAT	LONG	LAT	LONG	J	F	M	A	M	J	J	A	S	O	N	D	TOT
81	BKK	THR	13.9N	100.6E	35.7N	51.4E	0	3	2	1	2	2	0	4	1	2	3	1	21
82	ATH	BEG	37.9N	23.7E	44.9N	20.3E	0	0	4	2	0	0	2	4	0	2	2	4	20
83	JFK	CPH	40.7N	73.8W	55.5N	12.8E	0	0	0	0	0	0	6	8	6	0	0	0	20
84	BAH	FRA	26.3N	50.6E	50.0N	8.5E	4	2	2	0	4	0	0	0	1	1	5	1	20
85	SFO	YVR	37.6N	122.4W	49.2N	123.2W	4	2	0	2	0	2	0	0	4	5	0	0	19
86	SYD	LAX	33.9S	151.2E	33.9N	118.4W	4	0	0	1	1	3	1	2	0	2	1	4	19
87	BKK	ATH	13.9N	100.6E	37.9N	23.7E	0	0	0	0	0	0	4	7	0	0	2	6	19
88	ORD	CLE	42.0N	87.9W	41.4N	81.8W	1	0	5	6	4	2	1	0	0	0	0	0	19
89	MUC	FRA	48.1N	11.7E	50.0N	8.6E	1	2	2	2	4	0	2	0	4	2	0	0	19
90	JFK	IAH	40.6N	73.8W	29.5N	95.3W	2	2	2	0	2	0	0	2	4	3	2	0	19
91	SYD	MNL	34.0S	151.2E	14.6N	121.0E	4	2	0	0	0	0	2	2	2	5	1	0	18
92	PPG	SYD	14.3S	170.7W	33.9S	151.3E	2	2	0	0	0	6	4	4	0	0	0	0	18
93	BKK	BAH	13.9N	100.6E	26.3N	50.6E	2	3	2	0	4	0	0	1	0	0	5	1	18
94	THR	ATH	35.7N	51.3E	38.0N	23.7E	0	2	2	1	1	2	0	4	0	2	2	1	17
95	CUA	PTY	14.6N	90.5W	9.1N	79.4W	2	0	3	2	4	0	0	4	1	0	0	0	16
96	SYD	CHC	33.9S	151.2E	43.5S	172.5E	6	2	0	2	0	0	0	2	0	0	0	4	16
97	CCS	GIG	10.6N	67.0W	22.8S	43.2W	3	0	2	6	2	0	0	2	1	0	0	0	16
98	JFK	DFW	40.6N	73.8W	32.9N	97.0W	0	0	2	2	6	0	0	0	0	0	0	6	16
99	KHI	THR	24.9N	67.2E	35.7N	51.3E	0	1	2	0	0	2	0	4	1	1	2	2	15
100	AKL	MEL	37.0S	174.8E	37.7S	144.8E	5	6	1	0	0	0	0	0	0	0	0	2	14
101	AMS	BAH	52.3N	4.8E	26.1N	50.6E	2	0	0	0	1	0	0	2	0	1	6	2	14
102	PTY	GIG	9.1N	79.4W	22.8S	43.3W	2	0	2	2	3	0	0	4	1	0	0	0	14
103	DFW	HNL	32.9N	97.1W	21.3N	157.9W	0	0	2	0	6	0	0	0	0	0	0	6	14
104	HNL	OSA	21.3N	157.9W	34.8N	135.4E	2	4	1	1	2	0	0	0	0	2	2	0	14
105	OKA	TPE	26.2N	127.7E	25.1N	121.6E	0	0	0	5	1	1	4	2	0	0	0	0	13
106	JFK	DHA	40.6N	73.8W	26.3N	50.2E	0	8	0	4	0	1	0	0	0	0	0	0	13
107	SYD	DRW	33.9S	151.2E	12.4S	130.9E	0	0	3	3	0	0	0	3	0	2	2	0	13
108	DRW	BKK	12.4S	130.9E	14.0N	100.7E	0	0	3	3	0	0	0	2	0	2	2	0	12
109	GUM	OKA	13.5N	144.8E	26.2N	127.6E	0	0	0	4	1	1	4	2	0	0	0	0	12
110	CLE	MIA	41.4N	81.8W	25.8N	80.3W	0	0	12	0	0	0	0	0	0	0	0	0	12
111	THR	BOM	35.7N	51.3E	19.1N	72.9E	1	1	0	0	0	0	2	2	0	0	2	4	12
112	SYD	HKG	33.9S	151.2E	22.5N	114.2E	0	0	2	0	2	0	2	2	2	1	1	0	12
113	HNL	PDX	21.3N	157.9W	45.9N	122.5W	0	0	0	0	2	4	2	0	0	4	0	0	12
114	GIG	VCP	22.8S	43.3W	23.0S	47.2W	2	0	0	2	6	0	0	0	2	0	0	0	12
115	AKL	HNL	37.0S	174.8E	21.3N	157.9W	1	1	0	2	2	1	2	1	0	0	1	0	11
116	BAH	LHR	26.3N	50.6E	51.5N	.5W	0	0	0	0	0	0	2	6	0	0	1	2	11
117	LAX	PPT	34.0N	118.4W	17.4S	149.6W	0	0	0	0	3	0	0	4	0	1	1	2	11
118	SYD	NOU	33.9S	151.2E	22.0S	166.2E	1	0	0	0	0	0	0	2	0	4	2	2	11
119	BKK	DAM	13.9N	100.6E	33.5N	36.5E	0	0	1	2	1	0	0	1	0	2	2	1	10
120	DAM	ATH	33.5N	36.5E	37.9N	23.7E	0	0	2	1	1	0	0	1	0	2	2	1	10

Table 2 (Cont.)

ROUTE-FLIGHT SUMMARY (CONT.)

	ROUTE		LAT	LONG	LAT	LONG	J	F	M	A	M	J	J	A	S	O	N	D	TOT
121	SYD	SFO	33.9S	151.2E	37.5N	122.4W	1	1	0	1	1	0	1	1	0	2	0	2	10
122	IAH	MEX	29.5N	95.3W	19.5N	99.1W	2	2	2	0	2	0	0	2	0	0	0	0	10
123	MIA	CCS	25.8N	80.3W	10.6N	67.0W	0	0	0	10	0	0	0	0	0	0	0	0	10
124	MEL	BKK	37.7S	144.8E	13.9N	100.7E	0	0	0	0	0	0	0	6	0	0	0	4	10
125	MRU	JNB	20.4S	57.7E	26.1S	28.2E	2	4	2	0	0	1	0	0	0	0	0	0	9
126	ITO	ORD	19.7N	155.0W	41.9N	87.9W	0	1	0	0	1	2	4	1	0	0	0	0	9
127	PER	MRU	31.9S	116.0E	20.5S	57.7E	2	4	2	0	0	1	0	0	0	0	0	0	9
128	BAH	BEG	26.3N	50.7E	44.8N	20.3E	1	0	0	0	1	2	0	2	0	1	0	1	8
129	IST	FRA	41.0N	28.8E	50.1N	8.6E	2	0	5	1	0	0	0	0	0	0	0	0	8
130	BEG	FRA	44.8N	20.3E	50.0N	8.6E	0	0	2	1	0	1	2	2	0	0	0	0	8
131	SFO	BOS	37.6N	122.4W	42.4N	71.0W	0	0	0	0	2	0	0	0	1	3	0	2	8
132	SEA	LAX	47.5N	122.3W	34.0N	118.4W	0	0	1	5	1	1	0	0	0	0	0	0	8
133	JFK	EZE	40.6N	73.8W	34.8S	58.5W	0	0	0	0	2	2	0	0	2	0	2	0	8
134	GUM	NRT	13.5N	144.8E	35.8N	140.4E	0	0	0	2	4	0	0	0	0	0	0	2	8
135	BKK	KHI	13.9N	100.6E	25.0N	67.2E	0	1	0	0	0	2	0	2	1	1	0	0	7
136	LAS	LAX	36.1N	115.2W	33.9N	118.4W	1	1	0	1	1	0	0	0	0	1	1	1	7
137	BEG	ORY	44.8N	20.3E	48.8N	2.4E	0	0	2	0	0	0	0	2	0	2	0	0	6
138	HNL	ITO	21.3N	157.9W	19.7N	155.0W	0	0	2	0	0	0	3	0	1	0	0	0	6
139	GUA	SJO	14.6N	90.5W	10.0N	84.2W	2	0	2	0	2	0	0	0	0	0	0	0	6
140	SJO	PTY	10.0N	84.2W	9.1N	79.4W	2	0	2	0	2	0	0	0	0	0	0	0	6
141	ORY	LHR	48.7N	2.4E	51.5N	.5W	1	0	0	1	1	0	0	0	0	1	1	1	6
142	DEL	KHI	28.6N	77.1E	24.9N	67.2E	0	0	2	2	1	1	0	0	0	0	0	0	6
143	HKG	LAX	22.3N	114.2E	34.0N	118.4W	0	0	0	0	0	0	0	1	1	0	1	3	6
144	HNL	LAS	21.3N	157.9W	36.0N	115.2W	1	0	0	1	1	0	0	0	0	1	1	1	6
145	FRA	DEL	50.1N	8.6E	28.6N	77.2E	1	3	2	0	0	0	0	0	0	0	0	0	6
146	MIQ	GIG	10.6N	67.0W	22.8S	43.2W	0	0	0	0	5	0	0	0	0	0	0	0	5
147	BEG	LHR	44.8N	20.3E	51.5N	.5W	1	0	0	1	1	0	0	0	0	1	0	1	5
148	ORY	DAM	48.7N	2.4E	33.5N	36.6E	1	0	0	0	0	0	0	0	0	1	1	1	4
149	DAM	BAH	33.4N	36.5E	26.3N	50.7E	1	0	0	0	0	0	0	0	0	1	1	1	4
150	VIE	FRA	48.1N	16.6E	50.1N	8.6E	0	0	0	0	0	1	0	2	0	0	0	1	4
151	JFK	SNN	40.6N	73.8W	52.7N	8.9W	1	0	1	0	1	0	0	0	0	0	1	0	4
152	PPT	AKL	17.6S	149.6W	37.0S	174.8E	0	0	0	0	0	0	0	4	0	0	0	0	4
153	SFO	OKA	37.6N	122.4W	26.2N	127.8E	0	1	0	1	0	0	0	0	0	0	0	2	4
154	OKA	HKG	26.2N	127.7E	22.3N	114.2E	0	1	0	1	0	0	0	0	0	0	0	2	4
155	BKK	PER	13.9N	100.6E	32.1S	115.9E	0	0	0	0	0	0	1	1	0	0	1	1	4
156	ATH	BAH	37.9N	23.7E	26.2N	50.6E	1	0	0	0	0	0	0	1	0	0	0	2	4
157	ATH	LHR	37.9N	23.7E	51.5N	.5W	0	0	0	0	0	0	0	4	0	0	0	0	4
158	MIQ	GUA	10.6N	67.0W	14.6N	90.5W	0	0	1	0	3	0	0	0	0	0	0	0	4
159	ORD	PHL	42.0N	87.9W	39.9N	75.2W	0	0	0	0	0	0	4	0	0	0	0	0	4
160	VIE	BAH	48.1N	16.6E	26.2N	50.6E	0	0	0	1	1	0	0	0	1	0	0	0	3

Table 2 (Cont.)

ROUTE-FLIGHT SUMMARY (CONT.)

	ROUTE		LAT	LONG	LAT	LONG	J	F	M	A	M	J	J	A	S	O	N	D	TOT
161	TPE	HKG	25.1N	121.5E	22.3N	114.2E	0	0	0	0	0	2	0	0	0	0	1	0	3
162	BEY	IST	33.8N	35.5E	41.0N	28.8E	0	0	3	0	0	0	0	0	0	0	0	0	3
163	BGR	LAX	44.8N	68.8W	34.0N	118.4W	0	0	0	0	0	1	0	0	0	0	1	1	3
164	MEL	CHC	37.7S	144.8E	43.5S	172.5E	0	0	0	0	0	0	0	0	0	0	1	2	3
165	BEG	VIE	44.8N	20.3E	48.1N	16.6E	0	0	0	0	0	1	0	2	0	0	0	0	3
166	SYD	BKK	33.9S	151.2E	14.0N	100.6E	0	0	0	0	0	0	0	2	0	1	0	0	3
167	BDA	BOS	32.4N	64.6W	42.4N	71.0W	0	0	0	0	3	0	0	0	0	0	0	0	3
168	GUM	HKG	13.5N	144.8E	22.3N	114.2E	0	0	0	0	2	0	0	0	0	0	0	1	3
169	DRW	SIN	12.4S	130.9E	1.4N	103.9E	0	2	0	0	0	0	0	1	0	0	0	0	3
170	ORD	BOS	42.0N	87.9W	42.4N	71.0W	0	0	0	0	0	0	0	0	1	2	0	0	3
171	CCS	LAX	10.6N	67.0W	33.8N	118.4W	1	0	2	0	0	0	0	0	0	0	0	0	3
172	SYD	SYD	33.9S	151.2E	33.9S	151.2E	0	0	1	0	0	0	0	0	0	0	2	0	3
173	PIK	LHR	55.5N	4.6W	51.5N	.4W	1	0	0	1	0	0	0	0	0	0	1	0	3
174	KHI	FRA	24.9N	67.2E	50.1N	8.5E	0	0	0	1	1	1	0	0	0	0	0	0	3
175	AMS	VIE	52.3N	4.8E	48.1N	16.6E	0	0	0	1	1	0	0	0	1	0	0	0	3
176	BOM	FRA	19.1N	72.9E	50.1N	8.6E	0	0	0	0	1	0	0	0	0	0	1	0	2
177	SYD	KUL	33.9S	151.2E	3.1N	101.5E	0	0	0	0	0	0	0	0	0	0	0	2	2
178	BAH	FCO	26.3N	50.6E	41.8N	12.2E	0	0	0	0	0	0	0	0	0	2	0	0	2
179	ORD	STL	42.0N	87.9W	38.8N	90.4W	0	0	2	0	0	0	0	0	0	0	0	0	2
180	STL	HNL	38.8N	90.4W	21.4N	157.9W	0	0	2	0	0	0	0	0	0	0	0	0	2
181	ORD	ACA	42.0N	87.9W	16.8N	99.8W	0	0	2	0	0	0	0	0	0	0	0	0	2
182	SEA	PIK	47.4N	122.3W	55.6N	4.7W	1	0	0	1	0	0	0	0	0	0	0	0	2
183	FCO	FRA	41.8N	12.3E	50.1N	8.6E	0	0	0	0	0	0	0	0	0	2	0	0	2
184	KUL	MEL	3.1N	101.6E	37.8S	144.9E	0	0	0	0	0	0	0	0	0	0	0	2	2
185	ORD	BDL	42.0N	87.9W	41.9N	72.7W	0	0	0	2	0	0	0	0	0	0	0	0	2
186	JFK	ATH	40.6N	73.8W	37.8N	23.6E	0	0	0	0	1	0	0	0	0	0	1	0	2
187	JFK	IND	40.7N	73.8W	39.7N	86.3W	0	0	0	2	0	0	0	0	0	0	0	0	2
188	DTW	LHR	42.2N	83.4W	51.5N	.5W	0	0	0	0	2	0	0	0	0	0	0	0	2
189	AKL	BNE	37.0S	174.8E	27.4S	153.1E	0	0	0	0	0	0	0	0	0	0	0	2	2
190	HNL	HNL	21.3N	167.9W	21.3N	167.9W	0	0	0	0	0	0	0	0	0	0	2	0	2
191	ATH	BRU	37.9N	23.7E	50.9N	4.5E	0	0	0	0	1	0	0	0	0	1	0	0	2
192	BRU	JFK	50.9N	4.5E	40.6N	73.8W	0	0	0	0	1	0	0	0	0	1	0	0	2
193	MEL	MEL	37.7S	144.8E	37.7S	144.8E	0	0	0	0	0	0	0	0	0	0	2	0	2
194	GIG	EZE	22.8S	43.3W	34.8S	58.5W	0	0	0	0	0	0	0	2	0	0	0	0	2
195	JFK	DEL	40.6N	73.8W	28.6N	77.4E	0	0	0	0	1	0	0	0	0	1	0	0	2
196	LAX	OMH	34.0N	118.4W	41.3N	95.9W	0	0	0	0	0	0	0	0	0	0	0	2	2
197	MIQ	MIA	10.6N	67.0W	25.8N	80.3W	0	0	0	0	2	0	0	0	0	0	0	0	2
198	BAH	ORY	26.3N	50.7E	48.7N	2.3E	0	0	0	1	1	0	0	0	0	0	0	0	2
199	SYD	HND	33.9S	151.2E	35.4N	139.8E	0	2	0	0	0	0	0	0	0	0	0	0	2
200	IST	BOM	41.0N	28.8E	19.1N	72.9E	1	1	0	0	0	0	0	0	0	0	0	0	2

Table 2 (Cont.)

ROUTE-FLIGHT SUMMARY (CONT.)

	ROUTE		LAT	LONG	LAT	LONG	J	F	M	A	M	J	J	A	S	O	N	D	TOT
201	SYD	BNE	33.9S	151.2E	27.4S	153.1E	0	2	0	0	0	0	0	0	0	0	0	0	2
202	JFK	CUN	40.6N	73.8W	21.0N	86.9W	0	0	2	0	0	0	0	0	0	0	0	0	2
203	CCS	SJU	10.6N	67.0W	18.5N	66.0W	0	0	0	2	0	0	0	0	0	0	0	0	2
204	BNE	DRW	27.4S	153.1E	12.4S	130.9E	0	2	0	0	0	0	0	0	0	0	0	0	2
205	KHI	BEY	24.9N	67.2E	33.8N	35.5E	0	0	2	0	0	0	0	0	0	0	0	0	2
206	JFK	CTS	40.6N	73.8W	42.8N	141.7E	0	1	0	0	0	0	0	0	0	0	0	0	1
207	CTS	HND	42.8N	141.7E	35.5N	139.8E	0	1	0	0	0	0	0	0	0	0	0	0	1
208	HND	ORD	35.5N	139.8E	42.1N	87.8W	0	0	0	0	1	0	0	0	0	0	0	0	1
209	AKL	AKL	37.0S	174.8E	37.0S	174.8E	0	0	0	0	1	0	0	0	0	0	0	0	1
210	IST	KHI	41.0N	28.8E	24.9N	67.2E	0	0	0	1	0	0	0	0	0	0	0	0	1
211	PER	SIN	31.9S	116.0E	1.4N	103.9E	0	0	0	0	0	1	0	0	0	0	0	0	1
212	SIN	MRU	1.4N	103.9E	20.4S	57.7E	0	0	0	0	0	1	0	0	0	0	0	0	1
213	MEL	DEL	37.7S	144.9E	28.6N	77.1E	0	0	0	0	0	1	0	0	0	0	0	0	1
214	JFK	MUC	40.6N	73.8W	48.1N	11.6E	0	0	0	0	0	0	0	0	0	1	0	0	1
215	MUC	ATH	48.1N	11.7E	37.9N	23.8E	0	0	0	0	0	0	0	0	0	1	0	0	1
216	BOM	AMS	19.1N	72.9E	52.3N	4.8E	0	0	0	0	0	1	0	0	0	0	0	0	1
217	SFO	FAI	37.4N	122.0W	64.8N	147.9W	0	0	0	0	0	0	0	0	0	1	0	0	1
218	HNL	NOU	21.3N	157.9W	21.8S	166.3E	1	0	0	0	0	0	0	0	0	0	0	0	1
219	FAI	FAI	64.8N	147.9W	64.8N	147.9W	0	0	0	0	0	0	0	0	0	1	0	0	1
220	JFK	CGN	40.6N	73.8W	50.9N	7.3E	0	0	0	0	0	0	0	0	0	0	1	0	1
221	SFO	SFO	37.6N	122.3W	37.6N	122.4W	0	0	1	0	0	0	0	0	0	0	0	0	1
222	LAX	DTW	34.0N	118.4W	42.2N	83.4W	0	0	0	0	0	0	0	0	1	0	0	0	1
223	DTW	PIT	42.2N	83.4W	40.3N	80.3W	0	0	0	0	0	0	0	0	1	0	0	0	1
224	FAI	HNL	64.8N	147.9W	21.3N	157.9W	0	0	0	0	0	0	0	0	0	1	0	0	1
225	HNL	DTW	21.3N	157.9W	42.2N	83.4W	0	0	0	1	0	0	0	0	0	0	0	0	1
226	LHR	CPT	51.5N	.4W	33.9S	18.7E	0	0	0	0	0	0	0	0	0	1	0	0	1
227	SNN	FRA	52.7N	8.9W	50.1N	8.6E	0	0	0	0	1	0	0	0	0	0	0	0	1
228	CPT	AKL	34.0S	18.6E	36.9S	174.9E	0	0	0	0	0	0	0	0	0	1	0	0	1
229	JFK	JFK	40.7N	73.8W	40.6N	73.8W	0	0	0	1	0	0	0	0	0	0	0	0	1
230	PPG	MEL	14.3S	170.7W	37.7S	144.8E	0	0	0	0	0	0	0	0	0	0	1	0	1
231	LHR	DUB	51.5N	.5W	53.4N	6.3W	0	0	0	0	1	0	0	0	0	0	0	0	1
232	DUB	BOS	53.4N	6.3W	42.3N	71.1W	0	0	0	0	1	0	0	0	0	0	0	0	1
233	JFK	STR	40.6N	73.8W	48.6N	9.2E	0	0	0	0	1	0	0	0	0	0	0	0	1
234	FCO	SNN	41.8N	12.2E	52.7N	8.9W	1	0	0	0	0	0	0	0	0	0	0	0	1
235	PHL	LHR	39.9N	75.1W	51.5N	.5W	0	0	0	0	0	0	0	0	1	0	0	0	1
236	JFK	FAI	40.7N	73.8W	64.8N	147.9W	0	0	0	0	0	0	0	0	0	0	1	0	1
237	FAI	HND	64.8N	147.9W	35.5N	139.6E	0	0	0	0	0	0	0	0	0	0	1	0	1
238	JFK	SEA	40.6N	73.8W	47.5N	122.4W	0	0	0	0	0	0	0	1	0	0	0	0	1
239	ATH	PIK	37.9N	23.7E	55.5N	4.6W	0	0	0	0	0	1	0	0	0	0	0	0	1
240	PIK	BGR	55.5N	4.6W	44.8N	68.8W	0	0	0	0	0	1	0	0	0	0	0	0	1

Table 2 (Cont.)

ROUTE-FLIGHT SUMMARY (CONT.)

	ROUTE		LAT	LONG	LAT	LONG	J	F	M	A	M	J	J	A	S	O	N	D	TOT
241	SEA	HND	47.4N	122.3W	35.5N	139.6E	0	0	0	0	0	0	0	1	0	0	0	0	1
242	AMS	ATH	52.3N	4.8E	37.9N	23.8E	1	0	0	0	0	0	0	0	0	0	0	0	1
243	FCO	LHR	41.8N	12.3E	51.5N	.5W	0	0	0	0	0	0	0	0	1	0	0	0	1
244	HND	IAD	35.5N	139.8E	38.8N	77.4W	0	0	0	0	0	0	0	0	0	0	0	1	1
245	LAS	DEN	36.1N	115.1W	39.8N	104.9W	1	0	0	0	0	0	0	0	0	0	0	0	1
246	YVR	HND	49.2N	123.2W	35.5N	139.8E	0	0	0	0	0	0	0	0	0	1	0	0	1
247	SFO	TPE	37.6N	122.4W	25.1N	121.5E	0	0	0	0	0	0	0	0	0	0	1	0	1
248	SFO	GUM	37.6N	122.4W	13.5N	144.9E	0	0	0	0	0	0	0	0	0	0	0	1	1
249	CHC	CHC	43.5S	172.5E	43.5S	172.4E	0	0	0	0	0	0	0	0	0	0	1	0	1
250	CHC	PPG	43.5S	172.4E	14.3S	170.8W	0	0	0	0	0	0	0	0	0	0	1	0	1
251	ATH	DEL	37.9N	23.7E	28.6N	77.1E	0	0	0	0	0	0	0	1	0	0	0	0	1
252	IAH	SFO	30.0N	95.4W	37.6N	122.4W	0	0	0	0	0	0	0	0	0	1	0	0	1
253	JFK	ANC	40.7N	73.8W	61.2N	150.0W	0	0	0	0	0	0	0	0	1	0	0	0	1
254	ATH	BGR	37.9N	23.7E	44.8N	68.8W	0	0	0	0	0	0	0	0	0	0	1	0	1
255	LAX	PIK	34.0N	118.4W	55.4N	4.6W	0	0	0	0	0	0	0	0	0	0	1	0	1
256	MUC	SNN	48.1N	11.7E	52.7N	8.9W	0	0	0	0	0	0	0	0	0	0	1	0	1
257	LHR	LPA	51.4N	.6W	27.9N	15.4W	0	0	0	0	0	0	0	0	0	0	0	1	1
258	LPA	BGR	27.9N	15.4W	44.9N	68.8W	0	0	0	0	0	0	0	0	0	0	0	1	1
259	ANC	HND	61.2N	150.0W	35.6N	139.8E	0	0	0	0	0	0	0	0	1	0	0	0	1
260	DEL	IST	28.6N	77.1E	40.9N	28.8E	1	0	0	0	0	0	0	0	0	0	0	0	1
261	BAH	SYD	26.3N	50.6E	34.0S	151.2E	0	0	0	0	0	0	0	0	0	0	1	0	1
262	FCO	YQX	41.8N	12.2E	49.0N	54.5W	1	0	0	0	0	0	0	0	0	0	0	0	1
263	YQX	JFK	49.0N	54.6W	40.6N	73.7W	1	0	0	0	0	0	0	0	0	0	0	0	1
264	ATH	ATH	37.9N	23.7E	37.9N	23.7E	0	0	0	0	0	0	0	0	0	0	0	1	1
265	ATH	VIE	37.9N	23.7E	48.1N	16.6E	0	0	0	0	0	0	0	0	0	0	0	1	1
266	MIA	CUR	25.8N	80.3W	12.3N	68.9W	0	0	0	1	0	0	0	0	0	0	0	0	1
267	FRA	ATH	50.1N	8.6E	37.9N	23.7E	0	0	0	0	0	0	0	0	0	0	0	1	1
268	PTY	MIQ	9.1N	79.4W	10.6N	67.0W	0	0	1	0	0	0	0	0	0	0	0	0	1
269	PHL	NCE	39.9N	75.2W	43.6N	7.4E	0	0	0	1	0	0	0	0	0	0	0	0	1
270	NCE	JFK	43.6N	7.4E	40.6N	73.8W	0	0	0	1	0	0	0	0	0	0	0	0	1
271	BOM	BKK	19.1N	72.9E	13.7N	100.6E	0	0	0	0	1	0	0	0	0	0	0	0	1
272	JFK	LAS	40.6N	73.8W	36.1N	115.2W	0	1	0	0	0	0	0	0	0	0	0	0	1
273	BEY	THR	33.8N	35.5E	35.7N	51.3E	0	0	1	0	0	0	0	0	0	0	0	0	1
																			6945

APPENDIX A

The Computation of Statistically Independent Observations

The distance between independent observations is twice the integral space scale (ref. 8). That is,

$$d = 2\ I$$

where $$I = \int R(L)dL$$

and R(L) is the autocorrelation function at lag L. To estimate I, and hence d, several hundred selected flight segments were analyzed to determine R(L). Only segments with the following properties were chosen: Constant flight level, no moderate or heavy turbulence, no tropopause crossing, at least 1200 km long, and either an east-west or a north-south flight path. Along each east-west segment the latitude does not change by over four degrees, and along each north-south segment the aircraft heading is always within 30 degrees of north or south. For each segment, temperatures were interpolated to 75 km intervals with a cubic spline method, and then R(L) was computed for L=75, 150,...., 1200 km. The resulting R's were averaged and then fit with the model R(L) = exp (-vL), using R(1) and R(3). For the east-west segments the averages were made for two separate groups, first using all flights in each group and next using only flights in the Northern Hemisphere nort of 25^{o}N and during winter (October through April). The exponential model fits fairly well for small lags as shown in Figure A-1, and the resulting estimates of d and I are fairly consistent among groups as shown in Table A-1.

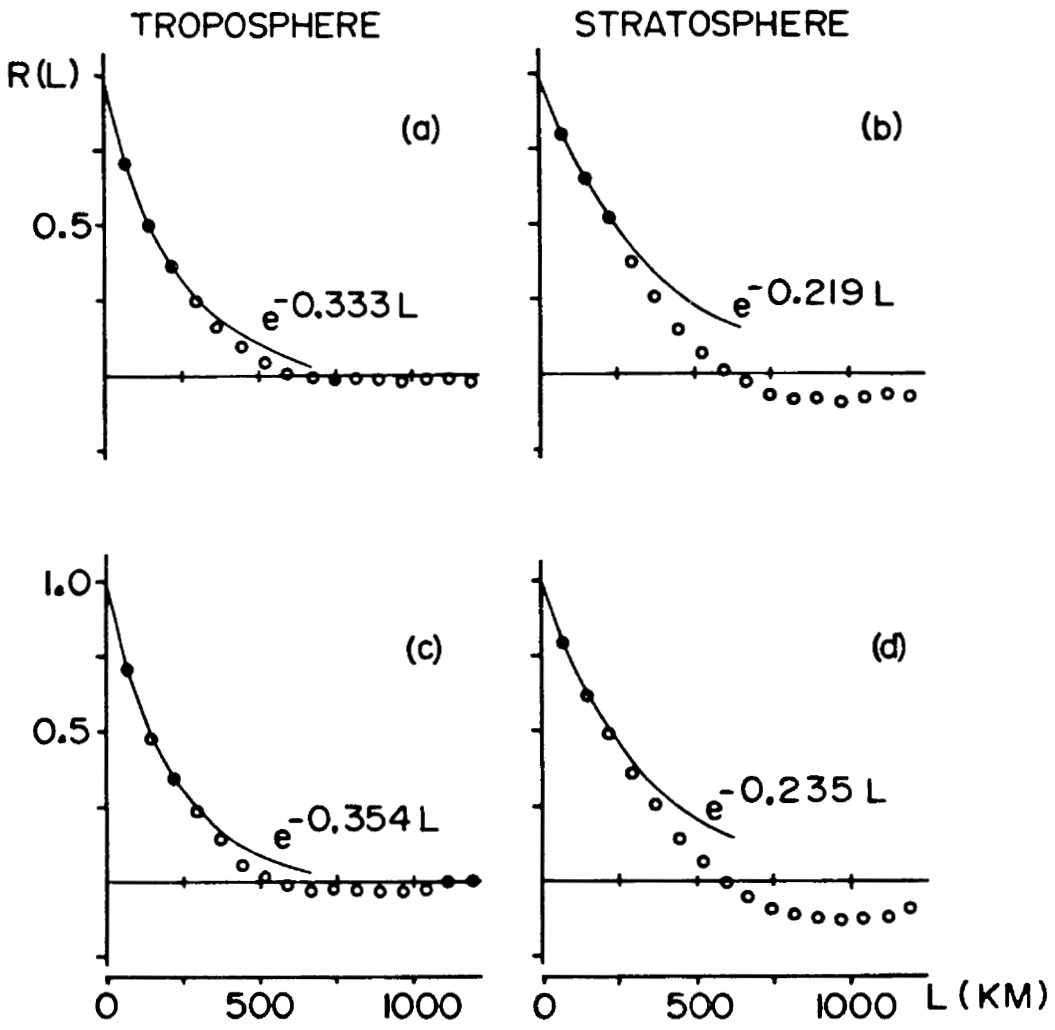


Figure A-1. Comparisons of east-west autocorrelation function, R(L), for temperature in the troposphere (a, c) and stratosphere (b, d) for the different groups of flights listed in Table A1, and the best-fit exponential decay model.

Table A-1. Integral space scales (I) and distance between statistically independent temperature observations (d) for two groups of tropospheric and stratospheric flights.

	TROPOSPHERE			STRATOSPHERE		
	Number of Flights	I(km)	d(km)	Number of Flights	I(km)	d(km)
A. East-West Flight Segments						
Group 1	403	225	450	239	343	686
Group 2	290	212	424	314	319	638
Average		218	437		331	662
Group 1 (N.H. Winter)	162	224	448	188	347	694
Group 2 (N.H. Winter)	134	234	468	261	309	618
Average		229	458		328	656
B. North-South Flight Segments						
All	70	252	504	8	148	296

APPENDIX B

Flight Static Air Temperature Summaries

The route, date, number of observations and flight duration (at or above FL270) are provided in the first part of the summary. The coldest static (ambient) temperature observed, its associated flight level, latitude and longitude and time into the flight are shown in the next section followed by the mean flight level, mean temperature and the temperature standard deviation of all data above FL270. The last section of the tables provides a breakdown of the temperature, flight level, standard deviation and duration for each flight segment. A flight segment is defined as any segment of the flight in excess of one hour during which the flight level changes by less than $\pm$ 500 feet.

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ACA-ORD	3/27/79	36	3:02	-61	FL370	2:07	33.7N	92.9W	FL366	-54.8	6.3	FL369	-56.0	3.6	2:52				
AKL-DNE	12/24/77	27	2:09	-52	FL350	0:50	34.3S	166.0E	FL341	-47.2	5.0	FL350	-49.8	2.0	1:35				
AKL-HNL	5/10/77	79	6:40	-51	FL371	6:25	17.5N	159.1W	FL345	-43.9	4.9	FL331	-39.7	2.3	3:00	FL370	-49.1	.9	2:44
AKL-HNL	7/26/77	81	6:59	-50	FL371	1:54	19.7S	174.1W	FL359	-46.7	3.4	FL330	-41.1	1.3	1:25	FL370	-48.7	.7	4:59
AKL-HNL	8/31/76	86	7:09	-45	FL369	2:45	14.2S	170.7W	FL358	-41.3	3.5	FL348	-36.4	.6	1:16	FL368	-43.4	.6	4:34
AKL-LAX	2/17/79	138	11:06	-69	FL430	9:31	30.4N	135.7W	FL390	-57.7	7.6	FL350	-48.3	.6	1:29	FL370	-53.4	1.0	1:06
												FL390	-56.6	.6	2:04	FL409	-64.4	.9	3:21
												FL430	-63.7	2.8	1:34				
AKL-LAX	2/19/79	130	11:02	-67	FL397	10:57	33.5N	120.6W	FL375	-53.9	6.8	FL350	-47.0	2.5	2:29	FL369	-50.7	.7	3:15
												FL390	-57.6	1.1	2:19	FL410	-64.3	.7	1:57
AKL-LAX	4/25/79	120	10:24	-57	FL390	6:54	10.4N	146.8W	FL360	-49.6	3.2	FL330	-49.1	1.8	1:05	FL350	-47.8	3.1	1:10
												FL370	-49.5	.9	3:04	FL390	-55.9	.6	1:10
												FL349	-47.3	1.3	2:24				
AKL-LAX	5/22/78	133	10:59	-66	FL412	9:44	26.2N	129.2W	FL391	-57.5	4.3	FL369	-53.5	1.8	3:32	FL390	-55.2	.4	2:05
												FL411	-61.9	1.4	4:50				
AKL-LAX	5/24/78	97	8:27	-63	FL411	6:39	22.4N	133.9W	FL386	-54.8	5.3	FL370	-50.7	1.0	4:59	FL411	-61.3	1.7	3:15
AKL-LAX	6/10/78	134	11:18	-61	FL391	9:13	22.2N	134.2W	FL372	-52.9	5.0	FL330	-52.0	2.4	1:09	FL350	-46.6	2.5	1:30
												FL373	-50.4	1.1	1:15	FL374	-49.8	1.4	1:48
												FL391	-57.7	2.0	4:49				
AKL-LAX	6/28/78	125	10:49	-61	FL416	9:34	25.8N	129.5W	FL377	-52.0	6.5	FL330	-43.0	3.2	1:54	FL350	-45.5	.5	1:31
												FL370	-50.5	.5	1:04	FL395	-56.7	.7	1:25
												FL402	-58.8	.7	1:05				
AKL-LAX	7/ 3/78	130	10:44	-61	FL411	8:24	20.1N	136.8W	FL378	-54.1	4.6	FL349	-52.0	4.0	2:19	FL370	-50.3	.7	2:55
												FL390	-54.9	.6	2:24	FL410	-60.7	.5	2:19
AKL-LAX	7/17/78	137	11:19	-60	FL411	7:39	13.5N	143.3W	FL383	-53.9	4.3	FL350	-49.0	1.5	1:49	FL369	-51.3	.7	3:15
												FL390	-54.7	.6	1:55	FL411	-59.0	.7	3:39
AKL-LAX	7/29/78	133	11:12	-60	FL411	8:47	19.9N	136.8W	FL379	-52.2	4.9	FL351	-45.8	1.1	2:19	FL371	-50.0	.4	2:30
												FL390	-54.7	.9	2:45	FL411	-58.5	1.1	2:34
AKL-LAX	10/ 2/78	132	11:02	-62	FL411	8:47	21.2N	135.5W	FL379	-52.1	5.8	FL350	-44.8	.5	2:02	FL370	-48.4	.5	3:15
												FL390	-55.5	.7	2:25	FL410	-59.7	1.7	2:39
AKL-LAX	10/18/78	127	10:55	-63	FL411	7:09	12.4N	144.8W	FL381	-53.3	6.2	FL350	-44.7	2.3	2:00	FL371	-51.1	.6	2:45
												FL411	-59.4	3.5	4:00				
AKL-LAX	10/23/78	133	11:24	-62	FL411	6:24	6.9N	150.2W	FL387	-56.0	4.2	FL350	-53.0	1.7	1:45	FL369	-51.1	.5	2:45
												FL390	-56.5	.6	1:30	FL411	-59.9	2.2	4:59
AKL-LAX	12/26/77	126	10:37	-61	FL410	6:57	10.6N	146.6W	FL384	-51.3	5.9	FL330	-41.5	3.6	1:15	FL369	-47.7	.9	2:30
												FL390	-54.6	.6	2:17	FL410	-55.3	4.1	4:00
AKL-LAX	12/28/77	126	10:24	-65	FL410	8:25	21.0N	135.3W	FL378	-51.5	7.4	FL350	-41.8	.7	1:40	FL369	-48.1	.7	3:30
												FL390	-55.5	1.9	2:25	FL410	-61.7	3.1	2:03
AKL-LAX	12/30/77	125	10:58	-61	FL410	4:58	3.1S	159.6W	FL390	-52.8	5.9	FL369	-47.3	1.2	4:38	FL409	-57.9	2.0	5:54
AKL-LAX	12/30/78	128	11:03	-59	FL410	8:28	16.3N	131.6W	FL381	-52.2	5.5	FL349	-44.1	1.4	2:09	FL370	-50.4	.6	1:55
												FL390	-55.0	1.2	3:59	FL409	-57.2	1.9	2:30
AKL-MEL	1/10/78	32	2:44	-57	FL370	2:34	37.6S	149.1E	FL362	-48.2	7.3	FL370	-51.3	4.2	2:04				
AKL-MEL	1/31/78	29	2:27	-48	FL350	1:20	38.0S	157.4E	FL349	-44.3	2.1	FL350	-44.5	1.8	2:16				
AKL-MEL	2/11/78	35	2:48	-49	FL351	2:12	37.6S	152.1E	FL347	-45.0	3.7	FL350	-45.7	2.4	2:37				
AKL-MEL	2/14/78	31	2:34	-54	FL351	2:09	37.5S	151.2E	FL347	-48.5	4.3	FL350	-49.2	3.2	2:24				
AKL-MEL	2/21/78	30	2:34	-50	FL351	0:25	37.7S	167.7E	FL348	-48.0	2.5	FL350	-48.6	.9	2:24				
AKL-MEL	3/ 4/78	34	2:42	-55	FL350	1:26	38.0S	159.5E	FL338	-48.6	2.9	FL349	-48.1	2.4	1:17	FL330	-50.3	1.3	1:04
AKL-MEL	12/24/77	34	2:44	-55	FL350	0:15	37.5S	170.6E	FL347	-53.0	2.6	FL350	-53.4	.9	2:34				
AKL-PPT	8/15/77	46	3:38	-57	FL391	3:28	18.8S	152.5W	FL381	-52.2	4.3	FL391	-54.1	1.2	2:26				
AKL-PPT	8/22/77	45	3:44	-56	FL370	2:05	27.6S	164.2W	FL366	-49.3	4.3	FL370	-50.1	3.2	3:24				
AKL-SFO	2/ 4/77	127	10:42	-64	FL368	10:42	36.5N	124.0W	FL377	-50.6	4.3	FL369	-48.4	.8	6:47	FL409	-56.6	1.6	2:55
AKL-SFO	4/ 1/77	126	10:49	-62	FL410	6:19	5.8N	150.5W	FL384	-54.1	5.5	FL349	-47.7	1.1	1:04	FL369	-50.6	.7	4:04
												FL409	-59.3	2.3	5:04				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
AKL-SFO	5/ 6/77	126	10:34	-69	FL410	9:04	29.9N	137.0W	FL383	-54.9	5.6	FL371	-50.7	1.3	3:30	FL391	-56.5	.8	2:09
												FL410	-59.7	7.1	3:09				
AKL-SFO	7/ 1/77	123	11:07	-63	FL420	8:38	24.2N	143.0W	FL388	-54.5	5.6	FL350	-46.2	1.1	1:10	FL370	-50.6	.5	1:34
												FL390	-55.7	.6	3:29	FL410	-61.4	.5	1:05
												FL419	-59.0	3.0	2:33				
AKL-SFO	8/12/77	121	11:07	-57	FL390	5:48	7.9N	162.4W	FL374	-51.7	4.1	FL350	-46.3	3.9	1:51	FL370	-50.9	.5	2:56
												FL389	-54.4	2.3	5:29				
AKL-SFO	9/30/77	116	11:19	-63	FL413	8:45	19.7N	139.3W	FL393	-55.6	5.2	FL370	-49.9	1.5	3:39	FL413	-59.9	2.4	4:39
AKL-SFO	10/14/77	115	11:07	-62	FL410	8:15	18.3N	140.4W	FL382	-52.9	5.5	FL349	-44.2	2.4	1:09	FL370	-49.6	.6	3:14
												FL390	-55.0	.6	2:24	FL409	-59.2	1.3	3:36
AKL-SFO	10/30/77	650	11:01	-61	FL410	7:03	11.4N	145.8W	FL394	-55.5	3.7	FL369	-51.9	3.5	2:50	FL390	-54.7	.5	1:40
												FL410	-57.7	1.9	6:06				
AKL-SFO	12/17/76	128	10:47	-60	FL410	6:42	9.5N	147.6W	FL384	-51.6	5.2	FL329	-44.4	.7	1:26	FL369	-48.6	.9	2:44
												FL390	-54.6	.5	1:57	FL410	-57.3	2.3	2:44
												FL430	-51.3	1.8	1:04				
AKL-SFO	12/24/76	122	11:18	-66	FL410	10:53	34.9N	126.4W	FL385	-54.8	6.8	FL369	-48.9	1.3	5:23	FL409	-62.0	2.1	4:39
AKL-SFO	12/31/76	132	11:04	-63	FL410	9:04	25.4N	135.2W	FL386	-54.9	5.2	FL350	-50.7	2.5	1:30	FL370	-49.5	.5	3:07
												FL409	-59.8	1.7	5:11				
AKL-SYD	1/ 1/77	17	2:28	-67	FL430	0:40	36.5S	167.8E	FL416	-60.9	7.5								
AKL-SYD	1/ 6/79	29	2:13	-66	FL430	0:15	36.8S	170.6E	FL424	-62.0	3.8	FL430	-62.9	1.3	2:01				
AKL-SYD	1/12/78	25	2:10	-47	FL351	0:50	36.2S	165.4E	FL325	-42.4	3.1								
AKL-SYD	1/13/79	26	2:09	-63	FL430	1:30	35.3S	159.0E	FL424	-59.3	3.2	FL430	-60.0	2.2	1:54				
AKL-SYD	1/17/78	22	1:59	-50	FL351	0:19	36.6S	169.1E	FL339	-45.5	6.4	FL350	-48.2	1.6	1:34				
AKL-SYD	1/20/79	24	2:04	-60	FL430	0:15	36.8S	170.6E	FL421	-56.8	5.8	FL430	-58.7	.8	1:44				
AKL-SYD	1/24/78	25	2:00	-50	FL351	0:25	36.6S	168.2E	FL342	-44.2	4.0	FL350	-45.9	1.5	1:30				
AKL-SYD	2/ 3/77	29	2:12	-63	FL390	0:40	36.4S	167.0E	FL381	-59.1	5.3	FL389	-61.1	1.4	2:00				
AKL-SYD	2/ 5/77	24	2:05	-59	FL390	0:24	36.6S	168.7E	FL384	-56.1	2.4	FL389	-56.9	1.3	1:45				
AKL-SYD	2/ 6/77	26	1:56	-44	FL310	0:05	36.8S	171.0E	FL308	-41.3	2.1	FL309	-41.7	1.6	1:46				
AKL-SYD	2/16/78	12	1:54	-52	FL350	1:05	35.9S	162.5E	FL343	-47.8	3.6	FL349	-48.7	1.6	1:44				
AKL-SYD	2/16/79	29	2:30	-62	FL390	0:03	36.9S	172.6E	FL386	-56.0	5.2	FL389	-56.8	4.3	2:20				
AKL-SYD	2/18/79	28	2:15	-57	FL431	2:05	34.3S	154.3E	FL425	-55.0	2.6	FL430	-55.6	.8	2:00				
AKL-SYD	2/23/78	25	2:00	-53	FL351	0:50	36.1S	164.6E	FL348	-50.6	3.8	FL350	-51.6	1.1	1:49				
AKL-SYD	2/28/78	27	2:09	-49	FL350	0:09	36.8S	171.1E	FL346	-46.7	2.2	FL350	-47.2	1.1	1:54				
AKL-SYD	3/ 3/78	14	1:09	-45	FL311	0:19	35.6S	160.7E	FL310	-44.3	1.0	FL310	-44.3	1.0	1:09				
AKL-SYD	3/31/77	27	2:24	-58	FL390	0:24	36.7S	169.8E	FL392	-56.7	1.6	FL389	-57.3	.9	1:35				
AKL-SYD	4/ 2/77	29	2:19	-61	FL430	2:09	34.4S	154.5E	FL404	-58.8	2.9								
AKL-SYD	4/10/78	26	2:09	-58	FL383	0:09	36.8S	170.8E	FL378	-49.6	5.6	FL389	-50.9	2.8	1:49				
AKL-SYD	4/14/79	29	2:35	-62	FL430	2:20	34.4S	154.6E	FL422	-58.8	2.9	FL429	-59.5	1.4	2:15				
AKL-SYD	4/15/77	26	2:04	-56	FL350	1:30	34.9S	156.9E	FL349	-52.7	2.1	FL349	-53.0	1.6	2:00				
AKL-SYD	4/24/79	30	2:24	-61	FL410	0:59	36.2S	164.8E	FL405	-58.2	2.6	FL410	-58.7	1.9	2:09				
AKL-SYD	5/ 2/77	27	2:09	-48	FL279	0:00	36.9S	172.8E	FL310	-43.7	1.8	FL310	-43.6	1.6	2:05				
AKL-SYD	5/ 3/79	26	2:15	-67	FL410	1:45	34.9S	157.2E	FL394	-62.8	5.0	FL390	-63.0	.4	1:10				
AKL-SYD	5/ 5/77	30	2:24	-64	FL390	0:45	36.4S	166.8E	FL387	-61.8	2.7	FL390	-62.4	1.5	2:15				
AKL-SYD	5/10/79	29	2:16	-55	FL336	0:00	36.9S	173.2E	FL384	-52.2	1.8	FL389	-52.2	1.6	2:00				
AKL-SYD	5/18/77	25	2:09	-53	FL350	0:20	36.7S	169.3E	FL349	-50.9	1.5	FL350	-51.2	.5	2:04				
AKL-SYD	5/21/77	14	2:19	-53	FL391	0:00	36.8S	172.7E	FL382	-49.7	2.6	FL390	-50.2	1.9	2:15				
AKL-SYD	5/21/78	29	2:15	-59	FL387	0:06	36.9S	173.1E	FL414	-53.9	4.2	FL430	-55.0	1.1	1:54				
AKL-SYD	6/ 1/78	30	2:19	-67	FL390	0:34	36.6S	168.2E	FL381	-62.7	6.7	FL390	-64.7	2.4	2:11				
AKL-SYD	6/ 3/78	24	2:10	-65	FL390	0:05	36.9S	172.5E	FL388	-55.0	6.2	FL390	-55.1	6.3	2:05				
AKL-SYD	6/ 8/77	26	2:09	-58	FL391	1:15	35.6S	161.1E	FL385	-54.9	2.1	FL390	-55.3	1.9	1:45				
AKL-SYD	6/ 9/78	26	2:15	-59	FL410	1:49	34.9S	157.0E	FL395	-52.0	3.9	FL410	-53.5	3.6	1:04				
AKL-SYD	6/14/79	72	2:14	-54	FL391	1:40	35.2S	158.3E	FL389	-52.6	.8	FL390	-52.6	.8	2:04				
AKL-SYD	6/15/77	17	2:09	-61	FL351	0:20	36.7S	169.3E	FL355	-58.1	1.5	FL350	-58.1	1.6	1:49				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
AKL-SYD	6/20/77	26	2:09	-61	FL351	0:24	36.6S	169.0E	FL346	-57.0	4.6	FL350	-58.4	1.5	1:56				
AKL-SYD	6/27/78	28	2:15	-57	FL391	0:54	36.2S	165.3E	FL390	-55.8	1.1	FL391	-55.8	1.1	2:10				
AKL-SYD	6/30/77	32	2:26	-56	FL430	0:35	36.6S	168.9E	FL411	-49.3	3.6	FL429	-48.0	2.7	1:39				
AKL-SYD	7/ 2/77	26	2:15	-57	FL429	2:10	34.3S	154.1E	FL423	-51.3	3.5	FL429	-51.9	3.0	1:55				
AKL-SYD	7/ 2/78	33	2:31	-68	FL391	0:15	36.8S	171.3E	FL399	-61.5	7.2	FL411	-58.2	6.1	1:20				
AKL-SYD	7/16/78	28	2:15	-58	FL347	0:00	37.0S	173.3E	FL423	-54.8	1.7	FL429	-54.8	1.0	2:00				
AKL-SYD	7/18/77	27	2:15	-52	FL349	0:05	36.9S	172.2E	FL359	-44.3	3.0	FL350	-44.3	3.3	1:24				
AKL-SYD	7/22/78	35	2:50	-59	FL430	0:39	36.5S	169.1E	FL425	-56.3	2.4	FL430	-56.8	1.5	2:35				
AKL-SYD	7/25/77	30	2:24	-49	FL391	2:19	34.3S	154.0E	FL376	-46.7	1.0	FL390	-46.6	1.1	1:15				
AKL-SYD	7/28/78	28	2:15	-58	FL430	2:09	34.3S	154.2E	FL422	-50.8	4.3	FL429	-51.0	4.2	1:54				
AKL-SYD	8/ 4/78	29	2:11	-60	FL390	1:16	35.8S	161.8E	FL384	-57.0	2.1	FL390	-57.0	2.2	1:51				
AKL-SYD	8/13/77	22	2:15	-55	FL351	0:04	36.9S	172.5E	FL377	-47.6	3.7	FL390	-45.7	1.8	1:50				
AKL-SYD	8/22/77	27	2:15	-50	FL311	1:00	36.1S	163.9E	FL323	-44.0	2.9	FL310	-46.0	2.3	1:09				
AKL-SYD	8/24/78	25	2:09	-54	FL390	2:05	34.2S	153.5E	FL385	-45.9	4.1	FL390	-46.2	4.1	2:00				
AKL-SYD	9/14/77	28	2:20	-52	FL347	0:05	36.9S	172.3E	FL345	-46.3	2.0	FL350	-46.5	2.0	2:09				
AKL-SYD	9/29/77	20	2:24	-58	FL345	0:00	36.9S	173.1E	FL375	-49.9	3.9	FL389	-50.3	1.3	2:04				
AKL-SYD	10/ 1/77	27	2:20	-57	FL411	1:50	34.9S	156.7E	FL404	-50.0	4.2	FL410	-49.7	4.3	2:05				
AKL-SYD	10/ 1/78	23	2:01	-64	FL430	1:39	34.8S	156.5E	FL411	-57.1	5.3	FL429	-60.4	3.1	1:16				
AKL-SYD	10/ 5/77	27	2:24	-57	FL350	0:20	36.7S	169.9E	FL347	-55.2	2.6	FL350	-55.7	1.0	2:09				
AKL-SYD	10/ 7/78	26	2:05	-57	FL431	1:50	34.6S	155.4E	FL418	-51.3	3.3								
AKL-SYD	10/13/77	25	2:05	-59	FL389	1:15	35.7S	161.1E	FL387	-54.6	3.9	FL389	-55.0	3.7	2:00				
AKL-SYD	10/15/77	28	2:30	-58	FL430	2:00	34.9S	156.9E	FL424	-55.3	1.6	FL430	-55.1	1.7	2:10				
AKL-SYD	10/22/78	27	2:09	-63	FL410	0:09	36.9S	171.8E	FL407	-58.7	2.4	FL410	-58.8	2.0	2:00				
AKL-SYD	10/28/78	26	2:04	-65	FL391	0:54	36.0S	163.5E	FL385	-59.6	4.1	FL390	-60.5	2.2	1:55				
AKL-SYD	10/31/76	26	2:04	-54	FL350	0:20	36.7S	169.3E	FL343	-48.9	2.9	FL350	-49.3	2.2	1:45				
AKL-SYD	11/13/76	26	2:13	-54	FL350	0:50	36.2S	164.7E	FL337	-50.9	3.0	FL350	-52.7	.8	1:22				
AKL-SYD	11/13/78	25	2:09	-54	FL330	1:15	35.7S	161.6E	FL326	-50.6	3.0	FL330	-51.5	1.4	1:50				
AKL-SYD	11/25/76	28	2:19	-56	FL358	2:19	34.2S	152.8E	FL372	-51.0	2.1								
AKL-SYD	11/25/77	23	2:05	-61	FL398	2:05	34.2S	153.2E	FL439	-55.2	2.6	FL449	-55.5	1.9	1:45				
AKL-SYD	11/28/77	23	1:54	-53	FL350	0:45	36.2S	165.0E	FL340	-48.8	4.5	FL349	-51.5	1.0	1:09				
AKL-SYD	12/ 1/77	27	2:14	-63	FL430	1:29	35.3S	159.2E	FL415	-56.3	6.3	FL429	-58.3	1.9	1:54				
AKL-SYD	12/ 3/77	28	2:25	-62	FL390	0:10	36.8S	171.6E	FL391	-56.4	7.6	FL410	-58.7	.9	1:30				
AKL-SYD	12/ 7/76	25	2:09	-56	FL350	0:25	36.6S	168.8E	FL347	-53.0	3.6	FL349	-53.7	1.9	1:59				
AKL-SYD	12/ 8/76	24	2:04	-53	FL350	0:24	36.6S	169.0E	FL342	-48.0	3.6	FL349	-49.4	2.0	1:39				
AKL-SYD	12/15/76	28	2:13	-54	FL351	0:09	36.8S	171.0E	FL344	-48.0	4.8	FL350	-49.4	2.3	1:59				
AKL-SYD	12/16/76	26	2:22	-63	FL415	0:05	36.9S	172.2E	FL423	-57.0	3.5	FL429	-57.5	2.3	2:03				
AKL-SYD	12/16/78	27	2:09	-66	FL390	1:54	34.5S	154.8E	FL385	-57.4	5.7	FL390	-58.3	5.1	1:55				
AKL-SYD	12/18/76	28	2:14	-55	FL396	2:14	34.2S	153.4E	FL399	-49.1	2.6	FL410	-50.3	1.8	1:10				
AKL-SYD	12/23/76	25	2:17	-68	FL430	1:00	36.0S	163.5E	FL407	-58.2	10.2	FL430	-62.6	3.3	2:00				
AKL-SYD	12/23/77	28	2:15	-65	FL391	1:30	35.4S	159.7E	FL386	-57.0	5.4	FL390	-57.6	5.0	2:04				
AKL-SYD	12/25/76	28	2:15	-64	FL430	1:54	34.6S	155.6E	FL421	-60.6	5.9	FL429	-62.2	1.0	2:00				
AKL-SYD	12/25/77	28	2:20	-66	FL430	1:15	35.8S	162.1E	FL422	-59.8	4.4	FL430	-60.8	2.6	2:04				
AKL-SYD	12/25/77	26	2:09	-61	FL390	1:15	35.6S	160.8E	FL363	-54.1	7.0								
AKL-SYD	12/27/76	28	2:12	-41	FL310	0:32	36.4S	167.1E	FL309	-39.8	1.9	FL310	-40.1	.9	2:07				
AKL-SYD	12/27/77	29	2:19	-60	FL430	0:09	36.9S	172.0E	FL424	-55.0	4.3	FL430	-55.7	2.8	2:05				
AKL-SYD	12/29/77	28	2:17	-58	FL430	2:07	34.4S	154.6E	FL420	-52.0	3.3	FL430	-52.4	3.0	2:03				
AKL-SYD	12/29/78	28	2:15	-59	FL390	0:05	36.9S	172.4E	FL386	-56.1	3.6	FL390	-56.9	1.9	2:05				
AKL-SYD	12/30/76	27	2:20	-65	FL430	2:00	34.7S	155.9E	FL425	-58.3	4.9	FL430	-58.6	4.8	2:05				
AKL-SYD	12/31/77	28	2:14	-58	FL430	1:45	35.0S	157.7E	FL425	-56.5	1.1	FL430	-56.7	.6	2:00				
AMS-ATH	1/20/77	23	2:17	-61	FL331	1:47	43.3N	21.2E	FL317	-56.0	4.3								
AMS-BAH	1/11/77	61	5:03	-63	FL330	0:10	50.3N	8.9E	FL328	-56.5	4.0	FL329	-56.8	3.2	4:47				
AMS-BAH	5/24/77	53	5:01	-59	FL371	3:00	39.1N	36.7E	FL350	-52.8	4.5	FL331	-52.5	1.0	1:45	FL371	-54.9	2.8	2:34
AMS-BAH	8/ 4/77	53	4:40	-47	FL330	0:15	49.6N	9.5E	FL328	-36.5	6.2	FL330	-36.3	6.3	4:25				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
AMS-BAH	10/19/76	59	4:51	-55	FL330	0:54	46.1N	15.7E	FL329	-49.8	2.9	FL330	-49.9	2.8	4:41				
AMS-BAH	11/11/77	59	4:49	-62	FL354	2:54	39.0N	37.8E	FL345	-51.5	4.6	FL329	-48.8	2.2	2:44	FL370	-56.0	2.2	1:45
AMS-BAH	11/17/77	52	4:30	-55	FL302	0:00	51.2N	7.7E	FL329	-48.4	2.6	FL330	-48.6	1.8	4:15				
AMS-BAH	11/24/77	55	4:39	-57	FL371	3:39	34.8N	43.6E	FL328	-51.0	3.2	FL291	-47.4	1.8	1:15	FL330	-52.5	.7	1:19
AMS-BAH	12/21/76	55	4:49	-58	FL330	3:19	38.0N	41.4E	FL329	-54.2	2.7	FL329	-54.4	2.6	4:39				
ANC-HND	9/11/76	81	6:59	-64	FL429	5:29	38.2N	155.6E	FL403	-56.9	4.6	FL389	-53.8	1.4	2:49	FL409	-58.2	.8	2:09
												FL429	-62.4	1.1	1:34				
ATH-BAH	1/21/77	33	2:39	-48	FL285	0:00	36.2N	25.1E	FL290	-45.8	2.2	FL290	-45.8	2.2	2:34				
ATH-BAH	8/27/77	24	2:34	-43	FL371	2:29	27.2N	48.6E	FL341	-36.3	4.7	FL330	-34.6	2.9	1:24				
ATH-BAH	12/21/77	31	2:34	-55	FL330	0:09	36.6N	27.4E	FL352	-48.7	4.0	FL370	-48.9	1.1	1:35				
ATH-BGR	11/ 9/78	99	8:16	-59	FL370	6:46	47.4N	53.6W	FL320	-50.0	4.1	FL309	-48.5	1.7	6:26	FL369	-57.6	.7	1:25
ATH-BKK	7/16/77	91	8:03	-46	FL370	7:38	16.6N	96.9E	FL327	-31.3	7.9	FL290	-22.0	2.1	2:09	FL330	-31.1	.6	4:00
												FL369	-45.0	.7	1:29				
ATH-BKK	7/24/77	97	8:19	-45	FL370	7:15	20.4N	92.1E	FL328	-31.7	7.4	FL290	-24.2	2.9	2:24	FL330	-30.1	1.6	3:24
												FL369	-43.0	1.8	2:09				
ATH-BKK	8/16/77	90	8:04	-44	FL370	7:30	17.6N	95.7E	FL329	-32.9	6.1	FL290	-26.3	2.3	2:04	FL330	-31.5	.9	3:49
												FL370	-43.0	.8	1:39				
ATH-BKK	8/23/76	107	8:58	-46	FL370	6:35	18.4N	80.5E	FL328	-35.8	7.2	FL290	-28.9	3.8	2:45	FL330	-34.8	.7	3:29
												FL369	-45.9	.3	2:15				
ATH-BKK	8/30/76	102	8:37	-48	FL371	7:28	16.5N	89.3E	FL330	-36.4	7.2	FL290	-29.7	2.7	2:20	FL330	-33.9	.9	3:32
												FL370	-47.2	.8	2:19				
ATH-BKK	11/13/77	92	7:42	-50	FL332	3:07	30.7N	57.7E	FL332	-43.9	3.7	FL291	-38.7	.8	1:22	FL331	-44.2	2.5	4:04
												FL370	-47.7	.5	1:49				
ATH-BKK	12/ 8/77	82	7:20	-56	FL330	1:30	34.1N	43.2E	FL345	-48.8	3.8	FL329	-48.4	4.3	4:09	FL370	-50.1	1.2	2:39
ATH-BKK	12/17/77	92	7:37	-56	FL330	1:37	34.0N	44.4E	FL331	-47.9	2.9	FL290	-47.6	2.2	1:22	FL330	-48.1	3.4	4:14
												FL369	-48.3	1.1	1:39				
ATH-BKK	12/27/77	86	7:15	-50	FL331	0:49	34.6N	34.5E	FL335	-44.5	4.4	FL330	-46.2	2.8	4:29	FL330	-37.4	1.2	1:20
ATH-BRU	5/25/78	25	2:04	-59	FL351	1:15	46.3N	14.7E	FL330	-53.2	6.3	FL350	-58.7	.5	1:04				
ATH-BRU	10/30/76	27	2:05	-58	FL388	0:37	43.1N	20.0E	FL365	-47.1	6.6	FL387	-50.4	3.6	1:28				
ATH-DAM	3/17/77	17	1:15	-50	FL330	1:00	35.2N	35.5E	FL323	-46.6	1.5	FL330	-46.7	1.5	1:04				
ATH-DAM	10/ 7/76	8	1:10	-49	FL330	0:04	35.4N	25.8E	FL327	-47.4	1.8								
ATH-DAM	11/12/76	16	1:14	-51	FL330	0:34	35.0N	30.8E	FL324	-49.1	3.6								
ATH-DEL	8/19/76	58	5:00	-33	FL331	2:54	31.5N	55.5E	FL307	-28.7	3.9	FL290	-25.7	1.6	2:40	FL330	-32.9	.3	2:00
ATH-FCO	2/22/77	13	1:04	-55	FL350	0:04	38.2N	21.1E	FL345	-52.8	3.5								
ATH-FCO	5/15/77	14	1:00	-50	FL311	0:54	40.7N	14.3E	FL307	-45.6	2.8								
ATH-FCO	7/24/77	12	1:00	-42	FL310	0:05	38.2N	20.9E	FL309	-41.0	1.1								
ATH-FCO	8/16/77	12	1:00	-47	FL351	0:15	38.4N	19.3E	FL335	-42.9	6.6								
ATH-FCO	12/ 5/76	13	1:00	-49	FL310	0:30	38.6N	17.6E	FL308	-46.9	1.9								
ATH-FCO	12/27/77	11	1:00	-59	FL351	0:45	39.7N	15.3E	FL345	-55.6	3.7								
ATH-LHR	8/23/76	32	2:29	-61	FL390	2:19	51.3N	3.5E	FL365	-52.2	5.9	FL390	-56.3	3.1	1:09				
ATH-LHR	8/30/76	28	2:19	-39	FL280	2:09	50.9N	4.7E	FL280	-34.8	2.2	FL280	-34.8	2.2	2:19				
ATH-PIK	6/18/78	35	3:04	-56	FL351	2:04	51.0N	8.8E	FL348	-50.1	3.8	FL350	-50.7	2.9	2:15				
ATH-THR	2/22/77	33	2:40	-56	FL330	2:35	34.7N	49.4E	FL326	-51.5	4.1	FL330	-52.4	2.3	2:24				
ATH-THR	5/15/77	29	2:19	-44	FL290	1:15	33.6N	38.4E	FL291	-39.9	1.5	FL291	-39.9	1.5	2:19				
ATH-THR	6/10/77	29	2:20	-49	FL326	0:05	35.8N	25.5E	FL329	-44.2	4.0	FL331	-44.4	3.5	2:10				
ATH-THR	8/11/76	31	2:24	-35	FL330	0:09	35.1N	27.2E	FL328	-32.9	2.5	FL330	-33.4	.9	2:20				
ATH-THR	8/15/76	29	2:25	-35	FL290	0:00	36.0N	25.3E	FL326	-33.2	.9	FL330	-33.4	.5	2:05				
ATH-THR	10/26/76	29	2:25	-52	FL331	0:55	35.0N	34.5E	FL323	-48.7	4.4	FL330	-50.4	1.2	2:05				
ATH-THR	11/ 5/76	31	2:33	-52	FL330	0:15	35.1N	27.3E	FL330	-50.2	1.5	FL330	-50.2	1.5	2:29				
ATH-THR	12/ 5/76	36	2:37	-50	FL330	2:28	34.4N	48.5E	FL324	-46.8	4.0	FL330	-48.1	1.1	1:20				
ATH-VIE	12/21/77	15	1:15	-62	FL351	1:15	46.6N	15.7E	FL343	-57.2	3.5	FL350	-58.3	1.7	1:04				
BAH-AMS	1/ 2/78	49	4:14	-48	FL281	1:19	40.0N	33.1E	FL281	-43.9	1.6	FL281	-43.9	1.6	4:14				
BAH-AMS	8/ 4/77	57	4:59	-51	FL350	4:19	48.6N	13.3E	FL292	-30.5	10.1	FL279	-25.5	4.8	3:49				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BAH-AMS	1/ 7/77	63	5:29	-58	FL351	4:14	45.4N	18.2E	FL334	-51.1	6.6	FL310	-44.2	2.5	2:04	FL351	-56.1	1.0	3:09
BAH-AMS	11/17/77	64	5:44	-57	FL351	2:14	39.0N	37.0E	FL344	-48.5	4.3	FL350	-46.9	2.4	1:04	FL350	-50.1	3.7	3:34
BAH-AMS	11/24/77	66	5:39	-55	FL311	5:09	49.4N	11.8E	FL311	-48.7	2.6	FL310	-48.8	2.5	5:34				
BAH-AMS	12/12/77	54	4:29	-53	FL310	1:24	39.4N	35.1E	FL289	-45.5	4.7	FL310	-52.1	.8	1:04	FL281	-43.7	3.0	2:34
BAH-ATH	12/20/77	41	3:15	-52	FL350	1:30	31.7N	38.8E	FL345	-47.3	3.4	FL350	-48.1	2.4	3:00				
BAH-BEG	1/11/77	47	3:54	-64	FL350	2:54	40.4N	30.5E	FL343	-57.7	6.7	FL350	-60.2	2.4	3:19				
BAH-BEG	5/24/77	41	3:44	-55	FL351	2:09	39.2N	36.0E	FL348	-51.2	5.1	FL350	-52.1	3.2	3:34				
BAH-BEG	6/22/77	18	1:34	-45	FL312	1:30	43.2N	22.4E	FL311	-40.2	3.5	FL311	-40.2	3.5	1:30				
BAH-BEG	8/24/77	42	3:23	-43	FL314	3:22	43.7N	21.6E	FL320	-33.5	4.6	FL310	-32.6	4.6	2:18				
BAH-BEG	10/19/76	44	3:34	-51	FL310	3:14	42.2N	25.8E	FL309	-45.1	2.9	FL309	-45.3	2.3	3:29				
BAH-BEG	12/21/76	45	3:42	-55	FL323	1:12	34.6N	43.7E	FL304	-48.4	3.9	FL280	-46.3	.4	1:30				
BAH-BKK	2/ 1/77	60	4:59	-46	FL330	0:04	24.6N	54.2E	FL329	-40.2	2.2	FL329	-40.2	2.2	4:54				
BAH-BKK	2/15/77	62	5:24	-50	FL370	2:24	19.6N	74.5E	FL351	-43.8	5.2	FL330	-38.3	1.9	2:09	FL370	-48.5	.6	2:54
BAH-BKK	3/29/77	61	5:04	-49	FL370	4:24	15.4N	93.3E	FL344	-44.9	2.4	FL330	-43.8	1.2	2:54	FL370	-47.5	.8	1:45
BAH-BKK	5/22/77	53	5:05	-46	FL369	4:37	14.8N	95.5E	FL334	-38.8	3.2	FL330	-38.2	1.6	4:11				
BAH-BKK	5/31/77	54	4:45	-37	FL330	4:44	14.0N	99.1E	FL316	-32.2	4.4	FL290	-26.6	1.0	1:30	FL330	-35.4	.7	3:00
BAH-BKK	11/ 9/76	61	5:03	-34	FL290	0:04	24.6N	54.2E	FL290	-29.1	1.6	FL290	-29.0	1.6	4:58				
BAH-BKK	11/30/76	61	5:00	-38	FL330	3:28	17.1N	85.8E	FL303	-32.7	3.6	FL290	-30.3	1.1	3:23	FL329	-37.7	.5	1:31
BAH-BKK	12/30/76	62	4:56	-48	FL370	3:15	17.6N	85.1E	FL335	-40.2	4.1	FL330	-39.9	1.6	3:00				
BAH-BOM	1/ 3/79	26	2:04	-63	FL410	0:54	23.2N	61.1E	FL404	-61.2	3.1	FL410	-62.2	1.0	1:50				
BAH-BOM	1/10/79	24	1:55	-63	FL410	1:19	21.6N	65.5E	FL402	-60.5	4.3	FL410	-61.9	.4	1:39				
BAH-BOM	1/17/79	24	2:00	-59	FL381	0:04	25.8N	52.9E	FL405	-56.3	2.2	FL410	-56.5	1.3	1:50				
BAH-BOM	8/28/78	26	2:18	-56	FL411	0:04	25.6N	53.4E	FL406	-54.7	4.4	FL410	-55.9	.3	2:07				
BAH-BOM	9/27/78	29	2:20	-58	FL410	1:20	22.5N	63.3E	FL404	-55.8	5.2	FL410	-57.3	.6	2:05				
BAH-BOM	10/11/78	28	2:15	-61	FL410	0:10	25.6N	53.6E	FL406	-59.0	4.7	FL409	-60.0	.7	2:04				
BAH-BOM	10/13/78	29	2:20	-60	FL410	0:25	25.1N	55.8E	FL404	-58.0	4.6	FL410	-59.3	.5	2:04				
BAH-BOM	11/23/78	25	2:04	-65	FL410	0:40	24.0N	58.7E	FL405	-62.8	4.5	FL410	-64.0	.7	1:49				
BAH-BOM	11/25/78	25	2:05	-64	FL410	0:10	25.6N	53.9E	FL407	-62.4	4.0	FL410	-63.3	.8	1:55				
BAH-BOM	12/ 1/78	24	2:01	-66	FL410	0:15	25.4N	54.6E	FL403	-61.9	5.5	FL410	-63.5	1.3	1:45				
BAH-BOM	12/ 8/78	26	2:10	-58	FL370	0:30	24.8N	56.7E	FL366	-55.1	4.3	FL369	-56.3	1.1	2:00				
BAH-BOM	12/20/78	26	2:04	-61	FL410	2:04	19.7N	70.8E	FL399	-54.3	4.2	FL410	-56.2	2.2	1:34				
BAH-BOM	12/22/78	27	2:03	-57	FL410	1:58	20.0N	70.2E	FL404	-53.6	2.9	FL410	-54.3	1.7	1:48				
BAH-FCO	10/13/77	51	4:19	-56	FL350	2:24	35.0N	29.3E	FL337	-50.6	3.3	FL350	-52.1	2.8	2:40				
BAH-FRA	1/17/77	59	4:54	-64	FL350	2:39	38.3N	31.3E	FL334	-54.3	5.5	FL310	-51.4	2.0	1:54	FL350	-56.4	5.9	2:49
BAH-FRA	1/20/77	63	5:14	-62	FL351	3:44	42.6N	24.0E	FL337	-54.9	5.3	FL310	-49.8	.8	1:30	FL350	-57.7	4.1	3:29
BAH-FRA	1/31/77	63	5:19	-62	FL350	4:49	46.3N	16.0E	FL332	-51.9	6.0	FL310	-45.7	.9	2:19	FL350	-57.2	1.8	2:44
BAH-FRA	3/28/77	55	4:49	-61	FL350	2:59	40.9N	28.9E	FL327	-53.3	4.9	FL310	-50.0	2.8	2:45	FL350	-58.1	2.0	1:50
BAH-FRA	5/21/77	51	4:23	-47	FL310	3:58	46.4N	15.7E	FL290	-40.1	3.7	FL281	-37.8	2.7	2:30				
BAH-FRA	5/30/77	55	4:43	-57	FL351	3:58	45.4N	18.3E	FL333	-50.4	4.9	FL311	-45.3	1.1	1:54	FL350	-54.6	1.8	2:29
BAH-FRA	9/30/76	46	4:19	-56	FL350	4:00	47.4N	15.0E	FL347	-50.0	5.1	FL349	-50.8	3.0	4:01				
BAH-FRA	11/ 8/76	55	4:44	-52	FL310	4:14	46.3N	16.0E	FL297	-43.0	4.7	FL281	-38.5	1.2	2:00	FL310	-46.8	2.9	2:34
BAH-FRA	11/22/76	58	4:57	-55	FL310	4:12	45.3N	18.6E	FL310	-48.3	3.3	FL310	-48.5	2.9	4:52				
BAH-FRA	11/29/76	61	5:20	-57	FL350	3:44	42.6N	24.1E	FL326	-48.1	7.1	FL309	-43.4	4.3	2:54	FL350	-55.0	3.0	2:09
BAH-JFK	1/ 3/79	149	13:09	-73	FL431	9:44	49.1N	42.1W	FL385	-59.4	6.9	FL350	-55.6	5.8	4:55	FL390	-60.8	2.1	1:54
												FL410	-66.0	3.8	2:19	FL410	-66.8	1.7	1:04
												FL430	-54.7	2.9	1:55				
BAH-JFK	1/10/79	153	13:14	-64	FL350	4:24	45.5N	17.7E	FL380	-52.8	3.8	FL350	-54.5	4.3	5:20	FL390	-53.1	1.8	3:29
												FL409	-52.9	1.9	1:34	FL429	-48.9	2.0	1:55
BAH-JFK	1/17/79	139	11:38	-68	FL391	7:33	55.1N	27.5W	FL371	-53.7	4.8	FL350	-52.6	4.1	4:15	FL390	-55.5	5.1	4:24
												FL390	-54.8	2.6	2:04				
BAH-JFK	1/26/77	140	12:50	-71	FL390	3:34	42.3N	25.7E	FL372	-56.6	8.8	FL279	-39.0	2.5	1:07	FL389	-65.3	4.8	1:25
												FL389	-60.9	6.3	2:51	FL410	-55.9	1.5	1:45
												FL349	-52.1	6.8	2:00				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BAH-JFK	2/ 9/77	147	12:27	-66	FL390	2:15	39.1N	36.5E	FL392	-53.6	5.0	FL389	-60.3	5.1	1:49	FL390	-56.7	2.0	1:33
												FL429	-52.9	1.5	4:24				
BAH-JFK	3/23/77	137	11:43	-66	FL390	4:34	48.0N	14.4E	FL387	-54.1	4.8	FL390	-58.1	4.9	4:58	FL410	-51.4	1.8	4:34
BAH-JFK	5/25/77	82	12:13	-61	FL371	5:23	44.1N	6.1E	FL377	-51.8	4.4	FL350	-53.6	2.8	4:31	FL410	-52.8	1.8	1:39
												FL410	-49.6	2.0	2:59				
BAH-JFK	6/ 7/78	145	12:05	-71	FL430	11:33	43.4N	66.9W	FL383	-56.1	7.7	FL350	-48.3	5.5	3:39	FL370	-60.1	.9	1:20
												FL390	-59.7	1.9	2:49	FL410	-56.9	4.9	2:10
												FL430	-65.6	2.8	1:21				
BAH-JFK	7/12/77	141	12:09	-62	FL410	10:09	51.5N	56.0W	FL382	-49.3	8.6	FL350	-41.5	4.6	4:15	FL390	-57.0	4.1	2:05
												FL410	-53.5	7.1	2:25	FL429	-56.8	1.3	1:15
BAH-JFK	8/28/78	140	12:04	-65	FL410	9:00	48.0N	39.2W	FL378	-53.0	8.1	FL350	-46.3	5.1	4:49	FL390	-59.9	2.0	3:15
												FL410	-57.6	4.5	3:24				
BAH-JFK	9/27/78	152	12:27	-64	FL390	5:47	42.4N	4.4W	FL370	-54.9	10.5	FL310	-35.1	1.4	2:15	FL350	-51.5	4.2	1:39
												FL370	-60.2	2.9	1:29	FL390	-61.6	1.7	4:20
												FL410	-61.6	1.6	2:10				
BAH-JFK	10/11/78	143	11:53	-63	FL392	4:09	41.5N	12.1E	FL384	-54.9	7.3	FL310	-39.0	1.9	1:24	FL351	-56.0	2.3	2:20
												FL391	-61.3	1.3	1:55	FL411	-55.9	2.5	4:23
												FL431	-60.7	1.0	1:09				
BAH-JFK	10/13/78	139	11:42	-67	FL390	7:54	47.0N	30.2W	FL377	-56.9	5.1	FL350	-53.8	3.2	5:20	FL390	-60.0	4.0	3:51
												FL430	-60.7	.9	1:57				
BAH-JFK	11/23/78	152	12:54	-69	FL409	7:35	50.8N	18.7W	FL384	-58.9	5.2	FL349	-55.9	3.2	5:15	FL389	-64.0	2.1	1:45
												FL410	-60.0	3.6	3:03	FL430	-62.2	1.4	2:00
BAH-JFK	11/25/78	143	12:49	-73	FL410	7:34	44.0N	19.0W	FL379	-60.0	8.0	FL350	-54.1	2.3	3:44	FL369	-56.3	2.1	2:09
												FL410	-70.7	1.9	3:44	FL430	-55.7	2.1	1:09
BAH-JFK	12/ 1/78	147	12:44	-68	FL391	5:59	52.7N	4.4E	FL384	-55.5	4.7	FL350	-55.9	3.8	3:44	FL390	-56.4	5.0	5:54
												FL430	-53.9	1.0	2:30				
BAH-JFK	12/ 8/76	159	13:25	-58	FL430	9:46	56.1N	43.1W	FL387	-50.4	5.0	FL279	-37.4	1.6	1:04	FL309	-49.5	.9	1:30
												FL389	-50.9	2.4	4:11	FL429	-53.0	3.0	5:58
BAH-JFK	12/ 8/78	147	12:49	-65	FL430	12:44	42.4N	71.3W	FL378	-52.4	5.4	FL350	-52.1	4.1	5:25	FL390	-50.1	3.7	4:24
												FL430	-61.3	2.7	1:39				
BAH-JFK	12/20/78	146	12:24	-71	FL391	8:39	56.7N	34.4W	FL372	-56.8	6.7	FL350	-56.8	5.7	5:55	FL391	-57.1	7.4	4:24
												FL430	-61.5	1.6	1:15				
BAH-JFK	12/22/78	142	11:58	-62	FL350	3:53	43.7N	21.6E	FL375	-53.3	3.9	FL350	-55.5	3.4	4:34	FL390	-51.9	2.4	4:19
												FL410	-50.4	1.3	1:45				
BAH-KUL	1/ 3/78	70	5:49	-49	FL371	3:29	12.0N	82.5E	FL356	-45.0	4.6	FL329	-39.0	1.3	1:39	FL370	-48.2	.7	3:54
BAH-KUL	1/12/77	67	5:34	-45	FL330	1:14	21.2N	66.4E	FL330	-41.5	2.9	FL330	-41.7	2.7	5:24				
BAH-KUL	5/25/77	73	5:57	-41	FL330	1:24	21.0N	66.9E	FL329	-38.0	1.9	FL330	-38.3	1.4	5:46				
BAH-KUL	5/28/77	71	6:04	-39	FL331	0:14	24.1N	55.9E	FL329	-36.7	1.7	FL330	-37.0	1.2	5:44				
BAH-KUL	8/ 5/77	73	6:05	-37	FL330	4:10	10.3N	86.2E	FL327	-33.8	3.5	FL329	-34.6	1.9	5:40				
BAH-KUL	10/18/77	68	5:59	-48	FL370	3:24	12.6N	81.0E	FL350	-42.5	4.8	FL330	-38.0	1.3	2:54	FL369	-47.1	.4	2:49
BAH-KUL	10/20/76	69	5:49	-36	FL290	0:00	24.8N	53.8E	FL290	-28.2	2.4	FL290	-28.2	2.4	5:49				
BAH-KUL	11/ 8/77	69	5:54	-38	FL331	2:04	19.2N	72.6E	FL316	-34.7	3.6	FL290	-30.3	.9	1:45	FL330	-37.2	.8	3:49
BAH-KUL	11/11/77	68	5:56	-42	FL330	3:51	10.7N	84.8E	FL315	-34.3	3.5	FL290	-30.1	.8	2:04	FL330	-36.9	1.3	3:41
BAH-KUL	11/25/77	67	5:54	-38	FL290	0:04	24.5N	54.3E	FL291	-28.9	2.7	FL290	-30.9	3.1	1:49	FL290	-27.5	.5	3:45
BAH-KUL	12/13/77	69	5:49	-45	FL330	1:44	20.1N	69.6E	FL330	-40.5	2.6	FL330	-40.6	2.4	5:39				
BAH-KUL	12/22/76	70	5:52	-47	FL330	0:19	24.0N	56.7E	FL325	-39.1	5.3	FL329	-40.7	3.5	5:03				
BAH-LHR	7/13/77	22	2:00	-54	FL351	1:30	49.8N	7.8E	FL347	-50.5	3.2	FL350	-51.1	1.6	1:54				
BAH-LHR	8/ 6/77	67	5:30	-46	FL310	4:45	49.3N	9.9E	FL310	-37.6	6.0	FL310	-37.8	5.9	5:19				
BAH-LHR	8/18/77	68	5:31	-49	FL347	4:51	49.5N	10.2E	FL315	-37.3	6.1	FL310	-36.3	4.4	4:36				
BAH-LHR	8/31/77	65	5:30	-44	FL310	4:39	49.2N	11.4E	FL309	-36.0	5.2	FL309	-36.2	4.9	5:19				
BAH-LHR	11/10/77	71	5:54	-59	FL350	2:19	39.5N	34.9E	FL350	-53.5	3.0	FL350	-53.6	2.6	5:49				
BAH-LHR	12/29/77	73	6:13	-62	FL351	2:07	39.1N	36.7E	FL336	-53.8	6.1	FL310	-46.7	4.6	1:27	FL350	-57.8	2.7	3:54
BAH-ORY	4/28/77	67	5:10	-46	FL281	2:14	40.1N	32.8E	FL281	-40.4	3.3	FL280	-40.4	3.3	5:10				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BAH-SIN	1/21/77	74	6:03	-40	FL331	2:23	16.3N	75.4E	FL317	-36.4	3.2	FL290	-33.4	4.0	1:52	FL330	-38.0	.8	4:04
BAH-SIN	4/29/77	70	5:59	-40	FL330	0:39	23.1N	60.0E	FL328	-37.9	2.7	FL330	-38.5	1.1	5:39				
BAH-SIN	6/23/77	66	6:19	-39	FL332	5:44	4.6N	99.5E	FL319	-31.8	6.8	FL290	-22.0	.7	1:44	FL331	-36.3	1.7	4:24
BAH-SIN	7/14/77	74	6:28	-47	FL370	5:53	5.0N	98.2E	FL323	-32.6	8.0	FL289	-21.8	.5	1:49	FL330	-35.4	1.1	3:38
BAH-SIN	8/ 8/77	74	6:34	-48	FL370	4:34	8.9N	88.6E	FL334	-35.9	9.7	FL290	-22.0	.5	1:09	FL330	-34.2	1.9	2:34
												FL369	-47.3	.8	2:05				
BAH-SIN	8/20/77	70	6:19	-27	FL291	4:19	9.3N	88.3E	FL291	-24.9	1.2	FL290	-24.9	1.2	6:19				
BAH-SIN	8/25/77	76	6:32	-48	FL370	5:12	7.2N	93.4E	FL331	-35.8	7.6	FL329	-35.3	1.2	3:42	FL369	-47.6	.5	1:19
BAH-SIN	9/ 1/77	74	6:24	-38	FL329	4:59	7.5N	92.3E	FL316	-31.6	6.3	FL289	-23.1	.3	1:50	FL328	-35.8	1.8	4:24
BAH-SIN	10/ 1/76	72	6:16	-40	FL330	3:08	13.7N	79.2E	FL318	-35.7	4.2	FL290	-29.7	.9	1:49	FL330	-38.5	.5	0:00
BAH-SIN	10/15/77	71	6:04	-38	FL332	1:54	19.7N	71.1E	FL318	-34.6	3.4	FL290	-29.7	1.5	1:29	FL330	-36.7	.7	4:09
BAH-SIN	12/22/77	70	5:54	-38	FL330	2:59	12.8N	80.5E	FL310	-35.6	2.3	FL290	-34.0	1.8	2:39	FL330	-37.4	.5	2:54
BAH-SIN	12/31/77	73	6:19	-49	FL370	1:54	19.6N	71.5E	FL358	-45.3	3.7	FL330	-39.9	1.4	1:45	FL369	-47.6	.7	4:24
BAH-VIE	5/27/77	47	4:19	-50	FL311	3:29	44.0N	25.2E	FL309	-46.3	2.7	FL310	-46.5	2.3	3:59				
BEG-BAH	6/22/77	25	2:50	-38	FL291	0:00	42.0N	26.5E	FL290	-27.8	6.1	FL290	-27.8	6.1	2:50				
BEG-BAH	8/24/77	37	3:21	-41	FL291	0:05	43.1N	22.7E	FL290	-27.1	5.2	FL290	-26.8	5.0	3:15				
BEG-LHR	1/11/77	22	1:45	-64	FL350	0:09	45.7N	17.1E	FL343	-56.6	4.8	FL350	-57.3	4.3	1:29				
BEG-LHR	5/24/77	18	1:34	-55	FL351	0:45	48.9N	12.3E	FL339	-52.8	2.3	FL350	-54.5	.5	1:04				
BEG-LHR	10/19/76	20	1:38	-52	FL329	0:30	48.2N	14.1E	FL333	-47.8	2.7								
BEG-LHR	12/21/76	20	1:34	-48	FL280	0:00	45.5N	17.9E	FL280	-46.5	1.2	FL280	-46.6	1.0	1:30				
BEG-ORY	3/17/77	17	1:19	-48	FL310	0:10	45.8N	16.8E	FL297	-45.0	3.1								
BEG-ORY	8/19/76	15	1:10	-57	FL351	0:35	47.6N	11.9E	FL332	-51.4	4.5								
BEY-KHI	3/17/75	41	3:01	-61	FL370	1:26	32.8N	51.3E	FL356	-54.8	4.1	FL369	-56.3	2.7	2:23				
BEY-THR	3/25/75	15	1:09	-54	FL329	1:00	34.2N	47.9E	FL326	-51.5	2.5	FL328	-52.1	1.0	1:04				
BGR-LAX	6/19/78	61	5:06	-56	FL390	3:52	36.9N	107.3W	FL367	-51.5	5.1	FL350	-47.4	1.2	1:19	FL370	-53.5	1.3	1:48
												FL390	-55.6	.6	1:28				
BGR-LAX	11/10/78	59	4:59	-53	FL350	2:09	39.6N	92.4W	FL347	-51.0	2.3	FL349	-51.5	.9	4:39				
BGR-LAX	12/14/78	56	4:55	-60	FL349	2:20	43.1N	95.1W	FL342	-52.4	5.0	FL349	-53.8	4.0	4:05				
BKK-ATH	7/15/77	93	8:04	-39	FL350	7:49	35.1N	26.6E	FL312	-27.0	4.1	FL309	-26.2	1.1	4:55	FL350	-35.7	1.4	1:04
BKK-ATH	7/23/77	94	8:09	-37	FL351	5:20	32.9N	50.7E	FL314	-27.2	4.4	FL310	-25.2	1.1	4:29	FL350	-35.9	.6	1:15
												FL310	-27.9	.3	1:09				
BKK-ATH	8/15/77	98	8:24	-45	FL351	8:24	36.1N	25.2E	FL322	-30.9	6.7	FL310	-26.8	.9	4:39	FL350	-39.6	1.6	2:45
BKK-ATH	8/22/76	101	8:45	-46	FL350	8:20	35.0N	27.2E	FL337	-37.5	5.4	FL310	-30.3	.6	2:19	FL350	-41.1	1.6	6:00
BKK-ATH	8/26/77	94	8:18	-39	FL350	8:14	36.0N	25.3E	FL319	-29.4	5.9	FL280	-21.9	1.1	1:04	FL310	-26.5	1.0	4:00
												FL350	-36.9	.9	2:50				
BKK-ATH	8/29/76	108	8:56	-47	FL351	8:52	36.9N	25.7E	FL327	-34.7	6.6	FL311	-29.7	.7	3:39	FL350	-41.0	2.7	4:07
BKK-ATH	11/12/77	101	9:09	-51	FL351	6:20	33.1N	49.8E	FL315	-39.8	6.2	FL281	-26.2	1.1	1:05	FL310	-39.6	2.1	4:54
												FL310	-42.5	.7	1:09				
BKK-ATH	12/ 7/77	119	10:03	-60	FL391	9:28	35.0N	29.0E	FL345	-48.6	7.6	FL310	-38.7	3.7	2:45	FL350	-51.6	2.5	5:18
												FL390	-57.1	1.9	1:30				
BKK-ATH	12/14/77	111	9:30	-57	FL351	9:20	35.2N	26.1E	FL327	-43.1	7.8	FL310	-38.0	1.9	4:24	FL350	-50.5	2.3	4:20
BKK-ATH	12/26/77	120	10:09	-58	FL350	9:04	34.8N	33.8E	FL325	-40.7	9.3	FL309	-34.2	.4	1:24	FL309	-34.6	.8	2:05
												FL349	-49.5	4.3	4:55				
BKK-BAH	1/16/77	77	6:24	-50	FL350	5:00	23.0N	61.9E	FL322	-40.3	6.4	FL309	-35.1	1.1	3:00	FL350	-48.3	1.2	2:15
BKK-BAH	1/30/77	66	5:45	-44	FL310	5:45	25.8N	52.6E	FL310	-37.2	2.6	FL310	-37.3	2.3	5:40				
BKK-BAH	2/13/77	64	5:35	-39	FL310	4:49	24.2N	58.3E	FL307	-34.9	1.7	FL310	-34.5	1.2	4:45				
BKK-BAH	3/27/77	58	4:37	-52	FL350	2:11	19.2N	71.7E	FL318	-41.5	9.7	FL280	-30.9	2.0	1:56	FL350	-50.7	.8	2:15
BKK-BAH	5/20/77	65	5:34	-48	FL350	5:19	25.4N	54.6E	FL330	-38.4	6.6	FL311	-32.4	.6	2:24	FL350	-44.5	1.8	2:45
BKK-BAH	5/29/77	57	5:40	-44	FL351	5:25	25.5N	54.3E	FL330	-36.1	5.7	FL310	-30.9	.5	2:24	FL350	-41.6	1.0	2:39
BKK-BAH	11/ 7/76	64	5:29	-48	FL350	4:49	24.4N	57.8E	FL340	-41.7	5.5	FL310	-32.1	.3	1:05	FL350	-44.7	1.7	4:05
BKK-BAH	11/21/76	69	5:26	-49	FL350	5:22	25.7N	52.7E	FL327	-37.6	6.1	FL309	-32.4	.5	2:47	FL349	-43.9	2.0	2:24
BKK-BAH	11/28/76	66	5:34	-36	FL310	4:54	24.4N	57.7E	FL309	-33.1	2.3	FL309	-33.4	1.7	5:24				
BKK-DAM	5/14/77	84	7:09	-45	FL311	7:04	33.5N	38.9E	FL305	-36.7	7.3	FL280	-23.2	.9	1:15	FL310	-39.9	3.6	5:50

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BKK-DAM	8/18/76	80	6:45	-40	FL350	6:09	34.1N	44.1E	FL315	-29.9	6.0	FL280	-23.3	.8	1:39	FL310	-27.5	.6	2:39
												FL350	-38.7	.7	1:49				
BKK-DAM	10/ 6/76	87	6:51	-43	FL310	5:49	33.3N	48.4E	FL305	-35.9	6.0	FL280	-25.7	.5	1:02	FL310	-38.2	3.9	0:00
BKK-DAM	11/10/76	90	7:35	-55	FL350	6:20	33.2N	49.0E	FL316	-40.0	8.9	FL310	-37.7	3.5	4:34	FL349	-53.0	1.6	1:45
BKK-DAM	12/ 4/76	92	7:49	-52	FL348	6:34	33.2N	49.0E	FL314	-41.7	6.6	FL310	-41.1	3.5	5:54	FL349	-51.6	.5	1:09
BKK-DEL	1/23/76	40	3:00	-59	FL350	2:20	24.9N	84.5E	FL345	-52.1	6.9	FL350	-53.9	4.3	2:34				
BKK-DEL	3/12/75	37	3:00	-48	FL350	1:09	21.4N	90.7E	FL347	-45.9	3.0	FL350	-46.7	.6	2:45				
BKK-DEL	3/19/76	34	2:34	-54	FL350	2:07	25.9N	82.6E	FL341	-46.8	6.9	FL350	-50.2	3.2	0:00				
BKK-DEL	3/24/77	34	2:49	-55	FL351	2:34	26.8N	80.9E	FL340	-48.0	6.7	FL350	-51.7	1.7	2:00				
BKK-DEL	3/31/77	34	2:53	-53	FL350	2:48	27.4N	79.5E	FL340	-43.4	6.7	FL350	-46.9	3.4	2:00				
BKK-DEL	4/ 8/77	38	3:10	-44	FL351	2:55	27.0N	80.3E	FL328	-37.1	4.4	FL310	-34.0	.8	1:19	FL350	-41.4	1.6	1:20
BKK-DEL	4/19/77	35	2:49	-48	FL351	2:30	26.4N	81.7E	FL343	-42.5	4.8	FL350	-44.4	1.4	2:15				
BKK-DEL	7/28/77	36	2:45	-40	FL351	0:19	17.1N	96.2E	FL347	-36.8	3.4	FL350	-37.7	1.5	2:20				
BKK-DEL	8/13/76	34	2:38	-40	FL350	0:14	16.8N	96.9E	FL346	-37.0	3.0	FL349	-37.6	1.6	0:00				
BKK-DEL	9/ 6/76	32	2:35	-40	FL352	0:15	17.0N	96.4E	FL345	-37.4	4.8	FL350	-39.1	1.0	2:15				
BKK-DEL	10/21/77	32	2:39	-48	FL350	2:39	27.4N	79.7E	FL331	-40.5	6.8	FL349	-46.1	.7	1:24				
BKK-DEL	10/27/77	30	2:50	-47	FL351	2:45	27.5N	79.4E	FL337	-41.4	6.5	FL350	-45.4	.8	2:05				
BKK-DEL	12/30/76	21	1:40	-44	FL351	1:40	23.1N	87.9E	FL312	-34.5	3.4	FL310	-34.1	1.0	1:19				
BKK-DRW	3/18/77	56	4:39	-38	FL331	0:10	9.7N	101.0E	FL330	-37.2	1.6	FL330	-37.4	.5	4:34				
BKK-DRW	4/ 1/77	57	4:26	-40	FL330	1:23	.6N	105.6E	FL329	-36.6	1.6	FL329	-36.9	.7	4:13				
BKK-DRW	4/22/77	53	4:34	-50	FL370	3:10	6.2S	118.5E	FL347	-42.9	8.1	FL370	-49.1	.5	2:45				
BKK-DRW	8/20/76	51	4:34	-50	FL370	3:39	8.1S	122.4E	FL338	-41.0	5.5	FL330	-39.1	.9	3:10				
BKK-DRW	10/ 8/76	51	4:07	-38	FL331	0:00	8.2N	101.6E	FL330	-37.5	1.3	FL330	-37.7	.4	4:02				
BKK-DRW	11/12/76	56	4:43	-39	FL330	0:22	8.2N	100.7E	FL329	-37.4	1.8	FL330	-37.7	.8	4:33				
BKK-HKG	1/ 7/77	29	2:30	-51	FL370	0:15	9.3N	103.3E	FL365	-49.1	3.9	FL370	-50.4	.6	2:09				
BKK-HKG	3/18/75	19	1:30	-41	FL329	0:05	14.6N	102.8E	FL327	-39.4	1.7	FL329	-39.9	.5	1:19				
BKK-HKG	3/24/76	31	2:34	-41	FL331	0:35	8.0N	104.1E	FL330	-40.2	1.2	FL330	-40.4	.7	2:29				
BKK-HKG	3/26/75	22	1:36	-51	FL369	0:15	15.1N	104.5E	FL352	-46.1	7.9	FL369	-50.2	.5	1:19				
BKK-HKG	3/29/77	32	2:34	-31	FL290	2:24	19.5N	113.0E	FL290	-28.8	1.1	FL290	-28.8	1.1	2:34				
BKK-HKG	4/11/79	19	1:34	-60	FL410	1:19	19.4N	112.1E	FL399	-56.3	7.4	FL410	-59.1	.2	1:19				
BKK-HKG	4/20/76	32	2:41	-51	FL371	0:25	8.6N	103.0E	FL368	-49.5	2.6	FL370	-50.1	.6	2:31				
BKK-HKG	5/25/79	20	1:34	-47	FL371	0:15	15.2N	104.7E	FL359	-43.6	6.6	FL370	-46.5	.5	1:14				
BKK-HKG	6/ 6/79	20	1:45	-59	FL411	0:05	14.6N	103.1E	FL405	-56.9	6.0	FL410	-58.4	.5	1:34				
BKK-HKG	6/26/77	34	2:49	-49	FL371	0:34	8.4N	103.9E	FL366	-46.5	4.8	FL370	-47.8	1.2	2:35				
BKK-HKG	8/16/78	40	3:00	-62	FL410	0:39	8.2N	103.9E	FL401	-57.1	6.7	FL409	-59.5	1.4	2:43				
BKK-HKG	8/18/76	38	1:38	-45	FL370	0:26	8.2N	102.8E	FL365	-42.6	3.8	FL368	-43.5	.8	0:00				
BKK-HKG	8/25/77	33	2:44	-50	FL371	0:41	8.3N	105.2E	FL366	-47.0	3.8	FL370	-48.1	1.0	2:24				
BKK-HKG	9/11/77	33	2:44	-49	FL371	0:24	9.1N	103.5E	FL365	-45.7	5.5	FL370	-47.3	.8	2:24				
BKK-HKG	9/13/78	35	2:59	-62	FL410	0:39	8.1N	103.9E	FL404	-58.3	6.1	FL410	-60.0	1.2	2:44				
BKK-HKG	9/15/78	31	2:45	-40	FL331	0:15	9.9N	103.1E	FL330	-38.4	1.6	FL330	-38.6	.8	2:35				
BKK-HKG	10/12/77	33	2:39	-51	FL371	2:29	19.6N	113.0E	FL367	-48.6	3.3	FL370	-49.4	.6	2:24				
BKK-HKG	10/15/77	28	2:23	-41	FL332	2:23	19.8N	113.1E	FL328	-37.5	3.5	FL331	-38.4	.9	2:10				
BKK-HKG	10/17/76	40	2:44	-48	FL370	2:34	19.4N	113.0E	FL367	-45.9	3.3	FL369	-46.5	.9	2:33				
BKK-HKG	10/19/77	33	2:39	-49	FL372	0:24	9.0N	103.4E	FL368	-47.3	3.5	FL371	-48.3	.8	2:25				
BKK-HKG	10/25/77	22	1:55	-50	FL371	1:07	14.5N	110.9E	FL363	-47.7	4.9	FL370	-49.5	.5	1:48				
BKK-HKG	11/ 3/78	19	1:29	-49	FL370	1:00	17.7N	110.5E	FL360	-45.7	5.1	FL369	-48.2	.4	1:09				
BKK-HKG	12/ 8/78	17	1:19	-41	FL330	0:04	15.0N	104.0E	FL325	-39.6	3.4	FL330	-40.7	.5	1:09				
BKK-HKG	12/21/76	33	2:39	-30	FL290	2:34	20.2N	113.3E	FL289	-28.0	1.0	FL289	-28.2	.5	2:35				
BKK-KHI	2/23/77	31	4:06	-47	FL350	3:29	23.1N	72.7E	FL347	-44.4	4.1	FL350	-45.4	.8	3:46				
BKK-KHI	6/23/77	43	3:22	-50	FL391	2:47	22.8N	73.5E	FL359	-41.6	4.1	FL350	-39.5	1.0	2:22				
BKK-KHI	8/27/77	42	3:30	-43	FL351	0:25	15.2N	94.2E	FL346	-39.5	4.2	FL350	-40.6	1.5	3:09				
BKK-KHI	10/ 8/77	42	3:44	-45	FL351	2:34	21.6N	77.4E	FL323	-37.0	5.3	FL310	-33.5	.7	2:20				
BKK-MEL	8/11/76	89	7:35	-58	FL330	7:15	36.1S	140.5E	FL317	-40.1	10.2	FL289	-30.1	.9	1:24	FL330	-44.8	7.9	5:20

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	CRS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BKK-MEL	8/16/76	83	7:06	-52	FL370	6:06	31.9S	133.3E	FL338	-41.7	7.6	FL330	-39.3	.8	3:30	FL370	-50.6	1.0	2:24
BKK-MEL	8/24/76	87	7:25	-60	FL370	7:15	36.5S	141.0E	FL326	-38.3	10.4	FL290	-27.2	.7	2:14	FL330	-38.3	2.1	2:55
												FL370	-53.9	3.1	1:49				
BKK-MEL	8/31/76	87	7:14	-50	FL365	7:14	37.2S	143.0E	FL346	-40.7	4.4	FL330	-38.5	.5	2:49	FL351	-43.4	.7	1:25
												FL370	-43.8	2.1	2:04				
BKK-MEL	12/ 9/77	87	7:34	-47	FL330	6:59	34.4S	137.5E	FL318	-37.4	7.6	FL291	-27.5	1.9	2:00	FL330	-41.9	4.0	5:13
BKK-MEL	12/17/77	86	7:30	-53	FL370	7:00	35.2S	138.8E	FL331	-39.1	8.4	FL290	-26.8	.6	1:27	FL330	-38.6	2.1	3:49
												FL369	-50.9	1.0	1:31				
BKK-PER	7/25/77	61	5:19	-40	FL370	3:45	18.4S	111.2E	FL328	-36.5	4.0	FL330	-36.5	.9	2:55	FL330	-39.2	1.6	1:19
BKK-PER	11/14/77	59	5:04	-49	FL370	3:50	19.0S	111.5E	FL344	-40.7	5.9	FL331	-37.1	.6	3:00	FL370	-48.5	.6	1:39
BKK-SIN	2/ 1/77	14	1:05	-49	FL370	0:50	5.0N	102.8E	FL366	-46.8	3.4								
BKK-SIN	2/15/77	15	1:15	-48	FL370	0:15	10.2N	101.4E	FL359	-44.9	6.8								
BKK-SIN	2/23/77	14	1:05	-28	FL290	0:25	8.5N	101.5E	FL289	-27.1	1.8								
BKK-SIN	3/29/77	14	1:04	-48	FL371	0:04	10.7N	100.6E	FL368	-47.1	1.8								
BKK-SIN	5/16/77	12	1:04	-48	FL371	0:09	10.0N	101.3E	FL360	-45.0	5.8								
BKK-SIN	5/22/77	14	1:03	-48	FL371	0:53	4.5N	103.0E	FL359	-44.2	7.2								
BKK-SIN	6/ 1/77	14	1:09	-49	FL370	0:59	4.2N	103.1E	FL356	-44.0	7.5								
BKK-SIN	6/11/77	13	1:09	-48	FL371	1:09	3.2N	103.5E	FL358	-43.5	7.5								
BKK-SIN	7/17/77	13	1:04	-47	FL370	0:24	8.7N	101.4E	FL358	-43.5	7.7								
BKK-SIN	8/17/77	14	1:03	-36	FL331	0:40	6.1N	102.5E	FL326	-34.1	2.7								
BKK-SIN	10/27/76	14	1:04	-50	FL370	0:40	6.1N	102.4E	FL367	-48.5	2.7								
BKK-SIN	11/ 6/76	14	1:05	-48	FL370	0:20	9.4N	101.3E	FL354	-43.7	8.4								
BKK-SIN	11/ 9/76	15	1:10	-38	FL330	0:11	10.6N	100.7E	FL321	-35.7	4.9								
BKK-SIN	11/30/76	14	1:04	-28	FL290	0:00	11.2N	100.6E	FL289	-27.5	.8								
BKK-SIN	12/ 6/76	13	1:09	-49	FL370	0:15	9.8N	101.0E	FL359	-45.8	7.2								
BKK-SIN	12/28/77	14	1:10	-48	FL370	0:49	5.6N	102.5E	FL362	-44.9	6.5								
BKK-SIN	12/30/76	15	1:15	-48	FL370	0:15	10.1N	100.8E	FL358	-44.7	7.4								
BKK-THR	2/21/77	74	6:35	-54	FL349	3:05	28.6N	77.0E	FL330	-45.0	7.9	FL309	-37.5	3.7	2:54	FL349	-52.0	1.4	3:24
BKK-THR	3/16/77	71	6:03	-45	FL310	6:00	34.1N	53.2E	FL309	-40.0	2.7	FL310	-40.2	2.4	5:54				
BKK-THR	3/30/77	75	5:27	-55	FL350	5:19	33.7N	53.6E	FL331	-46.0	7.1	FL310	-39.7	1.9	2:41	FL350	-52.1	1.2	2:22
BKK-THR	4/20/77	69	5:54	-52	FL310	5:50	33.6N	53.7E	FL310	-39.4	5.7	FL310	-39.7	5.1	5:39				
BKK-THR	5/20/78	71	6:04	-46	FL350	5:39	32.8N	55.3E	FL343	-38.2	5.0	FL350	-40.2	2.5	5:00				
BKK-THR	6/ 9/77	61	5:11	-42	FL351	5:07	33.8N	53.5E	FL331	-35.3	4.4	FL311	-31.0	.7	2:46	FL351	-39.5	1.3	0:00
BKK-THR	8/ 9/76	62	5:22	-38	FL350	5:21	34.6N	52.7E	FL316	-29.0	3.6	FL309	-27.5	1.2	4:15				
BKK-THR	8/14/76	49	4:09	-38	FL350	1:20	28.4N	77.4E	FL330	-32.7	7.2	FL350	-37.4	.5	2:50				
BKK-THR	10/25/76	59	6:17	-55	FL350	5:52	32.9N	55.0E	FL346	-46.0	6.2	FL350	-47.3	3.7	5:15				
BKK-THR	11/ 4/76	70	5:50	-46	FL310	5:20	32.1N	56.5E	FL310	-37.5	3.6	FL309	-37.6	3.3	5:45				
BNE-AKL	12/25/77	21	1:54	-48	FL330	1:29	35.0S	168.1E	FL319	-42.7	3.1								
BNE-DRW	2/ 9/78	32	2:39	-43	FL351	0:19	25.1S	148.0E	FL348	-41.0	3.0	FL350	-41.7	.8	2:24				
BOM-AMS	6/24/77	83	7:17	-55	FL350	6:24	47.9N	14.4E	FL310	-34.0	11.1	FL280	-20.8	.7	1:06	FL310	-27.1	.7	1:39
												FL310	-37.2	7.2	2:34				
BOM-BAH	1/ 3/79	29	2:40	-66	FL430	0:15	19.3N	69.7E	FL420	-61.1	7.0	FL430	-63.0	1.6	2:15				
BOM-BAH	1/10/79	34	2:46	-66	FL430	0:20	19.3N	69.1E	FL427	-63.5	3.6	FL430	-64.0	2.4	2:37				
BOM-BAH	1/17/79	34	2:50	-61	FL430	0:25	19.4N	68.7E	FL426	-58.0	2.3	FL430	-58.4	1.4	2:34				
BOM-BAH	8/28/78	27	2:13	-51	FL391	0:10	19.3N	69.8E	FL383	-48.7	6.6	FL390	-50.7	.5	1:54				
BOM-BAH	9/27/78	29	2:19	-64	FL432	0:09	19.3N	69.9E	FL423	-60.3	7.5	FL430	-62.3	.8	2:04				
BOM-BAH	10/11/78	28	2:24	-66	FL431	0:45	21.0N	65.5E	FL422	-62.8	7.8	FL430	-65.1	.6	2:10				
BOM-BAH	10/13/78	29	2:21	-65	FL432	0:34	20.6N	66.6E	FL425	-62.8	5.4	FL431	-64.4	.7	2:06				
BOM-BAH	11/10/77	26	2:14	-47	FL351	1:29	24.3N	58.0E	FL351	-45.5	1.2	FL350	-45.5	1.2	2:14				
BOM-BAH	11/23/78	36	2:43	-61	FL391	1:45	23.5N	59.3E	FL388	-58.6	2.6	FL390	-59.4	.7	2:34				
BOM-BAH	11/25/78	31	2:35	-69	FL430	1:45	23.6N	59.3E	FL428	-67.2	2.5	FL430	-67.8	.5	2:24				
BOM-BAH	12/ 1/78	31	2:45	-69	FL430	2:20	24.6N	55.1E	FL427	-64.9	4.4	FL430	-65.7	1.8	2:34				
BOM-BAH	12/ 8/78	29	2:30	-62	FL390	1:15	22.4N	62.3E	FL386	-59.1	4.2	FL390	-60.1	1.2	2:19				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BOM-BAH	12/20/78	32	2:38	-66	FL430	0:09	19.1N	70.5E	FL423	-58.1	4.9	FL430	-58.9	3.1	2:25				
BOM-BAH	12/22/78	32	2:35	-62	FL430	0:10	19.2N	70.3E	FL425	-57.9	4.0	FL430	-58.9	2.2	2:19				
BOM-BKK	5/24/79	37	3:00	-48	FL371	1:10	17.5N	84.4E	FL361	-44.2	5.4	FL370	-46.6	.9	2:24				
BOM-FRA	11/14/76	86	7:24	-57	FL350	5:05	39.9N	33.5E	FL332	-47.2	8.8	FL310	-38.6	4.9	3:04	FL349	-54.0	3.2	4:05
BOM-LHR	1/ 7/77	99	8:39	-64	FL350	5:45	41.0N	28.4E	FL327	-51.0	10.5	FL280	-30.9	.8	1:15	FL310	-46.2	4.0	2:49
												FL350	-59.5	2.0	4:19				
BOM-LHR	1/23/77	108	9:19	-66	FL350	9:04	50.9N	4.9E	FL331	-52.7	12.0	FL309	-41.3	8.9	3:54	FL349	-62.0	1.9	5:05
BOM-LHR	4/ 3/77	96	8:19	-55	FL350	5:54	42.3N	25.5E	FL332	-46.4	5.8	FL309	-41.8	3.9	3:25	FL349	-50.1	3.2	4:39
BOM-LHR	4/ 6/77	103	8:26	-60	FL350	7:11	47.8N	14.4E	FL325	-46.7	8.1	FL310	-42.7	4.2	4:22	FL350	-54.0	4.9	3:30
BOM-LHR	4/24/77	102	8:36	-58	FL350	4:58	40.0N	32.9E	FL324	-45.9	9.3	FL280	-28.8	.9	1:05	FL310	-43.5	5.8	3:28
												FL350	-53.3	3.8	3:43				
BOM-LHR	5/ 3/77	94	8:10	-57	FL350	6:05	42.9N	23.1E	FL317	-42.9	11.3	FL279	-25.1	.7	1:10	FL310	-41.4	6.4	4:24
												FL350	-56.0	.9	2:15				
BOM-LHR	7/13/76	96	8:11	-54	FL350	6:56	47.1N	15.2E	FL333	-38.9	11.3	FL309	-27.1	.8	3:00	FL349	-47.3	6.8	4:45
BOM-LHR	7/20/77	97	7:40	-56	FL351	6:23	46.8N	15.6E	FL338	-41.9	9.7	FL310	-29.9	1.0	2:16	FL351	-47.5	5.9	4:51
BOM-LHR	7/27/77	91	8:09	-57	FL351	7:39	50.0N	7.9E	FL327	-35.1	12.4	FL280	-19.7	.9	2:19	FL350	-43.6	7.7	4:50
BOM-LHR	8/ 3/76	93	7:56	-54	FL351	6:31	46.4N	16.0E	FL318	-36.5	11.3	FL310	-30.2	2.2	3:54	FL350	-51.2	1.8	2:16
BOM-LHR	8/ 6/76	98	8:07	-54	FL351	6:46	46.8N	15.6E	FL322	-35.4	11.7	FL279	-21.6	1.0	1:15	FL310	-28.2	1.5	3:22
												FL350	-48.4	5.9	3:15				
BOM-LHR	8/ 9/77	93	8:00	-53	FL350	6:09	44.1N	21.0E	FL330	-37.1	10.4	FL280	-21.8	.4	1:05	FL310	-29.1	.7	1:24
												FL349	-43.8	6.4	4:54				
BOM-LHR	9/26/76	97	7:32	-57	FL350	4:43	40.4N	30.6E	FL331	-44.5	10.6	FL280	-26.2	.9	1:21	FL309	-35.4	1.5	1:25
												FL349	-51.9	3.0	0:00				
BOM-LHR	10/10/76	96	7:37	-55	FL350	3:53	38.6N	39.9E	FL329	-46.8	9.8	FL280	-27.9	1.4	1:10	FL309	-41.4	2.7	1:33
												FL349	-53.9	.7	4:18				
BOM-LHR	10/15/76	100	8:21	-59	FL349	6:50	45.2N	18.4E	FL340	-48.1	7.7	FL310	-36.3	2.7	1:45	FL349	-51.8	4.1	6:21
BOM-LHR	10/23/77	98	8:24	-58	FL351	7:15	47.1N	15.2E	FL333	-46.5	12.0	FL280	-26.2	1.2	1:39	FL350	-53.9	3.3	5:54
BOM-LHR	11/20/77	98	8:54	-60	FL390	7:19	45.8N	16.9E	FL353	-49.3	8.9	FL309	-33.3	2.9	1:50	FL350	-53.4	4.0	4:15
												FL390	-53.7	3.0	2:20				
BOM-LHR	12/ 2/77	105	8:44	-58	FL350	8:33	50.9N	4.5E	FL326	-47.3	9.1	FL279	-33.1	2.1	2:15	FL310	-45.4	1.9	1:09
												FL350	-53.8	2.4	4:59				
BOM-LHR	12/ 9/76	109	9:19	-54	FL310	4:00	37.5N	45.8E	FL321	-44.0	7.4	FL280	-29.9	1.6	1:35	FL310	-46.7	3.4	3:35
												FL350	-47.8	3.0	3:50				
BOM-LHR	12/28/76	108	9:14	-61	FL348	8:49	51.6N	1.2E	FL314	-48.8	7.5	FL310	-47.7	7.0	7:40				
BOM-PER	1/ 8/77	84	7:05	-43	FL340	3:50	8.5S	93.5E	FL328	-38.6	4.1	FL290	-30.9	.7	1:15	FL330	-39.4	.5	1:09
												FL340	-41.0	1.0	4:05				
BOM-PER	1/18/77	85	7:14	-44	FL340	6:29	26.4S	109.7E	FL329	-37.9	4.5	FL290	-28.9	1.5	1:14	FL330	-37.5	.5	1:09
												FL340	-40.5	1.4	4:09				
BOM-PER	1/24/77	87	7:22	-43	FL340	3:00	3.4S	88.6E	FL329	-38.7	4.6	FL289	-29.5	.5	1:09	FL330	-39.6	.5	1:30
												FL339	-41.2	1.1	4:26				
BOM-PER	4/ 4/77	85	7:19	-57	FL381	6:54	28.8S	111.8E	FL347	-42.8	8.4	FL331	-37.1	.4	2:05	FL340	-39.4	.6	1:45
												FL380	-53.1	2.4	2:35				
BOM-PER	4/ 7/77	86	7:20	-49	FL341	6:45	27.5S	110.4E	FL336	-40.3	4.0	FL330	-37.5	.5	2:39	FL340	-42.3	3.4	4:25
BOM-PER	4/25/77	85	7:20	-55	FL380	6:39	26.4S	109.7E	FL344	-42.3	7.6	FL330	-37.5	.8	2:15	FL340	-40.4	.7	2:09
												FL379	-53.2	2.0	2:05				
BOM-PER	5/ 4/77	85	7:24	-49	FL341	7:15	30.3S	113.4E	FL330	-37.9	6.4	FL331	-36.9	.6	1:35	FL340	-41.5	3.6	4:24
BOM-PER	6/26/77	79	6:49	-46	FL340	6:39	29.9S	113.0E	FL319	-36.0	6.7	FL290	-28.8	.9	2:09	FL340	-41.2	1.5	4:04
BOM-PER	7/ 4/77	57	6:56	-44	FL341	3:03	4.9S	90.5E	FL338	-39.3	2.7	FL331	-38.3	.7	1:09	FL340	-39.9	1.2	4:11
BOM-PER	7/28/77	85	6:55	-45	FL340	6:54	31.0S	114.4E	FL326	-36.7	5.7	FL290	-27.6	1.2	1:54	FL340	-40.2	1.5	4:19
BOM-PER	8/ 4/76	86	7:24	-48	FL323	7:24	31.2S	114.6E	FL326	-38.3	5.8	FL289	-27.8	1.5	1:25	FL330	-39.1	.5	1:20
												FL340	-41.6	.9	4:15				
BOM-PER	8/ 7/76	80	7:00	-42	FL341	4:15	11.5S	96.2E	FL312	-34.4	5.2	FL290	-29.5	1.3	2:40	FL301	-32.8	.4	1:09
												FL340	-40.6	.8	2:45				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BOM-PER	8/10/77	85	7:12	-46	FL360	4:42	13.8S	98.1E	FL330	-38.1	7.2	FL290	-28.0	1.0	1:07	FL330	-38.6	.8	2:30
												FL359	-45.0	.7	2:25				
BOM-PER	9/ 3/77	91	7:31	-50	FL325	7:31	30.8S	114.5E	FL328	-36.9	4.9	FL291	-27.9	1.2	1:19	FL330	-38.4	.7	1:45
												FL340	-39.3	1.3	4:06				
BOM-PER	9/27/76	89	7:32	-50	FL349	7:32	31.2S	114.8E	FL335	-40.1	6.3	FL290	-28.2	.6	1:04	FL330	-38.5	.5	1:27
												FL340	-41.8	.4	1:35	FL349	-43.9	.8	1:12
												FL360	-46.6	1.5	1:33				
BOM-PER	10/12/76	82	7:22	-52	FL340	7:16	30.2S	113.4E	FL319	-35.8	7.0	FL290	-28.1	.4	2:48	FL339	-41.5	3.2	0:00
BOM-PER	10/16/76	58	6:55	-42	FL340	4:30	13.0S	97.5E	FL328	-37.3	6.1	FL290	-25.5	.8	1:09	FL330	-37.4	.5	1:06
												FL340	-41.1	.6	4:00				
BOM-PER	10/24/77	79	7:07	-38	FL301	7:02	30.6S	113.8E	FL296	-30.1	3.6	FL291	-27.3	.5	2:29	FL300	-32.2	3.0	4:13
BOM-PER	11/15/76	85	6:51	-47	FL340	6:38	29.7S	112.8E	FL329	-38.3	5.1	FL330	-38.0	.2	1:29	FL340	-41.3	1.9	4:04
BOM-PER	11/21/77	68	7:19	-48	FL341	6:48	27.5S	110.4E	FL326	-37.9	6.0	FL290	-27.7	.6	1:30	FL330	-38.3	.5	1:15
												FL340	-41.8	2.4	3:53				
BOM-PER	11/23/76	87	7:24	-49	FL360	7:09	29.5S	112.7E	FL327	-37.4	8.0	FL290	-27.5	.5	1:14	FL290	-28.0	.3	1:19
												FL340	-40.4	.5	1:39	FL360	-45.9	1.2	2:24
BOM-PER	12/ 3/77	86	7:15	-48	FL341	7:00	29.6S	112.6E	FL330	-38.9	4.8	FL291	-29.4	1.2	1:05	FL330	-37.9	.3	2:05
												FL340	-42.2	2.5	3:49				
BOM-PER	12/10/76	89	7:16	-44	FL340	6:29	25.9S	109.2E	FL329	-39.1	4.4	FL290	-29.6	.5	1:04	FL329	-39.1	.4	1:35
												FL340	-41.7	1.2	4:20				
BOM-THR	1/ 7/79	41	3:24	-57	FL360	2:30	31.3N	57.9E	FL343	-50.1	6.9	FL350	-52.2	2.2	1:20	FL360	-55.7	.9	1:04
BOM-THR	2/25/79	42	2:41	-51	FL349	2:41	34.2N	51.6E	FL328	-36.2	7.8	FL310	-29.9	.5	1:14	FL350	-43.6	3.0	0:00
BOM-THR	7/30/78	38	2:54	-50	FL391	0:18	22.3N	72.4E	FL381	-46.5	6.3	FL391	-48.7	.8	2:31				
BOM-THR	8/31/78	38	3:05	-59	FL390	1:55	29.5N	60.9E	FL374	-54.2	6.5	FL390	-58.0	.4	2:04				
BOM-THR	11/25/78	40	3:24	-61	FL390	1:34	23.2N	59.6E	FL386	-58.0	4.3	FL390	-59.1	1.2	3:04				
BOM-THR	12/17/78	40	3:19	-57	FL350	2:34	31.4N	57.8E	FL349	-50.9	4.9	FL350	-51.5	4.0	3:09				
BOM-THR	12/23/78	39	3:15	-54	FL350	3:11	34.4N	52.9E	FL346	-44.9	5.4	FL350	-45.7	4.3	3:00				
BOS-DTW	10/ 8/77	13	1:00	-61	FL389	0:30	43.1N	76.6W	FL379	-56.6	4.6								
BOS-LHR	3/24/78	54	4:34	-55	FL330	0:14	44.5N	64.5W	FL329	-53.0	1.7	FL330	-53.2	1.4	4:24				
BOS-LHR	5/ 1/78	57	5:09	-57	FL340	5:04	50.3N	4.2W	FL336	-48.9	5.3	FL339	-51.3	3.0	3:59				
BOS-LHR	7/10/76	58	4:59	-63	FL411	1:35	49.0N	49.8W	FL402	-53.4	6.7	FL391	-60.4	.7	1:19	FL411	-50.8	6.0	3:18
BOS-LHR	7/13/76	61	5:10	-60	FL371	2:24	48.9N	41.0W	FL368	-52.6	5.0	FL371	-53.1	4.3	5:01				
BOS-LHR	8/19/77	57	4:44	-57	FL370	4:19	50.0N	7.8W	FL368	-49.7	3.0	FL370	-50.1	2.0	4:29				
BOS-LHR	9/16/76	56	4:46	-54	FL369	4:11	52.8N	10.5W	FL318	-40.9	5.1	FL309	-39.2	2.7	3:56				
BOS-LHR	9/17/76	55	4:41	-53	FL350	1:49	50.6N	45.1W	FL346	-45.7	5.1	FL350	-46.7	4.6	4:01				
BOS-LHR	9/23/77	59	5:04	-61	FL370	4:24	52.3N	12.8W	FL352	-54.9	3.9	FL350	-54.4	2.8	4:04				
BOS-LHR	9/26/77	50	5:04	-65	FL410	0:34	46.0N	63.7W	FL406	-55.7	5.7	FL410	-56.0	5.3	4:39				
BOS-LHR	9/27/77	57	4:59	-69	FL410	0:55	47.5N	59.7W	FL408	-60.5	5.9	FL410	-60.8	5.7	4:44				
BOS-LHR	9/28/77	48	4:49	-66	FL410	2:04	50.8N	42.9W	FL407	-57.9	5.8	FL409	-58.3	5.5	4:29				
BOS-LHR	10/ 5/76	59	4:54	-60	FL410	4:04	50.0N	14.6W	FL400	-53.5	5.2	FL409	-52.9	5.0	3:34				
BOS-LHR	10/ 8/77	60	5:04	-61	FL410	1:54	48.6N	45.5W	FL407	-53.3	4.7	FL410	-53.6	4.6	4:44				
BOS-LHR	10/ 9/77	67	5:33	-60	FL370	1:04	51.9N	62.2W	FL400	-49.5	4.6	FL410	-47.5	2.0	4:13				
BOS-LHR	10/10/77	56	4:54	-66	FL412	0:10	43.5N	67.2W	FL407	-59.1	6.1	FL410	-59.4	5.7	4:24				
BOS-LHR	10/11/77	56	4:47	-67	FL410	4:37	52.1N	5.6W	FL396	-54.4	6.5	FL410	-55.7	6.2	3:24				
BOS-LHR	10/12/77	58	4:54	-64	FL410	4:49	50.3N	4.4W	FL399	-55.5	3.4	FL409	-55.4	3.0	3:34				
BOS-LHR	10/23/76	57	4:44	-61	FL358	4:44	50.6N	2.9W	FL368	-50.8	4.0	FL369	-50.8	3.8	4:29				
BOS-LHR	10/24/76	56	4:45	-59	FL349	0:04	43.2N	68.2W	FL381	-51.4	4.0	FL389	-52.2	4.0	3:15				
BOS-LHR	10/25/76	58	5:29	-60	FL389	0:16	44.1N	66.3W	FL395	-51.4	3.2	FL389	-51.6	3.8	3:17	FL409	-50.9	1.2	1:45
BOS-LHR	10/26/76	56	4:54	-68	FL390	0:24	44.6N	64.1W	FL401	-53.9	6.9	FL390	-64.4	4.2	1:14	FL409	-50.1	2.0	3:19
BOS-LHR	12/17/76	55	4:44	-58	FL340	1:04	49.6N	55.8W	FL336	-53.8	2.8	FL340	-53.4	3.0	3:09				
BOS-ORD	10/20/75	17	1:10	-51	FL382	0:05	43.0N	74.7W	FL363	-46.6	3.6								
BOS-SFO	5/12/75	57	4:43	-60	FL390	2:30	45.3N	99.2W	FL378	-53.0	3.4	FL390	-53.7	3.2	3:24				
BOS-SFO	10/ 8/75	60	4:53	-65	FL411	4:18	39.6N	115.5W	FL370	-51.6	6.4	FL351	-50.6	.7	2:25				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
BOS-SFO	12/30/75	64	5:15	-63	FL390	3:15	40.3N	102.1W	FL372	-55.1	4.0	FL349	-54.3	2.6	1:29	FL390	-56.7	4.1	2:47
BRU-JFK	5/26/78	76	6:18	-54	FL350	5:03	50.9N	62.2W	FL319	-46.4	4.3	FL310	-45.0	3.0	4:16	FL350	-51.7	2.6	1:34
BRU-JFK	10/30/76	83	7:02	-52	FL349	1:39	56.9N	17.9W	FL339	-44.5	4.3	FL309	-42.0	1.7	1:19	FL348	-45.4	4.0	5:22
CCS-GIG	1/17/78	56	4:43	-53	FL371	1:30	.1N	57.6W	FL361	-48.1	4.5	FL370	-50.7	1.2	3:39				
CCS-GIG	4/ 8/76	52	4:30	-52	FL371	3:19	13.4S	49.3W	FL367	-49.6	3.4	FL370	-50.6	1.0	4:04				
CCS-GIG	4/24/76	51	4:20	-52	FL370	4:00	18.6S	46.4W	FL367	-49.4	3.4	FL369	-50.0	.8	4:05				
CCS-GIG	4/25/76	52	4:22	-52	FL371	2:54	11.6S	52.6W	FL353	-46.2	5.8	FL331	-39.8	.4	1:04	FL370	-50.6	.8	2:14
CCS-GIG	5/29/78	12	1:00	-38	FL330	0:24	5.8N	63.9W	FL326	-36.6	3.1								
CCS-GIG	8/14/78	53	4:24	-43	FL330	3:54	17.9S	46.8W	FL325	-39.8	3.0	FL329	-40.8	1.1	3:49				
CCS-GIG	9/ 2/76	55	4:32	-47	FL369	2:32	9.1S	55.0W	FL367	-44.9	2.7	FL369	-45.5	1.0	4:17				
CCS-GUA	1/18/78	31	2:40	-48	FL350	1:34	12.4N	81.0W	FL339	-43.8	5.4	FL350	-47.2	.7	1:54				
CCS-GUA	1/20/79	61	2:33	-48	FL350	1:55	13.2N	84.0W	FL346	-45.3	4.1	FL350	-46.4	.6	2:21				
CCS-GUA	4/ 7/79	28	2:15	-44	FL350	2:09	14.2N	88.2W	FL347	-41.8	3.5	FL350	-42.7	.6	2:06				
CCS-GUA	4/18/79	29	2:19	-44	FL351	0:40	11.1N	75.7W	FL349	-42.6	2.5	FL350	-43.1	.3	2:09				
CCS-GUA	4/24/78	25	2:05	-44	FL351	0:00	10.7N	71.9W	FL350	-43.4	.6	FL350	-43.4	.6	2:05				
CCS-GUA	4/26/76	30	2:30	-46	FL351	0:20	10.7N	71.6W	FL344	-43.4	5.4	FL350	-45.2	.7	2:10				
CCS-GUA	5/30/77	26	2:15	-34	FL310	0:04	10.7N	70.3W	FL309	-33.0	1.7	FL309	-33.3	.6	2:10				
CCS-GUA	7/ 9/77	30	2:24	-47	FL350	1:49	13.0N	84.6W	FL345	-44.8	4.3	FL350	-46.2	.5	2:04				
CCS-GUA	7/15/78	30	2:25	-47	FL350	0:15	11.0N	71.5W	FL345	-45.4	4.0	FL350	-46.8	.4	2:04				
CCS-GUA	7/19/78	30	2:15	-47	FL350	1:09	12.0N	79.6W	FL348	-45.2	2.9	FL350	-45.9	.5	2:05				
CCS-GUA	8/13/77	27	2:19	-47	FL350	1:34	12.9N	82.6W	FL344	-44.2	4.0								
CCS-GUA	8/15/78	15	2:11	-46	FL350	0:15	10.8N	73.8W	FL347	-44.3	1.8	FL349	-45.0	.7	1:55				
CCS-GUA	11/ 7/76	14	1:05	-42	FL348	0:05	12.1N	80.0W	FL348	-41.4	.6								
CCS-LAX	1/21/78	79	6:36	-60	FL390	3:56	28.6N	94.6W	FL362	-47.5	4.6	FL350	-45.2	.5	1:16	FL350	-49.3	.7	1:49
												FL390	-49.0	4.0	2:34				
CCS-LAX	3/18/78	46	3:49	-53	FL350	1:15	28.3N	93.8W	FL333	-45.6	4.3	FL349	-48.7	2.9	2:09	FL310	-41.5	1.8	1:34
CCS-MIA	4/14/79	27	2:09	-56	FL391	1:49	23.6N	76.7W	FL382	-51.9	6.6	FL390	-54.2	.9	1:54				
CCS-MIA	4/15/79	27	2:09	-57	FL390	1:44	23.1N	76.1W	FL388	-53.6	4.2	FL390	-54.3	1.8	2:04				
CCS-MIA	4/15/79	25	2:11	-58	FL390	2:11	24.7N	78.4W	FL379	-51.3	8.4	FL390	-54.8	1.2	1:41				
CCS-MIA	4/16/79	25	2:00	-38	FL310	1:45	23.8N	76.9W	FL310	-34.4	2.3	FL310	-34.4	2.3	2:00				
CCS-MIA	4/16/79	28	2:14	-56	FL391	1:59	24.1N	77.3W	FL381	-51.2	7.5	FL390	-53.6	.9	1:59				
CHC-CHC	11/14/76	75	4:41	-61	FL370	3:02	56.8S	173.9E	FL355	-55.8	3.7	FL330	-52.4	1.0	1:52	FL370	-59.0	1.2	1:32
CHC-MEL	12/18/77	35	2:50	-53	FL390	0:25	42.1S	167.1E	FL383	-48.2	4.0	FL390	-48.3	3.6	2:24				
CHC-PPG	11/16/76	73	4:32	-54	FL389	3:46	18.7S	168.6W	FL352	-50.2	3.8	FL330	-48.9	1.1	1:23	FL350	-51.2	1.2	1:21
CHC-SYD	1/ 2/77	28	2:27	-54	FL390	2:19	35.2S	153.7E	FL365	-46.0	4.4								
CHC-SYD	1/ 5/78	25	2:04	-60	FL391	1:30	37.0S	157.1E	FL361	-53.0	5.4								
CHC-SYD	1/26/78	26	2:09	-59	FL390	1:00	39.2S	161.7E	FL374	-55.0	7.1	FL389	-58.5	.7	1:04				
CHC-SYD	2/27/77	25	2:04	-51	FL350	0:19	41.5S	167.4E	FL347	-47.7	3.9	FL350	-48.5	1.9	1:54				
CHC-SYD	4/17/77	25	1:59	-50	FL311	0:30	40.5S	164.9E	FL309	-47.8	1.9	FL310	-48.3	.9	1:49				
CHC-SYD	8/26/76	27	2:09	-58	FL350	1:19	37.9S	159.0E	FL347	-54.7	2.6	FL350	-55.3	1.6	2:00				
CHC-SYD	12/19/76	25	2:04	-58	FL350	0:09	42.1S	169.0E	FL345	-50.7	4.4	FL350	-51.4	3.3	1:45				
CHC-SYD	12/19/77	29	2:29	-52	FL350	2:14	35.5S	154.4E	FL345	-46.7	4.2	FL350	-47.7	2.3	2:20				
CLE-MIA	3/23/75	20	1:31	-61	FL385	0:10	38.4N	82.3W	FL376	-57.6	7.1	FL389	-60.6	.7	1:11				
CLE-MIA	3/25/75	21	1:39	-61	FL391	1:29	28.7N	81.6W	FL378	-51.2	6.3	FL390	-52.9	5.3	1:09				
CLE-MIA	3/26/75	18	1:25	-59	FL390	0:26	36.0N	82.3W	FL382	-56.5	3.5	FL390	-57.7	.8	1:09				
CLE-MIA	3/27/75	19	1:30	-63	FL386	0:10	38.2N	81.8W	FL376	-56.8	7.7	FL389	-59.7	1.2	1:09				
CLE-MIA	3/28/75	17	1:30	-61	FL390	0:35	34.9N	82.1W	FL368	-55.4	6.9								
CLE-MIA	3/29/75	21	1:30	-62	FL391	0:20	37.3N	82.2W	FL364	-54.2	6.0								
CPH-JFK	7/ 7/77	75	6:30	-61	FL430	6:19	43.4N	70.6W	FL412	-50.6	5.3	FL389	-54.9	2.7	1:15	FL410	-50.4	4.3	2:44
												FL429	-48.3	5.8	2:09				
CPH-JFK	7/11/77	79	6:39	-64	FL430	6:34	42.4N	71.4W	FL392	-51.4	6.4	FL370	-56.8	1.6	1:15	FL409	-47.0	4.3	3:19
CPH-JFK	7/16/77	80	6:54	-58	FL391	6:24	45.0N	69.6W	FL380	-48.7	5.7	FL370	-44.6	2.5	1:20	FL390	-49.3	5.8	4:30
CPH-JFK	8/ 6/77	79	6:54	-58	FL366	0:04	55.7N	9.1E	FL388	-50.0	3.3	FL389	-50.0	3.1	6:39				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
CPH-JFK	8/ 9/77	90	7:34	-62	FL390	2:44	52.2N	24.9W	FL386	-55.2	4.1	FL390	-58.2	1.9	2:19	FL410	-50.1	2.3	1:04
												FL390	-56.2	.8	2:30				
CPH-JFK	8/10/77	67	6:04	-63	FL390	1:21	58.9N	9.5W	FL383	-53.3	6.3	FL350	-52.5	3.5	1:04	FL390	-51.4	6.3	4:11
CPH-JFK	8/22/77	74	6:49	-57	FL411	6:39	42.9N	70.9W	FL404	-50.3	4.3	FL390	-54.3	.8	1:04	FL410	-49.5	4.2	5:19
CPH-JFK	9/ 3/77	82	7:04	-64	FL410	6:49	43.8N	73.0W	FL377	-50.8	5.8	FL349	-53.1	5.2	2:39	FL390	-45.2	1.4	1:39
												FL410	-53.4	4.5	2:05				
CPH-JFK	9/ 4/77	78	6:53	-68	FL430	6:23	45.1N	69.2W	FL404	-49.5	7.6	FL390	-46.5	6.5	3:15	FL410	-46.7	.8	1:04
												FL430	-55.4	7.5	2:08				
CPH-JFK	9/ 9/77	83	7:09	-65	FL430	6:29	46.3N	68.1W	FL404	-51.8	5.5	FL390	-49.2	2.3	3:24	FL410	-48.1	1.0	1:09
												FL429	-58.6	4.8	2:04				
CPT-AKL	10/29/77	777	13:23	-71	FL369	5:39	80.3S	18.6E	FL383	-59.2	8.1	FL349	-55.2	1.0	2:50	FL369	-63.4	4.8	2:49
												FL389	-66.9	2.4	2:49	FL409	-56.1	10.2	3:15
												FL429	-51.0	3.4	1:02				
CUN-JFK	3/ 2/79	43	2:14	-63	FL370	1:55	36.3N	76.8W	FL349	-54.7	7.6	FL330	-48.8	2.1	1:34				
DAM-ATH	5/15/77	15	1:09	-55	FL350	0:19	34.9N	32.1E	FL343	-53.0	4.4								
DAM-ATH	8/19/76	15	1:19	-40	FL350	1:00	35.0N	27.5E	FL347	-38.1	2.8	FL350	-38.8	.9	1:14				
DAM-ATH	10/ 7/76	17	1:11	-53	FL350	0:47	35.0N	29.3E	FL345	-50.6	3.9	FL349	-51.9	1.0	0:00				
DAM-ATH	11/11/76	18	1:30	-56	FL350	0:40	34.9N	31.8E	FL335	-51.1	5.4								
DAM-ATH	12/ 5/76	19	1:28	-53	FL350	0:09	35.2N	35.9E	FL342	-50.6	4.1	FL349	-52.3	.7	1:13				
DAM-BAH	1/ 3/78	18	1:20	-51	FL331	0:40	30.1N	42.6E	FL324	-48.2	4.0	FL330	-49.5	1.7	1:14				
DAM-BAH	10/18/77	15	1:19	-45	FL331	0:19	31.3N	40.1E	FL321	-41.3	3.4								
DAM-BAH	11/ 8/77	16	1:19	-48	FL330	0:15	31.6N	39.0E	FL323	-44.8	3.6	FL329	-46.0	1.3	1:04				
DAM-BAH	12/13/77	27	1:29	-58	FL371	1:12	28.1N	46.6E	FL345	-51.7	5.6								
DAM-BKK	3/18/77	77	6:36	-49	FL330	0:25	34.0N	44.6E	FL329	-45.7	3.5	FL329	-45.7	3.5	6:26				
DAM-BKK	4/ 1/77	83	6:55	-56	FL330	0:54	33.3N	48.3E	FL342	-48.2	3.1	FL330	-50.4	3.3	2:37	FL330	-46.4	.5	1:13
												FL369	-46.7	1.1	0:00				
DAM-BKK	4/22/77	76	6:29	-52	FL331	0:45	33.4N	47.9E	FL343	-49.2	1.9	FL331	-49.6	1.7	3:59	FL369	-49.0	1.2	2:05
DAM-BKK	10/ 8/76	78	6:48	-48	FL330	1:15	32.5N	52.7E	FL325	-41.5	4.0	FL330	-42.1	3.9	0:00				
DAM-BKK	11/12/76	76	6:20	-50	FL331	1:19	32.2N	53.4E	FL322	-42.0	3.2	FL290	-42.4	.7	1:04	FL330	-41.9	3.6	5:00
DEL-BKK	1/ 6/77	29	2:24	-53	FL370	0:09	26.9N	80.7E	FL366	-51.0	2.5	FL370	-51.7	1.1	2:09				
DEL-BKK	3/18/75	32	2:34	-52	FL370	2:09	16.7N	96.6E	FL364	-48.9	5.1	FL370	-50.4	1.1	2:19				
DEL-BKK	3/24/76	36	2:37	-53	FL370	0:08	26.7N	81.0E	FL365	-49.0	4.3	FL370	-49.9	1.4	2:23				
DEL-BKK	3/26/75	34	2:44	-56	FL363	0:09	27.0N	80.5E	FL364	-50.8	4.3	FL369	-51.7	1.3	2:29				
DEL-BKK	3/28/77	32	2:39	-61	FL411	1:34	20.9N	91.6E	FL363	-51.4	7.2	FL330	-45.9	1.4	1:09				
DEL-BKK	4/ 5/77	31	2:39	-57	FL371	0:09	27.2N	80.1E	FL365	-51.7	5.1	FL371	-53.0	2.2	2:24				
DEL-BKK	4/20/76	32	2:39	-59	FL411	2:15	16.9N	96.4E	FL387	-53.4	5.2	FL410	-57.6	1.0	1:15				
DEL-BKK	8/18/76	32	2:39	-33	FL330	2:25	16.0N	97.3E	FL328	-30.1	2.6	FL330	-30.7	1.1	2:25				
DEL-BKK	8/20/76	34	2:44	-37	FL330	2:30	15.7N	97.5E	FL323	-33.2	5.2	FL330	-35.2	1.0	2:19				
DEL-BKK	10/12/77	30	2:40	-51	FL371	1:45	19.8N	93.3E	FL367	-48.9	2.9	FL370	-49.7	.5	2:24				
DEL-BKK	10/16/76	33	2:45	-49	FL374	1:35	20.1N	91.2E	FL363	-45.4	5.5	FL369	-47.2	.8	2:24				
DEL-BKK	10/19/77	30	2:34	-51	FL371	0:30	25.6N	83.1E	FL365	-48.7	3.4	FL370	-49.6	.8	2:19				
DEL-BKK	10/24/77	27	2:31	-51	FL370	0:05	26.6N	81.3E	FL369	-49.5	.8	FL370	-49.6	.7	0:00				
DEL-BKK	12/ 3/78	31	2:30	-57	FL370	0:20	26.1N	82.3E	FL362	-52.4	4.8	FL369	-53.9	2.1	2:09				
DEL-BKK	12/21/76	31	2:39	-47	FL330	0:14	26.8N	80.8E	FL327	-41.8	3.4	FL330	-42.3	2.8	2:24				
DEL-FRA	2/13/79	96	8:19	-59	FL351	6:04	38.5N	30.9E	FL348	-48.6	4.4	FL310	-44.5	3.0	2:10	FL350	-50.1	4.6	4:05
												FL390	-50.1	.7	1:29				
DEL-FRA	2/22/79	215	8:41	-54	FL391	7:44	44.3N	20.6E	FL369	-46.5	6.9	FL310	-33.6	2.0	2:45	FL350	-43.0	2.2	3:14
												FL390	-50.8	2.7	2:15				
DEL-FRA	3/14/79	93	7:45	-64	FL391	5:09	39.9N	33.7E	FL361	-55.3	6.3	FL350	-53.7	2.4	4:15	FL390	-61.3	2.9	2:39
DEL-HKG	1/23/79	114	4:18	-58	FL370	0:57	23.5N	87.1E	FL367	-52.5	3.4	FL369	-53.0	2.6	4:02				
DEL-HKG	2/15/79	49	4:15	-52	FL371	0:09	26.8N	80.9E	FL369	-49.7	1.1	FL369	-49.8	.8	4:05				
DEL-HKG	3/ 9/79	104	2:06	-48	FL371	0:19	25.8N	82.8E	FL368	-46.3	1.8	FL369	-46.6	.7	1:51				
DEL-HKG	5/23/78	59	5:00	-48	FL370	2:49	8.2N	104.4E	FL370	-46.0	1.1	FL369	-46.0	1.1	5:00				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
DEL-HKG	5/30/79	56	4:34	-46	FL370	0:15	26.3N	81.7E	FL368	-45.3	2.2	FL370	-45.7	.5	4:19				
DEL-HKG	6/16/78	43	3:39	-49	FL370	1:09	9.1N	102.5E	FL367	-47.0	4.1	FL369	-47.6	.9	3:34				
DEL-HKG	6/26/78	14	1:04	-45	FL370	1:04	22.7N	88.6E	FL341	-35.8	6.2								
DEL-HKG	8/ 2/78	61	4:53	-49	FL371	2:09	11.1N	102.5E	FL370	-47.1	1.9	FL370	-47.3	1.3	4:48				
DEL-HKG	9/ 6/78	75	6:12	-50	FL370	3:30	10.7N	102.8E	FL362	-45.9	6.2	FL369	-48.4	.8	5:11				
DEL-HKG	12/26/78	55	4:30	-52	FL359	0:10	27.1N	80.2E	FL367	-48.2	2.2	FL369	-48.5	.8	4:15				
DEL-IST	1/ 4/79	59	5:04	-64	FL350	4:19	39.8N	38.9E	FL318	-49.6	6.3	FL309	-47.2	3.7	4:00				
DEL-KHI	3/12/75	14	1:05	-46	FL350	0:09	28.5N	73.8E	FL343	-45.2	1.9								
DEL-THR	1/24/76	37	3:09	-58	FL350	2:49	33.0N	54.9E	FL347	-55.2	3.8	FL350	-56.1	1.0	2:54				
DEL-THR	3/ 3/76	34	2:54	-55	FL388	1:33	29.3N	63.3E	FL368	-49.1	4.8	FL350	-45.6	.9	1:19	FL390	-53.2	1.9	1:20
DEL-THR	3/20/76	36	3:04	-57	FL350	2:59	34.0N	53.3E	FL346	-50.3	4.1	FL350	-51.1	2.7	2:49				
DEL-THR	3/25/77	35	2:54	-57	FL350	1:24	29.3N	62.8E	FL345	-54.8	4.8	FL350	-56.1	1.1	2:34				
DEL-THR	4/ 1/77	32	2:44	-59	FL351	2:39	34.0N	53.3E	FL348	-51.7	4.0	FL351	-52.5	2.8	2:29				
DEL-THR	4/ 9/77	36	2:59	-53	FL350	2:39	32.9N	55.1E	FL347	-48.0	3.8	FL350	-48.6	2.2	2:45				
DEL-THR	4/20/77	34	2:54	-58	FL351	2:34	32.9N	54.9E	FL349	-52.1	5.2	FL350	-52.7	4.0	2:44				
DEL-THR	5/21/77	34	2:47	-53	FL351	2:42	34.1N	53.1E	FL346	-49.8	3.7	FL350	-50.7	1.4	2:32				
DEL-THR	6/ 5/78	29	2:26	-32	FL311	1:21	29.5N	60.8E	FL308	-30.0	2.1	FL310	-30.5	1.0	2:11				
DEL-THR	7/ 7/78	33	2:29	-40	FL351	0:25	28.4N	70.2E	FL345	-38.2	4.0	FL350	-39.5	.5	2:14				
DEL-THR	7/29/77	30	2:24	-29	FL311	2:24	34.0N	53.2E	FL309	-26.6	1.6	FL310	-26.8	.7	2:19				
DEL-THR	8/14/76	33	2:15	-37	FL352	0:09	28.5N	72.3E	FL347	-35.5	2.9	FL349	-36.1	.4	0:00				
DEL-THR	9/ 7/76	30	2:34	-38	FL349	0:09	28.5N	72.8E	FL347	-36.4	2.4	FL349	-37.0	.7	2:24				
DEL-THR	10/15/78	29	2:37	-52	FL351	2:31	33.7N	53.5E	FL350	-47.0	2.3	FL350	-47.0	1.9	2:26				
DEL-THR	10/22/77	32	2:39	-48	FL351	2:29	33.4N	54.1E	FL350	-45.5	1.7	FL350	-45.8	1.0	2:34				
DEL-THR	10/28/77	32	2:39	-48	FL351	2:39	34.1N	53.0E	FL348	-44.8	2.7	FL350	-45.4	.8	2:29				
DEL-THR	10/29/78	36	2:58	-38	FL280	0:04	28.6N	74.2E	FL280	-37.1	.8	FL280	-37.1	.8	2:53				
DEL-THR	12/31/76	35	2:59	-58	FL351	1:59	30.0N	60.1E	FL348	-53.5	3.3	FL349	-54.0	2.0	2:50				
DEN-LAX	1/ 4/78	19	1:30	-61	FL390	0:15	38.7N	108.0W	FL377	-56.0	4.6	FL389	-57.3	2.1	1:14				
DEN-LAX	1/17/79	19	1:21	-63	FL390	0:21	38.6N	109.0W	FL370	-54.4	5.7								
DEN-LAX	2/13/77	15	1:09	-68	FL390	0:24	37.4N	110.1W	FL376	-63.5	7.3								
DEN-LAX	2/22/78	14	1:09	-61	FL350	0:05	39.4N	107.0W	FL345	-58.8	3.8								
DEN-LAX	3/ 8/78	17	1:15	-69	FL390	0:21	38.6N	109.3W	FL375	-64.1	8.3								
DEN-LAX	3/13/78	15	1:09	-59	FL392	0:15	38.8N	108.5W	FL385	-56.2	3.4								
DEN-LAX	3/13/79	39	1:06	-59	FL389	0:08	39.0N	107.5W	FL383	-53.1	3.3								
DEN-LAX	3/29/79	16	1:08	-55	FL390	1:03	35.1N	115.7W	FL372	-50.3	2.3								
DEN-LAX	4/ 2/78	16	1:17	-59	FL350	0:00	39.4N	107.0W	FL379	-55.0	2.8								
DEN-LAX	4/ 6/78	19	1:30	-64	FL391	0:15	38.9N	107.9W	FL381	-59.7	4.9	FL390	-61.2	1.6	1:10				
DEN-LAX	4/ 9/76	14	1:15	-61	FL389	0:35	37.6N	111.0W	FL377	-56.3	5.3								
DEN-LAX	4/16/78	19	1:22	-57	FL391	0:27	38.1N	109.8W	FL375	-52.4	3.4								
DEN-LAX	4/29/78	17	1:19	-58	FL391	0:14	38.7N	108.0W	FL373	-54.6	5.6								
DEN-LAX	5/ 9/78	17	1:20	-64	FL389	0:10	39.1N	107.8W	FL369	-56.4	8.9								
DEN-LAX	5/11/76	14	1:04	-64	FL390	0:10	38.7N	108.5W	FL382	-59.0	6.6								
DEN-LAX	6/ 3/79	13	1:09	-58	FL390	0:15	38.5N	108.6W	FL366	-51.9	7.1								
DEN-LAX	6/15/78	16	1:15	-57	FL390	0:24	38.1N	110.1W	FL382	-53.8	4.2								
DEN-LAX	6/17/75	19	1:22	-62	FL390	0:11	39.2N	108.1W	FL368	-55.3	9.7								
DEN-LAX	6/28/78	15	1:09	-57	FL390	0:54	36.1N	114.5W	FL373	-51.9	6.3								
DEN-LAX	7/18/77	13	1:05	-55	FL390	0:15	38.6N	108.8W	FL370	-49.5	9.0								
DEN-LAX	7/23/77	15	1:09	-55	FL390	0:34	37.2N	112.0W	FL366	-48.3	9.8								
DEN-LAX	7/29/78	15	1:10	-54	FL390	0:10	38.7N	108.3W	FL376	-50.3	6.1								
DEN-LAX	8/13/77	14	1:10	-53	FL390	0:25	37.8N	110.3W	FL376	-49.4	5.8								
DEN-LAX	9/16/78	16	1:15	-55	FL390	0:24	38.2N	109.5W	FL376	-49.6	6.0								
DEN-LAX	9/24/75	15	1:08	-57	FL391	0:23	38.0N	110.3W	FL370	-52.1	7.2								
DEN-LAX	10/ 5/78	16	1:15	-61	FL390	0:15	38.7N	108.3W	FL372	-55.3	8.4								
DEN-LAX	10/ 6/75	15	1:10	-59	FL390	0:15	38.9N	109.4W	FL372	-54.5	6.8								

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
DEN-LAX	10/17/75	14	1:09	-62	FL390	0:15	38.9N	109.2W	FL367	-54.9	9.9								
DEN-LAX	11/ 4/78	14	1:04	-61	FL389	0:09	38.4N	108.7W	FL377	-57.6	8.1								
DEN-LAX	11/27/77	20	1:21	-66	FL390	0:52	36.6N	112.9W	FL366	-56.0	7.4								
DEN-LAX	11/29/76	16	1:07	-58	FL391	0:50	36.0N	114.2W	FL362	-52.4	6.5								
DEN-LAX	11/30/77	15	1:10	-63	FL390	0:45	36.8N	112.7W	FL379	-56.2	5.8								
DEN-LAX	12/12/77	15	1:10	-56	FL351	0:55	36.2N	113.9W	FL345	-51.3	4.1								
DEN-ORD	1/ 2/78	15	1:09	-51	FL354	0:09	40.4N	101.2W	FL355	-48.9	1.4								
DEN-ORD	2/22/79	15	1:05	-62	FL370	0:26	41.1N	98.5W	FL354	-58.4	4.3								
DEN-ORD	3/ 8/78	18	1:13	-59	FL336	1:13	42.3N	90.4W	FL387	-55.1	2.1								
DEN-ORD	3/13/79	39	1:13	-63	FL366	1:09	42.2N	91.0W	FL363	-53.7	4.3								
DEN-ORD	3/17/79	15	1:14	-67	FL393	1:09	42.1N	90.5W	FL385	-60.4	7.8								
DEN-ORD	3/20/79	12	1:00	-61	FL370	0:38	41.5N	95.4W	FL347	-55.1	4.9								
DEN-ORD	3/22/79	38	1:12	-62	FL370	0:25	40.9N	98.9W	FL365	-59.4	3.6								
DEN-ORD	3/29/78	12	1:13	-62	FL411	0:15	40.8N	100.8W	FL390	-57.7	5.8								
DEN-ORD	4/16/78	13	1:04	-59	FL370	0:59	42.1N	91.4W	FL361	-55.9	3.6								
DEN-ORD	4/29/78	40	1:11	-59	FL395	1:06	42.1N	90.7W	FL403	-53.7	2.7								
DEN-ORD	6/ 5/79	16	1:15	-61	FL411	0:19	40.8N	99.9W	FL385	-55.4	8.4								
DEN-ORD	7/ 1/78	15	1:09	-51	FL370	0:09	40.5N	100.7W	FL363	-46.7	3.9								
DEN-ORD	7/ 6/78	17	1:11	-51	FL370	0:09	40.5N	101.4W	FL357	-46.9	6.1								
DEN-ORD	7/ 8/78	14	1:04	-50	FL369	0:09	40.3N	101.3W	FL359	-44.6	6.0								
DEN-ORD	9/19/77	15	1:09	-57	FL370	0:09	40.6N	101.3W	FL359	-52.7	4.9								
DEN-ORD	10/ 1/78	13	1:09	-61	FL410	0:45	41.6N	94.8W	FL390	-56.6	6.7								
DEN-ORD	10/ 5/78	14	1:05	-56	FL354	1:05	42.1N	90.4W	FL361	-49.6	3.8								
DEN-ORD	11/ 1/78	16	1:15	-57	FL403	0:20	40.8N	99.7W	FL382	-52.6	6.8								
DEN-ORD	11/27/77	14	1:04	-58	FL353	1:04	42.2N	90.3W	FL362	-50.9	3.1								
DEN-ORD	11/30/77	12	1:05	-61	FL410	0:54	42.0N	92.6W	FL368	-53.1	6.5								
DEN-ORD	12/ 6/78	14	1:04	-44	FL370	0:45	41.7N	93.8W	FL354	-41.6	2.7								
DEN-ORD	12/12/77	16	1:09	-58	FL374	0:09	40.6N	101.6W	FL375	-51.1	5.0								
DEN-ORD	12/14/77	15	1:09	-60	FL370	0:15	40.6N	100.4W	FL373	-52.9	4.4								
DEN-ORD	12/20/77	14	1:10	-53	FL290	0:00	40.2N	103.2W	FL356	-44.2	2.8								
DEN-ORD	12/27/77	13	1:00	-53	FL369	0:09	40.6N	100.9W	FL360	-48.8	3.2								
DFW-HNL	3/28/77	85	7:20	-64	FL420	3:35	32.1N	128.5W	FL408	-56.1	5.6	FL390	-50.3	2.9	2:15	FL420	-59.4	2.4	4:39
DFW-HNL	5/ 2/77	80	6:52	-70	FL420	5:18	26.7N	144.5W	FL408	-62.1	6.3	FL390	-61.7	.7	1:27	FL419	-64.0	5.7	4:10
DFW-HNL	5/ 9/77	88	7:18	-70	FL420	4:23	32.5N	138.3W	FL407	-61.4	6.7	FL390	-55.5	6.5	2:00	FL420	-65.2	3.1	4:28
DFW-HNL	5/16/77	40	7:06	-65	FL401	3:10	30.0N	124.9W	FL394	-61.0	4.1	FL390	-58.1	1.9	2:21	FL400	-63.5	1.2	4:20
DFW-HNL	12/13/76	80	6:49	-63	FL430	4:15	31.3N	137.4W	FL413	-56.6	5.8	FL389	-51.7	3.1	2:04	FL429	-59.9	2.9	4:19
DFW-HNL	12/20/76	85	7:09	-59	FL350	1:45	38.0N	113.4W	FL349	-53.6	3.4	FL349	-53.8	3.1	6:59				
DFW-HNL	12/27/76	97	8:12	-54	FL350	3:55	31.7N	126.4W	FL339	-49.6	5.4	FL309	-41.4	.9	1:51	FL349	-52.7	1.8	5:42
DFW-JFK	3/30/77	22	1:49	-59	FL410	1:14	37.7N	81.7W	FL404	-55.9	1.6	FL410	-56.1	1.5	1:39				
DFW-JFK	4/27/79	25	1:59	-62	FL410	1:24	38.0N	81.3W	FL400	-56.7	4.4	FL409	-57.7	2.2	1:39				
DFW-JFK	5/ 4/77	24	2:04	-70	FL430	0:54	36.4N	86.9W	FL415	-65.7	4.9	FL429	-67.5	2.4	1:05				
DFW-JFK	5/11/77	25	2:03	-67	FL410	0:14	34.1N	93.6W	FL405	-58.8	6.3	FL409	-59.4	6.0	1:50				
DFW-JFK	12/15/76	25	2:04	-54	FL330	0:44	36.1N	88.7W	FL327	-49.6	4.2	FL329	-50.7	2.4	1:54				
DFW-JFK	12/22/76	24	1:53	-61	FL450	0:10	34.0N	93.7W	FL439	-57.0	2.7	FL450	-57.6	1.7	1:38				
DFW-JFK	12/29/76	21	1:44	-61	FL410	0:10	33.9N	93.5W	FL405	-52.2	4.6	FL410	-52.1	4.5	1:34				
DHA-JFK	2/ 7/79	147	12:26	-64	FL351	3:59	44.4N	20.4E	FL377	-53.9	5.5	FL350	-56.9	5.4	4:38	FL389	-54.7	2.8	5:27
												FL430	-46.7	.8	1:24				
DHA-JFK	2/14/79	141	11:59	-63	FL390	8:05	58.8N	27.7W	FL379	-51.7	5.0	FL350	-54.7	1.7	4:45	FL389	-53.9	4.5	3:05
												FL410	-46.1	1.7	3:30				
DHA-JFK	2/22/79	147	12:34	-72	FL390	7:45	50.0N	17.4W	FL381	-54.4	8.9	FL350	-47.6	5.7	4:15	FL390	-62.4	7.6	3:40
												FL410	-56.0	4.9	4:04				
DHA-JFK	2/24/79	152	13:09	-69	FL390	6:30	49.7N	4.4W	FL372	-56.8	6.7	FL350	-53.0	6.3	5:00	FL389	-61.4	4.6	1:05
												FL410	-57.9	3.3	3:00	FL369	-61.8	.7	2:59

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
DHA-JFK	4/19/79	144	12:34	-66	FL390	5:24	50.1N	10.6E	FL374	-54.3	4.7	FL349	-55.3	3.4	4:15	FL390	-54.1	4.5	7:49
DHA-JFK	4/21/79	144	12:20	-69	FL410	11:45	45.7N	66.8W	FL377	-55.7	3.7	FL349	-56.3	2.9	4:44	FL390	-52.0	3.2	4:29
												FL409	-61.9	5.6	2:43				
DRW-BKK	3/16/77	53	4:30	-43	FL350	2:04	3.0S	112.1E	FL348	-41.7	2.4	FL349	-42.2	.6	4:15				
DRW-BKK	3/30/77	52	4:16	-43	FL350	3:33	4.8N	102.8E	FL334	-37.7	5.3	FL310	-31.5	.5	1:26	FL350	-41.8	.5	0:00
DRW-BKK	4/20/77	56	4:39	-42	FL350	2:00	3.6S	113.4E	FL334	-37.9	4.7	FL310	-32.5	.5	1:44	FL350	-41.6	.5	2:39
DRW-BKK	8/18/76	55	4:34	-46	FL350	3:45	6.1N	102.3E	FL335	-40.1	5.2	FL310	-34.8	.4	1:19	FL349	-43.4	1.8	2:54
DRW-BKK	10/ 6/76	56	4:25	-44	FL350	0:08	10.7S	127.5E	FL338	-39.9	5.3	FL349	-43.4	.7	1:46	FL310	-32.1	.3	1:02
												FL350	-43.0	0.0	1:24				
DRW-BKK	11/10/76	57	4:45	-44	FL350	0:10	10.4S	127.0E	FL349	-43.0	2.5	FL350	-43.5	.5	4:29				
DRW-BNE	2/ 9/78	33	2:39	-47	FL370	0:19	15.9S	133.9E	FL366	-45.3	4.2	FL369	-46.3	.5	2:30				
DRW-SIN	2/ 9/78	35	2:59	-42	FL351	1:29	5.3S	116.7E	FL333	-36.8	5.8	FL310	-30.7	.5	1:10	FL350	-41.9	.3	1:33
DRW-SIN	8/30/77	34	3:00	-34	FL310	1:00	7.4S	120.9E	FL309	-32.8	1.6	FL309	-33.0	.5	2:49				
DRW-SYD	3/18/77	37	3:01	-48	FL370	0:20	16.3S	134.4E	FL366	-45.2	2.4	FL369	-45.7	.8	2:45				
DRW-SYD	4/ 1/77	36	2:55	-52	FL370	2:39	30.8S	148.7E	FL367	-48.8	3.6	FL370	-49.6	1.4	2:40				
DRW-SYD	4/22/77	32	2:45	-51	FL381	0:15	15.4S	133.4E	FL374	-48.9	5.5	FL380	-50.3	.8	2:25				
DRW-SYD	8/20/76	32	2:39	-51	FL370	2:30	31.5S	148.9E	FL350	-44.9	5.0								
DRW-SYD	10/ 8/76	31	2:51	-49	FL370	1:00	20.4S	139.1E	FL357	-44.4	4.7	FL370	-47.5	.9	0:00				
DRW-SYD	11/12/76	35	2:49	-57	FL370	2:39	31.4S	149.0E	FL352	-46.5	6.9	FL370	-51.8	2.2	1:29				
EZE-GIG	8/14/78	20	1:45	-57	FL370	0:15	33.1S	54.5W	FL360	-49.0	5.3	FL369	-50.0	3.9	1:25				
EZE-JFK	5/ 6/79	116	9:39	-65	FL410	9:15	36.2N	71.2W	FL387	-55.6	5.1	FL370	-53.2	1.8	2:29	FL389	-54.7	.6	2:50
												FL409	-61.4	1.5	3:04				
EZE-JFK	6/17/79	343	9:05	-58	FL391	8:20	32.5N	70.3W	FL380	-53.8	4.3	FL330	-43.8	2.3	2:29	FL350	-45.9	.7	1:30
												FL390	-56.0	.7	2:36	FL390	-56.4	1.0	1:22
EZE-JFK	9/24/78	111	9:02	-60	FL390	7:37	28.2N	68.9W	FL369	-52.6	6.6	FL329	-44.3	1.6	2:13	FL389	-57.1	1.4	5:48
EZE-JFK	11/12/78	108	9:05	-63	FL390	8:55	38.1N	71.8W	FL361	-50.6	7.5	FL331	-43.8	4.4	2:39	FL351	-45.6	.6	1:55
												FL390	-58.5	1.8	3:59				
FAI-HND	11/16/77	74	6:29	-63	FL430	5:24	42.0N	147.1E	FL411	-54.4	4.6	FL409	-51.6	1.8	2:54	FL430	-60.2	3.0	1:59
FAI-HNL	10/30/76	36	5:31	-61	FL330	0:09	62.5N	148.5W	FL343	-51.2	4.6	FL329	-52.1	5.4	1:58	FL350	-50.5	3.9	3:06
FAI-SEA	4/17/78	26	2:25	-50	FL390	1:30	55.0N	129.9W	FL385	-47.9	1.2	FL389	-47.8	1.2	2:10				
FAI-SEA	5/11/77	29	2:25	-48	FL284	0:00	63.9N	145.4W	FL377	-44.7	1.8	FL390	-45.6	.9	1:19				
FAI-SEA	5/18/78	26	2:14	-61	FL370	1:34	53.3N	127.9W	FL368	-52.7	6.6	FL369	-52.9	6.7	2:04				
FAI-SEA	6/ 2/78	29	2:30	-61	FL369	1:49	52.9N	128.6W	FL367	-57.6	4.7	FL369	-58.4	3.7	2:19				
FAI-SEA	6/ 3/77	30	2:25	-54	FL371	0:25	61.6N	140.4W	FL379	-48.5	3.0	FL391	-46.4	1.4	1:19				
FAI-SEA	6/ 6/77	30	2:30	-57	FL370	1:58	52.2N	126.7W	FL368	-49.6	5.0	FL370	-49.5	5.0	2:20				
FAI-SEA	6/21/77	29	2:24	-53	FL343	2:24	48.6N	123.3W	FL377	-46.3	2.4	FL391	-46.3	2.1	1:15				
FAI-SEA	6/21/78	26	2:04	-58	FL370	2:04	49.0N	123.9W	FL365	-50.0	4.3	FL370	-50.3	3.8	1:55				
FAI-SEA	7/ 5/78	31	2:29	-58	FL369	0:15	62.8N	142.6W	FL366	-55.5	3.6	FL369	-56.3	1.0	2:15				
FAI-SEA	7/ 7/77	30	2:23	-59	FL371	2:08	50.2N	124.9W	FL364	-52.6	4.6	FL370	-53.3	3.4	2:09				
FAI-SEA	7/18/77	29	2:19	-52	FL307	0:00	63.8N	145.4W	FL383	-46.3	2.7	FL390	-46.0	2.4	2:00				
FAI-SEA	11/15/76	29	2:19	-47	FL306	0:00	64.0N	145.9W	FL366	-39.3	3.5	FL369	-38.8	3.1	2:04				
FAI-SEA	12/ 6/76	25	2:07	-65	FL375	2:07	49.0N	123.7W	FL375	-55.8	4.9								
FAI-SEA	12/13/77	27	2:18	-55	FL370	0:48	59.0N	135.5W	FL366	-52.1	1.9	FL370	-52.2	1.9	2:05				
FCO-ATH	11/ 5/76	15	1:06	-62	FL370	0:30	40.6N	17.2E	FL360	-58.7	5.7								
FCO-BAH	10/14/77	45	4:00	-56	FL370	3:00	31.3N	40.0E	FL341	-50.4	3.4	FL330	-49.8	2.2	2:34				
FCO-IST	1/ 6/79	15	1:09	-57	FL371	1:00	42.4N	25.0E	FL354	-53.3	4.5								
FCO-IST	2/24/79	17	1:20	-61	FL330	0:10	43.2N	15.8E	FL324	-57.1	3.0	FL329	-57.9	1.9	1:09				
FCO-IST	3/16/79	14	1:04	-54	FL330	0:15	44.1N	19.2E	FL324	-49.2	3.2								
FCO-IST	7/30/78	17	1:19	-47	FL350	0:30	44.0N	18.9E	FL335	-40.8	5.1								
FCO-IST	8/18/78	13	1:04	-63	FL370	0:19	44.2N	19.6E	FL357	-57.7	6.8								
FCO-IST	11/22/78	13	1:00	-56	FL330	0:45	42.6N	24.1E	FL326	-54.3	2.7								
FCO-IST	11/25/78	16	1:25	-63	FL370	1:04	42.6N	24.4E	FL342	-57.1	6.8								
FCO-IST	11/28/78	13	1:00	-59	FL343	0:09	44.1N	19.3E	FL351	-57.1	1.1								

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
FCO-IST	12/17/78	14	1:04	-53	FL331	0:30	44.0N	20.9E	FL313	-49.2	4.3								
FCO-IST	12/23/78	16	1:15	-54	FL328	0:25	44.2N	18.8E	FL296	-49.7	2.7								
FCO-JFK	1/28/76	95	7:51	-62	FL330	1:30	47.7N	5.3W	FL335	-56.4	3.2	FL309	-56.1	1.0	1:04	FL330	-55.4	2.7	4:41
												FL370	-60.9	.9	1:10				
FCO-JFK	2/25/79	199	7:57	-63	FL350	3:05	48.7N	23.7W	FL356	-58.8	2.7	FL309	-54.2	1.8	2:49	FL350	-58.5	2.1	2:39
												FL370	-60.2	1.0	2:07				
FCO-JFK	3/10/78	100	8:01	-66	FL390	7:06	44.6N	64.6W	FL358	-56.7	4.9	FL330	-53.2	.6	1:05	FL350	-54.7	3.3	4:19
												FL390	-62.9	2.4	2:02				
FCO-JFK	3/17/79	85	7:01	-56	FL340	4:51	51.4N	48.8W	FL327	-50.5	3.8	FL310	-47.4	2.9	1:59	FL340	-52.4	2.4	2:46
												FL330	-51.4	4.1	1:50				
FCO-JFK	4/ 2/77	94	7:33	-61	FL371	7:23	42.1N	69.5W	FL339	-52.5	5.1	FL309	-50.4	2.1	1:56	FL340	-54.8	4.1	3:09
												FL370	-53.3	5.4	1:42				
FCO-JFK	4/12/76	91	7:44	-61	FL350	1:09	45.8N	2.9W	FL363	-54.5	4.9	FL350	-56.3	2.5	2:00	FL369	-58.1	.8	3:04
												FL390	-46.8	3.0	1:34				
FCO-JFK	5/17/77	89	7:49	-63	FL390	7:44	42.8N	70.7W	FL367	-51.3	6.9	FL349	-52.1	2.1	1:25	FL370	-49.6	6.3	3:45
												FL390	-56.3	6.4	1:52				
FCO-JFK	5/29/79	92	7:34	-57	FL350	6:44	45.7N	66.1W	FL328	-47.8	6.8	FL330	-48.7	4.2	3:54	FL350	-55.1	1.2	1:45
FCO-JFK	6/ 9/78	94	7:45	-56	FL391	6:45	44.6N	63.6W	FL336	-47.4	4.3	FL310	-42.4	.5	1:30	FL329	-47.8	3.0	4:00
FCO-JFK	6/25/78	91	7:18	-61	FL371	6:48	43.5N	66.7W	FL326	-47.7	5.8	FL310	-44.9	3.3	5:08	FL370	-55.3	4.0	1:50
FCO-JFK	7/31/78	101	8:19	-58	FL390	7:39	45.5N	68.7W	FL349	-48.2	6.6	FL310	-43.6	.5	1:39	FL350	-52.6	1.6	2:34
												FL370	-44.0	5.1	1:49	FL390	-55.7	1.6	1:24
FCO-JFK	8/15/76	73	5:30	-57	FL390	5:02	44.4N	58.1W	FL335	-45.4	4.4	FL309	-41.7	.5	1:06	FL330	-44.1	1.7	2:49
												FL350	-48.2	.8	1:06				
FCO-JFK	8/19/78	86	7:14	-59	FL350	4:30	55.2N	42.7W	FL344	-51.0	5.2	FL310	-46.7	.7	1:48	FL350	-50.3	4.9	3:21
												FL370	-56.9	1.8	1:43				
FCO-JFK	9/ 1/78	93	7:45	-62	FL353	3:17	49.1N	27.6W	FL339	-56.1	3.1	FL311	-52.8	.4	1:11	FL331	-56.8	.4	1:39
												FL352	-57.5	2.0	4:27				
FCO-JFK	9/ 6/77	102	8:44	-57	FL391	8:34	43.3N	70.7W	FL330	-49.2	5.2	FL310	-48.3	4.9	6:19	FL390	-52.3	3.2	1:54
FCO-JFK	9/ 7/77	104	8:44	-58	FL350	5:24	59.2N	44.5W	FL336	-49.4	5.4	FL310	-47.6	4.8	3:45	FL350	-53.7	3.4	2:35
												FL370	-48.4	4.7	2:00				
FCO-JFK	9/ 8/77	94	7:57	-54	FL371	5:45	40.8N	53.1W	FL350	-48.7	3.4	FL350	-49.1	.8	3:44	FL370	-52.2	1.0	2:07
FCO-JFK	9/20/76	90	7:38	-55	FL370	1:40	50.1N	5.6W	FL363	-47.8	5.7	FL369	-48.1	5.7	6:08				
FCO-JFK	10/24/76	90	7:35	-57	FL350	7:20	43.9N	70.3W	FL329	-47.6	3.9	FL310	-48.1	1.9	1:40	FL329	-45.6	2.4	3:45
												FL349	-52.1	3.6	1:45				
FCO-JFK	10/29/76	105	7:49	-58	FL389	6:50	46.3N	63.4W	FL323	-46.2	5.2	FL309	-44.0	2.9	5:30				
FCO-JFK	11/23/78	93	8:04	-67	FL371	4:45	45.9N	41.5W	FL345	-58.6	6.5	FL329	-54.0	.3	1:29	FL330	-55.8	1.3	1:15
												FL370	-64.9	2.1	3:30				
FCO-JFK	11/26/78	92	7:47	-60	FL370	5:01	47.3N	44.6W	FL346	-53.1	4.5	FL310	-51.1	1.3	1:10	FL349	-55.7	1.6	2:46
												FL369	-52.0	5.5	2:49				
FCO-JFK	11/29/78	95	8:15	-62	FL310	0:19	44.9N	3.4E	FL335	-54.1	4.6	FL309	-54.1	4.3	1:20	FL348	-55.0	3.3	5:30
FCO-JFK	12/18/78	87	7:34	-63	FL372	5:39	46.8N	52.2W	FL345	-54.3	5.5	FL331	-55.3	4.2	1:49	FL351	-57.2	2.7	2:30
												FL371	-50.5	7.9	1:54				
FCO-JFK	12/24/78	37	7:07	-54	FL310	5:39	52.1N	56.9W	FL306	-47.8	4.0	FL309	-48.6	3.3	6:29				
FCO-LHR	9/22/76	15	1:15	-55	FL350	0:25	45.2N	8.1E	FL329	-49.7	5.5								
FCO-SNN	1/27/76	25	2:00	-67	FL382	2:00	52.2N	6.0W	FL384	-55.3	5.3	FL389	-55.5	4.7	1:40				
FCO-YOW	1/ 7/79	73	6:20	-64	FL364	6:15	51.2N	55.3W	FL331	-52.8	3.6	FL309	-51.2	1.3	2:45	FL350	-54.0	2.3	2:20
FRA-ATH	12/21/77	25	1:40	-64	FL371	0:15	47.5N	12.8E	FL351	-58.2	6.1	FL370	-61.4	2.3	1:20				
FRA-BAH	1/31/77	51	4:13	-54	FL290	0:20	46.8N	14.4E	FL290	-45.4	5.3	FL290	-45.5	5.1	4:00				
FRA-BAH	2/14/77	58	4:45	-62	FL330	0:45	45.4N	18.0E	FL352	-54.9	4.3	FL329	-56.4	3.3	1:54	FL369	-53.9	4.5	2:35
FRA-CAI	3/28/77	62	5:01	-60	FL370	1:39	41.4N	27.7E	FL357	-55.2	3.4	FL330	-57.3	.8	1:15	FL370	-55.0	3.3	3:07
FRA-CAI	5/21/77	51	4:20	-51	FL331	3:15	34.3N	43.6E	FL302	-42.2	4.0	FL290	-40.1	2.2	3:06				
FRA-CAI	5/27/77	45	3:45	-51	FL331	1:35	39.7N	34.3E	FL315	-45.7	3.7	FL289	-42.9	1.6	1:15	FL330	-47.8	2.9	2:09
FRA-LGW	11/ 8/76	53	4:35	-54	FL330	0:15	47.3N	13.4E	FL327	-49.7	2.8	FL330	-50.2	1.6	4:09				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
FRA-BAH	11/29/76	30	4:23	-58	FL330	0:04	47.9N	12.4E	FL329	-47.8	4.5	FL330	-47.9	4.4	4:12				
FRA-BAH	12/29/76	52	4:24	-57	FL330	1:35	41.4N	27.8E	FL315	-51.3	3.7	FL290	-50.2	1.1	1:24	FL329	-52.3	3.9	2:45
FRA-BOM	5/24/79	84	6:10	-53	FL370	4:36	32.8N	55.6E	FL329	-46.3	3.9	FL290	-42.3	.7	2:11	FL330	-47.0	2.1	1:30
												FL369	-50.4	1.5	2:24				
FRA-DEL	1/23/79	201	7:13	-60	FL370	7:03	28.6N	73.5E	FL348	-54.5	2.8	FL330	-54.4	3.0	3:37	FL370	-54.9	2.2	3:21
FRA-DEL	2/16/79	78	6:49	-60	FL330	0:10	47.8N	12.5E	FL329	-48.7	5.3	FL329	-48.5	5.2	6:39				
FRA-DEL	3/ 9/79	116	6:10	-58	FL332	1:04	43.0N	22.9E	FL345	-49.2	4.3	FL331	-50.9	5.4	4:09				
FRA-IST	3/17/75	22	1:45	-58	FL370	1:34	42.2N	26.0E	FL361	-55.2	1.5	FL369	-55.2	1.5	1:24				
FRA-IST	3/23/76	20	1:34	-55	FL362	1:34	41.7N	26.9E	FL363	-51.4	2.2	FL370	-51.4	1.9	1:19				
FRA-IST	3/25/75	21	1:39	-55	FL305	1:39	41.2N	28.5E	FL359	-49.2	1.9	FL368	-48.8	1.0	1:19				
FRA-IST	4/19/76	21	1:40	-58	FL371	0:15	47.4N	12.9E	FL362	-52.9	3.2	FL370	-53.5	2.1	1:19				
FRA-JFK	1/ 2/79	89	7:27	-71	FL408	5:07	47.8N	51.1W	FL373	-63.6	3.7	FL360	-62.8	2.1	3:47	FL411	-67.3	2.0	2:15
FRA-JFK	1/10/79	91	7:29	-60	FL309	0:04	52.3N	5.7E	FL338	-51.1	2.5	FL330	-51.7	1.3	4:14	FL369	-48.6	1.5	2:05
FRA-JFK	1/12/79	88	7:14	-62	FL351	2:15	58.0N	20.3W	FL353	-51.6	4.5	FL350	-52.4	5.3	3:54	FL390	-52.3	1.5	1:40
FRA-JFK	1/31/76	80	7:02	-64	FL331	1:47	59.0N	16.3W	FL333	-54.9	4.9	FL330	-56.2	5.2	4:00	FL350	-50.6	1.3	2:00
FRA-JFK	2/23/79	84	6:55	-62	FL350	2:40	52.1N	25.6W	FL348	-56.1	3.9	FL350	-56.5	3.0	6:40				
FRA-JFK	2/27/77	49	6:27	-56	FL310	2:39	57.1N	34.3W	FL299	-47.9	7.1	FL310	-54.5	.7	2:57	FL290	-43.4	5.2	3:07
FRA-JFK	2/28/79	89	7:19	-58	FL350	7:15	41.4N	70.4W	FL334	-50.0	3.2	FL330	-48.3	2.2	4:34	FL350	-52.9	2.4	1:55
FRA-JFK	3/ 1/79	87	7:08	-57	FL330	7:03	41.7N	70.3W	FL324	-51.7	3.0	FL330	-52.4	2.6	6:03				
FRA-JFK	3/ 2/77	84	6:51	-61	FL350	1:03	55.6N	4.2W	FL351	-48.7	6.3	FL349	-59.7	.7	1:07	FL329	-48.7	3.5	3:17
												FL389	-43.1	1.7	1:28				
FRA-JFK	3/ 4/79	180	7:18	-65	FL361	3:29	52.5N	33.2W	FL360	-59.7	3.6	FL310	-51.9	.9	1:10	FL341	-57.3	3.1	1:29
												FL360	-63.6	1.4	2:10	FL370	-60.4	1.4	1:53
FRA-JFK	3/ 5/79	245	7:43	-65	FL391	6:08	51.5N	64.3W	FL381	-59.9	3.2	FL350	-58.4	3.7	4:19	FL390	-60.5	2.8	3:02
FRA-JFK	3/ 6/79	214	7:22	-67	FL391	5:45	46.4N	57.5W	FL381	-62.2	5.3	FL360	-55.4	5.4	4:00	FL391	-64.8	1.6	2:15
FRA-JFK	3/ 7/79	86	7:04	-60	FL331	1:15	50.0N	8.5W	FL327	-51.7	4.3	FL331	-52.1	3.8	5:49				
FRA-JFK	3/18/79	70	5:44	-54	FL291	0:00	52.0N	6.4E	FL310	-50.3	1.9	FL310	-50.2	1.8	5:39				
FRA-JFK	3/21/79	81	6:44	-64	FL391	5:44	47.4N	62.8W	FL360	-56.1	7.1	FL350	-53.9	6.9	4:31	FL390	-62.6	.8	1:53
FRA-JFK	3/30/78	82	6:54	-57	FL311	0:24	53.6N	1.5E	FL341	-50.7	3.9	FL330	-52.7	3.1	3:45	FL389	-46.0	.8	1:34
FRA-JFK	4/ 1/78	79	6:59	-62	FL370	6:34	44.8N	70.0W	FL338	-51.8	4.6	FL330	-50.5	3.3	4:19	FL369	-55.8	5.5	1:54
FRA-JFK	4/13/76	78	6:49	-61	FL370	2:30	55.1N	24.6W	FL371	-50.9	6.2	FL370	-56.1	4.7	2:14	FL390	-47.1	5.4	3:04
FRA-JFK	4/14/76	85	7:10	-64	FL371	2:19	58.3N	22.4W	FL372	-50.7	7.1	FL370	-52.8	8.1	4:04				
FRA-JFK	4/16/75	76	6:27	-61	FL351	0:35	51.7N	3.0W	FL353	-53.4	6.6	FL350	-53.7	7.4	3:49	FL370	-53.3	5.5	1:52
FRA-JFK	4/17/75	79	6:42	-63	FL367	0:50	54.0N	4.3W	FL373	-52.5	8.5	FL370	-53.3	8.9	2:57	FL390	-50.8	8.4	2:30
FRA-JFK	4/23/76	77	6:23	-63	FL400	1:25	54.0N	13.1W	FL401	-53.4	4.6	FL390	-56.5	3.9	1:05	FL400	-53.4	5.2	2:54
												FL410	-51.8	3.0	2:07				
FRA-JFK	4/24/76	77	6:20	-64	FL390	1:30	55.1N	13.5W	FL391	-52.5	6.2	FL389	-54.4	6.3	3:54	FL409	-49.3	3.7	1:49
FRA-JFK	4/25/79	84	6:54	-63	FL371	5:54	48.4N	66.2W	FL325	-50.6	4.4	FL320	-50.3	1.8	4:09				
FRA-JFK	5/15/77	81	6:46	-60	FL350	2:45	58.0N	29.1W	FL355	-51.2	5.2	FL350	-52.0	5.6	3:53	FL390	-48.0	3.3	1:37
FRA-JFK	5/22/78	78	6:44	-56	FL390	6:44	41.9N	71.7W	FL331	-46.1	3.7	FL310	-46.8	2.1	4:34	FL370	-41.0	1.6	1:04
FRA-JFK	5/23/79	84	6:58	-58	FL371	6:13	46.2N	68.2W	FL337	-48.0	5.2	FL330	-47.0	3.4	3:48	FL370	-52.7	5.8	1:54
FRA-JFK	5/24/77	78	6:34	-63	FL391	5:14	47.9N	61.0W	FL356	-55.3	5.4	FL350	-53.6	3.7	3:34	FL390	-61.9	1.1	1:30
FRA-JFK	5/26/77	76	6:24	-59	FL351	1:19	55.2N	11.3W	FL352	-49.5	5.9	FL350	-57.1	1.8	1:34	FL370	-46.5	3.4	3:19
FRA-JFK	5/29/77	80	6:41	-61	FL391	6:31	42.7N	71.1W	FL341	-47.9	6.2	FL330	-47.3	5.7	3:36	FL390	-51.5	6.5	1:45
FRA-JFK	6/ 8/78	84	7:10	-60	FL370	5:10	50.0N	55.1W	FL336	-51.1	5.2	FL330	-51.2	2.3	3:55	FL369	-55.5	2.7	2:04
FRA-JFK	7/12/76	77	6:26	-60	FL392	5:11	49.9N	64.3W	FL356	-50.1	6.6	FL351	-47.3	5.3	2:14	FL371	-56.8	1.3	1:15
												FL391	-54.6	5.2	1:19				
FRA-JFK	8/16/76	82	6:50	-54	FL360	3:06	54.4N	37.0W	FL350	-48.1	4.2	FL340	-47.0	1.1	1:33	FL359	-51.2	2.2	1:31
FRA-JFK	8/28/78	76	6:41	-63	FL371	5:26	48.2N	61.8W	FL333	-53.8	4.5	FL320	-51.3	2.3	3:51	FL370	-60.6	1.9	1:37
FRA-JFK	8/29/78	79	6:38	-63	FL369	4:54	48.2N	54.2W	FL345	-56.1	2.7	FL340	-54.9	1.3	2:48	FL370	-58.1	2.0	1:44
FRA-JFK	8/30/78	82	6:55	-59	FL307	0:04	50.4N	5.3E	FL334	-54.5	3.1	FL340	-56.3	1.2	3:35	FL330	-49.6	.6	1:17
FRA-JFK	9/ 2/78	88	7:19	-64	FL351	5:31	52.6N	61.5W	FL318	-55.0	5.7	FL310	-55.0	3.5	4:16	FL350	-61.1	1.7	1:07
FRA-JFK	9/ 3/78	93	6:57	-62	FL389	6:07	45.1N	63.4W	FL325	-53.2	4.5	FL309	-51.7	2.0	4:23				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
FRA-JFK	9/14/76	87	6:38	-57	FL390	5:58	46.0N	67.9W	FL357	-49.3	6.7	FL349	-47.9	2.8	2:42	FL349	-47.9	2.4	1:18
												FL389	-53.4	6.7	1:45				
FRA-JFK	9/15/77	79	6:44	-51	FL350	6:04	45.2N	66.6W	FL323	-41.8	4.2	FL310	-39.6	1.7	4:04	FL350	-47.0	3.1	2:00
FRA-JFK	9/18/76	78	6:45	-50	FL369	5:00	51.7N	59.8W	FL328	-44.1	4.2	FL309	-41.9	3.2	4:25	FL369	-49.0	.9	2:00
FRA-JFK	9/19/76	80	6:41	-55	FL390	4:24	54.2N	54.3W	FL368	-45.6	5.3	FL289	-41.8	0.3	2:14	FL389	-48.6	3.7	2:30
FRA-JFK	9/20/77	77	6:38	-60	FL391	5:38	45.8N	63.9W	FL336	-49.5	6.6	FL260	-38.9	1.1	1:04	FL320	-49.1	.9	2:45
												FL390	-58.4	2.9	1:30				
FRA-JFK	9/21/77	77	6:44	-52	FL321	4:14	49.1N	49.4W	FL326	-48.9	2.7	FL321	-48.9	1.9	3:15	FL350	-50.7	1.0	2:10
FRA-JFK	9/25/76	82	6:59	-56	FL340	1:45	54.0N	17.6W	FL345	-49.9	3.7	FL339	-50.5	2.3	5:30	FL369	-52.2	1.8	2:09
FRA-JFK	9/26/76	81	6:43	-53	FL350	5:49	45.9N	64.5W	FL336	-48.2	2.8	FL330	-47.9	1.9	3:34	FL350	-51.0	1.2	1:43
FRA-JFK	10/ 2/78	82	7:09	-58	FL350	2:45	48.1N	20.6W	FL350	-54.7	4.0	FL349	-55.6	1.7	2:31	FL370	-56.9	.7	1:24
FRA-JFK	10/ 3/78	82	6:59	-56	FL350	6:29	42.5N	65.8W	FL330	-49.3	3.0	FL330	-49.3	3.0	5:04				
FRA-JFK	10/ 5/78	78	6:54	-62	FL371	5:24	47.6N	59.1W	FL348	-50.0	6.4	FL350	-53.0	3.3	3:04	FL370	-60.7	.9	2:00
FRA-JFK	10/22/76	84	7:09	-51	FL329	0:34	54.2N	.4E	FL335	-43.7	3.7	FL329	-45.2	2.3	3:30	FL369	-39.6	2.1	1:20
FRA-JFK	10/27/76	85	7:13	-54	FL330	1:19	58.3N	11.3W	FL346	-46.7	4.1	FL346	-48.7	2.2	3:30	FL368	-42.9	2.5	1:15
FRA-JFK	10/28/76	85	6:43	-53	FL330	0:49	53.5N	5.5W	FL330	-45.6	4.5	FL329	-45.4	4.8	4:14	FL369	-46.2	3.8	1:34
FRA-JFK	11/ 3/76	89	7:32	-54	FL330	6:37	47.7N	69.6W	FL327	-46.8	3.5	FL329	-48.7	1.5	2:00	FL330	-47.9	2.5	4:28
FRA-JFK	11/ 4/76	84	7:14	-52	FL309	4:44	55.6N	56.5W	FL334	-45.8	5.6	FL309	-41.0	5.9	3:24	FL369	-46.8	1.1	1:20
FRA-JFK	11/24/78	91	7:54	-68	FL365	5:49	52.4N	56.1W	FL354	-58.9	5.2	FL350	-60.1	0.7	4:54	FL369	-56.5	4.1	1:55
FRA-JFK	11/27/78	84	7:09	-54	FL349	5:54	46.7N	64.1W	FL322	-48.0	3.7	FL308	-46.4	2.9	4:25	FL340	-50.9	3.2	2:29
FRA-JFK	12/ 1/78	86	7:12	-57	FL310	0:04	52.3N	5.4E	FL333	-50.3	2.3	FL319	-50.5	3.1	2:24	FL359	-49.0	1.5	1:32
FRA-THR	1/ 6/77	48	4:03	-60	FL331	2:03	40.4N	30.7E	FL308	-52.6	3.1	FL290	-52.4	.6	1:32	FL330	-54.0	2.7	2:00
FRA-THR	3/ 4/77	34	3:30	-67	FL370	0:48	44.6N	20.1E	FL363	-54.6	6.7	FL369	-54.4	5.9	0:14				
FRA-THR	3/28/77	45	3:45	-50	FL291	2:00	40.2N	31.8E	FL287	-46.6	2.0	FL291	-47.2	1.0	0:05				
FRA-THR	4/ 5/77	42	3:39	-56	FL371	2:04	39.6N	34.1E	FL322	-49.3	4.8	FL370	-54.4	1.3	1:30				
FRA-THR	5/19/77	53	4:11	-61	FL371	0:20	47.2N	13.2E	FL325	-50.2	8.1	FL370	-59.5	1.1	1:35	FL290	-43.4	2.3	2:06
FRA-THR	5/23/78	41	3:30	-46	FL290	0:19	46.2N	15.5E	FL290	-37.6	4.0	FL289	-37.7	4.0	3:19				
FRA-THR	5/30/79	49	4:00	-60	FL370	1:45	41.4N	27.7E	FL358	-52.7	6.3	FL370	-55.4	1.9	3:19				
FRA-THR	6/16/78	44	3:29	-48	FL330	0:30	46.0N	16.2E	FL325	-43.6	3.2	FL330	-44.1	2.1	2:59				
FRA-THR	6/25/77	38	3:23	-51	FL327	1:03	43.7N	21.6E	FL344	-45.2	1.7	FL270	-45.3	.6	2:09				
FRA-THR	8/ 2/78	22	1:32	-48	FL351	0:22	46.5N	14.9E	FL313	-44.0	3.1	FL330	-46.0	1.2	1:10				
FRA-THR	8/17/76	42	3:37	-52	FL369	1:14	42.6N	24.5E	FL358	-42.7	4.8	FL368	-41.6	4.8	2:40				
FRA-THR	8/24/77	43	3:49	-53	FL330	0:35	45.6N	17.2E	FL314	-40.9	4.6	FL329	-45.0	5.7	2:00	FL369	-42.9	.6	1:19
FRA-THR	9/ 6/78	43	3:38	-50	FL370	2:23	39.2N	36.2E	FL319	-42.0	4.3	FL289	-39.0	1.0	3:08	FL370	-47.3	2.5	1:10
FRA-THR	9/10/77	43	3:35	-51	FL330	1:35	41.4N	27.8E	FL329	-42.9	5.9	FL330	-43.4	5.4	3:19				
FRA-THR	9/14/79	43	3:33	-38	FL291	1:40	41.2N	28.3E	FL282	-33.0	2.3	FL270	-32.2	.7	1:35	FL290	-33.8	2.8	1:52
FRA-THR	10/11/77	45	3:49	-52	FL331	3:24	37.5N	45.7E	FL293	-43.7	4.0	FL280	-41.8	1.7	2:54				
FRA-THR	10/16/76	49	3:46	-57	FL370	2:07	40.2N	31.8E	FL332	-49.0	5.5	FL289	-42.9	2.9	1:00	FL369	-54.2	2.8	1:40
FRA-THR	10/18/77	47	3:55	-60	FL360	1:55	40.8N	29.0E	FL350	-53.3	3.9	FL331	-52.7	1.3	1:45	FL370	-54.8	2.1	1:50
FRA-THR	10/24/77	43	3:39	-61	FL370	1:47	40.5N	30.3E	FL353	-54.3	2.1	FL330	-53.6	.8	1:30	FL369	-55.1	2.2	1:59
FRA-THR	11/ 2/78	45	3:49	-56	FL330	1:19	42.5N	24.4E	FL329	-52.1	3.4	FL330	-52.4	3.0	3:44				
FRA-THR	11/23/77	43	3:37	-60	FL370	1:40	41.1N	28.6E	FL351	-54.4	4.5	FL369	-56.8	1.7	2:42				
FRA-THR	12/ 7/78	47	3:41	-52	FL290	0:00	48.4N	11.4E	FL280	-46.2	2.8	FL269	-45.0	.7	1:37	FL289	-47.1	2.9	1:37
FRA-THR	12/20/76	47	3:59	-64	FL370	3:34	37.6N	45.5E	FL340	-60.7	2.7	FL330	-60.5	1.3	1:49	FL369	-62.0	.9	1:39
FRA-THR	12/26/78	41	3:34	-59	FL330	0:49	44.2N	20.5E	FL323	-53.6	2.1	FL330	-54.0	2.0	2:49				
GIG-CCS	1/18/78	51	4:23	-48	FL351	3:28	2.6N	62.6W	FL348	-45.9	3.3	FL350	-46.7	.7	4:03				
GIG-CCS	1/21/78	55	4:36	-46	FL351	1:21	11.7S	52.4W	FL343	-43.6	3.4	FL350	-45.2	.5	3:42				
GIG-CCS	3/11/78	22	1:45	-57	FL390	0:00	1.6S	57.8W	FL368	-56.2	0.1	FL390	-56.9	.3	1:39				
GIG-CCS	3/18/78	55	4:34	-47	FL350	0:00	19.7S	44.2W	FL349	-43.2	1.9	FL350	-43.4	1.3	4:29				
GIG-CCS	4/24/76	54	4:38	-46	FL351	0:10	19.5S	45.0W	FL347	-44.3	3.2	FL351	-45.3	.3	4:09				
GIG-CCS	4/24/78	55	4:39	-54	FL390	2:54	1.7S	57.7W	FL367	-47.4	5.0	FL350	-43.2	.5	2:45	FL390	-53.5	.5	1:45
GIG-CCS	4/26/76	57	4:53	-57	FL391	1:14	13.8S	49.1W	FL378	-53.0	4.9	FL390	-55.7	.8	0:33				
GIG-CCS	5/30/77	59	4:57	-56	FL390	2:41	3.5S	54.5W	FL366	-49.4	6.9	FL350	-45.2	.8	2:09	FL390	-55.5	.6	2:20

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
GIG-CCS	8/15/78	56	4:49	-48	FL350	1:04	15.2S	48.5W	FL343	-44.8	2.5	FL350	-45.9	.9	3:44				
GIG-EZE	8/14/78	22	1:55	-57	FL350	1:55	33.5S	56.7W	FL345	-48.1	5.4	FL350	-49.5	2.8	1:40				
GIG-JFK	1/27/79	213	8:28	-55	FL370	5:55	22.9N	64.3W	FL339	-41.7	8.6	FL310	-32.7	.6	3:18	FL350	-44.6	1.8	1:35
												FL370	-50.9	3.3	3:03				
GIG-JFK	2/12/77	80	8:25	-63	FL410	6:01	23.2N	62.9W	FL396	-55.3	2.6	FL390	-54.7	1.6	5:21	FL409	-56.9	2.4	2:37
GIG-JFK	3/28/77	103	8:44	-71	FL431	7:19	29.8N	69.4W	FL403	-59.9	7.5	FL390	-55.5	.9	5:19	FL430	-69.1	2.2	2:54
GIG-JFK	4/10/76	92	8:08	-51	FL350	6:33	26.8N	66.7W	FL332	-40.9	6.1	FL310	-34.4	.7	2:03	FL350	-45.8	3.2	4:34
GIG-JFK	4/10/77	98	8:19	-61	FL390	6:49	28.3N	66.5W	FL389	-55.2	3.0	FL390	-55.5	1.8	8:09				
GIG-JFK	4/17/77	101	8:23	-66	FL410	6:14	24.3N	64.6W	FL390	-54.8	6.6	FL349	-45.4	1.3	1:33	FL389	-54.4	.9	3:29
												FL409	-63.8	1.6	1:39	FL429	-58.2	1.9	1:03
GIG-JFK	4/24/77	100	8:32	-68	FL410	8:07	35.7N	70.2W	FL395	-57.6	5.2	FL389	-55.0	.5	5:17	FL409	-63.8	3.3	2:45
GIG-JFK	5/ 5/79	99	8:06	-50	FL350	6:06	25.2N	65.3W	FL332	-40.4	7.4	FL310	-32.4	.8	3:06	FL350	-46.7	2.2	4:34
GIG-JFK	5/14/77	97	8:12	-61	FL391	6:42	28.9N	66.8W	FL352	-47.4	9.0	FL311	-35.4	1.8	1:22	FL350	-44.5	.6	3:39
												FL390	-58.5	1.4	1:40				
GIG-JFK	8/26/78	93	8:04	-59	FL370	7:54	38.2N	71.8W	FL346	-51.2	6.7	FL310	-42.6	.9	2:19	FL350	-51.1	.5	1:37
												FL370	-57.8	.5	3:42				
GIG-JFK	11/ 6/76	99	8:19	-68	FL430	6:29	25.9N	67.0W	FL398	-56.8	5.4	FL390	-54.9	1.0	6:00	FL429	-64.4	2.6	2:00
GIG-JFK	11/13/76	98	8:25	-68	FL430	6:35	26.4N	66.3W	FL402	-58.2	4.7	FL389	-55.9	.9	5:05	FL429	-63.5	3.8	2:20
GIG-JFK	11/22/76	99	8:17	-68	FL430	6:42	27.0N	68.7W	FL404	-58.4	6.0	FL389	-55.2	.8	4:48	FL429	-64.4	3.5	3:09
GIG-JFK	11/29/76	98	8:19	-67	FL430	6:59	29.6N	69.4W	FL401	-58.7	5.5	FL389	-55.8	.8	3:54	FL410	-61.0	1.9	2:34
												FL430	-65.6	.5	1:15				
GIG-MIQ	5/ 3/75	54	4:40	-57	FL390	1:11	13.9S	49.0W	FL378	-53.3	6.1	FL389	-56.3	.7	3:34				
GIG-MIQ	5/ 5/75	59	4:47	-58	FL389	2:34	3.9S	54.0W	FL385	-55.7	4.5	FL389	-56.8	.6	4:22				
GIG-MIQ	5/15/75	57	4:44	-58	FL390	2:14	6.1S	52.9W	FL368	-51.6	6.8	FL349	-46.9	.5	1:54	FL390	-57.1	.3	2:24
GIG-PTY	3/29/79	68	5:33	-54	FL390	4:23	1.9N	71.0W	FL369	-47.4	6.2	FL350	-42.9	.5	2:14	FL390	-52.6	.9	2:49
GIG-PTY	4/12/79	70	5:40	-46	FL350	0:10	19.6S	44.1W	FL349	-42.8	1.7	FL350	-43.0	1.0	5:25				
GIG-PTY	8/10/78	65	5:32	-57	FL390	5:12	6.3N	76.3W	FL361	-48.3	5.2	FL350	-45.9	.8	3:41	FL390	-55.5	.7	1:29
GIG-PTY	8/21/78	69	5:49	-54	FL350	0:24	18.8S	45.1W	FL346	-51.0	3.1	FL350	-51.8	.9	5:20				
GIG-PTY	9/ 4/76	66	5:29	-57	FL390	3:09	3.5S	63.2W	FL364	-49.6	5.3	FL348	-46.9	1.4	2:34	FL390	-54.6	1.0	2:15
GUA-CCS	1/17/78	30	2:28	-53	FL370	0:24	13.6N	85.6W	FL364	-49.3	5.0	FL370	-50.7	1.5	2:13				
GUA-CCS	1/20/79	66	2:19	-53	FL370	0:07	14.1N	87.8W	FL365	-49.0	4.8	FL370	-50.2	1.3	2:07				
GUA-CCS	4/ 7/79	31	2:29	-48	FL370	0:15	14.0N	87.3W	FL365	-46.4	5.3	FL369	-47.7	.4	2:19				
GUA-CCS	4/ 8/76	27	2:16	-52	FL374	0:13	13.9N	86.8W	FL363	-48.3	6.3	FL370	-50.2	.9	1:57				
GUA-CCS	4/14/79	29	2:19	-48	FL370	1:34	10.9N	75.3W	FL367	-46.3	3.1	FL370	-47.1	.6	2:09				
GUA-CCS	4/24/76	30	2:24	-52	FL371	0:15	13.9N	87.0W	FL367	-49.4	4.0	FL370	-50.4	.9	2:14				
GUA-CCS	5/ 2/76	30	2:27	-51	FL371	0:21	13.1N	87.0W	FL365	-48.5	5.2	FL370	-49.9	.7	2:16				
GUA-CCS	5/29/78	31	2:29	-49	FL370	1:09	12.4N	79.6W	FL364	-46.7	5.8	FL370	-48.5	.5	2:09				
GUA-CCS	7/ 8/77	29	2:30	-52	FL371	0:39	13.2N	83.5W	FL367	-50.6	4.3	FL370	-51.4	.5	2:21				
GUA-CCS	7/14/78	32	2:35	-52	FL370	0:55	12.7N	82.0W	FL364	-49.7	5.3	FL369	-51.2	.4	2:19				
GUA-CCS	7/19/78	42	2:50	-52	FL370	2:00	10.8N	75.0W	FL367	-49.6	3.8	FL370	-50.4	.7	2:37				
GUA-CCS	8/12/77	31	2:34	-52	FL370	0:53	12.7N	81.9W	FL364	-49.2	5.7	FL370	-50.8	.6	2:21				
GUA-CCS	8/13/78	30	2:24	-51	FL369	0:09	14.0N	87.0W	FL365	-49.0	4.4	FL370	-50.3	.5	2:09				
GUA-CCS	9/ 1/76	26	2:15	-46	FL350	0:08	13.9N	86.4W	FL357	-42.7	3.0	FL370	-44.6	.5	1:04				
GUA-CCS	11/ 7/76	30	2:29	-48	FL369	2:04	10.8N	71.5W	FL363	-45.0	5.0	FL369	-46.5	1.0	2:14				
GUA-LAX	1/15/78	49	4:00	-53	FL351	1:50	23.2N	103.4W	FL348	-48.4	4.0	FL350	-49.9	1.4	1:15	FL350	-48.5	3.7	2:15
GUA-LAX	1/18/79	50	4:09	-50	FL351	1:45	22.2N	102.2W	FL349	-47.2	2.8	FL350	-47.6	.9	4:00				
GUA-LAX	1/20/79	104	3:53	-52	FL350	3:41	32.3N	115.0W	FL348	-47.7	3.1	FL350	-48.2	1.4	3:41				
GUA-LAX	1/23/78	51	4:09	-59	FL391	2:09	24.4N	104.9W	FL373	-53.3	6.5	FL390	-57.4	1.4	2:45				
GUA-LAX	3/14/78	45	3:39	-65	FL390	3:00	30.3N	112.3W	FL378	-57.4	7.9	FL390	-61.4	2.5	2:45				
GUA-LAX	3/21/78	47	3:39	-58	FL391	0:55	19.6N	98.9W	FL382	-53.7	5.9	FL391	-56.2	2.3	2:44				
GUA-LAX	3/29/79	46	3:45	-62	FL391	2:34	27.1N	108.9W	FL357	-49.8	8.3	FL351	-49.5	.8	1:30	FL390	-57.8	2.7	1:20
GUA-LAX	3/30/75	42	3:24	-59	FL389	2:00	25.7N	106.9W	FL365	-49.9	6.0	FL349	-46.3	.9	1:30	FL388	-55.2	2.6	1:30
GUA-LAX	4/ 7/79	48	3:45	-49	FL351	2:21	26.2N	107.6W	FL337	-45.4	4.3	FL350	-46.5	1.6	2:21				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
GUA-LAX	4/12/79	44	3:34	-63	FL390	2:59	30.6N	112.6W	FL356	-49.1	8.8	FL349	-46.0	2.6	2:24				
GUA-LAX	4/18/79	46	3:45	-53	FL350	3:10	30.0N	112.4W	FL347	-47.6	4.4	FL350	-48.4	2.9	3:30				
GUA-LAX	4/24/78	38	3:05	-62	FL390	2:45	31.5N	113.7W	FL389	-57.4	3.1	FL390	-57.8	2.7	2:54				
GUA-LAX	4/26/76	44	3:50	-62	FL390	2:54	29.0N	110.4W	FL384	-57.0	6.4	FL390	-58.8	1.9	3:30				
GUA-LAX	5/ 5/75	46	3:50	-63	FL390	3:24	30.9N	113.6W	FL386	-58.0	5.2	FL390	-59.2	1.6	3:30				
GUA-LAX	5/ 9/75	45	3:40	-62	FL389	2:40	27.6N	109.4W	FL386	-57.8	4.1	FL389	-58.7	1.9	3:24				
GUA-LAX	5/15/75	44	3:55	-63	FL389	2:30	25.9N	106.9W	FL382	-58.3	6.8	FL388	-60.3	2.2	3:26				
GUA-LAX	5/20/79	45	3:39	-56	FL392	2:10	25.6N	106.8W	FL366	-47.2	6.2	FL350	-43.9	.4	1:49	FL391	-52.9	2.6	1:29
GUA-LAX	5/30/77	43	3:39	-57	FL391	3:34	32.5N	115.8W	FL388	-52.9	3.8	FL390	-53.7	1.4	3:30				
GUA-LAX	6/ 9/77	42	3:32	-55	FL392	0:15	15.7N	93.5W	FL378	-51.4	6.6	FL390	-54.0	.7	3:09				
GUA-LAX	6/17/77	40	3:19	-58	FL391	3:04	31.1N	113.8W	FL379	-52.7	6.5	FL390	-55.7	1.4	2:39				
GUA-LAX	7/ 9/77	42	3:30	-55	FL390	1:54	24.6N	105.2W	FL366	-49.7	5.1	FL350	-47.2	.8	1:40	FL390	-54.4	.5	1:30
GUA-LAX	7/14/77	41	3:30	-58	FL391	1:45	23.8N	104.2W	FL366	-50.6	7.1	FL350	-46.5	.5	1:24	FL390	-56.8	1.1	1:39
GUA-LAX	7/15/78	39	3:09	-56	FL390	2:54	31.7N	114.1W	FL362	-48.9	5.3	FL350	-46.9	.6	1:48				
GUA-LAX	7/19/78	42	3:24	-56	FL391	1:39	23.8N	104.1W	FL375	-51.0	5.7	FL390	-54.7	.6	1:55				
GUA-LAX	8/10/78	44	3:35	-56	FL390	2:45	28.8N	110.8W	FL369	-49.5	7.0	FL350	-44.6	.5	1:15	FL390	-55.0	.7	1:54
GUA-LAX	8/21/78	42	3:24	-53	FL348	3:24	32.8N	115.9W	FL346	-50.2	3.1	FL347	-50.8	.8	3:15				
GUA-LAX	9/ 4/76	43	3:30	-54	FL390	2:04	25.7N	106.6W	FL367	-46.9	5.5	FL349	-42.7	.5	1:30	FL389	-52.2	1.1	1:35
GUA-LAX	11/ 7/76	42	3:30	-56	FL389	3:30	32.7N	116.0W	FL365	-46.8	6.1	FL348	-42.4	.6	1:35	FL388	-53.1	1.4	1:35
GUA-MIG	5/ 2/75	30	2:25	-52	FL370	0:30	13.3N	84.4W	FL364	-49.2	5.0	FL369	-50.7	.5	2:09				
GUA-PTY	1/20/78	13	1:04	-49	FL367	0:09	13.2N	88.1W	FL357	-45.8	6.2								
GUA-PTY	1/26/79	30	1:04	-52	FL370	0:22	12.0N	85.9W	FL356	-47.3	7.4								
GUA-PTY	3/28/79	16	1:09	-50	FL370	0:15	12.9N	87.6W	FL354	-44.8	7.2								
GUA-PTY	3/29/75	14	1:05	-51	FL370	0:15	12.7N	87.1W	FL356	-47.1	6.9								
GUA-PTY	4/11/79	15	1:09	-48	FL371	0:10	12.9N	87.5W	FL360	-45.3	6.5								
GUA-PTY	5/ 3/79	16	1:06	-38	FL331	0:04	13.4N	88.5W	FL328	-35.8	2.3								
GUA-PTY	5/12/75	16	1:12	-51	FL369	0:09	13.3N	88.2W	FL363	-49.0	5.3	FL369	-50.8	.6	1:02				
GUA-PTY	8/ 9/78	16	1:15	-51	FL370	0:20	12.8N	87.2W	FL356	-47.2	7.4								
GUA-PTY	8/25/78	15	1:09	-55	FL371	0:30	11.9N	85.9W	FL357	-51.2	5.7								
GUM-HKG	5/10/75	38	3:24	-57	FL390	0:39	16.8N	138.2E	FL380	-53.8	5.6	FL389	-56.2	.5	2:45				
GUM-HKG	12/ 4/78	36	3:11	-46	FL350	2:41	22.0N	120.5E	FL317	-36.4	4.2	FL311	-34.6	.6	2:30				
GUM-HNL	3/19/77	63	5:19	-48	FL371	4:24	22.0N	169.4W	FL348	-41.4	4.8	FL331	-37.4	.5	2:44	FL370	-46.6	.5	2:19
GUM-HNL	3/29/76	62	5:23	-58	FL390	4:28	21.1N	168.6W	FL356	-46.0	7.6	FL330	-38.8	.8	1:45	FL370	-49.3	1.4	1:59
GUM-HNL	3/31/79	68	5:34	-49	FL370	5:04	21.1N	164.3W	FL341	-41.2	5.2	FL330	-39.0	1.8	3:30	FL370	-48.3	.5	1:30
GUM-HNL	4/ 8/78	19	1:34	-58	FL370	0:44	21.1N	167.3W	FL370	-54.8	2.1	FL369	-54.8	2.1	1:34				
GUM-HNL	4/ 9/79	63	5:15	-61	FL395	4:25	20.9N	167.9W	FL355	-45.0	9.4	FL335	-36.4	.7	1:39				
GUM-HNL	4/16/78	60	5:04	-52	FL370	5:04	21.1N	160.1W	FL362	-46.4	3.5	FL350	-42.3	.5	2:00	FL370	-49.3	.7	2:54
GUM-HNL	4/17/77	64	5:15	-49	FL371	2:30	19.1N	171.1E	FL353	-43.5	6.0	FL351	-42.2	.5	1:10	FL370	-48.7	.5	2:38
GUM-HNL	4/20/79	75	6:09	-55	FL371	4:34	20.1N	174.0W	FL355	-47.7	7.8	FL331	-37.5	.8	1:25	FL350	-44.9	1.0	1:04
												FL370	-54.0	1.0	3:19				
GUM-HNL	4/22/79	76	6:14	-61	FL391	5:49	23.2N	163.6W	FL373	-50.8	5.3	FL370	-49.1	1.6	4:54				
GUM-HNL	4/26/78	65	5:34	-54	FL390	5:24	20.5N	161.2W	FL355	-44.0	5.2	FL330	-38.5	.9	2:09	FL369	-47.0	.2	2:19
GUM-HNL	5/10/79	68	5:34	-51	FL370	1:49	16.6N	162.6E	FL368	-48.1	3.8	FL370	-48.8	1.6	5:19				
GUM-HNL	5/11/75	69	5:49	-56	FL370	2:39	17.1N	170.5E	FL363	-51.8	4.4	FL350	-47.0	1.1	1:15	FL369	-54.0	.9	4:09
GUM-HNL	5/16/79	74	6:04	-59	FL391	4:10	20.4N	176.5W	FL379	-52.9	6.1	FL369	-49.0	.8	2:25	FL390	-57.3	1.1	3:15
GUM-HNL	5/17/75	71	5:49	-47	FL350	1:39	16.2N	162.3E	FL330	-42.5	2.9	FL329	-40.5	.5	1:19	FL329	-43.4	1.2	3:40
GUM-HNL	5/18/79	79	6:13	-50	FL370	4:11	18.4N	178.0W	FL331	-40.4	3.9	FL330	-38.6	.9	3:46	FL330	-43.7	.8	1:49
GUM-HNL	5/29/75	71	6:04	-55	FL370	3:49	17.9N	178.9W	FL345	-46.7	6.3	FL329	-42.3	1.4	3:24	FL369	-53.8	.5	2:19
GUM-HNL	6/ 1/77	65	6:04	-52	FL370	4:49	21.9N	170.4W	FL346	-44.2	6.5	FL330	-39.5	.8	3:09	FL370	-51.3	.8	2:20
GUM-HNL	6/19/77	71	5:52	-51	FL371	3:57	18.6N	176.5W	FL350	-44.7	5.6	FL330	-39.7	.7	1:52	FL350	-44.9	.8	1:10
												FL370	-50.2	.7	2:19				
GUM-HNL	7/11/77	71	5:54	-52	FL370	5:19	20.5N	165.0W	FL345	-43.2	6.1	FL330	-39.0	.8	3:09	FL370	-50.3	1.1	2:20
GUM-HNL	7/13/78	75	5:59	-54	FL370	5:39	21.1N	163.0W	FL341	-43.4	8.3	FL330	-40.1	1.3	2:45	FL369	-52.5	.8	2:19

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
GUM-HNL	7/16/77	68	5:49	-55	FL370	4:55	21.0N	168.0W	FL352	-46.5	6.9	FL330	-40.0	1.9	2:05	FL370	-51.7	2.1	3:15
GUM-HNL	7/17/78	72	5:59	-55	FL370	4:19	20.5N	175.2W	FL342	-44.3	7.7	FL330	-40.5	2.8	3:19	FL370	-53.7	.9	1:54
GUM-HNL	7/21/78	76	6:15	-54	FL371	4:04	20.2N	178.1W	FL343	-44.0	6.5	FL330	-40.1	1.3	3:45	FL370	-52.3	1.3	2:04
GUM-HNL	7/23/78	83	6:11	-53	FL370	3:56	19.2N	178.7W	FL347	-44.3	6.4	FL329	-38.9	1.5	2:32	FL350	-49.1	.7	1:04
												FL370	-49.5	2.5	2:09				
GUM-HNL	8/12/78	73	5:52	-54	FL371	4:17	20.2N	174.3W	FL342	-43.6	8.4	FL310	-32.8	1.0	1:39	FL350	-46.2	.9	1:57
												FL370	-53.1	.5	1:39				
GUM-HNL	8/23/78	73	6:06	-53	FL351	4:29	21.9N	174.8W	FL336	-46.5	4.5	FL330	-44.6	.9	3:45	FL351	-51.9	.8	1:52
GUM-HNL	8/25/77	70	6:00	-53	FL370	4:40	19.8N	172.2W	FL347	-44.4	6.7	FL330	-39.3	1.0	3:00	FL370	-51.4	.6	2:34
GUM-HNL	10/25/77	64	6:01	-53	FL370	3:49	20.4N	179.1W	FL344	-43.0	7.1	FL330	-38.3	1.3	3:09	FL370	-51.7	.9	2:20
GUM-HNL	11/13/76	70	5:55	-47	FL370	5:05	20.4N	167.2W	FL353	-41.9	4.8	FL329	-36.5	.7	1:19	FL350	-40.8	1.2	1:00
												FL369	-45.7	1.3	3:04				
GUM-HNL	12/ 4/76	67	5:44	-56	FL370	4:39	24.8N	169.4W	FL353	-47.9	8.3	FL330	-38.6	1.1	1:24	FL370	-54.6	.9	3:00
GUM-HNL	12/11/76	71	5:54	-51	FL370	3:29	29.8N	177.6E	FL354	-45.4	4.2	FL330	-39.5	.5	1:04	FL350	-45.2	.7	1:34
												FL370	-48.8	1.0	2:39				
GUM-HNL	12/29/78	72	5:52	-47	FL370	2:54	19.3N	172.3E	FL329	-37.4	4.3	FL330	-36.5	.6	2:34				
GUM-HNL	12/31/78	72	5:59	-48	FL370	0:15	16.4N	148.1E	FL367	-45.6	3.6	FL369	-46.4	.8	5:39				
GUM-MNL	2/ 3/76	29	2:19	-57	FL390	1:05	14.2N	133.4E	FL382	-54.3	5.0	FL390	-56.5	.5	1:44				
GUM-MNL	3/18/77	28	2:20	-55	FL391	2:00	14.6N	125.3E	FL373	-49.1	4.8	FL370	-48.3	.5	1:20				
GUM-MNL	3/28/76	28	2:20	-45	FL350	0:10	13.8N	140.8E	FL348	-43.4	2.7	FL349	-44.0	.4	2:09				
GUM-MNL	3/30/79	30	2:24	-42	FL350	0:05	13.7N	142.1E	FL348	-41.3	2.5	FL350	-42.0	0.0	2:15				
GUM-MNL	4/ 7/78	25	1:59	-43	FL350	0:45	14.2N	134.0E	FL350	-42.3	.5	FL349	-42.3	.5	1:59				
GUM-MNL	4/ 8/79	30	2:24	-42	FL351	1:39	14.4N	128.8E	FL347	-39.9	3.6	FL350	-41.0	.8	2:10				
GUM-MNL	4/15/77	29	2:20	-43	FL350	0:25	14.0N	138.8E	FL348	-42.0	2.4	FL350	-42.6	.5	2:09				
GUM-MNL	4/19/79	27	2:10	-43	FL351	0:15	13.9N	139.5E	FL346	-40.6	3.9	FL350	-41.8	.7	1:55				
GUM-MNL	5/17/75	29	2:19	-48	FL350	1:19	14.2N	131.8E	FL346	-45.8	3.9	FL350	-46.9	.4	2:04				
GUM-MNL	5/17/79	28	2:15	-31	FL311	0:20	14.0N	139.3E	FL308	-30.0	2.2	FL310	-30.6	.6	2:04				
GUM-MNL	5/28/75	30	2:15	-47	FL350	0:09	13.7N	141.5E	FL345	-44.4	3.7	FL349	-45.4	.7	2:00				
GUM-MNL	6/18/77	29	2:19	-45	FL350	1:15	14.3N	131.5E	FL343	-42.1	5.4	FL350	-43.9	.5	1:59				
GUM-MNL	7/10/77	26	2:09	-45	FL351	0:24	14.0N	138.3E	FL345	-41.9	4.4	FL350	-43.5	.6	1:49				
GUM-MNL	7/12/78	27	2:09	-46	FL350	0:20	13.9N	139.2E	FL347	-44.3	3.5	FL349	-45.2	.6	2:00				
GUM-MNL	7/15/77	27	2:15	-44	FL350	0:19	13.9N	139.2E	FL346	-42.1	4.3	FL350	-43.3	.5	2:00				
GUM-MNL	7/16/78	36	2:31	-44	FL352	0:45	13.8N	136.7E	FL346	-41.9	3.9	FL350	-43.0	.5	2:11				
GUM-MNL	8/12/78	30	2:24	-43	FL350	0:45	14.3N	136.3E	FL344	-40.5	5.1	FL350	-42.1	.4	2:09				
GUM-MNL	11/ 8/76	27	2:15	-42	FL349	0:10	13.8N	140.5E	FL347	-40.2	2.4	FL349	-40.7	.9	2:04				
GUM-MNL	11/12/76	27	2:19	-41	FL350	0:09	13.8N	140.8E	FL347	-39.7	2.7	FL349	-40.4	.5	2:09				
GUM-MNL	12/ 3/76	30	2:17	-44	FL350	0:45	14.1N	135.7E	FL344	-40.7	4.8	FL350	-42.4	.7	1:57				
GUM-MNL	12/10/76	26	2:05	-35	FL310	0:09	13.9N	139.9E	FL308	-32.6	2.0	FL309	-33.0	.6	1:55				
GUM-MNL	12/28/78	29	2:20	-38	FL330	1:35	14.4N	128.7E	FL327	-36.7	2.4	FL330	-37.3	.5	2:09				
GUM-NRT	4/21/79	27	2:15	-52	FL350	2:00	31.9N	140.5E	FL346	-44.4	4.8	FL349	-45.3	3.6	2:00				
GUM-NRT	5/10/79	30	2:13	-57	FL390	2:13	34.2N	140.0E	FL386	-51.7	4.7	FL390	-52.9	1.3	0:00				
GUM-NRT	5/15/79	32	2:34	-55	FL391	1:59	29.5N	141.1E	FL382	-51.6	7.1	FL390	-53.8	.8	2:19				
GUM-NRT	12/31/78	30	2:24	-53	FL390	0:39	20.6N	143.1E	FL383	-50.2	6.5	FL390	-52.2	.8	2:09				
GUM-OKA	4/15/78	24	2:00	-56	FL390	2:00	24.9N	129.7E	FL389	-52.8	1.5	FL389	-53.0	1.3	1:55				
GUM-OKA	5/31/77	27	2:20	-54	FL391	0:45	18.3N	138.7E	FL379	-50.4	8.1	FL390	-53.2	.6	2:00				
GUM-OKA	7/20/78	26	2:04	-55	FL390	0:15	15.6N	142.2E	FL383	-50.9	6.3	FL390	-52.6	2.0	1:49				
GUM-OKA	7/22/78	29	2:06	-55	FL389	0:09	15.7N	142.0E	FL386	-52.7	4.1	FL389	-53.7	.7	1:56				
GUM-OKA	8/22/78	27	2:00	-63	FL390	1:10	20.7N	135.5E	FL381	-58.1	7.6	FL390	-60.9	1.2	1:45				
HKG-BKK	1/23/76	39	2:59	-58	FL390	1:24	11.4N	109.7E	FL382	-55.5	6.5	FL389	-57.5	.6	2:35				
HKG-BKK	2/23/77	28	2:49	-46	FL350	1:11	12.5N	110.1E	FL342	-43.0	4.9	FL349	-45.2	.4	2:29				
HKG-BKK	3/12/75	21	1:39	-46	FL349	0:10	19.1N	113.6E	FL344	-43.8	4.6	FL349	-45.4	.6	1:24				
HKG-BKK	3/19/76	31	2:39	-46	FL352	1:15	10.9N	109.5E	FL347	-43.7	4.4	FL351	-45.0	.5	2:24				
HKG-BKK	3/24/77	34	2:49	-47	FL351	0:09	19.8N	113.2E	FL348	-44.4	2.5	FL351	-44.8	1.0	2:39				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HKG-BKK	3/31/77	32	2:44	-48	FL351	0:10	18.9N	112.7E	FL348	-44.3	3.3	FL350	-44.9	1.2	2:30				
HKG-BKK	4/ 8/77	33	2:45	-45	FL351	0:10	19.0N	112.8E	FL349	-42.6	1.8	FL350	-43.0	.8	2:29				
HKG-BKK	4/10/79	21	1:45	-64	FL430	1:19	15.4N	105.6E	FL422	-61.3	4.5	FL430	-63.2	.6	1:20				
HKG-BKK	4/19/77	33	2:45	-44	FL351	0:15	19.2N	112.8E	FL347	-42.5	3.2	FL350	-43.4	.5	2:31				
HKG-BKK	5/20/78	32	2:35	-42	FL351	1:49	8.0N	105.0E	FL321	-33.1	5.7	FL310	-30.3	1.0	1:34				
HKG-BKK	6/ 5/79	20	1:28	-64	FL431	1:00	15.7N	106.9E	FL421	-60.4	7.4	FL430	-63.1	.6	1:14				
HKG-BKK	6/23/77	32	2:34	-55	FL391	1:54	8.0N	104.5E	FL369	-46.9	7.3	FL390	-53.6	.8	1:15				
HKG-BKK	7/28/77	36	2:27	-34	FL310	1:24	9.2N	107.7E	FL310	-32.0	1.6	FL310	-32.2	1.1	2:22				
HKG-BKK	8/13/76	32	1:33	-54	FL390	0:52	12.9N	110.3E	FL382	-51.0	6.5	FL390	-53.4	.5	1:24				
HKG-BKK	8/15/78	35	2:45	-55	FL390	1:40	9.0N	107.5E	FL385	-52.3	5.5	FL390	-53.7	1.2	2:30				
HKG-BKK	8/27/77	30	2:30	-44	FL350	1:00	12.1N	109.9E	FL340	-40.8	5.3	FL350	-43.9	.3	1:45				
HKG-BKK	9/ 6/76	35	2:54	-53	FL390	0:25	18.4N	112.5E	FL378	-49.4	8.5	FL389	-52.5	.5	2:30				
HKG-BKK	9/12/78	33	2:44	-56	FL390	1:44	8.5N	107.0E	FL387	-53.6	4.7	FL390	-54.7	1.1	2:34				
HKG-BKK	10/ 8/77	31	2:35	-34	FL310	0:05	19.6N	113.0E	FL309	-32.8	.9	FL310	-33.0	.4	2:24				
HKG-BKK	10/14/77	31	2:34	-55	FL391	1:30	8.9N	107.4E	FL366	-48.4	5.6	FL350	-44.3	.9	1:09				
HKG-BKK	10/21/77	34	2:44	-45	FL350	0:19	18.3N	112.5E	FL347	-43.1	3.7	FL350	-43.9	.4	2:34				
HKG-BKK	10/27/77	26	2:34	-55	FL390	1:54	8.0N	104.4E	FL361	-46.3	6.3	FL350	-43.3	.5	1:20				
HKG-BKK	12/30/76	34	2:45	-45	FL350	0:09	19.3N	112.9E	FL346	-43.4	3.4	FL349	-44.4	.5	2:30				
HKG-DEL	1/ 4/79	60	4:59	-51	FL350	4:54	27.6N	79.3E	FL334	-41.7	7.2	FL310	-33.0	.6	1:44	FL350	-47.4	1.6	3:00
HKG-DEL	2/13/79	58	5:12	-53	FL350	5:07	27.8N	78.9E	FL347	-43.6	3.7	FL349	-44.3	2.7	4:42				
HKG-DEL	2/22/79	61	4:59	-44	FL351	2:14	17.1N	96.3E	FL332	-38.0	5.4	FL310	-32.2	.4	1:54	FL350	-42.7	1.0	2:45
HKG-DEL	3/14/79	62	5:04	-51	FL351	4:44	25.8N	80.8E	FL329	-39.1	7.5	FL310	-32.5	1.0	2:30	FL350	-46.6	3.3	2:20
HKG-DEL	4/23/79	59	4:49	-57	FL391	4:39	27.2N	79.9E	FL371	-48.1	6.8	FL350	-41.8	.9	1:55	FL390	-53.9	1.5	2:34
HKG-DEL	5/11/79	57	4:33	-32	FL311	1:17	16.6N	104.1E	FL310	-28.5	1.8	FL310	-28.5	1.8	4:23				
HKG-DEL	6/ 4/78	73	5:47	-42	FL350	2:12	9.0N	102.5E	FL335	-35.8	4.1	FL310	-30.7	.7	1:52	FL350	-39.0	1.0	3:35
HKG-DEL	6/ 4/79	55	4:30	-40	FL350	0:15	18.6N	111.4E	FL348	-38.5	2.7	FL350	-39.1	.7	4:09				
HKG-DEL	6/23/78	75	5:45	-43	FL352	2:38	11.5N	99.2E	FL334	-35.8	4.2	FL311	-32.7	1.3	2:14	FL352	-38.6	2.2	3:00
HKG-DEL	7/ 7/78	75	5:40	-45	FL349	2:00	9.3N	103.4E	FL329	-37.1	7.6	FL280	-25.8	.4	1:49	FL350	-42.1	1.5	3:34
HKG-DEL	10/15/78	71	5:54	-45	FL350	5:34	25.4N	81.5E	FL332	-38.8	5.6	FL309	-33.2	.6	2:19	FL349	-43.5	.7	3:09
HKG-DEL	10/29/78	56	4:32	-48	FL350	4:32	27.7N	79.0E	FL335	-40.4	6.2	FL310	-32.8	.5	1:19	FL350	-45.0	1.0	2:48
HKG-GUM	5/11/75	36	3:14	-52	FL370	2:24	17.2N	137.0E	FL365	-49.1	4.9	FL369	-50.5	1.2	2:59				
HKG-HND	1/ 8/77	28	2:19	-50	FL370	1:00	26.4N	125.2E	FL359	-47.0	5.3	FL369	-49.6	.6	1:45				
HKG-HND	3/19/75	34	2:30	-56	FL330	2:15	33.6N	136.3E	FL303	-40.8	9.3	FL290	-31.5	.8	1:04				
HKG-HND	3/25/76	30	2:34	-63	FL371	2:04	32.8N	133.1E	FL366	-52.8	6.7	FL371	-54.0	5.7	2:19				
HKG-HND	3/27/75	31	2:29	-44	FL290	2:24	34.0N	137.4E	FL290	-35.6	5.2	FL290	-36.0	4.9	2:24				
HKG-HND	3/30/77	31	2:21	-58	FL370	2:16	34.0N	137.3E	FL342	-47.5	6.3	FL331	-43.8	1.3	1:34				
HKG-HND	4/21/76	27	2:34	-53	FL371	2:29	34.1N	137.9E	FL364	-49.6	5.4	FL370	-51.2	.7	2:14				
HKG-HND	6/27/77	31	2:46	-48	FL371	2:36	34.1N	137.7E	FL367	-45.7	3.1	FL370	-46.5	.6	2:31				
HKG-HND	8/19/76	32	2:46	-48	FL369	1:06	27.1N	124.1E	FL352	-42.3	4.3	FL368	-45.2	1.0	1:34				
HKG-HND	9/12/77	36	2:59	-48	FL370	1:14	27.9N	125.3E	FL356	-43.0	5.9	FL370	-46.8	.6	2:04				
HKG-HND	10/13/77	27	2:39	-51	FL371	0:19	22.8N	118.6E	FL367	-47.4	3.1	FL370	-48.0	1.4	2:29				
HKG-HND	10/16/77	31	2:51	-45	FL331	2:23	33.2N	134.7E	FL329	-42.0	2.8	FL331	-42.7	1.7	2:39				
HKG-HND	10/18/76	30	2:29	-46	FL330	2:04	33.1N	134.4E	FL326	-41.8	4.3	FL329	-42.9	2.3	2:14				
HKG-HND	10/20/77	27	2:24	-38	FL330	0:05	22.3N	117.9E	FL330	-35.4	1.4	FL330	-35.3	1.4	2:19				
HKG-HND	12/22/76	30	2:29	-56	FL330	2:04	33.2N	134.7E	FL330	-47.7	7.2	FL330	-48.1	6.9	2:24				
HKG-LAX	8/22/78	141	11:54	-69	FL410	9:20	45.8N	145.4W	FL372	-49.7	11.1	FL330	-37.6	1.2	2:44	FL349	-40.8	.8	1:04
												FL370	-45.2	1.3	1:55	FL390	-56.5	4.9	2:10
												FL410	-63.3	3.8	3:21				
HKG-LAX	9/19/78	136	11:37	-67	FL410	9:57	43.4N	134.6W	FL379	-52.9	9.3	FL330	-39.1	.7	1:24	FL370	-50.8	1.4	3:00
												FL390	-56.1	4.5	2:22	FL410	-61.1	3.9	3:49
HKG-LAX	11/29/78	127	10:42	-67	FL430	9:39	41.4N	128.7W	FL391	-52.5	6.6	FL369	-47.6	1.5	3:14	FL389	-51.8	1.9	2:49
												FL410	-54.9	6.1	2:54				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HKG-LAX	12/ 5/78	132	11:04	-67	FL390	4:59	45.5N	167.9E	FL388	-55.2	5.2	FL369	-52.4	1.2	4:09	FL390	-59.3	5.2	2:09
												FL410	-56.9	3.7	4:04				
HKG-LAX	12/12/78	126	10:43	-69	FL390	7:53	44.6N	148.3W	FL379	-56.8	8.1	FL369	-51.2	2.1	4:34	FL390	-62.8	4.8	5:33
HKG-LAX	12/26/78	133	10:59	-58	FL370	2:49	30.9N	144.1E	FL387	-50.3	4.3	FL370	-50.8	3.7	4:39	FL390	-47.6	1.8	1:40
												FL410	-51.8	3.4	4:04				
HKG-NRT	1/24/79	75	2:31	-52	FL331	2:31	34.1N	139.4E	FL330	-46.6	3.3	FL330	-47.0	2.5	2:24				
HKG-NRT	2/17/79	29	2:20	-48	FL370	0:30	24.9N	121.2E	FL362	-45.3	5.1	FL369	-47.1	.9	1:59				
HKG-NRT	5/24/78	26	2:04	-56	FL367	2:04	34.2N	139.6E	FL372	-52.5	2.5	FL372	-50.8	2.1	1:04				
HKG-NRT	5/25/79	33	2:39	-47	FL370	0:19	23.1N	119.0E	FL367	-44.9	2.8	FL369	-45.5	1.1	2:29				
HKG-NRT	5/31/79	36	2:54	-55	FL370	2:39	33.8N	137.2E	FL364	-47.1	6.9	FL370	-49.0	5.0	2:30				
HKG-NRT	8/ 3/78	38	3:04	-46	FL370	0:15	22.5N	117.9E	FL364	-42.3	5.0	FL369	-43.7	1.2	2:44				
HKG-NRT	9/ 7/78	36	2:54	-39	FL330	0:45	25.7N	122.2E	FL328	-36.9	2.3	FL330	-37.3	1.0	2:44				
HKG-NRT	9/15/78	33	2:50	-41	FL330	0:58	25.8N	123.8E	FL328	-38.3	2.4	FL330	-38.8	1.0	2:40				
HKG-NRT	11/ 3/78	31	2:29	-47	FL330	1:39	31.3N	130.0E	FL328	-41.6	3.6	FL330	-42.3	2.7	2:14				
HKG-NRT	12/ 8/78	30	2:30	-57	FL370	1:45	32.2N	131.8E	FL355	-51.6	6.9	FL370	-55.9	.7	1:40				
HKG-NRT	12/27/78	30	2:30	-47	FL370	0:49	26.4N	123.2E	FL357	-42.9	4.0	FL370	-45.2	1.4	1:34				
HKG-SFO	1/20/78	120	10:08	-62	FL353	10:08	37.4N	123.6W	FL380	-50.6	5.1	FL369	-47.7	1.1	4:04	FL390	-53.4	3.5	5:30
HKG-SFO	1/22/78	121	10:11	-69	FL391	8:16	40.1N	144.9W	FL371	-50.3	11.0	FL330	-37.1	1.4	2:24	FL369	-48.5	3.8	2:19
												FL390	-57.5	9.1	5:06				
HKG-SFO	1/24/78	119	10:09	-68	FL410	9:49	38.3N	127.6W	FL381	-47.7	8.5	FL369	-46.9	1.4	3:49	FL390	-46.2	1.0	1:30
												FL410	-53.5	6.3	3:34				
HKG-SFO	1/27/78	118	10:14	-60	FL410	7:49	37.0N	150.5W	FL383	-48.9	5.0	FL369	-45.7	1.4	4:29	FL390	-49.8	2.6	2:49
												FL410	-55.7	1.5	2:19				
HKG-SFO	1/29/78	120	10:05	-62	FL383	10:05	37.5N	124.1W	FL373	-45.6	7.7	FL330	-37.1	1.1	2:34	FL370	-46.4	.9	1:39
												FL390	-46.9	3.8	2:29	FL410	-54.1	3.0	2:35
HKG-SFO	1/31/78	117	10:03	-59	FL410	9:43	37.9N	128.0W	FL387	-47.3	4.5	FL369	-45.3	.8	4:33	FL390	-44.3	2.2	1:23
												FL410	-51.9	3.9	3:30				
HKG-SFO	2/ 3/78	117	9:51	-70	FL410	9:21	38.0N	129.8W	FL381	-47.5	7.6	FL330	-38.6	1.0	1:14	FL370	-44.5	2.9	1:56
												FL390	-46.1	1.1	4:10	FL410	-58.5	7.5	1:54
HKG-SFO	2/ 5/78	113	9:29	-53	FL370	1:45	29.7N	134.0E	FL368	-43.7	3.7	FL330	-41.7	.4	1:09	FL369	-44.0	4.0	6:55
HKG-SFO	2/ 7/78	111	9:40	-54	FL391	2:59	30.8N	148.5E	FL380	-49.4	3.4	FL370	-50.5	.5	1:54	FL390	-50.2	2.4	6:49
HKG-SFO	2/11/79	120	10:37	-70	FL389	6:55	46.0N	167.6W	FL375	-56.3	8.3	FL369	-54.9	3.3	4:49	FL388	-60.6	7.1	5:02
HKG-SFO	4/ 9/79	125	10:44	-69	FL410	8:19	47.0N	152.4W	FL386	-56.1	7.5	FL369	-53.3	3.6	5:09	FL409	-60.7	6.8	4:59
HKG-SFO	4/11/79	123	10:39	-70	FL410	8:54	44.4N	143.8W	FL387	-57.0	8.1	FL369	-53.9	2.8	3:34	FL389	-54.6	4.9	2:49
												FL410	-63.8	6.5	3:34				
HKG-SFO	4/13/79	129	10:58	-68	FL411	10:43	40.0N	125.6W	FL382	-54.3	8.3	FL330	-41.2	1.7	1:25	FL369	-56.3	1.6	1:54
												FL389	-56.8	7.5	4:30	FL410	-56.8	6.9	2:45
HKG-SFO	5/26/78	119	10:36	-61	FL371	5:15	41.2N	170.6E	FL367	-51.2	8.4	FL330	-39.7	2.2	2:45	FL371	-55.5	2.5	2:34
												FL390	-56.6	3.9	4:39				
HKG-SFO	5/28/78	129	11:00	-67	FL390	8:30	44.1N	152.2W	FL376	-55.4	8.7	FL370	-54.0	3.1	4:19	FL390	-60.4	6.2	5:24
HKG-SFO	5/30/78	130	11:09	-67	FL410	9:34	43.8N	138.6W	FL375	-53.7	10.0	FL330	-38.0	1.6	2:09	FL371	-56.1	1.8	2:55
												FL389	-56.4	6.0	3:15	FL410	-63.9	3.9	2:14
HKG-SFO	6/ 2/79	125	10:29	-59	FL370	8:39	44.4N	142.9W	FL363	-50.7	6.3	FL330	-37.8	1.1	1:20	FL369	-53.0	3.0	8:44
HKG-SFO	6/ 4/79	124	10:39	-67	FL430	10:19	40.1N	126.4W	FL383	-52.1	8.2	FL371	-52.2	1.9	4:30	FL409	-56.2	4.5	3:54
HKG-SFO	6/ 6/79	134	11:04	-62	FL370	6:34	42.2N	177.7W	FL375	-51.8	7.7	FL330	-37.1	.8	1:29	FL370	-55.2	3.3	5:09
												FL390	-50.1	2.0	1:40	FL411	-57.5	1.6	2:19
HKG-SFO	8/16/78	134	11:09	-62	FL391	7:04	49.8N	172.1W	FL369	-50.2	9.1	FL330	-35.5	1.0	2:29	FL370	-51.2	2.0	3:00
												FL390	-57.5	1.6	5:04				
HKG-SFO	8/18/78	134	11:09	-64	FL390	9:34	46.3N	138.5W	FL367	-49.4	10.8	FL330	-34.9	1.0	2:15	FL370	-48.6	1.4	3:40
												FL390	-60.1	3.2	4:29				
HKG-SFO	8/20/78	136	11:47	-66	FL405	7:32	49.9N	170.9W	FL378	-50.5	10.5	FL330	-35.4	.8	2:34	FL370	-47.9	.6	2:19
												FL390	-54.9	7.2	2:07	FL409	-60.0	5.1	4:09

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HKG-SFO	9/15/78	128	10:59	-65	FL411	9:49	44.8N	135.4W	FL380	-53.1	8.8	FL331	-39.1	.9	1:45	FL371	-51.0	4.2	3:35
												FL391	-60.9	1.8	1:40	FL411	-60.1	3.5	3:24
HKG-SFO	9/17/78	129	10:56	-68	FL411	9:08	47.7N	143.1W	FL378	-53.3	9.1	FL370	-51.7	1.4	2:25	FL370	-47.8	2.2	1:25
												FL390	-54.1	5.1	2:55	FL410	-65.8	1.5	2:24
HKG-SIN	1/19/78	32	2:44	-66	FL430	0:30	17.3N	114.0E	FL426	-64.0	4.7	FL430	-65.1	.4	2:29				
HKG-SIN	1/21/78	32	2:39	-66	FL430	1:24	10.4N	111.7E	FL426	-64.3	4.8	FL430	-65.3	.4	2:29				
HKG-SIN	1/23/78	34	2:44	-67	FL430	2:24	4.8N	106.2E	FL423	-63.5	6.7	FL430	-65.3	.8	2:29				
HKG-SIN	1/26/78	33	2:45	-65	FL430	1:15	11.8N	112.2E	FL424	-62.7	6.2	FL430	-64.5	.6	2:30				
HKG-SIN	1/28/78	35	2:48	-65	FL430	1:39	9.0N	110.7E	FL423	-62.3	5.6	FL430	-64.1	.5	2:35				
HKG-SIN	1/30/78	33	2:44	-65	FL430	0:49	14.9N	113.4E	FL422	-62.2	8.2	FL430	-64.3	.7	2:30				
HKG-SIN	2/ 2/78	34	2:54	-69	FL431	2:29	5.0N	106.4E	FL423	-64.4	7.7	FL430	-66.5	.9	2:39				
HKG-SIN	2/ 4/78	34	2:44	-56	FL390	0:04	20.5N	114.2E	FL388	-55.2	2.9	FL390	-55.7	.5	2:39				
HKG-SIN	2/ 6/78	33	2:44	-66	FL430	0:09	19.7N	114.1E	FL425	-62.9	4.8	FL430	-64.1	1.0	2:29				
HKG-SIN	2/10/79	32	2:39	-56	FL390	0:45	15.6N	112.8E	FL387	-54.5	2.9	FL390	-55.2	.4	2:24				
HKG-SIN	4/12/79	30	2:18	-35	FL311	0:00	19.8N	113.9E	FL309	-32.2	1.8	FL310	-32.6	.9	2:15				
HKG-SIN	5/27/78	31	2:35	-66	FL431	1:54	7.8N	106.4E	FL422	-61.7	8.7	FL431	-64.2	1.4	2:20				
HKG-SIN	5/29/78	26	2:23	-65	FL431	1:12	11.9N	110.4E	FL427	-63.0	6.1	FL431	-64.2	.8	2:00				
HKG-SIN	8/17/78	31	2:29	-66	FL430	1:44	8.8N	107.3E	FL424	-63.1	6.8	FL430	-64.8	1.0	2:19				
HKG-SIN	8/19/78	33	2:33	-66	FL430	1:43	9.2N	107.7E	FL423	-62.3	6.5	FL430	-64.1	1.4	2:18				
HKG-SIN	8/21/78	34	2:34	-66	FL431	1:41	9.1N	107.6E	FL414	-60.3	10.0	FL430	-64.5	1.0	2:15				
HKG-SIN	9/14/78	29	2:29	-68	FL431	2:09	5.8N	105.5E	FL424	-64.2	7.0	FL431	-66.2	1.2	2:14				
HKG-SIN	9/16/78	33	2:28	-67	FL430	2:01	6.6N	105.8E	FL424	-63.8	5.5	FL429	-65.3	1.2	2:13				
HKG-SIN	9/18/78	34	2:37	-67	FL432	2:00	7.0N	106.0E	FL415	-61.0	10.4	FL431	-65.5	.7	2:14				
HKG-SIN	11/28/78	34	2:45	-65	FL428	0:09	19.7N	114.0E	FL422	-62.4	7.2	FL430	-64.4	.6	2:30				
HKG-SIN	12/ 4/78	31	2:39	-66	FL431	1:00	13.9N	111.8E	FL425	-63.1	5.4	FL430	-64.5	1.1	2:24				
HKG-SIN	12/10/77	34	2:49	-67	FL430	2:45	3.2N	104.7E	FL425	-64.0	6.7	FL429	-65.3	.6	2:39				
HKG-SIN	12/11/78	32	2:45	-66	FL430	1:30	11.0N	109.5E	FL425	-63.3	5.8	FL430	-64.6	.5	2:30				
HKG-SIN	12/25/78	31	2:34	-64	FL430	0:09	19.6N	113.9E	FL386	-54.3	7.6	FL390	-55.9	.4	1:40				
HKG-SYD	3/ 2/78	90	7:30	-51	FL361	7:25	32.6S	149.7E	FL340	-41.0	7.7	FL330	-37.7	.5	3:07	FL370	-48.6	.9	3:05
HKG-SYD	5/13/77	84	7:19	-58	FL370	6:30	26.7S	144.4E	FL320	-36.7	11.5	FL290	-27.2	1.0	3:55	FL350	-44.2	3.3	2:05
HKG-SYD	8/12/77	87	7:19	-49	FL370	6:14	24.8S	142.8E	FL340	-40.5	6.9	FL330	-38.4	.8	3:16	FL360	-45.9	.3	1:05
												FL369	-47.6	.9	1:33				
HND-HKG	1/23/76	44	3:39	-37	FL310	3:13	22.0N	119.3E	FL309	-35.1	1.6	FL310	-35.3	1.1	3:35				
HND-HKG	2/23/77	32	3:10	-45	FL280	0:00	34.0N	137.8E	FL280	-33.8	5.3	FL280	-33.8	5.3	3:10				
HND-HKG	3/12/75	44	3:34	-61	FL349	0:45	32.8N	133.3E	FL360	-54.4	4.5	FL349	-54.2	5.1	2:09				
HND-HKG	3/19/76	43	3:35	-43	FL311	0:05	34.0N	138.4E	FL310	-35.6	2.1	FL311	-35.6	2.1	3:24				
HND-HKG	3/24/77	49	3:56	-52	FL350	0:26	33.6N	136.4E	FL348	-49.3	3.0	FL350	-49.9	1.4	3:46				
HND-HKG	3/31/77	43	3:45	-52	FL351	0:45	33.1N	134.3E	FL348	-48.3	3.5	FL351	-48.8	2.1	3:34				
HND-HKG	4/ 8/77	39	3:09	-52	FL351	0:09	33.9N	137.1E	FL349	-48.6	2.8	FL350	-48.9	2.1	3:00				
HND-HKG	4/19/77	43	3:30	-49	FL351	0:24	33.5N	136.0E	FL348	-45.9	1.8	FL350	-46.2	1.5	3:15				
HND-HKG	5/20/78	42	3:26	-46	FL351	0:15	33.9N	137.1E	FL348	-42.2	3.2	FL350	-42.7	2.3	3:11				
HND-HKG	6/23/77	38	3:04	-43	FL351	0:19	33.6N	136.2E	FL347	-39.8	3.6	FL350	-40.6	1.2	2:49				
HND-HKG	7/28/77	34	2:49	-44	FL351	0:15	33.4N	136.6E	FL346	-40.8	4.0	FL350	-41.8	1.6	2:34				
HND-HKG	8/13/76	33	2:44	-31	FL310	1:53	25.8N	122.4E	FL297	-26.5	4.5	FL279	-21.2	.8	1:03				
HND-HKG	8/27/77	32	2:55	-43	FL350	1:40	27.8N	125.0E	FL348	-40.9	2.4	FL350	-41.6	.8	2:30				
HND-HKG	9/ 6/76	33	2:48	-53	FL390	2:38	22.3N	117.4E	FL385	-49.1	3.5	FL390	-50.0	1.5	2:28				
HND-HKG	10/ 8/77	36	3:00	-46	FL351	1:10	30.7N	129.1E	FL348	-44.6	2.5	FL350	-45.1	.6	2:49				
HND-HKG	10/14/77	35	3:05	-47	FL351	3:00	22.3N	116.6E	FL349	-44.7	1.5	FL351	-44.8	1.2	2:55				
HND-HKG	10/21/77	39	3:18	-46	FL350	2:23	25.9N	122.5E	FL347	-42.5	2.7	FL350	-42.8	2.3	3:05				
HND-HKG	10/27/77	32	2:45	-50	FL351	0:08	33.8N	136.8E	FL348	-44.3	2.5	FL350	-44.5	1.9	0:00				
HND-HKG	12/30/76	45	3:54	-46	FL350	3:45	22.3N	117.1E	FL338	-43.1	1.9	FL349	-44.2	.9	2:49				
HND-HNL	3/20/77	68	5:39	-57	FL371	0:30	35.9N	148.1E	FL368	-52.3	2.6	FL371	-52.5	2.0	5:24				
HND-HNL	5/12/76	66	5:34	-58	FL366	2:45	34.2N	174.4E	FL353	-50.8	5.8	FL331	-44.5	1.7	1:40	FL371	-55.3	1.2	2:44

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HND-HNL	5/17/78	69	5:42	-56	FL370	4:42	26.5N	168.7W	FL346	-48.7	5.1	FL330	-44.4	.9	2:18	FL350	-51.4	.8	1:05
												FL370	-53.7	1.8	1:49				
HND-HNL	6/ 2/77	71	6:00	-58	FL391	2:55	31.9N	174.4E	FL379	-52.0	5.9	FL370	-48.3	2.7	2:34	FL391	-56.6	.5	3:04
HND-HNL	6/ 5/77	69	5:49	-55	FL371	3:20	31.9N	179.7W	FL361	-50.2	4.5	FL370	-52.8	1.2	4:04				
HND-HNL	6/20/77	72	5:56	-57	FL391	2:56	37.0N	177.4E	FL378	-52.9	3.8	FL370	-51.2	.6	2:31	FL390	-55.6	1.4	3:00
HND-HNL	7/ 6/77	70	6:04	-61	FL391	4:14	27.9N	175.0W	FL380	-54.8	5.1	FL372	-51.9	1.2	2:24	FL390	-58.1	1.3	3:14
HND-HNL	7/17/77	70	5:48	-60	FL391	5:33	22.7N	162.4W	FL367	-50.7	7.5	FL350	-45.0	.7	1:14	FL370	-51.5	1.2	1:45
												FL390	-58.3	1.0	1:49				
HND-HNL	11/14/76	68	5:22	-54	FL389	3:31	31.2N	175.2W	FL365	-47.6	5.0	FL329	-40.5	1.0	1:30	FL369	-50.3	1.1	1:07
												FL388	-51.1	1.1	2:23				
HND-HNL	12/ 5/76	28	2:37	-46	FL370	1:48	33.9N	166.2E	FL355	-44.5	1.3	FL349	-43.6	1.0	1:07				
HND-HNL	12/12/76	62	5:14	-54	FL370	0:55	35.1N	154.1E	FL367	-50.0	2.4	FL370	-50.4	1.7	4:59				
HND-IAD	12/18/77	133	11:28	-67	FL370	2:59	54.2N	175.7E	FL379	-56.0	6.0	FL349	-54.1	4.8	2:45	FL369	-62.3	4.7	2:29
												FL390	-58.1	2.5	3:23	FL409	-49.2	2.1	2:08
HND-JFK	1/10/78	131	11:09	-70	FL391	7:24	62.9N	117.8W	FL375	-52.8	6.4	FL349	-46.1	2.9	2:15	FL370	-50.3	2.3	3:04
												FL390	-57.4	5.4	5:19				
HND-JFK	1/13/78	133	11:18	-65	FL364	11:18	41.9N	75.0W	FL377	-51.3	4.9	FL331	-49.2	1.8	2:40	FL370	-48.7	6.4	2:05
												FL390	-57.1	2.5	1:44	FL410	-50.9	2.1	3:52
HND-JFK	1/16/78	124	10:56	-59	FL366	10:56	41.9N	75.0W	FL390	-49.0	3.9	FL370	-43.0	1.6	2:05	FL390	-50.1	1.5	3:15
												FL410	-52.3	1.2	2:05	FL430	-50.3	1.5	1:45
HND-JFK	1/23/77	136	11:15	-60	FL387	11:10	41.8N	75.5W	FL387	-51.0	2.6	FL369	-51.3	1.5	4:08	FL390	-50.6	2.6	1:45
												FL409	-51.2	2.4	4:38				
HND-JFK	2/ 9/78	132	11:34	-60	FL370	4:45	45.0N	160.2W	FL364	-51.9	3.7	FL331	-54.6	3.9	2:20	FL369	-51.7	3.1	6:34
												FL409	-52.5	1.4	1:19				
HND-JFK	2/11/78	131	11:12	-61	FL370	3:45	43.0N	169.4W	FL377	-52.1	3.5	FL330	-54.5	1.7	2:39	FL369	-51.7	5.2	3:13
												FL410	-51.5	1.4	4:49				
HND-JFK	2/14/77	89	11:05	-72	FL410	7:39	57.8N	116.3W	FL395	-52.5	4.8	FL369	-50.5	1.5	2:20	FL389	-50.6	1.6	3:24
												FL409	-60.8	5.6	2:30	FL429	-51.2	1.5	1:55
HND-JFK	2/14/78	130	11:24	-57	FL410	8:39	30.5N	106.5W	FL379	-51.2	3.6	FL330	-52.9	3.3	1:45	FL370	-49.3	3.2	3:39
												FL390	-47.8	2.2	1:24	FL410	-53.8	1.8	3:49
HND-JFK	2/17/78	129	11:12	-67	FL390	6:29	48.8N	134.2W	FL375	-53.6	5.7	FL352	-51.6	4.8	1:20	FL369	-47.5	4.1	2:00
												FL390	-61.6	4.0	1:50	FL409	-55.0	2.2	3:43
HND-JFK	2/20/78	134	11:24	-66	FL410	8:19	56.0N	108.8W	FL383	-51.0	4.0	FL369	-49.3	1.7	5:39	FL409	-52.6	4.8	4:34
HND-JFK	2/21/77	78	10:58	-63	FL410	7:46	62.1N	110.7W	FL391	-53.0	4.6	FL369	-52.3	4.7	3:22	FL389	-53.8	1.7	2:30
												FL410	-53.4	4.9	4:15				
HND-JFK	2/23/78	132	11:18	-60	FL390	5:45	48.6N	145.3W	FL392	-51.9	4.2	FL370	-47.7	3.2	3:19	FL390	-54.0	4.5	2:33
												FL410	-55.2	1.4	1:45	FL430	-53.1	2.3	2:10
HND-JFK	2/26/78	134	11:24	-63	FL390	5:15	63.5N	162.6W	FL393	-52.2	3.2	FL369	-51.2	2.4	3:00	FL390	-54.9	4.2	2:19
												FL410	-51.5	2.1	5:19				
HND-JFK	2/28/77	96	10:59	-70	FL390	5:16	49.8N	151.3W	FL388	-52.9	5.8	FL369	-50.8	3.0	3:51	FL390	-60.1	6.5	2:22
												FL409	-50.4	3.4	3:51				
HND-JFK	3/ 1/78	140	11:33	-67	FL370	2:12	48.2N	163.4E	FL380	-53.9	6.6	FL350	-55.2	9.6	1:52	FL370	-59.9	3.3	2:55
												FL390	-50.5	4.6	3:15	FL409	-51.7	1.4	2:45
HND-JFK	3/ 3/77	100	11:14	-69	FL384	1:56	45.1N	164.9E	FL390	-55.1	7.1	FL370	-55.0	8.4	1:35	FL390	-54.2	7.8	3:58
												FL409	-55.6	4.8	4:22				
HND-JFK	3/ 4/78	135	11:25	-67	FL370	4:49	62.2N	171.2W	FL362	-53.5	4.8	FL330	-55.7	1.1	1:55	FL349	-55.9	5.0	2:19
												FL369	-54.9	4.5	3:30	FL390	-49.7	2.2	2:54
HND-JFK	3/ 7/78	137	11:24	-67	FL391	8:14	56.9N	112.2W	FL374	-53.4	7.0	FL370	-49.8	5.3	7:30	FL390	-60.7	3.4	2:57
HND-JFK	3/11/78	126	11:10	-64	FL350	0:59	42.0N	150.8E	FL371	-51.8	5.6	FL350	-54.9	7.0	2:59	FL369	-48.3	3.7	2:28
												FL390	-51.4	3.0	4:39				
HND-JFK	3/13/78	135	11:24	-67	FL370	2:09	46.1N	164.7E	FL364	-53.7	5.9	FL349	-54.7	5.3	1:40	FL370	-53.8	5.9	9:04
HND-JFK	3/16/78	131	10:54	-65	FL370	3:59	54.3N	172.7W	FL372	-51.9	4.6	FL330	-51.8	2.2	1:35	FL370	-55.6	5.4	3:24
												FL390	-50.0	2.8	5:19				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HND-JFK	3/19/78	129	10:53	-62	FL370	1:24	44.3N	155.1E	FL377	-51.1	4.7	FL370	-53.9	3.7	4:34	FL390	-48.9	4.7	4:43
												FL370	-50.6	1.2	1:03				
HND-JFK	3/25/78	134	11:20	-68	FL370	10:35	44.9N	82.5W	FL363	-56.5	7.1	FL330	-55.3	2.2	1:30	FL349	-48.8	1.3	1:30
												FL369	-52.3	6.2	2:58	FL390	-56.2	5.1	1:21
HND-JFK	3/26/77	125	10:38	-64	FL370	10:18	42.5N	79.2W	FL345	-55.5	4.6	FL370	-64.9	1.4	3:30				
												FL330	-54.5	3.8	3:14	FL350	-54.7	4.2	1:05
												FL369	-57.3	3.6	2:14	FL329	-53.4	2.9	1:35
HND-JFK	3/28/78	129	11:19	-63	FL350	1:19	41.8N	155.2E	FL367	-52.0	4.8	FL369	-62.4	1.4	1:05				
												FL330	-55.6	.9	1:05	FL350	-56.4	5.9	2:15
HND-JFK	3/31/78	125	11:02	-68	FL390	10:37	45.3N	78.5W	FL365	-51.2	5.0	FL369	-49.6	2.8	3:19	FL390	-50.8	3.0	4:04
												FL330	-49.2	1.1	1:45	FL350	-47.9	2.1	1:49
HND-JFK	4/ 3/78	133	11:29	-64	FL370	5:19	50.9N	152.1W	FL374	-52.3	6.5	FL370	-50.1	1.0	2:20	FL390	-54.8	5.6	4:20
												FL350	-54.9	6.3	2:25	FL370	-53.0	8.0	2:49
												FL390	-49.4	2.2	2:15	FL409	-54.9	2.9	2:34
HND-JFK	4/ 6/78	133	11:14	-66	FL370	1:00	42.4N	151.5E	FL366	-52.9	7.4	FL369	-53.2	7.4	10:34				
HND-JFK	4/ 8/77	130	11:09	-68	FL410	8:39	54.5N	102.6W	FL377	-53.6	5.8	FL349	-53.8	2.2	2:45	FL369	-50.5	2.6	2:15
												FL389	-54.2	6.1	3:05	FL410	-57.2	7.1	2:30
HND-JFK	4/ 9/78	127	11:11	-67	FL390	9:56	48.6N	87.7W	FL380	-53.4	6.7	FL369	-52.9	4.5	4:05	FL390	-53.8	7.7	6:37
HND-JFK	4/12/77	132	11:23	-64	FL370	1:19	41.0N	156.2E	FL346	-54.2	4.3	FL369	-56.7	4.4	4:39	FL330	-52.8	2.3	6:13
HND-JFK	4/12/78	134	11:13	-65	FL370	3:55	53.2N	177.0W	FL368	-53.5	7.8	FL369	-61.0	2.1	2:10	FL370	-51.8	7.6	8:28
HND-JFK	4/15/77	134	11:29	-69	FL370	3:31	53.8N	177.2E	FL377	-55.7	7.3	FL349	-58.5	5.6	3:11	FL369	-59.3	7.2	2:34
												FL389	-47.5	1.2	1:50	FL409	-56.1	5.4	3:07
HND-JFK	4/15/78	136	11:34	-67	FL370	3:14	52.1N	172.6E	FL373	-54.7	6.3	FL350	-56.2	1.4	1:39	FL370	-58.4	6.6	5:05
												FL390	-50.7	2.6	4:19				
HND-JFK	4/18/78	130	11:08	-69	FL410	10:28	46.5N	80.6W	FL374	-55.5	7.6	FL350	-50.2	4.7	2:42	FL370	-55.7	7.8	2:35
												FL390	-58.0	5.3	4:34				
HND-JFK	4/19/77	131	10:56	-66	FL390	10:16	44.6N	80.8W	FL374	-55.5	6.4	FL349	-49.2	2.3	1:35	FL369	-57.0	4.7	3:52
												FL389	-56.7	6.9	4:54				
HND-JFK	4/21/78	128	10:44	-65	FL370	6:04	62.8N	134.1W	FL365	-55.2	4.8	FL330	-49.3	1.0	1:34	FL350	-53.8	1.4	1:10
												FL370	-57.0	5.3	5:24	FL390	-56.1	1.6	2:09
HND-JFK	4/22/77	134	11:14	-65	FL390	10:04	47.4N	86.3W	FL369	-55.4	5.6	FL350	-52.9	6.0	2:29	FL370	-55.9	4.4	4:49
												FL390	-57.5	5.1	3:20				
HND-JFK	4/24/78	133	11:30	-67	FL390	7:09	49.1N	126.5W	FL367	-56.0	6.0	FL331	-53.2	3.1	2:19	FL370	-53.8	4.0	3:59
												FL389	-60.9	5.9	3:45				
HND-JFK	4/25/77	133	11:19	-67	FL370	3:39	55.4N	177.2E	FL384	-54.5	6.3	FL369	-55.3	8.5	3:45	FL389	-53.4	4.6	3:29
												FL409	-55.8	1.8	2:49				
HND-JFK	4/27/78	136	11:34	-65	FL390	9:34	51.4N	94.6W	FL371	-54.0	6.0	FL350	-53.8	5.1	3:09	FL369	-48.0	2.4	2:54
												FL390	-57.4	4.7	4:30				
HND-JFK	4/28/77	129	10:55	-60	FL390	9:00	51.9N	95.7W	FL361	-49.6	5.1	FL330	-46.4	2.6	4:05	FL369	-49.4	4.3	2:19
												FL390	-53.7	4.0	3:19				
HND-JFK	4/30/78	134	11:34	-64	FL350	2:24	48.9N	164.8E	FL371	-53.3	4.6	FL350	-58.5	3.8	2:15	FL370	-52.4	2.2	2:54
												FL390	-52.3	4.7	4:44				
HND-JFK	5/ 1/77	130	11:12	-68	FL410	10:47	43.7N	78.7W	FL388	-52.8	8.2	FL369	-49.2	6.5	5:07	FL389	-49.4	8.6	1:34
												FL409	-58.5	6.5	4:05				
HND-JFK	5/ 3/78	127	11:04	-67	FL410	9:39	46.1N	92.4W	FL378	-54.8	5.5	FL350	-54.5	2.0	1:49	FL370	-53.1	3.7	2:04
												FL390	-53.1	4.0	2:45	FL410	-61.2	4.8	2:45
HND-JFK	5/ 6/78	135	11:24	-66	FL390	6:14	59.4N	142.2W	FL380	-53.5	5.4	FL350	-48.4	4.4	2:15	FL369	-53.8	1.8	2:39
												FL390	-55.3	5.9	3:19	FL410	-56.8	2.6	2:35
HND-JFK	5/12/78	122	10:49	-65	FL411	10:19	45.1N	78.3W	FL382	-51.1	5.5	FL350	-50.0	1.7	1:04	FL370	-48.5	5.1	3:19
												FL390	-52.8	3.3	2:49	FL411	-53.9	6.1	2:39
HND-JFK	5/15/78	134	11:35	-62	FL350	3:10	51.6N	171.6E	FL373	-52.2	5.9	FL349	-56.4	4.8	2:45	FL370	-45.9	1.1	1:50
												FL390	-51.5	3.9	3:19	FL409	-55.9	5.8	1:55

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN		
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD
HND-JFK	5/18/78	130	11:23	-65	FL412	9:58	50.9N	84.7W	FL370	-51.5	6.6
HND-JFK	6/ 2/77	585	11:54	-64	FL410	9:59	47.8N	96.4W	FL382	-52.2	5.1
HND-JFK	6/13/76	132	11:25	-63	FL391	6:40	49.6N	132.4W	FL382	-49.3	6.0
HND-JFK	7/ 6/77	134	11:34	-62	FL390	5:15	50.6N	156.1W	FL385	-52.3	5.7
HND-JFK	7/10/77	134	11:27	-65	FL410	10:17	47.8N	86.7W	FL379	-50.6	7.3
HND-JFK	7/15/77	118	11:00	-63	FL393	7:32	48.7N	118.4W	FL378	-53.4	7.4
HND-JFK	7/18/76	133	11:05	-62	FL370	4:39	56.8N	162.0W	FL373	-51.1	5.7
HND-JFK	7/19/77	124	11:24	-61	FL370	3:30	51.1N	179.3W	FL383	-53.7	5.9
HND-JFK	7/30/77	136	11:46	-64	FL410	11:01	45.6N	81.9W	FL381	-51.3	7.7
HND-JFK	8/ 2/77	130	11:32	-63	FL410	11:05	43.8N	78.8W	FL380	-49.6	5.5
HND-JFK	8/ 8/77	148	11:27	-65	FL430	11:27	41.1N	76.4W	FL380	-50.7	7.4
HND-JFK	8/18/77	108	10:58	-58	FL390	6:15	66.3N	137.2W	FL384	-45.1	19.8
HND-JFK	8/21/77	126	11:10	-64	FL390	6:36	66.0N	133.2W	FL380	-51.8	6.6
HND-JFK	8/27/77	106	11:09	-61	FL411	10:44	42.6N	79.2W	FL365	-47.6	8.6
HND-JFK	8/30/77	115	11:19	-67	FL430	11:09	42.1N	77.1W	FL396	-54.4	6.9
HND-JFK	9/ 2/77	131	11:07	-64	FL409	10:37	44.4N	80.4W	FL379	-53.8	6.0
HND-JFK	9/ 3/76	127	10:50	-61	FL410	7:15	49.4N	120.4W	FL390	-53.5	4.7
HND-JFK	9/ 6/76	134	11:28	-64	FL410	6:39	50.4N	135.0W	FL394	-54.9	6.3
HND-JFK	9/ 8/77	121	10:49	-67	FL411	9:20	49.7N	90.5W	FL385	-52.2	6.1
HND-JFK	9/ 9/76	134	11:07	-62	FL370	4:32	57.6N	167.7W	FL387	-52.2	5.8
HND-JFK	9/11/76	124	10:46	-60	FL390	8:31	53.4N	99.6W	FL381	-51.4	5.6
HND-JFK	9/12/77	120	10:19	-64	FL410	10:00	43.7N	79.2W	FL386	-51.9	5.4
HND-JFK	9/13/76	133	11:09	-65	FL450	10:44	44.7N	77.9W	FL396	-50.7	5.9
HND-JFK	9/15/77	118	10:39	-65	FL410	9:44	48.5N	82.0W	FL382	-52.3	6.3

FLIGHT SEGMENTS							
FL	T	SD	ETIM	FL	T	SD	ETIM
FL331	-48.0	2.5	2:35	FL371	-51.4	6.5	2:29
FL390	-48.6	3.9	2:49	FL411	-59.8	5.1	1:49
FL370	-52.8	3.1	6:37	FL410	-53.8	5.4	4:15
FL350	-47.3	1.0	1:15	FL370	-47.6	2.3	2:41
FL390	-54.1	6.2	2:54	FL410	-47.5	1.4	1:49
FL430	-54.6	3.8	1:04				
FL350	-48.5	.5	2:09	FL370	-52.3	2.5	1:49
FL390	-54.5	5.0	2:45	FL410	-53.9	5.8	4:04
FL350	-45.2	2.0	2:17	FL369	-49.5	5.6	3:44
FL390	-49.1	1.5	1:15	FL410	-57.7	5.7	3:30
FL349	-46.8	4.5	1:50	FL369	-52.3	3.2	4:46
FL410	-60.2	1.7	3:22				
FL330	-45.7	3.5	2:30	FL370	-53.0	5.9	3:45
FL390	-50.7	5.0	1:00	FL410	-54.2	1.9	3:15
FL369	-55.8	2.6	5:15	FL389	-49.9	1.0	1:49
FL409	-55.8	4.9	3:30				
FL329	-37.9	.5	1:04	FL369	-51.0	5.7	3:49
FL389	-60.5	1.8	1:05	FL410	-54.5	5.3	4:34
FL349	-45.6	2.6	2:50	FL369	-53.4	3.8	1:45
FL390	-51.4	3.7	2:54	FL409	-51.4	4.9	3:23
FL350	-44.7	1.9	1:27	FL370	-48.7	4.3	3:49
FL390	-57.0	4.8	1:50	FL410	-53.1	1.2	1:50
FL430	-62.0	2.6	1:30				
FL350	-41.4	.7	2:09	FL369	-45.2	4.1	2:29
FL390	-50.2	3.6	2:53	FL410	-43.6	34.4	2:55
FL350	-48.4	2.7	2:21	FL369	-52.8	4.3	2:19
FL389	-57.7	7.1	3:00	FL410	-49.1	3.4	3:00
FL330	-36.8	.9	1:30	FL350	-45.4	1.4	1:04
FL370	-52.1	2.1	3:49	FL410	-58.1	2.6	2:15
FL369	-50.3	1.0	1:35	FL369	-54.1	1.9	1:49
FL389	-58.7	3.9	1:30	FL409	-51.9	3.4	3:09
FL429	-61.3	4.3	2:20				
FL350	-49.1	3.1	2:49	FL369	-52.9	5.0	2:24
FL390	-55.1	3.8	2:18	FL409	-59.1	3.4	2:55
FL369	-52.6	1.8	4:14	FL389	-51.2	5.0	2:00
FL409	-57.7	3.0	2:09	FL429	-55.3	3.4	1:39
FL369	-53.5	3.8	3:15	FL390	-54.6	7.2	2:54
FL410	-54.2	5.2	2:29	FL429	-60.6	2.5	2:05
FL350	-47.1	1.2	2:00	FL369	-54.3	4.2	2:30
FL390	-48.4	1.9	1:39	FL410	-54.0	5.3	2:49
FL429	-60.6	2.8	1:09				
FL369	-51.2	4.3	4:47	FL389	-50.0	4.4	1:36
FL409	-55.1	4.6	4:11				
FL369	-49.4	4.0	5:16	FL390	-53.5	3.3	2:54
FL409	-56.3	3.9	1:59				
FL369	-49.5	1.6	4:14	FL390	-53.8	5.5	2:28
FL410	-54.7	4.8	3:06				
FL370	-47.1	2.4	2:55	FL389	-47.2	3.4	2:49
FL409	-54.0	.9	2:30	FL429	-55.9	3.3	1:49
FL349	-46.1	.3	1:10	FL369	-49.9	4.0	2:54
FL390	-52.7	3.0	2:54	FL409	-59.0	5.0	2:50

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN		
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD
HND-JFK	9/25/77	122	11:19	-64	FL410	10:54	42.0N	78.6W	FL368	-48.4	5.7
HND-JFK	10/ 2/76	128	10:49	-61	FL410	8:44	49.6N	100.6W	FL386	-53.8	4.5
HND-JFK	10/ 5/77	127	11:09	-62	FL390	5:09	52.1N	154.6W	FL387	-54.5	4.2
HND-JFK	10/ 8/76	132	10:59	-64	FL410	10:44	43.0N	77.4W	FL383	-53.2	5.1
HND-JFK	10/11/76	129	10:58	-63	FL390	5:54	50.1N	140.1W	FL390	-54.6	4.7
HND-JFK	10/14/76	134	10:57	-60	FL370	1:07	39.4N	154.2E	FL396	-53.0	4.1
HND-JFK	10/17/76	132	11:10	-67	FL410	6:38	59.4N	133.3W	FL386	-55.1	5.3
HND-JFK	10/20/76	134	11:24	-63	FL390	7:05	59.0N	127.4W	FL382	-53.2	4.7
HND-JFK	10/20/77	118	10:55	-66	FL390	6:45	49.1N	125.5W	FL382	-50.5	7.9
HND-JFK	10/29/76	123	10:36	-67	FL410	10:11	43.6N	78.8W	FL376	-52.2	6.8
HND-JFK	11/ 1/76	132	11:01	-64	FL410	8:46	46.4N	102.4W	FL381	-53.6	5.8
HND-JFK	11/ 2/77	122	10:32	-65	FL410	9:57	44.7N	80.6W	FL376	-49.0	5.6
HND-JFK	11/ 8/76	127	10:36	-66	FL410	6:26	59.2N	127.4W	FL397	-50.2	5.1
HND-JFK	11/11/76	130	11:06	-64	FL410	7:56	57.4N	107.7W	FL394	-53.4	5.1
HND-JFK	11/14/76	128	11:09	-63	FL370	1:54	47.8N	162.3E	FL389	-52.9	5.7
HND-JFK	11/16/76	123	10:49	-63	FL370	0:34	37.5N	148.5E	FL395	-51.8	5.3
HND-JFK	11/17/77	129	11:08	-65	FL370	5:18	58.2N	148.7W	FL373	-50.4	7.2
HND-JFK	11/18/76	125	10:49	-66	FL390	2:19	44.1N	170.8E	FL400	-54.0	4.3
HND-JFK	11/20/76	126	11:15	-62	FL410	8:06	47.3N	114.7W	FL382	-50.4	6.0
HND-JFK	11/20/77	123	11:11	-69	FL410	10:45	42.3N	80.6W	FL370	-51.7	6.6
HND-JFK	11/23/77	124	11:19	-59	FL350	3:04	53.1N	175.1E	FL377	-51.3	3.8
HND-JFK	11/24/76	128	10:38	-53	FL370	0:15	37.4N	144.5E	FL391	-49.6	2.7
HND-JFK	11/27/76	131	10:59	-64	FL410	10:49	42.8N	76.1W	FL383	-52.2	4.8
HND-JFK	11/30/76	127	10:57	-69	FL410	6:16	61.4N	138.0W	FL391	-50.6	7.0
HND-JFK	12/ 2/76	130	11:04	-54	FL391	6:19	59.5N	137.9W	FL389	-48.9	2.4
HND-JFK	12/ 5/76	128	10:59	-62	FL390	5:54	59.6N	144.8W	FL386	-50.6	4.4

FLIGHT SEGMENTS							
FL	T	SD	ETIM	FL	T	SD	ETIM
FL309	-42.8	2.2	1:25	FL349	-48.4	1.8	1:10
FL370	-51.6	1.5	1:15	FL390	-48.6	3.6	3:34
FL410	-54.7	4.0	2:10				
FL369	-52.6	4.0	5:59	FL409	-55.9	3.4	4:24
FL369	-53.7	3.7	4:39	FL390	-56.1	3.9	2:29
FL410	-55.4	2.6	3:30				
FL330	-52.9	2.4	1:15	FL370	-53.3	5.4	1:40
FL389	-52.9	5.1	4:34	FL409	-54.4	4.9	2:54
FL370	-52.0	4.0	4:49	FL390	-59.8	3.2	1:31
FL409	-54.9	3.4	2:05	FL430	-57.5	2.0	1:46
FL369	-54.4	4.7	3:04	FL389	-50.7	2.8	2:19
FL409	-54.6	2.1	2:09	FL430	-52.9	2.6	2:45
FL349	-52.4	1.9	1:04	FL369	-55.2	4.1	3:48
FL409	-56.3	5.6	5:36				
FL350	-52.8	3.7	2:45	FL369	-51.6	1.1	2:00
FL390	-57.5	3.8	2:15	FL409	-52.8	4.5	3:45
FL370	-46.3	4.3	4:14	FL390	-56.5	5.6	1:44
FL409	-56.5	2.0	3:45				
FL330	-45.2	3.0	1:49	FL369	-47.3	1.9	1:45
FL389	-52.1	3.0	3:16	FL409	-61.7	4.5	2:30
FL349	-47.8	4.3	2:04	FL369	-51.1	4.4	3:09
FL389	-57.3	2.4	2:15	FL410	-61.4	1.7	1:15
FL429	-56.1	3.4	1:35				
FL350	-47.2	.9	3:25	FL369	-49.1	1.5	1:53
FL390	-45.5	1.9	2:48	FL410	-57.8	6.4	1:54
FL369	-48.9	1.4	2:26	FL389	-46.5	2.8	2:35
FL410	-56.2	5.2	2:30	FL430	-50.6	2.0	2:19
FL370	-50.2	2.4	3:16	FL390	-54.5	4.2	3:09
FL410	-60.1	3.0	2:05	FL430	-51.7	1.2	2:00
FL369	-56.5	4.7	3:15	FL389	-47.9	2.9	3:09
FL409	-55.0	3.6	4:10				
FL369	-51.4	7.5	3:04	FL390	-48.4	2.0	2:30
FL410	-55.3	3.0	2:15	FL430	-53.5	2.3	2:15
FL350	-47.4	1.2	2:19	FL370	-61.5	3.7	2:34
FL390	-49.5	2.1	2:49	FL410	-44.3	2.0	1:49
FL369	-57.0	3.6	1:30	FL390	-54.8	5.4	3:39
FL410	-51.9	1.4	2:50	FL430	-53.7	3.3	2:15
FL349	-50.3	6.2	2:59	FL370	-46.3	3.7	2:31
FL409	-52.9	5.0	5:04				
FL330	-47.8	.8	1:45	FL350	-47.7	3.5	2:46
FL370	-53.2	4.8	2:19	FL409	-56.3	7.3	3:30
FL330	-49.5	5.1	2:49	FL390	-52.5	2.5	5:39
FL410	-50.4	2.4	2:04				
FL369	-50.3	1.9	3:49	FL389	-45.9	.7	1:49
FL409	-50.4	1.5	2:34	FL429	-51.6	.5	1:13
FL350	-54.1	4.0	1:45	FL369	-54.5	2.2	2:24
FL390	-53.4	2.9	2:35	FL409	-49.8	4.9	3:24
FL369	-47.4	4.0	4:16	FL410	-53.0	7.9	6:11
FL369	-49.0	1.9	4:08	FL390	-50.2	1.9	2:30
FL409	-49.3	1.9	2:24	FL429	-47.1	1.7	1:24
FL369	-47.8	1.6	3:59	FL389	-55.3	4.0	3:00
FL410	-49.7	3.3	3:20				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HND-JFK	12/15/77	138	11:44	-60	FL330	0:15	35.3N	144.5E	FL373	-51.0	5.2	FL350	-56.3	2.2	2:24	FL369	-46.0	4.0	2:30
												FL390	-49.1	3.8	4:25				
HND-JFK	12/21/77	133	11:19	-65	FL390	5:59	59.5N	144.3W	FL380	-52.3	6.2	FL350	-48.8	2.8	2:19	FL370	-50.0	7.7	2:10
												FL390	-57.7	4.9	3:39	FL409	-50.0	2.8	2:30
HND-LAX	1/ 9/78	93	7:54	-57	FL401	7:54	35.0N	119.4W	FL400	-47.7	2.8	FL369	-45.8	.9	2:14	FL409	-47.2	2.0	3:24
												FL430	-51.3	1.9	1:45				
HND-LAX	1/12/78	98	8:20	-58	FL431	8:15	35.3N	120.1W	FL408	-48.1	4.1	FL369	-46.0	1.3	1:30	FL409	-45.0	2.2	3:22
												FL430	-52.6	2.3	3:02				
HND-LAX	1/15/78	95	8:04	-57	FL357	0:06	35.5N	143.0E	FL391	-47.0	3.0	FL369	-48.2	3.9	2:15	FL389	-45.6	.8	2:15
												FL410	-47.2	2.3	3:04				
HND-LAX	1/18/78	92	8:12	-58	FL430	5:04	39.5N	153.6W	FL400	-49.3	5.2	FL390	-44.8	1.8	1:45	FL410	-48.1	3.9	1:24
												FL429	-55.9	1.5	1:39	FL410	-51.2	3.9	1:30
HND-LAX	1/22/77	95	8:11	-60	FL430	5:26	39.0N	149.2W	FL409	-51.4	4.5	FL369	-49.0	2.6	1:15	FL409	-49.5	4.1	3:26
												FL429	-54.9	3.1	2:59				
HND-LAX	1/29/77	103	8:23	-64	FL430	7:16	38.9N	130.3W	FL403	-51.8	6.0	FL369	-46.1	2.2	2:04	FL409	-51.9	4.1	4:01
												FL430	-58.8	3.7	1:51				
HND-LAX	2/13/78	93	8:04	-57	FL430	6:24	39.8N	137.2W	FL406	-53.0	2.3	FL390	-52.6	1.9	2:40	FL409	-51.5	1.8	2:40
												FL430	-55.6	1.3	2:09				
HND-LAX	2/16/77	54	7:27	-58	FL370	3:40	39.5N	164.8W	FL382	-50.9	6.2	FL369	-48.7	4.7	3:55	FL409	-56.6	1.5	2:45
HND-LAX	2/16/78	93	8:04	-73	FL410	6:29	38.7N	135.8W	FL394	-56.9	6.6	FL369	-50.9	2.4	1:30	FL390	-52.3	1.4	1:54
												FL410	-61.8	5.3	4:09				
HND-LAX	2/19/78	97	8:08	-65	FL410	6:53	38.1N	131.9W	FL406	-52.5	4.2	FL390	-49.3	1.1	2:49	FL410	-53.0	3.3	3:53
HND-LAX	2/20/77	74	7:52	-59	FL370	0:36	36.0N	149.1E	FL398	-50.1	5.1	FL369	-55.7	2.6	1:40	FL409	-46.8	2.5	4:37
HND-LAX	2/22/78	91	8:09	-63	FL410	7:04	38.0N	129.8W	FL393	-50.9	5.2	FL369	-45.9	1.0	2:40	FL409	-53.7	4.4	5:00
HND-LAX	2/25/78	94	8:03	-58	FL410	5:33	39.1N	146.0W	FL377	-49.8	5.0	FL350	-45.3	1.3	3:48	FL409	-54.7	2.3	3:49
HND-LAX	2/27/77	51	8:00	-64	FL409	4:48	42.4N	156.6W	FL388	-56.0	3.8	FL369	-54.0	2.1	2:43	FL409	-58.3	2.6	4:53
HND-LAX	2/28/78	95	8:04	-57	FL410	7:44	36.4N	123.1W	FL394	-47.4	5.2	FL369	-49.3	2.8	1:15	FL390	-42.1	2.6	2:55
												FL410	-51.0	3.8	3:29				
HND-LAX	3/ 2/77	69	8:21	-74	FL409	6:37	44.0N	134.5W	FL395	-59.7	7.1	FL369	-62.0	5.6	2:18	FL409	-58.8	7.5	5:36
HND-LAX	3/ 3/78	99	8:23	-65	FL370	0:09	35.4N	144.1E	FL387	-52.0	5.0	FL390	-50.5	2.5	7:14				
HND-LAX	3/ 6/78	100	8:24	-67	FL389	8:14	35.8N	121.6W	FL371	-57.6	6.7	FL370	-57.0	6.6	7:30				
HND-LAX	3/ 9/78	99	8:24	-69	FL390	6:49	40.3N	135.9W	FL377	-57.0	6.1	FL370	-54.3	4.2	4:34	FL390	-60.8	6.0	3:29
HND-LAX	3/12/78	97	8:14	-67	FL391	6:19	41.9N	139.2W	FL385	-57.3	6.5	FL390	-57.6	6.5	6:54				
HND-LAX	3/15/78	102	8:44	-69	FL390	4:00	48.0N	170.8W	FL383	-58.9	8.1	FL370	-50.1	1.1	1:24	FL390	-61.5	7.2	6:44
HND-LAX	3/18/78	102	8:39	-68	FL390	5:24	43.1N	150.7W	FL376	-55.6	7.6	FL369	-51.3	6.5	4:45	FL390	-61.5	4.8	3:19
HND-LAX	3/24/78	98	8:23	-69	FL390	7:13	38.1N	130.7W	FL388	-57.8	7.6	FL370	-48.3	1.7	1:26	FL389	-56.4	4.7	1:30
												FL390	-65.3	4.7	2:29				
HND-LAX	3/25/77	93	8:04	-65	FL390	6:14	48.2N	134.0W	FL392	-56.1	6.7	FL389	-56.9	6.6	6:44				
HND-LAX	3/27/78	97	8:24	-68	FL390	7:09	39.3N	132.4W	FL369	-54.8	6.0	FL370	-52.9	4.8	5:39	FL390	-63.1	3.8	1:29
HND-LAX	3/30/78	100	8:24	-67	FL390	6:15	41.1N	141.0W	FL374	-55.6	7.0	FL369	-53.9	6.7	5:45	FL390	-60.0	5.9	2:00
HND-LAX	4/ 2/78	93	8:04	-65	FL370	6:49	39.8N	132.6W	FL369	-56.8	5.6	FL369	-56.9	5.6	7:49				
HND-LAX	4/ 5/78	103	8:24	-66	FL390	4:39	40.9N	162.0W	FL376	-58.0	6.1	FL369	-53.8	4.2	3:52	FL389	-63.0	3.1	3:34
HND-LAX	4/ 7/77	99	8:24	-68	FL410	5:19	43.2N	152.5W	FL391	-58.8	6.8	FL370	-58.0	4.0	2:15	FL390	-63.3	3.0	2:25
												FL409	-56.8	8.1	3:19				
HND-LAX	4/ 8/78	100	8:34	-65	FL389	3:15	45.0N	179.9W	FL382	-56.7	6.1	FL369	-51.5	4.1	2:15	FL389	-59.0	5.2	5:54
HND-LAX	4/11/77	97	8:14	-63	FL370	7:24	39.9N	125.5W	FL368	-56.6	5.3	FL369	-56.9	4.8	7:59				
HND-LAX	4/11/78	101	8:48	-70	FL390	5:08	43.0N	158.1W	FL377	-59.5	6.6	FL370	-56.9	5.8	4:20	FL390	-63.4	2.7	4:09
HND-LAX	4/14/77	95	8:20	-64	FL370	2:34	42.1N	171.1E	FL368	-57.8	4.4	FL369	-58.1	3.7	8:05				
HND-LAX	4/14/78	103	9:04	-67	FL370	3:39	47.0N	179.8W	FL374	-58.6	6.1	FL370	-60.9	3.7	6:04	FL390	-54.2	6.9	2:39
HND-LAX	4/17/78	97	8:29	-69	FL390	4:39	47.4N	162.9W	FL381	-59.2	5.2	FL370	-58.3	.7	2:45	FL390	-60.2	5.5	5:14
HND-LAX	4/18/77	93	8:16	-71	FL410	6:07	46.4N	140.2W	FL405	-61.2	5.7	FL410	-62.8	4.5	6:51				
HND-LAX	4/20/78	97	8:14	-68	FL390	4:04	45.0N	168.9W	FL387	-62.5	4.1	FL390	-63.1	2.8	7:39				
HND-LAX	4/21/77	94	8:16	-67	FL390	7:21	38.7N	127.5W	FL386	-57.2	5.1	FL390	-58.0	5.0	7:09				

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS---------------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HND-LAX	4/23/78	95	8:15	-68	FL390	6:54	42.4N	131.1W	FL380	-59.7	5.5	FL369	-56.1	4.1	3:39	FL389	-63.2	3.5	4:09
HND-LAX	4/26/78	98	8:08	-64	FL411	6:53	40.7N	132.0W	FL393	-55.0	4.2	FL370	-54.3	4.4	2:54	FL410	-56.0	3.3	4:49
HND-LAX	4/27/76	99	8:24	-66	FL391	3:06	44.9N	179.0E	FL397	-58.0	6.0	FL370	-58.6	2.8	2:08	FL390	-64.4	1.5	1:23
												FL410	-51.1	3.0	2:14	FL430	-62.3	2.4	1:39
HND-LAX	4/27/77	100	8:35	-64	FL370	4:43	42.2N	160.6W	FL374	-55.2	5.3	FL369	-57.3	4.2	5:48	FL389	-51.0	4.0	2:26
HND-LAX	4/29/76	105	8:39	-65	FL391	3:15	42.1N	177.8W	FL380	-56.8	7.0	FL370	-56.5	1.4	3:00	FL391	-58.2	7.5	5:17
HND-LAX	4/29/78	95	8:04	-70	FL411	6:04	41.2N	141.8W	FL388	-59.3	6.7	FL369	-54.0	3.8	2:30	FL390	-60.1	4.5	2:49
												FL410	-65.6	4.1	2:19				
HND-LAX	4/30/77	100	8:15	-64	FL370	5:56	43.0N	141.1W	FL359	-53.3	4.4	FL350	-52.9	.8	3:18	FL369	-53.5	5.4	3:40
HND-LAX	6/ 4/77	93	8:49	-65	FL410	8:00	37.9N	127.6W	FL391	-56.6	6.5	FL369	-52.2	1.6	2:39	FL395	-61.1	1.0	2:00
												FL410	-58.3	6.3	3:24				
HND-LAX	7/ 5/77	89	8:44	-69	FL410	6:30	44.5N	142.0W	FL393	-57.8	6.4	FL370	-54.7	2.6	3:19	FL410	-62.4	4.1	3:55
												FL429	-59.1	1.9	1:04				
HND-LAX	7/ 9/77	105	8:52	-67	FL410	6:52	43.5N	137.7W	FL394	-57.9	6.9	FL390	-56.6	2.3	3:55	FL410	-63.3	3.1	3:32
HND-LAX	7/16/76	101	8:34	-63	FL412	3:59	46.0N	170.0W	FL413	-56.4	5.3	FL391	-56.5	2.0	1:50	FL411	-57.2	3.5	2:39
												FL431	-55.4	.6	1:09	FL449	-60.8	1.1	1:39
HND-LAX	7/18/77	90	8:22	-61	FL390	3:27	49.5N	178.0W	FL386	-55.8	4.6	FL369	-53.3	2.7	3:12	FL389	-59.1	1.1	2:04
												FL409	-57.5	2.2	2:40				
HND-LAX	7/29/77	99	8:49	-62	FL410	7:54	38.8N	127.7W	FL389	-56.0	4.1	FL369	-53.1	1.5	3:19	FL389	-60.0	.8	1:34
												FL410	-57.6	4.1	3:29				
HND-LAX	8/ 1/77	106	9:17	-63	FL410	6:33	45.6N	144.2W	FL388	-51.5	6.5	FL369	-50.0	1.7	3:39	FL390	-46.8	5.8	1:30
												FL410	-56.5	3.7	3:42				
HND-LAX	8/ 4/77	84	9:36	-58	FL374	4:51	46.3N	165.9W	FL387	-52.0	5.1	FL374	-51.8	3.2	4:59	FL410	-54.1	2.0	3:38
HND-LAX	8/17/77	99	8:52	-61	FL410	6:08	42.5N	146.1W	FL387	-50.4	5.7	FL369	-47.7	1.7	4:03	FL410	-54.4	4.1	4:28
HND-LAX	8/20/77	92	8:32	-59	FL410	7:57	37.3N	123.9W	FL392	-51.8	4.8	FL370	-50.1	2.2	2:07	FL390	-55.2	.8	1:41
												FL410	-53.1	2.9	3:30				
HND-LAX	8/26/77	87	8:09	-63	FL410	5:15	46.2N	151.4W	FL384	-53.4	8.3	FL370	-48.3	2.6	4:40	FL410	-62.8	.4	2:54
HND-LAX	8/29/77	91	8:26	-62	FL410	6:48	43.5N	134.5W	FL393	-55.0	5.3	FL370	-52.2	2.0	2:18	FL390	-52.4	2.5	1:40
												FL410	-58.6	2.5	4:08				
HND-LAX	9/ 1/77	102	8:29	-67	FL410	6:44	43.7N	135.1W	FL398	-58.0	5.7	FL369	-53.1	2.7	2:30	FL410	-60.9	3.2	4:30
HND-LAX	9/ 5/76	98	8:26	-66	FL409	4:51	46.0N	159.2W	FL397	-57.2	5.8	FL373	-52.1	3.2	2:18	FL409	-59.9	4.1	5:42
HND-LAX	9/ 7/77	101	8:49	-67	FL410	5:39	50.2N	149.6W	FL391	-56.8	6.1	FL369	-52.4	1.7	3:25	FL410	-60.8	3.5	5:04
HND-LAX	9/ 8/76	103	8:55	-66	FL449	7:55	38.9N	127.9W	FL406	-56.8	6.6	FL369	-51.0	1.5	1:55	FL409	-56.6	2.7	3:47
												FL448	-65.2	.6	1:29				
HND-LAX	9/11/77	107	9:24	-66	FL410	5:34	50.2N	155.2W	FL389	-55.5	7.5	FL370	-49.6	1.5	3:49	FL389	-54.4	4.0	1:10
												FL409	-62.7	3.5	3:59				
HND-LAX	9/14/77	99	8:45	-68	FL410	5:50	52.8N	145.5W	FL400	-56.0	6.4	FL369	-51.1	.9	1:10	FL390	-51.3	2.8	2:04
												FL410	-63.4	2.8	3:06	FL430	-55.2	.9	1:34
HND-LAX	9/15/76	98	8:22	-60	FL410	5:37	46.8N	146.7W	FL387	-51.4	5.2	FL370	-48.3	.8	2:28	FL389	-50.8	1.8	2:45
												FL409	-56.8	3.1	2:35				
HND-LAX	9/21/77	85	7:39	-66	FL410	5:30	46.0N	140.0W	FL390	-54.8	7.3	FL369	-47.2	1.7	2:49	FL390	-53.1	3.7	1:09
												FL409	-62.1	2.8	3:14				
HND-LAX	9/24/77	102	8:34	-63	FL429	7:34	40.7N	127.0W	FL397	-54.5	6.0	FL369	-48.7	.5	2:09	FL389	-52.7	2.2	1:34
												FL409	-57.2	1.5	2:09	FL428	-61.7	.9	1:54
HND-LAX	10/ 1/76	97	8:19	-63	FL390	6:54	39.6N	132.2W	FL388	-56.9	5.4	FL390	-57.5	4.5	7:54				
HND-LAX	10/ 4/77	101	8:41	-63	FL410	4:13	48.0N	169.7W	FL399	-57.9	3.6	FL389	-57.7	3.9	3:04	FL410	-58.8	1.5	4:59
HND-LAX	10/ 7/76	103	8:39	-61	FL370	0:59	38.9N	152.5E	FL398	-55.9	3.4	FL370	-56.6	4.0	2:00	FL409	-56.0	2.8	6:15
HND-LAX	10/10/76	94	8:14	-66	FL410	1:24	41.4N	157.8E	FL406	-58.8	5.1	FL409	-59.4	3.8	7:54				
HND-LAX	10/13/76	101	8:33	-63	FL410	4:43	46.7N	157.4W	FL397	-56.4	4.1	FL369	-55.8	3.0	1:19	FL390	-52.6	1.1	1:10
												FL410	-57.9	2.6	5:39				
HND-LAX	10/16/76	99	8:25	-65	FL409	5:59	42.5N	143.0W	FL387	-57.0	4.7	FL369	-56.0	2.5	4:09	FL409	-59.2	3.5	3:53
HND-LAX	10/18/77	76	8:00	-60	FL410	6:34	40.7N	132.1W	FL389	-53.8	4.9	FL370	-51.1	3.2	2:55	FL410	-56.6	1.7	3:44
HND-LAX	10/19/76	106	8:48	-62	FL370	2:44	39.5N	173.8E	FL396	-58.1	3.2	FL369	-58.3	1.3	2:34	FL409	-58.4	2.2	5:48

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HND-LAX	10/19/77	94	7:47	-65	FL390	5:03	43.9N	149.1W	FL380	-55.1	6.5	FL370	-51.3	3.0	2:07	FL390	-58.8	4.0	5:09
HND-LAX	10/28/76	98	8:14	-68	FL430	7:34	37.7N	125.2W	FL413	-58.4	5.3	FL409	-56.3	2.3	5:15	FL429	-64.1	2.9	2:34
HND-LAX	10/31/76	94	8:04	-64	FL430	6:45	39.8N	132.4W	FL404	-55.1	5.3	FL390	-53.8	1.8	2:00	FL409	-52.3	1.1	2:10
												FL429	-61.1	3.2	2:34				
HND-LAX	11/ 1/77	98	8:21	-61	FL370	1:34	43.2N	158.2E	FL390	-55.1	4.1	FL370	-57.7	3.1	1:30	FL390	-55.6	1.2	1:24
												FL407	-55.3	4.3	3:41				
HND-LAX	11/16/77	79	8:29	-65	FL410	4:30	40.1N	163.0W	FL393	-57.6	6.1	FL369	-53.1	1.9	2:55	FL410	-61.1	2.5	5:04
HND-LAX	11/19/77	86	7:34	-69	FL421	7:04	38.5N	128.3W	FL393	-53.5	8.2	FL369	-48.4	.8	1:20	FL390	-47.9	2.3	2:49
												FL410	-61.3	5.8	2:24				
HND-LAX	11/22/77	91	7:34	-61	FL410	5:00	39.8N	147.6W	FL395	-52.5	4.9	FL369	-53.0	3.0	1:55	FL390	-46.5	1.1	1:04
												FL409	-54.2	4.5	4:14				
HND-LAX	11/26/76	99	8:34	-69	FL410	7:29	41.1N	127.9W	FL400	-55.9	9.4	FL389	-55.7	1.8	1:10	FL409	-56.8	10.4	6:09
HND-LAX	12/ 4/76	101	8:30	-68	FL410	6:49	41.8N	135.2W	FL391	-55.0	8.4	FL369	-47.5	3.3	3:35	FL409	-61.3	5.7	4:39
HND-LAX	12/17/77	97	8:14	-70	FL390	1:00	39.0N	153.2E	FL393	-58.2	7.1	FL390	-61.3	5.8	5:39	FL409	-51.7	3.1	2:09
HND-LAX	12/20/77	106	8:56	-69	FL410	8:34	37.4N	122.2W	FL392	-56.1	7.6	FL370	-46.2	1.2	2:19	FL390	-57.6	4.4	2:30
												FL409	-61.9	4.5	3:47				
HND-ORD	5/ 9/78	132	11:09	-65	FL370	6:14	60.3N	144.4W	FL364	-49.3	5.7	FL310	-42.3	3.1	2:20	FL370	-51.3	4.8	3:00
												FL390	-52.3	2.7	3:00	FL410	-48.9	2.2	1:24
HND-SFO	1/ 8/77	89	7:38	-66	FL390	6:58	38.0N	130.7W	FL362	-49.1	8.0	FL349	-42.2	1.5	1:49	FL370	-50.3	6.0	2:38
												FL390	-58.6	6.4	1:45				
HND-SFO	1/10/78	91	7:25	-56	FL370	7:07	37.5N	127.5W	FL354	-42.6	5.6	FL330	-37.3	3.1	1:57	FL370	-42.2	1.7	1:04
												FL370	-48.1	4.5	2:22				
HND-SFO	3/19/75	94	7:44	-64	FL370	7:39	37.9N	126.3W	FL338	-54.1	4.7	FL309	-52.1	4.0	2:09	FL330	-50.6	.8	1:04
												FL370	-57.5	3.9	3:25				
HND-SFO	3/25/76	90	7:21	-64	FL371	6:22	41.6N	134.9W	FL359	-54.6	6.3	FL331	-47.4	1.2	1:03	FL371	-56.6	6.5	4:44
HND-SFO	3/27/75	63	5:00	-59	FL330	3:00	44.8N	176.5E	FL328	-52.6	4.6	FL329	-56.8	.9	2:24	FL349	-49.2	3.0	1:34
HND-SFO	3/30/77	96	8:06	-65	FL371	3:48	45.8N	171.2W	FL353	-54.9	7.2	FL310	-45.1	1.4	1:24	FL350	-51.7	1.1	1:30
												FL370	-59.9	4.6	4:41				
HND-SFO	4/14/78	99	8:19	-62	FL370	5:30	46.1N	154.3W	FL340	-53.0	6.3	FL330	-54.7	2.1	3:44	FL369	-54.8	7.1	3:10
HND-SFO	4/21/76	84	7:36	-65	FL391	7:26	37.9N	126.0W	FL362	-55.6	6.5	FL350	-56.2	5.3	2:08	FL370	-56.0	3.7	1:49
												FL390	-60.1	3.6	2:02				
HND-SFO	5/ 2/78	94	8:00	-68	FL391	2:24	44.7N	168.2E	FL393	-59.2	7.6	FL390	-57.8	7.0	3:56	FL410	-64.2	5.3	2:45
HND-SFO	5/ 5/78	94	8:02	-64	FL374	3:41	45.3N	173.4W	FL372	-56.1	5.7	FL353	-52.7	2.1	2:36	FL372	-57.4	3.8	1:19
												FL390	-59.2	4.5	3:40				
HND-SFO	5/ 8/78	90	7:54	-70	FL410	7:34	38.7N	128.0W	FL395	-59.0	5.8	FL370	-53.8	3.4	1:45	FL410	-61.7	4.8	5:15
HND-SFO	5/11/78	87	7:42	-66	FL412	3:22	51.1N	177.9W	FL396	-55.0	6.0	FL371	-54.8	.6	1:54	FL390	-62.3	.6	1:03
												FL411	-53.5	5.6	4:15				
HND-SFO	5/14/78	94	7:45	-65	FL412	7:39	39.4N	124.2W	FL401	-53.9	5.8	FL391	-59.6	1.9	1:09	FL411	-52.2	5.3	5:19
HND-SFO	5/17/78	96	8:14	-67	FL412	7:14	42.9N	133.1W	FL393	-60.4	5.2	FL371	-57.9	1.5	2:04	FL390	-63.5	2.0	2:00
												FL411	-60.8	5.4	3:44				
HND-SFO	5/20/78	94	8:04	-70	FL412	5:19	46.1N	153.3W	FL391	-58.6	6.7	FL371	-55.7	1.2	2:09	FL391	-56.8	6.6	2:19
												FL411	-63.6	3.5	3:04				
HND-SFO	6/27/77	93	8:04	-60	FL391	6:04	47.5N	143.0W	FL377	-52.5	6.2	FL350	-47.3	3.0	1:14	FL373	-54.8	2.6	2:04
												FL391	-54.5	4.8	4:09				
HND-SFO	8/19/76	89	7:42	-50	FL369	6:54	42.5N	131.0W	FL344	-42.9	5.3	FL310	-36.4	1.0	1:03	FL330	-45.8	1.3	1:34
												FL350	-40.0	1.0	1:55	FL369	-48.0	1.5	2:25
HND-SFO	9/12/77	92	8:14	-61	FL390	5:59	48.6N	142.0W	FL360	-48.8	9.6	FL330	-37.1	.7	1:54	FL350	-43.9	2.1	1:54
												FL370	-55.4	3.2	1:19	FL390	-59.2	1.7	2:25
HND-SFO	10/ 7/77	88	7:43	-66	FL391	5:08	48.3N	151.3W	FL364	-54.9	9.4	FL330	-42.7	.7	2:14	FL370	-57.7	2.7	2:26
												FL390	-64.0	1.6	2:34				
HND-SFO	10/13/77	94	7:43	-60	FL371	5:28	44.8N	148.1W	FL358	-49.6	5.8	FL350	-46.8	1.4	1:14	FL370	-51.8	5.7	4:44
HND-SFO	10/16/77	86	7:34	-59	FL391	6:14	44.1N	136.5W	FL359	-51.2	5.1	FL330	-49.4	1.5	1:54	FL350	-55.9	2.9	1:34
												FL370	-47.3	4.8	2:19	FL390	-54.6	3.6	1:15

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HND-SFO	10/18/76	91	7:50	-57	FL370	2:54	42.9N	178.6E	FL365	-51.4	4.4	FL348	-51.9	1.2	1:34	FL369	-52.0	3.8	2:51
												FL389	-54.1	1.3	2:10				
HND-SFO	10/20/77	81	6:59	-61	FL371	5:44	41.3N	137.4W	FL347	-47.4	10.4	FL331	-38.8	2.5	3:30	FL370	-58.9	1.7	3:04
HND-SFO	12/22/76	89	7:20	-62	FL350	5:58	39.0N	140.2W	FL338	-52.8	5.5	FL329	-49.1	3.6	4:28	FL349	-58.2	2.4	2:46
HND-SYD	2/ 7/78	95	7:59	-46	FL365	4:59	8.0S	146.6E	FL340	-40.2	4.9	FL330	-37.0	.7	3:14	FL370	-45.7	.5	2:54
HNL-AKL	5/ 9/77	94	7:54	-60	FL391	7:24	33.0S	178.0E	FL363	-47.8	6.9	FL350	-42.8	.7	2:40	FL370	-49.2	.9	2:04
												FL391	-56.5	2.2	2:09				
HNL-AKL	7/25/77	85	7:17	-51	FL371	6:22	28.4S	176.2E	FL345	-42.5	7.8	FL310	-32.4	.6	2:20	FL350	-43.7	.7	1:30
												FL370	-50.0	.6	3:00				
HNL-AKL	11/13/78	90	7:24	-53	FL350	7:15	34.8S	176.5E	FL338	-43.5	6.2	FL310	-34.7	.5	1:30	FL350	-47.5	2.8	4:49
HNL-DFW	3/30/77	64	5:39	-61	FL420	1:49	28.5N	139.9W	FL421	-56.9	2.5	FL420	-57.9	1.6	3:24	FL430	-55.9	1.3	1:55
HNL-DFW	5/ 4/77	72	6:06	-62	FL388	4:09	33.4N	120.1W	FL382	-58.9	3.3	FL379	-58.6	1.3	3:54	FL389	-60.8	1.1	1:56
HNL-DFW	5/11/77	71	5:54	-68	FL410	4:52	34.3N	108.9W	FL390	-59.0	5.8	FL381	-58.0	3.6	3:07	FL410	-62.4	3.6	2:19
HNL-DFW	12/15/76	71	6:04	-53	FL340	3:34	32.9N	124.8W	FL339	-47.9	3.6	FL339	-48.3	2.5	5:54				
HNL-DFW	12/22/76	66	6:00	-67	FL420	0:25	22.8N	152.9W	FL427	-60.5	4.5	FL419	-62.1	2.6	3:39	FL449	-59.7	1.9	1:54
HNL-DFW	12/29/76	67	5:49	-65	FL430	4:09	34.1N	116.7W	FL421	-60.8	3.4	FL419	-60.5	1.6	3:19	FL429	-62.6	1.1	2:10
HNL-DTW	4/25/76	60	5:09	-60	FL370	3:19	40.0N	111.9W	FL334	-49.0	8.8	FL289	-38.6	1.4	2:00	FL369	-56.3	3.9	2:24
HNL-GUM	2/ 3/76	83	6:37	-54	FL351	0:15	20.1N	162.3W	FL349	-47.1	2.0	FL350	-47.1	1.8	6:22				
HNL-GUM	3/18/77	77	6:29	-44	FL351	3:59	14.8N	167.3E	FL342	-40.3	4.9	FL310	-30.9	.3	1:10	FL350	-42.8	.7	5:04
HNL-GUM	3/28/76	82	6:49	-51	FL350	1:59	17.9N	176.0W	FL343	-44.5	3.3	FL330	-44.5	1.7	1:30	FL350	-45.0	3.0	4:50
HNL-GUM	3/30/79	84	6:54	-54	FL390	5:29	13.7N	157.2E	FL360	-45.4	6.0	FL330	-37.6	.5	1:15	FL350	-42.7	.5	1:39
												FL370	-48.2	.5	2:04	FL390	-53.0	.3	1:30
HNL-GUM	4/ 7/78	80	6:34	-46	FL350	1:30	19.5N	172.9W	FL341	-41.1	2.7	FL310	-37.1	.6	1:15	FL349	-42.4	1.6	4:59
HNL-GUM	4/ 8/79	83	6:49	-49	FL351	1:19	20.6N	172.3W	FL345	-42.0	3.0	FL350	-42.4	1.6	5:30				
HNL-GUM	4/15/77	78	6:54	-43	FL350	2:39	16.7N	178.5E	FL335	-38.9	4.0	FL310	-33.8	1.6	2:25	FL350	-41.8	.6	4:15
HNL-GUM	4/15/78	78	6:41	-43	FL350	4:26	14.6N	165.0E	FL344	-41.6	1.4	FL329	-39.4	1.0	1:10	FL349	-42.2	.5	5:15
HNL-GUM	4/19/79	80	6:39	-48	FL351	1:30	19.7N	172.2W	FL342	-42.6	1.8	FL310	-40.3	1.5	1:15	FL350	-43.2	1.2	5:09
HNL-GUM	4/21/79	76	6:14	-55	FL391	4:14	17.7N	163.2E	FL364	-49.9	3.5	FL351	-48.2	1.8	3:49	FL391	-53.8	.5	2:00
HNL-GUM	4/25/78	74	6:19	-52	FL350	2:09	25.0N	179.8E	FL344	-46.1	3.8	FL310	-39.8	.7	1:04	FL350	-47.4	2.8	5:04
HNL-GUM	4/27/76	75	6:19	-52	FL351	0:40	22.6N	166.8W	FL347	-46.6	4.6	FL350	-47.7	3.3	5:39				
HNL-GUM	5/ 9/79	86	7:04	-54	FL390	4:09	18.8N	168.8E	FL369	-48.4	4.6	FL350	-45.3	.6	2:30	FL370	-50.0	0.0	1:10
												FL390	-51.8	1.1	2:49				
HNL-GUM	5/10/75	77	6:19	-52	FL350	1:49	25.1N	177.4W	FL341	-47.6	4.9	FL310	-38.4	.5	1:04	FL349	-50.0	1.6	4:54
HNL-GUM	5/15/79	79	6:34	-55	FL390	3:49	17.5N	167.1E	FL376	-51.9	4.3	FL369	-51.8	1.1	3:30	FL390	-53.6	.8	2:44
HNL-GUM	5/16/75	75	6:30	-51	FL350	1:19	22.9N	171.9W	FL341	-46.5	4.2	FL309	-39.0	.8	1:04	FL349	-48.5	1.5	5:10
HNL-GUM	5/17/79	74	6:04	-48	FL351	2:00	21.1N	177.8W	FL344	-44.6	2.0	FL331	-43.4	.5	1:39	FL350	-45.3	1.7	4:04
HNL-GUM	5/28/75	68	5:59	-50	FL349	3:44	21.2N	163.7E	FL348	-47.9	2.4	FL349	-48.3	1.0	5:44				
HNL-GUM	5/31/77	73	6:14	-56	FL391	4:49	17.3N	157.5E	FL362	-48.6	4.2	FL350	-46.4	.6	3:04	FL370	-50.7	.7	1:10
												FL390	-54.1	.9	1:24				
HNL-GUM	6/18/77	72	6:04	-51	FL349	2:15	24.1N	178.1E	FL334	-43.0	4.7	FL310	-38.1	1.3	1:54	FL350	-46.5	1.5	3:45
HNL-GUM	7/10/77	71	6:04	-48	FL351	2:50	21.1N	175.0E	FL342	-43.6	3.9	FL310	-36.9	.6	1:04	FL350	-45.5	1.1	4:39
HNL-GUM	7/12/78	82	6:26	-48	FL350	2:44	19.2N	175.7E	FL333	-42.0	4.4	FL309	-37.1	.3	2:30	FL349	-45.9	1.0	2:52
HNL-GUM	7/15/77	76	6:24	-51	FL351	2:04	25.9N	177.5W	FL345	-46.0	4.3	FL330	-45.4	.5	1:04	FL350	-46.9	3.2	4:59
HNL-GUM	7/16/78	82	6:22	-46	FL350	3:39	18.6N	167.9E	FL328	-40.4	3.7	FL310	-37.7	1.2	3:19	FL350	-44.1	.8	2:37
HNL-GUM	7/20/78	77	6:29	-54	FL370	4:29	19.3N	161.6E	FL347	-45.7	5.5	FL309	-37.1	.3	1:05	FL350	-46.8	.7	2:54
												FL370	-51.0	1.3	1:54				
HNL-GUM	7/22/78	79	6:19	-51	FL350	2:26	24.8N	177.4E	FL338	-43.3	5.3	FL309	-36.4	1.7	1:44	FL350	-46.3	2.1	4:14
HNL-GUM	8/11/78	80	6:28	-47	FL351	2:54	24.0N	174.7E	FL339	-43.6	3.3	FL330	-43.7	.8	1:39	FL350	-45.3	1.4	3:43
HNL-GUM	8/22/78	73	6:10	-52	FL351	2:06	22.0N	178.7W	FL338	-46.7	4.1	FL310	-41.1	1.0	1:50	FL350	-49.5	.9	4:00
HNL-GUM	11/ 8/76	75	6:14	-45	FL348	1:03	23.0N	169.9W	FL345	-40.5	2.7	FL348	-41.0	1.5	5:49				
HNL-GUM	11/12/76	75	6:05	-46	FL349	1:15	22.1N	171.9W	FL341	-41.7	3.7	FL349	-43.3	1.6	4:45				
HNL-GUM	12/ 3/76	70	6:16	-50	FL370	3:42	17.8N	167.1E	FL355	-46.0	3.3	FL350	-45.5	.6	2:18	FL369	-48.7	.8	2:39

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-GUM	12/10/76	73	6:14	-50	FL370	4:34	18.0N	159.9E	FL344	-43.5	5.6	FL309	-37.0	2.2	1:54	FL349	-43.3	.8	1:19
												FL370	-49.2	.5	2:34				
HNL-GUM	12/28/78	83	6:48	-42	FL350	2:53	18.4N	176.8E	FL334	-37.9	4.1	FL309	-33.3	.9	2:23	FL350	-41.0	.6	4:04
HNL-GUM	12/30/78	72	6:24	-47	FL370	3:39	18.8N	168.5E	FL352	-41.7	5.1	FL330	-34.9	.8	1:24	FL349	-41.4	.8	1:45
												FL369	-46.9	.3	2:34				
HNL-HND	3/19/77	87	7:19	-56	FL351	2:24	28.5N	178.7W	FL354	-49.4	6.8	FL310	-37.0	1.8	1:15	FL350	-52.2	3.2	3:34
												FL390	-53.3	.9	1:59				
HNL-HND	5/10/76	78	6:47	-58	FL384	6:02	32.1N	147.9E	FL343	-46.2	5.7	FL310	-38.4	.5	1:04	FL330	-43.7	.4	1:14
												FL349	-46.8	.9	1:59				
HNL-HND	5/12/76	84	7:00	-61	FL392	4:19	29.5N	162.9E	FL370	-51.9	5.6	FL352	-47.7	.5	3:19	FL391	-57.3	1.9	3:11
HNL-HND	5/19/78	80	6:44	-51	FL346	2:34	29.2N	179.2E	FL346	-47.1	3.8	FL330	-46.2	1.0	1:29	FL350	-48.3	1.5	2:09
												FL369	-50.2	.6	1:50				
HNL-HND	6/ 1/77	76	6:48	-56	FL391	5:00	36.9N	157.8E	FL358	-47.5	5.1	FL350	-46.2	1.1	4:39	FL390	-54.8	1.1	1:33
HNL-HND	6/ 4/77	78	6:45	-58	FL388	3:04	28.6N	172.5E	FL373	-51.6	4.9	FL350	-47.0	.7	2:09	FL389	-56.5	1.1	1:09
												FL391	-54.4	.8	2:39				
HNL-HND	6/19/77	78	6:31	-56	FL390	6:17	34.5N	143.0E	FL358	-48.2	5.8	FL350	-47.7	1.2	2:24	FL370	-50.1	.5	1:35
												FL390	-54.7	.7	1:18				
HNL-HND	7/ 5/77	78	6:34	-49	FL350	1:45	26.7N	175.2W	FL341	-44.3	4.4	FL310	-36.9	.7	1:30	FL350	-46.6	1.6	4:49
HNL-HND	7/16/77	77	6:21	-58	FL370	1:22	27.2N	170.7W	FL375	-53.1	4.5	FL350	-51.3	1.0	1:04	FL370	-55.8	1.5	1:21
												FL390	-53.8	1.3	3:19				
HNL-HND	8/26/77	73	6:09	-50	FL391	4:45	31.9N	155.9E	FL360	-45.2	4.1	FL350	-44.2	2.9	3:59	FL390	-49.3	.5	1:34
HNL-HND	11/14/76	81	6:51	-43	FL349	1:45	24.7N	176.4W	FL338	-39.5	4.2	FL308	-33.2	1.1	1:26	FL349	-41.9	.8	5:05
HNL-HND	12/ 5/76	87	7:53	-55	FL390	4:01	26.5N	168.0E	FL375	-51.0	2.8	FL350	-48.9	.5	1:14	FL369	-52.1	1.7	2:04
												FL389	-51.7	1.9	3:44				
HNL-HND	12/11/76	83	7:09	-51	FL350	7:09	34.1N	141.9E	FL337	-41.8	6.0	FL309	-33.4	.7	2:05	FL350	-45.7	1.8	4:50
HNL-HNL	11/ 3/76	29	2:19	-37	FL311	0:10	17.6N	158.8W	FL302	-33.2	2.2	FL310	-34.9	.9	1:00				
HNL-LAS	1/ 7/78	52	3:41	-53	FL331	3:21	36.0N	120.9W	FL322	-43.5	9.8	FL331	-48.3	5.5	2:31				
HNL-LAS	4/22/77	51	4:15	-63	FL380	3:15	32.7N	126.7W	FL360	-55.2	7.0	FL339	-48.1	.7	1:15	FL380	-61.3	.8	2:14
HNL-LAS	5/12/76	47	4:03	-56	FL370	2:24	30.2N	136.1W	FL348	-49.9	5.8	FL330	-45.0	.7	1:48	FL369	-55.6	.6	1:48
HNL-LAS	11/ 9/78	52	4:19	-49	FL350	4:09	34.5N	118.3W	FL340	-45.3	1.8	FL340	-45.3	.8	3:54				
HNL-LAS	12/ 4/77	52	4:19	-48	FL340	3:49	33.7N	120.4W	FL337	-42.3	2.9	FL340	-42.7	1.9	3:44				
HNL-LAX	1/ 1/78	43	3:37	-57	FL380	3:22	31.9N	121.6W	FL373	-51.1	5.3	FL380	-52.6	1.8	3:13				
HNL-LAX	1/ 1/79	171	3:37	-59	FL371	3:27	33.0N	121.8W	FL369	-53.6	6.2	FL372	-56.9	1.1	2:04				
HNL-LAX	1/ 5/79	44	3:34	-61	FL370	3:29	33.1N	121.4W	FL367	-48.3	5.3	FL370	-49.2	3.9	3:19				
HNL-LAX	1/16/79	14	1:10	-53	FL316	1:10	32.7N	120.0W	FL339	-49.6	1.8	FL340	-49.3	1.6	1:04				
HNL-LAX	1/17/78	43	3:31	-52	FL382	3:26	33.7N	120.6W	FL367	-46.7	4.5	FL380	-49.4	1.3	2:22				
HNL-LAX	1/18/78	42	3:36	-54	FL400	2:21	30.8N	133.1W	FL392	-51.3	5.3	FL400	-52.9	.9	3:10				
HNL-LAX	1/23/78	50	4:04	-64	FL381	3:30	32.8N	125.8W	FL378	-59.7	5.4	FL381	-60.9	2.7	3:39				
HNL-LAX	1/23/79	45	3:39	-54	FL341	3:24	31.6N	122.2W	FL339	-42.3	6.9	FL340	-38.6	1.2	2:14	FL344	-51.0	3.2	1:09
HNL-LAX	1/27/76	49	4:04	-53	FL330	3:44	33.2N	123.5W	FL329	-45.3	4.6	FL330	-45.6	4.3	3:54				
HNL-LAX	1/27/78	51	3:54	-63	FL406	3:25	32.8N	125.8W	FL389	-53.5	7.0	FL380	-49.1	1.9	1:19	FL400	-56.4	2.1	1:30
HNL-LAX	1/28/77	24	3:22	-60	FL381	2:40	32.3N	127.7W	FL379	-54.2	3.2	FL381	-54.5	3.1	3:12				
HNL-LAX	1/31/78	45	3:45	-62	FL380	2:26	30.7N	133.6W	FL366	-47.7	8.9	FL380	-52.8	5.1	2:24				
HNL-LAX	1/31/79	45	3:44	-56	FL340	1:39	28.0N	141.4W	FL338	-52.6	4.0	FL339	-53.5	2.7	3:24				
HNL-LAX	2/ 3/76	52	4:07	-60	FL371	3:57	33.2N	121.3W	FL365	-50.4	5.4	FL369	-46.0	2.4	1:29	FL371	-54.4	2.7	2:11
HNL-LAX	2/ 4/78	46	3:40	-65	FL401	3:35	33.6N	121.0W	FL379	-49.2	8.8	FL380	-47.9	6.7	2:58				
HNL-LAX	2/ 5/76	47	4:09	-60	FL370	1:54	28.4N	141.2W	FL365	-52.3	6.7	FL370	-53.4	5.4	3:45				
HNL-LAX	2/ 7/78	40	3:29	-50	FL381	0:10	22.4N	153.9W	FL377	-47.4	3.0	FL380	-48.1	1.1	3:14				
HNL-LAX	2/ 8/78	40	3:22	-53	FL380	3:07	33.2N	123.7W	FL374	-48.7	4.5	FL380	-50.1	1.0	2:57				
HNL-LAX	2/ 8/79	48	3:47	-52	FL341	3:42	33.6N	120.8W	FL339	-49.5	3.1	FL341	-50.2	1.3	3:32				
HNL-LAX	2/ 9/76	46	3:57	-56	FL330	2:58	32.2N	129.0W	FL330	-50.0	3.5	FL330	-50.1	3.5	3:52				
HNL-LAX	2/10/79	44	3:33	-52	FL341	3:00	32.7N	126.1W	FL335	-46.7	4.8	FL341	-48.3	2.2	3:04				
HNL-LAX	2/11/76	43	4:03	-53	FL330	3:28	33.0N	125.5W	FL327	-47.0	3.8	FL330	-47.8	2.2	3:48				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-LAX	2/11/77	44	3:50	-65	FL383	3:30	33.2N	124.0W	FL380	-60.4	5.1	FL382	-61.3	3.4	3:34				
HNL-LAX	2/13/78	41	3:29	-55	FL381	2:39	31.9N	129.4W	FL377	-51.1	3.6	FL380	-51.9	1.4	3:09				
HNL-LAX	2/14/79	41	3:20	-53	FL343	3:20	33.8N	120.3W	FL372	-47.3	2.8	FL380	-47.5	2.0	2:30				
HNL-LAX	2/15/78	43	3:48	-66	FL380	2:44	31.4N	131.2W	FL357	-54.7	8.7	FL340	-48.3	6.4	1:49	FL380	-62.5	1.9	1:35
HNL-LAX	2/19/78	60	4:03	-66	FL391	2:17	29.8N	136.4W	FL385	-58.5	4.6	FL390	-59.6	2.7	3:38				
HNL-LAX	2/23/78	46	3:52	-57	FL341	2:52	31.6N	130.3W	FL339	-46.8	10.2	FL341	-48.0	9.4	3:37				
HNL-LAX	2/27/76	50	3:44	-62	FL370	3:05	32.3N	128.0W	FL365	-58.1	5.1	FL369	-59.6	1.9	3:28				
HNL-LAX	3/ 1/78	70	3:31	-49	FL381	2:47	32.4N	127.5W	FL359	-43.1	4.1	FL340	-39.4	2.0	2:16				
HNL-LAX	3/ 6/76	46	3:49	-64	FL370	2:45	31.8N	131.0W	FL361	-56.0	6.2	FL369	-58.2	1.8	3:19				
HNL-LAX	3/ 6/79	47	4:03	-58	FL360	3:39	32.5N	123.5W	FL357	-46.4	5.5	FL360	-47.1	4.8	3:48				
HNL-LAX	3/ 7/78	46	3:50	-55	FL343	3:39	31.7N	121.0W	FL338	-51.0	3.5	FL339	-51.4	2.4	3:24				
HNL-LAX	3/11/78	46	4:04	-64	FL380	3:19	32.2N	128.3W	FL355	-54.6	5.6	FL340	-51.0	1.7	2:09	FL380	-60.9	2.2	1:29
HNL-LAX	3/12/79	47	4:01	-58	FL361	1:54	27.8N	139.3W	FL357	-54.6	3.8	FL360	-55.3	2.0	3:45				
HNL-LAX	3/15/79	47	4:00	-62	FL394	2:39	28.9N	132.3W	FL358	-56.2	4.3	FL370	-58.9	1.1	1:20				
HNL-LAX	3/16/79	204	3:59	-64	FL382	2:37	29.8N	133.1W	FL380	-55.8	6.3	FL381	-56.2	6.0	3:31				
HNL-LAX	3/19/79	184	4:01	-61	FL381	2:46	30.2N	131.7W	FL379	-51.3	4.6	FL381	-51.8	4.5	0:01				
HNL-LAX	3/20/78	44	3:40	-57	FL381	3:34	33.7N	120.7W	FL376	-49.4	4.0	FL380	-49.8	3.9	3:19				
HNL-LAX	3/21/79	45	3:59	-55	FL380	3:19	32.0N	126.7W	FL368	-50.9	2.6	FL360	-49.7	1.6	1:42	FL380	-52.7	1.5	1:56
HNL-LAX	3/25/77	55	4:04	-60	FL371	2:25	29.1N	135.3W	FL360	-51.6	5.7	FL370	-53.4	4.4	2:03				
HNL-LAX	3/27/79	44	4:04	-58	FL360	1:34	26.6N	142.3W	FL356	-54.6	3.8	FL360	-55.6	1.5	3:41				
HNL-LAX	3/30/78	46	3:45	-62	FL380	1:49	29.1N	138.3W	FL378	-52.6	5.4	FL380	-53.2	5.1	3:30				
HNL-LAX	4/ 1/79	50	3:58	-61	FL381	2:08	28.5N	137.3W	FL366	-56.0	5.4	FL360	-54.7	.8	1:45	FL380	-60.0	.9	1:49
HNL-LAX	4/ 3/76	43	3:37	-62	FL370	2:45	31.2N	133.4W	FL367	-58.1	4.1	FL370	-58.9	2.4	3:22				
HNL-LAX	4/ 4/76	43	3:45	-59	FL391	2:24	27.7N	133.5W	FL383	-54.5	4.8	FL390	-56.1	2.0	3:20				
HNL-LAX	4/ 8/76	45	3:45	-61	FL370	2:45	31.9N	130.4W	FL364	-55.3	6.6	FL369	-57.1	2.7	3:24				
HNL-LAX	4/ 8/78	47	4:00	-47	FL330	1:39	27.3N	140.6W	FL328	-45.0	2.3	FL330	-45.5	1.2	3:45				
HNL-LAX	4/ 9/78	45	4:05	-57	FL370	0:20	21.7N	153.2W	FL366	-53.6	4.2	FL370	-54.4	2.1	3:45				
HNL-LAX	4/12/78	48	3:56	-60	FL380	0:25	22.9N	152.8W	FL375	-55.0	5.2	FL379	-56.0	3.1	3:41				
HNL-LAX	4/13/75	39	3:45	-67	FL411	3:30	33.1N	124.2W	FL383	-60.1	4.9	FL370	-57.3	.4	2:19				
HNL-LAX	4/17/76	48	3:55	-57	FL370	2:11	29.9N	137.3W	FL366	-54.1	3.6	FL369	-54.9	1.8	3:36				
HNL-LAX	4/20/77	44	3:34	-62	FL380	2:44	32.1N	128.7W	FL376	-57.1	5.4	FL379	-58.1	3.0	3:14				
HNL-LAX	4/24/77	41	3:39	-54	FL340	3:19	33.1N	124.3W	FL339	-48.5	3.7	FL340	-49.1	2.4	3:24				
HNL-LAX	4/26/77	42	3:40	-55	FL380	0:30	23.5N	151.6W	FL374	-52.7	4.2	FL379	-53.7	.9	3:15				
HNL-LAX	4/26/78	43	3:45	-58	FL380	2:45	31.7N	130.2W	FL351	-51.1	3.9	FL340	-49.0	1.0	2:25				
HNL-LAX	4/28/78	51	4:24	-58	FL370	4:09	33.2N	122.8W	FL367	-55.5	3.6	FL370	-56.4	1.3	4:05				
HNL-LAX	4/30/78	48	3:59	-52	FL341	3:59	33.7N	120.6W	FL339	-47.9	2.9	FL340	-48.4	1.5	3:49				
HNL-LAX	5/ 5/76	25	2:54	-60	FL370	2:24	31.2N	124.2W	FL370	-57.0	1.5	FL369	-57.0	1.5	2:54				
HNL-LAX	5/ 6/77	43	3:49	-59	FL371	2:19	29.2N	135.2W	FL366	-52.9	5.3	FL370	-53.9	3.6	3:34				
HNL-LAX	5/ 7/77	17	2:05	-59	FL380	0:00	28.4N	140.1W	FL377	-51.1	5.8	FL380	-51.1	6.0	2:00				
HNL-LAX	5/10/76	51	4:13	-60	FL407	3:43	33.9N	125.1W	FL372	-52.5	5.6	FL369	-52.6	2.7	2:53				
HNL-LAX	5/11/78	47	4:00	-55	FL380	2:15	29.7N	136.5W	FL357	-49.9	4.4	FL339	-46.3	.6	1:54	FL379	-54.7	.5	1:45
HNL-LAX	5/12/77	53	3:54	-62	FL381	2:49	31.6N	130.5W	FL374	-55.5	6.3	FL380	-57.1	3.7	3:30				
HNL-LAX	5/12/78	47	3:49	-48	FL341	0:19	23.0N	152.7W	FL340	-46.7	1.7	FL340	-47.0	.8	3:44				
HNL-LAX	5/13/75	50	4:09	-55	FL370	2:19	29.5N	138.6W	FL347	-48.8	5.6	FL330	-45.0	.5	1:55	FL370	-54.3	.8	1:50
HNL-LAX	5/13/77	27	2:15	-60	FL381	1:20	32.1N	128.7W	FL376	-57.9	4.2	FL380	-58.9	.7	2:05				
HNL-LAX	5/18/79	51	4:08	-58	FL381	4:04	33.6N	120.1W	FL357	-50.6	5.0	FL360	-51.1	.9	2:09				
HNL-LAX	5/19/78	43	3:44	-53	FL340	2:34	31.3N	131.4W	FL339	-48.5	2.8	FL339	-48.8	2.1	3:39				
HNL-LAX	5/28/76	38	3:24	-62	FL380	2:49	32.6N	126.5W	FL380	-59.1	1.9	FL380	-59.1	1.9	3:19				
HNL-LAX	5/31/78	44	3:49	-51	FL340	3:44	33.7N	120.8W	FL337	-46.8	4.1	FL340	-47.8	1.4	3:33				
HNL-LAX	6/ 2/78	45	3:44	-49	FL340	2:19	30.1N	135.2W	FL339	-47.3	2.4	FL340	-47.8	.7	3:34				
HNL-LAX	6/ 2/79	48	3:55	-56	FL380	3:10	31.6N	126.4W	FL361	-50.0	4.2	FL360	-49.8	1.2	2:45				
HNL-LAX	6/ 3/78	45	3:44	-48	FL340	0:44	24.7N	149.1W	FL338	-47.1	2.6	FL340	-47.6	.5	3:34				
HNL-LAX	6/ 4/79	52	4:14	-58	FL381	1:15	25.3N	145.4W	FL376	-54.8	4.5	FL380	-55.9	1.1	3:54				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-LAX	6/ 7/77	46	3:49	-56	FL381	2:09	29.8N	136.6W	FL358	-50.4	4.2	FL340	-47.6	1.8	1:54	FL380	-54.3	1.5	1:39
HNL-LAX	6/ 9/78	48	3:46	-48	FL341	2:11	30.1N	135.4W	FL337	-45.6	4.1	FL341	-46.7	1.5	3:30				
HNL-LAX	6/ 9/79	46	3:45	-54	FL360	3:39	33.2N	121.4W	FL356	-50.7	3.7	FL359	-51.6	.9	3:24				
HNL-LAX	6/11/77	46	3:54	-60	FL380	2:39	30.9N	132.7W	FL377	-55.0	3.7	FL380	-55.8	2.0	3:34				
HNL-LAX	6/13/77	42	3:40	-55	FL371	0:09	21.7N	153.3W	FL370	-53.6	1.7	FL370	-53.8	1.3	3:35				
HNL-LAX	6/16/75	47	3:52	-49	FL331	1:30	27.4N	143.2W	FL329	-43.0	3.2	FL330	-43.5	2.2	3:39				
HNL-LAX	6/16/79	45	3:39	-58	FL380	0:39	23.6N	149.4W	FL374	-54.2	3.5	FL380	-55.3	1.8	2:54				
HNL-LAX	6/17/79	46	3:45	-52	FL361	0:30	23.0N	150.6W	FL358	-50.3	3.1	FL360	-51.0	.8	3:30				
HNL-LAX	6/20/79	48	3:54	-67	FL410	1:29	27.3N	143.2W	FL404	-60.0	5.9	FL409	-61.4	3.4	3:30				
HNL-LAX	6/21/77	47	4:04	-47	FL341	0:09	22.6N	153.4W	FL339	-45.9	2.6	FL340	-46.5	.5	3:50				
HNL-LAX	6/22/75	46	3:45	-56	FL370	2:37	31.5N	132.1W	FL368	-53.7	2.6	FL370	-54.3	1.0	3:30				
HNL-LAX	6/22/77	51	4:18	-56	FL370	2:03	27.7N	139.7W	FL366	-52.7	4.8	FL370	-53.8	1.1	4:03				
HNL-LAX	6/22/78	45	3:40	-56	FL371	2:05	29.0N	135.5W	FL364	-52.2	5.7	FL370	-54.1	1.6	3:14				
HNL-LAX	6/22/78	48	3:42	-60	FL380	2:12	30.2N	135.1W	FL355	-52.5	6.1	FL340	-49.3	2.1	1:47	FL380	-58.6	1.6	1:29
HNL-LAX	6/28/77	35	3:09	-55	FL370	0:30	25.6N	144.8W	FL369	-49.9	3.4	FL370	-50.3	2.4	3:04				
HNL-LAX	6/30/77	46	3:45	-55	FL383	1:39	28.4N	140.4W	FL366	-48.0	5.1	FL341	-45.4	1.0	1:20	FL382	-50.6	2.9	1:05
HNL-LAX	6/30/78	43	3:35	-48	FL341	2:20	30.7N	133.5W	FL338	-44.3	3.6	FL340	-45.0	2.0	3:20				
HNL-LAX	7/ 2/77	47	3:54	-48	FL341	2:30	30.6N	134.0W	FL340	-45.6	2.0	FL340	-45.7	1.9	3:49				
HNL-LAX	7/ 2/77	46	3:54	-52	FL370	0:15	22.0N	152.8W	FL366	-48.9	4.6	FL370	-49.8	2.3	3:34				
HNL-LAX	7/ 2/78	43	3:30	-56	FL381	2:19	30.7N	133.4W	FL356	-49.0	4.8	FL340	-46.0	0.0	1:45	FL380	-53.8	1.9	1:25
HNL-LAX	7/ 2/79	45	3:39	-58	FL380	2:45	31.1N	128.8W	FL369	-51.7	6.1	FL361	-48.8	.9	1:05	FL380	-55.1	2.0	2:10
HNL-LAX	7/ 3/79	44	3:34	-58	FL380	3:25	32.8N	122.2W	FL368	-51.5	5.4	FL380	-54.3	1.6	2:04				
HNL-LAX	7/ 4/77	46	4:00	-51	FL341	2:00	29.0N	138.7W	FL339	-48.1	3.3	FL340	-48.7	2.1	3:50				
HNL-LAX	7/ 4/77	50	4:04	-57	FL380	2:49	31.3N	131.6W	FL357	-49.8	6.1	FL340	-45.9	1.4	1:49	FL380	-55.5	1.6	1:49
HNL-LAX	7/ 5/78	46	3:45	-51	FL370	0:15	21.8N	152.9W	FL367	-49.5	3.3	FL370	-50.2	.5	3:30				
HNL-LAX	7/ 6/78	47	3:49	-43	FL330	0:30	22.8N	151.0W	FL329	-41.3	1.8	FL330	-41.6	.9	3:39				
HNL-LAX	7/ 7/77	44	3:52	-57	FL380	1:16	26.6N	144.9W	FL377	-52.8	3.1	FL380	-53.4	2.1	3:31				
HNL-LAX	7/ 7/78	47	3:50	-52	FL371	0:45	23.8N	148.8W	FL368	-49.4	3.0	FL370	-50.0	.9	3:35				
HNL-LAX	7/ 7/79	44	3:34	-55	FL381	2:09	29.4N	134.6W	FL367	-50.6	6.1	FL360	-48.7	1.1	1:09	FL380	-54.5	.7	1:49
HNL-LAX	7/ 8/77	46	3:52	-55	FL391	3:12	31.6N	126.5W	FL348	-47.1	5.1	FL330	-44.6	1.6	2:22				
HNL-LAX	7/ 8/79	46	3:45	-50	FL361	2:20	29.4N	134.7W	FL356	-46.7	4.7	FL360	-47.9	1.4	3:23				
HNL-LAX	7/ 8/79	43	3:29	-49	FL361	1:49	28.1N	138.2W	FL356	-45.7	4.3	FL360	-46.9	1.4	3:09				
HNL-LAX	7/10/78	47	3:49	-45	FL341	0:30	23.6N	151.4W	FL339	-42.2	2.6	FL340	-42.6	1.3	3:39				
HNL-LAX	7/12/77	48	4:04	-56	FL380	1:04	25.7N	147.0W	FL375	-52.7	4.2	FL379	-53.8	1.2	3:44				
HNL-LAX	7/12/79	49	4:00	-49	FL360	3:55	33.3N	120.9W	FL355	-45.3	4.6	FL360	-46.7	.8	3:30				
HNL-LAX	7/17/77	46	4:09	-57	FL379	0:15	22.3N	154.0W	FL376	-51.2	4.9	FL379	-52.1	3.0	3:49				
HNL-LAX	7/17/78	47	3:49	-45	FL341	1:04	26.0N	146.1W	FL339	-42.5	2.6	FL340	-43.1	1.3	3:34				
HNL-LAX	7/18/77	40	3:44	-47	FL341	0:00	22.5N	153.7W	FL340	-45.7	1.3	FL340	-45.7	1.3	3:44				
HNL-LAX	7/19/78	48	3:55	-52	FL380	3:49	33.7N	120.9W	FL365	-47.2	4.7	FL360	-46.0	.6	1:45	FL380	-50.9	.5	1:39
HNL-LAX	7/20/77	47	3:54	-56	FL380	3:44	33.8N	121.9W	FL373	-51.8	5.8	FL380	-53.3	1.9	3:34				
HNL-LAX	7/20/77	47	3:49	-54	FL370	3:30	32.6N	123.2W	FL365	-48.9	4.0	FL369	-50.0	1.9	3:25				
HNL-LAX	7/22/77	40	3:49	-55	FL379	0:49	23.2N	147.8W	FL375	-50.7	3.8	FL379	-51.7	1.5	3:29				
HNL-LAX	7/22/77	45	3:54	-56	FL380	0:40	24.5N	149.6W	FL377	-53.2	3.0	FL380	-53.8	1.4	3:34				
HNL-LAX	7/23/78	37	2:59	-50	FL371	0:04	24.8N	146.5W	FL370	-48.8	1.2	FL370	-48.9	.8	2:54				
HNL-LAX	7/24/77	42	3:47	-51	FL342	1:45	28.3N	140.5W	FL340	-48.0	3.1	FL341	-48.6	1.6	3:37				
HNL-LAX	7/24/77	47	4:00	-57	FL379	1:24	27.2N	143.4W	FL374	-53.8	5.4	FL378	-55.3	1.4	3:30				
HNL-LAX	7/25/75	48	4:00	-59	FL411	2:30	28.9N	134.2W	FL384	-53.4	4.1	FL370	-51.0	1.3	2:15	FL411	-58.4	.5	1:20
HNL-LAX	7/25/78	46	3:48	-39	FL320	1:35	27.7N	142.2W	FL314	-35.9	3.6	FL320	-38.0	1.1	2:38				
HNL-LAX	7/26/78	48	3:54	-51	FL371	0:34	23.1N	150.2W	FL366	-48.7	4.7	FL370	-49.9	.9	3:34				
HNL-LAX	7/30/77	44	3:49	-50	FL360	2:19	30.4N	134.4W	FL346	-46.8	2.8	FL339	-46.8	1.3	2:04	FL359	-48.2	.9	1:24
HNL-LAX	8/ 1/77	44	3:49	-53	FL370	2:15	29.3N	134.9W	FL365	-49.7	4.3	FL369	-50.9	1.4	3:30				
HNL-LAX	8/ 3/77	46	3:50	-48	FL340	1:00	25.6N	147.2W	FL338	-45.9	3.0	FL340	-46.6	1.5	3:29				
HNL-LAX	8/ 4/78	47	3:49	-46	FL340	0:44	24.7N	148.9W	FL338	-44.3	2.6	FL340	-44.7	1.2	3:39				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-LAX	8/ 5/78	46	3:45	-48	FL341	0:45	24.9N	148.6W	FL338	-45.5	4.0	FL340	-46.2	2.1	3:34				
HNL-LAX	8/ 6/78	48	3:54	-53	FL381	3:20	32.9N	125.9W	FL346	-47.5	3.6	FL340	-47.1	.9	3:00				
HNL-LAX	8/ 7/77	45	3:49	-55	FL380	2:03	29.1N	138.4W	FL376	-52.6	5.3	FL379	-53.9	1.4	3:30				
HNL-LAX	8/ 8/78	47	3:54	-48	FL351	0:45	23.8N	148.9W	FL332	-42.8	4.2	FL330	-43.2	2.3	2:49				
HNL-LAX	8/ 9/77	43	3:49	-52	FL380	0:49	24.8N	149.0W	FL376	-50.3	4.2	FL380	-51.2	.9	3:29				
HNL-LAX	8/12/77	41	3:49	-50	FL370	0:15	21.7N	153.5W	FL365	-47.1	4.4	FL369	-48.2	1.0	3:30				
HNL-LAX	8/13/75	42	3:40	-52	FL370	0:15	22.7N	152.9W	FL367	-50.4	2.6	FL370	-51.2	.4	3:19				
HNL-LAX	8/16/77	46	3:47	-54	FL379	1:35	28.1N	141.1W	FL375	-49.6	4.8	FL379	-50.8	2.0	3:28				
HNL-LAX	8/21/76	45	3:54	-48	FL370	0:35	23.0N	150.5W	FL366	-45.0	3.7	FL369	-45.7	2.2	3:35				
HNL-LAX	8/23/76	45	3:44	-49	FL369	1:04	25.1N	145.9W	FL363	-43.0	4.9	FL369	-44.4	2.7	3:15				
HNL-LAX	8/25/76	45	3:45	-50	FL380	2:49	31.7N	130.2W	FL350	-45.4	3.2	FL339	-44.2	1.4	2:34				
HNL-LAX	8/26/77	49	3:59	-50	FL370	3:09	31.4N	128.1W	FL336	-41.3	5.0	FL329	-39.6	.6	2:54				
HNL-LAX	8/29/76	51	4:07	-52	FL379	0:15	22.6N	153.4W	FL377	-47.7	2.8	FL379	-48.1	1.7	3:51				
HNL-LAX	8/31/76	47	4:04	-49	FL369	1:39	26.9N	141.6W	FL366	-44.7	4.0	FL369	-45.7	2.2	3:39				
HNL-LAX	8/31/77	37	3:54	-45	FL340	1:34	27.7N	142.1W	FL337	-42.5	3.1	FL339	-43.3	1.1	3:39				
HNL-LAX	9/ 5/77	45	3:44	-47	FL340	0:19	23.4N	151.7W	FL339	-44.0	1.8	FL339	-44.2	1.4	3:35				
HNL-LAX	9/ 9/77	42	3:39	-55	FL380	2:04	30.2N	135.1W	FL357	-47.3	5.4	FL340	-43.4	1.5	1:45	FL379	-52.3	1.6	1:35
HNL-LAX	9/12/77	36	3:45	-58	FL379	1:40	27.9N	141.6W	FL373	-54.3	6.1	FL379	-56.1	1.2	3:20				
HNL-LAX	9/13/77	44	3:45	-57	FL380	0:39	24.2N	150.1W	FL374	-53.4	5.1	FL380	-55.0	1.7	3:20				
HNL-LAX	9/17/78	50	4:05	-56	FL381	0:30	23.3N	152.0W	FL376	-53.6	4.8	FL380	-54.8	.8	3:45				
HNL-LAX	9/18/77	46	3:52	-56	FL380	1:07	25.6N	147.1W	FL373	-51.7	5.1	FL379	-53.3	1.7	3:20				
HNL-LAX	9/26/78	42	3:43	-54	FL370	1:13	25.7N	144.4W	FL365	-51.3	4.7	FL370	-52.7	.5	3:23				
HNL-LAX	9/27/78	42	3:28	-54	FL370	1:17	26.9N	141.6W	FL367	-51.6	4.1	FL370	-52.7	1.0	3:10				
HNL-LAX	9/30/78	47	3:58	-56	FL380	3:43	33.5N	122.4W	FL362	-50.4	5.4	FL340	-46.4	.7	1:19	FL380	-54.2	.9	2:09
HNL-LAX	10/ 4/78	50	4:05	-47	FL330	2:10	28.5N	137.0W	FL327	-43.5	4.0	FL330	-44.5	1.9	3:45				
HNL-LAX	10/ 5/75	49	4:00	-56	FL371	2:43	33.7N	132.9W	FL368	-54.0	2.9	FL371	-54.7	.8	3:48				
HNL-LAX	10/ 8/78	49	4:08	-57	FL370	2:38	29.6N	134.0W	FL365	-52.3	5.2	FL370	-53.8	1.9	3:45				
HNL-LAX	10/10/75	49	4:00	-60	FL411	2:09	30.9N	139.6W	FL388	-55.6	4.9	FL371	-53.4	.5	1:35	FL411	-59.0	1.0	1:54
HNL-LAX	10/16/75	52	4:20	-55	FL371	0:50	22.3N	148.8W	FL369	-52.9	3.2	FL371	-53.6	.9	4:05				
HNL-LAX	10/23/78	48	4:04	-58	FL381	3:09	32.2N	128.1W	FL376	-53.9	4.7	FL380	-55.1	1.1	3:45				
HNL-LAX	10/31/78	51	4:04	-60	FL370	2:24	29.3N	135.2W	FL364	-54.4	6.0	FL370	-56.0	3.4	3:30				
HNL-LAX	11/ 7/78	48	3:53	-58	FL380	3:08	32.1N	128.6W	FL348	-49.3	4.6	FL339	-47.1	1.0	2:54				
HNL-LAX	11/12/78	50	4:10	-51	FL380	0:15	22.3N	154.2W	FL375	-49.5	3.7	FL380	-50.4	.7	3:50				
HNL-LAX	11/14/78	45	3:45	-47	FL340	0:15	22.7N	153.3W	FL337	-42.6	3.1	FL339	-43.1	1.9	3:30				
HNL-LAX	11/16/76	50	3:50	-44	FL339	0:54	25.6N	147.0W	FL337	-41.6	2.2	FL338	-42.0	.9	3:35				
HNL-LAX	11/20/77	48	4:07	-61	FL380	3:02	29.7N	129.5W	FL374	-55.8	6.9	FL380	-57.6	3.0	3:34				
HNL-LAX	11/21/77	42	3:39	-53	FL370	3:15	32.3N	124.0W	FL367	-48.9	3.1	FL370	-49.5	1.2	3:15				
HNL-LAX	11/25/76	39	3:20	-62	FL380	2:25	30.5N	134.1W	FL351	-53.2	5.3	FL340	-50.3	1.1	2:00				
HNL-LAX	11/26/77	48	3:55	-59	FL380	3:30	33.0N	125.3W	FL377	-52.3	4.8	FL379	-53.1	3.4	3:40				
HNL-LAX	11/27/76	44	4:00	-62	FL380	3:19	32.5N	126.8W	FL377	-56.5	5.0	FL380	-57.3	3.9	3:39				
HNL-LAX	11/28/76	49	3:57	-61	FL380	3:37	33.2N	123.8W	FL377	-56.3	4.3	FL380	-57.0	1.9	3:40				
HNL-LAX	11/29/77	48	4:00	-57	FL371	3:15	31.6N	126.8W	FL358	-48.0	7.9	FL370	-52.5	3.6	2:49				
HNL-LAX	12/ 2/76	49	4:00	-63	FL383	1:35	27.5N	142.6W	FL376	-55.9	5.5	FL381	-56.5	4.6	1:45	FL381	-57.7	2.8	1:45
HNL-LAX	12/ 5/76	48	4:04	-62	FL380	1:00	25.3N	147.7W	FL377	-59.2	3.9	FL380	-60.0	1.6	3:50				
HNL-LAX	12/ 8/76	45	3:54	-60	FL370	2:34	29.8N	133.1W	FL366	-54.2	5.1	FL370	-55.1	4.4	3:29				
HNL-LAX	12/11/77	51	4:00	-59	FL370	3:39	32.8N	123.1W	FL367	-52.9	4.2	FL370	-53.5	3.3	3:45				
HNL-LAX	12/13/76	47	4:04	-61	FL378	4:04	33.8N	120.2W	FL376	-53.2	5.3	FL380	-54.3	2.6	3:49				
HNL-LAX	12/13/77	45	4:00	-57	FL380	3:35	33.8N	124.2W	FL376	-52.2	4.0	FL380	-53.2	1.6	3:20				
HNL-LAX	12/14/77	44	3:49	-56	FL380	3:30	33.6N	124.8W	FL375	-52.2	5.1	FL380	-53.5	1.2	3:30				
HNL-LAX	12/15/76	48	3:56	-57	FL350	3:50	35.1N	121.2W	FL337	-47.0	5.8	FL330	-43.4	1.3	2:10	FL350	-53.5	1.3	1:19
HNL-LAX	12/16/77	39	3:27	-46	FL341	1:57	29.5N	137.2W	FL338	-43.5	3.4	FL340	-44.3	1.8	3:12				
HNL-LAX	12/17/76	43	3:42	-57	FL380	3:27	33.3N	123.0W	FL376	-48.9	3.3	FL380	-49.4	2.5	3:22				
HNL-LAX	12/17/77	41	3:24	-55	FL380	2:54	32.6N	126.6W	FL360	-49.7	5.0	FL340	-46.0	2.0	1:25	FL380	-53.6	.8	1:34

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-LAX	12/19/77	41	3:25	-61	FL380	2:20	31.0N	132.5W	FL374	-53.2	7.4	FL380	-55.0	5.5	3:00				
HNL-LAX	12/23/76	49	4:00	-62	FL380	2:15	29.5N	137.3W	FL376	-57.0	5.1	FL380	-58.0	3.0	3:39				
HNL-LAX	12/24/76	53	4:25	-45	FL300	4:05	33.2N	123.3W	FL300	-41.5	2.2	FL300	-41.5	2.2	4:25				
HNL-LAX	12/24/77	45	3:45	-57	FL399	2:45	31.5N	131.0W	FL389	-47.5	6.2	FL400	-49.2	3.7	3:08				
HNL-LAX	12/25/77	46	3:45	-56	FL380	3:24	33.0N	124.5W	FL376	-46.9	5.0	FL380	-47.6	4.3	3:24				
HNL-LAX	12/26/76	50	4:02	-54	FL340	2:49	31.2N	131.6W	FL337	-50.0	4.1	FL340	-50.9	1.7	3:47				
HNL-LAX	12/26/77	44	3:35	-52	FL370	0:50	24.1N	147.4W	FL367	-45.3	4.2	FL370	-45.6	3.8	3:15				
HNL-LAX	12/30/76	47	4:09	-60	FL341	4:04	33.6N	121.4W	FL338	-54.0	4.2	FL340	-54.7	2.6	4:00				
HNL-LAX	12/30/77	43	3:39	-55	FL370	2:49	31.0N	128.9W	FL369	-50.2	3.8	FL370	-50.8	3.0	3:24				
HNL-LAX	12/31/75	46	4:03	-61	FL370	2:00	30.0N	142.1W	FL367	-58.3	4.8	FL369	-59.2	1.3	3:52				
HNL-LAX	12/31/77	42	3:30	-56	FL370	3:24	33.0N	121.6W	FL367	-48.7	4.2	FL370	-49.7	2.8	3:10				
HNL-NAN	1/ 6/77	55	5:00	-32	FL310	3:10	4.3S	173.4W	FL293	-27.5	3.2	FL280	-25.0	1.4	2:34	FL310	-31.0	.6	2:14
HNL-NAN	1/ 8/78	53	4:53	-43	FL351	1:38	6.5N	166.1W	FL340	-39.6	4.6	FL310	-32.1	.3	1:23	FL350	-42.3	.5	3:15
HNL-NAN	1/14/77	60	4:59	-42	FL350	1:54	4.9N	167.9W	FL335	-37.6	4.4	FL310	-32.4	.5	1:40	FL350	-41.0	.8	3:04
HNL-NAN	1/19/78	63	5:14	-44	FL350	4:59	14.5S	179.7E	FL343	-40.4	3.6	FL350	-42.1	.7	4:14				
HNL-NAN	1/29/78	61	5:08	-40	FL351	3:48	7.6S	175.6W	FL325	-32.9	5.4	FL310	-29.1	.9	3:00	FL350	-39.7	.4	1:49
HNL-NAN	2/ 5/78	57	4:49	-42	FL351	2:44	1.5S	171.9W	FL333	-36.8	5.3	FL309	-31.1	.7	1:45	FL350	-41.2	.4	2:44
HNL-NAN	2/12/77	58	4:54	-42	FL350	1:24	8.3N	165.7W	FL340	-38.9	3.3	FL310	-33.7	1.5	1:04	FL349	-40.7	.6	3:30
HNL-NAN	2/20/77	59	4:59	-43	FL350	1:15	10.0N	164.6W	FL349	-41.7	1.4	FL349	-41.9	.6	4:49				
HNL-NAN	3/15/77	63	5:13	-43	FL350	4:37	12.8S	179.0W	FL342	-38.8	4.2	FL350	-40.8	.9	4:02				
HNL-NAN	3/20/77	69	5:22	-43	FL350	1:45	8.0N	165.9W	FL347	-41.3	2.9	FL349	-41.9	.6	5:02				
HNL-NAN	3/22/77	66	5:17	-43	FL350	2:34	2.6N	169.4W	FL349	-41.3	1.3	FL350	-41.5	.8	5:07				
HNL-NAN	4/14/77	62	5:04	-32	FL311	1:51	5.9N	167.3W	FL300	-29.2	3.5	FL280	-25.1	2.7	1:45	FL310	-31.5	.5	3:13
HNL-NAN	4/19/77	63	5:14	-43	FL351	3:00	.6S	171.4W	FL340	-39.7	3.5	FL310	-34.0	2.4	1:04	FL350	-41.5	.7	3:54
HNL-NAN	4/27/78	60	5:14	-55	FL391	4:04	8.9S	176.6W	FL365	-47.5	4.9	FL350	-43.6	.7	3:04	FL390	-54.6	.5	1:20
HNL-NAN	5/ 1/77	61	5:14	-44	FL351	1:04	11.9N	163.4W	FL343	-41.8	2.6	FL350	-43.0	.6	4:09				
HNL-NAN	5/ 5/77	63	5:09	-45	FL350	5:09	16.4S	178.4E	FL332	-39.3	4.9	FL310	-34.0	.9	2:10	FL350	-43.7	.5	2:45
HNL-NAN	6/ 1/79	63	5:09	-50	FL370	3:54	8.0S	176.2W	FL347	-42.8	5.4	FL350	-43.0	.7	1:39	FL370	-48.8	.5	1:29
HNL-NAN	6/19/77	57	4:59	-43	FL350	2:00	4.7N	168.2W	FL335	-38.7	4.8	FL309	-32.5	.7	1:35	FL349	-42.4	.5	3:04
HNL-NAN	7/10/77	58	5:00	-43	FL350	4:34	13.7S	179.8W	FL337	-38.5	4.6	FL310	-32.0	.9	1:15	FL350	-41.5	.8	3:29
HNL-NAN	7/21/77	59	5:01	-45	FL351	3:29	6.3S	174.9W	FL332	-39.2	5.9	FL310	-33.2	.7	2:09	FL350	-44.3	.5	2:31
HNL-NAN	7/23/77	58	4:51	-45	FL351	3:56	10.5S	177.1W	FL330	-38.5	5.5	FL310	-33.2	.4	2:19	FL350	-44.0	.5	2:16
HNL-NAN	8/ 4/78	62	5:08	-46	FL350	0:15	17.3N	160.1W	FL348	-43.9	2.7	FL350	-44.5	.6	4:48				
HNL-NAN	8/20/76	61	5:04	-42	FL349	4:34	13.1S	179.3W	FL336	-38.1	4.9	FL309	-31.9	1.1	1:10	FL349	-41.0	.5	3:35
HNL-NAN	8/28/76	59	4:48	-37	FL349	4:23	13.6S	179.4W	FL332	-31.7	4.6	FL309	-26.5	2.2	1:45	FL348	-35.3	.9	2:41
HNL-NAN	9/ 8/78	62	5:04	-51	FL370	4:19	11.5S	178.5W	FL346	-43.8	5.0	FL330	-39.0	.4	1:04	FL349	-44.9	.5	2:15
												FL370	-50.3	.5	1:04				
HNL-NAN	9/ 9/77	57	4:49	-43	FL350	3:19	5.2S	174.3W	FL324	-35.5	5.3	FL310	-32.1	.8	2:49	FL350	-42.3	.6	1:34
HNL-NAN	9/11/77	52	4:34	-44	FL350	2:49	3.0S	172.9W	FL327	-36.9	5.2	FL309	-32.4	.7	2:30	FL350	-43.0	.6	1:55
HNL-NAN	9/13/77	59	5:05	-45	FL350	2:26	1.5N	170.1W	FL334	-40.3	5.3	FL310	-34.2	.4	1:40	FL349	-44.2	.5	3:10
HNL-NAN	9/30/77	58	4:59	-45	FL351	4:54	15.8S	178.8E	FL337	-39.9	5.4	FL309	-32.2	.6	1:30	FL350	-43.6	.6	3:14
HNL-NAN	10/ 2/77	33	5:04	-44	FL350	4:49	14.5S	179.5E	FL334	-39.0	5.4	FL310	-33.0	.9	1:24	FL349	-43.0	.4	3:04
HNL-NAN	10/ 4/76	59	5:03	-46	FL350	3:49	8.2S	176.2W	FL326	-38.7	5.5	FL310	-34.3	.8	2:45	FL350	-45.0	.8	1:57
HNL-NAN	10/ 4/77	61	5:01	-44	FL350	1:27	8.2N	165.7W	FL339	-39.9	4.5	FL310	-33.5	.5	1:09	FL350	-42.6	.8	3:31
HNL-NAN	10/14/76	63	5:02	-45	FL351	4:44	14.4S	179.9E	FL322	-36.5	4.9	FL310	-33.5	.6	3:19	FL350	-44.0	.7	0:00
HNL-NAN	10/22/76	61	5:12	-46	FL350	5:07	15.9S	178.8E	FL333	-39.8	5.2	FL310	-33.8	.8	1:48	FL350	-44.1	.9	3:04
HNL-NAN	10/30/76	63	5:19	-34	FL310	2:34	1.9N	169.7W	FL302	-30.7	2.4	FL310	-32.3	.8	3:30				
HNL-NAN	11/19/76	63	5:15	-45	FL350	5:15	16.5S	178.4E	FL337	-40.0	5.5	FL349	-42.6	.7	4:09				
HNL-NAN	11/27/76	60	5:04	-44	FL350	4:30	12.8S	179.2W	FL332	-38.9	4.4	FL309	-34.3	2.4	2:10	FL349	-42.6	.6	2:44
HNL-NAN	12/ 3/76	62	5:04	-33	FL310	4:59	16.1S	178.8E	FL296	-28.6	3.0	FL280	-25.6	1.4	2:15	FL309	-31.2	.6	2:34
HNL-NAN	12/14/76	63	4:53	-43	FL350	2:44	1.4S	171.8W	FL339	-39.0	4.2	FL310	-32.1	.6	1:15	FL350	-41.5	.6	3:23
HNL-NAN	12/15/77	59	4:54	-33	FL312	0:08	16.8N	160.1W	FL309	-30.0	1.3	FL310	-30.2	.8	4:45				
HNL-NAN	12/16/76	64	5:16	-34	FL310	2:05	4.2N	168.3W	FL301	-29.8	2.6	FL280	-26.2	1.0	1:34	FL310	-31.4	.8	3:36

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-NAN	12/23/76	57	4:51	-45	FL350	4:41	15.1S	179.3E	FL330	-38.9	4.9	FL309	-34.2	.9	2:00	FL349	-43.7	.7	2:26
HNL-NAN	12/24/76	61	5:04	-45	FL350	0:10	17.8N	159.4W	FL349	-42.1	1.6	FL350	-42.3	1.0	4:54				
HNL-NAN	12/25/76	60	5:07	-50	FL350	0:10	18.0N	159.6W	FL358	-47.0	2.8	FL350	-45.2	1.5	2:34	FL369	-49.3	.5	2:13
HNL-NAN	12/26/76	63	5:11	-47	FL350	0:10	18.3N	159.0W	FL348	-42.1	2.9	FL350	-42.6	1.7	4:56				
HNL-NOU	1/27/78	100	8:19	-49	FL370	7:24	26.3S	162.1E	FL332	-36.7	8.0	FL309	-29.7	.5	2:50	FL360	-45.8	.4	1:30
HNL-NRT	1/ 3/79	93	7:47	-48	FL350	7:32	34.3N	143.5E	FL336	-38.6	5.4	FL309	-30.1	.8	1:34	FL329	-35.9	.6	1:15
												FL349	-42.6	1.7	4:32				
HNL-NRT	2/12/79	86	7:15	-61	FL351	3:50	34.7N	171.2E	FL336	-51.6	7.2	FL330	-51.5	2.6	2:24	FL350	-56.3	2.9	3:30
HNL-NRT	2/21/79	96	7:54	-58	FL351	5:54	35.0N	159.6E	FL340	-51.5	4.9	FL330	-48.4	.6	2:24	FL350	-54.8	2.7	4:34
HNL-NRT	3/13/79	91	7:30	-55	FL350	0:45	25.2N	165.4W	FL371	-48.4	4.4	FL350	-53.2	1.8	3:00	FL390	-45.2	1.6	3:59
HNL-NRT	4/22/79	88	7:15	-54	FL350	6:20	33.5N	148.8E	FL342	-45.2	5.1	FL310	-38.1	.7	1:09	FL350	-47.2	3.4	5:45
HNL-NRT	5/10/79	86	7:04	-50	FL351	2:39	27.5N	178.0E	FL342	-45.5	3.4	FL331	-43.4	.6	2:20	FL351	-47.4	1.4	4:20
HNL-NRT	6/ 3/79	81	6:39	-56	FL390	4:54	31.2N	156.3E	FL375	-51.2	4.0	FL370	-49.2	.4	2:09	FL390	-54.7	.8	3:09
HNL-NRT	6/ 4/78	77	6:18	-38	FL311	1:14	25.7N	172.1W	FL310	-34.0	2.8	FL310	-34.1	2.8	6:13				
HNL-NRT	6/23/78	75	6:12	-49	FL348	2:27	29.1N	179.0E	FL335	-43.0	4.0	FL310	-38.6	1.0	2:12	FL351	-45.8	1.5	3:44
HNL-NRT	7/ 7/78	76	6:14	-55	FL390	4:44	34.3N	157.7E	FL366	-50.6	3.6	FL349	-48.4	.9	2:19	FL369	-52.4	.7	1:54
												FL390	-53.2	1.5	1:30				
HNL-NRT	10/14/78	82	6:53	-51	FL370	4:09	28.5N	162.8E	FL350	-46.0	4.1	FL329	-41.7	.7	2:00	FL350	-46.2	1.1	1:30
												FL370	-50.1	.7	2:48				
HNL-ORD	1/10/79	83	6:05	-61	FL369	3:11	43.0N	127.1W	FL342	-50.4	7.2	FL334	-46.8	1.4	1:45	FL370	-59.9	.6	1:14
												FL290	-41.3	1.2	1:09	FL370	-53.0	1.7	1:04
HNL-ORD	1/16/78	68	5:54	-57	FL346	5:54	42.5N	90.0W	FL354	-42.4	5.2	FL329	-38.9	2.4	2:45	FL369	-44.0	2.5	1:05
												FL390	-47.3	3.7	1:34				
HNL-ORD	1/22/78	78	6:49	-59	FL357	3:24	35.4N	127.7W	FL349	-50.2	3.3	FL330	-49.1	3.1	3:10	FL369	-51.5	1.4	3:20
HNL-ORD	1/28/79	81	6:35	-56	FL340	3:14	30.9N	126.1W	FL342	-47.2	4.6	FL300	-42.5	.6	1:09	FL340	-52.2	2.4	2:19
												FL369	-44.8	1.2	2:13				
HNL-ORD	2/ 9/79	78	6:19	-63	FL371	4:14	39.1N	115.2W	FL349	-53.1	7.6	FL331	-47.9	3.2	2:49	FL371	-59.7	2.7	3:00
HNL-ORD	2/16/79	76	6:14	-57	FL360	3:54	35.6N	116.7W	FL327	-49.3	5.7	FL300	-45.7	4.4	3:14	FL369	-54.2	.8	2:04
HNL-ORD	2/18/78	83	6:56	-67	FL371	4:01	44.1N	122.7W	FL348	-56.5	5.3	FL330	-53.4	1.7	3:30	FL370	-60.8	4.4	3:00
HNL-ORD	2/22/78	82	6:41	-67	FL371	5:14	40.6N	106.6W	FL352	-54.6	9.0	FL332	-48.7	5.9	2:49	FL371	-60.7	4.0	3:22
HNL-ORD	3/ 2/76	76	6:13	-53	FL335	2:44	34.4N	130.9W	FL330	-48.3	4.5	FL332	-49.1	3.5	5:51				
HNL-ORD	3/ 3/78	68	5:45	-50	FL371	4:30	41.0N	106.3W	FL347	-43.7	4.1	FL330	-42.9	2.5	2:49	FL369	-45.6	3.1	2:26
HNL-ORD	3/ 5/76	78	6:28	-54	FL330	3:23	36.3N	124.7W	FL346	-49.4	3.3	FL330	-50.3	2.5	3:18	FL369	-49.2	2.2	2:45
HNL-ORD	3/14/78	80	6:30	-57	FL371	5:45	42.3N	98.5W	FL327	-46.1	6.8	FL291	-38.6	.5	2:35	FL330	-50.7	1.9	1:09
												FL370	-52.5	2.6	2:11				
HNL-ORD	3/15/78	77	6:34	-61	FL371	4:04	38.9N	118.5W	FL353	-51.9	4.5	FL340	-51.9	.6	3:09	FL370	-52.6	6.0	2:59
HNL-ORD	3/19/78	86	6:27	-62	FL371	4:57	38.5N	107.7W	FL352	-52.7	7.0	FL340	-50.2	1.4	1:07	FL340	-46.2	4.9	1:56
												FL370	-59.5	1.9	2:56				
HNL-ORD	3/23/79	77	7:00	-59	FL353	6:52	41.0N	91.3W	FL344	-47.5	3.4	FL310	-44.4	1.0	1:55	FL350	-47.0	2.0	2:09
												FL370	-49.7	2.2	2:15				
HNL-ORD	3/30/76	83	6:45	-63	FL370	4:25	39.5N	115.6W	FL335	-49.0	7.4	FL290	-41.5	.7	1:49	FL330	-52.3	.4	1:30
												FL370	-52.2	8.4	2:49				
HNL-ORD	4/ 1/76	82	6:56	-60	FL370	5:51	41.5N	101.8W	FL349	-51.9	3.9	FL330	-50.0	.6	3:14	FL369	-54.1	3.8	3:11
HNL-ORD	4/ 2/78	82	6:49	-63	FL370	6:39	42.1N	91.1W	FL349	-53.3	4.5	FL331	-51.2	2.1	3:04	FL370	-56.2	3.3	3:10
HNL-ORD	4/ 6/78	103	6:47	-65	FL391	5:27	38.9N	104.8W	FL363	-56.3	5.7	FL340	-51.6	2.0	3:04	FL379	-60.6	.5	1:09
												FL390	-62.6	1.0	1:09				
HNL-ORD	4/ 6/79	244	6:59	-67	FL390	5:30	41.3N	106.0W	FL373	-60.0	5.6	FL340	-52.6	1.0	1:47	FL360	-57.5	2.0	1:07
												FL370	-58.4	3.7	1:54	FL390	-65.5	1.0	1:28
HNL-ORD	4/ 7/78	83	6:50	-61	FL370	6:45	41.2N	90.6W	FL353	-52.8	5.0	FL340	-51.0	1.0	3:25	FL370	-55.6	5.9	3:00
HNL-ORD	4/10/76	78	6:39	-60	FL370	3:59	38.3N	118.9W	FL353	-51.4	6.2	FL329	-46.9	3.4	2:45	FL369	-54.9	3.1	2:34
HNL-ORD	4/12/76	47	3:45	-65	FL390	2:19	41.2N	107.0W	FL376	-56.4	5.7	FL370	-54.1	5.0	2:00	FL390	-60.7	2.9	1:30
HNL-ORD	4/12/78	77	6:33	-59	FL371	3:58	37.7N	119.6W	FL323	-49.1	4.7	FL330	-50.7	1.2	3:18	FL290	-43.3	.5	1:40
HNL-ORD	4/14/76	80	6:54	-61	FL384	5:54	39.0N	100.4W	FL348	-48.0	6.6	FL330	-44.8	1.5	3:15	FL369	-49.7	5.9	2:04

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-ORD	4/17/78	76	6:17	-65	FL391	5:39	41.9N	97.9W	FL356	-53.2	5.5	FL331	-51.5	1.4	2:54	FL370	-54.5	5.0	1:11
												FL390	-56.0	7.2	1:45				
HNL-ORD	4/19/76	79	6:55	-59	FL370	6:45	42.4N	92.2W	FL348	-49.0	4.6	FL330	-45.9	.7	3:19	FL370	-52.7	4.2	3:11
HNL-ORD	4/20/76	79	6:43	-58	FL377	6:38	42.3N	92.1W	FL353	-50.6	4.5	FL330	-46.7	1.0	2:59	FL370	-54.1	2.3	2:33
HNL-ORD	5/ 9/78	83	7:04	-61	FL370	5:00	39.8N	112.6W	FL346	-50.9	7.6	FL331	-45.4	2.7	3:15	FL370	-59.0	1.8	2:15
HNL-ORD	5/10/78	78	6:39	-62	FL371	4:19	39.2N	116.8W	FL354	-52.9	6.7	FL341	-47.5	1.4	3:09	FL370	-59.7	1.5	3:04
HNL-ORD	5/14/76	82	6:46	-57	FL370	4:09	39.2N	119.3W	FL347	-49.9	4.2	FL330	-46.6	.6	2:59	FL369	-54.0	1.5	2:56
HNL-ORD	5/15/77	78	6:44	-61	FL390	6:19	42.0N	95.3W	FL352	-49.7	5.4	FL330	-46.4	1.5	2:49	FL369	-51.7	3.6	2:29
HNL-ORD	5/16/77	77	6:39	-59	FL366	3:19	35.3N	127.6W	FL349	-49.3	5.6	FL330	-46.5	1.3	3:00	FL369	-52.9	5.4	3:20
HNL-ORD	5/17/78	80	6:42	-57	FL371	3:57	35.3N	118.2W	FL352	-49.8	4.1	FL340	-48.6	1.2	3:15	FL370	-52.4	3.0	2:59
HNL-ORD	5/29/78	78	6:49	-59	FL370	4:34	39.3N	114.3W	FL345	-48.6	5.6	FL330	-46.4	.8	3:34	FL369	-52.9	5.5	2:39
HNL-ORD	5/30/79	84	6:44	-58	FL370	3:49	37.2N	121.8W	FL357	-51.9	4.6	FL340	-47.4	1.0	2:15	FL369	-55.6	2.0	1:34
												FL370	-55.8	1.5	1:37				
HNL-ORD	5/31/79	82	6:44	-58	FL370	6:14	42.1N	96.7W	FL362	-51.7	4.0	FL360	-51.6	1.2	3:24	FL369	-53.1	2.9	2:54
HNL-ORD	6/ 3/79	85	6:58	-60	FL391	5:38	38.3N	104.5W	FL374	-52.0	3.9	FL350	-47.6	.6	1:29	FL370	-53.1	1.0	2:19
												FL390	-54.6	2.7	1:33				
HNL-ORD	6/ 6/79	78	6:24	-55	FL370	5:54	43.4N	96.0W	FL359	-49.4	3.8	FL350	-47.5	.5	2:39	FL369	-51.8	1.9	3:24
HNL-ORD	6/ 7/78	80	6:34	-59	FL370	5:14	44.2N	105.8W	FL353	-51.8	6.6	FL330	-44.5	.7	2:15	FL370	-56.9	1.1	3:54
HNL-ORD	6/ 9/75	81	6:38	-59	FL370	4:25	39.0N	116.8W	FL354	-51.2	5.7	FL330	-45.4	2.4	2:26	FL370	-55.4	1.8	3:47
HNL-ORD	6/14/75	81	6:42	-62	FL411	6:32	43.1N	92.1W	FL381	-52.3	3.7	FL370	-51.9	.3	4:19	FL410	-54.2	4.6	1:49
HNL-ORD	6/14/79	76	6:14	-55	FL370	5:54	42.2N	94.8W	FL360	-51.7	3.7	FL360	-52.3	.6	1:54	FL370	-53.6	.9	2:59
HNL-ORD	6/15/78	85	6:38	-61	FL392	6:14	40.4N	92.6W	FL357	-52.3	5.0	FL340	-50.2	1.9	3:09	FL370	-53.7	.7	2:24
HNL-ORD	6/19/79	234	6:43	-57	FL370	3:48	37.2N	122.2W	FL368	-52.2	4.8	FL360	-53.8	1.1	3:08	FL370	-52.1	4.8	3:09
HNL-ORD	6/21/77	79	6:55	-59	FL390	6:15	42.0N	98.8W	FL363	-52.3	5.5	FL330	-44.2	.4	1:19	FL370	-54.4	.7	3:50
HNL-ORD	6/26/77	81	7:00	-62	FL390	5:54	45.1N	101.6W	FL359	-50.6	7.1	FL330	-42.4	.7	2:34	FL370	-53.7	.5	2:24
												FL389	-59.4	1.2	1:39				
HNL-ORD	6/28/78	78	6:24	-54	FL370	3:09	37.2N	127.6W	FL348	-47.2	5.1	FL330	-45.2	2.2	2:49	FL370	-50.5	1.8	3:04
HNL-ORD	6/30/77	81	6:39	-55	FL370	5:24	41.0N	105.6W	FL346	-46.1	6.4	FL330	-42.5	1.6	2:54	FL370	-52.5	2.0	2:49
HNL-ORD	7/ 1/77	76	6:29	-54	FL370	5:19	41.3N	104.4W	FL355	-46.3	4.4	FL330	-42.2	1.2	2:09	FL369	-48.8	3.5	3:54
HNL-ORD	7/ 2/78	74	6:09	-51	FL370	4:14	36.5N	112.1W	FL345	-43.8	4.3	FL330	-41.3	.6	3:05	FL369	-48.1	1.7	2:29
HNL-ORD	7/10/77	77	6:42	-51	FL370	3:49	34.0N	121.3W	FL351	-46.8	4.0	FL340	-45.6	1.8	3:14	FL369	-49.6	1.3	2:53
HNL-ORD	7/10/79	80	6:34	-59	FL390	6:19	42.4N	92.8W	FL343	-44.7	8.5	FL320	-37.8	1.8	2:59	FL370	-52.8	.6	2:30
HNL-ORD	7/15/77	76	6:29	-57	FL390	5:54	42.0N	97.5W	FL359	-48.7	4.4	FL330	-42.9	.9	1:50	FL369	-50.9	1.0	3:39
HNL-ORD	7/15/78	76	6:14	-52	FL360	6:14	42.3N	90.2W	FL350	-45.8	3.6	FL330	-43.1	1.4	2:54	FL370	-48.9	.8	2:54
HNL-ORD	7/19/77	83	6:54	-52	FL371	6:39	42.2N	93.4W	FL353	-47.1	3.3	FL340	-45.1	1.4	3:19	FL370	-50.0	.6	3:09
HNL-ORD	7/29/78	79	6:29	-52	FL370	5:44	43.6N	98.6W	FL349	-45.8	4.9	FL330	-41.4	.9	2:49	FL369	-50.5	1.1	3:09
HNL-ORD	8/ 5/77	73	6:20	-53	FL370	2:34	33.6N	132.8W	FL363	-49.6	3.6	FL369	-51.0	1.4	5:10				
HNL-ORD	8/ 5/78	82	6:44	-55	FL371	6:14	42.1N	95.0W	FL353	-48.1	4.4	FL330	-44.3	.5	2:24	FL370	-51.3	1.9	3:54
HNL-ORD	8/14/77	73	6:24	-54	FL390	5:54	42.6N	96.3W	FL354	-46.4	4.1	FL340	-46.0	1.4	2:20	FL369	-47.7	.9	1:59
HNL-ORD	9/ 8/77	67	6:29	-54	FL369	5:24	43.1N	102.5W	FL355	-49.3	4.7	FL329	-43.1	1.6	1:14	FL349	-50.0	.4	1:10
												FL368	-52.0	.9	3:34				
HNL-ORD	9/16/78	88	6:34	-58	FL385	4:19	44.3N	118.4W	FL351	-48.0	5.8	FL330	-44.1	.6	1:59	FL370	-54.3	.7	1:49
												FL330	-43.4	.6	1:08				
HNL-ORD	9/25/75	78	6:43	-58	FL372	5:18	41.1N	105.8W	FL332	-45.4	9.5	FL290	-35.6	1.0	2:54	FL371	-54.7	2.4	3:09
HNL-ORD	9/25/78	75	6:24	-57	FL370	3:34	37.5N	120.6W	FL348	-48.5	7.0	FL330	-42.6	1.6	2:50	FL369	-55.0	1.6	3:04
HNL-ORD	9/29/78	77	6:24	-61	FL375	6:14	42.3N	92.8W	FL355	-51.5	6.0	FL340	-46.2	1.6	2:44	FL370	-56.8	.9	2:54
HNL-ORD	10/ 1/75	80	6:44	-59	FL372	5:19	40.7N	106.3W	FL360	-51.6	5.5	FL331	-44.6	1.0	1:34	FL371	-54.3	3.7	4:49
HNL-ORD	10/ 2/78	82	6:51	-60	FL370	6:36	42.2N	93.3W	FL350	-50.2	6.9	FL330	-43.8	1.3	3:03	FL370	-56.8	1.6	3:21
HNL-ORD	10/20/78	82	6:49	-62	FL390	5:39	39.4N	102.5W	FL356	-50.5	7.2	FL340	-45.6	3.5	3:19	FL369	-54.9	2.4	1:04
												FL389	-59.5	1.5	1:15				
HNL-ORD	10/28/78	77	6:21	-53	FL369	4:51	44.6N	109.1W	FL348	-47.8	3.2	FL329	-46.2	1.1	2:36	FL369	-49.1	2.1	2:39
HNL-ORD	11/28/77	76	6:19	-56	FL370	3:54	44.3N	119.6W	FL340	-45.8	7.0	FL330	-45.0	2.4	2:54	FL370	-51.7	1.8	2:19
HNL-ORD	12/ 4/76	79	6:45	-63	FL371	5:25	38.9N	104.7W	FL348	-52.9	6.9	FL340	-51.2	.9	2:45	FL370	-59.0	2.0	2:49

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-ORD	12/ 5/78	205	6:21	-49	FL369	4:32	39.2N	114.0W	FL361	-44.1	2.4	FL329	-45.3	2.3	3:14	FL369	-43.9	1.7	2:41
HNL-ORD	12/21/77	79	6:23	-58	FL330	5:53	40.7N	94.7W	FL311	-44.7	8.6	FL300	-38.6	2.2	2:08	FL270	-36.2	2.3	1:10
												FL330	-56.1	1.6	1:10				
HNL-ORD	12/23/78	120	6:09	-62	FL370	5:45	40.8N	95.0W	FL354	-54.2	4.9	FL340	-48.5	3.3	2:45				
HNL-ORD	12/24/78	78	6:24	-63	FL370	4:34	40.0N	110.6W	FL356	-53.7	7.5	FL330	-42.7	3.2	1:20	FL370	-59.2	3.3	3:15
HNL-ORD	12/27/75	82	7:04	-66	FL390	3:55	36.3N	124.6W	FL372	-58.0	5.6	FL370	-58.2	2.0	3:30	FL370	-56.5	4.1	2:10
HNL-ORD	12/29/78	207	6:17	-65	FL366	6:17	41.3N	90.3W	FL358	-52.3	7.6	FL300	-38.9	3.6	2:35	FL370	-55.4	4.3	2:48
HNL-OSA	1/ 3/79	95	8:04	-48	FL370	7:34	33.7N	142.1E	FL340	-39.0	5.7	FL309	-31.3	.4	1:09	FL330	-35.3	.5	2:00
												FL349	-41.4	.8	2:19	FL369	-46.4	.9	1:44
HNL-OSA	2/11/79	94	8:08	-62	FL390	3:53	34.3N	172.8E	FL374	-51.2	6.6	FL350	-44.5	3.2	2:20	FL390	-55.0	4.1	4:39
HNL-OSA	2/20/79	430	7:59	-65	FL381	2:53	36.3N	176.6W	FL389	-50.5	6.6	FL370	-56.5	2.5	1:31	FL390	-44.6	4.8	2:37
												FL409	-50.1	2.3	1:52				
HNL-OSA	3/31/79	95	7:49	-57	FL371	6:30	32.0N	147.6E	FL346	-49.6	5.6	FL331	-45.0	.5	1:39	FL351	-51.3	.8	3:34
												FL370	-56.5	.6	1:35				
HNL-OSA	5/ 7/79	91	7:29	-61	FL390	3:54	31.3N	167.6E	FL363	-52.1	8.0	FL310	-37.9	.4	1:09	FL350	-49.8	2.0	2:24
												FL390	-58.8	1.5	3:34				
HNL-OSA	10/28/78	86	7:07	-56	FL349	2:59	30.0N	175.4E	FL333	-47.3	4.9	FL310	-43.1	2.5	2:44	FL350	-50.8	2.3	4:02
HNL-OSA	11/ 6/78	77	7:25	-52	FL390	3:45	25.5N	167.9E	FL369	-47.8	3.9	FL350	-45.5	.8	3:10	FL390	-50.7	1.2	3:30
HNL-PDX	5/17/78	47	3:57	-59	FL370	1:46	34.4N	143.6W	FL355	-53.8	6.2	FL369	-58.0	.7	2:39				
HNL-PDX	6/ 1/78	48	4:04	-58	FL370	3:15	40.9N	131.9W	FL355	-51.9	5.4	FL330	-46.0	.9	1:04	FL370	-55.4	1.5	2:34
HNL-PDX	6/20/78	50	4:09	-57	FL370	3:04	38.8N	133.6W	FL341	-50.2	3.6	FL330	-48.7	1.3	2:50	FL369	-54.9	1.2	1:05
HNL-PDX	7/ 4/78	48	3:54	-58	FL370	3:24	42.1N	128.4W	FL354	-50.5	5.6	FL330	-44.1	.6	1:09	FL370	-54.5	1.7	2:25
HNL-PDX	10/25/78	49	4:05	-57	FL371	1:45	32.5N	144.7W	FL358	-49.3	5.4	FL370	-52.2	2.4	2:49				
HNL-PDX	10/27/78	46	3:56	-56	FL370	0:44	27.7N	153.1W	FL364	-51.1	4.0	FL370	-51.9	2.5	3:11				
HNL-PPG	1/ 9/77	48	4:04	-47	FL351	3:25	8.6S	168.4W	FL336	-40.1	5.1	FL350	-43.5	1.3	2:39				
HNL-PPG	3/29/77	53	4:34	-55	FL390	0:54	13.5N	160.5W	FL386	-53.8	3.5	FL389	-54.5	.9	4:19				
HNL-PPG	5/ 3/77	51	4:19	-66	FL430	3:19	5.0S	167.2W	FL403	-58.4	5.5	FL389	-55.1	.7	2:39	FL429	-65.2	.4	1:24
HNL-PPG	5/10/77	55	4:41	-61	FL410	4:31	12.0S	169.8W	FL397	-56.8	4.3	FL395	-56.0	.6	2:02	FL409	-59.8	.6	2:00
HNL-PPG	5/26/79	52	4:08	-44	FL347	0:09	17.8N	159.0W	FL347	-42.4	3.0	FL350	-43.1	.6	3:54				
HNL-PPG	5/27/78	38	3:04	-44	FL351	0:00	11.3N	161.3W	FL351	-43.8	.4	FL350	-43.8	.4	3:04				
HNL-PPG	6/10/77	46	4:09	-47	FL351	0:15	16.7N	159.2W	FL348	-44.6	2.5	FL350	-45.1	.7	3:49				
HNL-PPG	6/12/77	51	4:11	-44	FL350	1:12	9.5N	162.0W	FL344	-42.0	2.3	FL350	-43.1	.7	2:57				
HNL-PPG	6/29/77	49	4:04	-50	FL370	3:25	8.0S	168.2W	FL347	-43.5	5.1	FL350	-44.4	.7	2:20				
HNL-PPG	7/ 1/77	47	3:57	-46	FL351	2:42	2.9S	166.4W	FL338	-41.7	4.9	FL350	-44.9	.4	2:42				
HNL-PPG	7/ 3/77	48	4:00	-46	FL351	1:46	4.7N	163.9W	FL341	-42.5	3.9	FL331	-40.0	1.0	1:12	FL351	-45.2	.8	2:27
HNL-PPG	8/22/76	53	3:59	-40	FL350	1:03	10.2N	161.6W	FL340	-36.6	3.8	FL350	-38.6	.6	2:55				
HNL-PPG	8/24/76	50	4:00	-50	FL390	3:35	9.7S	169.0W	FL354	-40.4	4.3	FL349	-39.1	.4	3:06				
HNL-PPG	8/26/76	51	4:00	-40	FL350	1:19	7.6N	162.7W	FL338	-36.8	4.3	FL350	-39.4	.5	2:46				
HNL-PPG	8/30/76	55	4:05	-38	FL350	1:00	11.0N	161.4W	FL346	-35.5	3.5	FL350	-36.5	.8	3:48				
HNL-PPG	11/ 4/78	49	4:15	-47	FL350	0:15	16.8N	159.3W	FL348	-43.8	2.4	FL349	-44.3	.7	3:55				
HNL-PPG	11/ 7/76	65	4:24	-44	FL350	3:07	3.7S	166.8W	FL332	-38.5	5.7	FL310	-32.5	.9	1:56	FL350	-43.3	.5	2:13
HNL-PPG	12/14/76	51	4:19	-65	FL430	1:49	6.0N	163.3W	FL410	-58.6	7.9	FL390	-52.9	.6	1:20	FL429	-63.9	.7	2:29
HNL-PPG	12/17/77	45	4:00	-40	FL350	2:24	.9S	165.7W	FL333	-35.1	5.1	FL309	-29.2	.9	1:15	FL349	-39.1	.6	2:24
HNL-PPG	12/21/76	55	4:30	-61	FL410	1:19	10.1N	161.7W	FL407	-59.0	3.4	FL410	-59.7	.6	4:04				
HNL-PPG	12/28/76	55	4:34	-56	FL390	1:29	9.7N	161.9W	FL388	-54.3	1.6	FL390	-54.6	.6	4:19				
HNL-SEA	2/13/79	39	3:49	-52	FL371	0:54	28.6N	150.3W	FL368	-45.6	3.6	FL371	-45.8	3.3	3:29				
HNL-SEA	3/20/77	53	4:24	-64	FL371	3:15	42.5N	136.6W	FL367	-60.9	5.5	FL370	-62.2	2.4	4:00				
HNL-SEA	3/30/76	45	4:04	-64	FL371	1:54	33.7N	142.0W	FL370	-57.4	5.7	FL370	-57.6	5.6	3:59				
HNL-SEA	3/31/76	50	4:09	-61	FL350	3:39	44.9N	130.2W	FL337	-54.4	3.5	FL331	-52.6	1.3	2:44	FL350	-58.8	1.7	1:15
HNL-SEA	4/ 1/76	50	4:14	-58	FL334	3:34	42.2N	129.2W	FL312	-49.0	6.5	FL292	-42.5	1.4	1:54	FL332	-55.5	1.0	2:04
HNL-SEA	4/ 2/76	51	4:19	-50	FL290	3:59	45.1N	127.7W	FL290	-43.1	2.7	FL290	-43.1	2.7	4:19				
HNL-SEA	4/ 3/76	50	4:10	-64	FL370	3:40	45.0N	129.9W	FL367	-60.7	3.5	FL370	-61.4	2.0	3:50				
HNL-SEA	4/16/78	50	4:12	-64	FL370	2:25	37.8N	140.3W	FL348	-53.8	5.4	FL330	-50.4	1.8	1:45	FL369	-57.0	5.5	2:05

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-SEA	5/ 8/76	52	4:31	-64	FL392	3:37	42.2N	133.3W	FL378	-56.0	5.5	FL371	-53.9	2.3	2:00	FL392	-59.8	2.1	2:04
HNL-SEA	5/10/77	50	4:18	-63	FL371	2:58	39.4N	134.8W	FL367	-55.3	6.5	FL370	-56.3	4.9	4:05				
HNL-SEA	6/ 2/77	48	3:59	-59	FL371	3:19	43.3N	131.9W	FL368	-53.7	3.5	FL370	-54.2	2.3	3:44				
HNL-SEA	6/ 5/77	43	3:50	-57	FL370	2:35	37.8N	136.9W	FL368	-53.9	4.0	FL370	-54.7	1.5	3:40				
HNL-SEA	6/20/77	47	4:09	-57	FL370	3:39	44.4N	129.6W	FL361	-52.3	4.7	FL370	-54.8	1.2	3:09				
HNL-SEA	7/ 6/77	53	4:20	-59	FL370	3:00	40.6N	137.4W	FL368	-56.2	2.7	FL370	-56.6	1.2	4:09				
HNL-SEA	7/17/77	52	4:22	-55	FL371	1:33	33.2N	148.5W	FL355	-49.2	4.2	FL331	-45.5	.9	1:20	FL370	-51.9	.9	2:48
HNL-SEA	11/14/76	46	4:00	-53	FL370	3:55	46.4N	124.8W	FL364	-47.5	4.3	FL369	-48.5	1.6	3:40				
HNL-SEA	12/ 5/76	53	4:25	-61	FL371	2:45	40.2N	141.4W	FL369	-59.0	3.1	FL370	-59.5	1.2	4:15				
HNL-SEA	12/12/77	50	3:53	-61	FL390	2:56	41.8N	134.0W	FL367	-52.9	5.8	FL370	-52.5	1.9	1:57	FL390	-59.8	.9	1:04
HNL-SEA	12/19/76	55	4:26	-65	FL371	4:22	45.4N	125.0W	FL363	-55.7	6.7	FL370	-58.2	4.5	3:26				
HNL-SFO	1/ 2/79	173	3:15	-53	FL370	3:12	36.2N	125.3W	FL369	-46.8	2.7	FL369	-47.0	2.0	3:00				
HNL-SFO	1/ 4/77	50	3:53	-63	FL370	2:24	31.7N	137.7W	FL366	-55.0	6.6	FL370	-56.2	4.9	3:33				
HNL-SFO	1/ 5/77	45	3:45	-51	FL330	1:59	30.5N	140.7W	FL328	-47.4	4.1	FL329	-48.2	2.7	3:30				
HNL-SFO	1/ 5/78	45	3:39	-64	FL370	2:49	33.6N	132.7W	FL366	-58.3	7.0	FL370	-59.8	5.1	3:19				
HNL-SFO	1/ 5/78	43	3:33	-54	FL330	3:19	35.7N	126.3W	FL327	-45.7	7.1	FL330	-46.2	6.5	3:21				
HNL-SFO	1/ 7/78	40	3:21	-51	FL330	2:54	35.1N	128.3W	FL328	-42.0	5.5	FL330	-42.4	4.5	3:15				
HNL-SFO	1/ 7/79	14	1:05	-59	FL370	0:35	34.5N	128.9W	FL368	-57.4	1.2								
HNL-SFO	1/10/78	41	3:14	-51	FL369	3:09	36.5N	124.5W	FL362	-46.6	3.9	FL369	-47.3	1.8	3:00				
HNL-SFO	1/11/78	45	3:45	-59	FL380	3:25	36.2N	128.0W	FL375	-48.9	4.8	FL379	-49.7	4.1	3:25				
HNL-SFO	1/11/79	39	3:10	-64	FL391	2:40	37.3N	130.2W	FL366	-54.5	6.2	FL370	-55.2	2.4	2:15				
HNL-SFO	1/13/77	42	3:33	-62	FL370	3:24	35.8N	126.0W	FL364	-53.1	7.1	FL369	-54.4	5.5	3:14				
HNL-SFO	1/13/78	47	3:47	-51	FL410	2:59	34.0N	131.3W	FL376	-47.0	4.5	FL370	-46.7	.5	1:49				
HNL-SFO	1/13/78	43	3:34	-49	FL370	3:24	36.2N	125.6W	FL340	-41.6	5.1	FL330	-39.4	2.2	2:09	FL369	-47.5	1.1	1:04
HNL-SFO	1/15/78	36	3:00	-39	FL330	0:15	23.9N	153.2W	FL328	-37.7	1.6	FL330	-38.0	1.0	2:50				
HNL-SFO	1/18/78	43	3:35	-61	FL370	1:50	30.1N	141.2W	FL366	-53.1	6.8	FL370	-54.1	5.7	3:20				
HNL-SFO	1/18/79	207	3:50	-61	FL390	3:06	34.1N	131.0W	FL381	-55.9	4.0	FL370	-53.8	3.9	1:45	FL392	-58.0	1.5	1:45
HNL-SFO	1/19/79	44	3:34	-58	FL370	1:39	30.2N	141.2W	FL367	-53.3	4.8	FL370	-54.0	3.8	3:20				
HNL-SFO	1/20/78	40	3:19	-58	FL348	3:19	36.5N	124.4W	FL368	-52.2	2.5	FL370	-52.4	1.8	3:04				
HNL-SFO	1/20/79	46	3:37	-58	FL370	3:31	36.3N	124.5W	FL365	-51.5	4.6	FL369	-52.5	3.8	3:19				
HNL-SFO	1/22/78	46	3:45	-55	FL330	3:45	36.5N	124.2W	FL329	-49.5	3.9	FL330	-50.2	2.5	3:35				
HNL-SFO	1/24/78	43	3:57	-64	FL382	2:37	33.3N	136.4W	FL364	-54.4	9.4	FL340	-43.8	3.3	1:04	FL381	-62.0	1.4	1:45
HNL-SFO	1/24/79	180	3:24	-47	FL370	2:37	33.7N	132.4W	FL370	-44.6	1.7	FL370	-44.6	1.6	3:09				
HNL-SFO	1/25/77	44	3:40	-65	FL390	1:25	28.9N	144.1W	FL380	-59.6	4.1	FL390	-61.1	2.9	2:09				
HNL-SFO	1/25/79	44	3:34	-50	FL370	2:49	34.3N	131.0W	FL365	-45.6	3.2	FL369	-46.3	1.9	3:10				
HNL-SFO	1/26/76	46	3:44	-64	FL371	3:34	37.1N	126.2W	FL366	-51.8	5.8	FL370	-52.8	4.0	3:24				
HNL-SFO	1/26/78	43	3:40	-61	FL390	2:50	34.0N	131.6W	FL380	-53.1	7.0	FL390	-56.5	3.3	2:40				
HNL-SFO	1/26/78	42	3:37	-61	FL370	2:05	31.1N	139.1W	FL368	-52.6	6.0	FL369	-53.2	5.5	3:30				
HNL-SFO	1/27/77	18	2:57	-62	FL380	1:48	33.0N	137.1W	FL380	-55.6	5.4	FL380	-55.6	5.4	2:57				
HNL-SFO	1/28/76	43	3:44	-60	FL371	3:44	36.6N	124.4W	FL367	-50.9	6.3	FL370	-51.8	4.6	3:29				
HNL-SFO	1/28/78	41	3:40	-62	FL371	1:55	30.9N	139.5W	FL366	-53.2	7.1	FL370	-54.5	5.4	3:20				
HNL-SFO	1/29/79	46	3:44	-63	FL370	2:10	31.3N	138.7W	FL367	-58.8	4.2	FL370	-59.6	2.8	3:23				
HNL-SFO	1/30/78	43	3:30	-59	FL370	3:20	35.9N	126.1W	FL366	-50.8	7.3	FL371	-52.8	4.3	3:05				
HNL-SFO	1/31/78	41	3:24	-63	FL371	2:54	34.9N	129.0W	FL369	-51.0	7.4	FL370	-51.7	6.8	3:09				
HNL-SFO	2/ 2/76	45	3:49	-56	FL370	1:59	30.8N	140.4W	FL367	-51.3	4.4	FL370	-51.9	3.7	3:29				
HNL-SFO	2/ 2/78	45	3:32	-63	FL371	3:22	35.9N	125.7W	FL366	-51.6	10.3	FL370	-53.0	8.6	3:12				
HNL-SFO	2/ 3/78	39	3:24	-63	FL370	3:09	35.4N	126.9W	FL366	-50.3	10.1	FL369	-52.0	9.0	3:04				
HNL-SFO	2/ 4/78	40	3:12	-47	FL330	3:07	36.2N	125.0W	FL328	-34.6	3.5	FL329	-34.7	3.3	3:01				
HNL-SFO	2/11/77	41	3:34	-60	FL370	3:19	35.4N	127.3W	FL368	-55.7	5.5	FL370	-56.6	3.6	3:24				
HNL-SFO	2/11/78	40	3:20	-56	FL330	2:30	33.7N	132.3W	FL327	-46.6	7.2	FL330	-47.5	6.4	3:00				
HNL-SFO	2/14/77	44	3:34	-68	FL400	2:54	35.2N	130.9W	FL383	-55.7	7.6	FL380	-52.4	1.6	2:09				
HNL-SFO	2/14/78	44	3:31	-65	FL371	2:45	33.8N	132.1W	FL367	-56.1	9.0	FL370	-57.3	7.5	3:15				
HNL-SFO	2/16/78	45	3:49	-67	FL371	3:39	36.2N	125.3W	FL365	-56.0	8.6	FL370	-57.6	7.5	3:24				

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-SFO	2/17/79	43	3:30	-58	FL330	2:40	33.9N	132.3W	FL327	-48.9	7.1	FL329	-50.1	5.9	3:10				
HNL-SFO	2/18/78	45	3:42	-64	FL371	1:16	28.1N	145.6W	FL366	-59.6	5.4	FL370	-60.9	3.1	3:22				
HNL-SFO	2/18/79	40	3:15	-63	FL371	2:49	35.0N	128.4W	FL366	-55.2	5.8	FL370	-56.5	3.6	2:54				
HNL-SFO	2/19/77	45	3:32	-52	FL390	1:09	27.3N	147.1W	FL380	-49.0	4.4	FL390	-51.2	.7	2:20				
HNL-SFO	2/19/79	40	3:14	-61	FL370	3:00	35.4N	126.5W	FL366	-53.6	5.2	FL370	-54.7	2.9	2:59				
HNL-SFO	2/20/78	44	3:39	-67	FL371	2:31	33.0N	134.2W	FL368	-59.1	6.5	FL372	-60.4	4.9	3:19				
HNL-SFO	2/21/78	43	3:34	-62	FL371	2:55	34.7N	129.6W	FL367	-52.2	8.5	FL370	-53.5	6.8	3:18				
HNL-SFO	2/23/79	42	3:21	-64	FL385	2:56	35.1N	128.3W	FL370	-56.6	5.4	FL361	-54.1	2.7	1:11	FL383	-59.8	3.3	1:45
HNL-SFO	2/24/78	45	3:40	-64	FL370	3:20	35.2N	127.7W	FL367	-51.6	8.5	FL370	-52.9	7.0	3:25				
HNL-SFO	2/26/76	41	3:36	-61	FL370	1:39	29.8N	142.7W	FL366	-59.1	4.9	FL370	-60.2	.8	3:22				
HNL-SFO	2/26/78	20	1:35	-52	FL330	0:10	31.7N	137.8W	FL330	-51.3	.8	FL330	-51.3	.8	1:35				
HNL-SFO	2/27/79	45	3:45	-60	FL360	2:47	33.7N	133.0W	FL357	-53.4	5.0	FL360	-53.9	4.7	3:26				
HNL-SFO	2/28/77	46	3:44	-63	FL370	1:49	29.8N	142.0W	FL366	-59.6	4.6	FL370	-60.5	2.3	3:30				
HNL-SFO	2/28/78	39	3:30	-63	FL370	3:26	36.4N	124.3W	FL363	-47.3	7.7	FL370	-48.8	6.6	3:06				
HNL-SFO	2/28/79	45	3:45	-64	FL360	3:34	36.1N	125.4W	FL357	-55.3	5.1	FL360	-55.8	4.9	3:30				
HNL-SFO	2/29/76	43	3:32	-61	FL373	2:22	32.5N	136.2W	FL366	-49.7	8.0	FL370	-49.9	5.5	2:09				
HNL-SFO	3/ 3/79	48	3:46	-60	FL380	3:20	35.1N	127.9W	FL365	-50.0	6.7	FL360	-46.4	1.8	1:52	FL380	-56.6	2.4	1:29
HNL-SFO	3/ 9/78	46	3:45	-63	FL370	2:09	31.3N	138.8W	FL365	-58.6	6.5	FL370	-60.2	3.5	3:24				
HNL-SFO	3/10/78	67	3:48	-68	FL382	2:52	34.3N	133.5W	FL378	-59.0	6.0	FL381	-59.8	4.5	3:27				
HNL-SFO	3/12/78	49	3:56	-61	FL370	3:46	37.8N	125.7W	FL367	-56.9	3.4	FL370	-57.6	1.1	3:40				
HNL-SFO	3/14/79	43	3:45	-63	FL360	3:40	36.5N	124.4W	FL357	-58.3	4.1	FL359	-59.0	2.4	3:35				
HNL-SFO	3/19/77	42	3:54	-62	FL370	1:50	30.0N	141.7W	FL366	-55.0	6.6	FL369	-55.9	5.1	3:34				
HNL-SFO	3/21/77	47	3:54	-62	FL370	3:24	35.1N	128.4W	FL367	-57.3	4.7	FL370	-58.2	3.0	3:34				
HNL-SFO	3/21/77	46	3:54	-63	FL371	3:50	36.3N	124.8W	FL366	-57.5	4.8	FL370	-58.6	2.8	3:35				
HNL-SFO	3/22/77	21	1:40	-62	FL370	0:10	31.4N	138.4W	FL370	-60.6	1.1	FL369	-60.6	1.1	1:40				
HNL-SFO	3/30/79	48	3:45	-63	FL381	2:49	33.6N	132.7W	FL371	-55.8	7.6	FL380	-60.5	2.9	2:39				
HNL-SFO	4/ 3/78	48	3:47	-63	FL370	2:55	33.8N	132.2W	FL366	-58.0	5.1	FL370	-59.3	2.6	3:24				
HNL-SFO	4/ 4/75	45	2:59	-63	FL371	2:21	34.2N	131.5W	FL369	-58.8	4.2	FL370	-59.4	2.8	2:52				
HNL-SFO	4/ 4/77	34	3:39	-61	FL370	3:24	35.6N	126.7W	FL365	-57.2	4.7	FL370	-58.4	1.3	3:20				
HNL-SFO	4/ 5/77	42	3:34	-60	FL370	3:00	34.7N	129.6W	FL368	-57.9	3.0	FL369	-58.5	.7	3:24				
HNL-SFO	4/ 8/77	46	3:44	-62	FL370	2:24	32.0N	137.0W	FL367	-56.0	4.5	FL369	-56.9	2.9	3:24				
HNL-SFO	4/ 9/79	46	3:50	-61	FL371	3:45	37.6N	125.0W	FL340	-48.6	6.4	FL331	-45.5	1.6	2:24				
HNL-SFO	4/10/77	45	3:45	-52	FL331	3:20	35.2N	127.8W	FL329	-49.5	2.9	FL331	-50.1	1.2	3:30				
HNL-SFO	4/10/77	30	3:41	-61	FL371	2:45	33.3N	133.6W	FL365	-57.4	5.0	FL369	-58.7	1.8	3:27				
HNL-SFO	4/11/77	42	3:54	-62	FL370	3:24	35.1N	128.3W	FL363	-57.6	5.6	FL370	-59.6	1.8	3:25				
HNL-SFO	4/12/75	44	3:33	-64	FL371	3:29	36.3N	124.8W	FL368	-58.7	4.1	FL370	-59.4	2.1	3:19				
HNL-SFO	4/13/77	51	4:07	-59	FL370	3:46	35.4N	127.4W	FL368	-56.1	4.2	FL370	-56.9	1.5	3:56				
HNL-SFO	4/14/77	47	3:54	-57	FL370	1:09	27.3N	147.1W	FL367	-55.3	3.5	FL369	-56.2	1.3	3:40				
HNL-SFO	4/14/78	45	3:38	-61	FL370	1:59	30.7N	140.1W	FL365	-55.6	5.4	FL370	-56.8	3.2	3:19				
HNL-SFO	4/15/77	45	3:46	-58	FL370	1:26	30.7N	147.1W	FL366	-55.5	4.5	FL370	-56.7	1.6	3:25				
HNL-SFO	4/15/77	43	3:45	-57	FL370	1:00	26.6N	148.5W	FL366	-54.9	5.1	FL369	-56.1	2.0	3:24				
HNL-SFO	4/17/77	40	3:39	-60	FL370	1:59	31.1N	139.3W	FL365	-56.3	5.4	FL369	-58.0	2.0	3:14				
HNL-SFO	4/17/77	45	3:45	-64	FL381	2:39	33.9N	134.8W	FL377	-59.5	6.6	FL381	-61.0	3.7	3:24				
HNL-SFO	4/18/77	44	3:39	-61	FL371	3:05	34.7N	129.5W	FL366	-57.0	5.0	FL370	-58.4	2.3	3:15				
HNL-SFO	4/19/78	40	3:35	-65	FL381	1:50	30.8N	142.1W	FL374	-59.7	6.6	FL380	-61.7	2.0	3:04				
HNL-SFO	4/20/79	42	3:24	-58	FL361	1:50	30.7N	139.6W	FL354	-54.3	4.5	FL360	-56.2	1.3	2:39				
HNL-SFO	4/22/76	49	4:01	-59	FL370	3:51	37.6N	126.3W	FL366	-54.3	4.5	FL370	-55.4	1.8	3:41				
HNL-SFO	4/22/78	39	3:30	-61	FL370	3:20	35.7N	126.3W	FL365	-57.1	5.4	FL370	-58.4	1.6	3:15				
HNL-SFO	4/23/76	33	2:50	-58	FL370	2:20	32.3N	136.9W	FL367	-55.1	3.6	FL369	-55.9	1.7	2:39				
HNL-SFO	4/25/78	42	3:30	-57	FL371	0:26	24.5N	152.1W	FL369	-54.9	2.4	FL371	-55.5	1.0	3:14				
HNL-SFO	4/26/77	39	3:29	-57	FL369	2:19	32.6N	135.4W	FL362	-52.4	6.1	FL369	-54.4	2.6	2:59				
HNL-SFO	4/27/76	43	3:34	-59	FL370	3:20	35.6N	126.9W	FL367	-55.1	4.3	FL370	-56.0	1.4	3:24				
HNL-SFO	4/27/77	42	3:27	-59	FL370	1:24	28.6N	144.6W	FL366	-56.5	5.2	FL369	-57.7	1.1	3:13				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-SFO	4/28/78	45	3:49	-61	FL381	3:09	35.2N	130.8W	FL351	-51.2	6.3	FL340	-47.7	.7	2:35				
HNL-SFO	4/30/77	44	3:35	-52	FL330	2:30	32.6N	135.3W	FL328	-48.5	3.2	FL329	-49.0	1.9	3:25				
HNL-SFO	4/30/78	47	3:55	-57	FL370	3:40	35.7N	126.1W	FL368	-54.6	3.0	FL369	-55.2	1.1	3:39				
HNL-SFO	5/ 2/77	48	4:10	-56	FL370	0:45	26.8N	152.8W	FL366	-53.8	4.1	FL370	-54.9	.7	3:45				
HNL-SFO	5/ 8/79	45	3:39	-55	FL360	1:30	29.2N	143.3W	FL352	-50.0	4.8	FL360	-52.9	1.3	2:30				
HNL-SFO	5/11/75	46	4:00	-58	FL371	3:30	35.1N	128.5W	FL366	-54.4	4.9	FL370	-55.7	1.3	3:39				
HNL-SFO	5/11/75	46	3:54	-59	FL370	3:19	34.9N	129.1W	FL366	-56.1	4.4	FL369	-57.0	1.3	3:39				
HNL-SFO	5/12/76	41	3:39	-57	FL371	1:04	29.1N	149.8W	FL341	-47.5	5.2	FL331	-45.3	.6	2:09				
HNL-SFO	5/14/79	48	3:54	-56	FL360	2:39	32.4N	135.9W	FL358	-54.3	2.7	FL360	-54.9	.6	3:39				
HNL-SFO	5/15/78	43	3:34	-57	FL379	1:29	29.7N	144.6W	FL363	-51.9	5.0	FL340	-47.9	.9	1:09	FL380	-55.3	1.6	2:04
HNL-SFO	5/16/79	49	4:00	-49	FL341	0:10	23.1N	154.5W	FL339	-47.1	1.4	FL340	-47.3	1.0	3:49				
HNL-SFO	5/18/75	44	3:39	-52	FL329	1:24	29.1N	144.2W	FL328	-46.4	3.0	FL329	-46.9	1.8	3:29				
HNL-SFO	5/18/77	39	3:24	-58	FL370	3:04	35.6N	126.7W	FL369	-55.1	1.5	FL369	-55.2	1.3	3:19				
HNL-SFO	5/18/77	45	3:45	-49	FL331	3:20	35.2N	127.9W	FL330	-45.7	3.1	FL331	-46.2	1.5	3:34				
HNL-SFO	5/19/78	42	3:35	-60	FL370	2:35	33.3N	133.5W	FL368	-56.7	3.6	FL370	-57.5	1.3	3:20				
HNL-SFO	5/23/78	43	3:30	-59	FL371	2:10	31.7N	137.5W	FL368	-56.2	4.0	FL370	-57.1	1.4	3:15				
HNL-SFO	5/26/78	45	3:45	-49	FL343	0:19	24.3N	154.2W	FL338	-47.1	2.9	FL340	-47.8	.6	3:30				
HNL-SFO	5/30/75	44	3:39	-50	FL330	1:59	31.3N	139.3W	FL328	-46.0	2.6	FL329	-46.4	1.9	3:29				
HNL-SFO	5/30/78	41	3:41	-58	FL370	3:11	34.8N	128.6W	FL367	-55.4	3.9	FL369	-56.2	.8	3:21				
HNL-SFO	6/ 2/78	42	3:34	-57	FL370	1:54	30.6N	140.3W	FL366	-54.4	4.6	FL370	-55.7	.7	3:14				
HNL-SFO	6/ 5/78	44	3:46	-57	FL371	3:34	37.6N	126.6W	FL365	-52.8	4.9	FL370	-54.2	1.1	3:28				
HNL-SFO	6/ 6/77	25	2:00	-52	FL370	0:19	30.6N	140.4W	FL369	-51.0	1.0	FL369	-51.2	.6	2:00				
HNL-SFO	6/ 7/79	45	3:39	-55	FL360	1:49	30.8N	140.2W	FL357	-51.2	4.2	FL360	-52.2	1.6	3:25				
HNL-SFO	6/ 8/79	42	3:24	-59	FL381	3:15	36.0N	125.5W	FL365	-52.8	4.7	FL360	-51.5	.5	1:39	FL380	-56.6	1.1	1:19
HNL-SFO	6/10/79	43	3:30	-58	FL380	0:34	24.9N	151.5W	FL377	-55.5	3.8	FL380	-56.3	1.2	3:15				
HNL-SFO	6/11/75	45	3:45	-57	FL370	2:24	32.5N	136.0W	FL365	-53.2	4.6	FL370	-54.4	1.6	3:24				
HNL-SFO	6/11/78	46	3:45	-56	FL371	2:00	30.8N	139.8W	FL366	-53.1	4.9	FL370	-54.4	1.2	3:24				
HNL-SFO	6/12/77	28	3:37	-49	FL330	2:39	33.4N	133.3W	FL327	-43.9	4.0	FL329	-44.5	3.2	3:12				
HNL-SFO	6/13/77	27	2:18	-56	FL369	0:23	29.7N	142.1W	FL368	-53.1	3.0	FL369	-53.3	2.8	2:14				
HNL-SFO	6/14/77	8	1:19	-57	FL370	0:24	33.8N	132.8W	FL362	-53.1	5.6	FL370	-55.1	1.8	1:15				
HNL-SFO	6/15/79	42	3:24	-52	FL360	0:20	24.0N	153.0W	FL356	-49.6	3.3	FL359	-50.4	1.2	3:09				
HNL-SFO	6/16/78	43	3:35	-58	FL371	1:39	29.5N	142.0W	FL368	-53.2	4.0	FL370	-53.8	2.4	3:14				
HNL-SFO	6/16/79	44	3:35	-54	FL360	3:20	35.7N	126.1W	FL357	-51.7	3.2	FL360	-52.5	.7	3:20				
HNL-SFO	6/17/78	44	3:34	-59	FL370	2:04	31.2N	138.8W	FL365	-52.1	5.5	FL369	-53.5	3.3	3:09				
HNL-SFO	6/18/75	44	3:35	-58	FL391	3:15	35.6N	126.9W	FL375	-54.1	3.8	FL370	-53.7	1.3	1:45	FL390	-56.8	.5	1:24
HNL-SFO	6/18/77	46	3:50	-55	FL371	3:10	34.6N	130.0W	FL367	-51.4	4.1	FL370	-52.3	1.2	3:36				
HNL-SFO	6/19/78	44	3:34	-58	FL371	2:29	32.7N	135.2W	FL367	-53.9	4.4	FL370	-55.1	1.8	3:13				
HNL-SFO	6/22/75	41	3:42	-57	FL371	3:37	36.2N	124.7W	FL367	-53.6	3.1	FL370	-54.3	.9	3:26				
HNL-SFO	6/23/79	45	3:40	-56	FL360	1:20	28.4N	144.9W	FL356	-52.5	4.2	FL360	-53.5	1.1	3:24				
HNL-SFO	6/24/77	49	4:09	-57	FL379	3:09	34.6N	132.9W	FL373	-53.4	5.6	FL379	-55.0	1.5	3:44				
HNL-SFO	6/24/78	41	3:19	-55	FL371	0:49	26.5N	148.6W	FL367	-52.1	3.6	FL370	-53.1	.8	3:00				
HNL-SFO	6/27/77	46	4:05	-57	FL380	2:40	33.2N	136.4W	FL356	-49.9	6.7	FL340	-45.5	1.7	1:50	FL379	-56.5	1.0	1:50
HNL-SFO	6/28/77	48	3:51	-45	FL330	2:46	33.4N	133.4W	FL328	-42.8	3.0	FL330	-43.3	1.1	3:45				
HNL-SFO	7/ 4/78	41	3:20	-52	FL370	0:15	23.4N	153.9W	FL367	-50.5	2.8	FL370	-51.1	.7	3:00				
HNL-SFO	7/ 5/77	43	3:46	-60	FL380	3:36	36.8N	125.9W	FL375	-55.7	5.7	FL380	-56.9	1.3	3:24				
HNL-SFO	7/ 9/77	42	3:34	-46	FL330	1:00	27.1N	147.6W	FL328	-42.5	2.9	FL330	-43.0	1.6	3:25				
HNL-SFO	7/ 9/78	44	3:34	-55	FL370	0:20	25.0N	154.8W	FL367	-50.5	3.4	FL369	-51.2	2.0	3:14				
HNL-SFO	7/10/78	44	3:35	-51	FL370	0:15	23.3N	154.1W	FL369	-49.1	3.6	FL370	-49.9	.9	2:35				
HNL-SFO	7/11/77	44	3:39	-50	FL340	0:39	26.0N	151.5W	FL338	-46.6	2.8	FL340	-47.0	1.6	3:30				
HNL-SFO	7/11/79	46	3:45	-54	FL380	3:24	35.5N	127.0W	FL365	-48.2	5.4	FL360	-46.8	.6	1:54	FL380	-52.6	1.1	1:24
HNL-SFO	7/12/79	44	3:35	-45	FL340	0:15	23.5N	153.9W	FL339	-41.7	2.6	FL340	-42.1	1.5	3:25				
HNL-SFO	7/13/77	47	3:49	-56	FL380	0:54	26.6N	150.3W	FL376	-53.1	3.5	FL380	-53.9	1.4	3:34				
HNL-SFO	7/13/78	42	3:30	-48	FL331	1:39	30.0N	141.7W	FL329	-43.5	3.0	FL330	-43.9	2.4	3:15				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-SFO	7/16/78	43	3:30	-52	FL370	0:30	24.8N	151.6W	FL366	-49.8	3.9	FL369	-50.8	1.3	3:14				
HNL-SFO	7/17/78	43	3:30	-47	FL341	1:45	31.0N	141.7W	FL339	-44.6	2.5	FL340	-45.1	.9	3:19				
HNL-SFO	7/21/78	43	3:33	-47	FL341	3:13	36.3N	127.5W	FL337	-43.0	3.9	FL340	-43.9	1.7	3:13				
HNL-SFO	7/21/78	45	3:39	-50	FL370	2:49	33.7N	132.3W	FL367	-47.8	3.7	FL369	-48.5	.9	3:24				
HNL-SFO	7/23/78	45	3:39	-49	FL340	2:40	34.1N	134.1W	FL337	-43.7	4.6	FL340	-44.8	2.5	3:20				
HNL-SFO	7/24/77	41	3:34	-60	FL389	2:09	31.4N	138.4W	FL375	-52.7	4.6	FL369	-54.0	1.6	1:45	FL389	-52.9	4.0	1:25
HNL-SFO	7/26/77	47	3:42	-56	FL370	1:07	27.5N	146.7W	FL365	-52.0	4.7	FL369	-53.5	1.8	3:24				
HNL-SFO	7/26/77	43	3:42	-58	FL381	2:27	33.3N	136.2W	FL353	-50.7	5.3	FL340	-48.5	2.1	2:01	FL380	-56.7	1.2	1:09
HNL-SFO	7/26/78	44	3:30	-53	FL370	1:34	29.6N	142.5W	FL367	-49.9	3.3	FL369	-50.6	1.4	3:14				
HNL-SFO	7/30/78	43	3:30	-52	FL371	0:19	23.9N	153.2W	FL367	-49.3	3.1	FL370	-50.1	1.2	3:09				
HNL-SFO	7/31/78	44	3:34	-52	FL371	0:55	26.8N	148.1W	FL367	-49.4	3.1	FL370	-50.2	1.1	3:15				
HNL-SFO	8/ 2/78	44	3:34	-54	FL370	1:24	29.0N	143.8W	FL366	-51.0	3.9	FL369	-52.0	1.3	3:15				
HNL-SFO	8/ 3/77	44	3:39	-55	FL369	0:34	24.5N	152.2W	FL362	-50.6	5.7	FL369	-52.4	1.7	3:15				
HNL-SFO	8/ 6/78	45	3:39	-55	FL370	1:39	29.6N	142.4W	FL367	-52.0	3.3	FL370	-52.8	1.1	3:19				
HNL-SFO	8/ 7/77	39	3:29	-54	FL370	0:59	26.9N	148.0W	FL367	-51.5	3.8	FL369	-52.4	1.1	3:09				
HNL-SFO	8/ 9/78	45	3:39	-55	FL370	2:00	31.1N	139.2W	FL364	-51.0	5.4	FL370	-52.7	1.9	3:15				
HNL-SFO	8/13/78	44	3:38	-49	FL340	3:33	37.0N	125.1W	FL339	-46.6	2.2	FL340	-46.9	.8	3:29				
HNL-SFO	8/15/77	39	3:34	-53	FL370	1:45	30.2N	141.3W	FL366	-49.1	4.3	FL369	-50.0	2.2	3:14				
HNL-SFO	8/16/77	44	3:34	-54	FL370	2:15	32.2N	136.4W	FL365	-48.3	5.0	FL370	-49.6	2.4	3:15				
HNL-SFO	8/20/77	41	3:30	-54	FL370	1:45	30.4N	140.8W	FL366	-51.3	3.7	FL369	-52.3	1.5	3:09				
HNL-SFO	8/23/78	32	3:22	-51	FL330	3:17	36.1N	125.5W	FL329	-48.3	2.0	FL330	-48.6	1.0	3:12				
HNL-SFO	8/31/77	39	3:43	-52	FL370	1:50	30.5N	140.5W	FL363	-48.2	5.8	FL370	-50.2	1.3	3:13				
HNL-SFO	9/ 5/77	41	3:39	-52	FL370	3:24	35.9N	125.9W	FL361	-48.6	5.2	FL369	-50.5	.7	2:49				
HNL-SFO	9/ 6/75	46	3:45	-57	FL372	2:21	33.8N	137.9W	FL366	-51.5	6.3	FL371	-53.0	2.8	3:29				
HNL-SFO	9/ 8/75	43	3:34	-55	FL371	2:29	33.3N	134.1W	FL369	-51.2	4.1	FL370	-52.9	.9	2:39				
HNL-SFO	9/ 8/77	41	3:24	-52	FL370	1:25	29.2N	143.2W	FL367	-49.4	3.7	FL369	-50.4	1.4	3:05				
HNL-SFO	9/ 9/77	44	3:44	-59	FL380	2:34	33.7N	135.2W	FL374	-52.9	6.0	FL379	-54.4	2.6	3:24				
HNL-SFO	9/ 9/78	29	3:49	-58	FL380	3:08	35.2N	131.0W	FL354	-49.7	5.8	FL340	-45.8	.5	2:19				
HNL-SFO	9/10/77	41	3:39	-47	FL331	2:19	32.1N	136.6W	FL328	-43.2	4.4	FL330	-44.0	2.8	3:24				
HNL-SFO	9/13/77	40	3:45	-61	FL380	2:19	32.6N	138.0W	FL374	-55.7	6.4	FL379	-57.5	1.7	3:20				
HNL-SFO	9/14/77	40	3:24	-49	FL330	2:04	31.7N	137.7W	FL329	-44.0	3.8	FL329	-44.3	3.4	3:20				
HNL-SFO	9/16/77	41	3:22	-46	FL330	3:02	35.3N	127.5W	FL330	-42.7	1.9	FL330	-42.7	1.9	3:22				
HNL-SFO	9/18/77	41	3:40	-53	FL370	3:40	36.3N	125.3W	FL366	-50.1	3.9	FL369	-50.9	1.7	0:00				
HNL-SFO	9/21/77	45	3:52	-54	FL371	3:47	36.3N	124.9W	FL369	-51.1	2.6	FL370	-51.5	1.4	3:43				
HNL-SFO	9/27/75	43	3:45	-58	FL372	1:45	29.7N	142.7W	FL369	-53.5	4.0	FL371	-54.3	2.0	3:30				
HNL-SFO	9/29/77	35	3:24	-51	FL370	0:34	25.0N	151.2W	FL367	-48.1	4.6	FL370	-48.8	1.5	3:15				
HNL-SFO	10/ 1/77	28	3:40	-56	FL370	1:59	31.1N	139.2W	FL367	-51.8	5.5	FL370	-52.7	2.0	3:26				
HNL-SFO	10/ 3/76	44	3:41	-46	FL330	2:07	31.4N	138.3W	FL330	-44.2	1.7	FL330	-44.3	1.3	0:00				
HNL-SFO	10/ 3/77	44	3:45	-59	FL371	2:39	33.2N	133.9W	FL367	-53.9	5.6	FL370	-55.0	2.4	3:24				
HNL-SFO	10/ 3/78	45	3:45	-56	FL370	3:40	36.5N	124.7W	FL368	-52.7	2.9	FL369	-53.2	1.2	3:28				
HNL-SFO	10/ 5/77	36	3:50	-57	FL370	3:10	34.0N	131.5W	FL366	-51.5	5.5	FL370	-52.8	1.9	3:15				
HNL-SFO	10/ 6/78	209	3:52	-57	FL370	1:22	27.9N	145.9W	FL370	-55.9	1.9	FL370	-56.0	.9	3:43				
HNL-SFO	10/ 7/78	44	3:49	-57	FL370	1:59	30.5N	140.4W	FL367	-54.6	4.3	FL370	-55.7	1.3	3:29				
HNL-SFO	10/ 9/77	45	3:45	-56	FL370	2:05	31.1N	139.2W	FL366	-53.3	4.4	FL370	-54.4	1.1	3:25				
HNL-SFO	10/11/75	42	3:34	-57	FL372	2:34	33.2N	134.5W	FL370	-52.5	3.9	FL371	-52.8	3.4	3:24				
HNL-SFO	10/11/78	42	3:47	-53	FL370	0:24	24.4N	152.4W	FL365	-49.7	3.7	FL369	-50.7	1.3	3:28				
HNL-SFO	10/13/76	41	3:44	-47	FL330	1:34	28.9N	143.9W	FL328	-44.4	3.4	FL330	-45.0	1.7	0:00				
HNL-SFO	10/15/78	46	3:31	-46	FL330	2:52	34.5N	130.1W	FL329	-42.8	1.9	FL330	-43.0	1.7	3:22				
HNL-SFO	10/18/75	47	3:52	-55	FL370	1:24	28.3N	145.7W	FL366	-52.8	3.6	FL370	-53.5	.6	3:32				
HNL-SFO	10/21/76	46	3:48	-51	FL330	3:29	35.3N	127.7W	FL329	-46.7	3.3	FL329	-47.1	2.1	3:43				
HNL-SFO	10/24/78	188	3:30	-56	FL369	3:23	36.1N	125.2W	FL368	-51.5	2.4	FL369	-51.7	1.5	3:15				
HNL-SFO	10/26/77	39	3:47	-52	FL371	2:24	32.1N	136.8W	FL368	-49.7	4.0	FL370	-50.4	1.0	0:00				
HNL-SFO	10/29/76	45	3:55	-50	FL330	3:30	35.3N	127.8W	FL328	-45.2	3.0	FL330	-45.6	2.2	3:39				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-SFO	11/ 6/78	46	3:45	-56	FL370	3:10	37.2N	130.0W	FL366	-52.6	4.9	FL370	-54.0	1.0	3:24				
HNL-SFO	11/ 7/78	49	4:04	-56	FL370	3:45	35.5N	126.8W	FL365	-53.0	3.6	FL370	-53.9	1.0	3:40				
HNL-SFO	11/11/76	18	1:29	-60	FL374	1:29	37.0N	123.9W	FL380	-52.9	2.7	FL380	-52.5	2.2	1:24				
HNL-SFO	11/11/77	41	3:32	-60	FL391	2:12	32.1N	136.9W	FL377	-55.0	4.3	FL370	-54.1	1.1	1:29	FL390	-57.6	1.3	1:34
HNL-SFO	11/14/77	44	3:50	-55	FL370	2:00	30.2N	141.2W	FL368	-52.6	2.4	FL369	-53.0	1.4	3:40				
HNL-SFO	11/17/76	50	3:39	-56	FL379	1:33	29.8N	144.3W	FL374	-51.7	3.9	FL378	-52.7	2.2	3:14				
HNL-SFO	11/18/76	44	3:39	-46	FL331	1:30	28.7N	144.2W	FL329	-43.4	3.2	FL329	-43.7	2.6	3:34				
HNL-SFO	11/18/76	47	3:41	-56	FL370	1:38	29.1N	143.6W	FL367	-51.8	4.9	FL369	-52.6	3.1	3:31				
HNL-SFO	11/19/77	45	3:50	-58	FL370	2:45	33.2N	133.9W	FL366	-54.8	5.0	FL370	-56.0	1.1	3:30				
HNL-SFO	11/24/76	42	3:39	-61	FL371	1:34	29.5N	142.7W	FL360	-55.9	5.3	FL370	-58.6	1.4	2:39				
HNL-SFO	11/26/76	44	3:42	-50	FL330	2:57	34.2N	131.1W	FL327	-46.1	3.8	FL329	-47.0	1.7	3:34				
HNL-SFO	11/30/76	44	3:37	-61	FL377	1:13	27.9N	145.9W	FL367	-57.1	4.1	FL370	-58.0	1.1	1:45				
HNL-SFO	12/ 1/77	43	3:33	-51	FL370	3:33	36.4N	124.3W	FL368	-48.0	3.1	FL370	-48.6	1.1	3:23				
HNL-SFO	12/ 2/76	45	3:50	-51	FL330	3:39	36.0N	125.6W	FL328	-46.6	3.5	FL329	-47.2	1.8	3:39				
HNL-SFO	12/ 7/76	46	3:54	-60	FL371	3:29	35.2N	128.1W	FL367	-57.0	5.0	FL370	-58.1	1.7	3:39				
HNL-SFO	12/ 7/78	45	3:33	-58	FL370	1:03	27.5N	146.7W	FL365	-55.8	4.5	FL369	-57.0	.7	3:19				
HNL-SFO	12/ 9/76	49	3:53	-60	FL390	2:43	32.5N	134.0W	FL380	-54.3	5.1	FL390	-56.5	2.7	2:39				
HNL-SFO	12/ 9/76	44	3:44	-48	FL311	3:09	34.6N	129.6W	FL301	-42.3	4.7	FL290	-37.3	1.2	1:39	FL310	-46.6	1.1	1:54
HNL-SFO	12/ 9/77	42	3:39	-57	FL370	3:09	36.8N	129.3W	FL365	-50.5	4.8	FL369	-51.3	2.9	3:19				
HNL-SFO	12/10/78	35	3:40	-62	FL370	3:30	37.7N	125.7W	FL366	-56.6	5.1	FL370	-57.8	2.9	3:19				
HNL-SFO	12/13/76	44	3:50	-53	FL330	3:20	35.2N	128.0W	FL303	-39.1	8.2	FL289	-33.6	2.7	2:24	FL329	-49.6	2.2	1:09
HNL-SFO	12/15/76	44	3:34	-62	FL380	2:54	35.5N	130.2W	FL375	-56.6	4.8	FL380	-57.8	2.4	3:14				
HNL-SFO	12/16/76	41	3:27	-59	FL370	3:07	35.3N	126.8W	FL366	-48.2	6.2	FL370	-48.8	5.5	3:06				
HNL-SFO	12/16/76	37	3:19	-48	FL330	2:59	35.5N	127.2W	FL330	-42.8	3.9	FL330	-42.9	3.9	3:14				
HNL-SFO	12/16/78	44	3:45	-64	FL370	2:30	32.2N	136.3W	FL368	-59.5	5.4	FL369	-60.4	3.3	3:34				
HNL-SFO	12/17/78	45	3:54	-60	FL370	1:34	28.3N	145.2W	FL363	-53.9	6.7	FL369	-55.6	3.8	3:30				
HNL-SFO	12/18/77	40	3:19	-60	FL375	1:54	31.1N	139.1W	FL367	-54.7	5.1	FL371	-55.9	2.8	3:05				
HNL-SFO	12/21/76	43	3:38	-56	FL340	3:28	36.7N	126.0W	FL338	-51.0	4.4	FL340	-51.9	2.0	3:28				
HNL-SFO	12/23/76	45	3:44	-54	FL330	3:19	35.0N	128.6W	FL329	-46.1	5.5	FL330	-46.7	4.6	3:34				
HNL-SFO	12/25/76	46	3:49	-53	FL330	1:49	29.6N	142.6W	FL329	-48.8	3.7	FL330	-49.2	2.1	3:45				
HNL-SFO	12/25/78	28	2:15	-56	FL370	2:00	35.5N	126.5W	FL370	-50.8	2.9	FL370	-50.6	2.7	2:09				
HNL-SFO	12/26/78	174	3:18	-56	FL380	0:44	26.6N	150.4W	FL379	-52.4	2.3	FL380	-52.5	1.9	3:07				
HNL-SFO	12/28/75	44	3:45	-61	FL371	1:13	27.4N	147.4W	FL368	-57.9	3.8	FL370	-58.7	1.2	3:30				
HNL-SFO	12/29/78	40	3:22	-55	FL340	2:52	35.6N	129.4W	FL339	-49.7	4.2	FL340	-50.1	3.4	3:15				
HNL-SFO	12/30/78	40	3:15	-61	FL372	2:44	34.9N	129.0W	FL367	-53.7	6.1	FL370	-54.8	4.8	3:00				
HNL-SFO	12/31/78	40	3:22	-62	FL391	2:52	34.7N	129.6W	FL373	-51.3	8.6	FL370	-47.0	2.9	1:43	FL390	-61.1	.8	1:15
HNL-STL	3/26/78	79	6:35	-62	FL369	5:35	39.2N	103.2W	FL350	-53.2	6.6	FL330	-48.0	2.7	3:04	FL369	-59.1	2.0	3:10
HNL-SYD	1/ 6/78	97	8:11	-51	FL370	8:01	32.7S	154.2E	FL342	-38.2	5.4	FL310	-31.5	.7	2:19	FL350	-40.0	1.3	3:34
												FL370	-44.4	2.7	1:42				
HNL-SYD	1/11/78	103	8:47	-48	FL351	8:05	31.7S	156.4E	FL334	-39.6	5.7	FL310	-33.4	1.4	3:28	FL350	-44.0	1.9	4:59
HNL-SYD	1/14/78	100	8:30	-48	FL350	6:10	21.2S	167.0E	FL325	-38.3	8.1	FL280	-25.9	.8	1:11	FL310	-32.9	.6	3:09
												FL350	-46.5	1.4	3:54				
HNL-SYD	1/16/78	97	8:44	-49	FL351	8:29	33.0S	154.8E	FL325	-37.9	8.5	FL280	-26.3	.6	1:25	FL310	-31.4	.7	2:54
												FL350	-46.3	1.4	4:00				
HNL-SYD	1/21/78	97	8:38	-49	FL351	6:50	24.1S	164.3E	FL330	-37.9	8.0	FL310	-30.7	.5	3:09	FL350	-44.9	2.3	4:25
HNL-SYD	1/23/78	104	8:39	-53	FL370	7:19	27.1S	161.4E	FL329	-37.6	8.6	FL310	-30.5	.6	2:05	FL329	-35.6	.6	1:30
												FL350	-43.0	1.8	1:40				
HNL-SYD	2/ 1/78	100	8:37	-43	FL351	7:52	30.1S	158.2E	FL327	-34.4	6.6	FL310	-29.3	1.9	3:15	FL351	-40.7	1.1	4:13
HNL-SYD	2/ 3/78	96	8:09	-45	FL350	7:49	32.1S	155.8E	FL325	-33.8	7.0	FL310	-29.4	.7	3:14	FL350	-41.0	1.7	3:39
HNL-SYD	2/12/78	108	8:56	-46	FL350	8:16	31.9S	156.2E	FL332	-37.2	5.8	FL310	-30.7	.6	3:24	FL350	-41.6	1.7	4:27
HNL-SYD	2/15/78	100	8:34	-49	FL351	8:04	31.6S	156.6E	FL324	-34.6	6.5	FL310	-30.1	.8	5:19	FL350	-43.1	3.5	2:55
HNL-SYD	2/19/78	103	8:34	-51	FL351	7:37	29.3S	159.1E	FL331	-37.9	7.6	FL310	-30.3	1.5	3:28	FL350	-44.2	4.2	4:43
HNL-SYD	2/22/78	106	8:51	-52	FL350	8:15	32.3S	155.1E	FL337	-39.2	7.2	FL309	-30.2	.7	1:45	FL349	-43.2	4.0	6:10

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
HNL-SYD	2/25/78	92	8:29	-48	FL351	8:08	32.0S	155.9E	FL334	-38.7	6.0	FL310	-32.1	1.5	3:17	FL350	-43.3	2.3	4:40
HNL-SYD	2/27/78	97	8:07	-43	FL352	6:22	24.3S	164.1E	FL306	-31.1	4.2	FL281	-24.4	.7	1:07	FL310	-31.6	.6	4:54
HNL-SYD	4/ 9/77	103	8:49	-45	FL350	7:14	25.1S	163.4E	FL324	-37.5	4.9	FL310	-32.4	1.7	3:24	FL350	-42.5	1.2	3:49
												FL290	-36.5	2.1	1:20				
HNL-SYD	4/11/77	109	9:13	-50	FL390	7:13	23.6S	164.8E	FL336	-39.6	5.4	FL310	-32.4	1.9	2:35	FL349	-41.5	1.1	4:14
												FL310	-41.7	1.9	1:09				
HNL-SYD	4/16/77	106	8:56	-52	FL350	8:51	33.4S	153.6E	FL320	-33.5	7.0	FL280	-23.4	1.1	1:15	FL310	-30.7	1.0	3:56
												FL349	-41.1	3.3	3:20				
HNL-SYD	5/19/77	106	8:56	-46	FL350	8:51	31.7S	151.5E	FL330	-38.1	5.2	FL311	-33.3	1.0	3:19	FL350	-42.6	1.3	4:41
HNL-SYD	6/13/77	71	8:19	-58	FL351	8:15	31.7S	151.3E	FL335	-41.3	8.2	FL311	-32.6	.8	3:45	FL350	-47.0	5.2	4:04
HNL-SYD	9/15/77	99	8:36	-45	FL351	6:21	19.7S	162.6E	FL329	-37.4	5.5	FL310	-32.8	1.2	3:51	FL350	-42.8	1.5	4:19
HNL-SYD	9/17/77	98	8:44	-48	FL370	8:34	31.7S	152.3E	FL330	-37.2	6.1	FL310	-32.7	.6	2:59	FL330	-37.9	.5	1:04
												FL350	-41.9	.6	1:40				
HNL-SYD	9/19/77	81	8:16	-55	FL350	7:59	29.9S	153.9E	FL330	-39.4	7.4	FL280	-25.6	.8	1:05	FL310	-33.2	.6	3:02
												FL349	-45.3	3.6	3:33				
HNL-SYD	9/22/77	98	8:34	-48	FL370	7:34	25.9S	155.3E	FL332	-38.5	6.6	FL309	-33.5	.6	2:30	FL349	-42.3	2.4	1:20
HNL-SYD	9/24/77	70	8:19	-49	FL350	6:44	23.3S	158.4E	FL323	-37.1	6.2	FL310	-32.6	.7	3:19	FL349	-45.3	1.8	2:39
HNL-SYD	10/10/77	104	8:43	-56	FL350	8:38	31.9S	151.7E	FL328	-37.4	7.1	FL310	-32.2	.4	2:30	FL329	-37.4	.5	1:09
												FL350	-43.3	4.2	3:49				
HNL-SYD	10/17/78	102	8:34	-56	FL392	3:50	3.7S	177.9E	FL373	-50.8	4.9	FL350	-47.2	.7	1:09	FL350	-46.0	.4	2:14
												FL391	-54.5	1.5	4:44				
IAD-LHR	1/26/78	60	5:07	-65	FL331	3:37	53.1N	27.0W	FL337	-59.9	4.2	FL350	-57.7	2.7	1:44	FL330	-61.9	2.5	3:07
IAD-LHR	3/31/78	61	5:11	-57	FL360	3:31	50.1N	27.4W	FL352	-50.5	3.7	FL349	-48.4	1.5	1:04	FL359	-51.6	4.3	3:06
IAD-LHR	4/ 4/79	69	5:39	-64	FL371	3:19	52.7N	33.7W	FL365	-54.7	5.0	FL350	-54.0	1.0	1:39	FL370	-57.5	4.5	2:54
IAD-LHR	5/25/77	70	5:59	-59	FL360	4:14	51.1N	25.2W	FL358	-52.6	4.6	FL350	-52.5	1.3	1:19	FL360	-52.6	4.7	3:39
IAD-LHR	5/27/77	68	5:46	-62	FL371	5:41	50.8N	3.5W	FL351	-50.9	6.1	FL350	-50.8	6.8	2:34	FL370	-53.9	3.3	1:39
IAD-LHR	6/ 7/79	72	5:48	-58	FL370	4:48	53.0N	17.5W	FL348	-50.8	4.4	FL330	-48.3	1.2	1:58	FL350	-52.3	1.7	1:49
												FL370	-53.4	5.3	1:39				
IAD-LHR	6/11/78	71	5:45	-56	FL350	5:05	52.9N	11.8W	FL343	-48.6	5.1	FL330	-48.0	2.3	1:39	FL350	-49.2	5.8	3:50
IAD-LHR	7/10/78	71	5:49	-56	FL350	4:49	53.0N	15.4W	FL342	-46.6	5.3	FL330	-41.8	1.3	1:39	FL350	-49.4	4.1	3:30
IAD-LHR	7/26/78	65	5:22	-52	FL330	1:53	47.4N	53.3W	FL330	-45.8	3.7	FL330	-46.0	3.2	5:11				
IAD-LHR	7/27/78	69	5:44	-58	FL361	2:14	50.4N	51.3W	FL347	-46.8	4.2	FL330	-47.0	1.3	1:54	FL360	-47.3	4.5	2:54
IAD-LHR	8/20/77	60	5:09	-53	FL350	0:15	41.5N	72.4W	FL354	-47.6	2.9	FL350	-47.7	2.8	4:03				
IAD-LHR	9/10/76	64	5:43	-53	FL349	5:22	52.8N	9.1W	FL347	-47.6	4.1	FL349	-48.1	3.7	5:23				
IAD-LHR	9/13/76	69	5:49	-52	FL340	5:00	52.0N	14.5W	FL335	-46.7	3.5	FL330	-45.7	2.4	1:39	FL339	-46.7	3.3	3:10
IAD-LHR	9/22/77	64	5:48	-61	FL371	4:48	50.1N	15.7W	FL367	-54.4	3.6	FL370	-55.3	2.4	4:51				
IAD-LHR	9/24/76	67	5:39	-57	FL390	5:34	51.6N	4.4W	FL352	-50.2	3.1	FL349	-50.3	2.5	4:19				
IAD-LHR	10/ 1/78	67	5:34	-39	FL321	2:39	50.3N	44.3W	FL321	-33.1	4.8	FL330	-37.6	.6	1:34	FL320	-32.6	4.1	2:54
IAD-LHR	10/ 7/78	64	5:44	-59	FL350	2:44	50.8N	42.1W	FL339	-51.2	4.3	FL330	-49.2	.9	1:24	FL350	-53.4	3.2	3:34
IAD-LHR	10/ 8/78	68	5:44	-57	FL371	5:39	51.8N	4.0W	FL347	-51.8	2.6	FL330	-50.9	1.9	1:19	FL350	-52.1	2.6	3:14
IAD-LHR	10/22/76	69	5:27	-65	FL410	1:55	47.8N	51.4W	FL394	-54.0	6.1	FL370	-52.9	2.1	1:35	FL409	-54.9	6.8	3:21
IAD-LHR	10/26/76	70	5:30	-63	FL378	1:35	47.7N	56.4W	FL368	-50.9	6.2	FL367	-60.5	2.0	1:04	FL378	-48.8	4.9	3:04
IAD-LHR	11/ 5/76	63	5:09	-54	FL360	1:53	48.7N	51.6W	FL352	-46.2	4.8	FL330	-49.1	1.4	1:24	FL359	-45.0	5.7	2:50
IAD-LHR	11/17/78	62	5:19	-58	FL330	0:39	44.2N	68.9W	FL329	-50.1	3.8	FL329	-50.2	3.7	5:09				
IAD-LHR	11/23/77	64	5:39	-66	FL371	3:24	53.6N	34.8W	FL358	-58.9	6.2	FL330	-52.0	.8	1:04	FL370	-62.0	3.4	4:09
IAD-LHR	12/16/78	66	6:03	-58	FL330	5:20	52.8N	11.1W	FL317	-52.3	3.7	FL309	-48.5	.6	1:23	FL319	-53.4	2.9	3:23
IAH-JFK	1/22/79	53	1:58	-61	FL370	1:13	36.2N	82.4W	FL365	-56.2	4.4	FL369	-57.3	2.4	1:42				
IAH-JFK	2/15/79	23	1:54	-55	FL370	0:24	32.5N	89.8W	FL360	-52.0	6.2	FL369	-54.2	1.6	1:40				
IAH-JFK	3/ 8/79	94	2:09	-58	FL370	0:15	30.8N	91.4W	FL368	-48.6	4.3	FL369	-48.6	4.1	1:54				
IAH-JFK	5/29/79	27	2:04	-57	FL371	1:14	35.5N	83.2W	FL355	-50.6	8.9	FL370	-55.2	1.1	1:34				
IAH-JFK	8/ 1/78	29	2:20	-53	FL371	1:00	36.1N	85.6W	FL363	-49.7	5.9	FL370	-51.5	1.0	2:00				
IAH-JFK	9/ 5/78	24	2:05	-53	FL370	0:09	31.0N	92.1W	FL362	-50.2	5.3								
IAH-JFK	9/13/78	27	2:15	-53	FL370	1:45	36.9N	79.2W	FL363	-49.2	6.2	FL369	-51.3	1.3	1:55				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
IAH-JFK	10/17/78	25	2:05	-59	FL370	1:25	36.7N	81.5W	FL363	-54.2	4.7	FL369	-55.7	2.0	1:45				
IAH-JFK	11/ 1/78	25	1:59	-54	FL370	0:15	31.2N	91.5W	FL365	-49.4	4.5	FL369	-50.4	2.7	1:44				
IAH-MEX	1/22/79	28	1:03	-51	FL351	0:06	28.2N	96.4W	FL343	-46.5	4.9								
IAH-MEX	2/15/79	16	1:14	-58	FL390	0:10	27.6N	96.6W	FL375	-53.8	8.4								
IAH-MEX	3/ 8/79	34	1:00	-59	FL391	0:09	27.4N	96.7W	FL386	-55.5	3.3								
IAH-MEX	5/29/79	14	1:04	-45	FL351	0:05	28.4N	96.2W	FL345	-42.8	2.9								
IAH-SFO	10/13/78	34	2:45	-56	FL390	0:25	30.9N	100.6W	FL382	-53.9	4.5	FL390	-55.2	.5	2:24				
IST-BEY	3/17/75	16	1:05	-62	FL331	0:09	39.5N	30.1E	FL321	-55.6	4.1								
IST-BOM	1/ 6/79	63	4:37	-58	FL369	1:19	34.7N	43.7E	FL360	-55.1	3.9	FL369	-57.1	1.2	2:59				
IST-BOM	2/24/79	229	4:11	-55	FL371	1:07	37.7N	44.5E	FL369	-49.8	3.2	FL370	-49.8	3.2	3:51				
IST-FCO	2/25/79	19	1:30	-57	FL310	0:15	42.4N	25.3E	FL302	-54.5	2.8	FL309	-56.1	.6	1:04				
IST-FCO	3/17/79	20	1:34	-56	FL364	0:04	41.9N	26.7E	FL359	-48.2	3.2								
IST-FCO	7/31/78	16	1:15	-50	FL351	1:00	43.8N	17.8E	FL326	-42.2	6.2								
IST-FCO	8/19/78	11	1:10	-59	FL350	0:34	43.7N	21.7E	FL341	-56.2	4.7								
IST-FCO	9/ 1/78	15	1:09	-50	FL281	0:54	44.0N	18.9E	FL281	-46.7	2.2	FL281	-46.7	2.2	1:09				
IST-FCO	11/26/78	17	1:20	-55	FL309	0:50	43.9N	18.3E	FL307	-53.5	1.8	FL309	-53.9	.7	1:09				
IST-FCO	12/18/78	18	1:24	-52	FL310	0:54	44.2N	20.1E	FL307	-50.1	2.3	FL309	-50.8	1.1	1:15				
IST-FCO	12/21/78	16	1:15	-52	FL310	0:05	41.9N	26.6E	FL310	-51.8	.6	FL310	-51.8	.5	1:09				
IST-FCO	12/24/78	17	1:24	-62	FL389	1:04	43.6N	16.8E	FL365	-54.2	5.8								
IST-FRA	1/ 5/79	26	2:02	-62	FL351	1:47	47.8N	14.6E	FL334	-53.7	4.6	FL350	-56.7	2.6	1:09				
IST-FRA	1/24/76	14	1:09	-55	FL309	0:00	44.1N	20.9E	FL308	-53.0	1.9								
IST-FRA	3/13/75	23	1:50	-63	FL350	0:05	41.7N	26.7E	FL345	-57.2	4.5	FL349	-57.5	4.5	1:39				
IST-FRA	3/20/76	23	1:46	-61	FL351	0:15	42.4N	25.3E	FL348	-56.6	2.2	FL351	-56.7	1.8	1:37				
IST-THR	3/16/79	23	1:49	-43	FL291	0:25	39.6N	34.5E	FL290	-41.3	1.5	FL290	-41.5	.9	1:44				
IST-THR	3/23/76	22	1:54	-48	FL286	0:19	39.9N	33.3E	FL287	-46.6	1.1	FL291	-47.0	.6	1:30				
IST-THR	7/30/78	26	1:56	-45	FL370	0:37	39.1N	36.5E	FL347	-38.3	7.9	FL369	-43.3	.8	1:25				
IST-THR	8/18/78	20	1:38	-44	FL291	0:04	40.3N	31.4E	FL321	-39.5	2.4	FL330	-38.9	1.2	1:14				
IST-THR	8/31/78	21	1:46	-45	FL291	0:05	40.3N	31.2E	FL290	-41.2	2.5	FL291	-41.4	2.3	1:33				
IST-THR	11/22/78	19	1:30	-58	FL370	0:04	39.9N	36.3E	FL366	-55.9	1.7	FL369	-56.1	1.5	1:19				
IST-THR	11/25/78	22	1:37	-55	FL330	0:04	39.5N	35.0E	FL327	-54.0	1.9	FL329	-54.5	.6	1:26				
IST-THR	11/28/78	20	1:35	-62	FL364	0:15	39.8N	33.9E	FL359	-57.7	3.2	FL369	-58.7	1.8	1:09				
IST-THR	12/17/78	18	1:30	-44	FL290	1:15	37.5N	45.7E	FL289	-42.3	1.8	FL290	-42.6	.9	1:24				
IST-THR	12/20/78	21	1:40	-62	FL369	1:34	36.4N	49.0E	FL353	-55.8	6.3	FL370	-59.3	1.7	1:09				
IST-THR	12/23/78	21	1:40	-55	FL331	0:05	40.1N	32.7E	FL327	-52.7	2.9	FL330	-53.6	.7	1:30				
ITO-LAX	1/ 3/78	41	3:19	-60	FL372	3:09	32.9N	122.2W	FL362	-52.7	7.1	FL370	-55.2	3.0	2:49				
ITO-LAX	1/17/79	46	3:36	-55	FL340	1:56	28.3N	134.4W	FL337	-49.1	5.9	FL340	-49.9	4.5	3:21				
ITO-LAX	1/29/78	44	3:34	-55	FL381	2:19	29.1N	131.6W	FL363	-47.3	7.0	FL380	-52.0	2.6	2:05				
ITO-LAX	2/ 2/78	43	3:34	-55	FL381	3:29	32.6N	120.2W	FL383	-48.1	5.0	FL380	-47.0	.9	1:34	FL400	-51.5	1.2	1:30
ITO-LAX	2/ 2/79	195	3:37	-62	FL373	0:53	25.1N	145.9W	FL372	-54.9	4.8	FL372	-55.0	4.7	3:22				
ITO-LAX	2/13/76	39	3:39	-51	FL371	0:15	22.6N	151.8W	FL366	-48.7	2.6	FL370	-49.1	1.8	3:19				
ITO-LAX	2/15/76	40	4:09	-58	FL390	1:54	27.0N	140.0W	FL357	-52.0	4.8	FL330	-49.6	3.0	1:33	FL390	-55.3	3.5	2:09
ITO-LAX	3/ 8/79	45	3:38	-55	FL358	3:38	33.5N	120.5W	FL351	-46.1	4.7	FL350	-45.3	2.6	2:02	FL360	-50.1	2.1	2:02
ITO-LAX	3/16/78	43	3:42	-59	FL371	2:02	29.0N	135.6W	FL363	-55.1	5.4	FL370	-57.1	.9	3:00				
ITO-LAX	3/26/79	42	3:50	-63	FL380	3:10	31.8N	125.6W	FL369	-56.6	6.0	FL380	-59.2	3.2	2:36				
ITO-LAX	3/29/79	42	3:44	-64	FL380	2:19	29.7N	133.6W	FL373	-59.3	4.6	FL377	-61.9	1.0	1:00	FL380	-60.5	3.0	1:49
ITO-LAX	4/10/75	46	3:13	-59	FL371	0:46	26.8N	144.4W	FL367	-56.5	5.1	FL371	-57.7	.9	3:00				
ITO-LAX	4/18/78	63	3:21	-60	FL380	1:21	26.3N	140.3W	FL378	-55.6	3.0	FL380	-56.1	2.1	3:03				
ITO-LAX	5/ 1/76	38	3:14	-60	FL388	1:24	27.4N	139.2W	FL377	-56.9	4.5	FL372	-56.0	.4	1:09	FL388	-59.6	.5	1:45
ITO-LAX	5/ 3/76	47	3:49	-58	FL370	2:39	29.8N	130.5W	FL365	-53.3	5.4	FL369	-54.5	1.8	3:29				
ITO-LAX	5/15/75	49	4:05	-56	FL371	3:35	32.7N	125.4W	FL369	-52.8	2.9	FL370	-53.2	1.6	3:49				
ITO-LAX	5/18/78	44	3:42	-59	FL381	1:21	26.1N	140.6W	FL372	-55.1	5.6	FL380	-57.6	.9	3:00				
ITO-LAX	6/ 7/75	45	3:44	-49	FL330	2:04	28.4N	135.9W	FL330	-46.1	1.8	FL330	-46.3	1.3	3:39				
ITO-LAX	6/ 8/78	45	3:44	-55	FL371	0:14	22.5N	151.6W	FL368	-52.7	3.5	FL370	-53.4	.5	3:30				

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ITO-LAX	6/10/79	175	2:54	-57	FL381	0:30	26.0N	143.8W	FL381	-56.2	.7	FL380	-56.2	.7	2:54				
ITO-LAX	6/15/75	46	3:54	-56	FL391	3:44	33.2N	122.0W	FL371	-50.6	4.9	FL370	-50.8	2.9	2:49				
ITO-LAX	6/23/78	44	3:34	-55	FL371	2:29	30.6N	130.7W	FL366	-51.9	4.9	FL370	-53.3	1.2	3:14				
ITO-LAX	7/ 4/79	43	3:29	-56	FL381	2:14	29.9N	132.6W	FL364	-50.6	5.5	FL360	-49.8	.9	1:39	FL380	-55.0	.4	1:15
ITO-LAX	7/ 8/77	39	3:32	-48	FL340	0:57	24.7N	144.3W	FL339	-44.1	2.3	FL340	-44.3	1.9	3:25				
ITO-LAX	7/20/78	45	3:39	-51	FL371	3:30	32.8N	121.8W	FL351	-43.9	5.9	FL331	-38.8	.4	1:15	FL370	-49.0	1.0	1:54
ITO-LAX	8/10/77	40	3:37	-51	FL380	0:45	23.8N	146.3W	FL370	-47.5	5.1	FL380	-49.8	.7	2:47				
ITO-LAX	8/17/75	41	3:39	-55	FL372	1:54	28.5N	136.2W	FL365	-52.0	5.8	FL371	-53.9	1.0	3:15				
ITO-LAX	8/18/77	42	3:29	-43	FL329	1:44	28.4N	137.5W	FL328	-40.0	2.6	FL329	-40.4	2.1	3:20				
ITO-LAX	8/19/75	45	3:49	-54	FL371	0:19	21.9N	149.5W	FL367	-52.0	4.2	FL370	-53.0	.6	3:34				
ITO-LAX	9/ 2/77	36	3:39	-52	FL370	1:19	26.4N	142.9W	FL364	-48.6	5.2	FL369	-50.2	1.4	3:14				
ITO-LAX	9/18/78	45	3:49	-57	FL381	3:39	32.2N	120.7W	FL371	-52.0	5.8	FL380	-54.1	1.1	3:04				
ITO-LAX	10/11/78	44	3:49	-54	FL380	3:09	31.1N	126.2W	FL358	-47.1	5.5	FL344	-44.8	1.2	1:44	FL379	-51.3	2.4	1:34
ITO-LAX	11/ 4/78	47	3:49	-57	FL380	2:34	29.4N	130.5W	FL344	-45.2	10.9	FL342	-44.6	1.7	1:34	FL379	-55.9	.7	1:15
ITO-LAX	11/13/77	41	3:29	-57	FL371	1:19	26.8N	141.9W	FL366	-54.7	4.2	FL370	-55.9	1.4	3:09				
ITO-LAX	12/ 5/77	43	3:39	-44	FL341	0:45	25.3N	147.9W	FL340	-42.7	1.1	FL340	-42.8	.9	3:29				
ITO-LAX	12/12/76	45	3:45	-59	FL380	3:40	32.7N	120.5W	FL373	-49.5	5.6	FL380	-51.2	2.1	3:24				
ITO-LAX	12/15/77	41	3:34	-52	FL370	3:04	32.0N	125.1W	FL367	-49.4	3.2	FL370	-50.2	.9	3:19				
ITO-LAX	12/28/77	42	3:26	-59	FL380	1:21	26.0N	141.0W	FL368	-52.7	5.5	FL380	-54.3	4.3	2:04				
ITO-ORD	2/ 7/76	81	6:44	-62	FL356	6:44	41.1N	90.3W	FL358	-51.2	5.3	FL330	-46.3	1.6	1:44	FL370	-53.2	4.4	4:39
ITO-ORD	6/21/78	77	6:12	-55	FL370	2:40	32.9N	130.7W	FL356	-50.3	4.6	FL340	-49.4	1.0	2:10	FL370	-52.2	1.6	2:19
ITO-ORD	6/29/78	77	6:19	-55	FL371	3:54	35.9N	115.2W	FL350	-47.0	4.9	FL330	-43.0	1.1	2:49	FL370	-51.6	1.1	3:00
ITO-ORD	7/ 3/78	76	6:15	-53	FL371	3:19	34.1N	121.7W	FL349	-45.6	5.1	FL340	-45.3	.8	2:09	FL370	-49.1	1.7	2:54
ITO-ORD	7/11/77	78	6:28	-61	FL411	6:05	40.4N	96.1W	FL376	-52.0	5.1	FL369	-51.3	1.9	3:59				
ITO-ORD	7/18/78	77	6:19	-51	FL371	5:49	40.7N	95.9W	FL349	-44.4	4.6	FL331	-42.2	.9	2:19	FL370	-47.7	2.1	3:15
ITO-ORD	7/24/78	80	6:34	-53	FL371	5:39	41.4N	100.9W	FL359	-46.2	5.5	FL330	-39.3	.4	1:10	FL370	-49.0	2.0	4:49
ITO-ORD	8/16/75	78	6:29	-53	FL370	3:24	31.4N	122.6W	FL348	-46.7	4.9	FL330	-43.9	1.9	3:01	FL371	-51.1	1.3	2:59
JFK-ANC	9/10/76	70	5:59	-63	FL390	2:34	55.7N	97.3W	FL378	-53.5	5.7	FL369	-57.3	4.2	2:15	FL389	-51.9	3.4	3:20
JFK-ATH	11/ 9/78	96	8:08	-63	FL371	4:40	52.1N	10.8W	FL323	-51.0	9.3	FL289	-43.3	3.0	4:30	FL369	-61.7	.9	3:18
JFK-BAH	1/ 2/79	129	10:31	-69	FL410	8:49	34.4N	35.8E	FL377	-58.7	6.8	FL369	-60.2	4.2	5:55	FL410	-60.6	7.0	3:24
JFK-BAH	1/ 3/78	127	10:43	-69	FL370	5:04	48.3N	5.2W	FL384	-58.1	7.3	FL349	-46.9	4.2	1:14	FL369	-65.2	3.3	3:38
												FL410	-55.6	4.3	4:14				
JFK-BAH	1/ 9/79	120	10:15	-64	FL370	3:30	51.1N	24.7W	FL376	-57.2	4.0	FL349	-55.7	1.7	1:04	FL369	-59.0	3.2	5:25
												FL410	-55.7	4.1	2:49				
JFK-BAH	1/16/79	129	11:08	-63	FL410	10:38	29.5N	43.8E	FL381	-55.5	4.7	FL370	-56.3	4.3	5:09	FL410	-56.3	5.1	3:39
JFK-BAH	1/25/77	123	10:39	-73	FL410	5:19	45.9N	4.2W	FL388	-58.8	5.4	FL369	-57.0	3.6	3:09	FL390	-59.0	6.0	1:39
												FL410	-58.4	2.4	3:54				
JFK-BAH	2/ 7/77	131	10:42	-67	FL390	4:51	48.0N	8.4W	FL387	-53.2	8.4	FL369	-45.4	4.2	3:51	FL390	-63.2	3.7	2:09
												FL409	-57.0	4.8	4:10				
JFK-BAH	3/22/77	132	11:09	-65	FL411	6:54	43.9N	11.9E	FL378	-53.6	5.1	FL329	-50.4	4.9	3:29	FL369	-53.3	5.0	1:15
												FL409	-55.8	3.9	5:49				
JFK-BAH	5/23/77	77	11:23	-65	FL410	9:08	34.9N	29.5E	FL385	-56.0	5.3	FL349	-52.5	1.9	2:24	FL369	-53.2	5.0	2:30
												FL390	-56.0	4.2	1:09	FL410	-59.7	2.7	4:04
JFK-BAH	6/ 5/78	128	10:56	-62	FL410	6:24	47.6N	11.9E	FL385	-54.1	3.6	FL349	-53.6	1.8	1:15	FL360	-53.2	1.4	2:55
												FL390	-53.1	5.1	1:30	FL410	-55.6	2.9	4:41
JFK-BAH	7/11/77	109	11:04	-58	FL390	2:49	47.4N	36.5W	FL393	-50.8	5.1	FL349	-49.7	1.9	1:05	FL390	-51.6	4.9	4:15
												FL409	-51.4	2.6	5:00				
JFK-BAH	8/23/77	119	10:44	-62	FL411	3:54	49.9N	20.8W	FL397	-53.4	4.4	FL369	-55.4	.6	1:29	FL390	-53.8	3.6	1:54
												FL410	-53.2	4.0	6:44				
JFK-BAH	8/27/78	125	10:59	-62	FL381	3:50	52.1N	25.2W	FL377	-54.0	5.1	FL360	-52.1	3.7	2:04	FL380	-59.0	1.9	1:05
												FL370	-56.8	1.1	2:24	FL409	-55.1	1.2	3:24
JFK-BAH	9/27/78	128	10:52	-66	FL411	7:04	45.3N	18.4E	FL396	-58.3	5.2	FL370	-60.9	2.4	1:14	FL390	-59.1	4.3	3:54
												FL410	-58.0	3.6	5:12				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-BAH	10/10/78	141	11:19	-68	FL411	6:20	47.7N	7.4E	FL383	-56.6	7.3	FL370	-52.5	4.7	4:50	FL410	-63.1	2.9	5:04
JFK-BAH	10/12/78	137	11:29	-66	FL411	8:09	42.5N	24.5E	FL377	-59.0	4.7	FL360	-58.8	3.1	3:20	FL371	-59.8	1.7	3:20
												FL411	-62.2	2.5	3:14				
JFK-BAH	11/22/78	124	10:39	-64	FL410	10:24	28.4N	46.2E	FL375	-58.8	3.0	FL349	-58.3	.8	1:05	FL359	-57.7	3.2	2:49
												FL369	-60.7	1.9	3:15	FL410	-58.5	2.5	2:54
JFK-BAH	11/25/78	125	10:53	-65	FL360	1:58	49.0N	50.2W	FL372	-61.2	3.9	FL359	-62.0	2.7	2:49	FL369	-63.5	.9	3:49
												FL410	-58.8	1.8	2:25				
JFK-BAH	11/30/78	120	10:18	-68	FL410	8:58	33.4N	38.8E	FL379	-57.8	7.4	FL369	-56.4	5.5	6:00	FL409	-63.9	2.7	3:15
JFK-BAH	12/ 7/76	126	10:34	-64	FL450	9:10	37.4N	42.1E	FL386	-55.3	5.6	FL349	-51.9	5.3	4:49	FL410	-57.2	3.2	3:24
												FL450	-61.6	1.5	1:53				
JFK-BAH	12/ 8/78	123	10:24	-68	FL410	9:29	31.0N	40.9E	FL377	-51.7	9.0	FL350	-43.7	5.6	4:14	FL410	-59.4	3.8	3:44
JFK-BAH	12/19/78	130	10:54	-64	FL350	1:50	44.1N	49.5W	FL376	-53.9	5.4	FL350	-53.4	6.8	2:35	FL370	-57.7	5.0	2:35
												FL390	-53.4	1.6	1:05	FL410	-52.3	1.0	2:49
JFK-BAH	12/22/78	125	10:30	-63	FL369	3:10	45.9N	28.7W	FL366	-52.0	8.3	FL290	-39.4	2.9	2:35	FL369	-58.9	4.1	2:49
												FL410	-55.5	3.4	3:59				
JFK-CGN	11/ 4/76	64	5:23	-52	FL339	1:15	47.9N	55.8W	FL343	-45.9	4.5	FL338	-43.5	4.6	3:00	FL368	-49.0	2.1	1:03
JFK-CPH	7/ 7/77	75	6:21	-62	FL410	3:16	54.9N	36.2W	FL400	-49.6	5.8	FL390	-43.8	3.1	1:36	FL410	-52.4	4.6	3:54
JFK-CPH	7/11/77	72	6:24	-58	FL370	5:09	61.4N	7.1W	FL368	-51.6	6.5	FL369	-52.1	5.9	6:09				
JFK-CPH	7/16/77	71	6:14	-55	FL390	0:55	46.1N	64.3W	FL400	-49.9	4.3	FL390	-53.8	.6	1:54	FL410	-47.9	2.9	3:54
JFK-CPH	8/ 9/77	73	6:11	-62	FL370	4:51	53.5N	8.1W	FL352	-51.2	6.6	FL350	-51.3	3.4	3:46	FL369	-55.6	5.5	1:49
JFK-CPH	8/10/77	74	6:24	-62	FL410	1:25	42.1N	55.7W	FL407	-55.0	5.4	FL410	-56.4	5.0	3:04				
JFK-CPH	8/22/77	64	5:54	-59	FL370	0:09	42.1N	70.6W	FL397	-52.1	3.8	FL390	-51.2	3.2	1:04	FL400	-53.1	3.4	2:34
												FL410	-49.4	.6	1:24				
JFK-CPH	9/ 3/77	70	5:54	-59	FL386	1:34	49.6N	56.0W	FL397	-51.8	3.7	FL370	-54.8	.7	1:19	FL409	-51.0	3.0	4:09
JFK-CPH	9/ 4/77	72	5:56	-61	FL410	5:16	55.6N	.9W	FL397	-53.1	3.7	FL369	-56.4	1.3	1:19	FL409	-52.2	3.0	4:16
JFK-CPH	9/ 9/77	73	5:54	-65	FL391	4:54	56.0N	7.1W	FL376	-53.8	5.0	FL369	-53.9	5.0	4:39				
JFK-CTS	2/18/78	135	11:43	-57	FL325	11:43	42.7N	144.2E	FL365	-50.4	2.5	FL350	-50.3	2.7	3:14	FL370	-52.0	1.9	1:54
												FL390	-49.1	1.1	3:28	FL351	-51.0	2.6	2:04
JFK-CUN	3/ 2/79	33	2:43	-62	FL347	0:09	39.7N	76.4W	FL346	-53.8	5.5	FL350	-54.6	4.2	2:30				
JFK-DEL	5/ 1/76	148	12:49	-63	FL370	7:44	42.1N	26.4E	FL384	-56.8	4.9	FL330	-51.6	1.5	1:15	FL350	-52.0	1.8	1:39
												FL370	-59.2	2.6	4:44	FL410	-58.0	1.8	2:24
												FL450	-59.8	2.8	2:00				
JFK-DFW	3/28/77	31	2:29	-71	FL431	0:35	38.3N	79.9W	FL425	-60.8	6.6	FL430	-61.6	5.7	2:09				
JFK-DFW	4/26/79	31	2:17	-63	FL385	0:42	38.3N	81.7W	FL369	-53.9	7.2	FL390	-57.7	2.4	1:24				
JFK-DFW	5/ 2/77	29	2:19	-71	FL429	0:34	38.4N	80.2W	FL422	-66.7	6.4	FL429	-67.8	2.3	2:05				
JFK-DFW	5/ 9/77	25	2:15	-69	FL430	2:04	33.9N	93.1W	FL424	-57.0	7.6	FL429	-58.1	6.6	2:00				
JFK-DFW	5/16/77	10	2:04	-70	FL431	0:15	38.8N	79.1W	FL421	-64.2	5.5	FL430	-65.8	2.9	1:49				
JFK-DFW	12/13/76	34	2:51	-65	FL430	1:30	36.5N	85.6W	FL417	-60.9	6.1	FL430	-62.9	1.6	2:30				
JFK-DFW	12/20/76	36	2:55	-56	FL350	0:05	40.1N	75.5W	FL348	-47.3	5.2	FL349	-47.3	5.1	2:45				
JFK-DFW	12/27/76	31	2:40	-56	FL350	0:30	38.7N	79.0W	FL346	-53.4	2.8	FL349	-53.9	1.7	2:30				
JFK-DHA	2/ 7/79	131	10:40	-65	FL377	3:35	39.4N	26.8W	FL387	-55.2	6.5	FL369	-50.9	5.7	3:08	FL374	-63.7	1.0	1:01
												FL389	-58.7	1.9	1:34	FL409	-55.9	4.8	4:15
JFK-DHA	2/14/79	128	10:42	-63	FL370	2:17	38.2N	44.6W	FL373	-52.4	5.4	FL349	-55.4	2.9	1:12	FL369	-49.9	5.2	4:49
												FL410	-56.7	3.8	3:00				
JFK-DHA	2/22/79	131	10:45	-73	FL391	3:29	49.0N	29.1W	FL394	-58.5	7.6	FL390	-62.7	6.2	5:20	FL409	-52.5	3.0	4:04
JFK-DHA	2/24/79	128	10:59	-68	FL370	4:49	48.2N	15.1W	FL376	-56.4	5.1	FL329	-53.4	1.6	1:19	FL369	-58.3	5.5	5:45
												FL410	-55.5	3.4	3:25				
JFK-DHA	4/19/79	128	11:01	-68	FL410	5:41	49.1N	.3W	FL389	-58.2	4.9	FL370	-57.1	5.6	5:16	FL410	-59.4	3.5	5:14
JFK-DHA	4/21/79	125	10:49	-64	FL370	7:14	40.0N	14.5E	FL371	-55.1	4.4	FL349	-53.4	3.4	5:09	FL370	-60.1	1.9	1:50
												FL410	-56.2	2.6	3:19				
JFK-DHA	6/30/79	128	11:01	-62	FL410	7:03	45.4N	18.2E	FL377	-53.0	4.3	FL350	-53.8	1.7	5:38	FL409	-52.9	4.5	4:48
JFK-EZE	5/ 6/79	104	8:59	-63	FL408	7:40	23.2S	57.1W	FL371	-51.9	5.7	FL330	-44.5	2.1	1:34	FL369	-49.9	1.5	4:04
												FL389	-56.6	.8	1:29	FL410	-61.3	1.6	1:10

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-EZE	6/17/79	512	8:55	-62	FL391	8:34	30.1S	57.5W	FL377	-53.4	3.3	FL370	-51.3	.8	5:51	FL390	-57.6	1.8	2:49
JFK-EZE	9/23/78	77	6:34	-58	FL391	6:14	9.7S	59.1W	FL355	-48.7	4.9	FL331	-44.3	.8	2:24	FL371	-51.5	.9	3:24
JFK-EZE	11/11/78	102	8:56	-58	FL391	8:46	31.8S	58.2W	FL375	-53.2	2.8	FL370	-52.2	1.7	5:44	FL390	-55.8	.9	2:47
JFK-FAI	11/15/77	73	6:24	-58	FL350	0:15	42.9N	75.9W	FL367	-50.7	3.8	FL350	-55.0	1.8	1:49	FL369	-47.8	2.3	2:00
												FL390	-49.5	1.0	1:30				
JFK-FCO	1/ 6/79	68	6:14	-63	FL369	4:29	53.8N	4.9W	FL333	-54.1	4.1	FL330	-52.7	3.4	3:54	FL331	-54.2	2.6	1:10
JFK-FCO	1/27/76	79	6:33	-70	FL370	4:33	50.5N	12.5W	FL360	-58.8	6.3	FL329	-52.9	.9	1:15	FL370	-60.6	5.9	4:58
JFK-FCO	1/28/76	72	6:23	-69	FL371	3:09	50.9N	29.0W	FL364	-59.9	6.1	FL350	-57.5	.6	1:19	FL370	-63.8	3.8	3:04
												FL390	-58.4	5.0	1:03				
JFK-FCO	2/24/79	151	6:49	-65	FL370	5:25	47.6N	6.7W	FL353	-55.5	5.4	FL330	-54.1	2.7	5:09	FL369	-56.8	6.3	1:24
JFK-FCO	3/10/78	78	6:45	-64	FL370	5:29	45.2N	6.1W	FL316	-53.2	4.9	FL290	-49.7	2.1	3:04	FL330	-55.1	1.4	1:19
												FL370	-61.1	1.8	1:15				
JFK-FCO	3/16/79	81	6:39	-58	FL331	2:39	46.0N	39.1W	FL334	-50.5	4.5	FL331	-52.3	3.9	4:24				
JFK-FCO	4/ 2/77	74	6:22	-62	FL371	2:20	46.8N	43.1W	FL363	-51.8	5.6	FL350	-46.2	3.4	1:35	FL370	-54.1	4.6	4:21
JFK-FCO	4/12/76	71	5:58	-64	FL370	5:13	45.5N	.4E	FL308	-45.6	7.1	FL290	-42.3	3.4	4:33	FL369	-57.0	4.2	1:15
JFK-FCO	5/17/77	63	6:59	-61	FL391	6:49	40.8N	9.2E	FL322	-44.5	5.7	FL290	-41.6	3.8	3:14	FL310	-42.2	.9	1:19
												FL390	-51.1	4.6	1:39				
JFK-FCO	5/28/79	77	6:19	-56	FL370	5:04	45.9N	5.8W	FL351	-49.8	4.9	FL350	-48.1	4.4	4:04	FL370	-56.0	0.0	1:09
JFK-FCO	6/ 9/78	81	6:54	-57	FL370	6:09	46.7N	4.4E	FL341	-49.7	7.4	FL330	-48.4	3.2	3:14	FL369	-56.2	.5	2:19
JFK-FCO	6/18/78	90	7:08	-56	FL365	4:33	42.9N	19.6W	FL334	-46.0	3.1	FL310	-44.4	2.8	1:53	FL330	-46.2	.6	2:14
												FL350	-45.7	2.3	1:34				
JFK-FCO	7/29/78	77	6:19	-57	FL370	5:15	46.3N	3.6W	FL336	-46.3	5.8	FL309	-41.1	.7	1:05	FL330	-44.9	1.9	2:55
												FL369	-56.3	1.1	1:09				
JFK-FCO	8/15/76	73	6:21	-58	FL390	5:56	43.9N	6.5E	FL354	-48.5	4.1	FL349	-48.0	1.4	5:06				
JFK-FCO	8/17/78	77	6:24	-61	FL369	5:45	45.5N	2.0E	FL341	-51.9	5.1	FL330	-48.8	.6	3:45	FL369	-60.2	.6	1:19
JFK-FCO	8/30/78	74	6:24	-66	FL372	5:04	49.6N	4.4W	FL309	-48.2	9.3	FL290	-40.6	1.7	2:14	FL291	-46.0	1.1	2:24
												FL371	-64.5	3.0	1:20				
JFK-FCO	9/ 6/77	74	6:24	-56	FL351	1:48	48.1N	49.3W	FL354	-53.0	3.4	FL350	-53.2	1.9	4:24	FL370	-54.5	.5	1:34
JFK-FCO	9/ 7/77	72	6:19	-57	FL370	4:54	49.3N	4.3W	FL331	-46.7	5.7	FL331	-45.9	1.4	1:19	FL310	-42.9	1.3	2:59
												FL370	-55.4	.8	1:24				
JFK-FCO	9/ 8/77	76	6:19	-59	FL370	3:59	50.2N	17.1W	FL363	-54.2	4.3	FL370	-56.0	1.8	4:49				
JFK-FCO	9/20/76	81	6:35	-54	FL370	5:04	46.0N	6.2W	FL331	-43.7	5.7	FL309	-38.6	2.0	1:14	FL330	-43.0	1.8	3:30
												FL369	-52.8	.7	1:11				
JFK-FCO	9/22/76	79	6:33	-59	FL370	5:23	45.9N	4.0W	FL348	-51.5	4.3	FL349	-50.3	.8	3:08	FL370	-58.2	.8	1:05
JFK-FCO	9/30/77	33	6:04	-59	FL371	5:24	46.2N	.3E	FL352	-50.1	6.2	FL331	-42.2	1.5	1:14	FL350	-48.7	.8	2:24
												FL370	-57.3	1.4	2:09				
JFK-FCO	10/24/76	76	6:24	-59	FL389	6:09	40.7N	7.4E	FL369	-50.4	4.0	FL348	-48.2	3.7	1:19	FL368	-50.2	3.2	2:59
												FL389	-52.7	4.2	1:50				
JFK-FCO	10/29/76	81	6:58	-58	FL368	6:43	43.7N	7.6E	FL361	-50.7	3.8	FL368	-51.3	2.7	5:31				
JFK-FCO	11/22/78	74	6:29	-63	FL370	5:29	48.3N	2.5E	FL347	-57.6	3.0	FL329	-56.3	1.2	1:19	FL349	-57.7	1.9	2:59
												FL370	-61.3	1.1	1:15				
JFK-FCO	11/25/78	78	6:40	-60	FL371	5:55	44.7N	2.9E	FL333	-54.6	3.6	FL328	-54.5	2.3	4:40	FL370	-58.1	1.1	1:15
JFK-FCO	11/28/78	75	6:14	-64	FL370	5:14	47.2N	2.1W	FL359	-55.0	5.9	FL348	-50.1	3.6	2:19	FL369	-59.0	3.6	3:29
JFK-FCO	12/ 4/78	80	6:06	-63	FL370	6:01	43.7N	7.5E	FL341	-54.5	4.7	FL329	-53.4	3.3	3:13	FL349	-56.5	3.3	1:22
												FL369	-57.6	3.6	1:04				
JFK-FCO	12/17/78	80	6:27	-59	FL330	4:22	47.5N	13.7W	FL332	-52.4	3.7	FL330	-53.8	3.1	4:02	FL371	-51.6	1.3	1:04
JFK-FCO	12/20/78	77	6:43	-54	FL290	6:03	44.6N	3.1E	FL291	-47.0	4.5	FL290	-47.0	4.5	6:38				
JFK-FCO	12/23/78	73	6:19	-56	FL350	5:44	41.0N	4.0E	FL319	-47.1	4.7	FL290	-42.2	2.8	1:44	FL329	-48.6	3.2	3:39
JFK-FRA	1/ 1/79	75	6:11	-66	FL371	4:07	45.9N	21.7W	FL368	-59.8	4.2	FL370	-60.1	3.7	5:54				
JFK-FRA	1/ 9/79	67	23:44	-61	FL351	23:46	50.9N	3.8E	FL338	-53.5	2.5	FL340	-54.4	1.1	3:26				
JFK-FRA	1/12/79	67	5:30	-61	FL370	4:30	51.9N	8.9W	FL324	-49.5	4.4	FL319	-49.4	4.1	3:04				
JFK-FRA	1/23/79	213	6:06	-60	FL373	6:01	50.4N	4.6E	FL323	-48.5	6.2	FL310	-47.0	5.6	4:54				
JFK-FRA	1/26/78	20	1:39	-54	FL350	1:00	46.8N	59.2W	FL335	-50.1	3.9								

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-FRA	1/30/76	65	5:45	-68	FL370	3:45	54.0N	18.8W	FL345	-58.5	5.5	FL330	-54.4	2.1	2:54	FL369	-64.5	2.0	2:19
JFK-FRA	2/26/77	44	5:39	-64	FL350	5:21	50.3N	6.1W	FL348	-50.5	5.7	FL349	-51.0	5.4	5:17				
JFK-FRA	2/27/79	274	5:49	-67	FL370	5:37	50.9N	3.4E	FL368	-54.9	7.0	FL350	-52.0	2.4	1:10	FL370	-55.2	7.1	4:14
JFK-FRA	3/ 1/77	44	5:07	-63	FL370	4:04	51.6N	17.0W	FL356	-52.4	8.1	FL350	-47.7	5.8	2:54	FL369	-60.4	4.5	1:49
JFK-FRA	3/ 1/79	116	5:46	-60	FL351	4:24	52.8N	11.6W	FL359	-53.0	3.6	FL350	-55.7	2.3	4:24				
JFK-FRA	3/ 3/79	139	6:05	-66	FL361	1:54	48.5N	52.8W	FL364	-57.7	4.4	FL351	-60.4	1.3	1:24	FL360	-58.4	4.8	3:05
												FL370	-57.1	4.1	1:19				
JFK-FRA	3/ 5/79	135	5:58	-67	FL371	4:24	52.0N	12.7W	FL364	-58.9	5.4	FL350	-54.5	1.2	1:04	FL360	-57.7	6.1	2:59
												FL370	-60.8	3.9	1:28				
JFK-FRA	3/ 6/79	135	5:45	-67	FL370	5:17	51.3N	.4E	FL368	-57.1	5.6	FL350	-55.4	4.1	2:49				
JFK-FRA	3/ 7/79	131	5:45	-64	FL361	2:14	52.7N	44.2W	FL364	-53.8	6.0	FL360	-62.0	1.6	2:54	FL370	-50.0	2.7	1:15
JFK-FRA	3/18/79	83	6:42	-56	FL296	6:41	50.4N	5.9E	FL323	-49.0	3.4	FL331	-45.9	4.1	1:19	FL320	-50.5	2.1	3:49
JFK-FRA	3/21/79	79	6:29	-61	FL341	3:39	52.8N	33.4W	FL336	-55.6	4.4	FL331	-56.5	2.1	1:30	FL341	-58.0	2.3	3:24
												FL331	-48.9	2.6	1:14				
JFK-FRA	3/30/78	63	5:29	-58	FL331	5:14	51.1N	2.2E	FL308	-48.3	4.1	FL289	-45.0	1.2	2:39	FL330	-53.9	2.2	1:15
JFK-FRA	4/ 1/78	58	5:36	-55	FL330	0:14	42.0N	67.8W	FL342	-50.8	2.7	FL330	-50.2	2.2	2:31	FL349	-53.9	.2	1:20
												FL369	-47.9	1.8	1:30				
JFK-FRA	4/12/76	67	5:37	-59	FL341	1:47	49.0N	50.0W	FL333	-52.7	5.3	FL340	-55.1	2.0	3:20				
JFK-FRA	4/14/76	69	5:42	-60	FL363	4:27	52.8N	10.8W	FL336	-52.4	4.0	FL341	-55.7	2.1	2:37	FL370	-49.1	3.0	1:04
JFK-FRA	4/15/76	76	6:15	-64	FL371	5:31	51.7N	1.7W	FL347	-55.1	7.0	FL330	-54.5	2.5	1:16	FL340	-47.3	7.0	1:35
												FL360	-60.7	.7	1:25	FL370	-60.5	2.7	1:17
JFK-FRA	4/16/76	72	6:07	-65	FL370	5:22	51.8N	2.7W	FL334	-54.1	5.8	FL331	-52.6	1.1	1:15	FL321	-51.1	2.0	3:07
												FL370	-63.9	1.0	1:15				
JFK-FRA	4/23/76	78	6:32	-65	FL391	1:22	43.6N	55.7W	FL398	-54.1	6.0	FL410	-51.9	4.9	4:44				
JFK-FRA	4/23/76	76	6:29	-67	FL411	4:49	48.0N	14.3W	FL402	-53.6	5.7	FL390	-55.8	3.0	1:39	FL410	-52.8	6.4	4:20
JFK-FRA	4/25/79	72	5:54	-61	FL371	4:19	52.5N	16.6W	FL341	-50.4	4.8	FL331	-48.1	2.3	3:29	FL370	-55.5	4.8	1:45
JFK-FRA	5/14/77	67	5:49	-55	FL331	3:09	48.9N	30.2W	FL341	-48.7	3.4	FL330	-50.3	3.2	3:14	FL350	-46.7	2.8	1:23
JFK-FRA	5/22/78	72	5:59	-55	FL340	2:59	51.9N	33.5W	FL343	-49.8	3.4	FL330	-46.8	2.2	1:09	FL340	-50.8	3.3	3:00
												FL370	-50.6	1.5	1:15				
JFK-FRA	5/23/79	71	5:49	-60	FL365	5:44	50.7N	5.1E	FL344	-48.8	3.7	FL340	-48.6	2.4	3:14				
JFK-FRA	5/26/77	74	6:09	-55	FL330	4:49	52.1N	10.2W	FL319	-49.4	4.3	FL330	-49.9	2.8	1:19	FL310	-47.6	2.6	2:54
												FL330	-54.5	.6	1:19				
JFK-FRA	5/27/77	70	6:01	-56	FL331	4:42	49.8N	10.4W	FL328	-48.2	5.7	FL331	-48.8	5.8	5:11				
JFK-FRA	6/ 7/78	68	5:54	-55	FL340	2:09	49.8N	46.7W	FL344	-49.9	3.9	FL330	-47.9	2.0	1:09	FL340	-51.0	2.1	3:00
												FL369	-51.1	3.0	1:09				
JFK-FRA	7/11/76	71	5:50	-59	FL371	5:35	51.1N	2.4E	FL321	-46.4	5.6	FL311	-44.3	2.1	4:45				
JFK-FRA	7/15/76	59	5:40	-60	FL369	5:26	52.1N	5.3W	FL360	-49.2	6.3	FL349	-48.3	1.9	1:02	FL369	-50.5	6.3	4:05
JFK-FRA	8/16/76	72	6:03	-55	FL359	2:36	50.7N	42.2W	FL356	-48.3	5.4	FL348	-44.4	1.1	1:08	FL358	-49.4	4.5	3:39
JFK-FRA	8/27/78	73	6:05	-64	FL360	4:05	52.2N	20.6W	FL354	-57.9	4.5	FL360	-58.8	3.8	3:07				
JFK-FRA	8/28/78	73	6:15	-62	FL351	5:09	49.9N	7.9W	FL345	-55.5	4.6	FL330	-50.3	1.6	1:20	FL350	-57.6	2.9	4:34
JFK-FRA	8/29/78	68	5:37	-55	FL312	2:25	55.8N	42.7W	FL315	-49.3	5.1	FL311	-50.0	3.1	2:09	FL330	-52.8	1.5	2:07
JFK-FRA	9/ 2/78	65	5:50	-66	FL370	4:52	53.5N	6.2W	FL335	-58.0	4.5	FL310	-53.1	1.6	1:17	FL340	-59.1	1.2	2:49
												FL369	-65.0	1.0	1:08				
JFK-FRA	9/ 3/78	69	6:01	-67	FL371	4:46	51.9N	10.3W	FL343	-59.0	4.7	FL330	-54.3	.9	1:11	FL340	-59.1	2.2	3:14
												FL370	-65.1	1.2	1:09				
JFK-FRA	9/14/76	73	6:23	-53	FL349	4:51	55.3N	12.3W	FL349	-46.8	4.1	FL349	-47.9	3.2	4:39				
JFK-FRA	9/15/77	69	5:53	-53	FL371	4:43	53.8N	10.7W	FL338	-44.7	5.5	FL331	-43.3	3.7	4:19	FL370	-52.3	.5	1:05
JFK-FRA	9/18/76	70	5:42	-52	FL369	4:45	51.7N	7.3W	FL344	-41.6	6.2	FL330	-39.4	1.9	2:49	FL369	-46.1	6.2	2:15
JFK-FRA	9/18/76	73	5:49	-55	FL369	4:50	51.5N	6.8W	FL340	-42.9	5.0	FL339	-42.8	2.9	3:19				
JFK-FRA	9/19/77	69	5:59	-60	FL370	4:54	51.5N	10.1W	FL341	-52.1	6.5	FL340	-53.2	1.1	3:29	FL369	-59.1	.7	1:09
JFK-FRA	9/21/77	72	6:14	-59	FL371	5:04	51.9N	8.9W	FL343	-50.9	5.3	FL340	-51.3	4.3	3:39	FL370	-56.5	1.7	1:04
JFK-FRA	9/25/76	69	5:54	-56	FL369	5:39	51.1N	2.3E	FL351	-49.1	3.2	FL329	-47.6	.8	1:20	FL359	-50.0	1.0	2:54

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-FRA	9/25/76	75	6:10	-59	FL369	5:35	51.0N	.6W	FL338	-50.2	5.1	FL309	-43.6	.7	1:05	FL339	-50.5	2.1	3:20
												FL369	-57.1	1.9	1:15				
JFK-FRA	9/27/77	20	4:49	-57	FL370	3:39	53.8N	10.4W	FL342	-52.6	3.2	FL330	-50.9	2.1	3:09				
JFK-FRA	10/ 1/78	68	5:50	-60	FL351	3:09	53.9N	31.5W	FL347	-55.6	3.7	FL351	-56.9	1.8	4:50				
JFK-FRA	10/ 2/78	68	5:42	-62	FL369	4:17	52.9N	12.8W	FL344	-55.1	5.0	FL329	-49.5	1.0	1:15	FL339	-55.2	2.6	2:42
												FL370	-61.5	.9	1:19				
JFK-FRA	10/ 5/78	67	5:43	-60	FL371	5:33	53.0N	3.5E	FL336	-51.8	4.1	FL330	-50.6	2.6	4:29				
JFK-FRA	10/22/76	67	5:31	-51	FL330	4:41	50.1N	6.0W	FL326	-44.5	3.9	FL329	-45.4	3.2	4:36				
JFK-FRA	10/27/76	85	7:10	-64	FL390	6:33	50.4N	8.1E	FL343	-49.8	7.2	FL329	-44.6	.8	1:13	FL319	-46.5	2.5	2:54
												FL389	-62.5	1.3	1:19				
JFK-FRA	10/27/76	69	5:49	-57	FL368	5:19	51.2N	.8E	FL331	-46.0	5.0	FL288	-41.8	3.2	1:19	FL339	-45.4	1.6	2:54
												FL368	-53.9	3.1	1:05				
JFK-FRA	11/ 3/76	64	5:24	-52	FL330	0:09	42.5N	68.7W	FL335	-45.0	3.9	FL340	-44.6	3.3	3:09				
JFK-FRA	11/24/78	71	5:50	-65	FL361	1:45	48.6N	52.3W	FL348	-60.0	4.7	FL350	-62.5	1.1	1:26	FL360	-62.3	2.8	2:39
												FL329	-54.8	.5	1:09				
JFK-FRA	11/27/78	73	6:04	-61	FL361	4:44	53.9N	12.1W	FL334	-52.4	5.5	FL308	-45.2	1.2	1:30	FL339	-52.9	2.5	1:04
												FL359	-58.3	1.3	1:45	FL327	-54.1	1.5	1:15
JFK-FRA	11/30/78	71	5:45	-62	FL370	4:56	50.5N	4.2W	FL335	-52.2	5.2	FL328	-50.7	3.9	4:32				
JFK-FRA	12/ 1/78	67	5:28	-65	FL370	4:33	50.0N	6.6W	FL348	-52.6	6.3	FL348	-51.7	4.6	3:33				
JFK-GIG	2/11/77	72	8:08	-63	FL370	0:15	37.5N	71.9W	FL381	-54.1	5.3	FL369	-51.8	3.7	5:25	FL409	-59.5	1.6	2:16
JFK-GIG	3/27/77	92	7:45	-55	FL370	1:45	22.7N	65.3W	FL360	-50.1	2.8	FL329	-48.7	1.7	1:25	FL369	-50.8	1.3	5:49
JFK-GIG	4/ 9/77	95	8:04	-57	FL370	0:50	33.2N	70.4W	FL368	-51.0	2.1	FL369	-51.1	2.0	7:44				
JFK-GIG	4/16/77	97	7:55	-61	FL370	0:15	37.2N	71.1W	FL368	-52.0	4.3	FL370	-52.2	3.8	7:40				
JFK-GIG	4/23/77	93	7:59	-61	FL410	5:39	3.2S	51.6W	FL381	-55.0	5.8	FL369	-53.1	3.6	4:44	FL410	-60.2	.5	2:45
JFK-GIG	5/29/77	89	7:40	-52	FL371	7:06	17.3S	47.1W	FL339	-43.4	7.1	FL290	-34.5	1.9	1:49	FL330	-40.1	.6	1:31
												FL370	-50.3	.8	3:37				
JFK-GIG	8/20/78	93	7:49	-63	FL372	7:44	21.1S	44.8W	FL340	-50.0	8.4	FL330	-47.4	1.1	3:00	FL370	-58.0	1.2	3:19
JFK-GIG	11/ 5/76	99	8:20	-61	FL410	7:21	14.8S	48.6W	FL388	-55.1	4.9	FL369	-51.5	1.5	4:13	FL410	-59.7	.7	3:44
JFK-GIG	11/21/76	93	7:56	-62	FL410	6:26	9.7S	48.9W	FL383	-54.5	5.4	FL369	-51.1	1.3	4:51	FL410	-61.1	.7	2:45
JFK-GIG	11/28/76	97	8:05	-63	FL410	7:05	15.5S	48.2W	FL379	-55.2	7.4	FL370	-55.9	.8	2:17	FL330	-42.1	1.6	1:28
												FL409	-61.3	1.0	3:39				
JFK-HND	1/ 8/78	147	12:40	-66	FL350	2:54	59.4N	96.6W	FL378	-53.0	5.6	FL350	-56.3	5.8	2:55	FL369	-58.5	2.6	2:50
												FL390	-50.4	2.0	3:40	FL410	-47.4	1.3	2:24
JFK-HND	1/11/78	153	13:00	-66	FL370	3:00	51.5N	100.5W	FL386	-53.4	6.2	FL350	-59.1	4.3	2:35	FL370	-60.0	4.0	2:24
												FL390	-51.3	3.0	2:54	FL410	-47.7	1.2	2:09
												FL430	-47.6	2.5	2:05				
JFK-HND	1/14/78	147	12:24	-62	FL350	4:00	61.8N	117.5W	FL377	-51.3	4.7	FL350	-53.4	4.6	4:35	FL369	-56.1	1.6	1:05
												FL390	-50.3	3.9	2:45	FL409	-47.8	2.4	3:15
JFK-HND	1/17/78	149	12:38	-62	FL350	0:39	45.6N	78.1W	FL379	-50.7	5.4	FL350	-55.9	2.5	3:19	FL369	-55.5	3.6	2:09
												FL389	-46.1	1.1	2:59	FL409	-46.9	2.4	3:20
JFK-HND	1/21/77	149	12:38	-64	FL350	2:55	56.4N	99.3W	FL381	-53.5	4.0	FL349	-57.3	4.3	4:15	FL391	-50.9	2.1	3:30
												FL409	-51.8	1.0	4:19				
JFK-HND	1/28/77	149	12:18	-63	FL350	2:47	56.4N	99.6W	FL377	-50.8	5.3	FL349	-52.3	6.3	3:24	FL369	-55.3	2.6	2:09
												FL390	-50.2	2.7	3:45	FL429	-44.2	2.6	2:05
JFK-HND	2/10/78	142	12:30	-66	FL370	3:30	58.7N	106.6W	FL380	-54.1	3.8	FL349	-53.5	2.0	2:35	FL369	-58.8	4.8	2:35
												FL390	-53.1	1.4	3:09	FL409	-52.1	2.2	3:30
JFK-HND	2/12/77	106	12:26	-68	FL375	5:51	65.0N	142.0W	FL383	-54.0	5.4	FL349	-59.4	2.5	1:15	FL369	-55.6	6.8	4:04
												FL390	-53.6	2.5	3:25	FL410	-49.0	1.8	2:58
JFK-HND	2/12/78	149	12:49	-64	FL350	2:54	55.6N	97.2W	FL381	-53.7	4.8	FL350	-59.8	3.4	3:24	FL369	-53.4	1.9	3:00
												FL390	-51.7	1.2	1:49	FL410	-48.4	2.3	1:54
												FL430	-51.0	2.4	1:50				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-HND	2/15/77	120	12:41	-64	FL370	2:58	59.7N	97.7W	FL390	-51.6	4.5	FL349	-55.1	4.0	2:04	FL369	-56.4	4.5	3:14
												FL390	-50.8	1.4	2:24	FL410	-48.5	.5	2:26
												FL430	-47.3	.8	1:26				
JFK-HND	2/15/78	141	12:08	-65	FL350	3:04	58.1N	104.1W	FL373	-51.3	5.3	FL350	-57.2	5.0	3:39	FL370	-51.5	2.3	1:19
												FL390	-47.8	1.7	6:35				
JFK-HND	2/19/77	89	12:01	-65	FL369	4:08	62.6N	114.4W	FL375	-54.1	5.4	FL349	-54.0	2.7	2:45	FL369	-62.0	3.5	2:30
												FL389	-49.7	1.3	3:56	FL409	-50.5	1.5	1:30
JFK-HND	2/21/78	145	12:24	-64	FL350	1:50	53.5N	91.1W	FL387	-52.0	4.2	FL350	-54.9	4.9	2:59	FL369	-47.5	.6	1:30
												FL390	-54.0	2.8	3:15	FL410	-52.3	1.1	1:40
												FL430	-48.2	1.2	2:15				
JFK-HND	2/24/78	149	12:25	-66	FL350	5:36	62.1N	139.8W	FL368	-52.9	4.6	FL349	-54.5	5.8	5:40	FL390	-51.4	2.5	6:14
JFK-HND	2/26/77	117	12:36	-55	FL350	0:34	44.4N	77.1W	FL375	-50.1	2.5	FL350	-51.6	2.4	2:37	FL370	-50.8	1.8	2:56
												FL390	-49.3	2.1	6:16				
JFK-HND	2/27/78	148	12:33	-69	FL390	6:04	62.6N	148.6W	FL381	-53.5	4.2	FL349	-54.1	2.0	3:20	FL390	-53.9	5.8	4:49
												FL410	-51.3	2.0	3:08				
JFK-HND	3/ 1/77	46	6:22	-68	FL390	5:43	40.0N	144.7E	FL387	-53.8	6.4	FL390	-53.8	6.1	6:15				
JFK-HND	3/ 2/78	139	12:09	-67	FL390	11:45	39.1N	143.6E	FL382	-55.9	4.1	FL370	-53.0	1.7	2:09	FL390	-56.4	4.3	8:35
JFK-HND	3/ 4/77	35	5:22	-59	FL350	3:07	61.0N	103.5W	FL350	-52.5	4.6	FL349	-55.2	2.3	3:30				
JFK-HND	3/ 5/78	145	12:24	-57	FL350	3:54	61.8N	108.5W	FL372	-51.6	3.1	FL350	-53.2	2.2	4:50	FL390	-50.4	3.2	7:09
JFK-HND	3/ 8/78	149	12:24	-65	FL350	1:38	50.9N	84.6W	FL375	-53.2	6.1	FL349	-61.0	3.3	2:23	FL369	-54.7	2.8	3:15
												FL390	-49.6	4.9	6:13				
JFK-HND	3/11/78	144	12:34	-65	FL350	0:30	44.7N	76.8W	FL374	-50.6	4.3	FL350	-52.4	6.0	3:45	FL369	-48.6	1.0	1:15
												FL390	-50.0	2.8	7:09				
JFK-HND	3/14/78	143	12:27	-64	FL390	8:09	57.4N	179.5E	FL374	-51.7	3.7	FL350	-52.2	3.2	3:24	FL369	-53.5	3.3	1:45
												FL389	-51.2	3.5	6:42				
JFK-HND	3/17/78	148	12:44	-55	FL350	2:49	58.9N	94.6W	FL371	-50.5	2.4	FL350	-51.7	2.2	4:39	FL390	-50.2	1.9	6:24
JFK-HND	3/23/78	149	12:39	-67	FL390	7:15	62.6N	165.9W	FL376	-51.4	5.1	FL349	-50.3	4.1	2:49	FL369	-52.2	.8	1:15
												FL390	-51.6	5.8	7:54				
JFK-HND	3/24/77	153	13:09	-63	FL350	3:00	55.6N	97.5W	FL382	-50.3	6.6	FL349	-56.2	5.9	2:45	FL369	-50.3	4.9	2:30
												FL389	-46.0	6.0	4:54	FL431	-53.2	1.6	2:09
JFK-HND	3/26/78	144	12:13	-63	FL350	0:09	43.0N	75.9W	FL373	-52.4	4.9	FL350	-59.0	3.5	2:53	FL369	-49.5	.7	2:45
												FL390	-50.6	3.3	5:59				
JFK-HND	3/29/78	147	12:43	-56	FL350	2:03	53.0N	89.9W	FL371	-49.8	2.6	FL350	-52.3	2.7	3:15	FL369	-49.2	.7	2:34
												FL390	-48.7	1.8	6:04				
JFK-HND	4/ 1/78	148	12:37	-61	FL351	3:15	58.9N	100.7W	FL377	-49.9	4.2	FL350	-53.9	4.4	3:30	FL369	-49.0	3.6	2:20
												FL390	-48.2	1.2	2:52	FL409	-48.1	2.4	3:09
JFK-HND	4/ 4/78	144	12:19	-62	FL391	11:44	40.6N	145.4E	FL382	-50.3	4.9	FL369	-49.8	3.5	2:45	FL390	-49.8	4.7	8:19
JFK-HND	4/ 6/77	151	12:39	-60	FL430	12:29	37.6N	141.7E	FL391	-49.5	4.5	FL370	-44.9	2.2	2:50	FL389	-51.1	1.9	3:54
												FL410	-51.2	2.7	2:04	FL430	-54.0	3.2	2:04
JFK-HND	4/ 7/78	152	12:51	-66	FL390	9:30	53.4N	168.1E	FL370	-51.0	5.7	FL350	-53.6	4.6	3:19	FL369	-47.0	2.4	1:50
												FL390	-51.0	6.4	6:10				
JFK-HND	4/10/77	147	12:30	-60	FL350	8:51	55.2N	172.9E	FL349	-53.5	4.6	FL349	-53.5	4.6	12:20				
JFK-HND	4/10/78	146	12:29	-63	FL391	11:59	39.4N	143.8E	FL373	-51.9	5.8	FL350	-52.4	6.5	2:49	FL369	-48.8	3.0	3:45
												FL390	-54.2	5.7	5:15				
JFK-HND	4/13/77	146	12:29	-63	FL371	3:15	56.7N	102.8W	FL387	-55.4	4.2	FL349	-58.4	1.6	3:00	FL370	-54.0	5.0	1:49
												FL389	-50.8	3.0	2:30	FL410	-56.1	1.9	2:24
												FL430	-58.1	1.1	2:09				
JFK-HND	4/13/78	142	12:15	-67	FL390	6:00	61.2N	151.4W	FL376	-54.0	7.9	FL350	-45.9	5.8	2:30	FL370	-51.3	3.2	2:24
												FL390	-58.5	6.2	6:50				
JFK-HND	4/16/78	155	12:48	-69	FL390	7:51	58.7N	177.3W	FL380	-56.5	6.4	FL350	-59.2	3.6	1:54	FL369	-55.0	4.3	3:19
												FL390	-58.2	6.9	3:46	FL410	-56.0	6.9	3:04

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN		
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD
JFK-HND	4/17/77	159	13:14	-65	FL410	10:26	49.2N	158.3E	FL383	-54.1	5.2
JFK-HND	4/19/78	150	12:35	-65	FL390	10:40	45.0N	151.4E	FL373	-56.9	5.9
JFK-HND	4/20/77	139	12:45	-63	FL390	5:04	59.5N	132.7W	FL382	-51.5	5.7
JFK-HND	4/22/78	148	12:36	-64	FL350	1:54	49.0N	92.0W	FL379	-54.9	5.9
JFK-HND	4/24/77	150	12:39	-65	FL370	4:10	56.2N	118.8W	FL372	-54.6	5.7
JFK-HND	4/25/78	146	12:34	-65	FL350	0:54	47.4N	80.3W	FL375	-54.0	5.1
JFK-HND	4/26/76	150	12:37	-66	FL371	4:19	64.2N	121.2W	FL388	-52.4	5.8
JFK-HND	4/26/77	151	12:42	-67	FL370	7:06	58.8N	160.7W	FL358	-54.8	6.5
JFK-HND	4/28/78	143	12:30	-63	FL390	8:54	54.0N	169.7E	FL371	-56.4	5.1
JFK-HND	4/29/77	151	12:45	-62	FL350	0:30	43.0N	78.5W	FL374	-51.4	7.1
JFK-HND	5/ 1/78	145	12:34	-67	FL410	9:34	51.0N	162.2E	FL383	-54.7	5.7
JFK-HND	5/ 4/78	140	12:19	-62	FL350	3:09	57.3N	102.1W	FL380	-52.5	5.0
JFK-HND	5/ 7/78	145	12:30	-66	FL370	5:15	59.3N	128.7W	FL371	-54.9	6.2
JFK-HND	5/10/78	158	13:24	-65	FL412	10:49	48.1N	156.5E	FL383	-54.9	5.6
JFK-HND	5/13/78	144	12:04	-62	FL391	10:19	46.4N	153.6E	FL374	-53.3	5.0
JFK-HND	5/16/78	140	12:09	-72	FL432	11:24	41.0N	146.1E	FL386	-53.6	7.2
JFK-HND	5/19/78	145	12:44	-62	FL371	3:49	57.9N	113.7W	FL386	-54.1	5.1
JFK-HND	6/ 1/77	690	12:19	-64	FL430	10:41	45.1N	151.6E	FL396	-54.0	6.2
JFK-HND	6/ 3/77	152	12:58	-64	FL430	8:23	53.3N	179.3W	FL392	-54.4	5.9
JFK-HND	7/ 4/77	139	12:07	-65	FL429	10:11	47.9N	156.1E	FL396	-48.8	5.9
JFK-HND	7/ 8/77	134	11:45	-64	FL410	9:30	50.1N	160.2E	FL378	-51.7	5.8
JFK-HND	7/14/77	143	12:08	-57	FL351	6:45	63.1N	164.2W	FL354	-48.2	4.3
JFK-HND	7/15/76	140	12:04	-62	FL430	11:54	38.0N	142.5E	FL384	-49.4	4.6

FLIGHT SEGMENTS							
FL	T	SD	ETIM	FL	T	SD	ETIM
FL349	-54.9	4.7	3:50	FL369	-48.3	1.7	1:52
FL389	-51.5	3.8	3:19	FL410	-61.1	3.1	1:11
FL430	-57.8	1.1	2:04				
FL351	-59.7	3.1	3:50	FL370	-53.6	2.3	1:45
FL389	-56.7	6.4	6:30				
FL350	-55.3	3.3	2:45	FL369	-49.0	2.1	1:19
FL389	-52.7	7.1	3:49	FL410	-48.2	3.8	4:13
FL350	-61.4	2.6	3:45	FL370	-55.7	3.1	2:10
FL389	-48.3	1.1	2:40	FL410	-50.5	2.7	1:54
FL430	-57.5	2.5	1:09				
FL349	-57.6	2.9	3:50	FL369	-58.0	5.8	1:39
FL389	-52.6	5.3	6:40				
FL350	-58.9	5.2	3:20	FL370	-54.1	1.7	1:19
FL389	-51.9	3.7	7:24				
FL350	-47.6	3.1	2:04	FL370	-56.4	5.2	1:54
FL390	-55.7	6.8	2:15	FL410	-51.7	4.3	5:48
FL349	-57.9	2.5	4:43	FL369	-55.8	7.8	2:02
FL349	-59.6	3.8	1:24	FL369	-49.3	5.9	3:46
FL350	-57.5	2.2	4:39	FL369	-47.3	1.4	1:05
FL390	-57.3	5.6	6:15				
FL349	-56.2	6.3	5:50	FL389	-46.8	4.7	2:50
FL410	-46.1	2.5	3:30				
FL350	-59.3	1.2	2:15	FL369	-53.7	4.2	2:25
FL390	-48.7	1.5	2:45	FL409	-60.7	3.8	2:45
FL430	-51.9	2.4	1:09				
FL350	-57.8	2.7	3:05	FL370	-49.4	2.9	2:04
FL390	-51.4	4.1	2:49	FL410	-50.4	1.0	2:05
FL430	-54.0	4.4	1:09				
FL349	-55.0	3.8	2:45	FL370	-56.0	5.9	3:15
FL389	-53.1	6.5	4:24	FL369	-60.4	1.8	1:19
FL351	-51.1	4.9	2:00	FL371	-57.3	5.8	2:04
FL390	-51.2	2.1	3:00	FL411	-60.0	4.7	1:54
FL431	-59.0	1.1	1:50				
FL351	-55.0	1.3	4:05	FL371	-53.0	1.3	2:10
FL390	-50.8	6.8	4:20				
FL350	-52.9	.9	2:20	FL370	-52.0	4.2	2:30
FL390	-46.3	2.5	2:39	FL411	-55.6	2.4	2:30
FL431	-68.1	4.2	1:24				
FL351	-53.7	1.0	1:54	FL371	-58.1	1.6	1:09
FL370	-51.0	6.5	2:14	FL391	-53.2	5.1	2:55
FL411	-54.0	4.4	1:05	FL431	-56.7	1.9	2:09
FL350	-49.7	2.3	1:12	FL371	-57.3	2.6	2:22
FL389	-47.9	2.7	3:33	FL409	-49.2	3.3	1:01
FL429	-60.5	2.7	3:45				
FL350	-53.0	3.9	2:04	FL370	-50.0	4.9	2:40
FL390	-52.8	5.6	3:09	FL429	-59.5	2.9	4:24
FL350	-47.4	1.8	1:47	FL390	-45.8	2.0	2:50
FL410	-45.4	1.6	2:45	FL429	-57.3	4.2	3:00
FL350	-51.5	4.0	5:15	FL391	-47.0	1.1	2:15
FL410	-55.4	5.8	3:45				
FL350	-49.3	3.9	9:09	FL370	-45.5	1.9	2:39
FL350	-48.3	2.6	2:54	FL370	-48.3	2.4	1:39
FL391	-49.0	3.4	3:30	FL410	-49.8	4.2	2:09

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-HND	7/17/77	143	12:20	-61	FL431	12:15	37.4N	141.4E	FL380	-50.3	5.0	FL350	-53.1	3.5	4:15	FL389	-47.2	3.1	5:39
												FL431	-54.0	3.3	1:45				
JFK-HND	7/28/77	137	11:59	-64	FL431	11:49	37.8N	142.0E	FL396	-53.0	7.0	FL369	-56.2	4.8	2:10	FL388	-49.8	6.5	5:20
												FL430	-58.7	2.6	2:54				
JFK-HND	8/16/77	145	12:38	-65	FL431	11:23	43.5N	149.3E	FL381	-50.4	7.4	FL347	-49.9	3.9	4:50	FL387	-45.0	2.3	3:06
												FL408	-48.2	4.5	1:48	FL430	-62.7	1.5	2:04
JFK-HND	8/19/77	149	12:59	-63	FL430	11:24	44.5N	150.8E	FL382	-52.4	6.0	FL329	-55.7	1.0	1:15	FL370	-52.2	3.9	2:54
												FL390	-52.2	5.8	2:30	FL410	-47.6	4.8	2:05
												FL430	-60.9	1.5	1:55				
JFK-HND	8/25/77	141	12:17	-64	FL390	6:28	63.0N	155.5W	FL382	-52.3	5.2	FL350	-50.6	2.0	2:09	FL351	-49.6	4.4	1:15
												FL390	-51.9	5.5	6:00	FL430	-58.2	1.7	1:41
JFK-HND	8/28/77	139	12:24	-64	FL430	12:09	38.4N	142.7E	FL386	-53.9	6.1	FL350	-45.7	1.1	2:05	FL369	-55.0	2.8	2:50
												FL389	-57.0	4.5	2:45	FL409	-53.6	1.9	1:54
												FL429	-59.3	3.0	2:00				
JFK-HND	8/31/77	141	12:09	-63	FL430	11:40	39.3N	143.8E	FL389	-53.0	5.8	FL350	-49.0	3.0	3:45	FL390	-55.5	4.3	2:45
												FL410	-51.7	1.7	1:39	FL430	-57.7	2.5	3:07
JFK-HND	9/ 4/76	142	12:19	-65	FL410	9:14	52.4N	166.7E	FL388	-52.1	4.4	FL350	-52.0	.8	1:50	FL389	-49.4	1.2	3:20
												FL409	-55.7	5.5	3:00	FL429	-54.8	1.4	1:39
JFK-HND	9/ 6/77	153	12:45	-65	FL391	5:45	64.6N	142.2W	FL389	-55.2	5.6	FL350	-54.2	3.8	2:29	FL369	-54.6	1.9	2:30
												FL390	-51.5	8.5	2:10	FL410	-56.1	4.1	2:15
												FL430	-59.8	1.3	2:45				
JFK-HND	9/ 7/76	148	12:43	-64	FL390	5:24	59.6N	137.5W	FL390	-54.4	5.6	FL349	-53.2	.8	1:05	FL369	-50.8	3.6	2:41
												FL389	-58.7	4.7	1:03	FL408	-56.0	4.4	6:59
JFK-HND	9/10/77	143	12:24	-63	FL430	11:15	43.4N	149.1E	FL379	-54.5	6.1	FL349	-58.2	2.8	2:39	FL369	-54.0	3.5	1:50
												FL389	-49.9	2.9	3:20	FL409	-57.7	1.1	2:05
												FL429	-62.8	.4	1:04				
JFK-HND	9/12/76	150	12:48	-63	FL430	12:14	39.7N	144.3E	FL391	-51.7	5.5	FL349	-51.9	1.8	3:10	FL390	-55.4	1.5	1:34
												FL409	-47.8	2.9	4:54	FL429	-59.7	3.1	1:45
JFK-HND	9/13/77	153	13:00	-62	FL430	12:39	38.6N	142.8E	FL388	-51.6	5.0	FL350	-51.6	3.0	2:50	FL370	-53.5	1.7	2:00
												FL390	-49.1	3.2	2:15	FL410	-49.4	1.9	3:00
												FL429	-57.5	3.2	2:11				
JFK-HND	9/14/76	150	12:58	-58	FL410	11:05	45.9N	153.1E	FL378	-49.9	5.0	FL350	-51.4	3.2	4:55	FL390	-45.4	2.4	3:50
												FL409	-54.2	2.1	3:32				
JFK-HND	9/16/77	156	13:12	-61	FL410	9:22	46.2N	174.9E	FL379	-55.1	5.2	FL349	-53.9	3.3	3:13	FL389	-54.9	4.6	4:00
												FL409	-58.2	1.0	4:08				
JFK-HND	9/20/77	159	13:06	-64	FL370	3:26	60.9N	103.0W	FL387	-55.3	6.2	FL349	-55.5	2.6	2:56	FL389	-53.4	4.8	4:04
												FL410	-54.5	1.6	2:09	FL429	-61.8	1.1	2:35
JFK-HND	9/23/77	150	13:05	-59	FL370	4:20	61.6N	118.2W	FL378	-51.5	5.1	FL349	-54.6	3.0	3:48	FL369	-55.3	2.3	1:54
												FL389	-48.2	5.5	3:14	FL410	-50.1	2.5	3:24
JFK-HND	9/30/76	144	12:29	-65	FL410	12:00	40.1N	144.8E	FL385	-50.9	5.1	FL349	-51.0	2.5	2:55	FL369	-47.5	1.6	2:15
												FL410	-53.0	6.4	5:45				
JFK-HND	10/ 3/77	133	12:43	-62	FL410	10:00	49.8N	159.6E	FL383	-56.3	4.8	FL349	-55.0	5.4	2:45	FL369	-57.8	1.8	2:45
												FL390	-53.0	3.3	2:35	FL410	-59.1	1.6	2:24
												FL430	-60.4	.7	1:29				
JFK-HND	10/ 6/76	152	12:46	-64	FL410	11:56	41.2N	146.1E	FL376	-52.3	4.2	FL350	-52.0	2.6	5:32	FL389	-51.7	3.2	3:34
												FL409	-54.4	5.4	3:03				
JFK-HND	10/ 9/76	150	12:31	-65	FL410	11:16	43.0N	148.5E	FL389	-53.5	4.6	FL370	-53.6	2.1	2:54	FL389	-49.7	2.2	4:15
												FL409	-57.4	4.8	4:17				
JFK-HND	10/12/76	153	12:43	-61	FL430	12:15	39.8N	143.1E	FL388	-51.6	3.9	FL349	-54.3	2.1	2:30	FL369	-50.7	.9	2:44
												FL409	-48.7	3.2	3:50	FL430	-55.3	2.6	1:49
JFK-HND	10/15/76	150	12:55	-63	FL370	4:10	61.3N	117.6W	FL390	-55.0	3.9	FL349	-52.5	4.8	1:51	FL369	-57.2	3.5	2:19
												FL389	-53.6	2.2	3:50	FL429	-56.5	2.6	3:05

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN		
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD
JFK-HND	10/17/77	145	12:58	-59	FL431	12:23	40.1N	143.6E	FL389	-50.1	3.8
JFK-HND	10/18/76	153	13:09	-66	FL405	13:05	37.1N	141.0E	FL382	-57.9	4.4
JFK-HND	10/27/76	155	13:05	-62	FL351	1:29	51.1N	83.5W	FL388	-52.4	5.4
JFK-HND	10/30/76	151	12:50	-69	FL370	4:43	64.1N	120.7W	FL380	-54.4	5.0
JFK-HND	10/31/77	138	12:29	-57	FL410	10:34	46.1N	153.1E	FL382	-52.6	2.7
JFK-HND	11/ 7/76	157	13:36	-63	FL431	13:31	37.1N	140.9E	FL381	-50.7	5.8
JFK-HND	11/10/76	152	13:03	-66	FL430	12:14	40.8N	145.5E	FL384	-54.2	6.2
JFK-HND	11/13/76	152	12:59	-62	FL410	10:38	46.9N	154.8E	FL377	-55.2	5.7
JFK-HND	11/15/76	147	12:38	-62	FL410	12:33	37.8N	140.7E	FL383	-50.0	5.8
JFK-HND	11/17/76	146	12:35	-63	FL430	11:09	43.4N	149.3E	FL399	-50.5	5.8
JFK-HND	11/18/77	140	12:35	-67	FL390	5:20	59.5N	139.2W	FL383	-53.2	6.6
JFK-HND	11/19/76	147	12:39	-60	FL410	11:29	42.4N	147.7E	FL387	-49.9	3.9
JFK-HND	11/21/77	130	11:05	-67	FL391	4:30	62.6N	149.2W	FL384	-54.5	5.7
JFK-HND	11/23/76	152	13:00	-57	FL349	0:54	47.3N	80.2W	FL381	-50.3	3.2
JFK-HND	11/25/76	154	13:16	-61	FL350	0:55	46.1N	79.7W	FL388	-51.6	4.1
JFK-HND	11/29/76	152	13:09	-63	FL390	5:39	63.7N	136.3W	FL387	-50.9	5.5
JFK-HND	12/ 1/76	146	12:44	-64	FL370	3:34	59.1N	107.7W	FL390	-50.1	5.5
JFK-HND	12/ 3/76	152	12:54	-63	FL390	7:45	61.3N	170.2W	FL379	-51.2	4.2
JFK-HND	12/16/77	143	13:17	-68	FL410	10:42	49.0N	158.0E	FL381	-59.7	3.6
JFK-HND	12/19/77	148	12:34	-58	FL350	0:24	44.5N	77.8W	FL385	-52.8	3.6
JFK-IAH	1/22/79	64	2:24	-62	FL391	2:03	32.4N	91.1W	FL383	-51.3	5.8
JFK-IAH	2/15/79	28	2:19	-57	FL390	2:09	31.5N	92.6W	FL383	-51.6	3.4
JFK-IAH	3/ 8/79	109	2:15	-52	FL345	0:05	40.0N	76.0W	FL389	-45.7	2.1
JFK-IAH	5/28/79	30	2:24	-61	FL391	1:30	34.6N	87.1W	FL376	-56.4	5.5
JFK-IAH	8/ 1/78	27	2:11	-52	FL371	1:46	33.6N	90.3W	FL362	-49.0	2.6
JFK-IAH	9/ 4/78	26	2:05	-56	FL390	1:55	31.9N	92.0W	FL382	-52.4	4.6
JFK-IAH	9/13/78	28	2:19	-59	FL390	0:24	37.9N	77.5W	FL382	-54.7	5.8
JFK-IAH	10/12/78	27	2:04	-61	FL391	0:12	39.4N	77.3W	FL384	-56.3	4.7

FLIGHT SEGMENTS							
FL	T	SD	ETIM	FL	T	SD	ETIM
FL369	-49.1	2.1	4:25	FL390	-48.4	3.5	2:24
FL410	-48.4	1.3	1:48	FL430	-55.4	2.8	2:33
FL349	-55.6	2.9	2:55	FL369	-58.8	4.3	1:25
FL389	-58.6	3.2	3:34	FL409	-59.4	3.8	4:35
FL350	-57.6	4.4	2:09	FL370	-56.1	4.7	2:50
FL390	-48.3	3.3	2:06	FL410	-47.8	1.2	2:49
FL430	-52.7	4.2	2:15				
FL349	-54.8	2.7	3:43	FL369	-61.1	3.9	2:22
FL389	-52.8	2.1	2:45	FL409	-50.2	2.4	2:04
FL429	-54.9	1.2	1:09				
FL350	-52.2	3.0	3:05	FL369	-50.4	1.7	2:05
FL389	-52.1	1.5	3:05	FL410	-54.9	1.6	3:45
FL350	-50.9	6.0	4:15	FL370	-49.4	1.6	2:05
FL390	-45.0	1.0	2:10	FL409	-50.5	3.5	2:25
FL430	-60.4	1.4	1:39				
FL350	-49.6	1.6	2:30	FL369	-60.3	4.0	2:25
FL390	-50.8	3.5	5:38	FL429	-63.3	1.6	1:49
FL350	-59.1	.8	3:34	FL369	-54.1	5.4	2:24
FL389	-48.5	3.9	3:05	FL409	-59.3	2.0	3:09
FL349	-55.2	3.6	4:19	FL369	-45.3	1.1	1:15
FL409	-47.4	4.9	6:34				
FL389	-48.4	2.9	4:35	FL410	-45.6	1.6	1:35
FL429	-58.2	3.8	3:30				
FL349	-51.8	4.7	4:39	FL389	-54.4	8.7	5:04
FL430	-53.5	2.1	2:30				
FL369	-49.9	2.3	4:19	FL390	-47.5	1.3	2:59
FL410	-49.6	1.7	2:00				
FL350	-50.2	3.1	4:10	FL390	-57.8	6.7	4:05
FL429	-56.2	1.0	2:30				
FL349	-50.7	3.2	5:45	FL389	-46.2	1.5	2:00
FL410	-49.6	1.1	1:49	FL429	-53.3	1.3	2:35
FL349	-51.6	5.8	4:25	FL409	-49.7	1.1	4:24
FL429	-55.5	1.4	2:27				
FL349	-47.8	5.2	3:15	FL369	-54.1	4.0	1:49
FL389	-55.9	4.7	2:21	FL410	-51.4	2.4	2:39
FL429	-48.3	3.2	2:13				
FL349	-43.4	2.0	2:00	FL369	-56.4	5.2	2:39
FL390	-46.6	2.3	1:35	FL409	-50.9	2.5	1:05
FL429	-52.8	1.8	2:45				
FL349	-50.1	2.5	3:24	FL369	-47.7	2.4	2:39
FL389	-58.6	2.3	1:49	FL409	-51.4	2.3	4:15
FL350	-59.8	2.1	3:39	FL369	-57.4	1.5	2:34
FL390	-59.0	1.8	2:54	FL410	-62.7	3.4	3:27
FL350	-53.1	3.1	3:00	FL390	-56.1	1.2	2:54
FL409	-50.4	2.6	5:14				
FL391	-52.3	5.3	1:59				
FL390	-52.4	2.1	2:04				
FL390	-45.6	1.9	1:59				
FL390	-58.6	2.1	1:40				
FL370	-50.6	.9	1:20				
FL390	-53.5	1.0	1:45				
FL389	-56.7	.9	1:59				
FL390	-57.2	2.6	0:00				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-IAH	10/16/78	30	2:30	-54	FL351	1:15	37.8N	86.7W	FL345	-48.6	3.7	FL350	-49.4	2.8	2:05				
JFK-IAH	11/ 1/78	26	2:15	-59	FL390	2:10	30.8N	91.9W	FL385	-54.0	3.8	FL389	-54.9	1.7	2:05				
JFK-JFK	4/ 6/77	24	1:42	-44	FL390	0:04	42.6N	73.3W	FL373	-42.5	1.2								
JFK-LAS	2/12/79	52	4:14	-68	FL391	3:04	38.1N	102.6W	FL365	-60.2	5.0	FL351	-58.3	.8	1:59	FL391	-65.0	1.7	1:35
JFK-LAX	1/ 1/79	148	4:30	-67	FL390	4:24	35.1N	115.4W	FL380	-53.4	7.2	FL349	-51.5	4.5	2:25	FL389	-54.3	7.5	1:48
JFK-LAX	1/10/78	54	4:29	-57	FL390	2:04	40.2N	95.1W	FL381	-51.5	3.2	FL389	-52.3	3.1	3:09				
JFK-LAX	1/19/78	53	4:24	-61	FL378	1:00	41.4N	84.2W	FL378	-51.0	4.1	FL389	-50.7	3.1	3:14				
JFK-LAX	1/19/78	61	4:53	-65	FL404	1:19	40.5N	86.1W	FL406	-56.0	5.9	FL403	-61.8	3.1	1:14				
JFK-LAX	1/29/78	52	4:30	-58	FL391	4:09	35.6N	113.7W	FL371	-51.5	3.2	FL350	-49.2	1.3	1:19	FL390	-53.2	2.4	2:35
JFK-LAX	1/31/78	54	4:50	-57	FL390	2:05	41.3N	93.7W	FL393	-51.6	3.1	FL390	-52.6	2.8	3:00	FL420	-50.6	1.1	1:09
JFK-LAX	2/ 4/76	49	4:39	-61	FL390	1:39	38.8N	89.6W	FL375	-55.1	4.7	FL349	-57.7	.6	1:09	FL389	-54.4	4.8	2:55
JFK-LAX	2/ 6/78	53	4:26	-63	FL391	1:59	39.8N	95.6W	FL357	-51.3	5.7	FL350	-49.9	5.0	2:10				
JFK-LAX	2/ 9/78	54	4:31	-62	FL351	1:41	40.5N	91.6W	FL360	-53.9	5.3	FL350	-56.8	4.2	2:26	FL391	-51.9	2.2	1:09
JFK-LAX	2/16/79	58	4:49	-55	FL332	4:49	34.3N	116.6W	FL388	-51.2	1.7	FL390	-51.2	1.5	4:34				
JFK-LAX	2/16/79	59	4:50	-58	FL350	2:30	39.0N	97.3W	FL356	-54.0	2.8	FL350	-55.3	1.8	3:24				
JFK-LAX	2/25/76	53	4:25	-67	FL390	3:40	36.9N	110.1W	FL382	-58.6	6.1	FL390	-59.3	4.9	3:45				
JFK-LAX	2/25/79	56	4:26	-65	FL390	0:34	41.2N	80.5W	FL350	-53.9	6.6	FL389	-55.6	1.4	1:01	FL310	-46.7	.8	1:24
JFK-LAX	2/27/78	80	4:42	-59	FL390	2:52	39.8N	100.8W	FL372	-49.7	5.6	FL389	-51.8	3.4	3:18				
JFK-LAX	2/28/76	54	4:37	-68	FL390	3:16	37.8N	104.8W	FL365	-60.2	4.4	FL350	-59.8	1.2	2:17	FL389	-62.1	3.2	1:50
JFK-LAX	2/28/79	53	3:50	-66	FL390	2:45	38.1N	105.6W	FL385	-58.7	4.9	FL390	-59.2	4.0	3:33				
JFK-LAX	3/ 9/79	54	3:48	-62	FL351	0:58	40.7N	87.3W	FL358	-55.4	4.1	FL350	-58.2	3.1	1:32	FL370	-53.9	3.2	1:49
JFK-LAX	3/10/79	203	3:52	-63	FL349	0:04	40.6N	76.9W	FL388	-49.3	3.6	FL390	-48.6	3.1	2:57				
JFK-LAX	3/16/78	81	4:37	-67	FL390	3:18	39.3N	105.8W	FL377	-51.1	7.3	FL350	-46.3	1.6	1:20	FL389	-53.0	7.7	2:43
JFK-LAX	3/23/79	53	3:55	-62	FL370	0:41	41.0N	83.3W	FL379	-49.9	4.4	FL390	-49.0	2.9	3:00				
JFK-LAX	3/24/78	53	4:30	-67	FL390	0:34	40.0N	80.4W	FL386	-59.2	5.9	FL390	-59.7	5.4	4:09				
JFK-LAX	3/24/79	50	3:47	-59	FL391	2:48	38.0N	106.4W	FL386	-50.5	4.5	FL390	-50.7	4.6	3:27				
JFK-LAX	3/26/79	57	3:56	-65	FL390	2:49	37.7N	105.4W	FL375	-58.2	4.3	FL390	-59.6	3.6	2:33				
JFK-LAX	3/28/77	56	4:32	-61	FL390	0:37	42.4N	80.6W	FL383	-49.2	6.8	FL390	-49.3	6.4	3:48				
JFK-LAX	3/28/79	61	3:59	-66	FL390	1:43	39.3N	94.0W	FL381	-59.7	4.7	FL390	-61.4	3.0	3:08				
JFK-LAX	3/31/77	60	5:04	-55	FL391	3:11	39.8N	102.4W	FL377	-49.1	3.6	FL390	-50.1	2.3	2:25				
JFK-LAX	4/ 3/77	55	4:51	-60	FL390	4:36	36.3N	115.0W	FL373	-51.0	4.8	FL349	-49.2	1.5	1:09	FL389	-52.9	3.8	2:45
JFK-LAX	4/ 8/77	48	4:24	-65	FL390	1:59	40.5N	94.6W	FL377	-57.2	6.7	FL390	-60.8	2.8	3:09				
JFK-LAX	4/13/77	51	4:19	-65	FL390	1:49	38.5N	93.4W	FL373	-59.1	6.1	FL349	-55.0	.5	1:05	FL390	-62.5	1.9	2:45
JFK-LAX	4/13/78	55	4:36	-62	FL390	3:16	37.7N	104.8W	FL371	-51.5	5.5	FL350	-46.7	2.9	1:55	FL390	-55.8	2.8	2:16
JFK-LAX	4/18/78	52	4:19	-58	FL390	4:00	35.6N	114.0W	FL363	-49.1	5.7	FL390	-51.2	5.4	2:30				
JFK-LAX	4/21/77	47	4:15	-65	FL390	4:00	35.7N	113.7W	FL376	-56.5	6.5	FL350	-50.2	.4	1:05	FL389	-59.8	3.7	2:50
JFK-LAX	4/23/77	37	4:20	-65	FL390	2:20	38.9N	98.6W	FL372	-56.8	7.5	FL350	-53.7	2.2	1:15	FL389	-60.5	3.1	2:15
JFK-LAX	4/24/78	52	4:21	-65	FL390	3:04	39.7N	105.5W	FL378	-54.2	6.6	FL390	-54.6	6.9	3:19				
JFK-LAX	5/10/75	49	4:07	-59	FL390	2:31	39.9N	103.1W	FL378	-56.4	2.7	FL390	-56.6	1.9	2:54				
JFK-LAX	5/12/79	54	4:24	-57	FL391	4:15	34.4N	114.4W	FL365	-48.6	4.8	FL350	-46.0	1.8	2:25	FL390	-53.4	2.8	1:35
JFK-LAX	5/16/76	46	4:00	-58	FL390	3:00	37.6N	107.8W	FL378	-48.7	5.8	FL390	-50.1	4.9	3:00				
JFK-LAX	5/18/78	52	4:20	-60	FL390	3:54	35.8N	112.7W	FL372	-53.2	4.6	FL350	-50.3	2.5	1:15	FL390	-55.8	2.4	2:30
JFK-LAX	5/26/78	49	4:05	-53	FL351	3:05	36.9N	107.7W	FL347	-49.3	3.3	FL350	-50.1	1.6	3:45				
JFK-LAX	6/ 1/78	57	4:36	-63	FL390	2:16	39.9N	97.7W	FL384	-58.2	6.0	FL389	-59.8	2.0	4:11				
JFK-LAX	6/ 6/79	50	4:04	-56	FL390	2:39	37.7N	102.5W	FL367	-51.8	3.8	FL349	-49.8	1.2	1:39	FL390	-55.0	1.1	1:45
JFK-LAX	6/ 8/78	53	4:18	-62	FL390	3:30	36.8N	108.3W	FL364	-51.8	7.2	FL350	-48.4	3.5	2:15	FL390	-58.7	3.0	1:40
JFK-LAX	6/ 8/78	51	4:19	-63	FL391	3:20	37.3N	105.9W	FL391	-55.9	5.9	FL391	-54.4	2.0	1:59				
JFK-LAX	6/10/77	47	4:18	-57	FL390	1:19	39.8N	88.5W	FL375	-51.7	4.1	FL390	-53.8	1.8	2:54				
JFK-LAX	6/11/78	48	3:57	-60	FL391	0:36	39.9N	82.9W	FL386	-56.9	4.7	FL390	-58.0	.8	3:35				
JFK-LAX	6/15/78	51	4:24	-66	FL431	4:04	35.7N	113.4W	FL426	-61.1	3.8	FL430	-61.7	3.3	3:59				
JFK-LAX	6/17/78	54	4:28	-63	FL420	3:00	34.6N	103.1W	FL392	-56.3	5.4	FL390	-56.0	.5	2:33				
JFK-LAX	6/21/79	55	4:29	-57	FL390	0:45	36.3N	82.7W	FL382	-54.0	3.3	FL390	-55.2	1.1	3:39				
JFK-LAX	6/22/78	55	4:31	-66	FL431	4:16	35.3N	114.1W	FL414	-59.7	5.3	FL430	-63.6	1.7	2:24				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-LAX	6/23/77	54	4:34	-61	FL390	3:44	36.7N	109.5W	FL375	-53.7	6.1	FL350	-47.4	.5	1:04	FL390	-57.4	1.2	2:59
JFK-LAX	6/24/78	57	4:31	-58	FL391	1:00	39.7N	84.7W	FL387	-55.6	3.0	FL390	-56.2	1.1	4:11				
JFK-LAX	6/25/79	62	4:27	-56	FL390	3:16	37.0N	105.4W	FL361	-49.3	3.9	FL350	-47.6	1.3	2:31	FL389	-53.9	.9	1:26
JFK-LAX	6/25/79	52	4:15	-58	FL390	3:54	35.4N	113.4W	FL369	-52.2	3.2	FL350	-50.4	.9	1:45	FL390	-54.5	2.0	2:05
JFK-LAX	6/26/79	48	4:05	-58	FL390	2:20	38.4N	100.3W	FL354	-50.2	7.0	FL389	-57.3	.4	1:34				
JFK-LAX	6/28/79	54	4:18	-58	FL390	1:49	38.7N	92.6W	FL372	-52.8	5.1	FL350	-50.1	.8	1:19	FL390	-55.8	1.0	2:23
JFK-LAX	6/29/79	55	4:29	-57	FL391	2:34	36.3N	99.0W	FL364	-50.4	6.1	FL350	-47.6	1.5	1:59	FL390	-55.8	.8	1:54
JFK-LAX	7/ 1/77	51	4:19	-58	FL390	2:49	37.8N	102.5W	FL363	-48.9	6.0	FL350	-46.7	1.0	2:05	FL389	-54.2	1.7	1:45
JFK-LAX	7/ 2/78	52	4:15	-54	FL391	3:24	35.9N	109.4W	FL375	-49.0	4.5	FL370	-49.1	1.2	1:15	FL390	-51.3	2.0	2:04
JFK-LAX	7/ 4/79	37	4:20	-58	FL391	3:54	35.0N	112.5W	FL371	-51.4	5.9	FL350	-45.3	1.0	1:54	FL390	-56.4	1.4	1:29
JFK-LAX	7/19/77	46	3:52	-55	FL390	1:54	39.1N	97.2W	FL368	-49.7	5.9	FL349	-45.9	.3	1:30	FL389	-54.7	.6	1:52
JFK-LAX	7/21/78	48	3:54	-56	FL391	2:49	36.3N	106.0W	FL372	-49.6	5.3	FL370	-49.1	.6	1:24	FL390	-54.4	.9	1:30
JFK-LAX	8/ 1/78	53	4:15	-55	FL391	4:05	34.4N	114.8W	FL381	-51.0	4.8	FL390	-52.8	1.1	3:21				
JFK-LAX	8/ 2/78	53	4:19	-55	FL390	1:29	38.9N	90.5W	FL374	-50.7	5.2	FL350	-47.2	.7	1:04	FL389	-53.5	1.0	2:49
JFK-LAX	8/ 5/78	50	4:04	-54	FL391	3:34	35.7N	112.2W	FL365	-49.5	5.0	FL350	-48.4	.7	2:00	FL390	-53.0	.9	1:40
JFK-LAX	8/24/78	50	4:24	-64	FL410	2:59	37.8N	104.8W	FL395	-58.1	6.0	FL390	-57.0	.7	2:14	FL410	-61.9	1.7	1:45
JFK-LAX	9/ 5/75	51	4:14	-60	FL411	3:08	37.3N	106.0W	FL368	-54.9	5.0	FL390	-56.6	.9	2:23				
JFK-LAX	9/21/78	54	4:29	-58	FL390	2:24	38.8N	98.5W	FL387	-55.7	3.4	FL390	-56.4	.7	4:14				
JFK-LAX	10/15/75	51	4:25	-58	FL390	1:05	40.0N	85.9W	FL376	-51.8	5.8	FL391	-54.0	1.7	3:15				
JFK-LAX	10/23/78	56	4:34	-60	FL390	0:35	40.0N	81.8W	FL388	-53.3	3.4	FL389	-54.7	1.9	2:49	FL408	-52.9	1.9	1:05
JFK-LAX	10/24/78	247	4:29	-60	FL390	1:45	39.8N	91.7W	FL385	-53.4	3.8	FL389	-54.1	3.7	3:17				
JFK-LAX	11/ 2/78	184	4:19	-62	FL381	1:33	39.5N	92.7W	FL385	-55.9	5.0	FL349	-54.9	.9	1:15	FL389	-56.2	4.7	2:37
JFK-LAX	11/10/77	54	4:27	-58	FL390	0:15	40.9N	77.8W	FL387	-50.7	6.4	FL390	-51.1	5.7	4:07				
JFK-LAX	11/10/78	54	4:24	-60	FL390	2:04	38.0N	96.4W	FL369	-54.4	5.6	FL349	-50.3	.5	1:44	FL390	-58.8	.5	2:15
JFK-LAX	11/11/78	43	4:24	-61	FL390	0:39	40.0N	84.0W	FL384	-56.1	5.0	FL389	-57.1	4.6	3:39				
JFK-LAX	11/18/77	57	4:59	-60	FL390	4:54	34.7N	116.6W	FL374	-51.7	7.4	FL350	-42.3	2.7	1:15	FL390	-57.0	2.3	3:00
JFK-LAX	11/20/77	56	4:39	-65	FL390	4:04	35.5N	110.9W	FL365	-57.3	4.9	FL350	-55.0	.4	2:05	FL390	-61.5	1.9	2:00
JFK-LAX	11/26/76	58	4:49	-64	FL390	4:44	35.6N	115.5W	FL377	-54.9	5.5	FL390	-58.6	2.4	1:44				
JFK-LAX	12/ 4/76	54	4:40	-62	FL390	3:10	38.5N	104.2W	FL385	-57.1	3.1	FL389	-57.5	2.8	4:20				
JFK-LAX	12/ 6/78	56	4:34	-50	FL350	1:54	40.5N	94.3W	FL364	-45.4	3.1	FL349	-46.2	2.0	2:15	FL390	-45.2	2.1	1:39
JFK-LAX	12/ 8/77	52	4:28	-61	FL429	4:23	36.0N	112.3W	FL427	-53.1	3.2	FL429	-53.1	3.2	4:13				
JFK-LAX	12/14/76	53	4:39	-60	FL358	0:15	40.1N	77.6W	FL384	-53.9	2.8	FL390	-54.1	1.8	4:15				
JFK-LAX	12/16/77	51	4:24	-56	FL369	0:45	40.9N	83.5W	FL375	-47.4	6.2	FL390	-42.6	3.5	2:20				
JFK-LAX	12/18/76	49	4:15	-57	FL350	0:09	40.1N	77.7W	FL365	-53.6	3.3	FL350	-56.4	1.2	2:06	FL390	-51.1	1.2	1:45
JFK-LAX	12/22/77	61	5:04	-66	FL390	1:14	39.9N	86.7W	FL390	-60.0	3.6	FL390	-60.4	3.0	4:24				
JFK-LAX	12/28/78	56	4:45	-61	FL389	1:30	39.8N	89.4W	FL395	-58.1	2.3	FL389	-59.5	.8	2:06	FL409	-57.5	1.9	2:05
JFK-LAX	12/30/77	56	4:40	-63	FL375	2:25	38.9N	97.8W	FL365	-57.2	4.5	FL350	-59.4	.7	2:09	FL389	-56.2	2.9	2:00
JFK-LHR	1/ 6/77	63	5:15	-62	FL340	3:27	55.0N	29.7W	FL329	-56.2	4.6	FL329	-53.8	1.1	1:24	FL339	-59.7	1.3	2:49
JFK-LHR	1/ 8/79	57	4:54	-66	FL361	2:18	52.0N	39.8W	FL353	-57.0	5.5	FL360	-59.9	4.4	3:04				
JFK-LHR	1/25/76	52	5:04	-63	FL330	1:45	50.0N	49.9W	FL329	-58.9	2.2	FL330	-59.2	1.4	4:54				
JFK-LHR	1/27/79	189	5:49	-65	FL371	2:07	48.0N	50.0W	FL369	-58.5	6.1	FL350	-49.5	4.8	1:15	FL370	-63.1	.8	1:56
												FL390	-57.6	1.2	1:20				
JFK-LHR	1/29/76	59	5:05	-67	FL370	5:05	50.5N	4.1W	FL369	-60.2	4.6	FL370	-60.4	4.3	4:55				
JFK-LHR	2/ 9/79	68	5:21	-63	FL354	5:14	50.5N	4.0W	FL339	-49.0	4.3	FL330	-47.3	1.9	3:49	FL370	-50.6	3.2	1:04
JFK-LHR	2/16/79	58	5:09	-58	FL351	4:29	49.9N	11.3W	FL332	-48.2	4.5	FL330	-47.3	3.7	4:09				
JFK-LHR	2/25/77	55	5:26	-63	FL370	1:13	46.3N	57.3W	FL363	-49.7	9.6	FL370	-53.2	6.2	4:09				
JFK-LHR	2/28/77	31	4:05	-66	FL390	4:05	51.8N	18.8W	FL379	-53.6	5.5	FL370	-55.9	3.3	1:14	FL390	-53.0	5.1	2:29
JFK-LHR	3/ 4/77	27	4:18	-60	FL350	3:52	53.0N	20.7W	FL346	-50.1	6.2	FL350	-50.5	6.6	2:58				
JFK-LHR	3/ 9/79	60	4:54	-60	FL360	2:09	50.6N	45.3W	FL354	-56.3	3.6	FL350	-51.9	2.0	1:15	FL360	-58.7	1.1	2:39
JFK-LHR	3/16/75	64	5:14	-60	FL330	4:24	50.2N	13.4W	FL324	-53.0	5.5	FL329	-53.8	5.8	3:54				
JFK-LHR	3/19/79	77	5:57	-67	FL371	2:31	58.1N	53.1W	FL366	-56.4	7.0	FL370	-57.3	6.8	5:23				
JFK-LHR	3/21/76	60	5:00	-61	FL331	2:55	51.0N	30.7W	FL330	-54.8	3.8	FL330	-54.9	3.6	4:55				
JFK-LHR	3/22/75	68	5:27	-56	FL330	0:08	43.3N	70.7W	FL322	-53.2	3.4	FL329	-54.6	2.1	3:50				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-LHR	3/23/76	57	4:46	-55	FL331	1:41	50.5N	48.2W	FL330	-51.4	2.2	FL330	-51.6	1.8	4:36				
JFK-LHR	3/24/79	69	5:39	-65	FL371	5:09	56.1N	5.5W	FL354	-56.9	5.3	FL331	-51.8	.8	2:04	FL370	-60.4	3.6	3:20
JFK-LHR	3/25/75	67	5:20	-60	FL329	4:05	52.1N	19.6W	FL328	-51.9	6.5	FL329	-52.3	6.3	5:00				
JFK-LHR	3/26/77	64	5:24	-57	FL321	0:09	41.7N	69.0W	FL329	-49.5	4.2	FL330	-49.4	4.1	5:04				
JFK-LHR	3/28/77	64	5:19	-59	FL331	4:34	49.7N	12.5W	FL330	-51.2	4.0	FL331	-51.4	3.8	5:04				
JFK-LHR	3/28/78	60	5:02	-55	FL330	2:52	51.8N	33.4W	FL329	-50.6	3.1	FL330	-50.8	3.0	4:52				
JFK-LHR	4/ 3/77	64	5:17	-57	FL330	2:32	57.7N	43.6W	FL330	-52.1	4.9	FL330	-52.7	4.0	5:02				
JFK-LHR	4/ 5/77	64	5:26	-59	FL341	3:24	55.9N	32.0W	FL336	-53.6	5.3	FL331	-47.6	.8	1:09	FL340	-56.5	2.9	3:36
JFK-LHR	4/10/76	58	4:55	-66	FL371	4:25	51.9N	9.4W	FL345	-54.5	5.4	FL330	-50.8	2.9	1:24	FL351	-54.7	2.7	2:35
JFK-LHR	4/18/76	64	5:29	-58	FL340	3:59	53.1N	22.3W	FL332	-47.9	6.8	FL340	-47.6	6.8	3:19				
JFK-LHR	4/21/76	65	5:34	-61	FL370	0:20	42.4N	68.4W	FL369	-53.5	4.9	FL370	-53.7	4.7	5:24				
JFK-LHR	4/27/79	68	5:34	-58	FL331	5:14	54.2N	6.4W	FL330	-51.0	4.1	FL331	-51.3	3.8	5:25				
JFK-LHR	4/30/79	67	5:37	-54	FL330	0:22	45.2N	69.8W	FL329	-49.3	2.9	FL330	-49.6	2.5	5:26				
JFK-LHR	5/ 5/79	64	5:15	-63	FL360	2:54	50.7N	33.8W	FL355	-54.8	5.9	FL360	-56.1	5.4	4:00				
JFK-LHR	5/13/77	64	5:19	-56	FL370	0:04	40.9N	71.3W	FL387	-50.4	3.2	FL390	-50.3	3.2	5:05				
JFK-LHR	5/15/77	61	5:19	-60	FL370	1:49	44.3N	49.3W	FL369	-52.0	5.2	FL370	-52.1	5.2	5:09				
JFK-LHR	5/15/77	65	5:22	-61	FL370	3:55	51.2N	21.5W	FL357	-52.0	5.1	FL370	-53.6	4.6	3:57				
JFK-LHR	5/19/77	61	5:19	-59	FL370	3:14	51.7N	32.3W	FL354	-52.7	5.9	FL330	-51.1	1.5	1:24	FL370	-53.8	6.7	2:54
JFK-LHR	5/22/77	67	5:34	-61	FL360	5:04	53.2N	9.6W	FL349	-50.7	6.2	FL330	-47.7	.8	1:24	FL359	-51.9	6.8	3:35
JFK-LHR	5/24/79	62	5:04	-57	FL360	1:44	48.9N	50.1W	FL355	-51.0	5.6	FL360	-53.7	4.6	2:34				
JFK-LHR	5/30/77	28	5:14	-65	FL410	3:24	52.1N	27.5W	FL397	-57.1	5.8	FL409	-58.4	6.3	3:30				
JFK-LHR	5/30/79	66	5:24	-58	FL341	3:39	51.6N	24.8W	FL336	-50.1	4.9	FL310	-44.6	.9	1:03	FL341	-52.4	3.5	3:19
JFK-LHR	6/ 6/78	60	5:02	-58	FL350	0:25	44.8N	69.1W	FL351	-50.5	3.2	FL350	-49.9	4.0	1:01	FL360	-51.5	1.5	2:56
JFK-LHR	6/ 6/79	65	5:18	-59	FL361	4:04	51.9N	20.8W	FL357	-51.4	5.1	FL360	-54.1	3.7	3:24				
JFK-LHR	6/10/78	63	5:08	-55	FL350	4:13	53.0N	15.7W	FL349	-50.6	4.3	FL350	-51.2	3.4	4:53				
JFK-LHR	6/16/78	62	5:12	-55	FL360	3:29	52.1N	26.5W	FL348	-48.6	4.9	FL330	-46.0	1.8	1:09	FL360	-51.9	3.4	2:44
JFK-LHR	6/25/77	61	4:59	-53	FL330	1:14	47.2N	58.3W	FL322	-47.4	3.8	FL329	-49.5	1.7	1:09	FL319	-46.8	4.0	3:04
JFK-LHR	6/25/78	67	5:30	-58	FL350	5:19	51.9N	4.9W	FL343	-52.2	3.0	FL330	-50.8	1.3	1:24	FL350	-53.3	1.9	3:39
JFK-LHR	7/ 8/76	66	5:29	-62	FL391	2:44	50.8N	40.7W	FL382	-53.4	6.2	FL370	-55.7	.8	1:34	FL391	-53.0	7.0	3:34
JFK-LHR	7/ 9/78	66	5:24	-55	FL370	4:44	53.8N	12.1W	FL340	-45.6	5.3	FL330	-40.6	.9	1:09	FL339	-46.3	3.0	3:09
JFK-LHR	7/11/76	64	5:23	-62	FL391	1:14	44.5N	57.7W	FL388	-55.7	5.1	FL390	-56.1	4.4	5:05				
JFK-LHR	7/19/76	65	5:24	-60	FL391	3:09	55.2N	34.5W	FL381	-50.9	6.2	FL370	-49.9	5.5	1:24	FL391	-52.4	6.0	3:15
JFK-LHR	7/25/78	62	5:04	-59	FL360	4:24	51.9N	11.9W	FL354	-46.0	5.3	FL359	-45.0	4.1	3:14				
JFK-LHR	7/28/78	65	5:18	-52	FL330	4:33	52.1N	12.7W	FL334	-47.1	3.2	FL350	-48.2	.9	1:18	FL330	-47.7	2.3	3:19
JFK-LHR	8/ 2/78	62	5:09	-53	FL331	2:44	52.5N	36.6W	FL327	-46.7	3.4	FL330	-47.0	2.9	4:04				
JFK-LHR	8/17/76	68	5:39	-50	FL349	3:15	52.7N	34.3W	FL342	-43.8	4.6	FL330	-38.5	.5	1:09	FL349	-46.2	2.9	0:00
JFK-LHR	8/24/77	49	4:59	-59	FL370	1:54	50.4N	46.4W	FL366	-51.1	6.0	FL369	-51.4	6.3	3:44				
JFK-LHR	8/26/76	69	5:44	-60	FL370	5:38	52.0N	4.0W	FL367	-52.1	6.8	FL370	-52.6	6.2	5:27				
JFK-LHR	8/26/78	62	5:20	-65	FL371	2:08	48.1N	44.7W	FL360	-60.5	3.3	FL330	-56.3	1.2	1:09	FL370	-62.0	1.3	3:50
JFK-LHR	8/29/77	62	5:09	-57	FL370	4:30	50.6N	12.8W	FL341	-43.1	5.5	FL329	-40.8	1.3	3:20	FL370	-49.4	5.5	1:24
JFK-LHR	9/ 4/77	59	5:00	-57	FL382	3:10	51.0N	29.9W	FL367	-52.8	4.6	FL350	-51.2	1.8	1:30	FL381	-54.7	2.5	2:35
JFK-LHR	9/ 5/78	61	5:04	-52	FL331	0:49	45.1N	62.1W	FL329	-44.9	3.3	FL330	-45.0	3.3	4:49				
JFK-LHR	9/ 8/76	63	5:19	-51	FL369	4:24	55.1N	16.8W	FL346	-44.6	3.0	FL330	-42.7	2.4	1:30	FL349	-45.8	2.2	2:35
JFK-LHR	9/ 9/77	60	5:14	-56	FL370	2:39	51.0N	42.0W	FL368	-53.0	4.2	FL370	-53.5	3.4	4:54				
JFK-LHR	9/11/76	70	5:38	-57	FL369	4:22	56.1N	17.8W	FL361	-50.5	5.4	FL369	-52.6	4.2	4:08				
JFK-LHR	9/13/77	63	5:19	-49	FL331	0:40	45.8N	65.8W	FL311	-36.5	6.6	FL290	-32.1	2.8	3:19				
JFK-LHR	9/13/78	61	5:04	-50	FL330	0:39	45.3N	66.1W	FL329	-46.6	2.5	FL330	-46.9	1.5	4:49				
JFK-LHR	9/15/76	63	5:12	-52	FL349	4:27	52.2N	13.6W	FL343	-46.3	3.6	FL330	-42.7	.6	1:08	FL349	-48.0	2.3	3:43
JFK-LHR	9/17/77	62	5:34	-54	FL331	1:41	49.5N	52.4W	FL309	-43.7	5.3	FL330	-48.4	2.9	1:31	FL290	-40.3	3.5	2:43
JFK-LHR	9/18/77	66	5:34	-60	FL361	3:29	51.1N	28.5W	FL352	-51.2	5.1	FL330	-48.9	1.6	1:29	FL360	-50.5	5.2	2:49
JFK-LHR	10/ 3/76	57	4:55	-57	FL370	2:34	49.5N	36.4W	FL366	-52.1	5.1	FL370	-52.3	4.9	4:39				
JFK-LHR	10/ 6/77	62	5:14	-64	FL410	4:29	53.8N	12.9W	FL400	-55.2	3.2	FL389	-56.4	1.4	1:40	FL409	-55.1	2.8	3:14
JFK-LHR	10/ 6/78	64	5:22	-60	FL350	2:11	50.9N	46.0W	FL348	-54.4	3.7	FL349	-55.0	2.5	5:00				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-LHR	10/11/77	67	5:57	-55	FL329	4:57	59.9N	8.4W	FL307	-47.1	4.3	FL331	-49.9	2.8	1:27	FL290	-45.9	1.4	2:29
JFK-LHR	10/11/78	66	5:29	-62	FL371	5:09	50.1N	6.9W	FL356	-52.8	4.3	FL329	-50.3	2.3	1:24	FL370	-54.5	3.5	3:34
JFK-LHR	10/15/76	58	4:54	-54	FL350	0:50	45.4N	62.2W	FL351	-46.3	3.5	FL360	-46.6	2.2	2:45				
JFK-LHR	10/18/77	60	5:11	-58	FL371	4:41	52.2N	9.5W	FL348	-49.1	5.5	FL331	-45.7	4.2	2:24	FL370	-53.6	3.2	2:24
JFK-LHR	10/18/78	65	5:20	-62	FL371	3:11	55.1N	34.3W	FL360	-56.6	4.9	FL370	-58.1	3.4	4:01				
JFK-LHR	10/20/78	63	5:19	-58	FL330	0:34	45.7N	66.3W	FL337	-51.5	3.1	FL330	-56.4	1.3	1:04	FL341	-50.0	1.7	3:19
JFK-LHR	10/24/77	58	5:45	-59	FL351	0:46	44.4N	63.2W	FL361	-51.6	4.1	FL350	-52.6	4.5	1:31	FL370	-50.0	4.3	1:07
												FL370	-52.6	2.2	2:31				
JFK-LHR	11/ 1/76	55	4:44	-56	FL350	2:15	52.9N	41.8W	FL350	-50.6	4.7	FL349	-52.0	4.1	3:49				
JFK-LHR	11/ 2/76	58	5:00	-58	FL370	3:45	53.1N	21.6W	FL366	-50.7	5.4	FL369	-51.1	5.6	4:25				
JFK-LHR	11/ 2/78	61	4:58	-58	FL350	4:38	52.5N	8.0W	FL330	-51.7	3.4	FL329	-51.6	2.1	3:45				
JFK-LHR	11/ 5/78	66	5:34	-63	FL381	4:24	54.1N	17.6W	FL375	-56.5	4.7	FL370	-59.0	.3	1:24	FL380	-55.2	4.9	3:09
JFK-LHR	11/21/77	71	5:49	-62	FL351	3:29	55.1N	34.3W	FL346	-56.7	4.5	FL350	-57.7	4.3	4:45				
JFK-LHR	12/ 6/78	59	5:04	-57	FL330	5:00	50.4N	4.5W	FL329	-44.3	5.2	FL329	-44.7	4.7	4:54				
JFK-LHR	12/18/76	65	5:19	-60	FL370	2:53	50.6N	35.6W	FL347	-50.8	6.1	FL329	-45.7	3.2	2:33	FL369	-56.3	3.4	2:21
JFK-LHR	12/20/76	61	5:09	-58	FL330	0:39	44.9N	63.7W	FL335	-52.6	3.7	FL340	-52.4	3.8	3:24				
JFK-LHR	12/26/78	64	5:11	-59	FL350	4:51	50.0N	7.4W	FL344	-48.1	6.7	FL350	-50.1	4.9	4:21				
JFK-MUC	10/30/76	87	6:27	-59	FL365	6:22	47.7N	9.5E	FL321	-41.1	5.9	FL308	-38.0	1.7	3:20				
JFK-NRT	1/ 4/79	147	12:36	-68	FL371	4:30	61.7N	120.6W	FL383	-55.2	4.8	FL350	-52.3	3.5	2:54	FL370	-62.4	4.1	2:30
												FL390	-54.5	2.1	3:05	FL409	-53.4	1.9	1:54
												FL430	-53.5	.9	1:30				
JFK-NRT	1/11/79	149	12:44	-63	FL350	4:54	64.9N	124.5W	FL379	-53.0	6.4	FL350	-59.8	1.9	3:04	FL390	-54.8	5.2	3:15
												FL409	-46.1	4.0	3:59				
JFK-NRT	1/18/79	159	13:14	-64	FL350	1:54	51.6N	86.6W	FL377	-53.4	5.2	FL350	-57.3	4.0	5:29	FL390	-53.4	1.7	3:19
												FL410	-48.5	3.9	3:44				
JFK-NRT	1/23/79	142	12:20	-60	FL350	0:10	42.6N	75.6W	FL381	-47.4	5.3	FL350	-50.4	5.9	5:19	FL390	-43.1	1.5	2:45
												FL410	-44.3	1.8	1:30	FL430	-47.5	3.3	2:05
JFK-NRT	1/26/79	140	12:16	-63	FL350	1:45	52.1N	87.7W	FL374	-48.7	5.6	FL350	-50.8	6.9	5:37	FL390	-46.0	2.9	2:49
												FL410	-47.1	2.2	3:00				
JFK-NRT	1/29/79	121	10:24	-59	FL350	1:15	49.3N	82.3W	FL373	-48.3	4.2	FL350	-50.2	5.2	4:39	FL390	-46.9	1.7	3:40
												FL410	-44.6	.8	1:05				
JFK-NRT	2/ 3/79	146	12:20	-54	FL410	12:05	38.6N	143.1E	FL378	-46.8	3.2	FL350	-44.8	.8	4:34	FL390	-46.3	2.8	2:34
												FL409	-50.2	2.5	3:49				
JFK-NRT	2/ 8/79	151	12:50	-58	FL389	8:39	56.1N	175.5E	FL387	-49.8	4.7	FL350	-44.1	.8	1:05	FL369	-44.5	.5	1:04
												FL350	-46.4	.8	1:35	FL389	-50.1	4.3	4:49
												FL409	-55.1	1.4	1:04	FL429	-54.6	1.2	2:15
JFK-NRT	2/25/79	144	12:15	-63	FL350	2:49	58.8N	94.5W	FL379	-50.8	5.8	FL349	-57.3	2.3	4:39	FL389	-46.4	2.2	2:50
												FL409	-46.6	2.6	4:11				
JFK-NRT	2/28/79	146	12:19	-68	FL350	2:45	55.4N	96.5W	FL383	-50.4	8.5	FL350	-64.1	1.9	2:39	FL370	-51.3	4.7	2:54
												FL389	-43.4	2.7	3:04	FL409	-45.1	1.3	1:30
												FL430	-44.6	.9	1:25				
JFK-NRT	3/ 3/79	64	5:15	-62	FL351	3:30	60.7N	102.1W	FL348	-56.4	4.5	FL350	-56.7	4.0	5:00				
JFK-NRT	4/ 3/79	147	12:35	-62	FL378	5:40	65.2N	142.1W	FL377	-51.7	4.5	FL350	-54.1	2.7	5:24	FL389	-50.5	5.1	3:24
												FL410	-49.0	3.0	3:15				
JFK-NRT	4/ 6/79	147	12:35	-67	FL431	12:30	36.9N	142.0E	FL379	-53.4	4.8	FL350	-56.4	3.8	4:55	FL389	-50.8	1.3	3:55
												FL410	-49.8	1.6	2:00	FL431	-59.8	3.7	1:05
JFK-NRT	4/16/79	144	12:19	-61	FL350	1:30	50.6N	84.6W	FL375	-51.5	4.8	FL350	-52.7	5.4	5:14	FL390	-50.2	4.3	3:49
												FL410	-51.6	2.8	2:39				
JFK-NRT	4/22/79	151	13:00	-65	FL431	12:39	38.6N	143.1E	FL381	-53.1	5.6	FL350	-54.1	4.6	4:39	FL390	-55.4	3.0	3:20
												FL410	-47.1	2.1	2:24	FL430	-57.8	4.2	1:30
JFK-NRT	4/27/79	148	12:50	-64	FL390	5:20	66.2N	135.4W	FL385	-52.6	5.5	FL350	-52.5	6.0	4:35	FL389	-54.4	4.3	3:09
												FL410	-47.9	4.3	2:24	FL429	-55.5	3.1	2:05

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-NRT	4/30/79	144	12:17	-67	FL410	9:27	51.2N	162.6E	FL381	-53.3	5.9	FL350	-51.2	5.9	5:12	FL389	-55.7	4.3	2:24
												FL410	-54.7	5.6	2:35	FL429	-54.2	5.7	1:30
JFK-NRT	5/ 7/79	147	12:24	-67	FL411	12:09	38.5N	143.0E	FL379	-51.8	5.9	FL350	-51.8	5.7	4:39	FL389	-48.4	2.4	3:39
												FL410	-56.1	5.6	3:29				
JFK-NRT	6/ 9/79	156	12:54	-68	FL430	12:44	37.3N	142.6E	FL380	-51.6	5.5	FL350	-49.5	4.1	5:30	FL390	-53.8	2.6	2:49
												FL410	-51.7	3.0	2:00	FL430	-57.2	4.8	1:49
JFK-NRT	6/12/78	143	12:04	-64	FL410	10:34	44.3N	150.4E	FL378	-49.7	6.9	FL350	-47.7	3.4	3:15	FL369	-51.7	2.2	2:15
												FL391	-44.4	3.7	2:45	FL410	-56.6	7.2	3:00
JFK-NRT	6/17/78	148	12:29	-63	FL430	11:59	40.1N	144.7E	FL382	-46.7	6.9	FL350	-44.4	4.7	2:49	FL370	-45.7	1.3	1:24
												FL391	-44.7	4.7	3:49	FL410	-46.3	3.6	1:45
												FL430	-60.9	1.7	1:25				
JFK-NRT	6/18/79	129	11:10	-59	FL350	2:00	54.7N	88.1W	FL378	-52.9	4.2	FL350	-55.7	2.4	3:07	FL369	-53.5	2.7	2:32
												FL390	-48.6	4.0	2:39	FL409	-54.0	2.1	2:08
JFK-NRT	6/24/78	146	12:19	-64	FL428	12:14	37.7N	142.7E	FL382	-51.2	6.8	FL350	-55.5	1.0	3:45	FL370	-46.2	4.4	1:45
												FL391	-42.9	2.5	2:15	FL410	-53.3	3.9	2:15
												FL430	-59.2	1.8	1:24				
JFK-NRT	6/26/79	379	12:22	-65	FL390	8:10	57.0N	178.4E	FL381	-54.5	7.3	FL350	-53.3	5.2	3:11	FL369	-55.6	6.9	2:47
												FL389	-54.6	8.2	2:43	FL409	-52.2	6.2	3:08
JFK-NRT	6/29/78	152	12:47	-59	FL430	12:24	38.9N	143.5E	FL383	-48.7	4.1	FL350	-49.7	1.0	1:50	FL370	-48.6	3.0	4:14
												FL390	-46.0	4.9	2:35	FL410	-49.6	1.7	1:09
												FL430	-53.2	4.1	1:39				
JFK-NRT	7/ 7/78	144	11:54	-59	FL371	5:00	65.4N	134.9W	FL378	-48.0	5.9	FL351	-45.2	4.2	3:39	FL370	-53.5	4.5	2:04
												FL391	-43.5	2.3	2:39	FL410	-53.1	2.5	2:49
JFK-NRT	7/13/78	146	12:08	-59	FL389	8:53	53.5N	168.4E	FL376	-48.7	5.7	FL349	-45.9	2.6	2:39	FL370	-46.1	1.3	2:00
												FL388	-50.8	6.3	7:04				
JFK-NRT	7/19/78	153	12:32	-59	FL370	5:08	64.4N	133.3W	FL379	-48.8	5.4	FL350	-47.1	4.5	2:45	FL370	-51.6	5.6	2:03
												FL391	-45.3	2.4	3:09	FL411	-53.8	1.9	3:20
JFK-NRT	7/25/78	150	12:14	-64	FL410	8:09	56.9N	178.0E	FL383	-51.2	4.7	FL350	-53.7	1.7	2:30	FL370	-49.8	3.6	2:20
												FL390	-48.9	4.9	2:54	FL410	-52.8	4.2	3:59
JFK-NRT	7/31/78	150	12:24	-63	FL390	5:54	62.0N	146.7W	FL376	-53.4	5.6	FL349	-53.6	2.0	2:54	FL355	-46.8	5.2	1:15
												FL369	-58.9	.4	1:20	FL389	-53.3	4.3	4:10
												FL409	-56.5	1.6	2:09				
JFK-NRT	8/ 6/78	149	12:19	-62	FL391	6:09	61.2N	151.1W	FL380	-51.2	6.0	FL350	-54.2	2.3	3:34	FL370	-52.8	3.3	1:45
												FL390	-48.4	7.3	3:15	FL409	-50.8	5.9	3:15
JFK-NRT	8/11/78	150	12:24	-57	FL350	3:49	58.1N	115.6W	FL369	-50.4	3.8	FL349	-52.6	1.9	5:14	FL370	-48.6	1.5	1:20
												FL390	-49.4	3.4	5:24				
JFK-NRT	8/29/78	150	12:44	-61	FL371	5:15	63.3N	134.1W	FL376	-49.7	6.7	FL350	-48.2	4.7	3:09	FL370	-57.9	2.1	2:09
												FL390	-44.8	2.9	3:30	FL411	-54.2	2.1	2:40
JFK-NRT	9/ 1/78	149	12:28	-62	FL370	5:48	64.0N	142.6W	FL375	-51.3	4.9	FL350	-55.1	.3	1:05	FL350	-55.1	.6	1:37
												FL369	-57.6	2.3	1:40	FL390	-49.4	3.5	3:09
												FL410	-48.3	3.0	3:00				
JFK-NRT	9/ 8/78	143	12:30	-63	FL430	11:25	42.7N	147.9E	FL380	-49.0	5.9	FL350	-48.0	.9	3:15	FL369	-49.9	4.2	2:00
												FL390	-46.2	1.4	2:49	FL410	-46.9	1.4	1:24
												FL430	-60.6	2.9	1:35				
JFK-NRT	9/24/78	149	12:41	-63	FL391	6:22	62.2N	155.5W	FL375	-53.1	4.7	FL350	-54.6	4.6	3:39	FL370	-51.7	4.0	1:57
												FL390	-53.0	4.5	6:34				
JFK-NRT	9/28/78	147	12:41	-64	FL430	12:06	40.3N	145.2E	FL392	-54.5	4.9	FL370	-59.3	3.3	1:45	FL390	-54.5	1.8	3:21
												FL429	-54.0	5.7	4:30				
JFK-NRT	10/ 4/78	152	13:09	-62	FL351	2:35	56.2N	98.9W	FL372	-51.5	4.0	FL350	-53.9	3.5	5:19	FL390	-50.2	1.7	7:10
JFK-NRT	10/14/78	147	12:34	-57	FL391	10:59	44.5N	150.7E	FL364	-52.9	3.2	FL311	-48.3	2.6	1:15	FL350	-53.7	1.5	4:20
												FL390	-53.9	1.8	5:24				
JFK-NRT	10/19/78	157	13:23	-60	FL350	0:10	42.7N	76.7W	FL376	-53.2	2.8	FL349	-52.2	2.7	6:17	FL389	-52.0	1.0	2:30
												FL410	-55.5	1.8	4:10				

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-NRT	10/25/78	152	13:04	-64	FL431	12:54	37.8N	142.8E	FL379	-52.7	4.6	FL350	-51.1	2.3	5:45	FL390	-53.0	4.2	3:50
												FL430	-58.3	3.6	1:54				
JFK-NRT	11/26/78	152	13:05	-67	FL390	8:45	57.9N	179.1W	FL375	-55.6	4.0	FL350	-56.3	2.2	5:15	FL389	-58.1	5.7	3:19
												FL410	-53.3	1.6	2:00	FL430	-55.1	.9	1:05
JFK-NRT	12/ 2/78	158	13:31	-65	FL351	2:16	52.7N	89.2W	FL391	-50.5	7.4	FL350	-60.8	4.1	2:16	FL390	-45.9	5.1	5:45
												FL430	-49.4	4.6	0:34				
JFK-NRT	12/ 9/78	146	12:39	-63	FL431	12:09	39.3N	143.7E	FL380	-52.3	5.4	FL351	-50.9	4.4	4:09	FL369	-48.7	3.7	1:34
												FL390	-50.5	3.2	2:50	FL410	-55.8	3.3	2:10
												FL430	-61.5	.8	1:10				
JFK-NRT	12/14/78	153	12:59	-63	FL410	9:49	51.5N	163.4E	FL388	-53.2	5.2	FL350	-47.0	1.1	2:29	FL370	-47.6	2.1	1:54
												FL390	-54.9	1.3	3:24	FL410	-60.5	2.1	1:54
												FL430	-56.6	1.9	2:24				
JFK-NRT	12/23/78	151	12:54	-63	FL350	3:45	61.8N	108.0W	FL373	-55.5	3.2	FL350	-57.7	2.8	5:49	FL390	-54.1	1.3	5:25
JFK-ORD	1/23/79	15	1:09	-62	FL390	0:30	40.8N	79.6W	FL365	-57.8	4.5								
JFK-ORD	1/31/79	14	1:04	-46	FL283	0:00	40.3N	75.0W	FL358	-42.2	2.0								
JFK-ORD	2/ 4/78	15	1:09	-57	FL316	1:09	41.4N	86.0W	FL377	-51.5	2.3								
JFK-ORD	2/13/78	17	1:24	-56	FL333	1:15	41.5N	86.3W	FL363	-50.0	4.6								
JFK-ORD	2/21/79	19	1:30	-64	FL390	0:20	40.6N	77.9W	FL373	-56.6	5.3								
JFK-ORD	2/25/78	14	1:10	-56	FL357	0:10	40.5N	76.6W	FL378	-50.9	3.3								
JFK-ORD	3/13/78	17	1:19	-59	FL391	0:45	41.1N	81.5W	FL384	-56.4	1.4	FL391	-56.6	1.0	1:04				
JFK-ORD	3/24/78	15	1:08	-64	FL386	0:09	41.6N	76.1W	FL371	-59.9	5.5								
JFK-ORD	4/15/78	38	1:09	-51	FL380	1:04	41.2N	85.2W	FL383	-46.0	1.7								
JFK-ORD	5/21/78	13	1:09	-59	FL390	0:14	40.7N	77.3W	FL380	-55.1	7.3								
JFK-ORD	6/ 3/78	14	1:05	-62	FL390	0:15	40.6N	77.5W	FL375	-54.9	7.7								
JFK-ORD	6/18/79	13	1:00	-58	FL391	0:50	41.3N	84.2W	FL376	-54.1	5.8								
JFK-ORD	6/26/78	19	1:18	-56	FL390	0:15	42.3N	78.3W	FL343	-43.0	14.2								
JFK-ORD	7/ 9/77	13	1:01	-55	FL390	0:45	41.0N	82.9W	FL376	-50.9	6.0								
JFK-ORD	7/12/78	13	1:00	-52	FL351	0:19	42.2N	78.6W	FL337	-47.7	5.2								
JFK-ORD	8/11/77	13	1:04	-59	FL410	0:19	40.7N	79.0W	FL392	-54.1	7.5								
JFK-ORD	8/12/78	13	1:00	-53	FL384	0:10	42.0N	77.1W	FL365	-48.2	6.9								
JFK-ORD	8/19/77	15	1:09	-51	FL349	0:04	40.4N	76.3W	FL372	-47.5	4.2								
JFK-ORD	9/22/78	12	1:00	-57	FL391	0:25	42.5N	80.0W	FL370	-50.9	8.0								
JFK-ORD	10/ 9/78	14	1:04	-61	FL390	0:34	41.0N	80.9W	FL370	-57.4	4.9								
JFK-ORD	10/14/78	13	1:00	-52	FL390	0:15	42.2N	77.7W	FL367	-47.4	3.5								
JFK-ORD	10/26/78	14	1:04	-55	FL390	0:10	42.0N	77.5W	FL375	-50.7	4.1								
JFK-ORD	11/12/77	15	1:09	-46	FL375	1:04	41.4N	85.7W	FL375	-43.3	1.5								
JFK-ORD	11/25/77	14	1:09	-57	FL381	0:05	40.4N	75.9W	FL381	-54.5	3.2								
JFK-ORD	12/ 8/78	16	1:15	-60	FL390	0:20	42.2N	78.0W	FL370	-54.7	8.1								
JFK-ORD	12/ 9/78	16	1:20	-58	FL390	0:15	42.1N	77.3W	FL376	-50.9	6.8								
JFK-ORD	12/12/78	14	1:05	-57	FL399	0:55	41.3N	83.6W	FL381	-52.8	2.4								
JFK-SEA	8/ 7/77	57	5:05	-59	FL370	4:45	48.2N	120.7W	FL357	-51.0	5.7	FL350	-48.3	1.5	2:15	FL369	-55.6	2.3	2:25
JFK-SFO	1/ 5/77	54	4:38	-53	FL330	0:04	42.1N	76.3W	FL374	-47.7	2.3	FL390	-46.9	1.4	2:52				
JFK-SFO	1/ 7/79	60	4:55	-62	FL390	0:30	42.7N	78.6W	FL384	-54.3	4.6	FL390	-54.4	4.1	4:15				
JFK-SFO	1/ 9/79	58	4:44	-60	FL390	3:09	41.7N	105.5W	FL374	-53.8	3.7	FL350	-51.5	1.1	1:19	FL389	-55.3	2.8	2:54
JFK-SFO	1/11/79	66	5:13	-65	FL383	4:54	38.0N	118.3W	FL373	-57.3	3.9	FL349	-56.2	.5	1:19	FL390	-58.7	2.5	3:09
JFK-SFO	1/15/78	52	4:32	-58	FL390	2:34	41.5N	102.4W	FL374	-49.4	4.8	FL350	-47.6	1.2	1:03	FL389	-50.7	5.2	2:47
JFK-SFO	1/21/79	59	4:45	-62	FL390	2:55	40.9N	104.0W	FL383	-53.8	5.5	FL390	-54.5	5.0	4:15				
JFK-SFO	1/25/78	55	4:34	-67	FL391	3:14	42.9N	109.6W	FL381	-51.8	8.0	FL390	-51.0	8.2	3:39				
JFK-SFO	1/26/79	55	4:29	-60	FL350	1:29	43.1N	91.5W	FL370	-49.1	6.5	FL350	-56.9	2.3	1:34	FL389	-43.9	2.3	2:24
JFK-SFO	1/27/79	54	4:24	-58	FL351	0:24	42.9N	80.2W	FL374	-47.7	4.2	FL350	-53.7	2.3	1:09	FL390	-44.9	1.4	2:45
JFK-SFO	1/31/77	35	4:30	-69	FL410	4:16	39.2N	117.9W	FL378	-55.4	8.5	FL350	-47.2	.6	1:00	FL390	-52.4	4.1	1:13
JFK-SFO	2/ 1/76	52	4:24	-68	FL390	3:04	41.2N	106.8W	FL380	-56.3	8.4	FL390	-57.8	8.8	3:14				
JFK-SFO	2/ 2/77	60	4:38	-63	FL386	0:05	41.8N	75.6W	FL425	-56.2	2.4	FL429	-56.1	1.9	4:17				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-SFO	2/ 8/79	57	4:44	-66	FL391	3:24	40.5N	109.5W	FL370	-52.8	8.2	FL350	-46.0	1.4	1:49	FL390	-58.8	7.1	2:24
JFK-SFO	2/10/79	61	5:00	-68	FL391	2:54	37.7N	102.4W	FL382	-59.3	7.1	FL391	-61.7	5.6	4:00				
JFK-SFO	2/17/78	51	4:30	-69	FL391	4:30	38.1N	119.2W	FL375	-56.6	3.1	FL349	-55.2	2.0	1:14	FL390	-57.3	3.4	2:25
JFK-SFO	3/ 2/78	63	5:08	-62	FL350	2:03	41.2N	93.6W	FL367	-51.8	8.0	FL350	-60.6	.6	1:53	FL390	-46.9	4.2	2:35
JFK-SFO	3/ 5/77	33	4:37	-65	FL390	3:51	41.1N	114.3W	FL368	-51.4	7.5	FL350	-46.4	2.1	1:14	FL390	-54.6	6.8	2:19
JFK-SFO	3/18/76	63	5:00	-63	FL349	0:15	40.5N	77.7W	FL341	-55.9	5.8	FL350	-58.1	2.6	4:01				
JFK-SFO	3/18/79	58	4:12	-68	FL390	0:58	41.4N	86.0W	FL380	-58.2	7.7	FL390	-58.2	8.1	3:21				
JFK-SFO	3/20/77	57	4:39	-59	FL350	4:19	39.0N	117.3W	FL365	-45.7	5.7	FL370	-41.1	1.9	1:14	FL390	-44.1	1.1	1:15
												FL350	-53.4	4.0	1:09				
JFK-SFO	3/24/77	57	4:57	-64	FL390	3:09	40.3N	105.6W	FL374	-54.2	4.1	FL390	-55.7	3.3	3:34				
JFK-SFO	3/30/77	60	5:05	-58	FL350	2:50	45.2N	101.1W	FL349	-48.7	4.9	FL349	-48.8	4.9	5:00				
JFK-SFO	4/13/76	54	4:25	-61	FL430	1:40	43.1N	92.1W	FL433	-54.8	4.6	FL430	-58.5	2.0	1:55	FL449	-50.7	3.4	1:35
JFK-SFO	4/15/76	60	4:52	-68	FL390	0:04	41.8N	75.6W	FL409	-56.4	8.3	FL390	-65.3	1.0	2:02	FL430	-49.5	2.9	2:24
JFK-SFO	4/17/76	57	4:31	-65	FL390	0:46	43.4N	82.1W	FL407	-57.4	6.5	FL390	-64.2	.5	1:17	FL420	-53.3	4.7	2:49
JFK-SFO	4/19/76	54	4:35	-65	FL390	1:05	41.2N	85.7W	FL413	-56.6	5.6	FL390	-63.9	.8	1:19	FL429	-53.8	2.4	2:49
JFK-SFO	4/27/78	56	4:39	-63	FL390	1:39	43.0N	92.3W	FL374	-56.7	4.6	FL350	-58.1	.9	1:15	FL390	-56.6	4.9	2:54
JFK-SFO	5/ 1/77	51	4:19	-63	FL390	2:39	40.8N	103.9W	FL366	-55.4	3.3	FL350	-55.3	.5	1:10	FL389	-55.3	4.0	1:35
JFK-SFO	5/ 4/77	58	4:43	-68	FL411	1:19	43.1N	87.5W	FL418	-58.0	5.3	FL429	-55.5	4.3	1:29	FL431	-55.3	2.5	1:30
JFK-SFO	5/ 8/78	48	4:04	-63	FL390	3:39	39.7N	116.6W	FL384	-52.0	6.1	FL390	-51.6	6.8	2:50				
JFK-SFO	5/12/77	16	2:59	-65	FL391	1:34	40.5N	106.4W	FL379	-57.1	5.9	FL390	-58.8	5.7	2:04				
JFK-SFO	5/16/78	52	4:10	-59	FL390	2:19	42.0N	102.7W	FL375	-52.1	4.7	FL390	-53.4	5.0	2:41				
JFK-SFO	5/20/77	44	4:09	-60	FL390	0:49	41.4N	86.7W	FL376	-53.0	5.6	FL389	-54.4	5.0	3:00				
JFK-SFO	5/25/78	55	4:26	-61	FL390	2:39	40.7N	103.7W	FL372	-54.3	5.0	FL389	-58.9	1.1	1:09	FL390	-55.2	2.7	1:45
JFK-SFO	5/27/75	55	4:39	-62	FL389	0:19	42.6N	78.1W	FL385	-54.9	4.3	FL389	-55.3	3.3	4:15				
JFK-SFO	6/ 2/79	54	4:24	-61	FL391	3:34	41.0N	112.0W	FL375	-53.1	5.4	FL350	-50.8	1.1	1:09	FL390	-55.2	5.5	2:45
JFK-SFO	6/ 6/78	57	4:39	-62	FL390	3:14	41.1N	106.6W	FL372	-56.8	4.5	FL350	-53.9	1.2	1:29	FL390	-59.5	2.1	2:45
JFK-SFO	6/ 8/79	56	4:38	-51	FL371	2:34	40.8N	101.8W	FL364	-45.8	3.5	FL350	-45.6	1.2	2:19	FL390	-47.0	3.5	1:48
JFK-SFO	6/13/79	57	4:39	-59	FL390	4:30	37.9N	118.5W	FL372	-55.1	3.0	FL350	-54.6	1.7	1:30	FL390	-56.4	1.0	2:39
JFK-SFO	6/14/78	59	4:48	-61	FL391	1:42	41.4N	92.6W	FL380	-56.3	3.4	FL390	-57.4	1.6	3:36				
JFK-SFO	6/25/77	51	4:24	-61	FL390	3:24	39.6N	110.4W	FL377	-55.6	5.7	FL369	-54.6	.7	1:04	FL389	-58.6	1.4	2:39
JFK-SFO	6/27/78	58	4:44	-55	FL390	2:49	36.4N	103.0W	FL364	-46.7	4.5	FL350	-44.7	1.0	2:24	FL390	-50.9	2.7	1:45
JFK-SFO	6/29/79	59	4:49	-58	FL391	3:04	38.3N	103.7W	FL367	-52.0	4.7	FL350	-48.8	.9	2:15	FL390	-56.5	.9	2:09
JFK-SFO	7/ 5/79	48	4:30	-57	FL390	2:30	41.1N	101.1W	FL369	-50.4	4.4	FL350	-46.4	.7	2:15	FL389	-54.3	2.5	1:55
JFK-SFO	7/ 6/77	54	4:24	-55	FL390	4:04	38.0N	116.8W	FL380	-51.2	4.5	FL389	-53.4	.9	3:19				
JFK-SFO	7/14/77	46	4:19	-56	FL390	3:09	39.5N	109.4W	FL368	-50.5	4.6	FL350	-46.8	1.4	1:29	FL389	-54.9	.6	2:00
JFK-SFO	7/14/78	56	4:29	-55	FL390	3:14	38.3N	108.3W	FL363	-47.9	5.1	FL350	-44.8	1.0	2:29	FL389	-54.2	.6	1:34
JFK-SFO	7/28/78	56	4:34	-59	FL391	1:25	41.7N	89.8W	FL377	-52.7	6.1	FL390	-54.9	1.9	3:24				
JFK-SFO	8/ 6/78	55	4:26	-60	FL410	3:51	38.7N	114.7W	FL390	-53.5	5.6	FL390	-53.1	1.9	2:09	FL410	-58.5	.6	1:19
JFK-SFO	8/11/77	59	4:12	-60	FL405	2:00	42.0N	97.5W	FL397	-55.6	3.8	FL390	-55.3	1.2	1:47	FL409	-57.4	1.2	2:05
JFK-SFO	8/11/78	54	4:24	-57	FL385	0:55	41.1N	85.5W	FL381	-54.1	3.5	FL390	-55.7	1.1	3:19				
JFK-SFO	8/13/78	53	4:20	-58	FL390	1:54	41.2N	97.9W	FL378	-52.1	5.3	FL369	-53.2	1.5	1:04	FL389	-56.3	1.5	1:06
												FL400	-52.3	.9	1:09				
JFK-SFO	9/ 4/77	49	4:30	-59	FL390	1:51	41.6N	94.4W	FL378	-52.7	5.2	FL389	-55.0	1.4	3:18				
JFK-SFO	9/11/77	53	4:43	-57	FL389	2:43	39.1N	101.7W	FL364	-50.7	4.5	FL349	-48.0	1.0	2:23	FL389	-55.4	1.4	1:54
JFK-SFO	9/15/78	56	4:49	-56	FL390	3:19	41.5N	105.9W	FL385	-51.2	4.5	FL390	-52.2	2.1	4:29				
JFK-SFO	9/17/77	58	4:49	-59	FL390	3:49	40.6N	112.1W	FL364	-52.4	4.0	FL349	-52.2	.8	2:25	FL389	-54.1	2.6	2:00
JFK-SFO	9/23/78	52	4:23	-60	FL390	2:43	40.8N	103.7W	FL376	-55.4	5.2	FL390	-58.5	.8	2:54				
JFK-SFO	9/24/78	37	3:09	-60	FL391	1:00	40.8N	99.1W	FL376	-54.9	3.3	FL390	-57.2	1.4	2:04				
JFK-SFO	9/28/77	53	5:00	-63	FL430	3:50	39.4N	110.3W	FL423	-58.9	3.4	FL430	-60.3	1.2	3:49				
JFK-SFO	10/ 7/78	54	4:33	-60	FL390	1:45	41.5N	93.2W	FL393	-54.2	4.3	FL390	-53.3	4.4	2:25	FL410	-57.0	1.5	1:38
JFK-SFO	10/12/77	52	4:24	-64	FL390	2:00	41.4N	96.2W	FL385	-58.4	6.0	FL390	-59.5	3.6	4:05				
JFK-SFO	10/19/78	52	4:15	-59	FL349	0:10	40.9N	78.2W	FL361	-54.4	2.7	FL349	-54.2	2.5	2:34	FL389	-54.9	2.6	1:15
JFK-SFO	10/27/78	247	4:36	-57	FL390	3:16	39.7N	107.1W	FL389	-52.1	2.3	FL389	-52.3	1.8	4:14				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
JFK-SFO	11/ 7/78	56	4:35	-63	FL390	2:20	41.4N	98.1W	FL386	-57.6	6.0	FL389	-58.6	4.0	4:19				
JFK-SFO	11/25/77	54	4:45	-62	FL397	4:34	38.2N	119.2W	FL374	-50.5	5.9	FL390	-49.6	4.1	2:24				
JFK-SFO	12/ 3/77	57	4:59	-52	FL390	3:44	40.2N	110.5W	FL373	-47.2	2.9	FL350	-47.8	.8	1:09	FL389	-47.6	2.0	3:15
JFK-SFO	12/ 4/78	59	4:49	-49	FL349	0:10	42.0N	76.8W	FL377	-44.8	3.5	FL390	-45.2	2.9	3:24				
JFK-SFO	12/10/77	59	4:56	-59	FL390	2:11	42.1N	94.9W	FL376	-52.8	4.1	FL389	-54.0	4.1	3:26				
JFK-SFO	12/10/78	59	4:50	-63	FL409	4:00	41.6N	113.5W	FL394	-52.4	5.5	FL389	-49.1	1.5	3:00	FL409	-59.4	4.1	1:30
JFK-SFO	12/15/76	55	4:35	-61	FL350	2:50	41.8N	102.3W	FL349	-55.1	4.6	FL349	-55.4	4.4	4:24				
JFK-SFO	12/17/78	68	5:31	-62	FL390	4:22	38.4N	110.8W	FL358	-55.5	6.5	FL350	-55.1	1.5	1:34	FL389	-60.7	.9	2:32
JFK-SFO	12/22/76	56	4:57	-61	FL350	3:07	41.7N	104.2W	FL349	-55.6	4.3	FL349	-55.7	4.3	4:43				
JFK-SFO	12/22/76	55	4:45	-67	FL390	4:00	39.4N	113.4W	FL372	-57.1	5.3	FL350	-56.8	1.9	1:15	FL389	-59.9	5.0	2:19
JFK-SFO	12/22/78	60	4:54	-61	FL390	3:39	41.7N	109.5W	FL369	-54.7	4.3	FL350	-50.9	3.3	2:09	FL390	-58.2	1.7	2:19
JFK-SFO	12/26/78	61	5:00	-59	FL390	3:19	41.9N	105.4W	FL374	-53.4	4.4	FL350	-48.2	1.2	1:30	FL390	-56.3	2.1	3:05
JFK-SFO	12/28/78	59	4:49	-65	FL390	3:04	39.8N	104.9W	FL367	-58.3	2.7	FL350	-60.1	.8	2:14	FL390	-57.0	2.2	2:10
JFK-SFO	12/29/76	56	4:47	-64	FL390	3:22	42.8N	109.3W	FL376	-53.9	6.9	FL389	-56.7	6.2	3:17				
JFK-SFO	12/29/76	55	4:45	-63	FL428	2:49	41.6N	103.2W	FL414	-54.5	4.9	FL410	-50.6	1.7	2:00	FL430	-59.2	2.3	2:05
JFK-SNN	3/14/75	60	4:37	-70	FL369	3:22	52.1N	28.5W	FL360	-58.2	8.7	FL349	-51.5	4.9	1:01	FL369	-61.4	8.0	3:10
JFK-SNN	5/24/77	59	4:59	-58	FL340	4:29	51.6N	17.7W	FL336	-51.3	4.4	FL330	-48.2	.8	1:09	FL340	-52.9	3.4	3:34
JFK-STR	5/ 1/78	68	5:49	-57	FL330	5:38	48.6N	4.0E	FL329	-51.0	3.6	FL330	-51.3	3.3	5:34				
JNB-MRU	1/28/77	33	2:42	-40	FL330	1:47	22.5S	47.8E	FL328	-38.1	2.7	FL329	-38.6	1.2	2:32				
JNB-MRU	2/ 4/77	38	2:55	-38	FL331	2:00	22.4S	48.3E	FL329	-35.5	2.4	FL330	-35.9	1.4	2:49				
JNB-MRU	2/18/77	34	2:54	-48	FL370	2:09	22.2S	49.4E	FL341	-40.2	4.8	FL330	-37.5	.8	1:54				
JNB-MRU	3/25/77	38	2:43	-44	FL331	0:07	25.9S	32.2E	FL329	-41.1	2.5	FL329	-41.2	2.3	2:38				
KHI-BEY	3/13/75	45	3:41	-61	FL349	3:16	33.8N	40.6E	FL346	-52.9	6.0	FL349	-53.8	4.7	3:25				
KHI-BKK	6/25/77	47	3:45	-57	FL411	2:25	16.6N	88.9E	FL380	-47.5	11.5	FL410	-56.5	.6	1:52				
KHI-BKK	8/24/77	45	3:52	-48	FL370	3:07	15.4N	93.4E	FL355	-41.8	6.4	FL330	-34.1	.3	1:03	FL370	-46.6	.9	2:29
KHI-BKK	9/11/77	43	3:45	-47	FL370	3:24	14.7N	96.3E	FL360	-41.9	6.9	FL370	-44.7	1.2	3:09				
KHI-FRA	4/23/79	81	6:39	-63	FL351	5:39	44.5N	20.3E	FL336	-48.9	8.7	FL311	-39.1	.7	2:15	FL350	-54.8	5.0	4:09
KHI-FRA	5/11/79	77	6:19	-60	FL351	5:04	43.1N	22.6E	FL332	-49.8	9.0	FL281	-35.6	2.9	1:34	FL351	-55.3	2.1	4:24
KHI-FRA	6/ 4/79	75	6:09	-46	FL310	5:00	43.1N	22.7E	FL310	-42.1	3.5	FL310	-42.3	3.2	6:05				
KHI-THR	2/24/77	17	2:05	-59	FL390	1:49	33.1N	54.6E	FL383	-56.8	4.1	FL389	-57.9	.6	1:54				
KHI-THR	3/17/79	23	1:33	-55	FL350	1:24	33.4N	54.2E	FL350	-49.9	3.3	FL350	-49.9	3.3	1:24				
KHI-THR	6/23/77	21	1:37	-48	FL390	0:22	28.1N	62.7E	FL382	-45.6	5.4	FL390	-47.9	.3	1:20				
KHI-THR	8/18/78	22	1:45	-44	FL347	0:05	25.5N	65.1E	FL344	-42.2	4.6	FL350	-43.7	.5	1:34				
KHI-THR	8/28/77	21	1:41	-39	FL350	1:31	33.4N	54.1E	FL346	-36.7	3.3	FL350	-37.9	.6	1:27				
KHI-THR	10/ 9/77	23	1:50	-55	FL390	1:40	33.5N	53.8E	FL386	-52.3	3.8	FL390	-53.3	1.0	1:39				
KHI-THR	11/23/78	27	2:09	-61	FL390	0:04	25.9N	64.9E	FL385	-56.3	3.8	FL390	-57.0	3.1	1:59				
KHI-THR	12/21/78	22	1:59	-57	FL351	1:10	31.2N	58.1E	FL343	-51.2	5.9	FL350	-52.8	4.1	1:44				
KUL-BAH	1/ 1/78	67	5:45	-34	FL310	1:35	6.2N	84.9E	FL307	-32.3	2.0	FL310	-33.0	.4	5:04				
KUL-BAH	1/10/77	77	6:30	-51	FL350	6:15	24.3N	53.1E	FL333	-42.2	6.9	FL310	-34.6	.5	2:30	FL349	-47.9	2.1	3:39
KUL-BAH	1/19/77	81	6:39	-47	FL350	6:04	22.8N	55.5E	FL341	-41.4	5.3	FL310	-32.1	.6	1:20	FL350	-44.2	1.2	5:05
KUL-BAH	4/27/77	73	6:13	-38	FL311	6:03	24.9N	53.5E	FL310	-33.6	2.6	FL310	-33.9	1.9	6:03				
KUL-BAH	5/23/77	70	6:14	-38	FL311	3:02	15.6N	75.9E	FL310	-34.2	1.9	FL310	-34.3	1.8	6:07				
KUL-BAH	8/ 3/77	66	5:54	-42	FL351	3:49	14.1N	67.5E	FL326	-35.2	3.5	FL310	-32.9	.7	3:19	FL350	-38.9	1.2	2:09
KUL-BAH	9/29/76	44	4:06	-45	FL350	0:30	12.5N	81.3E	FL350	-42.8	1.0	FL350	-42.8	.9	0:00				
KUL-BAH	10/18/76	68	5:52	-42	FL310	5:45	25.3N	55.0E	FL310	-34.2	3.4	FL310	-34.3	3.3	5:46				
KUL-BAH	11/ 6/77	69	6:00	-36	FL311	5:21	24.4N	57.9E	FL310	-33.4	1.4	FL310	-33.5	1.2	5:55				
KUL-BAH	11/16/77	76	6:24	-45	FL351	5:34	24.4N	57.7E	FL336	-38.8	5.9	FL310	-31.3	.5	1:55	FL350	-43.0	1.1	4:04
KUL-BAH	11/23/77	57	6:00	-47	FL351	5:55	25.1N	53.1E	FL332	-38.5	5.7	FL310	-33.0	.4	3:04	FL350	-43.5	1.1	2:39
KUL-BAH	12/11/77	76	6:20	-50	FL351	5:50	22.8N	55.6E	FL336	-41.2	7.2	FL310	-32.2	.6	2:05	FL350	-46.5	2.0	4:00
KUL-BAH	12/20/76	77	6:19	-52	FL350	5:59	25.4N	54.4E	FL314	-37.7	6.0	FL310	-36.2	3.7	5:29				
KUL-MEL	12/17/76	77	6:24	-54	FL369	5:59	35.5S	139.4E	FL367	-47.6	3.8	FL370	-48.2	2.6	6:04				
KUL-SYD	12/18/76	78	6:44	-55	FL390	6:14	31.9S	146.2E	FL368	-45.7	5.7	FL369	-46.2	1.0	2:39	FL389	-50.7	2.1	2:34
LAS-HNL	10/17/78	56	4:40	-64	FL402	0:10	35.0N	117.9W	FL400	-58.7	3.3	FL401	-59.0	2.7	4:24				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAS-ORD	1/ 7/78	27	2:09	-55	FL331	1:45	40.8N	95.0W	FL325	-51.5	3.6	FL330	-52.4	2.0	1:55				
LAS-ORD	1/29/76	24	2:09	-62	FL370	1:00	40.0N	103.9W	FL369	-55.8	6.3								
LAS-ORD	3/ 3/76	23	1:54	-64	FL390	1:45	42.0N	93.9W	FL369	-53.9	6.5								
LAS-ORD	3/25/78	28	2:19	-62	FL370	0:15	37.2N	111.0W	FL363	-55.9	5.1	FL369	-57.1	2.8	2:00				
LAS-ORD	3/27/78	27	2:10	-64	FL370	1:50	41.0N	93.7W	FL361	-59.4	4.9	FL369	-61.5	1.5	1:41				
LAS-ORD	3/30/76	27	2:15	-60	FL370	0:09	37.4N	112.1W	FL385	-49.0	6.3								
LAS-ORD	4/20/76	29	2:07	-57	FL370	1:09	40.7N	101.4W	FL365	-52.8	3.6	FL369	-53.5	2.2	1:52				
LAS-ORD	5/ 6/76	28	2:13	-66	FL392	1:00	39.8N	104.4W	FL364	-60.1	5.9								
LAS-ORD	5/ 8/76	25	2:09	-60	FL370	1:50	40.8N	94.7W	FL359	-56.0	3.8	FL369	-57.4	1.8	1:39				
LAS-ORD	5/14/76	30	2:11	-56	FL370	1:00	40.1N	103.7W	FL353	-49.6	6.5	FL369	-52.7	1.8	1:44				
LAS-ORD	6/ 9/75	24	2:05	-58	FL411	1:50	42.1N	93.9W	FL376	-50.6	5.6	FL410	-54.0	2.4	1:04				
LAS-ORD	9/13/75	26	2:04	-61	FL410	1:54	41.0N	92.1W	FL389	-53.7	6.3								
LAS-ORD	10/20/75	26	2:05	-60	FL371	1:50	42.1N	93.4W	FL362	-55.5	5.4	FL371	-57.4	1.7	1:40				
LAX-AKL	1/ 6/79	143	12:07	-59	FL390	11:37	32.2S	178.3E	FL365	-49.6	5.1	FL330	-46.1	5.2	2:22	FL350	-44.5	1.0	2:30
												FL370	-48.9	.9	1:20	FL390	-54.1	1.9	5:19
LAX-AKL	1/13/79	142	12:09	-58	FL391	11:59	34.6S	176.6E	FL366	-48.8	4.1	FL331	-46.3	.6	1:29	FL350	-44.8	1.8	3:15
												FL370	-48.2	.5	2:04	FL390	-53.0	1.5	4:45
LAX-AKL	1/20/79	149	12:06	-55	FL390	7:44	7.4S	164.0W	FL367	-48.7	4.5	FL350	-44.8	1.7	3:40	FL370	-48.6	.6	1:39
												FL390	-53.0	1.0	5:11				
LAX-AKL	2/16/79	139	11:49	-62	FL389	10:34	32.4S	173.4W	FL370	-53.7	5.6	FL350	-47.2	2.9	4:10	FL389	-58.2	1.4	6:44
LAX-AKL	2/18/79	141	12:09	-63	FL410	10:04	29.2S	167.1W	FL374	-54.0	5.8	FL349	-49.7	5.1	4:04	FL369	-50.6	.8	2:19
												FL389	-57.9	.7	2:39	FL409	-60.9	2.5	2:24
LAX-AKL	4/14/79	143	11:16	-66	FL430	9:36	23.9S	176.7W	FL368	-51.0	5.4	FL350	-47.5	2.5	2:27	FL370	-48.5	.5	2:25
												FL389	-53.6	1.7	2:19	FL410	-62.9	.5	1:05
												FL350	-50.1	2.7	0:00				
LAX-AKL	4/24/79	146	12:14	-61	FL410	11:04	32.9S	174.4W	FL376	-51.5	6.3	FL350	-45.0	1.4	3:19	FL370	-49.9	.6	1:30
												FL390	-55.5	.5	2:25	FL409	-58.4	1.1	2:09
LAX-AKL	5/ 3/79	139	11:54	-65	FL410	10:49	28.9S	179.6W	FL378	-53.8	5.8	FL350	-48.9	2.3	2:54	FL369	-49.9	.7	2:40
												FL389	-54.4	.8	3:04	FL409	-62.8	1.3	2:39
LAX-AKL	5/10/79	136	12:01	-59	FL389	8:41	22.3S	161.1W	FL370	-51.3	5.4	FL350	-46.8	3.1	4:22	FL370	-48.1	.6	1:35
												FL389	-56.2	1.6	5:29				
LAX-AKL	5/21/78	140	12:13	-62	FL390	10:48	26.1S	178.0W	FL373	-53.4	5.2	FL351	-49.2	3.0	3:53	FL371	-49.2	.6	2:00
												FL390	-57.9	3.0	5:45				
LAX-AKL	5/23/78	145	12:02	-61	FL391	10:27	24.3S	176.9W	FL374	-52.9	4.1	FL351	-49.2	2.8	2:49	FL370	-50.2	.7	2:40
												FL390	-56.4	1.7	5:56				
LAX-AKL	6/ 3/78	140	11:53	-62	FL410	11:37	34.4S	176.7E	FL378	-53.4	4.9	FL350	-47.9	1.0	3:29	FL370	-52.6	.5	1:10
												FL390	-56.0	.8	4:30	FL409	-58.8	1.7	1:56
LAX-AKL	6/ 9/78	133	11:32	-60	FL411	9:27	21.9S	175.6W	FL380	-51.6	4.1	FL351	-47.1	1.8	3:12	FL371	-49.8	.5	1:49
												FL391	-54.4	.8	3:39	FL410	-55.5	3.0	2:05
LAX-AKL	6/14/79	292	11:58	-56	FL391	7:59	11.0S	167.3W	FL380	-52.0	5.3	FL310	-35.8	.4	1:34	FL350	-45.0	.6	1:48
												FL369	-49.4	.5	1:54	FL390	-54.4	1.7	6:09
LAX-AKL	6/27/78	136	11:29	-57	FL391	8:49	18.6S	173.3W	FL362	-50.5	4.5	FL351	-47.5	2.1	3:54	FL371	-51.5	.6	2:29
												FL391	-55.8	.7	3:19				
LAX-AKL	7/ 2/78	143	11:49	-66	FL391	11:49	36.1S	175.5E	FL375	-51.0	6.1	FL331	-41.4	.5	1:30	FL351	-45.2	.6	2:15
												FL371	-49.9	.8	1:25	FL391	-55.6	1.4	4:14
												FL410	-57.2	.9	1:45				
LAX-AKL	7/16/78	139	11:34	-66	FL410	10:24	29.3S	179.9W	FL379	-53.3	7.9	FL351	-44.7	.7	2:54	FL370	-51.6	.6	1:09
												FL391	-56.3	.6	3:20	FL409	-62.7	1.5	3:04
LAX-AKL	7/22/78	143	11:46	-61	FL411	8:44	17.6S	172.8W	FL367	-48.8	5.8	FL351	-44.8	.8	6:09	FL391	-56.2	.4	1:49
												FL410	-57.0	2.4	1:54				
LAX-AKL	7/28/78	141	11:30	-56	FL391	10:29	29.5S	180.0E	FL374	-50.4	5.1	FL350	-45.3	1.0	2:19	FL370	-50.2	.5	2:09
												FL391	-54.3	1.7	5:49				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-AKL	8/ 3/78	136	11:14	-60	FL410	8:19	15.7S	171.6W	FL379	-52.0	5.2	FL350	-45.9	.5	2:54	FL370	-50.2	.6	2:04
												FL390	-55.5	.6	2:34	FL409	-57.6	1.7	2:50
LAX-AKL	8/24/78	133	11:27	-61	FL410	9:27	22.2S	175.7W	FL375	-50.3	6.1	FL331	-41.1	1.1	1:19	FL350	-45.1	.7	1:34
												FL370	-50.8	.4	1:57	FL390	-55.5	.7	3:49
												FL410	-53.4	5.2	1:54				
LAX-AKL	10/ 1/78	135	11:38	-61	FL411	9:53	24.3S	176.9W	FL374	-51.5	5.3	FL350	-47.3	2.7	3:43	FL390	-54.4	.9	3:04
												FL410	-58.0	3.2	2:24				
LAX-AKL	10/ 7/78	143	11:59	-60	FL411	8:49	15.2S	171.1W	FL382	-52.7	4.5	FL350	-47.2	1.7	3:24	FL374	-51.7	.5	1:15
												FL390	-54.7	.5	3:00	FL410	-56.8	3.5	3:09
LAX-AKL	10/22/78	133	11:15	-62	FL390	10:05	28.5S	179.4W	FL368	-51.7	6.0	FL331	-43.5	1.4	1:09	FL350	-46.2	1.2	2:31
												FL369	-50.6	.6	1:54	FL390	-57.4	2.1	5:04
LAX-AKL	10/28/78	139	11:40	-60	FL411	9:00	18.1S	173.3W	FL374	-50.6	5.2	FL350	-45.7	.9	4:10	FL391	-54.6	.5	3:13
												FL390	-51.8	3.8	1:35				
LAX-AKL	11/25/77	122	11:24	-64	FL430	8:39	17.5S	172.7W	FL390	-53.9	5.2	FL350	-47.6	2.5	2:00	FL369	-50.7	1.0	1:55
												FL390	-53.6	.7	3:00	FL410	-58.3	.5	1:05
												FL429	-60.3	4.2	2:34				
LAX-AKL	12/ 3/77	128	11:24	-61	FL410	11:24	35.3S	176.1E	FL379	-51.2	5.3	FL350	-45.5	2.3	3:30	FL369	-47.9	.5	1:19
												FL390	-54.1	.4	3:18	FL410	-57.2	1.3	2:49
LAX-AKL	12/16/78	142	12:21	-67	FL430	11:39	31.4S	178.8E	FL382	-56.9	5.7	FL359	-57.8	1.3	1:54	FL370	-51.8	2.3	2:54
												FL390	-55.5	.7	2:54	FL410	-64.1	.8	2:30
LAX-AKL	12/23/77	149	12:45	-61	FL410	8:00	6.0S	162.4W	FL383	-53.3	5.8	FL349	-47.5	2.4	2:45	FL369	-48.4	.5	2:24
												FL391	-54.6	.8	2:10	FL409	-59.5	1.1	4:39
LAX-AKL	12/25/77	151	12:32	-64	FL430	11:07	26.6S	178.2W	FL383	-51.9	7.1	FL350	-44.3	3.1	4:30	FL390	-54.4	.7	2:43
												FL409	-59.2	.4	2:32	FL429	-60.1	3.1	1:25
LAX-AKL	12/27/77	146	12:35	-60	FL416	9:19	14.3S	170.7W	FL365	-48.1	5.5	FL320	-42.6	.9	1:15	FL349	-45.9	3.0	4:04
												FL369	-46.7	.9	2:39	FL408	-56.1	.8	3:05
LAX-AKL	12/29/78	139	11:55	-64	FL411	11:45	35.0S	176.5E	FL375	-49.3	6.0	FL349	-43.1	2.1	4:04	FL370	-47.1	.7	1:40
												FL390	-52.6	.7	2:21	FL395	-54.2	.8	1:10
												FL411	-57.8	3.1	1:50				
LAX-AKL	12/31/77	148	12:09	-59	FL408	8:48	11.7S	169.7W	FL387	-54.1	2.9	FL359	-52.0	3.7	3:19	FL389	-53.7	.7	4:54
												FL409	-56.9	1.4	3:16				
LAX-DEN	1/ 2/78	14	1:03	-60	FL370	0:14	35.9N	115.0W	FL357	-54.1	5.1								
LAX-DEN	2/ 6/76	14	1:04	-48	FL370	0:39	37.7N	110.4W	FL355	-45.5	1.9								
LAX-DEN	2/13/77	17	1:19	-63	FL371	0:10	35.3N	116.1W	FL366	-58.2	5.3								
LAX-DEN	2/15/79	14	1:04	-52	FL345	0:10	35.6N	115.7W	FL355	-46.1	3.5								
LAX-DEN	2/22/79	15	1:10	-56	FL370	1:04	38.8N	106.8W	FL354	-50.1	3.7								
LAX-DEN	3/ 8/78	15	1:15	-67	FL370	1:15	38.8N	106.5W	FL359	-60.7	7.9	FL370	-64.1	1.3	1:00				
LAX-DEN	3/13/79	43	1:11	-57	FL336	0:04	34.7N	116.8W	FL367	-52.7	2.4	FL370	-52.9	1.8	1:00				
LAX-DEN	3/17/79	14	1:09	-56	FL357	1:09	38.9N	106.5W	FL357	-52.4	3.2								
LAX-DEN	3/20/79	14	1:06	-55	FL330	0:51	38.3N	108.8W	FL326	-49.9	3.3								
LAX-DEN	3/22/79	42	1:06	-52	FL346	0:04	35.2N	116.2W	FL368	-45.6	1.4								
LAX-DEN	3/29/78	38	1:09	-58	FL410	0:27	36.9N	113.5W	FL402	-56.3	3.2								
LAX-DEN	4/16/78	14	1:04	-59	FL370	0:49	37.8N	108.7W	FL361	-55.4	6.5								
LAX-DEN	4/18/76	15	1:06	-60	FL370	0:25	36.6N	113.4W	FL361	-55.1	5.1								
LAX-DEN	4/29/78	13	1:05	-58	FL370	0:29	36.1N	112.2W	FL359	-55.2	4.9								
LAX-DEN	5/ 8/77	9	1:03	-61	FL410	0:53	38.4N	108.2W	FL389	-56.4	4.0								
LAX-DEN	5/11/76	16	1:15	-61	FL429	0:30	36.6N	113.1W	FL405	-56.6	6.3								
LAX-DEN	5/14/77	14	1:09	-55	FL360	1:09	39.0N	106.8W	FL393	-47.9	3.3								
LAX-DEN	6/ 5/79	16	1:15	-59	FL370	0:54	38.0N	109.6W	FL362	-55.1	6.2	FL370	-57.1	1.3	1:05				
LAX-DEN	7/ 1/78	13	1:00	-49	FL371	0:15	36.1N	113.9W	FL359	-46.5	3.6								
LAX-DEN	7/ 8/78	14	1:04	-51	FL371	0:39	37.6N	110.7W	FL354	-46.5	7.1								
LAX-DEN	7/18/77	15	1:09	-50	FL370	0:54	38.3N	108.8W	FL358	-46.5	6.4								
LAX-DEN	7/23/77	14	1:04	-50	FL369	0:10	35.8N	114.9W	FL366	-48.3	2.6								

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-DEN	9/24/75	16	1:14	-57	FL410	0:15	35.7N	115.0W	FL389	-53.3	7.6								
LAX-DEN	10/ 1/78	13	1:00	-52	FL350	0:49	38.3N	108.4W	FL346	-50.0	3.8								
LAX-DEN	10/ 5/78	16	1:14	-56	FL370	1:09	38.8N	107.1W	FL356	-51.8	7.0								
LAX-DEN	10/17/75	15	1:09	-58	FL372	0:15	36.0N	114.5W	FL363	-55.5	6.0								
LAX-DEN	11/ 1/78	14	1:04	-55	FL370	0:49	38.1N	109.2W	FL358	-51.8	4.2								
LAX-DEN	11/22/77	14	1:04	-54	FL370	0:39	37.5N	110.8W	FL364	-50.9	3.6								
LAX-DEN	11/27/77	13	1:04	-61	FL371	0:54	38.3N	108.1W	FL359	-56.2	7.7								
LAX-DEN	11/29/76	13	1:09	-60	FL370	0:30	36.9N	112.2W	FL351	-54.2	6.3								
LAX-DEN	11/30/77	18	1:12	-64	FL390	0:19	36.0N	114.6W	FL326	-47.4	10.6								
LAX-DEN	12/ 3/76	14	1:09	-65	FL409	0:09	35.7N	115.2W	FL391	-60.6	6.7								
LAX-DEN	12/ 6/78	17	1:08	-40	FL347	0:11	36.0N	114.8W	FL323	-36.8	2.2								
LAX-DEN	12/12/77	14	1:09	-60	FL371	0:15	35.8N	115.1W	FL372	-55.3	5.0								
LAX-DEN	12/14/77	14	1:04	-60	FL369	0:54	38.1N	108.9W	FL352	-53.4	7.7								
LAX-DEN	12/27/77	13	1:00	-55	FL372	0:39	37.8N	109.6W	FL352	-49.2	8.4								
LAX-DTW	9/ 2/77	28	2:39	-52	FL369	2:15	42.3N	91.3W	FL368	-49.6	1.6	FL369	-49.9	1.3	2:30				
LAX-GUA	1/14/78	29	2:24	-51	FL331	0:00	28.1N	110.0W	FL331	-46.3	2.3	FL330	-46.3	2.3	2:24				
LAX-GUA	1/16/78	36	3:09	-50	FL328	0:10	31.9N	115.8W	FL328	-43.1	3.0	FL330	-43.3	2.9	2:59				
LAX-GUA	1/19/78	38	3:04	-51	FL370	2:15	18.7N	98.1W	FL342	-45.8	2.9	FL330	-44.0	1.6	2:05				
LAX-GUA	1/19/79	87	3:11	-53	FL370	2:23	18.5N	97.8W	FL338	-44.6	4.9	FL330	-42.5	.6	1:52				
LAX-GUA	1/22/78	44	3:22	-57	FL347	0:18	32.1N	115.4W	FL341	-47.4	5.5	FL330	-45.6	6.2	1:51				
LAX-GUA	1/25/79	88	3:14	-43	FL331	0:33	29.5N	111.7W	FL328	-41.1	1.5	FL330	-41.4	.9	2:59				
LAX-GUA	3/12/78	40	3:20	-44	FL331	1:24	24.6N	105.2W	FL327	-41.8	.9	FL331	-41.9	.9	2:55				
LAX-GUA	3/19/78	37	3:06	-43	FL330	0:20	30.5N	113.3W	FL329	-41.1	2.1	FL330	-41.3	2.0	2:56				
LAX-GUA	3/27/79	40	3:15	-50	FL331	0:09	31.8N	115.6W	FL330	-44.3	2.3	FL331	-44.3	2.3	3:05				
LAX-GUA	3/29/75	41	3:20	-43	FL291	0:00	32.1N	116.2W	FL302	-36.6	4.5	FL290	-35.1	3.8	2:10				
LAX-GUA	4/ 6/79	42	3:24	-51	FL370	2:30	19.7N	97.8W	FL341	-45.4	4.5	FL330	-44.4	3.0	2:09				
LAX-GUA	4/ 7/76	36	3:00	-54	FL371	2:05	19.6N	99.1W	FL343	-46.7	4.4	FL330	-43.9	.6	1:44				
LAX-GUA	4/10/79	39	3:10	-43	FL331	1:25	24.0N	104.3W	FL314	-39.4	1.9	FL290	-39.3	1.9	1:15	FL331	-39.6	1.9	1:45
LAX-GUA	4/13/79	43	3:22	-51	FL370	2:16	20.1N	99.6W	FL342	-45.2	3.4	FL330	-44.0	2.0	1:56				
LAX-GUA	4/23/76	47	3:20	-55	FL371	2:08	20.7N	100.5W	FL344	-49.1	3.8	FL331	-47.1	2.5	1:44	FL370	-53.2	1.0	1:16
LAX-GUA	5/ 1/76	38	3:15	-52	FL370	2:00	21.0N	100.8W	FL345	-48.4	2.4	FL332	-47.9	1.0	1:39	FL369	-50.4	.9	1:09
LAX-GUA	5/ 2/75	37	3:11	-55	FL370	1:35	23.7N	104.0W	FL352	-50.8	3.8	FL369	-53.4	1.1	1:56				
LAX-GUA	5/ 3/79	41	3:20	-52	FL369	2:09	19.8N	99.4W	FL343	-45.2	4.8	FL331	-42.5	2.6	1:50	FL370	-51.1	.7	1:05
LAX-GUA	5/ 8/75	38	3:10	-57	FL370	0:15	31.1N	114.4W	FL365	-52.9	2.6	FL369	-53.5	1.7	2:50				
LAX-GUA	5/12/75	41	3:24	-55	FL375	2:20	19.7N	99.9W	FL348	-49.6	4.5	FL330	-48.4	.7	1:20				
LAX-GUA	5/13/76	38	3:12	-50	FL371	1:47	22.1N	102.1W	FL353	-45.5	4.3	FL331	-41.9	2.0	1:05	FL370	-48.9	.6	1:39
LAX-GUA	5/19/79	43	3:30	-51	FL370	1:10	27.1N	108.8W	FL364	-49.0	1.5	FL370	-49.5	.9	2:49				
LAX-GUA	5/28/78	38	3:15	-44	FL330	0:10	31.4N	114.8W	FL329	-39.4	2.7	FL330	-39.6	2.3	3:04				
LAX-GUA	6/ 7/77	40	3:24	-50	FL371	1:54	22.5N	102.5W	FL349	-46.6	2.8	FL330	-44.5	1.6	1:34	FL370	-49.3	.5	1:25
LAX-GUA	6/14/77	43	3:23	-50	FL370	3:08	15.2N	93.0W	FL344	-42.3	6.2	FL330	-38.8	1.1	1:40	FL370	-49.0	.7	1:19
LAX-GUA	7/ 8/77	41	3:20	-53	FL371	1:55	22.1N	102.0W	FL348	-45.3	6.5	FL330	-40.0	.9	1:30	FL370	-52.0	.5	1:30
LAX-GUA	7/12/77	41	3:27	-44	FL331	1:39	23.6N	103.9W	FL327	-40.6	3.2	FL330	-41.4	.9	3:13				
LAX-GUA	7/14/78	42	3:30	-43	FL331	2:34	18.9N	98.2W	FL328	-40.0	2.7	FL330	-40.6	.9	3:15				
LAX-GUA	7/18/78	44	3:35	-51	FL371	3:24	15.0N	92.8W	FL340	-41.5	5.0	FL330	-38.9	.6	2:24				
LAX-GUA	8/ 7/78	21	1:39	-42	FL331	0:45	28.7N	110.6W	FL326	-39.8	3.8	FL331	-41.2	.6	1:24				
LAX-GUA	8/12/77	40	3:25	-39	FL330	0:15	31.0N	114.3W	FL327	-37.4	2.9	FL330	-38.1	.4	3:09				
LAX-GUA	8/13/78	44	3:34	-41	FL330	0:09	31.5N	115.1W	FL329	-39.1	1.2	FL330	-39.2	.5	3:24				
LAX-GUA	8/24/78	32	3:30	-55	FL370	2:10	20.7N	100.5W	FL346	-49.4	5.1	FL330	-46.2	1.1	1:45	FL370	-54.8	.4	1:04
LAX-GUA	9/ 1/76	41	3:24	-41	FL330	0:09	31.2N	114.6W	FL327	-35.9	3.7	FL330	-36.8	1.7	3:09				
LAX-GUA	11/ 6/76	38	3:25	-49	FL369	2:40	17.9N	97.0W	FL340	-44.2	3.3	FL328	-43.4	2.4	1:45				
LAX-HND	1/ 9/78	113	9:45	-53	FL350	1:15	43.6N	127.3W	FL380	-47.0	2.3	FL350	-50.4	1.4	1:25	FL390	-46.3	1.6	7:29
LAX-HND	1/12/78	118	9:54	-62	FL370	1:10	40.8N	127.2W	FL399	-49.2	5.3	FL369	-58.6	3.0	1:24	FL390	-47.1	3.2	3:15
												FL410	-45.0	1.4	2:15	FL430	-50.1	3.0	2:14

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-HND	1/15/78	116	10:00	-55	FL393	10:00	37.3N	140.6E	FL388	-45.3	4.0	FL369	-44.3	2.9	3:20	FL390	-48.7	2.3	2:45
												FL410	-43.7	3.3	3:15				
LAX-HND	1/22/77	117	10:00	-67	FL370	1:50	43.7N	133.8W	FL389	-53.8	5.5	FL369	-60.8	3.8	3:04	FL389	-49.0	1.5	1:45
												FL410	-51.0	1.6	4:19				
LAX-HND	2/ 8/78	118	10:16	-58	FL410	9:46	39.3N	143.8E	FL390	-51.2	3.8	FL369	-46.4	1.5	2:14	FL390	-53.8	1.8	1:57
												FL410	-53.2	1.8	4:49				
LAX-HND	2/13/78	120	10:12	-61	FL354	10:12	37.0N	141.2E	FL400	-49.7	4.1	FL390	-48.9	4.6	3:50	FL409	-47.0	.6	2:04
												FL429	-50.4	3.2	2:26				
LAX-HND	2/16/77	78	10:19	-63	FL370	1:19	40.8N	129.6W	FL396	-50.8	4.7	FL369	-57.5	5.2	1:58	FL389	-48.5	1.2	2:58
												FL410	-48.7	.5	1:34	FL429	-49.1	.6	2:00
LAX-HND	2/16/78	121	10:24	-63	FL350	0:20	36.2N	121.6W	FL379	-52.0	6.7	FL350	-62.5	1.0	2:45	FL369	-46.2	2.1	2:09
												FL390	-47.6	1.1	2:24	FL410	-49.9	2.2	2:30
LAX-HND	2/20/77	76	10:10	-55	FL350	0:07	35.8N	120.7W	FL391	-48.5	3.9	FL349	-47.0	5.1	1:45	FL390	-46.2	3.0	4:00
												FL410	-51.1	2.2	3:52				
LAX-HND	2/20/78	111	9:48	-63	FL350	1:44	45.1N	133.0W	FL382	-51.8	5.1	FL350	-59.1	3.7	2:24	FL390	-48.4	2.1	4:43
												FL410	-51.8	1.2	2:04				
LAX-HND	2/22/78	117	9:51	-65	FL370	1:20	40.4N	130.6W	FL389	-52.7	4.6	FL349	-58.6	.5	1:06	FL369	-58.5	3.7	1:44
												FL390	-49.5	.8	2:30	FL409	-50.3	2.0	4:00
LAX-HND	2/25/78	112	9:45	-65	FL370	2:35	46.4N	141.2W	FL387	-55.0	4.8	FL369	-59.5	3.3	3:35	FL410	-52.0	1.9	4:20
LAX-HND	2/27/77	86	9:56	-64	FL390	0:46	40.8N	124.8W	FL390	-51.8	4.2	FL389	-51.8	4.2	9:56				
LAX-HND	2/28/78	118	9:49	-65	FL370	0:39	38.4N	124.3W	FL397	-55.5	5.0	FL369	-62.7	1.9	2:19	FL389	-52.4	1.1	3:00
												FL409	-52.9	2.1	1:30	FL430	-54.7	3.9	2:19
LAX-HND	3/ 2/77	87	10:59	-65	FL369	1:52	43.4N	132.6W	FL381	-54.7	5.8	FL349	-59.5	.5	1:38	FL369	-63.2	1.6	1:22
												FL389	-52.2	4.5	7:33				
LAX-HND	3/ 3/78	114	10:03	-70	FL390	8:18	41.1N	153.9E	FL374	-56.4	7.4	FL350	-55.5	2.2	1:40	FL370	-57.1	1.5	2:28
												FL390	-57.4	9.0	5:29				
LAX-HND	3/ 6/78	116	10:00	-67	FL370	1:20	42.5N	126.3W	FL385	-53.1	6.9	FL369	-65.5	1.1	1:50	FL390	-49.9	3.2	7:49
LAX-HND	3/ 9/78	116	9:57	-63	FL391	8:22	44.8N	151.2E	FL374	-52.8	5.9	FL350	-58.8	2.8	2:45	FL369	-48.6	1.5	1:32
												FL390	-51.0	5.7	5:10				
LAX-HND	3/12/78	123	10:34	-67	FL390	7:30	51.5N	163.7E	FL378	-51.5	6.0	FL350	-56.0	.7	1:30	FL370	-51.3	7.1	2:35
												FL390	-50.5	5.9	6:05				
LAX-HND	3/15/78	128	10:34	-69	FL390	6:05	42.1N	177.9W	FL379	-56.2	8.0	FL350	-57.0	.5	1:09	FL370	-57.9	5.8	2:45
												FL390	-55.4	9.2	6:14				
LAX-HND	3/18/78	116	10:15	-63	FL370	3:00	50.2N	143.5W	FL373	-53.5	6.4	FL350	-59.1	1.3	2:20	FL369	-51.6	9.9	2:39
												FL390	-51.8	2.2	4:45				
LAX-HND	3/24/78	118	9:59	-64	FL370	1:24	44.1N	127.6W	FL382	-50.4	5.7	FL370	-59.4	5.6	1:05	FL390	-48.1	3.3	7:39
LAX-HND	3/25/77	127	9:39	-58	FL350	5:48	54.0N	178.0E	FL349	-51.2	3.8	FL350	-51.4	3.8	9:22				
LAX-HND	3/27/78	116	10:06	-65	FL370	1:49	42.4N	133.5W	FL384	-53.7	5.8	FL370	-61.3	2.7	1:50	FL390	-51.8	4.6	7:51
LAX-HND	3/30/78	117	9:52	-64	FL370	1:42	44.9N	132.4W	FL378	-50.6	5.8	FL350	-57.7	1.4	1:22	FL370	-54.9	7.4	2:00
												FL390	-47.3	1.5	6:04				
LAX-HND	4/ 2/78	121	10:30	-61	FL350	1:06	41.1N	124.7W	FL378	-50.8	5.4	FL350	-58.4	2.5	1:45	FL369	-47.2	1.9	1:40
												FL390	-50.0	4.8	6:24				
LAX-HND	4/ 5/78	128	10:36	-68	FL390	9:00	44.2N	150.3E	FL374	-54.2	7.9	FL350	-51.2	4.9	2:40	FL370	-54.8	7.2	2:36
												FL389	-56.0	8.7	4:55				
LAX-HND	4/ 7/77	116	9:49	-65	FL431	9:34	37.9N	142.1E	FL385	-52.6	3.7	FL349	-53.4	3.3	2:54	FL389	-51.9	1.8	2:39
												FL410	-51.4	1.5	2:39				
LAX-HND	4/ 8/78	120	10:15	-62	FL390	10:10	37.8N	141.1E	FL373	-52.9	3.6	FL350	-54.5	.7	2:24	FL370	-52.2	4.4	2:45
												FL390	-52.6	3.4	4:19				
LAX-HND	4/11/77	122	10:24	-63	FL370	0:20	36.5N	121.5W	FL394	-54.9	5.5	FL369	-59.1	4.7	3:00	FL389	-47.5	.9	2:20
												FL409	-55.5	2.6	2:35	FL430	-57.3	1.4	1:45
LAX-HND	4/11/78	125	10:40	-64	FL370	1:41	43.8N	131.2W	FL377	-56.7	4.5	FL349	-57.5	1.8	1:24	FL369	-57.9	3.5	2:38
												FL390	-56.5	4.4	6:09				
LAX-HND	4/14/77	125	10:34	-68	FL390	7:09	48.3N	170.6E	FL387	-58.8	7.6	FL389	-59.2	7.2	10:15				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-HND	4/14/78	117	10:24	-69	FL390	7:09	44.9N	171.4E	FL378	-60.9	6.5	FL350	-50.8	4.8	1:35	FL370	-61.2	4.3	2:30
												FL390	-63.8	4.4	5:50				
LAX-HND	4/17/78	128	10:45	-62	FL350	4:00	54.1N	154.1W	FL358	-53.3	5.8	FL349	-55.3	4.6	5:54	FL369	-51.0	6.2	4:30
LAX-HND	4/19/77	128	10:51	-68	FL390	0:45	36.9N	125.3W	FL396	-61.6	5.0	FL389	-62.9	4.9	7:44	FL431	-59.1	3.0	2:22
LAX-HND	4/20/78	129	10:51	-62	FL390	7:00	53.3N	168.0E	FL378	-52.4	3.7	FL350	-52.4	3.6	2:35	FL390	-52.7	3.3	7:52
LAX-HND	4/21/77	121	10:03	-67	FL389	0:30	38.1N	122.5W	FL389	-51.7	6.5	FL389	-57.5	6.3	3:30	FL389	-48.2	4.0	5:28
LAX-HND	4/23/78	121	10:09	-64	FL369	1:39	45.7N	129.7W	FL379	-54.8	5.3	FL369	-60.3	3.5	1:45	FL389	-54.0	5.0	5:54
LAX-HND	4/26/78	123	9:58	-60	FL411	6:32	53.5N	169.8E	FL385	-52.3	4.1	FL350	-54.2	3.3	2:00	FL390	-47.2	2.6	1:58
												FL410	-54.2	2.3	4:24				
LAX-HND	4/27/77	114	10:00	-65	FL390	4:05	50.2N	161.0W	FL377	-55.1	6.8	FL350	-55.4	3.6	3:04	FL389	-54.4	7.4	6:04
LAX-HND	4/28/76	115	10:00	-64	FL430	9:45	38.3N	142.6E	FL409	-54.0	3.7	FL390	-55.3	1.7	4:59	FL430	-52.7	4.5	4:34
LAX-HND	4/29/78	122	10:11	-63	FL411	9:07	42.3N	147.6E	FL382	-53.5	5.9	FL349	-53.9	6.1	3:02	FL389	-48.8	2.9	1:24
												FL410	-57.0	3.9	4:10				
LAX-HND	4/30/77	113	9:39	-69	FL410	9:30	37.6N	142.0E	FL390	-49.3	7.0	FL369	-53.1	4.9	2:35	FL389	-44.0	3.6	2:50
												FL409	-50.5	7.8	3:49				
LAX-HND	5/ 2/78	121	10:46	-67	FL390	7:00	53.6N	171.1E	FL377	-54.0	6.1	FL350	-54.2	1.5	2:39	FL370	-51.6	5.1	2:49
												FL389	-58.6	6.8	3:00	FL410	-51.1	3.7	1:49
LAX-HND	5/ 5/78	117	9:59	-63	FL410	9:19	39.7N	144.3E	FL369	-51.6	4.0	FL350	-52.4	2.6	4:45	FL390	-49.7	3.4	3:30
LAX-HND	5/ 8/78	120	10:01	-65	FL390	7:46	42.4N	161.9E	FL375	-55.1	6.5	FL350	-55.0	1.0	1:50	FL370	-53.8	7.8	2:25
												FL389	-56.3	6.1	5:22				
LAX-HNO	5/11/78	121	10:30	-63	FL391	4:45	41.7N	161.8W	FL375	-55.5	5.9	FL351	-50.5	1.1	2:50	FL371	-52.8	4.9	1:25
												FL391	-59.7	3.0	5:40				
LAX-HND	5/14/78	114	9:54	-67	FL392	7:39	49.1N	158.3E	FL375	-52.3	6.9	FL351	-48.5	4.2	3:40	FL371	-46.7	3.3	1:50
												FL391	-59.2	6.0	2:39	FL411	-57.3	1.3	1:15
LAX-HND	5/17/78	118	10:00	-69	FL412	8:39	44.0N	150.0E	FL378	-55.4	7.6	FL351	-55.7	1.8	2:34	FL370	-48.5	6.4	2:09
												FL390	-53.9	4.1	2:54	FL411	-66.9	1.4	1:54
LAX-HND	6/ 4/76	68	5:15	-65	FL391	3:18	51.5N	147.2W	FL373	-53.3	6.7	FL369	-54.4	3.8	2:30	FL390	-52.3	9.7	1:56
LAX-HND	6/10/76	131	10:22	-62	FL411	9:10	42.6N	148.2E	FL384	-51.5	6.5	FL349	-53.2	3.5	2:04	FL370	-43.2	4.0	1:19
												FL390	-50.6	5.8	1:30	FL410	-54.5	5.3	4:48
LAX-HND	7/ 5/77	118	10:06	-63	FL391	1:00	41.6N	125.0W	FL387	-53.8	5.3	FL390	-54.0	5.3	9:00				
LAX-HND	7/ 9/77	116	9:51	-61	FL391	6:39	46.7N	173.1E	FL377	-54.8	4.4	FL350	-50.5	1.3	2:25	FL370	-55.6	.5	1:35
												FL390	-57.1	3.3	4:51				
LAX-HND	7/17/76	113	9:51	-60	FL410	9:31	38.4N	142.7E	FL389	-50.2	5.4	FL370	-53.4	5.9	2:18	FL390	-48.1	3.3	4:09
												FL410	-51.6	4.6	2:47				
LAX-HND	7/18/77	115	10:00	-61	FL389	4:15	38.5N	163.5W	FL379	-54.5	4.6	FL350	-47.1	.6	1:15	FL369	-52.9	.6	1:40
												FL389	-57.0	1.7	6:34				
LAX-HND	7/29/77	107	9:24	-60	FL410	8:39	41.5N	146.5E	FL389	-50.4	7.0	FL369	-49.6	6.8	3:06	FL389	-45.4	4.4	2:35
												FL410	-56.0	3.4	3:09				
LAX-HND	8/ 1/77	115	9:42	-61	FL390	2:30	47.2N	142.0W	FL384	-51.9	6.5	FL349	-49.8	2.3	2:09	FL389	-51.0	6.9	4:17
												FL409	-56.7	1.7	2:45				
LAX-HND	8/17/77	112	9:40	-55	FL370	3:00	48.9N	149.6W	FL374	-49.2	4.7	FL350	-48.7	3.6	2:35	FL390	-49.3	3.8	5:30
LAX-HND	8/20/77	105	9:24	-55	FL370	0:49	41.4N	124.9W	FL367	-48.6	4.0	FL369	-49.1	3.1	8:30				
LAX-HND	8/26/77	115	10:20	-56	FL391	6:54	53.5N	169.9E	FL381	-49.5	5.0	FL351	-47.2	.7	2:10	FL370	-47.3	4.6	3:10
												FL390	-50.0	4.1	1:20	FL410	-53.8	1.5	3:15
LAX-HND	8/29/77	109	10:03	-61	FL410	9:48	38.4N	142.7E	FL386	-52.6	4.3	FL369	-53.5	1.9	2:39	FL390	-52.0	2.3	2:40
												FL410	-55.1	4.0	3:08				
LAX-HND	9/ 1/77	120	10:14	-62	FL390	1:19	40.6N	131.0W	FL398	-54.4	4.4	FL390	-58.2	2.6	3:39	FL409	-53.7	1.4	4:35
LAX-HND	9/ 2/76	116	10:01	-61	FL390	2:15	47.5N	137.2W	FL389	-51.5	4.9	FL389	-50.1	4.4	4:54	FL409	-55.3	1.6	3:16
LAX-HND	9/ 5/76	120	10:06	-67	FL409	6:43	53.4N	169.7E	FL391	-52.7	4.8	FL369	-49.8	3.7	2:49	FL389	-50.8	2.1	3:00
												FL409	-56.5	3.4	3:45				
LAX-HND	9/ 7/77	116	9:49	-64	FL390	4:05	42.1N	160.8W	FL384	-56.8	6.1	FL350	-49.3	1.7	1:34	FL370	-57.7	2.2	1:39
												FL390	-58.7	3.4	4:19	FL429	-62.0	.6	1:28

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-HND	9/ 8/76	116	9:49	-64	FL390	2:40	47.2N	142.7W	FL390	-56.6	5.1	FL349	-51.3	1.2	2:15	FL389	-57.8	5.0	2:49
												FL409	-58.2	2.3	3:15				
LAX-HND	9/11/77	109	9:20	-64	FL390	4:04	45.0N	161.8W	FL384	-56.0	4.2	FL349	-52.5	.7	1:20	FL390	-56.8	3.8	7:45
LAX-HND	9/14/77	107	9:31	-62	FL390	2:30	41.5N	143.9W	FL391	-57.2	4.4	FL349	-53.4	1.2	2:09	FL390	-57.4	3.0	3:14
												FL409	-59.4	.7	1:22	FL429	-60.8	.8	2:19
LAX-HND	9/24/77	113	10:18	-59	FL390	4:44	44.8N	167.5W	FL375	-50.3	3.8	FL349	-49.5	2.4	4:19	FL389	-53.0	2.3	3:06
												FL409	-51.2	4.0	2:25				
LAX-HND	10/ 1/76	123	10:20	-65	FL429	10:10	37.7N	141.8E	FL388	-51.6	6.2	FL349	-49.8	4.5	2:10	FL369	-53.7	1.9	1:10
												FL390	-46.9	1.9	2:39	FL409	-51.3	1.5	1:15
												FL429	-59.6	3.8	2:14				
LAX-HND	10/ 7/76	117	9:58	-60	FL410	9:29	39.1N	143.5E	FL396	-52.5	4.9	FL389	-51.5	4.0	5:00	FL409	-54.5	3.4	4:35
LAX-HND	10/10/76	118	10:36	-61	FL410	7:30	51.4N	164.4E	FL387	-52.1	4.4	FL369	-51.7	2.7	3:39	FL389	-50.3	2.8	2:41
												FL409	-54.5	4.7	3:30				
LAX-HND	10/13/76	118	10:05	-67	FL410	9:50	38.2N	142.5E	FL383	-54.1	6.3	FL349	-52.3	1.3	1:39	FL369	-58.7	1.7	2:04
												FL390	-48.2	2.5	2:49	FL409	-58.0	6.5	2:54
LAX-HND	10/16/76	119	10:11	-65	FL390	8:11	46.8N	154.6E	FL373	-54.6	4.7	FL349	-55.2	1.4	3:09	FL389	-55.4	4.8	5:41
LAX-HND	10/18/77	122	10:45	-64	FL450	10:30	38.2N	141.1E	FL390	-51.3	4.8	FL369	-55.3	1.1	1:29	FL390	-50.6	3.6	5:00
												FL410	-48.9	2.6	2:25				
LAX-HND	10/19/76	117	9:54	-67	FL410	8:33	43.6N	149.4E	FL391	-57.2	5.6	FL389	-54.9	4.0	3:50	FL409	-61.1	4.8	4:10
LAX-HND	10/19/77	122	10:45	-61	FL390	2:15	48.2N	134.0W	FL394	-52.5	5.1	FL350	-55.3	3.9	1:39	FL390	-52.3	5.2	4:00
												FL409	-49.7	2.3	2:50	FL430	-57.2	1.3	1:35
LAX-HND	10/28/76	126	10:30	-63	FL370	1:25	44.4N	127.9W	FL390	-52.2	5.6	FL369	-59.6	3.3	3:00	FL390	-47.0	1.7	3:05
												FL410	-50.8	2.0	3:54				
LAX-HND	10/31/76	121	10:24	-62	FL370	1:09	42.6N	126.0W	FL389	-52.5	4.8	FL369	-54.6	5.0	3:45	FL390	-52.1	3.8	2:44
												FL410	-51.7	3.6	2:04	FL429	-49.3	2.8	1:09
LAX-HND	11/ 1/77	121	10:49	-65	FL390	6:15	40.8N	176.3W	FL379	-55.0	5.7	FL349	-48.0	.5	2:15	FL370	-54.0	2.2	2:04
												FL390	-59.3	4.2	4:15	FL410	-57.6	.5	1:39
LAX-HND	11/16/77	130	11:08	-68	FL390	4:00	51.4N	151.7W	FL385	-57.1	6.5	FL349	-55.4	1.9	3:00	FL390	-55.7	7.2	4:42
												FL429	-62.8	1.8	2:19				
LAX-HND	11/19/77	122	10:30	-62	FL370	1:00	38.1N	126.7W	FL385	-52.3	5.9	FL370	-59.9	2.0	2:48	FL390	-47.2	2.8	3:09
												FL409	-51.2	2.3	3:15				
LAX-HND	11/22/77	116	10:21	-61	FL349	0:49	39.7N	123.7W	FL393	-54.4	3.0	FL369	-54.9	2.8	2:00	FL390	-53.5	2.7	2:47
												FL409	-55.4	1.8	2:05	FL430	-53.1	1.6	1:54
LAX-HND	11/26/76	116	10:04	-65	FL390	1:35	41.3N	132.9W	FL400	-54.0	6.5	FL390	-54.8	8.8	4:15	FL409	-51.8	2.3	2:09
												FL429	-54.6	1.7	2:19				
LAX-HND	12/ 4/76	116	10:06	-66	FL390	3:09	45.2N	147.6W	FL389	-53.6	6.7	FL369	-60.3	1.1	1:34	FL390	-55.6	6.5	4:11
												FL410	-47.3	2.8	3:15				
LAX-HND	12/14/77	86	7:29	-63	FL410	6:58	39.7N	144.3E	FL389	-54.8	5.3	FL390	-57.6	1.6	2:22	FL410	-57.4	3.0	2:45
LAX-HND	12/17/77	128	10:48	-73	FL390	6:05	54.0N	179.5E	FL381	-56.6	7.8	FL350	-51.6	1.9	2:39	FL370	-57.5	5.5	2:20
												FL389	-71.6	1.1	1:15	FL409	-54.4	4.9	3:45
LAX-HND	12/20/77	119	9:53	-59	FL350	1:16	40.2N	130.4W	FL382	-51.1	4.5	FL350	-55.1	2.6	2:46	FL390	-50.8	3.8	4:12
												FL410	-47.2	2.9	2:25				
LAX-HNL	1/ 2/79	17	1:20	-42	FL350	0:00	24.7N	146.8W	FL348	-40.6	1.9	FL350	-41.1	.2	1:15				
LAX-HNL	1/ 2/79	57	4:39	-56	FL362	1:24	31.2N	131.8W	FL371	-48.3	5.1	FL360	-53.7	1.0	1:34	FL380	-46.1	2.4	2:49
LAX-HNL	1/ 4/78	61	4:52	-61	FL361	0:49	32.7N	126.3W	FL358	-55.7	5.2	FL360	-56.3	4.2	4:31				
LAX-HNL	1/ 9/77	56	4:40	-60	FL350	1:05	33.4N	130.5W	FL348	-49.2	7.0	FL350	-49.2	7.0	4:24				
LAX-HNL	1/16/79	53	4:32	-61	FL360	1:52	29.6N	137.0W	FL357	-50.8	5.8	FL360	-50.9	5.8	4:13				
LAX-HNL	1/17/78	60	5:00	-47	FL352	0:10	32.0N	120.7W	FL354	-44.6	3.3	FL359	-45.5	1.2	3:45				
LAX-HNL	1/17/79	58	4:27	-61	FL360	1:00	31.9N	129.2W	FL362	-52.4	5.8	FL360	-53.4	6.1	3:39				
LAX-HNL	1/23/78	50	4:15	-59	FL360	0:09	33.5N	122.6W	FL361	-55.3	4.4	FL360	-58.0	.9	2:24	FL365	-52.2	4.6	1:30
LAX-HNL	1/24/77	53	4:31	-58	FL361	0:10	33.9N	121.8W	FL359	-54.4	3.3	FL360	-55.5	1.4	2:36	FL364	-54.3	1.9	1:35
LAX-HNL	1/24/79	56	4:34	-55	FL330	0:05	33.5N	122.0W	FL358	-42.5	2.7	FL360	-42.3	1.9	4:19				
LAX-HNL	1/27/76	50	4:19	-57	FL350	0:09	33.7N	122.1W	FL348	-48.7	4.1	FL350	-49.1	3.5	4:04				

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-HNL	1/28/77	37	4:41	-55	FL351	0:52	31.3N	128.1W	FL350	-51.8	3.1	FL350	-52.1	3.0	4:28				
LAX-HNL	1/29/79	114	4:30	-62	FL360	1:09	31.8N	129.6W	FL358	-58.5	3.9	FL360	-59.2	2.2	4:14				
LAX-HNL	1/30/78	57	4:44	-61	FL361	1:29	30.8N	133.1W	FL358	-50.2	7.4	FL360	-50.7	7.0	4:29				
LAX-HNL	2/ 1/79	56	4:35	-61	FL362	3:00	26.6N	144.8W	FL358	-54.0	4.9	FL361	-54.7	4.6	4:09				
LAX-HNL	2/ 2/76	54	4:24	-65	FL391	0:09	33.5N	122.1W	FL386	-53.3	6.1	FL390	-53.9	5.4	4:04				
LAX-HNL	2/ 5/76	50	4:29	-58	FL350	1:44	30.3N	135.9W	FL348	-53.6	4.0	FL349	-54.2	3.1	4:14				
LAX-HNL	2/ 6/76	39	4:20	-59	FL351	1:19	31.5N	131.8W	FL348	-51.2	5.1	FL351	-52.2	3.9	3:56				
LAX-HNL	2/ 6/76	45	4:09	-54	FL350	1:49	29.8N	137.6W	FL346	-48.2	5.1	FL350	-49.0	4.6	3:50				
LAX-HNL	2/ 6/78	56	4:39	-42	FL351	3:49	23.4N	149.7W	FL348	-38.8	3.4	FL350	-39.6	1.4	4:20				
LAX-HNL	2/ 7/78	59	4:59	-54	FL390	1:24	30.9N	129.5W	FL377	-50.3	4.6	FL390	-53.1	.7	3:29				
LAX-HNL	2/ 8/76	34	2:49	-54	FL351	0:00	31.2N	133.2W	FL351	-52.8	.8	FL350	-52.8	.8	2:49				
LAX-HNL	2/10/76	50	4:09	-55	FL350	1:35	30.6N	135.1W	FL348	-52.1	2.9	FL350	-52.7	1.9	3:50				
LAX-HNL	2/11/77	58	4:34	-60	FL360	0:18	31.5N	122.9W	FL353	-51.4	6.5	FL361	-53.0	4.2	4:06				
LAX-HNL	2/11/79	59	4:49	-58	FL381	2:01	29.3N	137.6W	FL377	-53.0	6.1	FL360	-54.4	.9	1:45	FL400	-54.0	.9	2:15
LAX-HNL	2/12/79	60	4:55	-49	FL352	0:15	32.9N	123.2W	FL350	-42.5	3.9	FL351	-42.6	3.7	4:40				
LAX-HNL	2/13/77	50	4:19	-58	FL361	0:15	33.3N	123.4W	FL358	-52.3	5.6	FL360	-52.8	4.9	4:00				
LAX-HNL	2/14/79	53	4:49	-53	FL362	1:35	31.0N	132.6W	FL358	-45.8	4.7	FL360	-46.2	4.4	4:28				
LAX-HNL	2/15/78	55	4:39	-65	FL360	0:09	33.8N	121.7W	FL358	-53.8	8.1	FL360	-54.2	7.9	4:25				
LAX-HNL	2/17/79	60	4:54	-63	FL350	0:10	33.3N	122.2W	FL348	-51.9	6.1	FL350	-52.1	5.8	4:39				
LAX-HNL	2/19/78	60	4:31	-63	FL360	1:30	30.5N	134.0W	FL348	-56.4	7.3	FL361	-61.1	1.2	3:06	FL320	-45.4	1.2	1:04
LAX-HNL	2/22/78	56	4:39	-59	FL361	0:35	32.7N	126.0W	FL357	-48.9	8.3	FL361	-49.3	8.1	4:20				
LAX-HNL	2/26/76	57	4:49	-65	FL390	0:30	33.2N	124.2W	FL386	-63.1	3.9	FL390	-64.1	1.2	4:19				
LAX-HNL	2/27/79	55	4:39	-62	FL367	0:10	33.5N	122.4W	FL367	-56.1	5.8	FL370	-56.6	5.3	4:24				
LAX-HNL	2/29/76	57	4:44	-56	FL348	0:09	33.6N	121.9W	FL348	-49.7	6.2	FL350	-50.3	5.7	4:29				
LAX-HNL	3/ 7/79	51	4:01	-57	FL351	0:47	32.1N	128.7W	FL350	-49.0	5.5	FL350	-49.2	5.5	3:47				
LAX-HNL	3/ 8/78	55	4:30	-58	FL350	0:10	33.0N	121.7W	FL348	-53.9	4.2	FL350	-54.7	3.0	4:09				
LAX-HNL	3/11/78	50	4:07	-57	FL360	0:54	32.1N	128.5W	FL358	-54.0	2.9	FL360	-54.4	2.4	3:52				
LAX-HNL	3/12/79	56	4:04	-62	FL371	1:45	29.4N	137.6W	FL367	-55.8	4.8	FL370	-56.4	2.9	3:50				
LAX-HNL	3/13/78	49	4:20	-55	FL349	0:05	33.0N	121.9W	FL349	-51.9	2.6	FL350	-52.4	1.2	4:05				
LAX-HNL	3/13/79	182	3:59	-62	FL371	1:07	31.1N	132.0W	FL369	-59.5	2.5	FL370	-59.7	2.3	0:00				
LAX-HNL	3/16/79	103	2:13	-62	FL370	0:51	31.9N	129.5W	FL368	-60.7	1.6								
LAX-HNL	3/17/78	54	4:40	-55	FL351	1:19	30.1N	132.4W	FL349	-51.9	3.3	FL350	-52.3	2.0	4:30				
LAX-HNL	3/21/79	55	3:58	-56	FL369	1:17	30.8N	133.2W	FL364	-50.6	3.7	FL369	-51.4	3.0	3:25				
LAX-HNL	3/24/79	54	3:58	-58	FL350	1:52	29.1N	138.4W	FL349	-53.6	3.1	FL350	-54.0	2.9	3:44				
LAX-HNL	3/25/79	59	3:59	-57	FL350	0:16	33.2N	123.9W	FL349	-54.1	2.8	FL350	-54.5	1.8	3:50				
LAX-HNL	3/27/79	62	4:04	-58	FL351	2:55	25.7N	146.8W	FL349	-54.2	2.9	FL350	-54.6	1.5	0:00				
LAX-HNL	3/28/79	197	4:07	-65	FL391	2:55	25.8N	146.7W	FL376	-58.0	5.0	FL370	-60.6	1.1	1:45	FL390	-56.0	6.0	1:16
LAX-HNL	3/29/79	56	4:04	-60	FL370	2:33	26.8N	144.2W	FL357	-54.8	3.3	FL350	-55.7	1.0	2:07	FL370	-54.6	4.1	1:33
LAX-HNL	3/30/78	50	4:24	-57	FL344	0:05	33.5N	121.8W	FL357	-50.6	5.0	FL360	-51.0	4.1	4:09				
LAX-HNL	4/ 2/78	55	4:35	-61	FL360	0:15	33.3N	123.2W	FL357	-56.4	4.1	FL360	-57.3	2.4	4:09				
LAX-HNL	4/ 4/77	49	4:11	-60	FL360	0:24	32.7N	126.1W	FL357	-55.6	3.8	FL359	-56.2	1.8	3:56				
LAX-HNL	4/ 5/76	55	4:34	-64	FL391	2:54	27.2N	143.7W	FL386	-59.4	5.0	FL390	-60.4	3.9	4:09				
LAX-HNL	4/ 6/78	59	4:23	-57	FL356	1:40	29.9N	133.0W	FL350	-52.9	3.0	FL350	-53.4	1.5	1:11	FL352	-53.1	2.8	2:42
LAX-HNL	4/ 7/75	53	4:23	-59	FL350	0:30	33.0N	125.5W	FL348	-50.6	5.2	FL350	-50.7	5.2	4:15				
LAX-HNL	4/ 9/76	53	4:21	-48	FL311	0:00	33.9N	121.6W	FL310	-42.6	4.7	FL310	-42.6	4.7	4:21				
LAX-HNL	4/ 9/78	54	4:23	-55	FL361	4:18	21.6N	155.8W	FL358	-52.1	3.1	FL360	-52.7	2.0	4:03				
LAX-HNL	4/10/77	49	4:29	-66	FL399	1:00	32.0N	129.1W	FL394	-60.7	5.2	FL399	-62.0	3.1	4:09				
LAX-HNL	4/10/78	48	4:24	-54	FL360	0:20	33.3N	123.6W	FL357	-51.9	2.9	FL359	-52.4	1.5	4:14				
LAX-HNL	4/14/77	50	4:10	-60	FL360	0:09	33.7N	121.7W	FL357	-54.8	4.3	FL360	-55.6	2.2	3:55				
LAX-HNL	4/14/78	56	4:49	-56	FL361	1:44	30.4N	134.4W	FL356	-53.4	4.3	FL360	-54.4	1.1	4:24				
LAX-HNL	4/16/77	52	4:24	-54	FL350	0:54	31.0N	129.0W	FL347	-49.8	5.0	FL350	-50.5	3.8	4:09				
LAX-HNL	4/16/78	56	4:49	-59	FL361	0:49	32.5N	126.6W	FL358	-56.6	3.9	FL360	-57.3	1.6	4:30				
LAX-HNL	4/18/76	51	4:18	-54	FL350	0:09	33.6N	121.8W	FL349	-51.6	2.4	FL350	-51.9	1.2	4:08				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-HNL	4/19/78	53	4:39	-58	FL361	2:09	29.0N	138.7W	FL359	-54.9	4.2	FL361	-55.7	1.7	4:24				
LAX-HNL	4/22/77	54	4:24	-58	FL360	0:15	33.7N	122.4W	FL356	-54.2	5.2	FL360	-55.5	2.3	4:05				
LAX-HNL	4/24/77	50	4:34	-58	FL360	0:38	32.7N	126.3W	FL356	-52.5	5.2	FL359	-53.6	2.6	4:05				
LAX-HNL	4/25/77	57	4:49	-55	FL357	0:09	33.5N	122.3W	FL356	-49.6	5.0	FL360	-50.5	3.2	4:30				
LAX-HNL	4/27/77	52	4:40	-58	FL361	2:05	29.2N	138.0W	FL357	-53.9	4.6	FL360	-54.9	1.6	4:24				
LAX-HNL	4/27/78	50	4:19	-55	FL360	0:49	32.1N	128.8W	FL359	-53.2	1.8	FL359	-53.5	1.0	4:09				
LAX-HNL	4/29/78	53	4:20	-57	FL360	0:10	33.5N	122.1W	FL356	-53.0	4.5	FL360	-54.1	2.5	3:54				
LAX-HNL	4/30/78	52	4:18	-57	FL361	0:18	33.4N	123.0W	FL356	-52.1	4.4	FL361	-53.2	1.9	3:54				
LAX-HNL	5/ 5/77	55	4:34	-55	FL361	1:19	29.4N	130.6W	FL358	-52.5	3.3	FL360	-53.0	2.0	4:19				
LAX-HNL	5/ 6/76	30	2:31	-54	FL351	1:20	24.7N	148.3W	FL348	-51.9	3.8	FL350	-52.6	.9	2:26				
LAX-HNL	5/ 6/77	43	4:22	-56	FL360	1:05	31.5N	130.7W	FL359	-50.3	3.8	FL359	-50.6	3.6	4:12				
LAX-HNL	5/ 7/76	42	3:39	-55	FL352	1:35	29.0N	140.1W	FL352	-53.0	.9	FL351	-53.0	.9	3:39				
LAX-HNL	5/ 7/77	55	4:39	-59	FL360	1:19	31.3N	131.6W	FL356	-51.3	5.1	FL360	-52.2	4.0	4:19				
LAX-HNL	5/ 9/77	53	4:29	-55	FL351	1:44	31.7N	135.7W	FL343	-50.0	5.9	FL350	-53.1	1.5	3:30				
LAX-HNL	5/ 9/78	49	4:09	-57	FL361	0:30	32.8N	125.7W	FL358	-52.3	2.3	FL360	-52.5	1.9	3:54				
LAX-HNL	5/10/75	51	4:15	-54	FL350	0:09	33.9N	122.1W	FL347	-50.7	3.8	FL350	-51.5	1.5	4:00				
LAX-HNL	5/11/76	46	3:43	-52	FL350	0:04	32.8N	126.3W	FL349	-49.6	3.1	FL350	-50.0	1.2	3:38				
LAX-HNL	5/11/78	53	4:19	-53	FL361	3:15	24.8N	148.9W	FL352	-49.5	3.4	FL350	-48.8	.4	2:20	FL360	-52.1	.7	1:40
LAX-HNL	5/14/77	54	4:23	-56	FL360	0:09	33.6N	122.0W	FL358	-53.0	2.9	FL360	-53.5	1.7	4:13				
LAX-HNL	5/14/78	51	4:19	-51	FL351	2:14	27.4N	140.1W	FL349	-49.0	3.0	FL350	-49.6	1.2	4:04				
LAX-HNL	5/16/76	54	4:37	-63	FL390	2:22	28.5N	141.1W	FL375	-57.2	5.8	FL390	-60.1	1.7	3:07				
LAX-HNL	5/18/78	52	4:25	-57	FL361	0:55	31.8N	129.7W	FL361	-54.0	3.0	FL361	-55.6	1.1	2:05	FL365	-54.1	1.1	1:30
LAX-HNL	5/19/78	51	4:13	-48	FL320	0:24	32.9N	125.4W	FL320	-44.4	1.9	FL320	-44.4	1.9	4:07				
LAX-HNL	5/22/78	54	4:39	-54	FL350	0:15	32.6N	123.0W	FL347	-50.2	3.0	FL350	-50.9	1.2	4:15				
LAX-HNL	5/26/79	52	4:14	-54	FL370	1:54	28.9N	138.9W	FL358	-49.4	4.9	FL370	-52.6	1.0	2:49				
LAX-HNL	5/27/78	49	4:14	-54	FL360	3:29	23.9N	150.8W	FL357	-51.3	3.5	FL360	-52.0	.7	3:59				
LAX-HNL	5/29/76	47	4:04	-56	FL360	0:09	33.6N	122.0W	FL358	-52.7	3.0	FL360	-53.1	1.8	3:54				
LAX-HNL	6/ 1/79	50	4:04	-48	FL331	0:09	33.5N	122.9W	FL330	-44.0	1.5	FL330	-44.1	1.3	3:54				
LAX-HNL	6/ 3/78	53	4:34	-53	FL360	2:39	27.9N	141.6W	FL356	-50.5	4.3	FL360	-51.6	.7	4:15				
LAX-HNL	6/ 3/79	52	4:14	-56	FL391	3:39	23.4N	151.8W	FL375	-53.3	2.3	FL370	-52.9	1.4	2:30	FL389	-55.1	.4	1:19
LAX-HNL	6/ 3/79	52	3:52	-56	FL370	0:40	32.3N	127.6W	FL363	-52.0	5.4	FL370	-54.0	1.0	3:30				
LAX-HNL	6/ 4/77	48	4:15	-61	FL401	1:54	29.1N	138.2W	FL385	-56.1	5.3	FL360	-51.8	.4	1:04	FL400	-59.2	.8	2:45
LAX-HNL	6/ 4/78	50	4:15	-53	FL361	1:35	30.3N	134.7W	FL359	-50.8	2.9	FL360	-51.3	.8	4:05				
LAX-HNL	6/ 7/79	52	4:14	-52	FL351	1:44	29.5N	137.3W	FL348	-48.5	3.5	FL350	-49.1	1.7	3:59				
LAX-HNL	6/ 8/75	49	4:04	-46	FL310	2:24	27.8N	142.5W	FL309	-40.3	2.5	FL309	-40.6	2.2	3:55				
LAX-HNL	6/ 8/78	53	4:19	-52	FL361	0:15	33.2N	124.0W	FL357	-49.6	3.7	FL360	-50.5	1.3	4:00				
LAX-HNL	6/ 9/79	38	4:16	-47	FL331	0:05	33.5N	122.2W	FL330	-44.8	1.3	FL330	-45.0	1.1	4:11				
LAX-HNL	6/10/77	51	4:14	-57	FL360	0:24	32.9N	125.2W	FL357	-52.4	4.3	FL360	-53.2	1.8	3:59				
LAX-HNL	6/10/77	30	4:14	-53	FL360	0:15	33.5N	122.6W	FL356	-49.6	3.9	FL360	-50.5	1.5	3:59				
LAX-HNL	6/10/79	55	4:30	-55	FL370	1:20	30.9N	133.0W	FL362	-52.7	3.6	FL370	-54.3	.7	3:09				
LAX-HNL	6/11/78	50	4:09	-55	FL361	1:39	29.7N	136.6W	FL357	-51.1	4.6	FL360	-52.1	2.0	3:54				
LAX-HNL	6/12/77	52	4:24	-55	FL360	0:09	33.4N	122.9W	FL358	-50.4	3.5	FL360	-51.0	2.4	4:09				
LAX-HNL	6/15/78	58	4:44	-54	FL360	2:14	29.0N	138.5W	FL357	-50.9	3.7	FL359	-51.8	1.4	4:24				
LAX-HNL	6/16/75	52	4:19	-58	FL391	2:34	27.7N	142.6W	FL386	-54.2	5.7	FL391	-55.2	3.2	3:54				
LAX-HNL	6/16/79	56	4:34	-55	FL370	1:54	29.7N	136.6W	FL360	-51.4	5.4	FL350	-47.3	.7	1:09	FL370	-54.7	.7	2:55
LAX-HNL	6/17/75	52	4:30	-50	FL350	4:05	21.7N	153.3W	FL347	-47.1	3.2	FL349	-47.9	.9	4:10				
LAX-HNL	6/19/79	52	4:15	-53	FL350	3:20	24.5N	149.5W	FL349	-49.6	2.9	FL350	-50.0	2.1	4:04				
LAX-HNL	6/20/77	46	4:05	-52	FL360	0:10	33.4N	123.5W	FL357	-50.7	3.5	FL359	-51.4	.5	3:49				
LAX-HNL	6/22/75	51	4:15	-42	FL310	0:05	33.5N	122.5W	FL310	-39.3	1.1	FL310	-39.3	1.1	4:15				
LAX-HNL	6/22/78	57	4:39	-56	FL360	2:09	29.0N	138.7W	FL353	-50.5	6.1	FL359	-52.6	2.2	4:04				
LAX-HNL	6/22/78	57	4:39	-56	FL361	1:20	31.1N	132.1W	FL358	-51.4	3.7	FL360	-52.1	2.0	4:19				
LAX-HNL	6/22/78	56	4:35	-55	FL360	1:45	29.9N	135.9W	FL345	-49.1	3.7	FL320	-45.4	1.3	1:30	FL360	-51.5	1.9	2:50
LAX-HNL	6/23/77	51	4:15	-53	FL359	0:20	31.2N	123.1W	FL357	-49.5	2.5	FL359	-50.0	1.7	4:00				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-HNL	6/24/78	58	4:44	-52	FL361	1:09	31.5N	130.7W	FL358	-49.1	2.8	FL360	-49.8	.8	4:24				
LAX-HNL	6/28/77	48	4:04	-51	FL360	0:39	32.3N	127.8W	FL359	-49.1	2.2	FL360	-49.5	1.3	3:49				
LAX-HNL	6/28/78	56	4:35	-52	FL360	0:30	32.8N	125.8W	FL357	-49.5	3.5	FL360	-50.3	.9	4:15				
LAX-HNL	6/29/77	48	4:11	-53	FL360	2:06	28.3N	140.4W	FL349	-46.0	5.4	FL321	-38.5	1.3	1:04	FL360	-49.2	2.0	2:51
LAX-HNL	6/30/78	57	4:39	-52	FL360	1:39	30.5N	134.2W	FL358	-49.3	2.8	FL360	-49.9	1.0	4:19				
LAX-HNL	7/ 1/77	53	4:24	-52	FL361	2:09	28.4N	140.3W	FL346	-44.2	7.1	FL321	-34.9	1.1	1:14	FL360	-49.3	1.3	2:49
LAX-HNL	7/ 1/77	54	4:24	-50	FL360	2:24	27.9N	141.4W	FL356	-46.9	4.8	FL360	-48.0	2.4	4:05				
LAX-HNL	7/ 2/78	57	4:40	-48	FL351	0:20	32.4N	123.5W	FL348	-45.9	2.8	FL350	-46.5	.9	4:20				
LAX-HNL	7/ 3/77	48	3:59	-43	FL321	0:30	32.7N	126.2W	FL320	-40.7	2.0	FL320	-40.9	1.5	3:54				
LAX-HNL	7/ 3/79	54	4:26	-52	FL350	0:09	33.4N	123.2W	FL349	-48.2	2.3	FL350	-48.4	1.7	4:16				
LAX-HNL	7/ 3/79	54	4:24	-52	FL350	0:39	32.4N	127.5W	FL349	-48.3	2.5	FL350	-48.7	1.5	4:09				
LAX-HNL	7/ 4/77	50	4:19	-61	FL400	1:14	31.2N	131.8W	FL393	-57.5	5.5	FL399	-59.1	1.0	3:49				
LAX-HNL	7/ 4/77	52	4:15	-52	FL350	1:00	31.0N	129.3W	FL347	-48.9	3.5	FL349	-49.5	1.7	4:00				
LAX-HNL	7/ 4/78	56	4:34	-48	FL351	0:15	32.5N	123.1W	FL348	-45.2	2.9	FL350	-45.8	1.1	4:19				
LAX-HNL	7/ 5/77	50	4:18	-55	FL360	0:14	33.4N	123.0W	FL357	-52.4	3.5	FL360	-53.2	.8	4:04				
LAX-HNL	7/ 6/78	55	4:28	-50	FL360	1:39	30.0N	135.6W	FL349	-46.7	5.2	FL359	-49.1	.8	3:30				
LAX-HNL	7/ 8/79	56	4:34	-53	FL370	1:20	31.2N	131.8W	FL362	-48.3	4.0	FL370	-49.6	1.4	3:09				
LAX-HNL	7/10/78	54	4:24	-49	FL360	2:04	29.0N	138.5W	FL356	-46.4	3.7	FL360	-47.3	1.4	4:05				
LAX-HNL	7/12/77	48	4:09	-52	FL360	3:09	24.8N	148.9W	FL358	-49.1	3.1	FL359	-49.7	1.3	4:00				
LAX-HNL	7/12/79	51	4:09	-46	FL351	0:20	33.6N	123.9W	FL348	-43.6	2.4	FL350	-44.1	1.0	3:50				
LAX-HNL	7/18/77	51	4:15	-52	FL360	3:15	24.5N	149.6W	FL358	-48.4	3.1	FL360	-48.9	2.2	4:00				
LAX-HNL	7/19/77	52	4:18	-51	FL360	0:13	33.3N	123.6W	FL358	-47.5	2.5	FL360	-48.0	1.4	4:03				
LAX-HNL	7/19/77	53	4:19	-52	FL360	0:10	33.4N	122.8W	FL359	-48.6	2.1	FL360	-48.9	1.6	4:04				
LAX-HNL	7/19/78	51	4:09	-48	FL361	3:29	23.6N	151.3W	FL357	-45.8	3.2	FL360	-46.6	.8	3:45				
LAX-HNL	7/19/78	51	4:09	-48	FL361	4:04	21.8N	155.5W	FL357	-45.1	3.0	FL360	-45.9	.8	3:49				
LAX-HNL	7/20/77	53	4:24	-54	FL360	0:09	33.3N	123.1W	FL359	-49.9	1.8	FL360	-50.1	1.2	4:15				
LAX-HNL	7/21/78	51	4:09	-48	FL361	0:35	32.5N	126.9W	FL357	-45.8	3.0	FL360	-46.5	.6	3:49				
LAX-HNL	7/22/77	45	4:04	-44	FL311	1:35	31.4N	136.8W	FL307	-40.2	2.2	FL300	-40.5	.9	1:30	FL310	-40.0	2.6	2:29
LAX-HNL	7/22/77	49	4:04	-51	FL360	0:49	31.7N	129.9W	FL359	-48.9	1.9	FL360	-49.1	1.6	3:54				
LAX-HNL	7/23/77	55	4:43	-58	FL389	2:22	27.6N	139.8W	FL371	-52.2	5.2	FL349	-48.2	1.0	1:37	FL389	-55.8	1.2	2:34
LAX-HNL	7/24/77	50	4:24	-55	FL360	2:09	28.9N	138.9W	FL358	-52.0	3.5	FL360	-52.6	1.7	4:09				
LAX-HNL	7/25/78	53	4:20	-39	FL320	1:15	31.2N	131.9W	FL319	-37.3	1.7	FL320	-37.6	1.0	4:09				
LAX-HNL	7/25/78	53	4:19	-49	FL361	1:44	29.9N	136.1W	FL356	-46.2	4.8	FL360	-47.5	1.0	3:54				
LAX-HNL	7/26/77	52	4:24	-54	FL360	2:34	27.3N	143.1W	FL357	-50.2	3.8	FL359	-50.9	2.4	4:03				
LAX-HNL	7/26/78	53	4:19	-50	FL361	2:24	27.7N	142.0W	FL359	-47.2	3.0	FL360	-47.7	1.0	4:09				
LAX-HNL	7/29/78	53	4:21	-47	FL351	1:55	28.1N	138.3W	FL348	-44.3	3.5	FL350	-45.2	.9	3:59				
LAX-HNL	8/ 1/77	51	4:18	-53	FL360	1:59	29.0N	138.7W	FL356	-49.1	4.8	FL360	-50.1	1.6	3:58				
LAX-HNL	8/ 2/78	52	4:15	-51	FL361	2:20	27.5N	142.5W	FL357	-48.0	4.0	FL360	-49.1	1.0	3:49				
LAX-HNL	8/ 3/77	51	4:24	-52	FL360	1:09	31.4N	131.2W	FL357	-49.0	4.3	FL360	-50.0	1.5	4:04				
LAX-HNL	8/ 3/77	53	4:29	-52	FL365	1:54	29.5N	137.2W	FL358	-49.5	4.0	FL360	-50.3	1.3	4:09				
LAX-HNL	8/ 4/78	52	4:20	-52	FL361	2:11	28.3N	140.5W	FL339	-45.5	6.6	FL320	-40.4	1.7	1:54	FL360	-51.7	.4	2:00
LAX-HNL	8/ 5/78	53	4:19	-53	FL361	2:09	28.2N	140.7W	FL356	-49.1	5.1	FL360	-50.4	1.8	4:00				
LAX-HNL	8/ 6/78	51	4:09	-53	FL361	1:54	28.8N	139.2W	FL357	-50.1	4.5	FL360	-51.2	1.4	3:49				
LAX-HNL	8/ 7/77	52	4:25	-51	FL360	2:10	28.8N	139.0W	FL356	-48.1	4.8	FL360	-49.3	1.1	4:05				
LAX-HNL	8/ 9/78	51	4:09	-53	FL361	1:09	30.9N	132.7W	FL356	-49.4	4.7	FL360	-50.7	1.5	3:45				
LAX-HNL	8/13/77	51	4:24	-48	FL360	2:20	28.2N	140.7W	FL356	-45.4	4.0	FL359	-46.5	1.1	4:00				
LAX-HNL	8/20/76	50	4:04	-49	FL350	0:35	31.8N	126.1W	FL349	-44.3	2.1	FL349	-44.5	1.8	3:54				
LAX-HNL	8/22/76	52	4:19	-47	FL359	1:39	30.0N	135.7W	FL357	-43.6	2.9	FL358	-44.2	1.9	4:04				
LAX-HNL	8/24/76	53	4:24	-46	FL359	2:24	27.9N	141.6W	FL358	-42.7	2.9	FL359	-43.0	2.0	4:14				
LAX-HNL	8/26/76	51	4:19	-50	FL359	3:14	25.1N	148.1W	FL356	-46.0	4.4	FL359	-46.9	1.6	4:04				
LAX-HNL	8/26/77	51	4:15	-48	FL360	0:15	33.2N	123.7W	FL357	-46.6	3.1	FL359	-47.3	.6	4:00				
LAX-HNL	8/28/76	52	4:14	-47	FL349	3:34	25.1N	151.2W	FL343	-42.6	4.0	FL348	-44.3	1.2	3:29				
LAX-HNL	8/30/76	51	4:11	-47	FL359	2:49	26.4N	145.3W	FL356	-43.6	4.0	FL359	-44.4	1.6	3:56				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-HNL	9/ 5/75	51	4:19	-48	FL351	3:03	25.0N	146.7W	FL350	-45.9	2.2	FL351	-46.2	1.1	4:10				
LAX-HNL	9/ 8/75	48	4:19	-52	FL350	0:45	32.5N	127.6W	FL347	-46.8	3.8	FL350	-47.6	1.9	4:05				
LAX-HNL	9/ 8/78	49	4:19	-54	FL360	1:39	30.1N	135.2W	FL346	-48.3	4.5	FL320	-43.1	.7	1:19	FL360	-51.4	1.8	2:39
LAX-HNL	9/ 9/77	51	4:28	-57	FL400	2:35	27.3N	142.9W	FL371	-51.6	5.6	FL359	-50.3	2.1	1:24	FL400	-57.0	0.0	1:24
LAX-HNL	9/16/78	49	4:00	-52	FL361	2:19	27.4N	142.9W	FL359	-50.5	2.7	FL360	-51.0	.7	3:50				
LAX-HNL	9/16/78	50	4:08	-49	FL350	0:30	32.0N	125.1W	FL348	-47.4	3.4	FL350	-48.1	.7	3:53				
LAX-HNL	9/17/78	49	4:08	-52	FL361	2:49	25.9N	146.3W	FL358	-49.9	2.7	FL360	-50.5	.9	3:54				
LAX-HNL	9/24/75	50	4:15	-50	FL351	1:45	31.7N	136.7W	FL348	-47.8	2.9	FL350	-48.4	1.0	4:00				
LAX-HNL	9/26/78	56	4:40	-51	FL360	1:48	29.9N	135.9W	FL357	-49.1	3.9	FL360	-49.9	1.0	4:24				
LAX-HNL	9/30/75	55	4:15	-52	FL351	1:36	30.5N	135.4W	FL350	-49.2	2.5	FL350	-49.4	1.9	4:10				
LAX-HNL	10/ 5/78	53	4:20	-54	FL361	0:30	32.8N	125.9W	FL357	-51.1	4.1	FL360	-52.0	1.4	3:55				
LAX-HNL	10/ 6/75	48	4:06	-42	FL311	0:10	33.4N	122.9W	FL311	-40.1	.8	FL311	-40.1	.8	4:06				
LAX-HNL	10/10/78	50	4:02	-55	FL350	1:07	30.6N	130.7W	FL347	-47.1	3.9	FL349	-47.7	3.0	3:50				
LAX-HNL	10/11/75	59	4:35	-52	FL351	2:37	27.9N	142.3W	FL349	-48.9	2.8	FL351	-49.4	1.2	4:21				
LAX-HNL	10/11/78	51	4:15	-50	FL360	2:50	26.5N	145.2W	FL356	-47.3	3.6	FL359	-48.3	1.0	3:50				
LAX-HNL	10/15/75	51	4:09	-53	FL351	0:09	34.6N	122.4W	FL350	-50.6	1.6	FL351	-50.8	1.1	3:55				
LAX-HNL	10/17/75	48	4:09	-52	FL350	0:20	33.3N	123.4W	FL347	-49.6	3.6	FL350	-50.4	.7	3:55				
LAX-HNL	10/24/78	51	4:09	-49	FL349	0:09	32.6N	123.0W	FL347	-46.0	2.7	FL349	-46.6	1.0	3:54				
LAX-HNL	11/ 3/78	51	4:09	-52	FL360	0:34	32.4N	127.3W	FL357	-48.6	3.0	FL359	-49.1	1.8	3:54				
LAX-HNL	11/ 3/78	51	4:09	-49	FL349	0:15	32.5N	123.4W	FL346	-45.6	3.2	FL349	-46.3	1.8	3:49				
LAX-HNL	11/ 4/78	51	4:14	-56	FL388	3:53	22.2N	154.3W	FL366	-50.8	3.2	FL359	-49.8	1.0	2:08	FL379	-53.4	.6	1:20
LAX-HNL	11/ 4/78	52	4:16	-54	FL360	0:54	31.5N	130.7W	FL357	-49.5	3.4	FL359	-50.1	1.7	4:01				
LAX-HNL	11/10/77	57	4:45	-52	FL351	1:34	29.7N	133.6W	FL347	-48.0	4.7	FL350	-49.0	2.0	4:24				
LAX-HNL	11/12/78	49	4:09	-52	FL360	1:29	30.5N	134.0W	FL357	-48.3	2.7	FL359	-48.7	2.0	3:54				
LAX-HNL	11/13/78	47	4:15	-48	FL360	4:15	21.5N	156.2W	FL334	-42.0	4.2	FL319	-39.0	2.5	2:34	FL359	-46.7	.6	1:30
LAX-HNL	11/14/77	44	4:01	-59	FL390	1:20	30.0N	132.6W	FL376	-55.2	4.2	FL389	-57.1	1.5	2:50				
LAX-HNL	11/16/76	60	4:28	-52	FL359	2:38	27.1N	143.6W	FL357	-49.0	3.3	FL359	-49.5	1.4	4:14				
LAX-HNL	11/18/77	51	4:30	-55	FL361	0:15	33.5N	122.7W	FL358	-52.9	2.9	FL360	-53.4	1.6	4:15				
LAX-HNL	11/21/77	55	4:34	-53	FL350	0:09	33.0N	121.5W	FL347	-46.0	4.3	FL350	-46.6	3.4	4:19				
LAX-HNL	11/27/76	52	4:18	-58	FL360	0:27	32.8N	125.5W	FL358	-53.2	3.9	FL360	-53.7	3.1	4:03				
LAX-HNL	11/27/77	52	4:14	-55	FL361	0:09	31.6N	121.3W	FL355	-47.2	6.1	FL360	-48.5	3.1	4:00				
LAX-HNL	11/29/76	52	4:29	-57	FL360	2:45	26.9N	144.0W	FL357	-54.4	2.8	FL360	-55.1	.9	4:09				
LAX-HNL	11/30/77	50	4:15	-54	FL360	0:10	33.8N	121.9W	FL358	-47.2	3.4	FL360	-47.6	2.5	4:04				
LAX-HNL	12/ 3/76	50	4:22	-55	FL351	3:02	25.0N	146.2W	FL350	-50.9	2.6	FL350	-51.1	2.4	4:07				
LAX-HNL	12/ 5/76	52	4:14	-58	FL360	0:54	32.1N	128.5W	FL356	-54.6	4.4	FL360	-55.5	1.7	3:59				
LAX-HNL	12/ 6/76	50	4:18	-63	FL390	1:39	29.4N	134.6W	FL384	-58.0	5.3	FL389	-59.0	3.4	3:54				
LAX-HNL	12/ 7/78	55	4:29	-58	FL360	0:10	33.6N	122.0W	FL357	-51.4	3.7	FL359	-51.7	3.1	4:14				
LAX-HNL	12/ 8/76	53	4:35	-58	FL361	0:15	34.7N	122.0W	FL357	-51.8	4.5	FL360	-52.5	3.6	4:19				
LAX-HNL	12/ 8/77	53	4:19	-55	FL381	4:00	22.6N	153.3W	FL364	-50.8	2.3	FL360	-50.2	1.6	3:09				
LAX-HNL	12/12/77	53	4:22	-57	FL361	0:15	33.6N	122.7W	FL356	-49.8	5.1	FL360	-50.7	3.1	4:01				
LAX-HNL	12/13/76	52	4:24	-57	FL390	1:50	31.4N	137.2W	FL383	-53.6	3.7	FL389	-54.4	1.4	3:44				
LAX-HNL	12/15/76	52	4:19	-56	FL360	0:59	31.5N	130.6W	FL359	-51.4	1.9	FL360	-51.5	1.8	4:09				
LAX-HNL	12/15/77	54	4:28	-49	FL350	0:10	31.4N	121.7W	FL347	-45.0	3.5	FL349	-45.6	1.7	4:13				
LAX-HNL	12/17/77	60	4:54	-49	FL351	0:09	32.7N	122.2W	FL349	-46.6	2.2	FL350	-46.9	1.8	4:39				
LAX-HNL	12/17/77	59	4:49	-50	FL361	0:59	30.2N	127.7W	FL357	-47.1	3.1	FL360	-47.5	1.8	3:44				
LAX-HNL	12/19/76	54	4:29	-55	FL361	1:39	30.0N	135.6W	FL359	-51.2	2.7	FL360	-51.5	2.5	4:14				
LAX-HNL	12/20/76	55	4:29	-60	FL360	1:05	31.7N	130.1W	FL357	-55.0	3.7	FL360	-55.7	2.5	4:08				
LAX-HNL	12/23/76	54	4:28	-59	FL351	1:30	30.0N	132.7W	FL355	-55.0	5.3	FL350	-55.2	2.8	3:13				
LAX-HNL	12/23/77	60	5:00	-48	FL361	0:15	33.7N	122.1W	FL358	-43.1	3.7	FL360	-43.4	3.3	4:40				
LAX-HNL	12/25/76	53	4:33	-62	FL360	2:47	27.0N	143.7W	FL357	-55.9	4.4	FL360	-56.7	2.0	4:13				
LAX-HNL	12/25/77	57	4:45	-54	FL364	1:39	31.1N	132.3W	FL371	-47.1	4.6	FL360	-52.3	.8	1:29	FL380	-45.1	2.9	2:54
LAX-HNL	12/26/77	58	4:41	-51	FL390	3:31	24.3N	147.8W	FL372	-45.5	5.0	FL351	-47.1	2.5	1:26	FL390	-45.9	4.5	2:45
LAX-HNL	12/31/77	59	4:54	-57	FL361	1:09	32.0N	129.0W	FL357	-49.3	5.3	FL360	-49.9	4.3	4:34				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-ITO	1/ 2/78	60	5:05	-58	FL360	0:10	32.5N	121.2W	FL357	-51.6	5.1	FL360	-52.3	3.7	4:49				
LAX-ITO	1/28/78	52	4:12	-57	FL360	2:07	28.8N	139.2W	FL358	-49.8	5.3	FL360	-50.3	4.9	3:58				
LAX-ITO	2/ 1/78	54	4:35	-55	FL360	0:20	31.5N	121.9W	FL358	-46.6	3.4	FL360	-46.6	3.3	4:25				
LAX-ITO	2/12/76	39	4:07	-53	FL350	2:52	26.3N	145.3W	FL350	-47.8	2.2	FL350	-47.9	2.2	4:02				
LAX-ITO	2/14/76	45	3:52	-59	FL393	2:37	27.7N	142.6W	FL388	-52.7	3.5	FL391	-53.2	3.1	3:35				
LAX-ITO	3/ 7/76	48	4:22	-61	FL390	2:07	29.1N	137.4W	FL385	-53.4	4.8	FL390	-53.8	3.9	3:57				
LAX-ITO	3/15/78	52	4:20	-56	FL360	1:30	28.9N	132.2W	FL356	-53.3	3.8	FL360	-54.3	.8	4:00				
LAX-ITO	4/10/75	50	3:26	-61	FL391	2:04	25.5N	143.0W	FL375	-56.0	4.3	FL390	-58.5	1.0	2:11				
LAX-ITO	4/17/78	53	4:30	-60	FL360	1:40	30.6N	134.0W	FL358	-56.0	4.2	FL360	-56.5	3.1	4:15				
LAX-ITO	5/ 2/76	51	4:16	-63	FL390	1:35	30.4N	133.8W	FL384	-57.5	6.7	FL390	-59.0	2.6	3:54				
LAX-ITO	5/14/75	48	3:54	-59	FL391	3:04	25.5N	146.8W	FL387	-56.0	4.0	FL390	-56.7	2.0	3:39				
LAX-ITO	5/17/78	50	4:15	-58	FL401	3:35	24.0N	150.2W	FL365	-53.9	2.7	FL360	-53.9	.6	3:19				
LAX-ITO	6/ 6/75	47	4:00	-60	FL391	1:09	31.7N	131.2W	FL386	-57.4	4.6	FL390	-58.4	1.1	3:39				
LAX-ITO	6/ 7/78	50	4:05	-52	FL361	0:15	31.3N	122.5W	FL357	-50.0	3.2	FL360	-50.8	.6	3:45				
LAX-ITO	6/14/75	43	3:32	-49	FL350	0:22	33.0N	125.2W	FL349	-47.1	1.7	FL350	-47.3	.9	3:27				
LAX-ITO	7/ 7/77	49	4:09	-52	FL360	2:39	27.5N	142.6W	FL356	-48.5	4.3	FL359	-49.5	2.0	3:55				
LAX-ITO	8/ 9/77	51	4:09	-47	FL360	4:04	21.0N	152.5W	FL357	-44.4	3.2	FL360	-45.2	.8	3:50				
LAX-ITO	8/16/75	45	3:49	-51	FL350	2:00	29.0N	140.0W	FL347	-48.1	3.4	FL349	-48.9	.9	3:35				
LAX-ITO	8/17/77	47	4:03	-49	FL360	1:45	27.8N	135.8W	FL356	-45.9	5.0	FL360	-47.2	2.1	3:44				
LAX-ITO	8/18/75	44	3:50	-51	FL351	3:05	24.6N	148.5W	FL349	-48.3	2.7	FL351	-48.8	.8	3:40				
LAX-ITO	9/ 1/77	41	4:00	-50	FL359	2:00	27.3N	137.4W	FL355	-46.8	4.1	FL359	-48.0	.9	3:39				
LAX-ITO	11/12/77	50	4:24	-57	FL360	0:15	31.9N	122.1W	FL365	-54.1	3.2	FL360	-54.4	.9	2:39	FL379	-55.1	.7	1:25
LAX-ITO	12/ 4/77	52	4:07	-52	FL390	0:15	32.2N	122.8W	FL385	-50.0	3.6	FL389	-50.8	1.0	3:42				
LAX-ITO	12/11/76	51	4:09	-58	FL390	0:15	32.6N	122.6W	FL385	-50.5	4.1	FL390	-51.0	2.6	3:49				
LAX-ITO	12/14/77	51	4:15	-49	FL351	0:19	33.2N	123.3W	FL347	-44.9	3.6	FL350	-45.6	1.8	4:00				
LAX-ITO	12/27/77	52	4:30	-52	FL350	1:40	29.6N	133.8W	FL347	-48.8	4.0	FL350	-49.4	2.7	4:10				
LAX-JFK	1/ 1/79	182	3:32	-63	FL390	3:13	41.2N	79.5W	FL377	-53.0	5.9	FL369	-48.9	3.0	1:56	FL390	-58.9	2.7	1:11
LAX-JFK	1/ 2/78	46	3:33	-60	FL368	0:09	34.8N	115.9W	FL393	-50.9	3.4	FL409	-51.7	1.6	3:09				
LAX-JFK	1/ 5/79	44	3:28	-63	FL370	0:13	36.1N	114.6W	FL368	-57.3	3.3	FL370	-57.4	2.9	3:15				
LAX-JFK	1/ 9/78	45	3:45	-62	FL371	1:30	38.0N	101.6W	FL366	-54.3	5.7	FL370	-55.1	5.2	3:24				
LAX-JFK	1/18/78	217	3:39	-62	FL370	3:22	38.0N	78.3W	FL368	-53.8	6.4	FL369	-54.2	6.1	3:23				
LAX-JFK	1/19/78	45	3:40	-59	FL371	0:55	38.0N	107.9W	FL366	-53.4	4.8	FL370	-53.9	4.4	3:20				
LAX-JFK	1/23/79	47	3:49	-62	FL370	2:59	38.2N	84.7W	FL366	-55.5	4.9	FL370	-55.9	4.7	3:29				
LAX-JFK	1/27/78	44	3:37	-58	FL356	3:37	41.4N	75.4W	FL383	-50.6	4.2	FL370	-52.5	4.1	1:59	FL410	-48.5	.9	1:08
LAX-JFK	1/31/76	46	4:00	-64	FL370	1:50	39.7N	100.3W	FL367	-57.9	6.0	FL370	-58.6	5.1	3:45				
LAX-JFK	1/31/78	41	3:29	-57	FL371	2:24	36.8N	88.3W	FL367	-51.5	3.7	FL370	-51.9	3.5	3:05				
LAX-JFK	1/31/79	43	3:29	-56	FL357	0:09	34.1N	115.0W	FL366	-48.3	4.5	FL369	-48.3	4.3	3:14				
LAX-JFK	2/ 3/76	43	3:32	-61	FL370	1:54	40.4N	96.5W	FL366	-55.7	3.9	FL370	-56.2	3.5	3:18				
LAX-JFK	2/ 4/78	45	3:44	-65	FL370	1:24	39.0N	103.4W	FL377	-56.5	6.3	FL370	-60.4	2.8	2:20				
LAX-JFK	2/ 5/78	45	3:45	-62	FL372	2:09	38.9N	92.7W	FL369	-51.9	6.7	FL371	-55.4	5.8	2:04				
LAX-JFK	2/ 8/78	44	3:39	-57	FL335	3:39	41.5N	76.0W	FL363	-49.0	3.8	FL370	-49.9	3.0	2:55				
LAX-JFK	2/ 8/79	198	3:45	-62	FL371	0:34	37.0N	111.5W	FL370	-50.2	6.3	FL371	-50.3	6.3	3:30				
LAX-JFK	2/ 9/77	30	3:42	-67	FL405	2:22	40.7N	93.6W	FL381	-59.3	6.2	FL371	-59.9	6.1	2:04	FL410	-59.0	3.1	1:15
LAX-JFK	2/10/79	47	3:50	-64	FL371	1:00	38.5N	107.5W	FL368	-57.5	7.4	FL371	-58.3	6.9	3:30				
LAX-JFK	2/11/79	47	3:49	-62	FL371	1:19	38.7N	104.9W	FL366	-57.0	5.2	FL370	-58.0	3.1	3:30				
LAX-JFK	2/13/78	45	3:44	-64	FL371	0:40	37.0N	110.4W	FL396	-54.7	3.8	FL411	-53.2	3.0	2:09				
LAX-JFK	2/21/79	42	3:24	-68	FL391	3:19	39.3N	76.8W	FL371	-62.0	3.1	FL370	-61.8	1.5	2:34				
LAX-JFK	2/24/76	44	3:39	-60	FL370	1:15	38.6N	104.2W	FL389	-56.2	3.0	FL370	-55.5	3.5	1:19	FL410	-57.0	1.3	1:54
LAX-JFK	2/24/79	49	3:41	-63	FL370	2:52	40.5N	85.8W	FL351	-55.2	5.0	FL330	-52.0	1.7	1:24	FL370	-59.1	1.9	1:47
LAX-JFK	2/25/78	43	3:39	-64	FL370	1:15	38.6N	105.1W	FL367	-59.2	5.3	FL370	-59.8	4.7	3:29				
LAX-JFK	2/26/78	42	3:30	-61	FL370	1:54	35.9N	93.1W	FL363	-53.6	5.6	FL369	-55.0	3.8	3:04				
LAX-JFK	3/ 6/79	50	3:54	-59	FL343	1:55	38.5N	96.6W	FL346	-53.1	3.5	FL330	-55.4	1.8	1:46	FL370	-50.9	2.8	1:25
LAX-JFK	3/ 8/79	48	4:02	-65	FL370	1:14	36.5N	104.7W	FL370	-54.9	5.5	FL370	-58.5	2.6	2:35				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-JFK	3/ 9/79	46	4:09	-59	FL370	0:46	35.0N	109.5W	FL388	-52.8	3.8	FL369	-55.6	2.8	1:07	FL409	-52.2	3.0	2:13
LAX-JFK	3/15/79	44	3:57	-61	FL361	0:10	34.1N	113.9W	FL366	-54.3	4.9	FL370	-54.6	4.6	3:35				
LAX-JFK	3/17/79	48	4:05	-69	FL411	2:43	41.2N	90.0W	FL379	-58.7	7.9	FL370	-57.2	6.8	2:18	FL410	-64.4	3.0	1:15
LAX-JFK	3/24/78	53	3:52	-68	FL411	3:05	41.7N	85.1W	FL382	-60.8	5.0	FL370	-58.9	3.1	2:09				
LAX-JFK	3/24/79	46	4:01	-53	FL370	3:57	38.8N	75.6W	FL365	-44.6	4.3	FL370	-44.8	4.2	3:43				
LAX-JFK	3/27/77	46	3:47	-62	FL390	3:30	42.0N	78.4W	FL369	-55.7	5.9	FL370	-55.4	1.7	2:04	FL389	-60.8	.8	1:15
LAX-JFK	3/27/79	43	3:50	-63	FL371	0:44	37.8N	109.0W	FL370	-59.0	4.2	FL370	-59.2	4.2	0:00				
LAX-JFK	3/30/77	64	3:27	-58	FL390	3:08	38.1N	79.2W	FL380	-51.1	2.6	FL369	-52.9	1.4	1:19	FL390	-50.6	2.0	1:27
LAX-JFK	4/ 2/77	42	3:24	-58	FL370	3:19	41.6N	76.4W	FL365	-47.2	4.2	FL369	-47.6	4.2	3:04				
LAX-JFK	4/ 7/77	46	3:49	-61	FL409	2:04	40.2N	96.1W	FL384	-54.3	5.4	FL369	-56.5	1.6	1:34	FL409	-53.6	5.7	1:44
LAX-JFK	4/12/77	48	4:05	-61	FL370	1:20	37.0N	104.0W	FL367	-57.2	3.5	FL370	-57.9	2.1	3:48				
LAX-JFK	4/15/79	48	3:53	-68	FL410	1:05	38.1N	106.5W	FL401	-60.0	6.5	FL410	-61.2	5.2	3:34				
LAX-JFK	4/20/77	46	4:00	-62	FL370	0:15	35.9N	114.9W	FL366	-56.9	3.0	FL369	-57.5	1.5	3:45				
LAX-JFK	4/22/77	46	3:59	-62	FL370	1:19	38.8N	104.2W	FL366	-57.5	4.2	FL369	-58.5	1.7	3:34				
LAX-JFK	4/29/76	45	3:47	-63	FL450	2:45	38.8N	87.4W	FL440	-59.5	4.0	FL450	-60.3	1.8	3:24				
LAX-JFK	5/ 5/77	29	3:31	-56	FL370	3:31	41.6N	76.7W	FL367	-53.2	2.2	FL369	-53.7	1.1	3:22				
LAX-JFK	5/ 9/75	47	3:45	-59	FL411	1:55	35.7N	95.3W	FL391	-55.1	3.4	FL410	-55.6	2.1	2:15				
LAX-JFK	5/12/76	47	4:05	-68	FL410	2:50	42.7N	90.1W	FL390	-53.8	7.3	FL370	-52.0	3.3	1:10	FL409	-58.9	5.2	1:54
LAX-JFK	5/24/78	45	3:44	-55	FL370	1:49	38.0N	96.1W	FL354	-51.4	3.4	FL369	-53.5	1.1	2:19				
LAX-JFK	5/27/79	48	3:54	-57	FL370	2:00	38.1N	97.4W	FL360	-51.4	4.7	FL370	-53.4	2.8	2:54				
LAX-JFK	5/31/78	46	3:46	-58	FL371	2:24	42.8N	90.8W	FL367	-55.4	3.4	FL370	-56.2	1.4	3:27				
LAX-JFK	6/ 3/78	40	3:29	-60	FL370	1:30	39.5N	100.1W	FL364	-54.8	5.0	FL370	-56.4	1.2	3:04				
LAX-JFK	6/ 4/78	45	3:45	-64	FL410	2:15	40.7N	93.4W	FL397	-56.9	4.5	FL410	-58.9	2.4	2:39				
LAX-JFK	6/10/78	50	4:00	-55	FL370	0:24	34.8N	112.0W	FL367	-53.1	2.4	FL369	-53.7	.9	3:45				
LAX-JFK	6/15/77	38	3:34	-53	FL370	3:09	42.2N	80.4W	FL370	-50.6	1.2	FL370	-50.6	1.2	3:29				
LAX-JFK	6/18/78	44	3:36	-54	FL371	1:29	40.0N	99.1W	FL353	-48.3	5.1	FL330	-43.8	1.1	1:09	FL370	-51.9	.9	2:01
LAX-JFK	6/18/79	46	3:44	-54	FL370	1:45	35.0N	95.8W	FL355	-49.5	4.6	FL370	-52.8	.9	2:14				
LAX-JFK	6/20/79	50	3:48	-55	FL370	3:43	41.6N	76.2W	FL363	-49.7	4.9	FL370	-51.0	3.4	3:13				
LAX-JFK	6/22/77	46	3:51	-57	FL371	1:00	37.6N	108.5W	FL366	-52.8	3.8	FL370	-53.8	1.2	3:25				
LAX-JFK	6/23/78	48	3:54	-63	FL410	3:00	37.6N	84.4W	FL379	-53.6	5.4	FL370	-51.8	.8	1:50				
LAX-JFK	6/24/79	189	3:38	-53	FL370	1:09	39.7N	105.1W	FL369	-50.2	2.6	FL370	-50.5	1.8	3:19				
LAX-JFK	6/25/79	46	3:45	-55	FL370	2:39	41.0N	88.5W	FL366	-51.4	3.8	FL370	-52.2	1.4	3:24				
LAX-JFK	6/26/79	46	3:49	-58	FL370	3:39	41.8N	77.0W	FL363	-53.2	6.1	FL370	-55.3	1.3	3:19				
LAX-JFK	6/27/79	194	3:32	-57	FL371	2:52	41.0N	84.1W	FL370	-54.0	1.7	FL370	-54.1	1.5	3:22				
LAX-JFK	6/28/78	46	3:50	-62	FL412	2:25	42.1N	92.7W	FL406	-58.2	4.7	FL411	-59.3	1.7	3:30				
LAX-JFK	6/29/79	47	3:49	-57	FL370	3:39	41.9N	77.7W	FL365	-52.0	4.6	FL370	-53.4	1.6	3:24				
LAX-JFK	7/ 4/79	38	3:39	-55	FL367	0:09	35.9N	115.4W	FL367	-51.4	2.9	FL370	-52.0	2.0	3:20				
LAX-JFK	7/ 9/77	43	3:44	-50	FL370	1:24	39.2N	102.3W	FL363	-47.1	5.8	FL369	-48.9	.7	3:19				
LAX-JFK	7/ 9/79	47	3:49	-56	FL371	2:04	42.6N	95.1W	FL357	-50.2	6.3	FL370	-53.6	1.6	1:40				
LAX-JFK	7/12/78	48	3:54	-62	FL411	3:15	42.1N	82.5W	FL405	-57.3	5.8	FL411	-58.7	1.0	3:40				
LAX-JFK	7/17/78	48	3:54	-54	FL390	1:49	39.9N	97.7W	FL381	-49.6	4.4	FL369	-49.6	.8	1:29	FL390	-53.3	.8	1:15
LAX-JFK	7/20/78	47	3:50	-50	FL371	0:50	36.5N	107.5W	FL365	-47.9	4.4	FL370	-49.1	.3	3:24				
LAX-JFK	7/23/78	46	3:44	-60	FL410	3:19	42.2N	79.1W	FL376	-51.3	6.1	FL371	-50.7	.9	1:45				
LAX-JFK	8/ 1/78	44	3:34	-54	FL371	2:34	41.4N	88.6W	FL363	-48.9	4.8	FL370	-50.9	2.1	2:50				
LAX-JFK	8/19/77	43	3:38	-52	FL350	3:19	41.9N	78.7W	FL362	-46.7	3.9	FL370	-47.3	.8	2:49				
LAX-JFK	9/ 6/77	36	3:44	-54	FL369	3:34	41.2N	77.9W	FL367	-51.0	3.4	FL369	-51.6	1.3	3:24				
LAX-JFK	9/14/77	38	3:37	-58	FL369	0:27	37.2N	111.2W	FL364	-54.2	4.2	FL369	-55.5	1.5	3:13				
LAX-JFK	10/ 9/78	43	3:44	-61	FL390	0:19	34.4N	113.1W	FL396	-57.1	4.5	FL390	-59.0	1.3	1:09	FL409	-57.8	1.9	1:30
LAX-JFK	10/14/75	43	3:40	-63	FL411	3:25	42.1N	78.8W	FL380	-51.5	8.0	FL371	-46.6	1.6	1:20	FL411	-60.5	2.0	1:30
LAX-JFK	10/18/78	45	3:47	-65	FL410	1:25	38.5N	103.1W	FL408	-59.3	2.6	FL410	-59.5	2.3	3:37				
LAX-JFK	10/22/78	45	3:39	-56	FL369	3:05	42.2N	82.2W	FL364	-50.0	3.9	FL369	-50.7	3.0	3:20				
LAX-JFK	10/23/78	43	3:30	-55	FL360	3:30	41.5N	76.3W	FL367	-49.3	2.9	FL369	-49.6	2.2	3:15				
LAX-JFK	11/ 9/77	43	3:50	-56	FL370	1:00	35.0N	106.4W	FL365	-48.5	6.9	FL369	-49.5	5.5	3:30				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-JFK	11/ 9/78	45	3:49	-59	FL370	3:24	41.3N	80.0W	FL351	-51.8	6.1	FL329	-45.6	.5	1:34	FL370	-57.0	1.2	1:54
LAX-JFK	11/ 9/78	46	3:45	-65	FL409	3:00	42.4N	84.2W	FL381	-57.4	6.4	FL369	-54.3	1.1	1:30				
LAX-JFK	11/10/78	15	3:24	-64	FL410	2:05	41.9N	91.0W	FL399	-60.3	4.7	FL409	-62.9	.9	1:48				
LAX-JFK	11/17/77	47	3:53	-58	FL370	1:39	38.9N	99.2W	FL365	-52.2	5.4	FL370	-53.2	4.0	3:29				
LAX-JFK	11/20/77	43	3:32	-61	FL370	2:57	42.4N	82.9W	FL366	-55.2	5.2	FL370	-55.6	4.1	3:12				
LAX-JFK	12/ 5/77	34	3:15	-61	FL410	0:05	36.1N	112.1W	FL408	-51.1	4.0	FL410	-50.9	3.9	3:11				
LAX-JFK	12/13/76	46	3:51	-62	FL370	2:21	40.7N	93.4W	FL377	-57.4	4.2	FL370	-59.3	1.2	2:06	FL410	-57.0	1.2	1:04
LAX-JFK	12/16/77	44	3:37	-59	FL370	3:12	41.2N	81.0W	FL367	-49.4	6.7	FL370	-49.7	6.2	3:17				
LAX-JFK	12/17/76	47	3:54	-62	FL371	3:00	42.9N	87.1W	FL365	-56.9	5.6	FL370	-58.1	4.3	3:30				
LAX-JFK	12/30/77	45	3:45	-58	FL370	0:45	34.9N	108.6W	FL382	-55.0	3.4	FL369	-55.1	2.1	1:45	FL409	-56.6	1.4	1:25
LAX-LHR	4/ 2/79	108	8:54	-65	FL371	6:34	62.2N	32.4W	FL346	-53.9	4.5	FL330	-54.0	3.1	5:49	FL389	-52.1	4.7	1:55
LAX-LHR	5/21/79	113	9:16	-59	FL370	5:34	60.2N	54.6W	FL352	-47.0	4.5	FL330	-47.3	2.0	3:44	FL370	-47.4	5.5	4:59
LAX-LHR	6/18/78	101	8:49	-60	FL410	8:34	54.8N	3.4W	FL383	-50.7	5.8	FL370	-53.0	4.5	5:24	FL410	-45.5	2.4	2:30
LAX-LHR	6/25/78	100	8:39	-55	FL390	2:54	53.3N	89.5W	FL390	-49.0	3.0	FL370	-49.4	3.0	1:25	FL390	-48.9	2.5	4:25
												FL410	-49.5	1.9	2:19				
LAX-LHR	6/30/78	106	8:50	-56	FL373	8:24	55.6N	4.2W	FL379	-48.1	4.6	FL370	-52.1	1.2	3:05	FL391	-45.3	2.6	4:45
LAX-LHR	7/ 3/78	106	8:44	-58	FL371	3:54	56.1N	75.5W	FL387	-50.2	5.1	FL370	-52.8	2.6	4:15	FL410	-49.6	5.2	3:04
LAX-LHR	7/ 8/78	104	8:34	-61	FL391	5:19	60.0N	50.3W	FL376	-50.0	6.3	FL371	-51.9	5.4	3:05	FL391	-50.4	6.4	4:15
LAX-LHR	7/10/78	110	9:04	-58	FL371	2:09	48.1N	98.9W	FL392	-49.6	3.2	FL371	-52.6	3.0	2:05	FL390	-49.6	2.3	2:39
												FL410	-48.3	1.8	3:45				
LAX-LHR	7/14/78	108	8:54	-56	FL371	5:50	60.1N	47.4W	FL382	-49.8	4.6	FL370	-48.7	4.5	5:45	FL411	-52.7	2.8	2:39
LAX-LHR	7/20/78	104	8:30	-58	FL410	7:54	56.4N	7.2W	FL393	-48.2	3.9	FL370	-49.2	.4	1:24	FL390	-46.6	3.5	3:09
												FL410	-49.8	3.7	3:29				
LAX-LHR	7/26/78	110	9:05	-59	FL371	4:25	56.1N	72.4W	FL363	-47.4	4.8	FL350	-46.7	1.6	1:30	FL370	-47.4	4.8	5:39
LAX-LHR	8/ 1/78	108	8:52	-60	FL370	3:05	52.9N	88.2W	FL387	-50.4	4.6	FL370	-52.4	3.8	4:37	FL409	-48.6	4.1	3:39
LAX-LHR	8/ 7/78	111	9:09	-59	FL371	4:04	55.5N	76.4W	FL384	-50.7	5.1	FL370	-54.3	1.8	4:19	FL390	-44.3	2.9	1:20
												FL409	-50.0	2.6	2:49				
LAX-LHR	8/12/78	106	8:44	-62	FL391	4:30	56.6N	67.9W	FL389	-51.6	5.3	FL371	-53.8	2.2	3:30	FL390	-56.8	4.5	1:04
												FL410	-48.6	4.6	3:45				
LAX-LHR	9/ 2/78	100	8:45	-61	FL388	8:24	54.7N	6.7W	FL378	-49.9	4.9	FL370	-49.5	4.1	4:30	FL390	-50.0	4.9	3:39
LAX-LHR	9/ 4/78	104	8:38	-62	FL371	3:20	51.2N	82.7W	FL370	-49.8	5.7	FL371	-50.0	5.5	8:28				
LAX-LHR	9/ 9/78	103	8:42	-64	FL410	8:03	56.2N	11.3W	FL376	-52.3	5.4	FL330	-46.7	.5	1:09	FL370	-52.9	2.6	3:04
												FL390	-50.7	1.9	2:00	FL410	-58.3	5.8	1:52
LAX-LHR	10/ 5/78	107	9:15	-64	FL391	8:50	52.7N	8.1W	FL379	-56.4	4.7	FL370	-54.5	3.7	2:34	FL370	-57.4	4.6	2:04
												FL390	-58.4	3.5	3:49				
LAX-LHR	10/15/78	106	8:50	-64	FL391	5:56	61.8N	51.0W	FL374	-54.3	5.8	FL370	-54.1	3.5	4:37	FL390	-57.0	5.7	3:03
LAX-LHR	10/20/78	95	8:24	-65	FL411	8:19	53.5N	2.4W	FL389	-53.9	6.1	FL370	-55.9	4.6	3:50	FL410	-52.2	6.7	4:04
LAX-LHR	10/26/78	105	8:55	-67	FL410	8:30	56.2N	5.3W	FL386	-52.4	5.7	FL370	-49.3	2.3	4:45	FL410	-56.8	5.4	3:40
LAX-LHR	11/15/78	102	8:35	-54	FL370	6:05	55.9N	42.0W	FL350	-47.8	5.7	FL329	-46.0	5.3	3:35	FL370	-50.2	3.5	4:24
LAX-LHR	11/18/78	102	8:37	-60	FL361	8:20	54.4N	3.2W	FL333	-53.0	3.9	FL329	-53.8	2.9	6:45	FL370	-53.1	2.7	1:04
LAX-LHR	11/20/78	100	8:24	-63	FL370	8:15	51.9N	6.0W	FL345	-55.0	3.7	FL329	-53.7	1.6	4:50	FL370	-57.6	4.4	3:09
LAX-LHR	12/ 9/78	111	9:23	-59	FL330	0:45	39.0N	110.4W	FL345	-51.5	4.3	FL329	-51.1	5.2	3:53	FL369	-52.8	2.3	4:19
LAX-LHR	12/14/78	109	9:07	-64	FL363	5:30	49.6N	51.6W	FL347	-52.9	5.0	FL330	-53.6	2.2	2:48	FL349	-50.3	6.0	1:30
												FL369	-55.3	3.2	3:27				
LAX-NRT	1/ 7/79	119	9:43	-62	FL353	1:04	39.3N	127.6W	FL383	-54.1	3.2	FL350	-59.6	1.2	1:14	FL370	-52.7	1.5	2:45
												FL390	-51.8	1.3	1:55	FL411	-54.8	2.5	2:09
LAX-NRT	1/14/79	121	10:26	-66	FL370	2:39	49.1N	140.4W	FL380	-52.4	6.5	FL350	-54.8	4.2	2:19	FL369	-59.5	7.5	2:12
												FL390	-46.8	2.9	2:54	FL409	-51.1	1.9	2:20
LAX-NRT	1/21/79	122	10:14	-64	FL370	1:45	43.7N	133.7W	FL385	-49.9	8.7	FL349	-58.9	1.1	1:21	FL370	-61.0	4.4	1:54
												FL390	-40.6	3.5	2:58	FL409	-47.3	2.5	3:25
LAX-NRT	1/27/79	117	10:07	-71	FL390	3:05	45.9N	145.4W	FL395	-52.3	9.0	FL370	-63.6	3.6	1:45	FL390	-64.6	5.8	1:18
												FL409	-45.9	3.2	6:00				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-NRT	1/31/79	118	10:09	-71	FL410	8:45	40.0N	152.1E	FL388	-58.6	8.8	FL350	-54.6	5.3	2:15	FL390	-57.9	9.1	3:15
												FL410	-61.8	8.7	4:15				
LAX-NRT	2/ 4/79	123	10:24	-64	FL370	1:25	39.8N	131.7W	FL386	-53.1	6.2	FL350	-60.0	.8	1:09	FL370	-60.3	4.0	2:19
												FL390	-46.8	3.3	3:00	FL410	-51.8	2.1	3:14
LAX-NRT	2/11/79	122	10:34	-69	FL370	4:45	54.0N	160.9W	FL379	-53.5	6.0	FL349	-53.6	2.7	2:24	FL369	-56.5	8.5	2:05
												FL389	-55.7	4.2	3:05	FL410	-48.6	3.1	2:30
LAX-NRT	2/19/79	124	10:20	-64	FL370	0:55	38.8N	124.4W	FL367	-50.4	7.1	FL369	-56.8	6.0	3:50	FL389	-46.2	3.3	3:24
												FL410	-43.1	2.5	1:34				
LAX-NRT	2/20/79	119	9:59	-65	FL370	8:45	43.6N	149.4E	FL367	-51.9	5.6	FL369	-51.6	5.7	8:59				
LAX-NRT	2/26/79	119	10:09	-68	FL384	1:20	42.3N	125.7W	FL397	-48.8	8.1	FL389	-47.7	8.1	4:45	FL410	-44.0	2.8	1:54
												FL430	-47.2	1.2	1:50				
LAX-NRT	3/ 1/79	117	10:11	-63	FL370	2:14	44.5N	134.5W	FL382	-48.7	6.7	FL349	-57.0	2.1	1:54	FL369	-54.7	5.9	1:56
												FL389	-42.8	1.3	3:39	FL410	-45.6	.5	2:15
LAX-NRT	4/ 4/79	127	10:13	-66	FL410	9:58	38.4N	143.0E	FL390	-54.8	6.8	FL349	-58.5	.8	1:25	FL369	-57.4	6.6	2:05
												FL409	-54.5	7.3	5:12				
LAX-NRT	4/17/79	122	10:24	-62	FL410	10:19	36.7N	142.4E	FL383	-50.3	4.1	FL350	-50.0	3.1	3:00	FL390	-47.0	2.6	2:05
												FL410	-51.1	3.6	4:04				
LAX-NRT	4/25/79	122	10:17	-64	FL370	2:54	48.9N	145.9W	FL382	-54.3	6.3	FL350	-56.0	1.0	1:45	FL370	-60.3	2.9	2:24
												FL389	-49.1	3.3	2:20	FL410	-53.7	6.4	3:15
LAX-NRT	5/ 4/79	113	9:35	-56	FL410	8:50	41.6N	146.7E	FL378	-50.3	3.8	FL350	-52.5	.9	2:11	FL369	-47.1	1.7	2:00
												FL389	-49.8	3.3	2:57	FL410	-53.3	1.6	1:55
LAX-NRT	6/ 7/79	121	10:20	-66	FL390	4:50	43.7N	165.9W	FL382	-58.7	6.3	FL350	-49.7	1.3	1:20	FL370	-57.2	.9	2:34
												FL390	-62.9	2.0	3:39	FL410	-62.0	1.4	2:00
LAX-NRT	6/10/78	113	10:00	-63	FL411	8:45	43.3N	149.0E	FL377	-50.5	6.6	FL350	-48.3	1.9	2:39	FL370	-50.9	2.7	2:09
												FL391	-45.4	4.7	2:25	FL410	-59.9	3.6	1:54
LAX-NRT	6/13/78	124	10:22	-66	FL409	8:15	47.6N	155.5E	FL383	-52.6	8.0	FL350	-51.4	4.9	3:09	FL370	-54.3	6.6	1:19
												FL409	-53.6	9.2	5:13				
LAX-NRT	6/15/78	114	9:44	-64	FL391	4:39	40.4N	166.9W	FL374	-55.9	3.8	FL350	-52.9	1.5	3:49	FL391	-58.4	2.4	5:30
LAX-NRT	6/15/79	124	10:20	-62	FL410	8:45	36.1N	155.7E	FL378	-56.7	3.9	FL349	-52.6	2.1	2:15	FL369	-57.1	1.1	1:24
												FL370	-55.3	1.1	1:15	FL390	-58.5	.8	3:19
												FL410	-61.3	.7	1:35				
LAX-NRT	6/20/78	117	9:38	-59	FL390	4:49	47.9N	168.5W	FL370	-52.7	3.9	FL350	-52.3	2.3	4:29	FL391	-53.9	2.9	4:44
LAX-NRT	6/22/78	109	9:45	-62	FL391	4:50	42.0N	169.6W	FL377	-55.9	5.0	FL351	-53.1	.7	2:30	FL370	-57.6	.5	1:35
												FL393	-59.2	1.4	1:35	FL396	-56.2	.8	2:20
LAX-NRT	6/28/79	309	10:08	-63	FL390	4:49	53.5N	167.1W	FL394	-53.8	5.9	FL371	-55.7	4.8	3:43	FL389	-52.6	7.9	2:11
												FL410	-54.9	2.5	3:00				
LAX-NRT	7/ 5/78	116	9:39	-55	FL371	5:00	49.1N	169.3W	FL365	-49.9	4.4	FL331	-47.9	1.4	1:09	FL350	-51.1	3.3	1:44
												FL370	-49.4	4.6	2:45	FL391	-52.4	1.6	2:50
LAX-NRT	7/17/78	124	9:54	-65	FL432	7:53	41.0N	160.0E	FL397	-54.5	8.0	FL351	-46.9	1.5	1:15	FL391	-51.8	7.3	4:04
												FL411	-59.6	1.9	1:39	FL431	-61.8	3.0	2:14
LAX-NRT	7/23/78	117	9:39	-62	FL391	4:30	44.1N	166.5W	FL392	-57.1	4.8	FL370	-52.4	2.4	2:00	FL391	-59.1	2.2	3:50
												FL410	-58.6	4.0	3:19				
LAX-NRT	7/29/78	112	9:15	-58	FL391	4:30	51.0N	170.0W	FL385	-49.1	6.3	FL351	-46.0	1.5	1:25	FL390	-48.4	7.7	3:30
												FL391	-52.0	.7	1:45	FL411	-55.0	2.3	1:10
LAX-NRT	8/ 4/78	116	9:35	-56	FL391	4:54	39.0N	169.1W	FL370	-51.6	3.5	FL350	-50.3	2.2	4:34	FL390	-54.0	.6	3:24
												FL390	-51.9	.9	1:15				
LAX-NRT	8/ 9/78	116	9:34	-57	FL390	6:45	35.1N	170.8E	FL375	-52.9	3.5	FL350	-49.0	1.2	3:04	FL390	-55.5	1.0	5:04
LAX-NRT	8/22/78	117	9:59	-61	FL391	4:03	43.0N	159.6W	FL374	-52.4	4.9	FL350	-52.0	1.4	3:35	FL390	-53.0	5.5	6:00
LAX-NRT	8/25/78	111	9:54	-59	FL390	4:45	49.6N	165.6W	FL377	-52.3	4.9	FL350	-51.7	1.7	1:24	FL370	-48.5	1.3	2:34
												FL390	-55.1	3.4	5:19				
LAX-NRT	8/30/78	120	10:07	-59	FL391	5:25	38.1N	172.3W	FL372	-52.7	3.8	FL350	-49.5	1.2	2:39	FL370	-53.5	.6	2:21
												FL390	-55.3	2.7	4:07				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-NRT	9/ 6/78	115	9:47	-60	FL372	2:52	52.6N	143.5W	FL380	-47.5	5.4	FL351	-46.6	5.3	2:00	FL371	-50.8	5.8	2:09
												FL390	-45.5	1.3	2:49	FL410	-49.2	4.4	2:09
LAX-NRT	9/19/78	115	10:05	-62	FL411	6:50	39.7N	174.0E	FL386	-56.9	3.8	FL350	-53.4	.6	1:09	FL370	-56.1	.7	1:50
												FL390	-59.5	.8	3:06	FL411	-57.6	3.2	3:09
LAX-NRT	9/21/78	121	10:15	-61	FL391	4:39	37.1N	164.7W	FL378	-54.3	4.5	FL350	-51.4	.8	4:20	FL390	-58.8	1.0	2:15
												FL410	-56.4	3.1	3:09				
LAX-NRT	9/25/78	122	10:00	-65	FL391	3:50	53.7N	155.6W	FL385	-54.9	4.7	FL350	-55.2	3.0	1:56	FL390	-54.0	5.0	3:30
												FL410	-56.9	1.7	3:24				
LAX-NRT	10/ 2/78	126	10:24	-58	FL371	2:54	48.5N	144.6W	FL383	-53.2	4.1	FL350	-52.6	.9	2:00	FL370	-56.8	.9	2:19
												FL390	-50.0	3.6	2:05	FL411	-54.0	3.0	3:24
LAX-NRT	10/ 8/78	118	9:54	-64	FL391	8:00	46.9N	154.4E	FL377	-50.7	5.4	FL350	-54.2	.8	1:45	FL370	-45.7	2.2	2:30
												FL390	-52.1	5.5	5:19				
LAX-NRT	10/24/78	124	10:26	-61	FL411	9:56	39.5N	144.1E	FL385	-51.5	5.1	FL350	-51.2	.7	1:44	FL370	-51.0	2.7	1:46
												FL390	-46.6	4.1	3:00	FL411	-56.9	1.9	3:19
LAX-NRT	10/30/78	124	10:26	-64	FL371	1:49	39.7N	136.2W	FL377	-57.5	3.3	FL350	-57.2	1.1	1:04	FL370	-59.2	2.6	4:01
												FL390	-56.7	1.6	4:54				
LAX-NRT	11/29/78	130	11:09	-55	FL350	0:09	35.8N	120.7W	FL381	-49.3	3.8	FL369	-52.0	3.8	2:09	FL390	-50.8	1.9	3:04
												FL410	-48.4	1.3	3:39				
LAX-NRT	12/ 5/78	124	10:24	-66	FL410	5:39	51.9N	176.3W	FL387	-51.5	4.4	FL350	-52.9	2.7	2:19	FL371	-53.3	2.8	1:24
												FL390	-52.3	3.0	1:09	FL410	-50.6	4.9	4:49
LAX-NRT	12/12/78	124	10:41	-65	FL370	2:16	49.1N	134.0W	FL384	-55.2	5.2	FL349	-57.5	1.8	1:55	FL372	-59.3	5.2	1:45
												FL390	-49.2	2.4	2:20	FL410	-56.6	3.6	4:00
LAX-NRT	12/17/78	127	10:49	-63	FL371	3:45	50.3N	151.3W	FL374	-54.0	3.8	FL350	-55.2	4.0	3:09	FL369	-55.4	3.9	2:05
												FL390	-53.3	2.7	3:45	FL409	-52.8	.7	1:05
LAX-NRT	12/26/78	117	10:00	-62	FL370	1:55	42.6N	136.0W	FL381	-54.4	4.6	FL370	-58.0	2.0	3:24	FL390	-52.4	4.3	5:54
LAX-NRT	12/30/78	116	10:14	-71	FL390	2:40	47.6N	137.4W	FL392	-52.4	8.5	FL390	-57.2	8.5	4:09	FL409	-45.3	3.1	4:09
LAX-OMH	12/ 8/76	24	1:59	-63	FL370	1:54	40.6N	99.0W	FL364	-59.8	5.0	FL370	-61.2	.9	1:45				
LAX-ORD	1/ 3/78	30	2:34	-64	FL370	1:00	38.0N	107.1W	FL366	-58.8	4.1	FL369	-59.5	2.5	2:25				
LAX-ORD	1/10/78	30	2:35	-61	FL370	2:20	40.8N	93.2W	FL363	-51.5	4.7	FL369	-52.1	4.5	2:20				
LAX-ORD	1/17/79	29	2:19	-62	FL370	1:25	39.3N	102.5W	FL363	-58.1	3.6	FL370	-59.0	2.2	2:00				
LAX-ORD	1/21/78	32	2:37	-57	FL364	0:07	35.1N	116.1W	FL366	-50.5	2.6	FL370	-50.6	2.1	2:21				
LAX-ORD	1/29/78	30	2:30	-57	FL370	0:50	37.8N	108.8W	FL364	-52.2	3.3	FL370	-52.9	1.9	2:10				
LAX-ORD	2/ 1/79	27	2:09	-56	FL371	0:30	35.5N	109.8W	FL368	-52.7	3.3	FL370	-53.1	3.1	1:59				
LAX-ORD	2/ 2/78	30	2:34	-65	FL370	1:24	38.9N	104.1W	FL367	-60.3	3.2	FL370	-60.9	1.4	2:20				
LAX-ORD	2/ 2/79	108	2:14	-55	FL371	1:02	36.9N	103.9W	FL369	-51.0	1.7	FL370	-51.2	1.4	2:00				
LAX-ORD	2/ 9/78	28	2:24	-61	FL352	2:20	41.0N	91.2W	FL361	-52.5	4.8	FL370	-53.5	3.3	1:54				
LAX-ORD	2/11/76	27	2:25	-58	FL390	1:05	36.3N	105.9W	FL383	-53.6	4.2								
LAX-ORD	2/13/76	30	2:30	-51	FL371	1:07	37.8N	106.2W	FL362	-46.6	3.1	FL370	-47.5	2.1	2:10				
LAX-ORD	2/25/79	31	2:30	-64	FL371	1:39	40.0N	98.9W	FL364	-60.0	4.4	FL370	-61.5	1.5	2:04				
LAX-ORD	2/27/76	29	2:30	-62	FL370	0:09	35.4N	115.6W	FL347	-56.8	5.2	FL330	-53.5	1.1	1:05				
LAX-ORD	2/27/78	29	2:25	-59	FL371	2:05	40.5N	93.7W	FL359	-53.0	4.1	FL370	-54.1	2.1	1:50				
LAX-ORD	3/ 1/79	46	2:31	-67	FL370	2:10	40.7N	94.4W	FL366	-62.7	4.4	FL370	-63.8	3.2	2:05				
LAX-ORD	3/ 6/76	30	2:30	-59	FL370	1:09	37.7N	105.7W	FL362	-53.4	4.2	FL369	-54.6	3.2	2:09				
LAX-ORD	3/ 7/79	131	2:44	-64	FL371	1:05	38.3N	107.0W	FL369	-57.5	6.6	FL370	-57.9	6.3	2:25				
LAX-ORD	3/10/79	129	2:38	-55	FL370	0:29	34.4N	112.4W	FL369	-49.9	3.3	FL370	-50.0	3.1	2:14				
LAX-ORD	3/16/78	35	2:42	-61	FL371	0:45	36.7N	110.0W	FL360	-51.4	6.1	FL370	-52.2	6.0	2:19				
LAX-ORD	3/25/77	29	2:30	-61	FL370	1:30	38.3N	101.1W	FL361	-54.4	5.6	FL370	-55.8	4.0	2:10				
LAX-ORD	3/26/79	28	2:25	-62	FL370	0:21	35.9N	112.5W	FL371	-57.6	4.3	FL390	-58.4	1.3	1:09				
LAX-ORD	3/29/79	31	2:39	-62	FL370	2:00	40.1N	96.6W	FL365	-55.0	5.8	FL370	-56.1	5.4	2:18				
LAX-ORD	4/10/75	29	2:17	-55	FL370	1:09	37.1N	103.2W	FL363	-50.7	4.1	FL370	-51.7	1.9	1:57				
LAX-ORD	4/18/78	30	2:25	-61	FL371	0:35	36.5N	110.8W	FL362	-50.0	7.3	FL370	-50.8	7.0	2:04				
LAX-ORD	4/24/78	30	2:30	-61	FL371	1:15	38.2N	104.6W	FL365	-54.9	6.6	FL370	-56.3	4.7	2:15				
LAX-ORD	5/ 3/76	32	2:34	-62	FL370	0:10	35.0N	115.6W	FL362	-58.4	5.6	FL370	-60.1	3.0	2:14				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-ORD	5/ 4/76	35	2:45	-66	FL410	1:10	38.3N	107.0W	FL388	-62.0	5.1	FL409	-64.3	1.9	1:26				
LAX-ORD	5/ 5/76	31	2:30	-65	FL391	1:45	39.8N	99.4W	FL375	-60.5	4.6								
LAX-ORD	5/15/75	29	2:25	-58	FL370	1:04	38.3N	105.3W	FL364	-54.4	4.3	FL369	-55.8	1.2	2:00				
LAX-ORD	5/18/78	33	2:37	-56	FL371	0:10	35.4N	116.0W	FL365	-51.2	3.9	FL370	-52.2	2.0	2:22				
LAX-ORD	6/ 1/78	28	2:28	-64	FL400	1:58	40.6N	95.9W	FL377	-57.5	4.1	FL370	-56.5	.6	1:07				
LAX-ORD	6/ 1/79	30	2:25	-57	FL370	0:55	38.2N	107.5W	FL364	-53.5	3.4	FL370	-54.4	1.6	2:05				
LAX-ORD	6/ 7/75	31	2:34	-55	FL370	1:49	39.9N	98.3W	FL361	-50.6	5.5	FL369	-52.5	1.2	2:09				
LAX-ORD	6/ 8/78	32	2:34	-59	FL371	1:00	38.0N	107.2W	FL368	-54.5	4.8	FL370	-56.3	1.4	1:30				
LAX-ORD	6/11/77	29	2:35	-55	FL370	0:15	35.7N	115.0W	FL360	-49.1	6.6	FL369	-51.3	2.4	2:05				
LAX-ORD	6/15/75	29	2:24	-57	FL371	1:04	37.9N	104.6W	FL363	-49.5	6.3	FL371	-51.5	3.3	1:59				
LAX-ORD	6/18/78	30	2:24	-54	FL371	1:00	38.7N	105.9W	FL363	-50.4	5.3	FL370	-52.3	1.1	2:00				
LAX-ORD	6/21/79	29	2:19	-54	FL371	0:54	38.5N	107.1W	FL362	-51.2	4.7	FL370	-53.0	.8	1:54				
LAX-ORD	7/ 2/77	29	2:34	-53	FL370	2:19	40.9N	92.5W	FL358	-46.6	6.6	FL369	-49.3	1.6	2:04				
LAX-ORD	7/ 7/79	31	2:20	-53	FL370	1:30	40.4N	100.0W	FL360	-49.2	5.4	FL370	-51.4	.8	1:46				
LAX-ORD	7/ 8/77	27	2:20	-51	FL370	1:20	39.1N	101.1W	FL364	-47.7	4.2	FL369	-49.4	1.1	1:54				
LAX-ORD	7/20/77	34	2:49	-59	FL411	1:19	39.3N	104.0W	FL387	-53.2	5.7	FL410	-58.2	.6	1:24				
LAX-ORD	7/25/77	31	2:30	-54	FL390	1:09	38.5N	104.7W	FL373	-49.6	5.0	FL389	-53.5	.7	1:10				
LAX-ORD	7/30/77	27	2:19	-53	FL370	2:15	40.7N	92.5W	FL364	-49.0	4.6	FL369	-50.5	1.2	2:04				
LAX-ORD	8/ 1/77	31	2:30	-56	FL369	2:19	40.9N	91.9W	FL363	-50.1	4.7	FL369	-51.7	2.4	2:04				
LAX-ORD	8/ 4/78	31	2:30	-54	FL391	0:55	37.8N	107.4W	FL376	-49.7	5.7	FL390	-52.7	1.0	1:30				
LAX-ORD	8/10/77	29	2:24	-50	FL370	0:54	38.2N	107.2W	FL363	-46.9	4.6	FL369	-48.6	.8	2:04				
LAX-ORD	8/13/75	31	2:22	-57	FL391	1:35	41.8N	100.4W	FL370	-50.1	5.3								
LAX-ORD	8/17/75	28	2:15	-59	FL391	1:55	40.4N	94.6W	FL371	-52.0	5.6	FL371	-51.7	1.9	1:25				
LAX-ORD	8/18/77	30	2:35	-50	FL369	2:15	40.7N	93.7W	FL363	-46.7	4.7	FL369	-48.1	1.0	2:10				
LAX-ORD	9/12/77	31	2:34	-55	FL368	0:09	35.6N	115.6W	FL363	-52.6	5.5	FL369	-54.3	.7	2:15				
LAX-ORD	9/15/77	24	2:28	-56	FL369	1:23	39.3N	101.8W	FL358	-51.5	5.8	FL369	-54.2	1.0	1:59				
LAX-ORD	9/18/78	28	2:15	-54	FL371	0:09	36.2N	114.6W	FL366	-49.7	3.9	FL370	-50.7	1.9	2:00				
LAX-ORD	9/20/77	30	2:24	-56	FL370	2:04	40.6N	93.6W	FL364	-51.0	3.7	FL369	-51.8	2.1	2:00				
LAX-ORD	9/27/78	31	2:35	-58	FL370	2:15	40.6N	93.8W	FL364	-54.2	4.4	FL369	-55.5	1.2	2:15				
LAX-ORD	10/ 9/78	31	2:35	-58	FL370	0:50	36.5N	108.5W	FL362	-53.1	5.1	FL369	-54.6	2.4	2:15				
LAX-ORD	11/ 4/78	35	2:49	-59	FL369	2:45	42.1N	92.2W	FL365	-55.9	5.1	FL369	-57.1	.8	2:30				
LAX-ORD	11/13/77	32	2:34	-59	FL370	0:45	37.1N	109.8W	FL362	-54.7	3.8	FL370	-55.9	1.5	2:00				
LAX-ORD	11/27/76	30	2:15	-56	FL370	1:51	39.6N	95.9W	FL356	-50.3	4.8	FL369	-52.2	2.1	1:53				
LAX-ORD	12/ 5/76	32	2:30	-62	FL370	1:55	39.9N	97.1W	FL359	-54.4	4.8	FL370	-55.9	3.7	2:09				
LAX-ORD	12/ 5/77	30	2:30	-55	FL371	0:35	37.0N	110.7W	FL365	-48.9	3.9	FL370	-49.5	3.3	2:15				
LAX-ORD	12/12/76	31	2:35	-59	FL371	1:05	37.8N	107.6W	FL363	-55.9	4.6	FL370	-57.4	.9	2:04				
LAX-ORD	12/13/78	30	2:24	-59	FL370	1:45	39.5N	98.6W	FL363	-54.5	5.1	FL369	-55.8	2.8	2:10				
LAX-ORD	12/15/76	33	2:34	-56	FL370	1:39	38.0N	100.9W	FL362	-52.8	2.3	FL370	-53.5	1.0	2:09				
LAX-ORD	12/15/77	30	2:30	-62	FL370	1:20	38.8N	103.6W	FL364	-56.3	5.5	FL369	-57.7	3.7	2:10				
LAX-ORD	12/17/77	30	2:24	-55	FL371	0:19	36.2N	113.4W	FL360	-45.3	7.1	FL370	-46.1	6.7	1:55				
LAX-ORD	12/23/76	31	2:30	-63	FL370	1:45	40.0N	98.6W	FL360	-58.0	4.3	FL370	-59.6	1.2	2:00				
LAX-ORD	12/30/76	28	2:24	-64	FL356	0:09	35.4N	115.3W	FL362	-55.2	4.0	FL370	-55.6	3.1	2:00				
LAX-ORD	12/31/77	28	2:15	-58	FL370	2:09	41.1N	90.4W	FL364	-51.8	3.5	FL369	-52.4	2.9	2:00				
LAX-PIK	11/10/78	93	7:45	-63	FL369	6:54	55.0N	20.1W	FL331	-52.1	6.6	FL329	-52.0	3.4	5:19	FL368	-62.2	.4	1:09
LAX-PPT	5/13/79	85	7:00	-55	FL391	6:09	10.3S	145.2W	FL361	-47.9	4.5	FL350	-45.6	2.7	4:44	FL390	-53.9	.8	1:55
LAX-PPT	8/14/77	76	6:35	-47	FL350	6:20	14.7S	147.6W	FL342	-42.3	4.6	FL350	-44.4	.8	5:20				
LAX-PPT	8/21/77	77	6:40	-52	FL370	6:25	14.9S	147.7W	FL355	-45.9	4.1	FL349	-44.5	.5	3:40	FL370	-49.9	1.0	2:30
LAX-PPT	10/22/78	78	6:44	-58	FL391	3:24	7.5N	136.2W	FL373	-52.3	5.3	FL350	-46.1	1.1	2:00	FL390	-56.8	.4	3:26
LAX-PPT	12/11/77	86	6:53	-54	FL390	3:28	7.9N	135.8W	FL373	-49.7	4.4	FL350	-44.2	2.6	1:36	FL370	-48.6	.8	1:27
												FL390	-53.7	.5	3:19				
LAX-SEA	3/29/77	21	1:35	-53	FL367	0:07	35.7N	119.1W	FL378	-49.3	2.0	FL389	-48.7	1.4	1:14				
LAX-SEA	4/ 1/77	19	1:28	-61	FL389	1:22	45.0N	122.0W	FL380	-53.8	4.4	FL389	-54.9	3.4	1:07				
LAX-SEA	4/ 9/77	15	1:13	-63	FL390	0:13	37.2N	119.6W	FL381	-54.4	6.2								

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LAX-SEA	4/11/75	17	1:18	-59	FL391	1:14	45.1N	121.7W	FL380	-50.4	5.3								
LAX-SEA	5/16/75	17	1:19	-56	FL390	0:39	41.0N	120.5W	FL375	-51.4	4.6								
LAX-SEA	6/ 4/77	17	1:27	-60	FL390	0:07	35.6N	119.0W	FL373	-55.4	8.9	FL389	-59.4	.5	1:19				
LHR-ATH	8/23/76	29	2:24	-57	FL370	0:39	48.6N	9.3E	FL360	-52.0	4.9	FL369	-53.7	3.3	1:54				
LHR-ATH	8/30/76	28	2:20	-57	FL371	0:50	48.4N	10.8E	FL364	-51.4	4.3	FL370	-53.0	1.9	1:54				
LHR-BAH	8/ 7/77	55	5:06	-49	FL331	0:20	49.6N	7.1E	FL329	-39.5	6.9	FL330	-39.8	6.7	4:45				
LHR-BAH	8/20/77	56	4:54	-52	FL330	0:20	49.5N	7.3E	FL328	-40.2	6.3	FL330	-40.3	6.0	4:34				
LHR-BAH	8/31/77	60	5:04	-48	FL329	0:04	50.7N	4.8E	FL330	-40.3	5.3	FL330	-40.3	5.3	5:00				
LHR-BAH	12/30/77	58	5:00	-65	FL370	3:10	38.9N	38.2E	FL357	-55.1	6.3	FL330	-49.0	3.6	1:15	FL370	-58.0	4.7	3:20
LHR-BEG	4/21/77	18	1:24	-61	FL370	0:30	49.2N	8.3E	FL365	-58.1	4.3	FL370	-59.3	1.8	1:15				
LHR-BOM	1/ 8/77	85	7:16	-57	FL370	6:14	26.5N	65.2E	FL313	-51.4	2.6	FL290	-51.4	1.9	4:19	FL330	-49.2	2.1	1:35
												FL370	-54.7	1.4	1:07				
LHR-BOM	1/17/77	86	7:24	-62	FL330	3:14	39.3N	35.8E	FL319	-53.5	4.8	FL290	-51.5	3.9	1:49	FL330	-54.4	4.7	5:19
LHR-BOM	1/24/77	85	7:15	-59	FL330	2:34	40.5N	29.7E	FL323	-52.9	3.9	FL290	-50.3	.5	2:25	FL329	-55.7	3.4	3:34
LHR-BOM	4/ 4/77	85	7:29	-58	FL370	5:04	33.4N	54.1E	FL324	-48.3	5.2	FL270	-41.4	3.0	1:30	FL331	-48.3	1.0	1:40
												FL370	-53.4	2.8	2:39				
LHR-BOM	4/ 7/77	88	7:19	-56	FL331	0:29	48.6N	9.4E	FL343	-50.3	4.5	FL331	-53.3	1.6	4:30	FL370	-45.2	1.4	2:24
LHR-BOM	4/25/77	91	7:10	-51	FL330	0:34	47.7N	10.5E	FL309	-44.8	3.3	FL290	-45.4	2.2	3:07	FL330	-43.8	3.3	2:57
LHR-BOM	5/ 4/77	89	7:34	-52	FL331	1:59	43.5N	21.9E	FL335	-47.0	3.9	FL290	-41.6	1.3	1:39	FL331	-50.5	1.3	2:45
												FL370	-47.5	.6	2:39				
LHR-BOM	6/25/77	89	7:08	-45	FL289	1:18	45.5N	17.5E	FL316	-37.1	4.4	FL289	-42.3	1.5	2:18	FL331	-33.9	1.9	4:39
LHR-BOM	7/21/77	67	7:24	-43	FL290	0:10	50.3N	6.0E	FL320	-33.9	3.4	FL290	-38.0	2.7	2:09	FL330	-32.5	2.3	4:54
LHR-BOM	7/28/77	81	6:59	-43	FL291	0:00	50.7N	5.0E	FL315	-33.2	4.9	FL290	-37.1	5.7	2:34	FL330	-30.7	1.7	4:19
LHR-BOM	8/ 4/76	93	7:27	-46	FL290	0:50	47.1N	13.4E	FL316	-36.0	4.8	FL290	-41.6	3.3	2:18	FL330	-33.3	2.5	4:57
LHR-BOM	8/ 7/76	87	7:24	-49	FL330	1:15	45.4N	18.0E	FL322	-36.2	5.5	FL329	-35.8	5.8	6:09				
LHR-BOM	9/ 3/77	88	7:24	-38	FL290	0:04	50.4N	4.9E	FL317	-35.0	2.6	FL290	-36.5	1.6	2:15	FL330	-34.4	2.7	4:54
LHR-BOM	9/27/76	85	7:34	-51	FL330	2:31	40.5N	30.3E	FL318	-40.8	5.3	FL290	-38.6	.8	2:02	FL330	-41.6	6.0	0:00
LHR-BOM	10/11/76	90	7:34	-52	FL330	3:32	38.1N	41.2E	FL325	-46.4	5.1	FL330	-47.6	4.2	0:00				
LHR-BOM	10/16/76	95	7:27	-51	FL330	3:52	37.8N	44.1E	FL313	-43.6	4.5	FL289	-41.8	3.7	2:43	FL330	-45.0	4.5	4:29
LHR-BOM	10/24/77	81	7:09	-51	FL330	3:19	38.8N	38.5E	FL311	-42.6	3.4	FL289	-42.5	1.0	3:09	FL330	-42.6	4.5	3:54
LHR-BOM	11/15/76	89	7:25	-53	FL290	1:15	45.6N	17.3E	FL322	-48.8	3.2	FL290	-48.8	3.0	2:39	FL330	-49.6	3.4	3:19
												FL369	-48.1	.6	1:04				
LHR-BOM	11/21/77	87	7:23	-57	FL331	3:08	39.1N	36.6E	FL317	-47.3	5.6	FL290	-47.6	1.6	2:13	FL330	-47.2	6.8	4:59
LHR-BOM	11/22/76	87	7:30	-54	FL330	3:04	39.1N	36.5E	FL316	-46.2	5.5	FL290	-45.8	1.4	2:44	FL329	-46.4	6.8	4:40
LHR-BOM	12/ 3/77	88	7:25	-54	FL330	4:15	37.1N	47.2E	FL308	-48.4	3.9	FL291	-49.5	2.5	4:05	FL330	-47.7	3.5	3:04
LHR-BOM	12/10/76	86	6:57	-51	FL330	4:42	32.7N	55.5E	FL314	-46.5	3.2	FL290	-45.6	3.1	2:27	FL329	-47.2	3.0	4:15
LHR-BOS	4/30/78	65	5:30	-57	FL350	2:00	54.0N	30.6W	FL359	-50.3	5.2	FL349	-52.4	4.5	3:30	FL389	-44.8	1.5	1:25
LHR-BOS	7/ 9/76	69	5:33	-57	FL396	5:29	44.5N	69.3W	FL401	-49.1	4.3	FL390	-47.2	2.5	2:53	FL430	-52.7	1.2	2:06
LHR-BOS	7/12/76	65	5:29	-57	FL430	4:49	47.3N	64.6W	FL401	-49.9	5.0	FL391	-48.0	5.1	3:30	FL430	-53.7	1.7	1:33
LHR-BOS	8/18/77	71	6:20	-56	FL354	1:41	49.0N	21.7W	FL359	-50.7	3.8	FL351	-52.5	2.1	2:25	FL370	-50.4	1.6	3:24
LHR-BOS	9/15/76	72	5:59	-57	FL390	4:49	47.8N	59.0W	FL371	-50.5	5.0	FL359	-48.6	4.6	1:55	FL379	-48.0	4.1	1:19
												FL389	-54.8	2.6	1:54				
LHR-BOS	9/16/76	73	6:04	-57	FL389	5:24	48.0N	66.5W	FL358	-48.4	5.9	FL349	-46.5	4.8	4:00	FL389	-53.9	2.7	1:39
LHR-BOS	9/22/77	65	5:37	-62	FL368	3:47	51.2N	51.9W	FL362	-56.4	2.4	FL350	-56.9	1.3	3:26	FL390	-56.1	2.2	1:40
LHR-BOS	9/26/77	68	6:04	-68	FL410	4:29	51.4N	56.3W	FL402	-55.8	6.6	FL390	-51.3	4.3	3:05	FL410	-58.7	6.0	1:50
LHR-BOS	9/27/77	75	6:29	-67	FL410	4:49	49.6N	56.0W	FL398	-57.4	5.2	FL390	-56.7	3.6	3:19	FL409	-62.5	3.0	1:49
LHR-BOS	10/ 4/76	66	5:44	-65	FL390	4:59	49.5N	66.7W	FL387	-49.1	6.1	FL389	-49.2	6.2	5:30				
LHR-BOS	10/ 7/77	70	5:59	-59	FL390	0:39	56.0N	9.9W	FL401	-52.1	3.1	FL390	-52.7	4.0	1:24	FL410	-52.2	2.3	4:09
LHR-BOS	10/ 8/77	67	5:54	-64	FL390	5:19	46.8N	65.1W	FL388	-52.0	5.2	FL390	-52.1	5.0	5:39				
LHR-BOS	10/ 9/77	69	5:59	-64	FL410	5:19	47.4N	64.4W	FL385	-50.6	6.1	FL390	-50.0	2.4	4:04	FL410	-57.3	3.7	1:09
LHR-BOS	10/10/77	76	6:32	-65	FL391	0:49	53.5N	11.6W	FL389	-57.4	4.7	FL391	-57.6	4.7	6:07				
LHR-BOS	10/11/77	68	5:54	-67	FL414	0:11	53.5N	3.4W	FL425	-53.8	4.7	FL429	-52.7	3.3	5:03				

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LHR-BOS	10/22/76	70	6:03	-58	FL410	3:23	55.4N	47.0W	FL402	-50.3	4.3	FL389	-48.6	3.2	2:38	FL409	-55.0	1.8	1:34
												FL429	-48.0	2.4	1:14				
LHR-BOS	10/23/76	69	5:49	-56	FL369	0:00	53.2N	2.5W	FL401	-48.5	3.1	FL389	-47.5	2.4	1:54	FL409	-48.8	3.2	3:34
LHR-BOS	10/24/76	70	5:45	-62	FL358	5:45	43.9N	69.9W	FL408	-49.1	3.3	FL409	-48.8	1.4	1:49	FL429	-49.4	3.5	2:34
LHR-BOS	12/16/76	72	6:04	-59	FL371	5:04	49.5N	65.0W	FL356	-53.9	3.2	FL350	-54.2	3.4	1:49	FL370	-54.4	3.1	3:05
LHR-CPT	10/29/77	604	10:34	-66	FL430	8:04	12.0S	8.4E	FL385	-56.2	4.8	FL369	-59.7	1.1	1:13	FL349	-50.9	3.1	1:58
												FL389	-55.4	.9	4:06	FL429	-61.7	2.1	2:28
LHR-IAD	1/25/78	65	4:52	-69	FL330	0:50	56.5N	13.5W	FL336	-61.6	4.1	FL330	-62.8	3.3	3:36				
LHR-IAD	3/29/78	80	6:45	-55	FL370	6:39	41.1N	73.3W	FL345	-49.7	3.4	FL330	-51.5	2.6	3:49	FL370	-47.3	3.3	2:15
LHR-IAD	3/31/78	76	6:30	-58	FL390	6:25	40.6N	73.9W	FL334	-47.9	3.1	FL309	-47.1	2.8	3:36	FL389	-49.4	4.2	1:15
LHR-IAD	4/ 3/79	79	6:29	-61	FL370	3:59	48.4N	53.2W	FL345	-54.8	4.4	FL320	-51.9	3.0	2:25	FL370	-59.4	1.2	2:34
LHR-IAD	5/ 1/79	73	6:04	-62	FL370	5:04	46.2N	63.7W	FL357	-53.9	4.2	FL350	-53.7	3.3	2:49	FL370	-55.5	3.9	2:34
LHR-IAD	5/23/77	73	6:14	-63	FL390	5:39	43.3N	70.4W	FL369	-55.1	6.2	FL360	-52.4	5.6	3:24	FL390	-60.4	2.8	2:20
LHR-IAD	5/25/77	72	6:09	-61	FL390	5:39	42.8N	71.0W	FL375	-52.2	5.3	FL370	-48.9	4.7	2:34	FL390	-55.5	2.8	2:39
LHR-IAD	6/ 6/79	76	6:14	-54	FL351	5:49	41.9N	71.0W	FL341	-50.3	2.5	FL330	-50.8	.6	1:05	FL350	-51.1	1.8	3:59
LHR-IAD	6/10/78	74	6:24	-52	FL331	1:25	50.1N	22.0W	FL329	-45.6	3.8	FL330	-45.7	3.9	6:00				
LHR-IAD	7/ 9/78	76	6:17	-52	FL370	4:04	48.2N	54.4W	FL347	-47.8	3.7	FL340	-48.0	1.8	3:19	FL370	-50.0	1.2	2:07
LHR-IAD	7/25/78	79	6:22	-61	FL371	4:43	47.8N	62.5W	FL341	-51.5	5.1	FL330	-50.8	3.6	3:26	FL370	-55.2	2.7	1:30
LHR-IAD	7/26/78	75	6:27	-60	FL371	4:27	51.8N	60.4W	FL337	-49.8	4.8	FL309	-46.3	1.2	2:48	FL370	-57.2	2.6	1:19
LHR-IAD	8/19/77	85	7:09	-56	FL350	0:34	52.4N	11.6W	FL355	-49.0	4.2	FL349	-46.5	2.6	2:44	FL370	-52.2	1.0	3:24
LHR-IAD	9/ 3/77	83	7:14	-53	FL350	4:54	50.9N	57.4W	FL325	-47.2	4.4	FL310	-44.2	2.5	3:30	FL350	-51.0	1.3	2:24
LHR-IAD	9/13/76	82	6:10	-60	FL390	5:45	42.6N	71.6W	FL371	-50.5	5.2	FL359	-50.9	3.1	2:30	FL389	-50.6	7.1	2:15
LHR-IAD	9/14/77	75	6:29	-59	FL391	4:14	47.5N	57.3W	FL340	-45.8	9.8	FL300	-37.9	1.6	3:19	FL390	-56.5	1.7	2:30
LHR-IAD	9/17/76	75	6:09	-52	FL330	1:31	57.6N	24.9W	FL343	-46.0	4.8	FL330	-44.6	5.5	3:27	FL369	-48.9	1.6	2:04
LHR-IAD	9/24/76	80	6:44	-57	FL369	5:14	45.0N	62.5W	FL358	-52.2	3.2	FL359	-50.8	2.2	3:10	FL368	-54.6	.9	2:15
LHR-IAD	9/30/78	79	6:34	-53	FL370	5:24	43.3N	63.0W	FL323	-37.2	8.2	FL310	-33.2	3.1	5:00	FL370	-51.9	.8	1:15
LHR-IAD	10/ 6/78	78	6:28	-65	FL391	5:38	42.8N	67.7W	FL340	-52.3	7.4	FL320	-48.0	3.2	3:41	FL369	-59.7	.4	1:09
LHR-IAD	10/ 7/78	77	6:23	-59	FL370	4:33	46.6N	59.9W	FL342	-52.0	4.0	FL330	-50.4	2.7	4:00	FL369	-55.9	2.8	1:59
LHR-IAD	10/21/76	92	6:54	-58	FL370	4:45	51.3N	61.8W	FL343	-46.8	4.7	FL329	-45.0	1.7	2:07	FL369	-50.5	4.2	2:34
LHR-IAD	10/26/76	81	6:47	-57	FL390	6:07	43.3N	71.1W	FL375	-49.9	3.5	FL369	-47.3	1.6	3:17	FL390	-53.5	1.9	2:45
LHR-IAD	11/16/78	84	7:04	-56	FL310	2:20	60.8N	27.1W	FL308	-51.8	2.7	FL309	-51.9	2.7	6:34				
LHR-IAD	11/22/77	75	6:45	-66	FL360	1:30	52.1N	21.7W	FL367	-62.1	4.4	FL359	-61.2	4.4	3:34	FL390	-65.1	1.2	2:09
LHR-IAD	12/15/78	81	6:33	-60	FL330	2:09	57.1N	33.5W	FL333	-54.0	5.4	FL330	-56.4	4.4	3:53	FL349	-49.5	4.5	2:00
LHR-IAD	12/17/76	85	6:40	-62	FL370	4:15	50.4N	54.2W	FL335	-49.6	4.4	FL310	-49.7	1.5	3:24	FL390	-46.5	2.1	1:30
LHR-JFK	1/ 5/79	76	6:35	-59	FL350	5:54	42.7N	65.3W	FL322	-49.6	4.8	FL310	-46.5	1.4	4:15	FL350	-56.5	1.1	2:00
LHR-JFK	1/ 9/79	81	6:56	-62	FL350	1:15	50.7N	16.9W	FL350	-55.6	3.2	FL349	-56.7	2.5	5:21				
LHR-JFK	1/21/79	201	6:13	-65	FL370	2:18	55.7N	34.3W	FL366	-57.4	5.0	FL350	-53.7	3.4	1:52	FL370	-60.4	3.9	2:09
												FL390	-59.1	3.3	1:41				
LHR-JFK	1/26/76	66	5:31	-69	FL390	4:56	42.7N	65.1W	FL372	-65.6	2.3	FL350	-62.2	.8	1:29	FL370	-65.9	1.1	1:56
												FL389	-67.8	.7	1:45				
LHR-JFK	1/26/78	81	6:40	-69	FL330	1:04	57.3N	16.1W	FL324	-54.6	7.7	FL330	-55.1	7.5	5:39				
LHR-JFK	1/30/76	76	6:19	-67	FL351	0:25	53.8N	9.0W	FL358	-53.5	7.0	FL349	-55.9	7.3	3:54	FL389	-48.5	1.5	1:19
LHR-JFK	2/14/79	69	5:53	-59	FL331	0:48	56.1N	10.7W	FL366	-48.4	5.8	FL370	-48.0	4.3	2:34	FL389	-43.5	2.5	1:49
LHR-JFK	2/26/77	54	5:47	-68	FL360	1:18	56.0N	20.8W	FL357	-56.4	6.8	FL360	-56.1	6.2	2:28	FL370	-53.7	7.9	1:36
LHR-JFK	3/ 1/77	55	6:18	-60	FL349	1:30	53.0N	20.3W	FL368	-49.7	5.9	FL349	-56.7	3.1	1:58	FL369	-49.9	1.7	1:53
												FL389	-43.2	1.6	1:37				
LHR-JFK	3/ 9/76	78	6:39	-63	FL351	0:41	55.3N	7.9W	FL361	-55.0	5.0	FL351	-55.3	5.8	4:03	FL391	-54.4	2.9	2:05
LHR-JFK	3/15/75	72	5:54	-60	FL331	0:45	53.0N	14.1W	FL347	-52.4	5.6	FL330	-55.0	4.2	3:44	FL388	-45.9	2.5	1:30
LHR-JFK	3/15/79	72	5:54	-59	FL331	2:34	52.2N	38.8W	FL329	-51.9	5.3	FL331	-53.0	4.6	5:15				
LHR-JFK	3/20/76	73	6:22	-70	FL392	5:28	47.7N	66.0W	FL376	-59.0	6.2	FL370	-54.0	3.0	2:37	FL391	-64.5	3.1	2:54
LHR-JFK	3/20/79	71	5:49	-65	FL371	4:09	49.9N	54.7W	FL362	-57.7	5.1	FL360	-58.3	5.1	3:19	FL370	-58.4	4.7	1:49
LHR-JFK	3/21/75	82	6:09	-69	FL389	4:15	49.4N	52.4W	FL363	-56.8	6.5	FL360	-58.6	4.7	3:33	FL388	-55.5	7.8	1:54
LHR-JFK	3/22/76	74	6:23	-66	FL391	4:18	44.9N	52.6W	FL372	-59.1	4.9	FL370	-60.6	2.7	3:48	FL390	-58.7	5.4	1:59

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS						
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LHR-JFK	3/23/75	37	3:00	-64	FL359	1:19	52.0N	20.0W	FL355	-58.8	4.7	FL359	-59.2	4.3	2:40				
LHR-JFK	3/25/77	65	5:34	-57	FL345	0:05	52.0N	4.7W	FL370	-49.9	3.1	FL360	-51.3	1.9	3:15	FL391	-46.5	.9	1:45
LHR-JFK	3/27/77	63	5:28	-59	FL370	5:28	42.2N	71.4W	FL334	-52.1	3.7	FL320	-52.6	3.8	3:00	FL370	-52.4	3.8	1:19
LHR-JFK	4/ 1/77	71	6:04	-62	FL351	2:50	53.3N	37.9W	FL354	-51.2	5.6	FL330	-51.0	2.8	1:05	FL350	-56.9	3.4	2:15
												FL390	-45.1	1.8	1:15				
LHR-JFK	4/ 4/77	71	5:55	-65	FL370	1:19	52.9N	22.0W	FL371	-53.7	8.1	FL370	-56.4	8.0	2:15	FL390	-48.3	6.8	2:05
LHR-JFK	4/11/76	74	6:39	-56	FL331	1:34	56.1N	22.4W	FL345	-48.8	3.9	FL331	-50.3	3.6	4:09	FL389	-45.5	2.4	1:39
LHR-JFK	4/20/77	15	1:15	-59	FL366	1:00	53.0N	14.7W	FL356	-56.6	3.0								
LHR-JFK	4/22/76	66	5:39	-63	FL430	4:53	44.5N	64.4W	FL399	-53.5	4.7	FL390	-51.7	3.5	3:30	FL430	-58.0	4.0	1:39
LHR-JFK	4/24/79	75	6:09	-60	FL361	3:19	50.6N	42.8W	FL341	-49.7	3.9	FL320	-48.2	1.8	2:45	FL370	-51.8	4.8	1:45
LHR-JFK	4/29/79	70	5:44	-56	FL331	3:24	50.4N	47.1W	FL334	-52.5	2.6	FL330	-52.6	1.6	3:45	FL350	-54.3	.7	1:25
LHR-JFK	5/12/79	63	5:49	-57	FL371	4:15	49.5N	56.1W	FL343	-50.1	4.2	FL330	-47.8	3.1	3:10	FL370	-54.6	1.2	1:49
LHR-JFK	5/14/77	73	6:04	-54	FL391	3:44	53.7N	50.9W	FL400	-48.8	1.8	FL390	-49.3	1.8	3:49	FL429	-48.2	1.0	1:45
LHR-JFK	5/15/77	73	6:04	-57	FL391	2:24	57.8N	32.6W	FL387	-49.9	3.7	FL390	-49.6	3.4	5:24				
LHR-JFK	5/16/77	74	6:11	-66	FL391	5:56	43.8N	70.3W	FL374	-52.6	6.7	FL370	-54.2	5.2	2:46	FL391	-51.3	8.3	2:34
LHR-JFK	5/21/77	69	5:52	-64	FL390	4:37	48.0N	60.3W	FL374	-55.3	7.8	FL370	-53.4	7.8	3:28	FL390	-59.5	6.0	1:55
LHR-JFK	5/21/78	73	6:14	-60	FL370	4:24	49.3N	56.6W	FL347	-50.5	4.9	FL340	-49.6	5.2	3:29	FL370	-52.8	4.0	2:04
LHR-JFK	5/21/79	74	5:43	-57	FL370	3:43	50.4N	52.8W	FL349	-50.6	5.7	FL341	-47.9	4.7	3:04	FL370	-56.3	1.1	0:00
LHR-JFK	5/27/77	65	5:35	-59	FL351	0:15	52.3N	6.7W	FL354	-47.9	6.5	FL350	-49.5	5.8	3:21	FL370	-45.6	6.5	1:49
LHR-JFK	6/ 5/78	74	6:16	-56	FL350	5:41	43.6N	65.8W	FL337	-47.6	4.3	FL330	-45.0	2.7	3:56	FL350	-52.0	2.9	2:05
LHR-JFK	6/ 5/79	76	6:25	-61	FL390	5:40	43.8N	65.2W	FL366	-53.9	6.5	FL350	-51.1	5.8	1:45	FL370	-55.4	3.6	2:08
												FL390	-58.9	1.8	1:52				
LHR-JFK	6/ 7/78	74	6:19	-61	FL370	4:34	48.5N	55.8W	FL348	-51.4	5.9	FL340	-48.5	1.7	3:49	FL369	-58.4	2.5	2:00
LHR-JFK	6/13/78	77	6:15	-62	FL390	4:19	47.3N	53.7W	FL368	-54.1	5.3	FL359	-51.3	2.1	2:20	FL390	-60.9	1.5	1:35
LHR-JFK	6/24/77	70	5:59	-58	FL391	5:59	42.4N	71.4W	FL372	-48.8	4.1	FL370	-46.9	3.3	3:10	FL390	-51.0	3.4	1:49
LHR-JFK	6/24/78	76	5:46	-58	FL372	3:52	49.0N	54.0W	FL333	-47.6	5.0	FL311	-44.8	2.9	3:22	FL372	-51.5	4.9	1:53
LHR-JFK	7/ 8/78	71	5:59	-51	FL341	3:24	50.7N	44.8W	FL338	-45.9	4.1	FL340	-47.2	2.8	3:04	FL350	-47.7	2.1	1:45
LHR-JFK	7/10/76	64	5:44	-60	FL391	0:05	53.0N	2.3W	FL414	-51.4	4.8	FL391	-51.1	5.6	3:15	FL450	-51.8	2.9	2:09
LHR-JFK	7/13/76	73	5:47	-59	FL430	4:07	50.9N	57.4W	FL408	-48.9	5.0	FL389	-46.0	2.6	1:20	FL410	-47.7	4.3	1:59
												FL430	-53.2	3.9	1:53				
LHR-JFK	7/24/78	74	6:10	-54	FL331	3:40	54.8N	50.8W	FL335	-48.5	3.0	FL330	-49.8	3.1	3:30	FL349	-46.9	1.4	2:00
LHR-JFK	7/27/78	74	5:52	-55	FL331	1:55	54.1N	28.9W	FL335	-49.3	4.8	FL330	-50.3	3.8	3:21	FL349	-50.5	2.0	1:54
LHR-JFK	7/29/77	65	5:44	-60	FL371	4:04	46.9N	55.6W	FL311	-43.3	9.5	FL281	-36.7	2.9	3:44	FL370	-56.3	1.7	1:45
LHR-JFK	7/29/78	73	5:46	-58	FL370	4:39	47.4N	59.6W	FL344	-49.6	6.0	FL330	-45.7	3.5	3:30	FL369	-56.5	1.8	1:52
LHR-JFK	8/14/76	71	5:27	-52	FL370	4:10	46.6N	57.1W	FL354	-49.5	2.3	FL340	-48.2	1.2	1:35	FL359	-50.0	.3	1:20
LHR-JFK	8/16/78	75	6:10	-54	FL370	5:20	45.8N	64.5W	FL344	-46.7	4.3	FL330	-43.8	1.6	3:45	FL369	-52.3	1.0	2:00
LHR-JFK	8/27/78	74	6:11	-64	FL368	2:40	56.1N	38.0W	FL358	-57.1	4.9	FL350	-59.6	1.5	1:10	FL370	-56.6	5.1	3:26
LHR-JFK	8/28/77	70	6:04	-55	FL390	5:49	43.5N	70.0W	FL360	-47.9	4.7	FL350	-46.3	3.0	2:08	FL370	-49.3	2.3	1:39
												FL389	-54.0	.5	1:09				
LHR-JFK	9/ 5/77	77	6:40	-59	FL370	5:45	47.1N	65.0W	FL342	-50.0	4.8	FL331	-48.2	1.4	3:05	FL350	-50.8	3.8	2:09
LHR-JFK	9/ 7/76	72	6:04	-54	FL386	3:59	49.6N	51.9W	FL360	-46.3	4.5	FL349	-47.7	2.5	3:34	FL390	-44.7	5.9	2:00
LHR-JFK	9/ 9/76	71	5:54	-55	FL370	5:34	43.2N	67.4W	FL347	-47.0	3.2	FL339	-46.7	.8	2:49	FL369	-46.4	4.6	1:19
LHR-JFK	9/10/76	79	6:34	-51	FL359	2:05	55.1N	26.5W	FL349	-46.7	3.7	FL358	-48.0	3.6	3:04	FL349	-46.7	1.7	2:05
LHR-JFK	9/10/78	81	6:29	-58	FL370	6:08	44.0N	69.7W	FL345	-48.8	4.5	FL340	-48.1	3.6	4:43	FL369	-53.4	3.0	1:15
LHR-JFK	9/12/76	67	5:49	-58	FL390	4:09	46.7N	56.6W	FL361	-51.2	4.3	FL349	-49.7	4.4	3:19	FL390	-53.9	3.3	1:44
LHR-JFK	9/16/77	70	6:00	-55	FL370	4:49	46.5N	62.2W	FL330	-45.8	6.0	FL311	-43.9	3.6	3:09	FL370	-51.6	4.0	2:05
LHR-JFK	9/17/77	66	5:43	-58	FL351	4:13	47.6N	56.8W	FL329	-48.9	4.0	FL320	-47.6	3.6	3:24	FL350	-52.0	3.4	1:54
LHR-JFK	9/18/77	71	5:49	-60	FL371	3:49	48.6N	51.9W	FL337	-51.5	4.5	FL320	-48.9	1.9	3:24	FL370	-56.6	1.8	2:00
LHR-JFK	9/22/76	74	6:07	-52	FL369	3:44	47.1N	49.7W	FL345	-47.9	4.0	FL330	-45.6	3.7	3:19	FL369	-51.3	.7	2:17
LHR-JFK	9/23/77	70	5:59	-58	FL371	5:54	42.4N	71.2W	FL345	-52.6	2.6	FL331	-53.4	1.5	3:30	FL370	-51.3	3.1	1:50
LHR-JFK	9/28/77	78	6:46	-60	FL391	1:50	56.1N	23.0W	FL397	-52.7	4.0	FL390	-53.2	3.7	1:26	FL409	-53.1	2.8	4:24
LHR-JFK	10/ 1/78	71	6:19	-47	FL371	4:15	48.6N	52.3W	FL349	-40.1	4.9	FL341	-38.4	1.7	3:35	FL370	-45.6	1.5	1:59
LHR-JFK	10/ 2/77	47	6:04	-55	FL351	4:14	49.3N	53.2W	FL323	-46.3	4.7	FL310	-44.0	1.8	3:45	FL350	-51.4	3.4	1:50

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LHR-JFK	10/ 5/76	71	6:15	-64	FL410	4:54	48.9N	61.5W	FL398	-53.2	6.6	FL389	-53.0	7.1	1:50	FL410	-55.4	4.9	3:30
LHR-JFK	10/ 9/77	79	6:49	-59	FL370	5:00	49.8N	59.7W	FL343	-51.4	3.4	FL330	-50.1	1.1	2:34	FL350	-51.3	2.9	1:45
												FL370	-57.1	1.1	1:10				
LHR-JFK	10/10/78	69	5:45	-57	FL371	5:10	45.5N	66.7W	FL355	-48.7	4.1	FL349	-49.2	3.2	2:25	FL370	-47.0	3.7	2:09
LHR-JFK	10/12/77	74	6:39	-61	FL430	4:44	50.8N	60.2W	FL403	-53.9	4.2	FL390	-51.1	2.1	3:54	FL430	-58.8	1.1	2:15
LHR-JFK	10/12/78	70	6:05	-59	FL352	4:03	49.0N	54.0W	FL341	-54.0	2.8	FL330	-55.3	1.7	3:41	FL370	-51.4	1.5	1:20
LHR-JFK	10/16/78	72	5:53	-56	FL345	0:55	52.0N	13.5W	FL343	-52.2	3.0	FL350	-52.9	2.1	4:38				
LHR-JFK	10/17/77	72	6:07	-52	FL330	0:39	53.9N	13.9W	FL333	-46.6	3.4	FL330	-47.7	2.3	4:52				
LHR-JFK	10/19/78	72	6:04	-60	FL371	3:26	50.1N	45.8W	FL357	-53.6	3.2	FL350	-53.6	1.6	3:00	FL370	-54.3	2.7	2:33
LHR-JFK	10/22/77	69	6:08	-55	FL391	6:04	42.4N	70.9W	FL330	-45.0	4.8	FL311	-42.6	3.7	3:40				
LHR-JFK	10/26/76	74	6:18	-64	FL430	6:14	42.9N	70.9W	FL403	-53.1	4.3	FL390	-50.5	2.0	3:49	FL429	-57.9	2.7	2:05
LHR-JFK	10/30/78	74	6:04	-59	FL350	4:39	50.7N	62.5W	FL335	-49.3	4.3	FL330	-47.1	2.6	3:34	FL349	-54.0	3.3	1:54
LHR-JFK	11/ 2/76	79	6:24	-54	FL349	6:23	42.4N	71.5W	FL358	-46.5	1.8	FL349	-46.0	1.4	2:30	FL369	-46.6	1.0	1:56
LHR-JFK	11/ 6/78	72	6:09	-68	FL420	3:55	49.9N	50.3W	FL403	-57.8	6.0	FL391	-55.9	6.2	3:39	FL430	-61.5	1.8	2:04
LHR-JFK	11/21/78	80	6:54	-63	FL370	6:44	42.5N	71.4W	FL327	-52.5	4.6	FL309	-50.4	2.1	4:20	FL369	-58.2	2.6	1:49
LHR-JFK	12/16/78	71	6:14	-63	FL370	6:04	42.9N	70.5W	FL345	-54.8	5.7	FL339	-56.4	5.0	3:09	FL369	-52.4	6.6	2:00
LHR-JFK	12/19/76	73	6:11	-64	FL360	1:52	56.1N	26.6W	FL361	-54.5	5.0	FL359	-54.9	5.3	3:31	FL369	-53.7	4.9	2:00
LHR-JFK	12/31/76	70	5:58	-60	FL350	3:19	53.9N	46.3W	FL349	-52.6	4.8	FL329	-55.5	1.6	2:54	FL389	-47.2	1.4	1:33
LHR-LAX	2/10/79	110	9:28	-69	FL390	8:18	41.8N	108.4W	FL340	-54.8	6.5	FL310	-53.6	3.4	4:13	FL350	-49.2	3.2	2:05
												FL390	-64.2	3.9	2:09				
LHR-LAX	5/ 2/79	117	9:53	-60	FL430	9:28	39.1N	120.1W	FL385	-48.9	4.7	FL349	-45.3	.8	2:58	FL390	-47.1	2.5	3:39
												FL409	-53.0	2.8	1:09	FL430	-57.2	1.2	1:20
LHR-LAX	5/ 9/79	116	9:46	-60	FL345	0:04	53.5N	1.9W	FL391	-50.6	2.6	FL369	-49.2	1.2	1:24	FL389	-49.5	1.6	4:46
												FL430	-51.8	1.8	2:09				
LHR-LAX	6/13/79	118	10:07	-64	FL430	9:52	36.1N	115.1W	FL385	-48.9	8.8	FL350	-41.4	4.6	3:35	FL390	-48.6	6.9	3:30
												FL430	-59.6	1.8	2:19				
LHR-LAX	6/19/78	108	9:44	-65	FL431	9:34	36.3N	119.8W	FL388	-46.2	7.2	FL350	-42.9	5.9	1:04	FL370	-40.8	4.0	1:39
												FL391	-41.8	4.5	2:09	FL410	-48.4	2.6	1:49
												FL430	-56.9	4.4	1:45				
LHR-LAX	6/26/78	117	9:49	-56	FL350	0:34	57.3N	5.2W	FL382	-46.1	6.0	FL349	-46.4	7.6	3:09	FL390	-41.5	3.2	2:49
												FL409	-49.9	2.7	3:24				
LHR-LAX	7/ 1/78	119	9:49	-60	FL392	6:29	52.5N	91.1W	FL382	-49.7	6.0	FL351	-46.8	6.4	2:54	FL391	-49.0	5.9	3:00
												FL411	-54.3	1.7	2:45				
LHR-LAX	7/ 4/78	123	10:02	-60	FL370	2:03	63.8N	22.0W	FL384	-48.5	6.4	FL370	-55.1	4.9	2:20	FL390	-41.9	1.3	3:30
												FL410	-51.8	3.1	3:05				
LHR-LAX	7/ 9/78	119	9:54	-58	FL411	9:30	37.2N	115.1W	FL382	-49.3	5.8	FL349	-50.9	.8	1:50	FL370	-48.2	4.7	2:05
												FL391	-45.0	4.8	2:35	FL410	-54.7	2.6	2:39
LHR-LAX	7/11/78	120	9:59	-59	FL371	2:19	65.4N	27.5W	FL379	-47.4	6.7	FL350	-55.1	.3	1:15	FL370	-44.4	7.1	2:59
												FL390	-43.6	4.3	2:09	FL411	-51.0	4.5	2:34
LHR-LAX	7/15/78	116	9:49	-55	FL392	8:14	46.3N	111.2W	FL377	-47.9	5.9	FL349	-50.9	2.3	3:00	FL391	-47.0	6.2	6:19
LHR-LAX	7/21/78	120	9:54	-62	FL411	8:49	43.5N	117.7W	FL379	-49.9	7.5	FL350	-50.4	2.8	2:30	FL371	-48.8	9.6	2:30
												FL391	-42.7	3.6	1:49	FL411	-56.2	4.3	2:33
LHR-LAX	7/27/78	114	9:16	-64	FL430	9:01	36.4N	114.8W	FL389	-50.5	7.5	FL350	-45.1	3.7	1:07	FL370	-43.6	3.6	1:59
												FL389	-48.5	2.9	2:54	FL430	-62.0	.9	1:34
LHR-LAX	8/ 2/78	111	9:09	-64	FL431	8:44	37.3N	114.1W	FL389	-50.5	7.2	FL371	-51.8	8.0	1:45	FL390	-45.7	3.6	4:19
												FL430	-59.5	3.1	1:40				
LHR-LAX	8/ 8/78	116	9:34	-61	FL391	4:19	66.2N	68.2W	FL373	-54.7	3.3	FL350	-56.1	1.5	2:59	FL390	-54.5	3.3	5:45
LHR-LAX	8/13/78	118	9:54	-59	FL410	9:49	35.8N	119.6W	FL383	-47.8	5.2	FL350	-53.5	3.2	2:05	FL370	-48.1	4.5	1:50
												FL390	-43.0	3.3	2:30	FL409	-48.2	3.6	3:00
LHR-LAX	9/ 3/78	115	9:49	-59	FL370	1:04	60.0N	8.6W	FL378	-51.5	4.7	FL370	-50.0	4.6	3:34	FL390	-52.6	4.3	5:30
LHR-LAX	9/ 5/78	119	9:38	-63	FL391	6:04	51.1N	85.4W	FL378	-54.0	5.9	FL370	-51.8	3.5	3:44	FL390	-56.3	5.0	4:43
LHR-LAX	9/10/78	112	9:49	-61	FL410	9:44	36.6N	119.9W	FL380	-48.8	4.1	FL330	-44.4	.6	1:14	FL370	-46.6	.8	2:15
												FL390	-51.0	1.8	2:50	FL410	-51.0	3.7	2:35

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LHR-LAX	9/30/78	120	10:14	-64	FL411	9:39	37.7N	113.0W	FL384	-52.9	6.5	FL350	-50.0	2.2	1:55	FL370	-49.6	4.7	2:24
												FL390	-45.5	1.4	1:09	FL411	-59.0	3.9	4:04
LHR-LAX	10/ 6/78	114	9:43	-64	FL391	7:28	47.3N	100.2W	FL375	-54.4	4.9	FL350	-52.1	3.4	2:24	FL370	-58.3	3.3	1:03
												FL390	-55.2	3.7	5:39				
LHR-LAX	10/16/78	127	10:34	-66	FL401	10:34	35.2N	119.6W	FL374	-50.1	5.1	FL350	-46.1	1.9	5:24	FL390	-50.7	1.2	1:35
												FL410	-56.5	2.5	2:54				
LHR-LAX	10/21/78	115	9:44	-59	FL371	1:04	59.0N	10.0W	FL384	-50.7	3.1	FL370	-50.1	4.0	2:04	FL390	-49.9	1.9	4:54
												FL410	-53.3	1.1	1:30				
LHR-LAX	10/27/78	114	9:57	-63	FL431	8:57	40.7N	109.9W	FL377	-53.1	4.8	FL350	-54.2	3.2	4:32	FL390	-47.7	.7	2:30
												FL430	-60.9	1.7	1:15				
LHR-LAX	11/17/78	112	9:45	-65	FL390	8:49	43.3N	118.3W	FL351	-55.4	6.4	FL329	-53.2	4.8	2:14	FL349	-56.6	4.4	3:54
												FL389	-59.3	6.6	2:15				
LHR-LPA	12/13/78	17	1:24	-63	FL390	0:00	37.1N	6.3W	FL384	-60.6	5.2	FL389	-61.9	.9	1:14				
LHR-SEA	2/18/79	101	8:06	-68	FL351	4:56	65.9N	89.6W	FL342	-58.5	5.0	FL330	-55.3	4.4	2:15	FL350	-61.0	3.0	5:00
LHR-SEA	3/25/79	100	8:14	-64	FL330	2:34	71.0N	26.1W	FL343	-54.1	4.3	FL310	-56.4	3.0	2:19	FL330	-60.9	2.7	1:04
												FL350	-50.5	1.7	2:54	FL390	-53.0	1.2	1:30
LHR-SEA	3/26/76	99	8:28	-62	FL350	4:45	74.4N	86.8W	FL345	-53.1	6.0	FL311	-56.3	1.1	1:59	FL350	-58.8	1.9	2:44
												FL370	-48.4	2.0	1:20				
LHR-SEA	3/26/79	99	8:09	-64	FL341	2:39	72.8N	26.4W	FL346	-52.4	3.8	FL330	-54.4	3.2	2:09	FL350	-51.8	4.1	3:50
												FL370	-51.6	1.0	1:24				
LHR-SEA	4/ 4/79	103	8:29	-63	FL351	1:30	62.0N	16.5W	FL346	-54.2	4.8	FL330	-53.1	3.3	1:04	FL350	-54.6	4.8	6:59
LHR-SEA	4/ 5/79	104	8:58	-62	FL350	7:20	58.0N	110.5W	FL341	-55.3	3.8	FL330	-55.6	2.9	2:31	FL350	-55.5	4.1	2:31
LHR-SEA	4/22/76	93	8:07	-59	FL332	0:11	54.7N	3.3W	FL358	-51.6	4.3	FL332	-58.4	.7	1:19	FL351	-52.8	4.0	1:35
												FL371	-49.0	2.0	4:40				
LHR-SEA	6/10/77	95	8:22	-58	FL390	2:09	64.8N	25.6W	FL396	-46.4	5.3	FL390	-46.4	5.6	5:47	FL428	-49.8	2.0	1:30
LHR-SEA	6/11/78	97	8:14	-57	FL351	7:39	52.2N	117.6W	FL322	-44.8	4.4	FL310	-43.4	3.7	4:54	FL350	-48.3	3.6	2:39
LHR-SEA	6/12/77	92	8:08	-53	FL380	8:08	48.7N	121.1W	FL403	-45.1	3.3	FL390	-44.4	2.6	3:45	FL409	-43.0	2.6	2:15
												FL429	-48.8	1.4	1:39				
LHR-SEA	6/17/77	99	8:14	-63	FL391	7:59	50.4N	119.4W	FL389	-49.4	6.1	FL390	-49.4	6.1	8:04				
LHR-SEA	6/19/77	69	8:08	-63	FL390	1:15	57.6N	17.6W	FL403	-52.2	4.8	FL390	-53.5	5.5	4:27	FL429	-50.3	2.4	0:00
LHR-SEA	6/21/77	95	8:14	-65	FL391	1:30	61.6N	15.9W	FL402	-52.2	6.7	FL390	-52.1	8.0	4:04	FL410	-48.0	1.5	1:50
												FL429	-56.4	3.4	1:44				
LHR-SEA	6/24/77	95	8:19	-61	FL409	6:59	56.3N	113.0W	FL386	-47.2	7.4	FL370	-43.2	4.7	3:30	FL390	-44.4	6.3	1:45
												FL410	-54.9	4.5	2:35				
LHR-SEA	6/26/77	92	8:14	-57	FL398	8:14	48.9N	121.0W	FL404	-43.9	3.5	FL389	-42.2	1.9	4:25	FL428	-45.3	2.9	3:07
LHR-SEA	6/28/77	98	8:19	-58	FL370	7:59	50.7N	120.1W	FL387	-46.0	3.7	FL390	-45.2	1.9	4:49	FL409	-42.0	.8	1:09
												FL370	-49.9	4.4	1:54				
LHR-SEA	7/10/78	99	8:09	-63	FL391	6:44	57.6N	111.2W	FL352	-45.2	6.5	FL330	-45.0	4.3	1:39	FL370	-39.9	1.0	1:09
												FL390	-51.6	6.8	2:20				
LHR-SEA	8/31/77	89	8:24	-63	FL350	5:09	70.2N	91.9W	FL338	-49.6	6.2	FL349	-51.0	5.9	5:55				
LHR-SEA	9/ 2/77	87	8:14	-63	FL349	4:29	67.7N	77.6W	FL351	-51.0	6.2	FL349	-50.8	6.6	4:34	FL390	-54.6	3.4	1:30
LHR-SEA	10/ 8/78	98	8:21	-64	FL350	3:37	69.5N	55.7W	FL342	-53.5	5.7	FL310	-51.4	2.8	2:32	FL350	-54.3	6.8	3:29
												FL390	-57.2	1.2	1:34				
LHR-SEA	10/19/76	94	7:54	-63	FL390	7:34	50.7N	118.9W	FL365	-51.9	5.0	FL350	-54.6	3.3	2:24	FL370	-49.5	2.6	2:00
												FL390	-52.7	6.2	2:30				
LHR-SEA	10/20/78	105	8:49	-57	FL365	8:39	49.7N	120.0W	FL329	-48.8	4.2	FL310	-47.0	3.3	5:28	FL350	-50.7	3.3	2:04
LHR-SEA	11/ 5/76	98	8:14	-61	FL346	2:38	70.5N	35.3W	FL349	-47.1	4.7	FL329	-53.1	3.6	1:08	FL349	-49.3	4.7	1:59
												FL368	-45.3	.9	2:37				
LHR-SEA	12/ 8/77	97	8:06	-64	FL350	2:53	68.1N	41.2W	FL343	-54.8	3.9	FL349	-56.5	2.8	2:24	FL369	-55.0	3.0	2:58
LHR-SEA	12/10/77	100	8:18	-60	FL351	8:18	48.7N	121.1W	FL349	-53.0	3.8	FL309	-47.4	2.5	1:20	FL330	-55.5	2.1	1:18
												FL350	-53.0	2.3	1:45	FL370	-55.4	1.4	2:15
LHR-SEA	12/28/76	109	8:30	-66	FL370	2:54	65.1N	38.2W	FL364	-60.6	4.1	FL349	-58.3	4.0	2:09	FL370	-61.2	3.9	5:15

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
LHR-SFO	6/11/77	106	9:26	-62	FL410	9:21	39.0N	122.5W	FL387	-47.1	6.3	FL371	-48.7	5.6	2:44	FL389	-42.1	2.9	3:15
												FL409	-52.6	3.8	2:46				
LHR-SFO	6/12/78	112	9:25	-61	FL390	9:14	38.8N	120.0W	FL348	-47.0	7.6	FL310	-42.9	1.6	2:00	FL330	-40.2	2.7	1:54
												FL350	-44.2	2.0	1:10	FL390	-58.8	1.5	2:15
LHR-SFO	6/13/77	110	9:24	-56	FL369	9:24	39.1N	122.6W	FL396	-46.9	4.7	FL389	-44.1	3.7	5:34	FL409	-50.8	2.3	3:20
LHR-SFO	6/14/77	107	9:19	-59	FL370	0:10	54.7N	3.3W	FL390	-48.0	4.9	FL370	-52.4	4.0	1:34	FL390	-45.5	4.9	4:34
												FL409	-49.3	1.2	2:34				
LHR-SFO	6/15/77	134	9:24	-60	FL410	9:19	39.7N	122.4W	FL391	-47.1	6.3	FL390	-45.2	6.0	5:49	FL409	-50.8	4.3	2:30
LHR-SFO	6/18/77	111	9:19	-64	FL390	1:39	58.4N	23.2W	FL397	-54.2	5.5	FL389	-56.8	4.8	4:04	FL409	-52.1	5.2	4:34
LHR-SFO	6/20/77	111	9:14	-63	FL390	1:00	58.3N	12.7W	FL388	-52.7	6.3	FL390	-52.7	6.3	8:29				
LHR-SFO	6/22/77	112	9:22	-67	FL410	8:52	42.6N	120.4W	FL384	-51.1	7.5	FL369	-47.9	8.4	2:37	FL390	-47.9	2.9	2:39
												FL410	-57.8	5.7	3:00				
LHR-SFO	6/25/77	104	9:19	-65	FL410	8:39	44.3N	121.8W	FL389	-47 3	8.2	FL369	-44.1	2.5	3:24	FL390	-41.5	2.3	2:40
												FL409	-55.2	9.3	2:45				
LHR-SFO	6/27/77	113	9:29	-64	FL409	8:19	47.5N	117.7W	FL382	-48.8	7.7	FL350	-47.5	6.4	2:00	FL370	-42.0	2.9	1:49
												FL390	-47.2	4.3	2:30	FL409	-56.6	7.4	2:39
LHR-SFO	6/29/77	107	9:09	-66	FL409	8:14	46.0N	118.7W	FL388	-48.2	7.6	FL390	-43.9	1.8	5:29	FL409	-58.9	7.4	1:58
LHR-SFO	7/11/78	114	9:24	-59	FL390	7:04	57.2N	117.8W	FL357	-45.1	4.9	FL309	-45.5	1.0	2:24	FL369	-40.4	.6	1:50
												FL390	-50.4	3.4	3:04				
LHR-SFO	8/20/77	105	9:03	-59	FL351	4:03	69.8N	75.3W	FL346	-50.6	5.7	FL309	-48.9	.8	1:30	FL330	-55.2	.8	2:15
												FL350	-44.6	5.3	2:06	FL389	-56.1	1.2	1:21
LHR-SFO	10/ 9/78	114	9:29	-60	FL387	7:14	52.7N	106.2W	FL352	-53.3	5.0	FL330	-52.1	3.4	2:19	FL350	-51.7	4.9	4:05
												FL390	-59.0	.5	2:05				
LHR-SFO	10/21/78	110	9:11	-58	FL350	3:03	69.4N	43.7W	FL341	-50.9	4.0	FL310	-48.2	2.5	1:30	FL350	-52.0	2.9	5:00
LPA-BGR	12/13/78	66	5:40	-52	FL310	4:20	41.8N	55.3W	FL306	-43.9	3.9	FL309	-43.9	4.1	4:50				
MEL-AKL	1/12/78	27	2:10	-49	FL330	1:24	37.9S	164.1E	FL329	-44.9	3.9	FL330	-45.6	3.1	2:04				
MEL-AKL	1/17/78	27	2:15	-46	FL330	2:09	37.4S	171.7E	FL329	-42.9	2.5	FL330	-43.3	1.7	2:09				
MEL-AKL	1/24/78	31	2:13	-46	FL330	0:04	37.4S	148.8E	FL329	-42.2	1.7	FL329	-42.3	1.7	2:08				
MEL-AKL	2/16/78	22	1:54	-52	FL331	1:15	37.9S	165.2E	FL330	-47.8	2.7	FL330	-47.8	2.7	1:54				
MEL-AKL	2/23/78	29	2:19	-48	FL331	1:39	37.9S	165.6E	FL330	-46.3	1.4	FL330	-46.5	.8	2:15				
MEL-AKL	2/28/78	30	2:21	-47	FL330	1:56	37.7S	168.6E	FL328	-43.5	2.6	FL329	-43.8	2.1	2:07				
MEL-AKL	12/24/77	26	2:09	-54	FL351	0:54	38.0S	158.3E	FL341	-49.8	2.9	FL350	-51.5	1.8	1:15				
MEL-BKK	8/14/76	92	7:59	-43	FL351	5:29	6.6S	107.7E	FL319	-38.4	3.6	FL310	-36.1	2.3	4:09	FL350	-42.9	.3	2:35
MEL-BKK	12/ 7/77	93	7:46	-54	FL390	7:16	8.1N	101.6E	FL354	-46.0	4.5	FL340	-47.9	1.4	1:50	FL350	-42.4	2.0	3:31
												FL390	-53.3	.5	1:19				
MEL-BKK	12/14/77	91	7:55	-44	FL350	5:30	4.7S	111.3E	FL331	-39.4	4.2	FL310	-35.6	2.9	3:14	FL350	-42.8	.7	4:21
MEL-CHC	11/12/76	58	4:08	-60	FL370	2:26	54.1S	161.3E	FL358	-55.7	3.0	FL350	-55.5	1.1	2:11	FL370	-56.8	1.6	1:37
MEL-CHC	12/19/77	23	1:49	-50	FL330	0:04	37.6S	149.2E	FL329	-44.8	3.1	FL330	-45.0	3.1	1:44				
MEL-KUL	12/18/76	75	6:29	-42	FL350	4:09	11.6S	117.9E	FL331	-38.4	3.6	FL310	-36.5	3.8	2:04	FL330	-35.0	1.1	1:15
												FL350	-41.5	.6	2:49				
MEL-MEL	11/11/76	29	1:45	-52	FL360	1:13	36.7S	141.9E	FL335	-47.6	3.5	FL360	-50.6	.7	1:07				
MEL-PER	1/27/77	36	2:54	-49	FL350	0:09	37.7S	141.0E	FL348	-45.3	3.1	FL350	-45.6	2.3	2:44				
MEL-PER	2/ 2/77	35	2:55	-60	FL390	0:15	37.7S	140.3E	FL383	-54.1	4.6	FL389	-55.1	2.1	2:30				
MEL-PER	2/16/77	34	2:45	-52	FL390	0:20	37.5S	139.5E	FL386	-49.8	3.6	FL390	-50.6	.9	2:30				
MEL-PER	3/23/77	39	3:10	-51	FL389	1:30	35.6S	130.7E	FL342	-43.1	7.1	FL350	-46.2	.7	1:09				
MEL-PER	4/ 3/77	31	2:44	-53	FL351	0:30	37.3S	138.3E	FL341	-49.6	3.6	FL350	-51.2	.8	2:09				
MEL-PER	4/24/77	31	2:29	-51	FL311	0:04	37.7S	141.5E	FL309	-49.7	2.3	FL310	-50.1	1.2	2:24				
MEL-PER	5/ 3/77	34	2:43	-47	FL311	0:44	36.5S	135.0E	FL309	-45.4	1.8	FL310	-45.7	.9	2:37				
MEL-PER	6/16/77	13	1:59	-48	FL310	0:00	36.2S	133.4E	FL309	-42.4	3.6	FL309	-42.4	3.6	1:59				
MEL-PER	6/24/77	37	2:32	-60	FL350	0:21	37.4S	139.1E	FL347	-51.1	5.3	FL350	-51.1	5.3	0:00				
MEL-PER	7/ 3/77	28	2:49	-59	FL350	1:49	34.6S	126.0E	FL345	-56.5	2.0	FL350	-56.8	1.2	2:19				
MEL-PER	7/20/77	39	2:33	-54	FL351	1:01	36.0S	132.2E	FL342	-50.1	2.6	FL350	-50.8	2.4	1:43				
MEL-PER	7/27/77	35	3:00	-54	FL350	0:35	37.2S	137.9E	FL348	-51.7	2.1	FL350	-52.3	.8	2:44				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
MEL-PER	8/ 9/77	34	2:56	-50	FL311	1:31	35.6S	129.1E	FL303	-45.4	4.0	FL310	-48.0	.9	1:41				
MEL-PER	8/15/77	35	2:59	-56	FL351	0:30	37.3S	138.4E	FL358	-49.8	3.3	FL350	-52.3	3.2	1:15	FL370	-48.1	.8	1:19
MEL-PER	9/ 2/77	34	2:47	-47	FL290	1:00	36.2S	133.2E	FL325	-43.6	1.7	FL351	-42.4	1.0	1:14				
MEL-PER	10/23/77	34	2:49	-61	FL390	1:30	35.0S	127.8E	FL365	-55.4	5.1	FL349	-54.5	.6	1:14	FL390	-58.3	2.2	1:14
MEL-PER	10/26/77	29	2:49	-62	FL390	0:45	36.6S	135.6E	FL386	-60.0	4.5	FL390	-61.0	.8	2:24				
MEL-PER	11/ 9/77	36	3:09	-57	FL391	2:04	34.6S	125.9E	FL356	-48.5	7.3	FL350	-46.5	5.2	1:49				
MEL-PER	11/20/77	32	2:37	-60	FL380	0:58	36.1S	133.1E	FL368	-54.6	3.4	FL380	-55.0	2.7	1:34				
MEL-PER	12/ 2/77	36	2:59	-57	FL390	2:19	34.0S	123.2E	FL355	-49.7	4.7	FL350	-48.9	.7	1:59				
MEL-PER	12/26/77	33	2:44	-49	FL351	0:14	37.7S	140.4E	FL347	-47.0	3.4	FL350	-47.8	.6	2:29				
MEL-PER	12/28/76	35	2:54	-51	FL350	0:15	37.3S	140.7E	FL348	-48.8	2.6	FL350	-49.3	.6	2:44				
MEL-SIN	2/21/77	74	6:19	-54	FL390	5:59	2.9S	104.7E	FL362	-43.4	6.4	FL350	-39.3	1.0	3:58	FL390	-52.7	.8	1:55
MEL-SIN	5/14/77	72	6:09	-49	FL311	0:05	36.0S	141.1E	FL328	-41.4	5.1	FL310	-40.6	6.8	3:09	FL350	-42.3	.6	2:49
MEL-SIN	5/20/77	81	6:45	-48	FL311	0:49	34.1S	137.0E	FL330	-43.1	2.9	FL311	-43.4	4.1	3:09	FL350	-43.0	.6	3:15
MEL-SIN	5/23/77	80	6:57	-46	FL311	0:10	36.0S	140.9E	FL324	-40.8	4.5	FL311	-43.3	1.3	2:25	FL350	-43.1	.5	2:39
MEL-SIN	6/ 9/77	80	6:04	-52	FL310	0:09	35.7S	140.3E	FL332	-43.6	3.1	FL310	-47.2	3.1	1:35	FL340	-41.6	1.6	1:08
MEL-SIN	6/21/77	67	6:02	-48	FL310	0:14	35.4S	139.7E	FL339	-42.9	2.3	FL330	-40.6	1.8	1:08	FL350	-42.5	.6	0:00
MEL-SIN	7/15/77	72	6:09	-50	FL310	0:05	36.1S	141.1E	FL329	-40.4	5.7	FL310	-39.1	7.4	2:54	FL349	-42.1	.6	2:54
MEL-SIN	7/23/77	78	6:39	-49	FL310	0:45	33.3S	135.6E	FL310	-36.1	6.1	FL310	-36.1	6.1	6:39				
MEL-SIN	7/30/77	76	6:29	-49	FL310	0:04	34.8S	142.6E	FL328	-39.1	5.7	FL310	-35.7	6.0	3:19	FL350	-43.0	.6	2:55
MEL-SIN	8/23/77	73	6:24	-48	FL310	0:05	35.1S	142.8E	FL332	-39.9	4.2	FL310	-40.1	5.4	2:09	FL349	-41.1	.7	3:15
MEL-SIN	8/26/77	77	6:44	-51	FL330	0:09	34.7S	142.5E	FL339	-42.4	3.9	FL330	-42.3	5.5	3:15	FL350	-42.5	.5	3:10
MEL-SIN	10/13/77	74	6:34	-49	FL350	0:54	29.9S	138.0E	FL345	-43.3	1.5	FL350	-43.6	1.3	5:39				
MEL-SIN	10/25/76	84	7:15	-55	FL350	0:15	36.1S	141.3E	FL356	-46.6	7.5	FL349	-46.7	4.5	2:30	FL390	-54.2	.4	2:11
MEL-SIN	11/ 4/76	78	6:29	-56	FL350	0:29	34.5S	137.7E	FL357	-49.1	4.8	FL350	-48.3	4.9	5:04	FL390	-53.0	.5	1:09
MEL-SIN	11/12/77	76	6:24	-47	FL321	0:05	35.1S	142.8E	FL321	-36.4	4.3	FL330	-38.5	1.4	2:54	FL310	-31.6	.5	2:25
MEL-SIN	12/ 4/76	77	6:30	-47	FL350	1:15	31.6S	132.9E	FL342	-42.4	2.2	FL309	-41.6	2.1	1:04	FL350	-42.6	2.2	5:15
MEL-SIN	12/20/77	76	6:14	-43	FL310	0:05	36.0S	141.0E	FL331	-40.5	2.6	FL310	-38.5	2.5	2:45	FL351	-42.4	.5	3:15
MEL-SYD	2/ 5/77	13	1:00	-59	FL391	0:34	34.1S	144.6E	FL375	-53.8	7.0								
MEX-IAH	1/22/79	30	1:07	-54	FL359	1:04	28.6N	96.4W	FL362	-49.3	5.4								
MEX-IAH	5/29/79	19	1:30	-52	FL370	1:10	28.9N	95.5W	FL359	-47.3	7.5	FL370	-50.4	1.0	1:10				
MIA-CCS	4/15/79	23	1:49	-37	FL331	1:04	17.4N	71.4W	FL298	-30.6	3.3								
MIA-CCS	4/15/79	24	1:54	-52	FL370	0:24	22.0N	75.0W	FL363	-47.3	4.8	FL370	-49.0	1.4	1:34				
MIA-CCS	4/16/79	24	1:54	-50	FL370	0:09	23.7N	77.0W	FL366	-47.8	2.9	FL370	-48.5	.9	1:44				
MIA-CCS	4/16/79	24	1:54	-42	FL331	0:04	24.0N	77.5W	FL330	-38.1	2.0	FL330	-38.1	2.0	1:50				
MIA-CCS	4/25/76	23	1:49	-44	FL331	0:09	23.4N	76.6W	FL329	-41.1	2.3	FL330	-41.4	1.8	1:39				
MIA-CLE	3/24/75	17	1:22	-66	FL410	0:47	34.3N	81.8W	FL387	-56.8	8.0								
MIA-CLE	3/25/75	19	1:30	-57	FL371	0:15	29.9N	81.3W	FL382	-50.1	6.2								
MIA-CLE	3/26/75	21	1:39	-61	FL411	1:30	38.5N	81.8W	FL374	-56.0	4.4								
MIA-CLE	3/27/75	19	1:39	-64	FL411	0:50	33.5N	82.1W	FL384	-56.8	7.7								
MIA-CLE	3/28/75	20	1:34	-65	FL406	1:24	38.5N	81.8W	FL388	-58.2	8.5								
MIA-CLE	3/29/75	21	1:32	-53	FL370	0:09	29.1N	81.0W	FL340	-47.3	5.5								
MIA-CUR	4/14/79	25	2:00	-40	FL332	0:09	23.6N	76.7W	FL330	-38.2	2.0	FL331	-38.6	.7	1:55				
MIA-MIQ	5/ 4/75	22	1:44	-45	FL330	0:09	23.3N	76.4W	FL326	-40.2	3.5	FL329	-41.0	1.7	1:29				
MIQ-GIG	5/ 3/75	54	4:30	-53	FL369	4:15	19.6S	45.7W	FL367	-50.8	3.0	FL369	-51.3	.8	4:20				
MIQ-GIG	5/ 4/75	57	4:26	-53	FL369	4:22	20.8S	45.0W	FL368	-50.4	3.1	FL369	-51.0	.7	4:11				
MIQ-GUA	3/30/75	31	2:29	-47	FL350	1:14	11.8N	78.8W	FL345	-44.5	4.2	FL349	-45.7	.6	2:10				
MIQ-GUA	5/ 5/75	32	2:34	-47	FL350	1:49	13.0N	83.2W	FL346	-45.1	4.4	FL349	-46.2	.6	2:24				
MIQ-GUA	5/15/75	30	2:25	-47	FL349	1:55	13.5N	85.4W	FL335	-41.9	6.0	FL349	-46.1	.4	1:35				
MIQ-MIA	5/ 3/75	26	2:10	-58	FL390	2:00	24.4N	77.8W	FL374	-52.3	7.5	FL389	-56.3	.7	1:35				
MNL-GUM	2/ 4/76	25	2:19	-52	FL370	0:04	14.6N	124.4E	FL368	-50.2	2.7	FL370	-50.9	.6	2:10				
MNL-GUM	3/19/77	29	2:18	-50	FL371	0:20	14.5N	126.7E	FL363	-47.0	5.5	FL370	-48.9	.4	1:59				
MNL-GUM	3/31/79	29	2:19	-49	FL370	1:09	14.3N	133.5E	FL357	-44.4	6.6	FL370	-48.0	.4	1:39				
MNL-GUM	4/ 8/78	27	2:15	-50	FL370	0:19	14.5N	127.2E	FL369	-47.5	1.7	FL370	-47.7	1.2	2:04				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
MNL-GUM	4/ 9/79	28	2:15	-47	FL370	0:15	14.6N	125.7E	FL363	-44.4	5.1	FL370	-46.3	.6	1:54				
MNL-GUM	4/17/77	27	2:15	-49	FL371	0:15	14.6N	125.8E	FL367	-47.2	3.3	FL370	-48.0	.3	2:04				
MNL-GUM	4/20/79	28	2:14	-48	FL370	1:34	14.0N	137.7E	FL363	-45.3	6.0	FL370	-47.2	.4	1:59				
MNL-GUM	5/17/75	25	2:15	-42	FL330	0:49	14.2N	130.3E	FL327	-40.4	2.9	FL329	-41.1	.6	2:06				
MNL-GUM	5/18/79	29	2:19	-47	FL370	1:30	14.1N	136.6E	FL365	-44.6	4.4	FL369	-46.0	.7	2:00				
MNL-GUM	5/29/75	30	2:25	-41	FL330	2:15	13.8N	141.6E	FL327	-38.6	2.9	FL329	-39.3	1.0	2:15				
MNL-GUM	6/19/77	29	2:18	-50	FL370	1:28	14.1N	136.3E	FL361	-46.5	6.4	FL370	-48.7	.6	1:59				
MNL-GUM	7/11/77	32	2:34	-50	FL371	2:30	13.6N	142.7E	FL364	-46.7	5.8	FL370	-48.4	.7	2:20				
MNL-GUM	7/13/78	30	2:24	-52	FL371	1:19	14.2N	134.4E	FL365	-49.0	5.1	FL370	-50.4	.6	2:09				
MNL-GUM	7/16/77	29	2:20	-49	FL371	1:41	14.0N	137.7E	FL351	-42.3	7.0	FL370	-48.3	.6	1:15				
MNL-GUM	7/17/78	27	2:20	-48	FL370	1:00	14.2N	132.0E	FL352	-43.0	5.9	FL370	-47.9	.2	1:15				
MNL-GUM	8/12/78	28	2:15	-38	FL331	0:34	14.2N	128.6E	FL326	-36.3	2.3	FL330	-37.2	.4	1:55				
MNL-GUM	8/25/77	27	2:30	-50	FL370	1:15	14.3N	133.4E	FL363	-46.9	6.1	FL370	-48.9	.7	2:15				
MNL-GUM	10/25/77	25	2:18	-49	FL370	1:43	14.0N	138.3E	FL365	-46.7	4.3	FL370	-48.2	.5	2:03				
MNL-GUM	11/13/76	28	2:14	-48	FL369	0:14	14.5N	126.2E	FL363	-44.9	4.6	FL368	-46.4	.6	2:00				
MNL-GUM	12/ 4/76	32	2:29	-48	FL371	0:24	14.4N	126.6E	FL365	-46.4	4.4	FL370	-47.9	.3	2:15				
MNL-GUM	12/11/76	27	2:20	-50	FL370	0:15	14.6N	125.6E	FL367	-48.4	3.3	FL370	-49.3	.4	2:05				
MNL-GUM	12/29/78	25	2:05	-48	FL370	0:11	14.5N	126.9E	FL365	-46.8	3.7	FL369	-48.0	.2	1:49				
MNL-SYD	1/ 1/77	74	6:15	-58	FL396	5:49	29.1S	147.3E	FL350	-42.4	5.8	FL329	-37.0	.6	2:45	FL369	-46.4	.6	2:20
MNL-SYD	1/ 4/77	79	6:20	-52	FL370	6:00	29.8S	151.4E	FL347	-41.0	5.4	FL330	-36.8	.7	3:25	FL369	-46.6	2.7	2:38
MNL-SYD	2/26/77	78	6:28	-47	FL370	3:13	10.3S	135.3E	FL349	-41.2	4.2	FL330	-37.9	1.1	2:48	FL370	-45.0	1.3	3:15
MNL-SYD	7/19/77	75	6:14	-48	FL370	4:34	21.6S	140.2E	FL345	-40.5	5.2	FL330	-36.6	.7	2:34	FL350	-41.4	.5	1:21
												FL370	-47.5	.8	1:33				
MNL-SYD	7/26/77	71	5:52	-51	FL323	5:50	32.7S	149.8E	FL318	-34.3	8.2	FL290	-26.5	.8	2:44	FL350	-42.2	1.5	2:34
MNL-SYD	8/17/76	76	6:24	-51	FL370	4:39	21.3S	139.9E	FL349	-43.6	5.4	FL330	-38.6	.6	2:34	FL369	-49.4	.9	2:05
MNL-SYD	9/27/77	64	6:19	-49	FL370	3:54	15.9S	137.9E	FL348	-42.5	5.5	FL330	-37.8	.4	2:24	FL370	-47.8	.8	2:20
MNL-SYD	10/ 5/76	72	6:16	-58	FL371	6:16	32.5S	150.1E	FL330	-39.3	8.6	FL290	-27.9	.2	1:20	FL330	-39.1	1.0	2:59
MNL-SYD	10/11/77	73	6:30	-51	FL331	6:15	31.2S	148.8E	FL336	-41.8	5.6	FL330	-37.7	.6	3:20	FL330	-45.8	4.3	1:49
MNL-SYD	10/23/76	74	6:15	-44	FL330	6:09	32.1S	149.5E	FL310	-34.4	6.3	FL290	-28.2	.4	2:54	FL330	-40.4	1.9	3:05
MNL-SYD	11/29/77	68	6:14	-51	FL370	6:09	31.6S	149.0E	FL341	-40.8	5.7	FL330	-37.5	.5	4:04	FL370	-48.9	.8	1:39
MRU-JNB	1/27/77	30	2:44	-36	FL310	0:34	22.2S	49.6E	FL310	-33.1	1.7	FL310	-33.2	1.6	2:39				
MRU-JNB	2/ 3/77	38	2:55	-42	FL351	0:15	21.5S	52.6E	FL344	-39.3	3.5	FL350	-40.6	1.2	2:35				
MRU-JNB	2/17/77	30	2:49	-33	FL310	0:30	21.8S	51.4E	FL309	-31.6	1.5	FL309	-31.9	.4	2:45				
MRU-JNB	3/24/77	36	2:54	-40	FL311	2:34	25.9S	32.5E	FL310	-36.1	2.8	FL310	-36.3	2.5	2:45				
MRU-PER	1/28/77	66	5:34	-45	FL321	3:19	29.9S	91.2E	FL315	-39.5	4.6	FL300	-33.1	1.0	1:09	FL320	-41.9	1.9	4:04
MRU-PER	2/ 4/77	67	5:31	-54	FL370	4:52	31.6S	107.2E	FL346	-45.8	5.0	FL330	-40.8	1.0	1:05	FL350	-46.4	.6	1:30
MRU-PER	2/18/77	65	5:24	-47	FL380	3:19	30.0S	91.7E	FL364	-43.6	3.7	FL340	-39.1	.2	1:30	FL380	-46.9	.4	2:09
MRU-PER	3/25/77	64	5:24	-59	FL380	3:20	29.9S	91.7E	FL362	-49.9	6.8	FL340	-43.3	1.3	2:00	FL379	-55.1	2.3	3:00
MRU-PER	6/17/77	32	3:09	-53	FL371	3:04	31.8S	113.3E	FL360	-46.0	3.0	FL360	-45.6	.5	1:04				
MUC-ATH	10/30/76	23	1:25	-38	FL290	0:00	47.0N	13.5E	FL290	-33.1	2.9	FL290	-33.1	2.9	1:25				
MUC-SNN	11/30/78	17	1:24	-61	FL328	0:00	50.1N	10.4E	FL347	-59.2	1.5	FL349	-59.3	1.1	1:09				
NAN-HNL	1/ 5/77	62	4:56	-46	FL370	3:21	8.9N	165.5W	FL345	-39.2	5.2	FL329	-35.5	.7	2:41	FL369	-45.3	.6	1:54
NAN-HNL	1/13/77	59	5:00	-48	FL370	2:50	4.2N	167.8W	FL359	-44.0	5.0	FL330	-36.0	.4	1:04	FL369	-46.8	.6	3:45
NAN-HNL	1/13/78	61	5:04	-50	FL370	2:30	1.9N	169.7W	FL350	-43.3	4.9	FL329	-38.4	.8	2:14	FL369	-48.0	.9	2:34
NAN-HNL	1/18/78	60	4:53	-48	FL370	0:54	9.2S	176.6W	FL362	-45.2	4.4	FL370	-47.3	.5	3:53				
NAN-HNL	1/20/78	58	4:53	-48	FL370	2:23	1.2N	170.2W	FL355	-42.8	5.4	FL329	-36.2	.4	1:39	FL369	-46.6	1.1	2:59
NAN-HNL	2/11/77	59	5:04	-49	FL370	4:54	18.4N	159.0W	FL359	-43.9	5.1	FL370	-46.8	.8	3:39				
NAN-HNL	2/19/77	65	5:11	-49	FL370	3:36	8.9N	165.4W	FL368	-46.7	2.8	FL370	-47.3	.7	4:56				
NAN-HNL	2/28/77	58	5:00	-54	FL370	4:54	19.3N	158.3W	FL360	-45.7	5.0	FL370	-48.3	1.3	3:45				
NAN-HNL	3/19/77	55	5:00	-47	FL370	2:20	1.0N	170.4W	FL352	-41.1	5.2	FL330	-35.8	.5	2:04	FL370	-45.7	.8	2:39
NAN-HNL	3/21/77	66	4:49	-47	FL371	0:53	9.2S	177.1W	FL354	-42.3	5.0	FL370	-45.2	1.8	3:20				
NAN-HNL	4/12/78	56	4:33	-53	FL370	4:33	18.8N	158.6W	FL370	-46.8	1.4	FL369	-46.8	1.3	4:28				
NAN-HNL	4/18/77	58	4:50	-51	FL371	4:45	18.7N	158.7W	FL347	-41.1	6.0	FL331	-36.5	.6	2:25	FL370	-47.7	1.0	2:04

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
NAN-HNL	4/30/77	61	4:56	-52	FL370	4:52	19.0N	158.5W	FL340	-40.4	6.4	FL330	-37.3	.5	3:16	FL370	-50.1	.9	1:20
NAN-HNL	5/ 6/77	57	4:49	-51	FL371	3:40	10.5N	163.9W	FL367	-48.6	3.6	FL370	-49.5	.8	4:30				
NAN-HNL	6/ 2/79	59	4:49	-53	FL370	4:24	17.1N	159.9W	FL356	-45.7	6.3	FL330	-37.8	.4	1:19	FL370	-50.0	1.5	3:04
NAN-HNL	6/ 6/77	23	2:19	-51	FL371	2:15	18.9N	158.6W	FL369	-48.9	2.4	FL371	-49.4	.7	2:04				
NAN-HNL	6/18/77	56	5:10	-48	FL371	2:10	1.2S	171.8W	FL351	-42.5	6.6	FL331	-37.0	.6	1:49	FL370	-47.7	.5	2:54
NAN-HNL	7/ 9/77	65	5:10	-48	FL370	4:25	14.4N	161.7W	FL348	-40.9	5.9	FL330	-36.2	1.3	2:15	FL369	-46.7	1.0	2:29
NAN-HNL	7/22/77	63	5:07	-50	FL370	0:43	10.6S	177.7W	FL367	-48.3	3.6	FL370	-49.2	.4	4:44				
NAN-HNL	7/24/77	60	5:06	-50	FL370	3:28	8.0N	165.6W	FL356	-45.4	5.7	FL331	-38.2	1.4	1:29	FL370	-49.4	.6	3:18
NAN-HNL	8/ 5/78	63	5:04	-51	FL371	2:00	2.2S	171.4W	FL362	-47.7	4.9	FL370	-49.9	.7	4:04				
NAN-HNL	8/27/76	71	5:03	-49	FL370	4:48	17.9N	159.3W	FL368	-44.3	3.1	FL369	-44.8	1.4	4:48				
NAN-HNL	8/29/76	77	5:00	-48	FL390	3:38	9.7N	164.8W	FL371	-42.8	3.8	FL368	-42.2	.6	3:07	FL389	-46.9	1.0	1:21
NAN-HNL	9/ 8/77	62	5:04	-48	FL370	2:39	2.9N	168.7W	FL352	-42.6	5.5	FL330	-37.1	.4	1:59	FL369	-47.3	.5	2:45
NAN-HNL	9/ 9/78	60	5:15	-57	FL395	4:15	12.6N	162.6W	FL374	-51.4	5.2	FL369	-50.0	.6	2:45	FL390	-56.3	.6	1:09
NAN-HNL	9/10/77	62	5:12	-49	FL370	2:30	1.5N	170.1W	FL352	-43.4	5.9	FL330	-37.3	.7	2:09	FL370	-48.6	.5	2:37
NAN-HNL	9/12/77	45	5:09	-51	FL370	1:35	4.5S	173.6W	FL363	-48.2	4.8	FL369	-50.2	.7	3:53				
NAN-HNL	9/29/77	59	5:04	-50	FL370	4:24	14.9N	161.4W	FL357	-45.3	5.4	FL330	-37.9	.5	1:10	FL369	-48.6	.8	3:34
NAN-HNL	10/ 1/77	56	5:09	-49	FL370	4:09	12.5N	162.2W	FL356	-44.6	5.1	FL330	-37.9	.7	1:30	FL369	-48.2	.5	3:24
NAN-HNL	10/ 3/76	56	5:05	-52	FL370	5:00	18.9N	158.8W	FL344	-42.9	5.7	FL330	-39.2	.8	2:46	FL370	-49.8	.8	1:48
NAN-HNL	10/ 3/77	62	5:09	-50	FL371	4:49	17.0N	159.9W	FL368	-47.8	3.9	FL370	-48.5	.7	4:54				
NAN-HNL	10/13/76	57	4:58	-50	FL370	2:56	5.2N	167.7W	FL353	-44.8	5.1	FL330	-39.0	1.1	1:53	FL369	-49.0	.7	0:00
NAN-HNL	10/21/76	56	4:56	-50	FL370	2:56	5.6N	167.5W	FL351	-44.0	5.7	FL330	-37.9	.5	2:07	FL370	-49.3	.5	2:30
NAN-HNL	10/29/76	60	5:01	-50	FL370	3:19	7.4N	166.1W	FL342	-41.1	7.8	FL310	-32.6	.5	1:30	FL369	-48.3	1.0	2:36
NAN-HNL	11/14/78	59	4:54	-53	FL370	4:39	17.9N	159.4W	FL355	-46.5	6.0	FL330	-39.5	.7	1:19	FL369	-50.4	1.3	3:14
NAN-HNL	11/18/76	61	5:01	-51	FL365	5:01	19.6N	158.1W	FL354	-43.6	6.1	FL330	-37.9	.7	1:45	FL369	-47.3	4.1	2:56
NAN-HNL	11/26/76	57	4:49	-49	FL369	4:24	16.4N	160.4W	FL346	-41.4	5.3	FL329	-37.0	.8	2:45	FL369	-47.7	.7	1:54
NAN-HNL	12/ 2/76	62	5:06	-50	FL370	4:56	18.7N	158.8W	FL345	-41.2	6.0	FL329	-36.5	.6	2:41	FL369	-48.4	.7	2:00
NAN-HNL	12/13/76	62	5:02	-38	FL330	4:47	17.5N	159.6W	FL305	-29.3	5.3	FL290	-25.3	.9	2:56	FL329	-35.9	1.1	1:51
NAN-HNL	12/15/76	60	4:59	-49	FL370	4:34	16.9N	160.1W	FL337	-38.6	4.8	FL329	-36.4	.6	3:39				
NAN-HNL	12/16/77	62	5:07	-46	FL370	2:19	.8N	169.6W	FL356	-42.0	5.4	FL330	-35.2	.9	1:25	FL370	-45.6	.5	3:22
NAN-HNL	12/23/76	58	4:59	-49	FL370	4:44	17.9N	159.4W	FL350	-42.2	6.0	FL329	-36.9	.7	2:04	FL369	-47.5	.7	2:34
NAN-HNL	12/24/76	70	6:02	-33	FL290	5:52	18.4N	158.7W	FL290	-28.8	1.5	FL290	-28.8	1.5	5:57				
NAN-HNL	12/25/76	65	5:07	-54	FL370	4:57	18.8N	158.7W	FL351	-43.5	6.2	FL330	-37.3	.5	2:09	FL369	-48.9	2.1	2:37
NAN-HNL	12/26/76	59	5:01	-55	FL370	4:56	18.5N	158.9W	FL368	-49.3	2.9	FL370	-49.8	1.8	4:46				
NAN-SYD	1/ 6/77	38	3:15	-47	FL350	3:05	33.0S	154.6E	FL346	-37.9	4.5	FL350	-38.7	3.0	2:55				
NAN-SYD	1/ 8/78	36	3:04	-40	FL351	0:15	20.9S	173.9E	FL348	-38.1	1.9	FL350	-38.5	.8	2:45				
NAN-SYD	1/ 9/78	37	3:04	-44	FL335	3:00	33.4S	153.2E	FL347	-38.7	2.3	FL350	-39.0	1.0	2:44				
NAN-SYD	1/14/77	41	3:11	-46	FL351	3:07	33.4S	153.2E	FL346	-40.0	4.9	FL350	-41.1	2.6	2:55				
NAN-SYD	1/15/77	38	3:11	-44	FL350	2:11	30.7S	160.4E	FL348	-40.4	3.6	FL350	-41.0	2.6	3:01				
NAN-SYD	1/19/78	39	3:20	-51	FL351	2:40	31.8S	158.4E	FL345	-45.8	5.7	FL350	-47.5	1.8	3:00				
NAN-SYD	1/29/78	39	3:20	-46	FL351	0:45	22.8S	171.5E	FL345	-42.2	4.8	FL350	-43.7	1.4	2:54				
NAN-SYD	1/30/78	40	3:19	-48	FL351	0:30	21.5S	173.1E	FL346	-42.2	4.3	FL350	-43.1	2.2	3:04				
NAN-SYD	2/ 5/78	35	2:54	-46	FL351	2:50	33.7S	153.7E	FL348	-41.4	2.8	FL350	-41.9	1.5	2:45				
NAN-SYD	2/12/77	36	2:58	-48	FL350	1:29	27.3S	165.5E	FL349	-44.1	3.3	FL350	-44.6	2.3	2:48				
NAN-SYD	2/20/77	39	3:19	-46	FL350	0:24	21.6S	172.9E	FL330	-39.6	4.6	FL350	-44.2	.5	1:39	FL310	-35.2	.7	1:24
NAN-SYD	3/15/77	38	3:05	-41	FL350	2:20	31.7S	158.7E	FL346	-38.1	3.7	FL350	-39.1	1.0	2:45				
NAN-SYD	3/20/77	36	3:00	-41	FL350	0:05	20.1S	174.8E	FL349	-40.1	1.8	FL349	-40.4	.7	2:54				
NAN-SYD	3/22/77	35	3:05	-51	FL350	2:40	32.5S	157.0E	FL344	-41.3	5.7	FL350	-41.7	3.5	2:30				
NAN-SYD	4/ 2/77	41	3:01	-50	FL350	2:19	31.4S	159.3E	FL347	-46.0	4.4	FL350	-46.8	2.2	2:47				
NAN-SYD	4/14/77	41	3:24	-54	FL351	3:05	32.9S	155.9E	FL350	-46.1	4.9	FL354	-44.9	1.7	1:14	FL350	-50.8	2.5	1:15
NAN-SYD	4/19/77	40	3:20	-52	FL351	3:15	33.6S	153.9E	FL349	-43.0	4.8	FL351	-43.6	3.9	3:10				
NAN-SYD	4/23/77	36	3:04	-41	FL280	2:54	32.9S	154.7E	FL280	-30.5	6.0	FL280	-30.5	6.0	3:04				
NAN-SYD	4/27/78	39	3:24	-54	FL349	2:39	30.2S	158.1E	FL349	-47.4	4.3	FL349	-47.3	4.3	3:19				
NAN-SYD	5/ 1/77	41	3:20	-53	FL350	2:04	28.9S	163.3E	FL341	-46.1	5.0	FL350	-47.6	4.1	2:30				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
NAN-SYD	5/ 5/77	47	3:35	-56	FL356	3:14	32.6S	155.8E	FL345	-48.3	4.5	FL351	-49.6	2.5	3:10				
NAN-SYD	5/ 6/77	43	3:45	-58	FL391	2:24	29.2S	162.7E	FL380	-53.5	6.2	FL390	-56.4	1.1	2:54				
NAN-SYD	6/ 1/79	41	2:58	-53	FL349	2:58	33.8S	152.6E	FL348	-45.0	4.3	FL350	-45.7	3.2	0:00				
NAN-SYD	6/19/77	38	3:26	-57	FL350	3:15	33.1S	154.2E	FL348	-46.5	5.4	FL349	-47.1	4.8	3:15				
NAN-SYD	7/ 2/77	40	3:19	-55	FL369	3:19	33.5S	152.9E	FL355	-45.7	3.4	FL350	-44.6	.9	2:39				
NAN-SYD	7/10/77	40	3:24	-53	FL350	3:19	33.4S	153.3E	FL347	-44.4	4.8	FL350	-45.0	4.3	3:09				
NAN-SYD	7/21/77	43	3:34	-53	FL351	3:30	33.0S	154.5E	FL349	-47.4	3.4	FL350	-47.9	2.2	3:24				
NAN-SYD	7/23/77	41	3:34	-51	FL370	2:49	30.4S	157.8E	FL353	-45.2	2.8	FL350	-44.9	.5	2:30				
NAN-SYD	8/ 4/78	39	3:09	-54	FL370	2:54	33.0S	154.7E	FL358	-48.3	4.1	FL350	-46.9	1.2	1:05	FL370	-51.6	1.5	1:39
NAN-SYD	8/20/76	39	3:28	-51	FL350	2:55	32.7S	157.5E	FL349	-43.6	5.1	FL350	-44.1	4.6	3:17				
NAN-SYD	8/28/76	43	3:29	-50	FL350	2:50	32.0S	157.7E	FL345	-42.2	5.1	FL349	-43.2	3.9	3:15				
NAN-SYD	9/ 8/78	39	3:15	-52	FL350	3:15	33.5S	153.1E	FL347	-47.4	4.2	FL350	-48.4	1.9	3:00				
NAN-SYD	9/ 9/77	39	3:24	-43	FL291	2:54	31.5S	156.7E	FL291	-33.0	5.9	FL290	-33.2	5.8	3:19				
NAN-SYD	9/11/77	35	3:15	-51	FL310	3:10	32.7S	155.3E	FL309	-37.4	6.3	FL309	-37.8	6.1	3:09				
NAN-SYD	9/13/77	21	2:16	-45	FL351	1:01	26.1S	167.8E	FL301	-34.7	4.4								
NAN-SYD	9/30/77	35	3:09	-47	FL310	2:00	29.8S	161.9E	FL309	-40.2	4.5	FL310	-40.6	4.0	3:00				
NAN-SYD	10/ 2/77	30	3:54	-57	FL370	2:00	28.9S	163.2E	FL325	-45.2	6.0	FL310	-44.0	.6	1:34				
NAN-SYD	10/ 4/76	39	2:47	-44	FL310	0:32	22.7S	171.7E	FL306	-41.9	2.9	FL309	-42.9	1.0	2:24				
NAN-SYD	10/ 4/77	40	3:35	-55	FL350	3:30	33.3S	153.6E	FL349	-48.3	5.6	FL350	-49.0	4.9	3:24				
NAN-SYD	10/ 9/76	43	3:04	-51	FL350	2:07	30.3S	161.1E	FL347	-45.5	4.0	FL349	-46.2	2.7	2:52				
NAN-SYD	10/14/76	41	2:58	-56	FL350	1:30	27.3S	165.6E	FL346	-48.7	5.3	FL349	-49.8	3.2	0:00				
NAN-SYD	10/22/76	16	1:20	-37	FL311	0:00	19.5S	175.4E	FL284	-29.8	2.6	FL280	-28.9	.3	1:09				
NAN-SYD	10/30/76	44	3:35	-46	FL310	3:00	32.1S	157.3E	FL297	-37.4	5.0	FL310	-34.2	1.2	1:04	FL280	-36.4	1.5	1:19
NAN-SYD	11/19/76	44	3:45	-56	FL390	2:45	30.8S	160.3E	FL364	-48.8	4.0	FL350	-46.8	.8	1:50	FL389	-52.9	1.6	1:20
NAN-SYD	11/27/76	40	3:30	-53	FL350	3:09	32.7S	155.7E	FL341	-45.2	6.5	FL350	-47.8	3.1	2:45				
NAN-SYD	12/ 3/76	36	3:15	-43	FL310	2:04	29.6S	162.1E	FL309	-39.0	4.1	FL309	-39.4	3.1	3:10				
NAN-SYD	12/10/77	40	3:24	-57	FL371	3:04	32.8S	155.1E	FL347	-48.0	7.2	FL350	-48.5	3.1	2:24				
NAN-SYD	12/14/76	39	3:15	-48	FL350	3:15	33.8S	153.1E	FL350	-44.5	1.7	FL350	-44.6	1.6	3:10				
NAN-SYD	12/15/77	40	3:15	-52	FL351	2:40	32.1S	157.8E	FL348	-47.1	4.1	FL350	-47.7	3.2	3:00				
NAN-SYD	12/16/76	40	3:20	-43	FL310	3:10	33.5S	154.6E	FL309	-36.4	3.0	FL310	-36.7	2.5	3:09				
NAN-SYD	12/23/76	43	3:27	-55	FL370	3:17	33.0S	154.5E	FL359	-49.7	4.5	FL350	-46.7	.5	1:20	FL370	-53.2	.7	1:48
NAN-SYD	12/24/76	41	3:24	-56	FL390	2:15	29.5S	162.3E	FL374	-50.0	5.1	FL369	-49.2	1.0	1:49	FL390	-53.9	1.1	1:10
NAN-SYD	12/25/76	38	3:15	-57	FL390	3:05	33.5S	154.4E	FL373	-51.4	4.5	FL370	-50.7	.5	1:55				
NAN-SYD	12/26/76	41	3:30	-59	FL390	3:04	32.5S	156.2E	FL370	-49.4	8.1	FL350	-42.3	.4	1:11	FL390	-55.9	2.3	1:54
NCE-JFK	4/26/79	90	7:24	-62	FL370	5:54	48.0N	57.9W	FL329	-50.7	4.8	FL310	-46.0	1.2	1:19	FL320	-49.5	2.1	3:34
												FL369	-58.0	2.1	1:45				
NOU-SYD	1/27/78	22	1:45	-47	FL351	1:24	32.4S	155.7E	FL349	-44.2	1.6	FL350	-44.5	1.3	1:34				
NOU-SYD	8/25/76	26	2:04	-50	FL350	1:24	30.7S	157.5E	FL326	-42.8	8.2	FL349	-49.1	.8	1:09				
NOU-SYD	10/12/77	24	1:58	-53	FL351	1:48	33.4S	154.4E	FL346	-46.5	5.0	FL350	-47.6	3.5	1:45				
NOU-SYD	10/19/77	24	2:04	-51	FL350	2:00	33.1S	153.4E	FL345	-43.9	5.1	FL349	-45.0	3.2	1:50				
NOU-SYD	11/30/77	20	1:50	-49	FL350	1:00	29.4S	159.0E	FL343	-44.5	5.8	FL350	-46.1	3.4	1:35				
NOU-SYD	12/14/77	25	2:00	-59	FL391	1:50	32.9S	154.0E	FL366	-50.7	7.5								
NRT-GUM	4/22/79	30	2:24	-57	FL370	0:09	33.2N	140.1E	FL367	-48.9	3.0	FL370	-49.1	2.4	2:15				
NRT-GUM	5/10/79	30	2:24	-51	FL370	0:09	33.6N	140.1E	FL364	-46.5	4.2	FL370	-47.8	1.2	2:09				
NRT-GUM	5/16/79	31	2:29	-48	FL369	0:09	33.9N	140.1E	FL365	-46.4	4.4	FL370	-47.7	.5	2:15				
NRT-GUM	12/31/78	31	2:30	-48	FL370	1:04	26.4N	141.7E	FL362	-46.2	2.3	FL369	-47.5	.7	1:45				
NRT-HKG	1/ 4/79	39	3:34	-48	FL310	0:15	34.2N	138.1E	FL310	-42.7	4.3	FL310	-42.7	4.3	3:34				
NRT-HKG	2/13/79	48	4:00	-57	FL351	0:10	33.9N	139.3E	FL349	-48.3	4.4	FL350	-48.3	4.3	3:49				
NRT-HKG	2/22/79	42	3:24	-55	FL350	0:04	34.0N	138.9E	FL350	-46.0	4.0	FL350	-45.9	4.0	3:19				
NRT-HKG	3/14/79	48	3:49	-54	FL391	1:40	28.3N	130.6E	FL372	-48.7	6.0	FL350	-41.9	.5	1:15	FL390	-53.8	.4	2:09
NRT-HKG	4/23/79	38	3:04	-46	FL352	1:09	30.7N	129.5E	FL336	-40.3	2.6	FL350	-41.6	2.0	1:55				
NRT-HKG	5/11/79	44	3:34	-49	FL350	0:39	33.2N	134.7E	FL341	-43.5	4.7	FL350	-45.3	2.2	2:54				
NRT-HKG	6/ 4/78	44	3:28	-44	FL350	1:00	32.4N	132.1E	FL348	-41.3	3.0	FL350	-41.8	1.5	3:18				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
NRT-HKG	6/ 4/79	39	3:09	-54	FL351	0:10	34.1N	139.3E	FL368	-50.4	6.0	FL350	-52.2	2.0	1:04	FL390	-51.8	.4	1:40
NRT-HKG	6/23/78	40	3:15	-44	FL350	0:30	33.5N	136.4E	FL346	-41.1	3.7	FL350	-42.1	1.1	2:54				
NRT-HKG	7/ 7/78	36	2:54	-44	FL350	1:24	29.2N	126.9E	FL346	-41.8	4.0	FL350	-42.9	.8	2:34				
NRT-HKG	10/15/78	37	3:18	-48	FL350	0:07	34.0N	138.9E	FL348	-42.9	2.4	FL350	-43.3	1.8	2:56				
NRT-HKG	10/29/78	38	3:29	-45	FL351	1:29	28.2N	130.5E	FL339	-40.8	5.1	FL350	-43.8	.5	2:28				
NRT-HNL	1/ 2/78	60	5:04	-52	FL390	3:49	28.2N	170.3W	FL377	-47.8	3.6	FL369	-44.7	.7	2:00	FL390	-51.0	.5	2:39
NRT-HNL	2/20/79	265	5:20	-58	FL370	0:19	35.4N	146.7E	FL370	-52.2	2.1	FL369	-52.2	2.1	5:05				
NRT-HNL	3/13/79	67	5:30	-60	FL370	2:40	32.3N	176.4E	FL367	-49.7	9.3	FL370	-50.5	9.2	5:04				
NRT-HNL	5/ 7/79	71	6:08	-60	FL370	2:29	32.4N	168.7E	FL362	-52.5	4.4	FL350	-49.9	.9	1:42	FL370	-54.6	2.3	3:57
NRT-HNL	6/ 1/78	71	5:56	-56	FL369	3:24	29.7N	178.4E	FL353	-47.3	6.8	FL330	-37.1	1.8	1:24	FL350	-46.6	2.3	1:39
												FL369	-53.6	1.3	2:32				
NRT-HNL	6/20/78	70	5:49	-57	FL370	3:09	31.8N	177.7E	FL354	-48.7	6.8	FL330	-39.2	.9	1:25	FL350	-49.5	1.1	1:09
												FL369	-54.2	1.3	2:45				
NRT-HNL	7/ 4/78	77	6:19	-55	FL370	2:54	30.5N	172.1E	FL358	-49.4	6.8	FL350	-45.9	1.4	1:50	FL370	-54.6	.5	3:30
NRT-HNL	10/14/78	64	5:23	-54	FL370	4:18	27.8N	167.5W	FL362	-49.8	3.3	FL349	-46.4	1.2	1:04	FL369	-51.6	1.3	3:48
NRT-HNL	10/25/78	69	5:51	-58	FL366	0:46	36.6N	152.5E	FL366	-54.4	3.4	FL370	-54.9	2.0	5:00				
NRT-HNL	11/ 6/78	66	5:30	-48	FL354	4:40	26.4N	165.7W	FL344	-42.0	4.5	FL330	-36.3	1.6	1:04	FL353	-45.0	1.8	4:00
NRT-JFK	1/ 8/79	138	11:43	-64	FL350	1:34	45.0N	156.3E	FL376	-54.7	4.6	FL350	-59.4	3.3	2:39	FL369	-55.6	2.9	4:54
												FL410	-50.0	2.2	3:23				
NRT-JFK	1/15/79	122	10:34	-66	FL370	5:59	59.5N	138.0W	FL366	-52.9	5.3	FL310	-50.2	1.2	1:34	FL370	-53.5	6.5	5:30
												FL409	-54.8	1.8	2:20				
NRT-JFK	1/22/79	129	10:49	-53	FL410	8:58	51.0N	93.0W	FL382	-46.6	4.0	FL370	-43.2	2.9	4:54	FL409	-50.3	1.4	3:23
NRT-JFK	1/25/79	133	11:20	-61	FL330	0:49	39.8N	151.7E	FL364	-49.9	5.9	FL330	-51.6	5.0	4:14	FL370	-45.6	3.5	4:00
												FL409	-53.6	6.1	2:40				
NRT-JFK	1/28/79	135	11:19	-56	FL329	0:10	37.0N	143.9E	FL375	-48.2	3.8	FL350	-45.7	1.8	1:49	FL370	-47.8	3.2	4:19
												FL409	-49.4	3.9	3:45				
NRT-JFK	2/ 1/79	130	11:04	-63	FL371	4:39	58.6N	163.6W	FL384	-51.2	6.6	FL350	-55.7	1.3	1:39	FL370	-55.1	4.4	2:39
												FL390	-57.5	4.3	1:49	FL410	-44.6	2.0	4:09
NRT-JFK	2/ 5/79	128	10:58	-60	FL370	4:43	58.3N	164.4W	FL387	-49.0	5.4	FL370	-54.7	2.6	4:23	FL390	-44.1	2.4	1:18
												FL409	-45.2	1.9	4:30				
NRT-JFK	2/12/79	126	10:38	-65	FL370	2:58	52.7N	173.8E	FL360	-54.4	4.2	FL330	-52.3	4.3	1:45	FL370	-54.3	3.7	7:49
NRT-JFK	2/21/79	132	11:21	-63	FL350	1:10	43.1N	152.7E	FL376	-53.1	4.9	FL350	-53.4	6.6	2:54	FL369	-48.5	1.6	2:26
												FL409	-56.3	1.5	3:41				
NRT-JFK	2/27/79	130	13:23	-65	FL410	11:59	46.8N	85.1W	FL365	-51.2	6.9	FL330	-51.5	7.2	3:38	FL370	-48.1	5.0	5:02
												FL410	-58.2	3.7	2:34				
NRT-JFK	3/ 2/79	134	11:14	-67	FL377	11:09	42.5N	75.9W	FL378	-49.1	6.1	FL350	-47.0	1.6	3:15	FL369	-43.3	2.1	2:39
												FL410	-55.2	5.5	3:44				
NRT-JFK	4/ 5/79	129	10:47	-67	FL370	7:24	57.5N	115.1W	FL371	-53.3	5.0	FL350	-51.4	1.1	3:04	FL369	-55.1	6.3	5:19
												FL410	-52.1	1.7	1:58				
NRT-JFK	4/18/79	128	11:07	-70	FL410	9:34	52.1N	88.3W	FL377	-54.1	7.0	FL350	-47.2	2.3	2:50	FL369	-53.1	4.2	4:13
												FL409	-60.7	6.2	3:27				
NRT-JFK	4/26/79	126	13:16	-68	FL410	12:55	43.5N	76.9W	FL368	-51.7	7.2	FL350	-47.3	4.6	3:51	FL370	-56.8	3.9	3:55
												FL410	-54.9	7.7	2:14				
NRT-JFK	4/29/79	132	13:18	-64	FL370	7:04	59.6N	136.5W	FL360	-54.0	6.1	FL350	-52.2	4.3	3:43	FL369	-55.5	6.4	7:27
NRT-JFK	5/ 5/79	125	10:53	-64	FL390	8:23	46.8N	107.9W	FL368	-52.7	5.5	FL330	-48.2	1.8	2:54	FL370	-55.8	2.6	2:14
												FL389	-54.3	6.9	4:04				
NRT-JFK	6/ 8/79	127	11:00	-62	FL370	3:21	54.6N	179.4E	FL374	-50.6	5.4	FL350	-51.4	4.1	3:00	FL370	-53.1	5.1	2:19
												FL390	-48.2	1.6	2:44	FL410	-53.7	4.3	2:05
NRT-JFK	6/11/78	126	10:59	-57	FL370	4:30	61.7N	169.1W	FL363	-47.3	6.2	FL329	-41.7	3.7	1:49	FL349	-43.2	4.7	1:40
												FL369	-53.3	1.6	2:49	FL390	-45.6	1.1	2:24
												FL369	-52.9	3.4	1:40				
NRT-JFK	6/14/78	132	11:02	-61	FL383	5:57	59.3N	144.0W	FL376	-49.2	5.1	FL349	-49.5	4.0	3:15	FL370	-48.5	8.1	2:07
												FL390	-50.0	2.6	2:24	FL410	-49.8	1.5	2:24

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN		
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD
NRT-JFK	6/16/78	122	10:30	-60	FL389	5:59	59.4N	136.7W	FL365	-47.7	6.3
NRT-JFK	6/16/79	137	11:19	-65	FL410	9:39	49.3N	91.0W	FL375	-52.8	5.7
NRT-JFK	6/21/78	131	11:04	-63	FL411	10:54	42.1N	75.5W	FL375	-48.8	6.4
NRT-JFK	6/23/78	132	10:58	-58	FL370	3:48	55.8N	176.3W	FL377	-49.3	4.3
NRT-JFK	6/29/79	499	11:05	-63	FL410	10:34	43.9N	79.4W	FL385	-50.5	6.2
NRT-JFK	7/ 6/78	133	10:59	-62	FL411	9:29	49.0N	90.4W	FL379	-48.9	6.4
NRT-JFK	7/18/78	136	11:15	-62	FL410	10:24	45.6N	83.5W	FL370	-48.5	6.6
NRT-JFK	7/24/78	134	11:04	-61	FL371	3:54	55.9N	175.7W	FL372	-49.0	6.4
NRT-JFK	7/30/78	52	4:23	-47	FL372	4:23	61.2N	173.4W	FL339	-41.3	2.5
NRT-JFK	8/ 5/78	134	11:09	-60	FL391	7:09	64.3N	120.7W	FL374	-48.6	8.1
NRT-JFK	8/10/78	136	11:13	-61	FL410	10:53	42.7N	77.8W	FL374	-49.0	6.9
NRT-JFK	8/23/78	128	10:59	-62	FL412	9:59	48.6N	83.3W	FL378	-50.9	7.2
NRT-JFK	8/26/78	126	11:07	-64	FL410	10:02	49.8N	83.0W	FL376	-52.4	6.9
NRT-JFK	8/31/78	125	10:48	-61	FL410	8:58	47.2N	96.6W	FL377	-49.0	6.8
NRT-JFK	9/ 7/78	127	10:32	-61	FL370	6:00	62.9N	136.5W	FL369	-50.0	6.8
NRT-JFK	9/20/78	126	11:04	-67	FL432	10:24	45.0N	81.4W	FL365	-51.4	8.0
NRT-JFK	9/22/78	130	11:09	-62	FL391	8:09	48.3N	112.6W	FL366	-52.1	5.5
NRT-JFK	9/26/78	128	10:54	-65	FL410	10:09	46.8N	79.7W	FL386	-54.3	6.2
NRT-JFK	10/ 3/78	131	11:04	-67	FL412	10:49	42.8N	77.0W	FL381	-51.1	4.7
NRT-JFK	10/ 9/78	131	11:00	-64	FL409	7:39	50.4N	113.9W	FL384	-52.6	6.4
NRT-JFK	10/24/78	126	10:49	-68	FL410	10:14	44.4N	81.1W	FL368	-53.2	6.8
NRT-JFK	10/30/78	122	10:35	-73	FL412	5:55	50.1N	133.7W	FL386	-55.1	10.2
NRT-JFK	11/30/78	122	10:31	-62	FL410	10:26	42.1N	75.5W	FL367	-50.8	6.6
NRT-JFK	12/ 6/78	129	10:54	-62	FL410	6:14	58.1N	134.8W	FL366	-50.2	4.8
NRT-JFK	12/13/78	125	10:50	-69	FL410	6:28	49.4N	132.4W	FL392	-55.4	6.3
NRT-JFK	12/18/78	114	10:19	-69	FL410	6:19	57.3N	127.9W	FL371	-57.4	5.3
NRT-JFK	12/27/78	133	11:18	-68	FL370	5:00	58.6N	163.0W	FL367	-56.3	5.3
NRT-JFK	12/31/78	131	11:04	-66	FL410	10:34	44.8N	80.6W	FL386	-52.0	6.3

FLIGHT SEGMENTS							
FL	T	SD	ETIM	FL	T	SD	ETIM
FL330	-45.0	4.6	4:25	FL370	-47.2	6.3	1:04
FL390	-50.4	6.2	2:05	FL410	-47.6	4.8	1:15
FL349	-50.7	3.9	2:29	FL370	-50.9	2.9	4:44
FL410	-59.9	4.6	2:30				
FL331	-38.4	.6	1:15	FL350	-47.8	3.3	1:55
FL371	-53.2	5.3	2:30	FL391	-49.0	2.5	3:00
FL410	-51.5	7.1	1:45				
FL349	-45.7	2.3	2:35	FL369	-51.2	2.9	2:30
FL390	-50.2	1.7	2:45	FL410	-52.3	1.6	2:24
FL350	-47.6	5.0	2:19	FL370	-49.5	6.9	2:51
FL390	-50.2	3.4	2:20	FL409	-54.2	4.6	2:15
FL350	-43.2	.8	2:05	FL370	-51.3	5.3	2:04
FL390	-50.5	3.7	2:30	FL410	-54.6	5.5	2:15
FL350	-46.4	1.5	2:49	FL370	-51.2	5.0	3:00
FL390	-45.9	2.0	2:35	FL410	-60.1	2.0	1:19
FL330	-41.7	2.9	2:40	FL370	-51.9	5.8	3:14
FL391	-49.9	1.9	2:19	FL410	-53.9	2.5	2:15
FL332	-41.5	1.3	3:18				
FL350	-39.1	2.9	2:49	FL370	-51.6	7.2	3:15
FL390	-53.7	2.9	3:00	FL410	-53.1	3.9	1:20
FL330	-36.9	.9	1:05	FL350	-45.9	1.1	1:10
FL370	-49.8	4.5	3:54	FL390	-50.0	3.7	2:25
FL410	-57.3	2.0	1:49				
FL352	-46.3	5.4	2:30	FL372	-48.5	5.6	3:19
FL391	-53.1	4.0	1:40	FL411	-58.2	2.8	2:40
FL350	-45.3	1.0	2:40	FL369	-52.9	4.6	4:22
FL410	-59.0	4.9	3:05				
FL330	-42.3	1.7	1:10	FL350	-50.5	.5	1:49
FL371	-43.6	4.4	3:03	FL410	-55.4	3.0	4:00
FL330	-42.6	1.2	2:15	FL369	-50.7	5.5	5:07
FL409	-56.7	1.2	2:30				
FL330	-44.7	2.4	3:49	FL350	-50.7	3.4	2:44
FL410	-57.9	5.3	2:54				
FL350	-50.0	1.3	2:19	FL370	-51.7	3.8	4:24
FL390	-59.4	1.8	2:09				
FL349	-48.3	.7	1:30	FL370	-54.1	4.4	2:24
FL390	-60.4	3.0	2:14	FL410	-53.8	6.0	4:00
FL350	-47.5	2.8	2:45	FL370	-51.2	2.7	3:00
FL410	-54.0	4.4	4:30				
FL370	-48.8	3.1	6:24	FL409	-59.5	2.2	4:00
FL330	-52.8	5.4	4:54	FL410	-55.6	6.9	4:19
FL370	-47.7	2.0	3:34	FL411	-63.3	6.1	5:00
FL349	-44.8	5.1	3:04	FL369	-54.2	3.1	5:31
FL410	-54.0	4.7	1:15				
FL310	-47.8	2.5	3:30	FL350	-52.7	3.6	1:05
FL389	-56.3	2.1	1:09	FL409	-49.9	5.0	4:30
FL370	-58.3	4.6	3:45	FL409	-54.7	7.0	5:25
FL310	-52.2	2.4	2:59	FL350	-61.9	2.1	1:09
FL409	-59.8	4.1	5:15				
FL310	-55.3	1.3	1:59	FL330	-54.6	1.7	1:09
FL370	-59.6	6.9	4:19	FL410	-53.8	1.6	3:20
FL350	-47.1	1.7	1:40	FL370	-43.8	3.2	1:55
FL390	-54.4	4.0	2:15	FL409	-56.2	4.6	4:34

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
NRT-LAX	1/24/79	277	8:28	-62	FL370	5:20	44.9N	151.4W	FL352	-51.7	4.6	FL330	-50.7	2.8	3:21	FL369	-52.7	5.6	4:46
NRT-LAX	2/17/79	96	7:54	-60	FL331	6:29	38.6N	134.5W	FL327	-53.2	2.9	FL330	-53.9	2.6	6:44				
NRT-LAX	5/24/78	100	8:14	-60	FL388	6:24	43.6N	136.9W	FL356	-52.2	3.9	FL330	-49.8	1.7	2:15	FL349	-50.9	2.0	1:09
												FL369	-54.2	1.8	2:14	FL388	-55.7	3.1	1:40
NRT-LAX	5/25/79	98	8:07	-58	FL370	4:55	40.8N	156.3W	FL349	-48.7	7.2	FL330	-41.8	2.1	1:50	FL350	-50.7	3.3	1:55
												FL370	-55.1	1.7	3:07				
NRT-LAX	5/31/79	100	8:14	-57	FL370	7:24	38.0N	127.2W	FL350	-48.1	6.0	FL330	-41.8	.8	2:19	FL350	-49.7	1.3	1:30
												FL369	-53.4	3.0	3:24				
NRT-LAX	6/17/78	74	6:13	-57	FL371	4:47	41.2N	132.0W	FL347	-50.9	3.7	FL330	-48.2	1.0	2:20	FL350	-53.5	1.4	1:52
												FL370	-52.5	3.1	1:35				
NRT-LAX	8/ 3/78	70	5:44	-59	FL370	2:30	46.7N	153.1W	FL363	-53.2	4.6	FL369	-54.9	3.5	4:14				
NRT-LAX	9/ 7/78	94	7:55	-60	FL370	6:20	41.1N	135.0W	FL348	-48.0	7.5	FL310	-38.3	2.4	1:25	FL350	-47.1	.3	1:29
												FL369	-54.6	3.1	3:45				
NRT-LAX	9/15/78	96	8:13	-60	FL350	3:34	46.7N	174.6W	FL351	-52.6	8.3	FL310	-36.2	2.5	1:15	FL350	-58.4	1.1	2:15
												FL370	-56.1	1.0	2:08				
NRT-LAX	11/ 3/78	97	7:49	-62	FL370	4:26	48.2N	155.1W	FL350	-52.8	6.1	FL329	-46.3	2.1	1:24	FL349	-54.8	.7	1:37
												FL370	-57.3	1.9	3:28				
NRT-LAX	12/ 9/78	95	7:59	-66	FL370	6:54	39.1N	130.7W	FL351	-57.6	4.9	FL330	-54.0	2.6	2:19	FL349	-54.6	2.8	1:59
												FL369	-62.3	2.6	3:19				
NRT-LAX	12/27/78	102	8:29	-58	FL330	1:34	36.0N	161.1E	FL340	-50.5	4.6	FL290	-47.0	1.1	1:25	FL330	-49.4	5.5	3:15
												FL370	-52.8	3.1	3:34				
NRT-SFO	1/ 5/79	93	7:52	-61	FL355	7:52	37.8N	124.8W	FL391	-51.0	3.1	FL390	-50.1	2.4	2:57	FL409	-50.5	3.2	2:50
NRT-SFO	1/12/79	98	7:22	-70	FL410	6:29	40.1N	134.7W	FL386	-57.1	7.0	FL370	-56.8	6.5	3:26	FL410	-58.6	6.7	3:22
NRT-SFO	1/19/79	89	7:34	-69	FL410	7:00	41.5N	129.1W	FL395	-53.1	8.5	FL369	-41.3	1.1	1:15	FL390	-53.2	6.3	1:45
												FL410	-57.1	6.8	4:04				
NRT-SFO	1/24/79	95	7:52	-55	FL410	5:52	46.1N	144.9W	FL399	-49.0	2.7	FL389	-48.8	1.0	1:22	FL409	-48.9	3.1	5:15
NRT-SFO	1/27/79	94	8:04	-61	FL410	6:23	46.1N	140.4W	FL390	-53.0	3.9	FL369	-53.0	2.1	1:04	FL390	-50.5	1.8	1:30
												FL409	-54.9	4.0	3:48				
NRT-SFO	1/30/79	100	8:12	-66	FL410	5:12	48.1N	156.4W	FL396	-53.9	6.4	FL334	-54.9	1.5	1:07	FL410	-53.8	6.9	6:45
NRT-SFO	2/ 4/79	90	7:58	-74	FL410	6:23	45.0N	139.5W	FL398	-58.6	8.6	FL390	-54.9	2.1	2:20	FL410	-61.9	10.1	4:24
NRT-SFO	2/ 9/79	96	8:09	-66	FL410	7:59	39.6N	125.1W	FL397	-55.9	4.7	FL369	-55.4	1.0	1:05	FL389	-58.9	2.9	2:05
												FL409	-54.8	5.3	4:29				
NRT-SFO	2/20/79	90	7:49	-67	FL390	5:15	42.6N	154.6W	FL387	-54.7	5.5	FL369	-51.9	6.5	2:14	FL389	-57.1	4.9	3:14
												FL410	-54.1	3.2	1:54				
NRT-SFO	2/26/79	87	7:49	-66	FL410	6:29	41.1N	140.2W	FL384	-53.3	5.7	FL370	-50.1	2.3	3:15	FL389	-51.2	2.8	1:54
												FL410	-62.0	2.5	2:00				
NRT-SFO	3/ 1/79	89	7:46	-66	FL410	6:21	40.8N	138.8W	FL389	-51.3	7.5	FL369	-44.0	1.8	1:52	FL389	-48.0	1.7	2:30
												FL409	-59.7	5.0	2:55				
NRT-SFO	4/ 4/79	86	8:53	-71	FL411	6:26	42.8N	148.3W	FL393	-59.8	5.6	FL370	-59.4	1.0	1:34	FL389	-57.5	2.5	3:31
												FL410	-63.1	6.4	3:31				
NRT-SFO	4/ 7/79	94	7:46	-71	FL410	6:41	42.6N	134.9W	FL399	-58.9	6.4	FL390	-56.2	4.8	2:39	FL409	-61.0	6.5	4:21
NRT-SFO	4/17/79	90	7:49	-66	FL410	5:24	44.3N	151.8W	FL395	-57.6	4.7	FL369	-57.9	3.7	2:14	FL410	-57.8	4.6	5:09
NRT-SFO	4/23/79	99	8:15	-65	FL410	5:21	39.6N	155.3W	FL394	-57.2	4.4	FL390	-57.1	2.6	3:25	FL410	-57.6	4.9	3:29
NRT-SFO	4/28/79	95	7:42	-65	FL390	4:27	44.1N	160.0W	FL382	-55.5	4.4	FL369	-54.8	2.6	3:05	FL390	-59.5	3.0	1:04
												FL409	-56.5	3.9	1:55				
NRT-SFO	5/ 1/79	91	8:59	-71	FL410	3:08	43.6N	175.0E	FL408	-57.7	7.4	FL390	-62.3	.6	1:05	FL409	-57.4	9.1	4:28
												FL429	-58.2	1.8	2:03				
NRT-SFO	5/ 8/79	87	7:41	-67	FL410	6:26	45.1N	137.2W	FL403	-58.0	6.3	FL389	-62.1	1.6	1:56	FL410	-57.3	6.1	5:25
NRT-SFO	6/10/79	98	8:24	-65	FL390	5:19	43.1N	157.3W	FL382	-55.7	5.8	FL370	-52.0	1.3	2:20	FL390	-58.0	4.9	5:39
NRT-SFO	6/13/78	90	7:44	-65	FL390	5:24	44.0N	149.9W	FL383	-56.5	5.9	FL371	-51.2	2.5	2:19	FL390	-59.4	3.9	5:04
NRT-SFO	6/18/78	96	8:09	-67	FL411	6:24	43.6N	142.6W	FL380	-54.3	7.8	FL370	-52.4	1.8	2:54	FL391	-60.1	3.6	2:05
												FL410	-59.1	3.6	1:40				
NRT-SFO	6/25/78	96	8:14	-65	FL411	5:30	49.1N	151.6W	FL382	-56.1	5.7	FL371	-54.0	2.2	5:09	FL410	-62.0	3.6	2:34

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
NRT-SFO	6/27/79	98	8:09	-67	FL410	4:49	48.0N	159.9W	FL396	-56.7	6.9	FL390	-58.2	3.3	2:45	FL410	-58.6	7.0	4:00
NRT-SFO	6/30/78	93	8:04	-63	FL390	5:15	49.5N	153.1W	FL381	-54.3	5.1	FL370	-53.2	.9	3:14	FL390	-55.8	4.8	4:30
NRT-SFO	7/ 8/78	98	8:04	-64	FL410	6:24	45.4N	141.0W	FL390	-51.7	6.1	FL370	-47.7	.9	2:30	FL390	-48.7	3.8	2:19
												FL410	-58.7	2.6	2:49				
NRT-SFO	7/14/78	103	8:29	-60	FL391	3:29	48.9N	178.4E	FL382	-53.4	4.4	FL370	-52.3	.6	2:45	FL390	-54.6	4.1	5:24
NRT-SFO	7/20/78	97	7:58	-61	FL410	7:13	42.3N	130.6W	FL389	-51.9	4.8	FL370	-48.0	.5	1:59	FL390	-52.5	3.3	3:25
												FL410	-56.1	2.7	2:09				
NRT-SFO	7/26/78	97	7:59	-63	FL391	4:39	48.2N	161.1W	FL394	-54.7	4.5	FL390	-57.0	3.9	4:19	FL410	-53.5	1.9	2:30
NRT-SFO	8/ 1/78	101	8:19	-63	FL391	4:54	48.3N	162.4W	FL387	-53.6	6.9	FL370	-51.1	3.0	2:24	FL390	-58.0	5.9	3:09
												FL409	-52.3	5.6	2:10				
NRT-SFO	8/ 7/78	97	8:04	-58	FL390	6:09	45.5N	141.9W	FL380	-50.1	4.4	FL370	-47.8	1.7	3:14	FL390	-52.4	3.8	4:30
NRT-SFO	8/12/78	94	7:44	-64	FL410	7:39	39.1N	124.5W	FL387	-53.1	6.2	FL370	-43.4	1.3	3:04	FL390	-54.6	5.2	2:04
												FL410	-59.2	4.2	2:15				
NRT-SFO	8/30/78	90	7:39	-58	FL410	6:30	43.8N	135.6W	FL393	-51.3	3.3	FL370	-50.2	1.3	1:54	FL390	-50.2	1.3	1:54
												FL410	-53.3	2.4	3:24				
NRT-SFO	9/ 2/78	90	7:39	-58	FL391	6:44	41.5N	132.1W	FL375	-49.3	5.2	FL369	-49.0	3.2	4:24	FL391	-51.2	4.6	2:44
NRT-SFO	9/ 9/78	88	7:24	-61	FL411	4:09	48.6N	165.4W	FL390	-52.8	6.0	FL371	-49.4	2.1	1:54	FL391	-51.5	4.8	1:19
												FL410	-57.5	1.9	3:19				
NRT-SFO	9/25/78	92	7:51	-67	FL411	4:56	43.3N	155.8W	FL392	-53.8	7.3	FL370	-51.9	.6	1:37	FL411	-56.8	5.7	5:19
NRT-SFO	9/29/78	92	7:49	-61	FL392	0:54	38.6N	152.3E	FL396	-56.0	4.3	FL391	-56.0	3.2	3:39	FL411	-57.4	2.8	3:08
NRT-SFO	10/ 5/78	93	7:54	-64	FL410	6:09	41.6N	142.4W	FL389	-52.0	5.8	FL369	-48.2	1.5	3:34	FL409	-56.2	4.6	4:05
NRT-SFO	10/15/78	88	7:24	-63	FL411	6:19	40.1N	135.9W	FL391	-53.4	4.3	FL370	-51.0	.9	1:34	FL390	-52.4	3.8	3:15
												FL411	-57.5	2.7	2:15				
NRT-SFO	10/20/78	87	7:34	-61	FL390	7:29	38.8N	124.0W	FL380	-52.4	4.6	FL369	-49.5	3.1	3:15	FL391	-54.9	3.8	2:34
												FL390	-55.6	2.6	1:10				
NRT-SFO	10/26/78	97	7:59	-61	FL351	2:44	43.5N	174.5E	FL366	-52.9	5.0	FL311	-48.0	3.2	2:27	FL350	-59.3	.7	1:20
												FL410	-54.2	2.8	3:45				
NRT-SFO	11/27/78	91	7:41	-69	FL410	7:00	39.2N	132.2W	FL391	-51.7	7.7	FL369	-45.7	2.1	3:00	FL410	-56.5	6.7	4:26
NRT-SFO	12/ 3/78	89	7:30	-60	FL370	2:50	47.0N	179.7E	FL371	-50.5	5.1	FL350	-51.7	.7	1:37	FL370	-53.3	6.3	2:33
												FL390	-47.9	3.0	2:53				
NRT-SFO	12/10/78	91	7:44	-67	FL370	1:45	42.6N	162.8E	FL387	-57.6	5.7	FL369	-63.0	2.5	2:14	FL390	-54.0	2.4	2:49
												FL409	-58.7	5.5	2:00				
NRT-SFO	12/15/78	93	7:36	-67	FL358	2:31	47.1N	170.8E	FL375	-59.3	6.2	FL330	-54.4	6.2	2:22	FL390	-62.4	1.7	1:49
												FL409	-62.4	1.9	3:00				
NRT-SFO	12/24/78	69	5:51	-64	FL410	5:36	50.5N	147.2W	FL377	-55.5	4.6	FL330	-49.1	1.0	1:19	FL370	-57.2	1.7	1:39
												FL410	-58.2	3.2	2:37				
OKA-GUM	4/16/78	21	1:45	-50	FL370	0:00	23.8N	131.0E	FL369	-47.9	1.4	FL369	-48.1	1.2	1:40				
OKA-GUM	4/26/78	23	1:55	-54	FL390	0:10	23.9N	131.1E	FL378	-49.9	2.7								
OKA-GUM	6/ 1/77	26	2:04	-49	FL370	1:49	15.7N	142.0E	FL362	-45.3	6.5	FL370	-47.7	.8	1:45				
OKA-GUM	7/21/78	29	2:11	-48	FL369	0:54	21.0N	135.0E	FL364	-45.4	5.0	FL369	-46.9	1.1	1:56				
OKA-GUM	7/23/78	29	2:04	-55	FL391	1:58	15.1N	142.8E	FL371	-47.6	4.3	FL370	-47.1	.8	1:23				
OKA-GUM	8/23/78	23	1:58	-56	FL370	0:09	23.8N	131.0E	FL368	-54.4	3.2	FL370	-55.1	1.0	1:48				
OKA-HKG	2/10/79	20	1:34	-38	FL309	0:03	25.5N	126.3E	FL306	-34.2	2.1	FL309	-34.6	1.2	1:30				
OKA-HKG	4/10/79	19	1:34	-56	FL389	0:30	23.5N	123.3E	FL374	-51.5	5.5								
OKA-HKG	12/11/78	19	1:34	-39	FL310	0:00	25.2N	126.8E	FL309	-36.6	2.2	FL310	-36.9	1.9	1:30				
OKA-HKG	12/25/78	21	1:38	-64	FL430	0:45	22.7N	122.0E	FL419	-60.4	7.9	FL430	-63.1	.8	1:25				
OMH-LAX	12/ 8/76	26	2:10	-66	FL390	0:15	40.2N	99.7W	FL385	-63.0	3.5	FL390	-63.8	1.5	1:55				
ORD-ACA	3/27/78	35	2:59	-57	FL349	0:49	34.1N	92.2W	FL347	-52.8	3.1	FL349	-53.0	3.1	2:49				
ORD-DEN	1/17/79	21	1:39	-64	FL390	1:34	40.8N	102.5W	FL391	-57.0	3.5								
ORD-DEN	2/22/78	17	1:19	-63	FL367	1:19	40.7N	103.0W	FL383	-53.3	3.3	FL390	-52.4	2.4	1:04				
ORD-DEN	3/ 8/78	16	1:19	-64	FL391	1:00	41.1N	100.0W	FL368	-56.5	5.6								
ORD-DEN	3/13/79	50	1:15	-55	FL351	0:03	41.9N	90.2W	FL380	-48.9	1.9								
ORD-DEN	3/29/79	19	1:14	-59	FL390	0:27	41.6N	94.5W	FL381	-53.3	7.0								

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ORD-DEN	4/ 2/78	17	1:24	-67	FL391	0:04	41.9N	91.2W	FL386	-58.6	3.8	FL390	-58.9	4.0	1:14				
ORD-DEN	4/ 6/78	17	1:24	-62	FL391	1:20	40.8N	102.8W	FL386	-55.8	2.1	FL390	-55.9	2.2	1:15				
ORD-DEN	4/ 7/78	20	1:34	-64	FL391	0:21	41.7N	92.5W	FL382	-61.6	4.2	FL391	-63.2	.6	1:15				
ORD-DEN	4/16/78	18	1:24	-62	FL391	1:00	41.2N	99.1W	FL384	-59.5	2.8	FL390	-60.5	1.1	1:09				
ORD-DEN	4/29/78	18	1:24	-59	FL390	0:30	41.6N	94.7W	FL377	-55.5	3.8								
ORD-DEN	5/ 9/78	18	1:25	-57	FL391	1:25	40.6N	103.1W	FL380	-50.8	3.6	FL390	-52.2	2.1	1:10				
ORD-DEN	6/ 3/79	18	1:24	-58	FL391	1:04	41.1N	100.5W	FL377	-53.8	5.4	FL390	-55.7	2.1	1:09				
ORD-DEN	6/15/78	22	1:30	-63	FL410	0:23	40.2N	93.8W	FL374	-54.3	10.6								
ORD-DEN	6/28/78	18	1:25	-56	FL391	0:55	41.4N	98.4W	FL375	-51.8	7.4								
ORD-DEN	7/29/78	16	1:15	-56	FL391	0:45	41.3N	98.0W	FL380	-52.5	5.8								
ORD-DEN	9/16/78	20	1:30	-56	FL391	1:10	41.1N	100.5W	FL375	-51.6	6.9	FL390	-54.9	.7	1:10				
ORD-DEN	10/ 5/78	18	1:24	-58	FL390	1:19	40.9N	102.3W	FL378	-50.0	3.8	FL389	-51.2	3.4	1:04				
ORD-DEN	11/ 4/78	16	1:15	-63	FL390	0:15	41.7N	92.6W	FL376	-59.3	7.9								
ORD-DEN	11/27/77	19	1:23	-60	FL360	1:22	40.6N	103.0W	FL381	-51.7	4.4	FL390	-50.7	3.6	1:09				
ORD-DEN	11/30/77	19	1:29	-55	FL388	0:09	41.9N	91.1W	FL380	-51.2	3.2	FL389	-51.6	2.5	1:14				
ORD-DEN	12/12/77	19	1:29	-62	FL389	0:39	41.6N	95.7W	FL364	-55.5	5.3								
ORD-HNL	1/ 7/78	67	5:42	-57	FL350	1:57	40.4N	110.6W	FL337	-51.1	4.4	FL310	-50.0	1.3	1:42	FL350	-51.7	5.1	3:45
ORD-HNL	1/10/79	95	7:42	-54	FL350	2:32	35.1N	114.5W	FL336	-49.1	2.5	FL310	-48.5	3.0	2:07	FL349	-49.3	2.1	5:09
ORD-HNL	1/16/78	106	8:37	-57	FL340	2:15	46.6N	113.6W	FL341	-46.5	4.0	FL310	-51.5	.6	1:54	FL350	-45.4	3.1	3:44
												FL353	-43.4	1.6	2:28				
ORD-HNL	1/21/78	87	7:19	-60	FL350	2:34	38.9N	117.6W	FL348	-54.5	4.1	FL310	-50.0	1.7	1:05	FL349	-57.0	1.4	1:50
												FL360	-54.8	3.9	4:00				
ORD-HNL	1/22/78	94	7:39	-59	FL350	3:15	37.9N	121.7W	FL346	-53.5	3.1	FL350	-54.0	2.7	6:39				
ORD-HNL	1/28/79	89	7:19	-61	FL350	4:30	36.8N	136.3W	FL345	-53.4	6.7	FL350	-54.4	6.7	6:19				
ORD-HNL	2/ 9/79	102	8:07	-60	FL351	2:00	38.1N	109.5W	FL343	-52.4	4.4	FL311	-51.7	.9	1:15	FL351	-52.9	4.1	6:22
ORD-HNL	2/14/78	87	7:39	-65	FL360	3:45	36.4N	127.2W	FL348	-58.2	6.1	FL310	-55.5	1.4	1:09	FL350	-61.6	1.0	1:50
												FL360	-57.8	7.5	4:09				
ORD-HNL	2/15/79	103	8:15	-62	FL350	5:15	36.0N	137.9W	FL341	-53.5	5.7	FL310	-47.2	2.0	1:24	FL350	-55.4	4.6	6:18
ORD-HNL	2/18/78	94	7:29	-63	FL350	1:36	40.8N	108.1W	FL344	-58.4	2.4	FL311	-57.6	.6	1:10	FL350	-59.7	1.6	4:03
												FL351	-56.2	2.2	1:37				
ORD-HNL	2/22/79	94	7:45	-60	FL311	1:30	42.7N	106.3W	FL338	-53.6	3.4	FL310	-54.1	3.5	2:04	FL351	-53.9	2.3	5:10
ORD-HNL	3/ 2/79	91	7:04	-57	FL345	1:59	40.0N	112.9W	FL339	-52.3	4.9	FL311	-51.8	.8	1:40	FL350	-52.6	5.5	0:00
ORD-HNL	3/ 4/76	92	7:45	-59	FL390	7:39	22.7N	156.5W	FL350	-53.9	4.1	FL310	-49.4	2.1	1:05	FL350	-54.9	3.2	4:34
												FL390	-56.4	.9	1:20				
ORD-HNL	3/ 5/76	93	7:33	-61	FL350	4:30	36.9N	136.2W	FL342	-54.2	5.2	FL310	-47.5	3.6	1:30	FL350	-56.4	3.0	5:31
ORD-HNL	3/14/78	87	7:45	-59	FL351	2:35	39.3N	116.9W	FL342	-53.3	2.9	FL310	-50.9	2.0	1:14	FL351	-54.3	2.0	6:04
ORD-HNL	3/18/78	92	7:35	-61	FL370	6:30	28.5N	150.6W	FL345	-53.0	5.5	FL310	-47.9	1.3	1:45	FL349	-54.2	4.6	3:30
												FL370	-56.7	4.1	1:54				
ORD-HNL	3/19/78	112	7:37	-64	FL391	6:00	30.8N	147.0W	FL362	-53.8	4.6	FL350	-55.6	3.7	4:30	FL391	-53.3	4.8	1:37
ORD-HNL	3/22/79	89	7:03	-59	FL350	4:32	37.2N	140.3W	FL341	-53.3	3.9	FL310	-49.8	3.0	1:16	FL350	-54.5	2.8	5:24
ORD-HNL	3/26/78	87	7:34	-59	FL360	4:34	34.5N	133.0W	FL347	-52.9	4.4	FL310	-49.9	1.6	1:10	FL349	-55.8	.8	1:45
												FL359	-53.2	4.4	4:10				
ORD-HNL	3/27/78	89	7:32	-58	FL350	1:20	41.3N	105.5W	FL344	-51.3	4.2	FL310	-49.0	.9	1:05	FL350	-51.7	4.3	6:12
ORD-HNL	3/29/78	88	7:29	-60	FL360	5:04	32.0N	139.4W	FL349	-52.2	4.8	FL350	-55.5	1.2	1:54	FL360	-51.8	4.6	4:09
ORD-HNL	3/30/75	89	7:33	-56	FL351	1:05	40.3N	101.5W	FL347	-52.6	3.3	FL350	-53.5	1.5	6:33				
ORD-HNL	3/31/76	87	7:14	-58	FL350	2:27	38.8N	117.2W	FL348	-53.9	3.4	FL350	-54.4	2.9	6:57				
ORD-HNL	4/ 3/75	94	7:45	-59	FL351	2:50	38.0N	117.7W	FL344	-54.9	3.4	FL350	-56.1	2.0	6:36				
ORD-HNL	4/ 4/79	97	7:10	-68	FL390	2:17	39.6N	114.8W	FL387	-62.1	5.7	FL349	-53.9	3.3	1:27	FL390	-65.6	1.5	2:20
												FL410	-64.7	2.7	2:42				
ORD-HNL	4/ 7/76	90	7:40	-57	FL350	2:00	45.0N	111.7W	FL342	-50.9	5.2	FL310	-50.6	.6	1:09	FL350	-51.8	4.9	6:00
ORD-HNL	4/10/76	86	7:29	-58	FL350	2:03	45.4N	113.3W	FL341	-49.8	5.2	FL309	-46.0	.4	1:09	FL350	-51.4	4.5	5:52
ORD-HNL	4/13/76	86	7:14	-58	FL348	1:20	41.5N	105.0W	FL342	-49.2	3.4	FL310	-45.9	.9	1:09	FL350	-50.2	2.6	5:48

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ORD-HNL	4/21/76	86	7:29	-62	FL391	4:24	38.7N	133.0W	FL373	-56.7	4.1	FL350	-52.3	3.4	1:24	FL369	-59.8	.8	1:08
												FL389	-58.9	2.1	3:38				
ORD-HNL	4/26/76	88	7:34	-59	FL350	0:53	42.4N	100.3W	FL346	-51.2	3.2	FL350	-51.6	3.1	6:36				
ORD-HNL	5/ 7/76	87	7:24	-59	FL350	1:24	40.9N	104.4W	FL343	-52.9	3.8	FL349	-54.0	2.6	6:04				
ORD-HNL	5/ 9/76	82	7:04	-60	FL350	0:45	41.8N	99.4W	FL349	-53.1	3.8	FL350	-53.2	3.7	6:54				
ORD-HNL	5/10/78	87	7:35	-59	FL352	1:45	40.9N	107.7W	FL360	-54.0	4.7	FL351	-53.7	3.2	4:50	FL390	-57.6	.5	2:00
ORD-HNL	5/13/76	88	7:19	-62	FL390	5:15	28.6N	140.8W	FL371	-54.0	5.4	FL350	-49.7	1.9	2:54	FL390	-58.0	2.0	3:50
ORD-HNL	5/15/76	86	7:20	-55	FL351	4:35	32.7N	135.7W	FL342	-50.8	5.3	FL350	-53.3	1.1	5:55				
ORD-HNL	5/15/77	89	7:30	-63	FL390	4:19	34.0N	131.7W	FL375	-55.5	5.3	FL350	-52.2	1.9	1:35	FL369	-49.6	1.2	1:15
												FL389	-59.7	2.4	4:05				
ORD-HNL	5/21/78	92	7:42	-57	FL351	1:53	39.5N	110.7W	FL347	-52.3	5.5	FL350	-55.8	1.0	1:24	FL360	-55.1	1.2	4:20
ORD-HNL	5/28/78	83	7:09	-55	FL351	1:50	39.4N	112.1W	FL350	-51.7	5.1	FL350	-53.2	1.3	1:34	FL360	-54.2	.6	4:00
ORD-HNL	5/29/78	88	7:24	-57	FL351	0:50	41.3N	100.1W	FL346	-51.5	4.8	FL351	-53.0	2.0	6:35				
ORD-HNL	5/30/79	90	7:23	-59	FL390	4:20	35.0N	131.7W	FL370	-54.0	4.5	FL349	-49.9	2.1	2:30	FL370	-55.7	.9	1:25
												FL390	-57.6	.5	3:04				
ORD-HNL	6/ 5/79	322	7:04	-58	FL389	1:43	40.7N	108.8W	FL387	-56.6	2.5	FL350	-51.2	1.4	1:30	FL390	-57.2	.7	4:53
ORD-HNL	6/10/75	86	7:06	-55	FL350	4:06	37.9N	133.9W	FL342	-50.1	5.2	FL350	-51.9	1.7	5:56				
ORD-HNL	6/14/79	95	7:49	-60	FL390	6:45	26.9N	149.9W	FL356	-50.4	7.3	FL310	-38.7	.7	1:39	FL350	-49.5	.5	1:15
												FL370	-54.0	.5	2:55	FL390	-59.0	.7	1:20
ORD-HNL	6/18/78	89	7:25	-56	FL352	2:20	44.6N	115.7W	FL341	-49.0	5.8	FL310	-40.8	1.3	1:24	FL351	-51.9	2.3	4:04
ORD-HNL	6/18/79	91	7:30	-57	FL370	7:00	25.1N	154.2W	FL344	-49.6	4.8	FL310	-41.0	1.4	1:05	FL350	-51.1	1.8	5:30
ORD-HNL	6/20/78	91	7:34	-54	FL350	4:04	41.1N	131.7W	FL335	-49.4	4.3	FL310	-44.7	1.5	1:55	FL350	-53.0	1.3	3:35
ORD-HNL	6/26/77	80	6:54	-52	FL360	3:48	35.2N	131.1W	FL354	-49.5	2.7	FL349	-49.1	.3	2:44	FL360	-50.4	1.7	3:50
ORD-HNL	6/29/77	87	7:24	-57	FL389	5:54	29.8N	146.3W	FL372	-51.2	3.7	FL350	-47.8	.7	2:17	FL389	-53.9	1.7	3:46
ORD-HNL	6/30/77	89	7:43	-57	FL400	6:22	27.7N	148.4W	FL358	-48.2	5.5	FL350	-48.7	.7	1:45	FL360	-48.0	2.3	2:39
												FL400	-54.4	1.0	1:09				
ORD-HNL	7/ 1/78	92	7:34	-58	FL390	7:04	25.3N	155.2W	FL350	-49.1	7.1	FL310	-36.9	1.4	1:05	FL350	-51.0	3.2	4:25
												FL389	-55.9	1.5	1:20				
ORD-HNL	7/ 6/78	89	7:19	-54	FL351	3:24	40.2N	128.1W	FL339	-47.7	5.1	FL310	-42.0	3.5	1:39	FL350	-50.2	1.7	5:14
ORD-HNL	7/ 7/79	89	7:19	-53	FL351	2:09	44.9N	115.2W	FL345	-47.7	4.7	FL350	-49.2	3.3	6:09				
ORD-HNL	7/ 8/78	90	7:30	-51	FL351	2:00	44.0N	112.6W	FL340	-46.4	4.0	FL350	-48.5	1.1	5:25				
ORD-HNL	7/ 9/77	88	7:35	-59	FL390	5:00	35.5N	138.8W	FL368	-53.0	4.4	FL350	-50.7	.9	1:25	FL369	-55.1	.6	1:25
												FL389	-55.9	2.2	2:35				
ORD-HNL	7/ 9/79	90	7:23	-53	FL370	3:35	36.7N	126.2W	FL352	-46.9	5.0	FL310	-38.8	.6	1:15	FL350	-47.8	.5	1:55
												FL370	-50.0	1.5	3:44				
ORD-HNL	7/10/77	89	7:23	-58	FL390	5:22	33.1N	143.1W	FL363	-51.4	4.7	FL350	-49.2	1.7	4:22	FL389	-56.3	1.4	2:36
ORD-HNL	7/11/77	86	7:19	-51	FL350	5:49	28.4N	144.9W	FL342	-46.8	4.6	FL350	-48.7	1.2	6:04				
ORD-HNL	7/11/79	89	7:19	-54	FL390	5:39	25.5N	142.4W	FL359	-47.8	5.3	FL350	-47.0	.7	1:34	FL370	-49.7	1.0	2:24
												FL389	-53.7	.5	1:34				
ORD-HNL	7/15/78	92	7:34	-48	FL351	4:09	34.2N	131.2W	FL342	-44.3	4.3	FL350	-46.4	1.0	5:50				
ORD-HNL	7/16/77	86	7:19	-53	FL360	6:09	27.5N	148.7W	FL347	-46.8	6.1	FL310	-36.5	.9	1:15	FL350	-47.0	.4	1:45
												FL359	-50.8	1.7	3:54				
ORD-HNL	7/17/78	90	7:19	-46	FL351	4:39	29.2N	135.2W	FL342	-42.1	4.4	FL310	-34.5	.8	1:15	FL350	-44.4	.9	5:40
ORD-HNL	7/23/78	91	7:30	-55	FL390	6:04	28.1N	145.5W	FL359	-49.2	4.4	FL350	-48.4	.8	4:09	FL390	-53.9	1.1	2:15
ORD-HNL	7/24/75	82	7:03	-48	FL351	1:09	40.4N	104.2W	FL344	-44.4	3.2	FL350	-45.4	1.3	6:01				
ORD-HNL	8/ 4/78	90	7:25	-59	FL391	5:05	30.9N	139.5W	FL374	-53.3	5.0	FL350	-48.9	3.0	2:30	FL390	-56.4	1.8	4:30
ORD-HNL	8/ 6/77	93	7:45	-54	FL354	4:55	37.9N	137.9W	FL345	-47.6	4.7	FL350	-49.2	2.2	6:29				
ORD-HNL	8/11/77	81	7:27	-50	FL350	3:27	40.8N	125.8W	FL337	-44.9	6.2	FL349	-47.7	1.7	6:09				
ORD-HNL	8/14/77	90	7:39	-59	FL389	5:05	36.4N	140.4W	FL373	-50.7	4.7	FL349	-46.5	1.1	1:35	FL369	-48.0	1.2	1:45
												FL388	-54.7	3.2	3:40				
ORD-HNL	8/15/75	85	7:04	-52	FL351	2:00	40.0N	111.0W	FL348	-48.2	4.5	FL351	-49.1	2.0	6:39				
ORD-HNL	8/19/77	88	7:49	-57	FL390	4:50	32.7N	135.0W	FL374	-50.3	5.2	FL349	-44.0	.6	2:45	FL389	-54.7	1.1	4:18
ORD-HNL	9/ 6/77	71	7:27	-53	FL360	5:37	27.3N	143.0W	FL355	-48.1	2.4	FL349	-47.0	.9	2:39	FL359	-49.0	1.7	4:15

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ORD-HNL	9/ 7/77	88	7:29	-51	FL349	5:08	31.0N	139.3W	FL347	-46.9	2.6	FL349	-47.5	1.4	6:53				
ORD-HNL	9/ 8/77	84	7:37	-51	FL360	4:33	30.6N	133.7W	FL354	-47.3	2.9	FL350	-47.2	1.2	2:44	FL360	-48.2	1.4	4:29
ORD-HNL	9/19/78	84	7:25	-54	FL358	3:15	37.4N	123.4W	FL346	-47.7	5.7	FL310	-38.6	1.2	1:20	FL350	-48.2	2.8	1:35
												FL360	-51.4	1.2	4:05				
ORD-HNL	9/25/78	60	4:59	-51	FL351	0:00	38.6N	120.0W	FL351	-48.7	.9	FL350	-48.7	.9	4:59				
ORD-HNL	9/26/75	81	7:00	-60	FL391	6:05	26.5N	149.0W	FL365	-53.9	3.3	FL350	-52.2	1.9	4:10	FL390	-57.3	1.7	2:30
ORD-HNL	9/28/78	91	7:30	-54	FL351	1:00	41.4N	102.1W	FL345	-48.9	2.9	FL350	-49.8	1.9	6:30				
ORD-HNL	9/29/78	85	7:36	-61	FL401	7:24	23.3N	155.7W	FL363	-52.6	5.2	FL350	-51.3	1.6	3:03	FL360	-51.3	2.8	2:09
												FL400	-59.1	.9	1:45				
ORD-HNL	10/ 1/78	83	7:10	-54	FL350	1:55	40.3N	110.9W	FL341	-48.4	3.9	FL310	-42.9	.4	1:20	FL350	-50.1	2.6	5:09
ORD-HNL	10/ 2/78	89	7:33	-54	FL350	1:53	41.4N	107.8W	FL342	-49.1	2.9	FL310	-46.1	2.0	1:14	FL350	-50.1	1.8	6:00
ORD-HNL	10/ 4/75	79	7:00	-54	FL350	0:45	40.0N	99.2W	FL346	-49.4	3.0	FL350	-50.1	1.5	6:19				
ORD-HNL	11/ 1/78	86	7:06	-52	FL349	2:09	39.1N	114.0W	FL337	-46.6	3.4	FL309	-44.0	1.3	1:50	FL349	-47.7	3.0	4:56
ORD-HNL	11/22/77	48	4:00	-55	FL361	1:04	28.7N	132.9W	FL360	-49.0	3.4	FL360	-49.3	3.0	3:54				
ORD-HNL	11/28/77	86	7:21	-54	FL351	2:08	37.2N	112.5W	FL349	-48.8	4.0	FL350	-51.4	1.5	1:33	FL360	-48.2	3.0	4:15
ORD-HNL	12/20/77	95	7:37	-59	FL351	2:00	42.7N	113.0W	FL339	-51.4	5.5	FL310	-52.4	2.4	1:45	FL350	-51.7	5.4	5:27
ORD-HNL	12/23/78	90	7:25	-58	FL350	1:40	41.0N	107.4W	FL339	-51.6	5.1	FL310	-51.0	2.1	1:24	FL349	-57.1	.7	1:34
												FL350	-49.2	5.9	3:15				
ORD-HNL	12/24/78	97	8:00	-60	FL350	3:10	38.3N	120.1W	FL360	-52.9	5.0	FL350	-56.9	1.8	4:05	FL390	-48.8	2.1	2:50
ORD-HNL	12/27/75	87	7:12	-57	FL350	0:30	41.9N	97.7W	FL349	-52.7	3.5	FL350	-53.1	2.4	6:58				
ORD-HNL	12/29/78	103	8:30	-57	FL350	2:50	39.4N	115.6W	FL343	-51.6	3.9	FL310	-51.3	1.1	1:15	FL350	-51.8	4.1	6:54
ORD-LAS	1/29/76	30	2:30	-66	FL390	1:55	36.9N	107.5W	FL386	-61.9	3.1	FL389	-62.6	2.3	2:15				
ORD-LAS	3/ 2/76	36	2:49	-66	FL390	0:09	41.7N	91.0W	FL382	-54.3	7.7	FL390	-55.2	7.7	2:24				
ORD-LAS	3/25/78	30	2:24	-60	FL350	0:49	40.7N	98.8W	FL343	-55.5	4.5	FL349	-57.0	1.9	1:59				
ORD-LAS	3/27/78	29	2:23	-66	FL387	1:17	39.8N	103.3W	FL365	-59.9	5.2	FL389	-63.6	2.5	1:00				
ORD-LAS	3/30/76	28	2:26	-57	FL390	2:06	37.9N	110.6W	FL381	-47.1	5.5	FL390	-47.6	5.2	1:57				
ORD-LAS	4/12/76	30	2:36	-64	FL391	1:35	39.5N	105.1W	FL382	-57.5	5.1	FL390	-58.6	4.2	2:15				
ORD-LAS	4/20/76	31	2:29	-63	FL390	0:08	41.9N	90.9W	FL383	-53.6	5.2	FL390	-54.5	4.7	2:15				
ORD-LAS	5/ 6/76	32	2:35	-65	FL390	0:35	40.4N	95.0W	FL390	-61.6	5.0	FL389	-64.0	1.0	1:34				
ORD-LAS	5/ 8/76	30	2:24	-63	FL390	0:24	41.5N	94.1W	FL384	-58.1	4.2	FL390	-58.6	3.5	2:09				
ORD-LAS	5/14/76	25	2:09	-55	FL372	0:04	41.4N	91.5W	FL385	-52.4	2.0	FL390	-52.7	1.4	1:54				
ORD-LAS	6/ 9/75	33	2:29	-58	FL390	1:24	39.9N	103.5W	FL370	-53.1	5.7	FL390	-55.5	1.9	1:30				
ORD-LAS	9/13/75	30	2:30	-61	FL391	0:24	41.7N	94.2W	FL382	-53.8	5.9	FL390	-55.4	4.0	2:00				
ORD-LAS	10/20/75	28	2:25	-62	FL391	0:20	40.4N	93.5W	FL383	-57.0	4.6	FL390	-58.1	1.7	2:05				
ORD-LAX	1/ 2/78	35	3:00	-65	FL390	2:30	36.4N	112.1W	FL375	-55.3	4.8	FL389	-56.4	4.8	2:05				
ORD-LAX	1/ 3/78	39	3:15	-66	FL390	1:34	38.7N	104.2W	FL377	-60.8	2.9	FL390	-61.9	1.9	2:15				
ORD-LAX	1/23/79	36	2:55	-63	FL390	2:15	36.5N	111.0W	FL380	-54.3	5.2	FL390	-54.8	5.2	2:24				
ORD-LAX	1/24/77	37	2:59	-59	FL355	0:00	41.7N	90.6W	FL401	-51.9	2.2	FL409	-51.1	1.2	2:04				
ORD-LAX	1/28/78	37	3:09	-55	FL390	1:39	38.9N	104.7W	FL385	-50.9	2.9	FL390	-51.2	2.8	2:49				
ORD-LAX	1/30/76	37	3:00	-62	FL411	2:24	36.6N	111.1W	FL391	-54.7	4.0	FL390	-52.8	2.9	1:39				
ORD-LAX	1/31/79	39	3:08	-57	FL391	2:08	37.7N	108.7W	FL373	-50.5	3.8	FL391	-52.6	2.7	2:05				
ORD-LAX	2/ 1/79	41	3:19	-54	FL390	1:34	40.0N	104.2W	FL383	-50.0	2.4	FL390	-50.4	2.2	2:54				
ORD-LAX	2/ 4/78	34	2:54	-62	FL351	0:54	40.1N	98.7W	FL344	-54.9	5.9	FL350	-56.5	3.7	2:30				
ORD-LAX	2/11/76	36	3:05	-61	FL390	0:35	41.2N	94.7W	FL382	-54.5	4.2	FL389	-55.9	3.1	2:25				
ORD-LAX	2/13/76	35	3:03	-52	FL390	0:45	40.9N	95.9W	FL385	-48.4	2.7	FL390	-48.7	2.6	2:27				
ORD-LAX	2/13/79	38	3:04	-57	FL391	1:15	38.7N	100.5W	FL371	-52.4	5.9	FL390	-55.1	1.3	1:50				
ORD-LAX	2/21/79	40	2:38	-65	FL391	0:56	39.9N	99.6W	FL374	-57.0	4.6	FL390	-56.3	4.7	1:37				
ORD-LAX	2/25/78	42	3:24	-63	FL362	1:59	38.0N	106.2W	FL362	-59.0	3.3	FL349	-60.3	1.3	1:45	FL390	-58.7	1.4	1:09
ORD-LAX	2/26/79	72	2:54	-60	FL351	0:05	41.4N	91.8W	FL374	-51.7	4.5	FL350	-57.5	1.5	1:49				
ORD-LAX	3/ 6/76	36	3:04	-59	FL390	1:04	40.8N	99.2W	FL392	-54.0	3.6	FL410	-54.7	2.7	1:34				
ORD-LAX	3/ 6/79	33	2:36	-64	FL391	1:51	37.3N	109.0W	FL382	-56.1	6.2	FL390	-57.3	5.9	2:08				
ORD-LAX	3/ 7/79	128	2:44	-66	FL390	1:19	38.9N	103.8W	FL387	-57.5	6.3	FL390	-58.0	5.9	2:22				
ORD-LAX	3/11/79	36	2:34	-65	FL390	0:39	40.1N	97.5W	FL383	-56.3	6.3	FL390	-57.0	6.1	2:12				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ORD-LAX	3/15/78	37	3:04	-64	FL391	2:49	35.7N	115.1W	FL390	-52.0	5.8	FL391	-47.8	1.2	1:30				
ORD-LAX	3/15/79	38	2:37	-65	FL391	1:49	37.4N	108.8W	FL358	-58.9	4.3	FL350	-58.4	1.7	1:32				
ORD-LAX	3/17/79	38	2:36	-63	FL391	1:11	39.2N	102.4W	FL374	-56.0	5.0	FL390	-55.3	4.8	1:32				
ORD-LAX	3/20/79	38	2:38	-61	FL364	1:13	39.1N	102.9W	FL363	-53.0	6.3	FL350	-58.0	0.0	1:00				
ORD-LAX	3/27/77	44	3:07	-63	FL390	0:21	41.4N	92.6W	FL385	-56.9	3.8	FL390	-57.6	3.5	2:48				
ORD-LAX	3/29/77	37	2:59	-50	FL380	2:53	35.2N	115.7W	FL381	-43.6	2.4	FL389	-43.5	2.2	2:34				
ORD-LAX	4/ 1/77	40	3:20	-54	FL363	0:05	42.1N	90.2W	FL385	-46.8	2.3	FL390	-46.5	2.0	3:00				
ORD-LAX	4/ 7/77	34	2:54	-65	FL390	1:04	39.7N	99.6W	FL375	-56.8	5.5	FL390	-57.5	4.0	1:59				
ORD-LAX	4/ 9/77	33	2:54	-65	FL390	0:15	40.7N	92.2W	FL384	-61.1	3.8	FL389	-62.2	1.1	2:29				
ORD-LAX	4/11/75	37	2:51	-54	FL391	1:28	38.7N	105.0W	FL381	-50.4	3.2	FL390	-51.2	1.7	2:21				
ORD-LAX	4/12/77	37	3:01	-67	FL390	1:06	42.1N	100.7W	FL396	-56.4	6.3	FL410	-52.5	2.1	1:30				
ORD-LAX	4/15/78	40	3:20	-59	FL350	0:15	41.5N	92.4W	FL347	-53.9	2.9	FL350	-54.3	1.6	3:05				
ORD-LAX	4/16/77	37	2:45	-65	FL390	0:15	41.1N	92.3W	FL392	-57.2	5.2	FL390	-61.4	2.4	1:00	FL410	-54.6	2.4	1:05
ORD-LAX	4/17/78	41	2:59	-67	FL390	0:12	42.5N	92.7W	FL387	-55.9	7.5	FL390	-56.1	7.5	2:45				
ORD-LAX	4/29/76	35	3:06	-61	FL390	0:09	40.9N	90.5W	FL384	-58.3	3.7	FL390	-59.3	1.1	2:51				
ORD-LAX	5/ 1/76	27	2:34	-59	FL351	0:39	40.3N	96.6W	FL348	-55.6	2.5	FL350	-56.0	1.6	2:24				
ORD-LAX	5/ 3/76	34	2:54	-65	FL390	0:49	40.3N	97.5W	FL384	-62.0	4.3	FL390	-63.4	2.2	2:30				
ORD-LAX	5/ 4/76	37	2:59	-66	FL390	0:09	41.6N	91.4W	FL384	-62.6	4.3	FL389	-63.7	1.7	2:39				
ORD-LAX	5/ 4/77	39	3:05	-61	FL391	0:15	42.7N	92.2W	FL400	-54.5	5.1	FL410	-55.4	3.8	1:52				
ORD-LAX	5/13/78	33	2:52	-60	FL390	1:40	38.2N	106.1W	FL374	-54.2	4.7	FL390	-57.4	1.3	1:48				
ORD-LAX	5/15/75	34	2:50	-60	FL391	1:40	38.1N	106.2W	FL381	-56.1	5.5	FL390	-57.9	1.2	2:25				
ORD-LAX	5/17/78	36	2:51	-58	FL391	0:45	40.4N	97.7W	FL385	-53.3	3.5	FL390	-53.7	3.3	2:32				
ORD-LAX	5/31/79	40	3:15	-62	FL390	0:15	41.6N	92.5W	FL383	-54.2	5.7	FL390	-55.4	3.3	2:49				
ORD-LAX	6/ 3/78	36	2:56	-60	FL390	1:40	38.2N	106.0W	FL366	-54.5	4.8	FL350	-53.2	1.0	1:09	FL390	-58.0	1.0	1:19
ORD-LAX	6/ 7/75	33	2:50	-56	FL391	2:25	36.3N	112.4W	FL357	-50.4	4.4	FL350	-50.2	.7	1:49				
ORD-LAX	6/ 7/78	34	2:49	-61	FL390	1:24	39.2N	102.9W	FL384	-57.1	4.9	FL389	-58.4	1.7	2:34				
ORD-LAX	6/14/75	39	2:52	-61	FL387	0:54	39.9N	98.9W	FL372	-53.7	6.1	FL389	-56.8	1.8	1:42				
ORD-LAX	6/15/75	35	2:49	-61	FL390	1:04	39.7N	100.5W	FL377	-54.9	5.7	FL390	-57.8	1.7	1:59				
ORD-LAX	6/19/79	141	2:54	-58	FL390	0:44	40.4N	97.6W	FL387	-51.1	6.1	FL390	-51.4	6.0	2:07				
ORD-LAX	6/21/78	35	2:50	-51	FL351	0:05	40.9N	91.7W	FL348	-46.4	3.4	FL350	-46.8	1.9	2:39				
ORD-LAX	6/29/78	31	2:30	-49	FL351	2:19	35.4N	114.7W	FL347	-44.9	4.1	FL351	-46.1	1.2	2:15				
ORD-LAX	7/ 3/77	33	2:52	-55	FL390	2:07	36.9N	109.9W	FL383	-52.0	5.4	FL389	-53.6	.8	2:31				
ORD-LAX	7/ 3/78	36	2:54	-55	FL391	1:34	37.4N	104.8W	FL376	-50.0	6.9	FL390	-53.3	.9	2:05				
ORD-LAX	7/ 8/77	36	3:00	-55	FL390	0:30	39.6N	93.8W	FL382	-50.2	5.9	FL390	-52.0	1.5	2:35				
ORD-LAX	7/18/78	34	2:45	-53	FL390	1:50	37.4N	108.4W	FL357	-45.1	5.8	FL350	-43.8	.4	1:15				
ORD-LAX	7/21/77	32	2:45	-60	FL411	1:55	37.2N	109.2W	FL387	-53.3	7.9	FL388	-53.6	.5	1:20				
ORD-LAX	7/24/78	34	2:45	-54	FL391	2:05	36.8N	110.4W	FL366	-49.2	5.0	FL390	-52.8	1.1	1:09				
ORD-LAX	7/25/77	31	2:50	-55	FL390	1:05	39.5N	101.3W	FL376	-49.9	6.3	FL389	-53.0	1.2	2:04				
ORD-LAX	7/31/77	35	2:59	-55	FL390	1:49	38.4N	106.6W	FL383	-52.0	4.4	FL389	-53.1	1.1	2:39				
ORD-LAX	8/ 2/77	36	2:58	-58	FL390	0:15	41.6N	92.4W	FL383	-53.4	3.9	FL389	-54.4	1.5	2:37				
ORD-LAX	8/10/77	35	3:05	-56	FL389	0:50	40.3N	97.3W	FL378	-50.6	5.9	FL388	-52.9	1.1	2:30				
ORD-LAX	8/16/75	35	2:49	-56	FL390	1:25	39.0N	104.1W	FL372	-50.9	5.3	FL389	-54.8	.7	1:39				
ORD-LAX	8/17/75	32	2:50	-55	FL390	1:30	39.0N	105.8W	FL365	-51.0	4.7	FL350	-51.1	.9	1:09	FL390	-53.4	1.0	1:09
ORD-LAX	8/18/77	31	2:54	-54	FL389	2:45	35.3N	114.9W	FL381	-51.1	3.6	FL389	-52.5	.6	2:24				
ORD-LAX	9/ 2/77	30	2:54	-56	FL390	0:30	40.0N	94.7W	FL382	-52.3	4.8	FL389	-53.9	1.1	2:19				
ORD-LAX	9/ 8/75	34	2:49	-57	FL391	0:39	40.7N	96.2W	FL382	-52.1	4.9	FL390	-53.4	1.3	2:30				
ORD-LAX	9/23/75	40	2:50	-55	FL391	1:39	37.4N	105.6W	FL373	-50.0	5.9	FL390	-52.8	1.4	2:19				
ORD-LAX	10/ 9/78	34	2:50	-61	FL390	2:09	37.0N	110.7W	FL377	-54.7	3.7	FL389	-55.2	3.2	1:54				
ORD-LAX	10/10/78	35	2:50	-58	FL390	1:50	38.7N	109.3W	FL382	-52.2	4.3	FL390	-53.1	3.0	2:30				
ORD-LAX	10/13/75	36	3:00	-59	FL391	0:15	41.7N	93.0W	FL381	-52.6	6.0	FL389	-54.0	3.9	2:35				
ORD-LAX	10/20/78	36	2:54	-53	FL349	0:30	40.7N	95.9W	FL347	-49.9	2.4	FL349	-50.5	.8	2:44				
ORD-LAX	11/12/77	35	2:54	-62	FL384	0:40	40.4N	96.4W	FL378	-57.9	3.0	FL389	-58.9	1.5	2:04				
ORD-LAX	11/13/77	38	3:05	-64	FL390	2:09	37.2N	109.9W	FL374	-58.7	5.2	FL389	-62.1	1.2	1:54				

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ORD-LAX	12/ 5/76	37	3:09	-61	FL356	0:05	41.7N	90.3W	FL381	-55.0	2.9	FL390	-55.0	2.3	2:30				
ORD-LAX	12/ 5/77	35	3:00	-55	FL302	0:00	41.8N	89.9W	FL386	-48.6	3.6	FL389	-48.6	3.5	2:40				
ORD-LAX	12/ 5/78	42	3:21	-49	FL390	2:00	37.5N	105.8W	FL363	-42.8	3.7	FL349	-40.3	.9	1:09	FL389	-46.3	.8	1:34
ORD-LAX	12/10/76	37	3:00	-60	FL391	2:39	35.9N	113.5W	FL384	-55.7	3.5	FL390	-56.3	2.0	2:35				
ORD-LAX	12/12/76	35	2:54	-59	FL391	1:20	39.5N	101.4W	FL373	-55.1	3.5	FL390	-56.3	1.8	1:40				
ORD-LAX	12/12/78	40	3:15	-64	FL390	1:54	36.4N	105.3W	FL383	-59.7	4.4	FL389	-60.8	1.6	2:54				
ORD-LAX	12/14/77	43	3:01	-67	FL391	1:24	39.1N	102.9W	FL384	-57.9	6.1	FL390	-59.8	5.4	2:37				
ORD-LAX	12/15/77	36	3:05	-58	FL350	0:10	41.5N	91.4W	FL373	-53.3	4.4	FL389	-52.8	2.7	2:00				
ORD-LAX	12/19/76	38	3:04	-51	FL350	0:04	41.8N	90.4W	FL385	-48.3	1.2	FL390	-48.3	1.1	2:44				
ORD-LAX	12/22/77	41	3:32	-61	FL351	0:09	41.2N	91.3W	FL363	-55.7	5.8	FL351	-58.6	1.2	1:22	FL390	-56.4	1.4	1:30
ORD-LAX	12/27/77	24	2:04	-48	FL280	0:04	41.3N	90.6W	FL280	-39.2	4.4	FL279	-38.8	4.1	1:59				
ORD-LAX	12/30/76	37	3:08	-58	FL391	2:13	38.1N	109.4W	FL357	-51.2	4.3	FL350	-49.2	2.7	1:24				
ORD-SEA	4/ 6/75	35	2:27	-65	FL391	0:29	43.9N	96.1W	FL398	-55.3	6.6	FL410	-51.6	4.1	1:32				
ORD-SEA	4/ 9/75	13	1:08	-49	FL390	0:00	46.3N	105.8W	FL383	-47.2	1.2	FL390	-47.2	1.2	1:01				
ORD-SEA	4/28/76	36	3:00	-63	FL390	0:49	44.6N	96.5W	FL386	-55.7	4.7	FL390	-56.1	4.6	2:45				
ORD-SEA	4/29/77	35	2:59	-61	FL390	0:44	43.9N	96.4W	FL393	-55.4	3.8	FL389	-58.3	1.2	1:34				
ORD-SEA	5/ 4/77	20	2:35	-62	FL390	0:49	45.4N	98.2W	FL396	-49.6	7.5	FL409	-46.3	4.4	1:17				
ORD-SEA	6/12/77	18	1:49	-57	FL390	0:15	45.2N	102.5W	FL403	-51.0	2.8	FL410	-50.2	2.2	1:24				
ORD-SEA	6/22/79	37	2:59	-56	FL388	0:59	44.6N	99.2W	FL372	-51.4	4.3	FL390	-52.8	2.6	1:54				
ORD-SEA	7/ 3/77	37	3:04	-55	FL373	0:09	42.8N	91.7W	FL377	-50.5	4.3	FL390	-51.7	1.3	2:24				
ORD-SEA	7/21/77	35	2:54	-56	FL390	2:09	46.7N	112.2W	FL380	-51.6	6.6	FL389	-53.7	1.1	2:34				
ORD-SEA	7/31/77	32	2:54	-58	FL377	2:54	47.3N	119.7W	FL386	-51.7	3.0	FL389	-51.9	2.2	2:39				
ORD-SEA	8/ 2/77	37	3:04	-57	FL390	2:19	47.0N	112.9W	FL366	-52.4	4.8	FL350	-51.1	1.0	1:14	FL389	-55.5	1.0	1:19
ORD-SEA	8/13/75	35	2:54	-56	FL390	0:19	42.9N	93.3W	FL383	-50.6	4.7	FL390	-51.7	2.6	2:29				
ORD-SEA	12/10/76	38	3:09	-65	FL391	0:15	43.1N	91.7W	FL398	-57.7	4.6	FL410	-56.5	2.5	1:54				
ORD-SFO	1/10/78	39	3:06	-59	FL348	0:05	42.1N	90.6W	FL385	-51.0	2.9	FL390	-50.8	2.3	2:45				
ORD-SFO	1/22/77	40	3:15	-66	FL386	0:15	41.9N	92.3W	FL383	-56.0	6.0	FL389	-56.3	5.5	2:54				
ORD-SFO	2/ 2/78	41	3:29	-67	FL391	2:24	40.1N	111.5W	FL384	-58.0	5.9	FL390	-58.8	4.9	3:08				
ORD-SFO	2/ 9/78	41	3:20	-58	FL327	0:05	42.1N	90.7W	FL378	-51.6	2.9	FL389	-51.7	2.0	2:39				
ORD-SFO	2/27/78	43	3:29	-57	FL350	0:05	42.1N	90.6W	FL382	-51.7	2.3	FL390	-51.7	1.2	2:59				
ORD-SFO	3/ 6/78	37	3:15	-67	FL386	3:09	38.0N	119.8W	FL383	-59.1	4.4	FL390	-60.8	4.3	1:30				
ORD-SFO	3/25/77	36	3:05	-62	FL363	0:50	41.6N	98.0W	FL375	-53.1	4.9	FL390	-51.2	3.8	2:00				
ORD-SFO	4/ 1/76	46	3:37	-58	FL350	1:25	41.9N	106.2W	FL347	-53.4	3.8	FL350	-53.6	3.9	3:16				
ORD-SFO	4/ 7/79	41	2:55	-67	FL387	0:08	41.8N	90.7W	FL383	-60.2	5.1	FL390	-61.4	3.0	2:36				
ORD-SFO	4/12/75	37	2:58	-55	FL349	0:05	42.3N	90.3W	FL386	-52.1	1.1	FL390	-51.9	.9	2:39				
ORD-SFO	4/14/76	39	3:08	-65	FL390	0:39	41.8N	96.1W	FL381	-54.6	6.7	FL390	-55.7	5.2	2:43				
ORD-SFO	4/24/78	40	3:15	-56	FL350	0:54	41.6N	99.5W	FL346	-52.0	4.2	FL350	-52.7	3.4	3:00				
ORD-SFO	4/29/77	37	3:15	-65	FL390	2:09	40.0N	110.9W	FL380	-59.1	6.2	FL389	-61.0	2.9	2:49				
ORD-SFO	6/ 1/78	43	3:22	-61	FL390	2:15	39.9N	110.7W	FL368	-54.1	6.7	FL390	-57.7	1.6	2:05				
ORD-SFO	6/13/75	32	2:50	-63	FL390	1:10	41.2N	101.9W	FL380	-59.4	4.8	FL390	-61.0	1.6	2:09				
ORD-SFO	6/13/78	41	3:19	-60	FL389	3:09	38.0N	119.0W	FL367	-53.4	6.3	FL350	-49.8	.9	1:15	FL389	-58.3	.7	1:39
ORD-SFO	6/22/79	41	3:20	-57	FL390	3:05	38.1N	118.3W	FL369	-52.0	5.4	FL389	-55.2	.7	1:50				
ORD-SFO	6/26/78	41	3:14	-54	FL391	1:47	40.7N	107.7W	FL378	-49.2	4.1	FL390	-51.6	1.6	2:08				
ORD-SFO	7/ 1/79	37	3:00	-57	FL390	2:15	39.6N	113.0W	FL362	-49.7	7.1	FL390	-55.1	.9	1:24				
ORD-SFO	7/12/78	38	3:09	-54	FL391	1:09	41.6N	102.6W	FL373	-49.4	5.7	FL390	-53.0	.7	1:54				
ORD-SFO	8/12/78	35	2:50	-58	FL391	1:35	40.4N	107.6W	FL369	-51.9	4.0	FL350	-48.7	.8	1:10	FL390	-55.6	1.7	1:15
ORD-SFO	8/14/78	41	2:58	-59	FL391	2:33	38.7N	116.6W	FL372	-49.0	5.9	FL391	-50.7	4.4	1:39				
ORD-SFO	8/15/78	41	3:15	-54	FL391	1:36	39.3N	105.1W	FL369	-48.2	6.1	FL390	-53.4	.5	1:34				
ORD-SFO	8/16/78	40	3:14	-59	FL391	3:04	38.0N	119.0W	FL373	-51.9	5.7	FL390	-55.9	2.1	1:55				
ORD-SFO	8/18/78	43	3:21	-55	FL389	0:16	41.5N	93.4W	FL380	-49.4	6.6	FL390	-51.4	2.1	2:59				
ORD-SFO	9/12/77	35	3:09	-59	FL390	2:50	38.7N	117.2W	FL383	-55.0	4.9	FL390	-56.2	1.6	2:45				
ORD-SFO	9/15/77	33	3:06	-59	FL390	1:39	40.6N	107.2W	FL381	-53.0	5.0	FL389	-54.5	1.8	2:46				
ORD-SFO	9/22/78	38	3:09	-61	FL390	2:09	39.3N	111.0W	FL381	-56.2	6.0	FL390	-58.3	1.7	2:39				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
ORD-SFO	10/14/78	35	2:49	-62	FL387	1:30	40.5N	106.8W	FL364	-55.2	4.2	FL349	-53.8	2.0	1:05	FL389	-58.4	2.1	1:14
ORD-SFO	10/17/78	38	3:04	-62	FL390	1:59	40.2N	109.5W	FL360	-55.4	3.8	FL349	-54.5	.7	1:45				
ORD-SFO	10/18/78	140	3:33	-62	FL389	1:31	44.0N	105.5W	FL382	-56.8	3.7	FL389	-57.6	2.8	1:55				
ORD-SFO	10/26/78	36	2:58	-55	FL389	1:23	41.1N	103.9W	FL375	-50.3	4.8	FL389	-53.0	1.3	2:08				
ORD-SFO	11/27/76	35	3:09	-65	FL390	3:00	38.6N	119.0W	FL381	-50.1	6.5	FL389	-50.3	6.2	2:40				
ORD-SFO	12/ 8/78	40	3:16	-60	FL390	3:12	38.3N	119.7W	FL385	-51.6	5.2	FL390	-52.0	4.5	2:57				
ORD-SFO	12/ 9/78	39	3:09	-62	FL365	3:09	37.7N	120.3W	FL384	-52.6	4.9	FL389	-53.2	3.6	2:49				
ORD-SFO	12/15/76	35	3:01	-67	FL390	2:09	40.0N	111.6W	FL382	-57.7	6.7	FL390	-59.4	6.0	2:26				
ORD-SFO	12/17/77	38	3:16	-51	FL400	3:00	38.6N	118.4W	FL382	-44.7	4.6	FL398	-48.4	1.6	1:34				
ORD-SFO	12/31/77	39	3:15	-56	FL341	0:10	42.0N	91.3W	FL383	-49.6	2.2	FL390	-49.5	1.9	2:54				
ORY-BAH	5/30/77	55	4:50	-55	FL331	0:09	47.7N	8.3E	FL330	-51.3	2.4	FL331	-51.5	2.1	4:35				
ORY-BEG	3/17/77	14	1:05	-63	FL370	0:50	46.5N	14.9E	FL364	-60.4	4.0	FL369	-61.5	.6	1:01				
ORY-BEG	8/19/76	15	1:09	-54	FL331	0:29	47.8N	10.7E	FL328	-52.5	2.7	FL330	-53.1	.8	1:04				
ORY-BEG	10/ 7/76	12	1:09	-57	FL370	0:10	47.7N	6.8E	FL359	-53.9	6.3								
ORY-DAM	1/ 2/78	40	3:24	-60	FL330	0:09	46.4N	5.3E	FL297	-46.3	4.8	FL290	-44.1	1.3	2:35				
ORY-DAM	10/17/77	37	3:14	-56	FL331	1:45	38.4N	21.1E	FL325	-51.2	4.4	FL330	-53.5	1.6	2:09				
ORY-DAM	11/ 7/77	38	3:20	-55	FL330	0:39	43.9N	11.6E	FL325	-49.9	3.9	FL329	-51.2	2.2	2:55				
ORY-DAM	12/12/77	41	3:18	-55	FL311	2:18	35.7N	25.6E	FL309	-49.0	4.0	FL330	-51.4	1.4	1:15				
OSA-HNL	1/ 3/79	66	5:30	-48	FL330	0:25	34.7N	142.1E	FL345	-41.4	2.9	FL349	-41.2	1.6	4:49				
OSA-HNL	2/12/79	67	5:41	-59	FL370	0:15	34.5N	140.7E	FL378	-50.4	3.8	FL370	-53.1	1.9	2:34	FL390	-47.9	2.8	2:41
OSA-HNL	2/21/79	316	5:38	-57	FL370	2:15	32.3N	164.2E	FL370	-52.5	3.8	FL370	-52.6	3.8	5:23				
OSA-HNL	4/ 1/79	74	6:04	-53	FL351	3:24	30.8N	176.3E	FL340	-49.7	2.6	FL331	-47.9	1.4	3:04	FL351	-52.1	.6	2:39
OSA-HNL	5/ 8/79	78	6:24	-58	FL370	3:24	32.4N	174.4E	FL363	-51.7	5.2	FL370	-53.5	3.7	4:54				
OSA-HNL	10/28/78	81	6:25	-67	FL390	3:55	34.4N	178.9W	FL364	-54.7	9.0	FL330	-43.9	1.0	1:18	FL370	-58.5	1.5	2:11
												FL390	-61.1	3.2	2:19				
OSA-HNL	11/ 7/78	75	6:15	-58	FL390	5:39	23.9N	164.7W	FL364	-46.7	7.6	FL329	-36.9	.9	1:04	FL349	-42.1	.7	1:59
												FL390	-54.4	2.4	2:45				
PDX-HNL	5/18/78	50	4:21	-53	FL350	3:21	28.9N	152.0W	FL326	-47.2	2.7	FL310	-45.4	.5	1:49	FL330	-49.1	1.0	1:05
PDX-HNL	6/ 2/78	51	4:30	-58	FL370	0:45	41.5N	131.0W	FL365	-55.3	3.8	FL369	-56.1	1.3	4:05				
PDX-HNL	6/21/78	46	3:45	-47	FL310	0:09	43.4N	126.4W	FL310	-45.2	1.2	FL310	-45.4	1.0	3:39				
PDX-HNL	7/ 5/78	46	4:18	-55	FL350	0:39	41.5N	131.4W	FL348	-51.5	2.9	FL350	-52.0	2.2	4:04				
PDX-HNL	10/26/78	52	4:24	-51	FL350	3:34	27.3N	152.3W	FL331	-44.8	4.8	FL310	-40.2	.6	1:50	FL349	-49.2	1.5	2:15
PDX-HNL	10/27/78	52	4:39	-60	FL390	3:19	28.8N	148.8W	FL360	-51.5	4.4	FL350	-49.6	1.3	2:45	FL390	-57.0	1.2	1:20
PER-BKK	8/15/77	62	5:14	-45	FL351	3:30	1.9S	104.5E	FL335	-38.7	5.1	FL350	-42.8	1.1	3:09	FL310	-32.5	.8	1:03
PER-BKK	12/26/77	65	5:24	-43	FL351	3:34	2.1S	104.4E	FL330	-38.7	4.3	FL309	-35.1	3.5	2:30	FL350	-42.4	.5	2:34
PER-BOM	1/ 7/77	86	7:24	-46	FL350	7:14	16.3N	73.9E	FL325	-38.0	5.9	FL285	-30.1	1.9	1:34	FL319	-34.9	.6	1:25
												FL350	-44.3	.6	2:55				
PER-BOM	1/23/77	83	7:22	-46	FL351	4:39	.3S	86.4E	FL332	-40.2	3.9	FL320	-37.4	2.4	4:14	FL350	-44.4	1.0	2:52
PER-BOM	4/ 3/77	89	7:34	-43	FL350	3:59	6.0S	91.7E	FL330	-38.8	3.6	FL320	-36.1	1.7	2:30	FL349	-42.0	.6	3:44
PER-BOM	4/ 6/77	88	7:29	-44	FL350	7:04	14.8N	75.1E	FL321	-35.9	4.4	FL285	-31.7	2.0	1:19	FL320	-34.9	1.5	2:14
												FL349	-41.6	1.1	2:25				
PER-BOM	4/24/77	86	7:33	-44	FL351	6:53	12.5N	76.2E	FL325	-38.7	3.3	FL285	-35.4	1.1	1:09	FL320	-37.7	2.4	2:33
												FL350	-42.2	.5	2:39				
PER-BOM	5/ 3/77	90	7:20	-44	FL320	0:09	29.3S	112.3E	FL333	-38.9	3.4	FL319	-37.1	3.8	3:43	FL349	-41.0	.6	3:22
PER-BOM	6/24/77	86	7:29	-44	FL351	6:29	10.5N	77.4E	FL311	-34.3	3.9	FL285	-30.1	1.2	1:48	FL320	-36.4	.5	2:15
												FL310	-33.4	.5	1:41				
PER-BOM	7/ 3/77	86	7:21	-44	FL350	4:33	1.5S	87.4E	FL328	-38.1	3.7	FL284	-33.9	3.0	1:05	FL319	-35.7	.5	2:44
												FL350	-41.7	1.2	3:11				
PER-BOM	7/13/76	90	7:40	-48	FL316	0:10	29.7S	112.8E	FL332	-40.8	2.9	FL319	-38.6	2.1	3:18	FL350	-42.9	1.5	3:26
PER-BOM	7/20/77	28	1:58	-42	FL321	0:04	30.1S	113.2E	FL319	-36.8	3.0	FL320	-36.7	3.0	0:00				
PER-BOM	7/27/77	89	7:29	-44	FL351	4:54	.6S	86.6E	FL325	-37.6	3.9	FL285	-33.5	3.2	1:09	FL320	-35.5	.5	3:24
												FL350	-42.3	1.5	2:34				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
PER-BOM	8/ 3/76	93	7:39	-44	FL351	4:39	2.9S	88.6E	FL327	-39.0	3.0	FL320	-38.6	.8	1:05	FL320	-35.7	.7	1:39
												FL350	-42.1	1.4	2:54				
PER-BOM	8/ 6/76	91	7:33	-44	FL350	6:03	6.8N	80.3E	FL306	-33.3	4.5	FL284	-28.6	1.1	2:48	FL319	-37.0	.5	2:54
												FL309	-32.8	.5	1:09				
PER-BOM	8/ 9/77	85	7:19	-45	FL350	5:09	2.2N	84.2E	FL324	-36.9	6.1	FL286	-28.3	1.6	1:40	FL320	-35.7	.5	2:10
												FL350	-43.1	1.2	3:05				
PER-BOM	9/ 2/77	84	7:08	-44	FL351	4:48	1.1N	85.2E	FL324	-36.6	4.6	FL286	-31.9	4.1	1:14	FL320	-34.5	.6	3:09
												FL350	-42.0	1.7	2:19				
PER-BOM	9/26/76	92	7:36	-47	FL360	4:25	3.3S	88.1E	FL342	-41.0	3.4	FL330	-36.1	1.8	1:04	FL351	-42.7	1.0	2:43
PER-BOM	10/10/76	90	7:30	-47	FL303	0:04	30.3S	113.4E	FL336	-40.2	3.7	FL319	-36.4	2.5	3:12	FL350	-43.0	.7	3:12
PER-BOM	10/15/76	94	7:47	-44	FL350	4:24	5.1S	90.6E	FL337	-40.0	3.2	FL320	-36.5	.8	3:15	FL350	-42.6	.5	4:12
PER-BOM	10/23/77	91	7:36	-46	FL361	3:54	6.5S	91.8E	FL336	-40.1	4.2	FL320	-38.7	4.3	3:33	FL350	-41.1	2.5	2:46
PER-BOM	11/14/76	92	7:58	-48	FL320	0:09	30.1S	113.2E	FL331	-39.3	7.0	FL319	-37.4	3.1	3:00	FL360	-46.0	.6	2:03
												FL349	-42.9	.5	1:15				
PER-BOM	11/20/77	89	7:24	-46	FL361	3:19	10.2S	95.0E	FL339	-41.5	3.8	FL320	-39.5	3.0	2:30	FL360	-45.4	.5	1:39
												FL351	-42.9	.5	2:19				
PER-BOM	12/ 2/77	84	7:19	-47	FL350	7:19	17.3N	73.5E	FL328	-38.6	4.8	FL319	-35.3	.8	2:54	FL350	-43.8	1.2	3:09
PER-BOM	12/ 9/76	88	7:24	-44	FL350	6:19	9.8N	78.0E	FL326	-38.2	3.1	FL319	-36.2	1.0	1:45	FL340	-40.8	.5	1:24
PER-BOM	12/28/76	90	7:30	-45	FL350	6:11	8.3N	79.1E	FL336	-40.4	3.6	FL319	-36.9	2.2	3:19	FL350	-43.3	.5	3:49
PER-MEL	1/29/77	29	2:24	-54	FL370	2:24	37.7S	142.4E	FL364	-49.9	5.1	FL369	-51.4	1.2	2:09				
PER-MEL	2/ 5/77	27	2:18	-58	FL370	1:08	35.4S	129.7E	FL350	-52.9	5.9	FL369	-57.6	.8	1:09				
PER-MEL	2/19/77	29	2:19	-53	FL370	2:09	37.7S	140.5E	FL366	-46.6	4.3	FL370	-47.5	2.3	2:09				
PER-MEL	3/26/77	28	2:19	-51	FL371	1:24	36.1S	133.0E	FL366	-46.6	4.2	FL370	-47.7	2.2	1:59				
PER-MEL	4/ 5/77	27	2:14	-58	FL370	2:04	37.6S	140.6E	FL365	-54.6	4.3	FL369	-55.5	1.1	2:00				
PER-MEL	4/26/77	29	2:19	-52	FL330	1:24	36.1S	132.8E	FL327	-49.1	3.7	FL329	-50.0	1.2	2:09				
PER-MEL	5/ 5/77	32	2:33	-59	FL371	0:30	33.9S	122.9E	FL359	-53.6	6.7	FL370	-55.9	3.3	2:14				
PER-MEL	6/18/77	25	2:34	-60	FL371	0:49	34.5S	125.7E	FL363	-56.1	4.6	FL370	-57.0	3.2	2:14				
PER-MEL	7/ 5/77	28	2:23	-60	FL371	1:48	37.3S	137.5E	FL359	-52.9	6.5	FL370	-55.5	3.1	1:53				
PER-MEL	7/22/77	25	2:14	-55	FL353	2:14	37.8S	142.5E	FL365	-47.7	3.5	FL371	-47.5	3.0	1:56				
PER-MEL	7/25/77	31	2:30	-59	FL330	1:55	36.9S	136.9E	FL327	-53.1	6.2	FL330	-54.2	4.8	2:15				
PER-MEL	7/29/77	25	2:19	-58	FL370	1:49	37.0S	137.2E	FL363	-53.4	4.0	FL370	-54.6	2.2	1:59				
PER-MEL	8/11/77	26	2:08	-48	FL370	1:05	35.6S	130.8E	FL331	-44.3	2.4								
PER-MEL	9/ 4/77	27	2:24	-51	FL321	0:05	32.9S	118.7E	FL349	-43.6	3.2	FL370	-42.8	2.5	1:15				
PER-MEL	10/25/77	30	2:29	-59	FL371	2:15	37.6S	140.0E	FL365	-54.9	4.9	FL370	-56.1	1.7	2:09				
PER-MEL	11/14/77	25	2:19	-59	FL370	1:29	36.3S	134.1E	FL367	-56.4	2.7	FL370	-57.0	1.5	2:04				
PER-MEL	11/22/77	29	2:29	-54	FL370	0:10	33.0S	119.5E	FL365	-50.6	3.0	FL370	-51.3	1.1	2:14				
PER-MEL	12/ 4/77	29	2:24	-49	FL330	1:44	36.6S	135.6E	FL327	-46.9	3.3	FL330	-47.8	.8	2:04				
PER-MRU	1/27/77	69	5:39	-30	FL267	1:45	30.6S	96.1E	FL267	-26.8	1.7	FL266	-26.8	1.7	5:39				
PER-MRU	2/ 3/77	70	5:54	-33	FL291	4:44	24.8S	69.4E	FL276	-28.8	2.3	FL266	-27.1	.8	3:34	FL291	-31.4	1.1	2:15
PER-MRU	2/17/77	74	6:03	-45	FL360	5:43	22.4S	62.3E	FL332	-38.0	4.8	FL320	-35.4	1.1	2:34	FL360	-43.4	.7	2:19
PER-MRU	3/24/77	63	5:30	-43	FL320	0:39	31.5S	104.6E	FL319	-38.8	2.6	FL320	-39.1	1.9	5:05				
PER-SYD	1/ 9/77	37	2:59	-54	FL370	2:34	34.6S	145.4E	FL364	-48.4	3.8	FL369	-49.5	1.6	2:40				
PER-SYD	1/18/77	32	2:39	-52	FL371	0:45	33.9S	127.9E	FL360	-47.3	4.9	FL370	-50.0	1.1	2:00				
PER-SYD	1/25/77	34	2:44	-50	FL371	2:24	34.8S	145.6E	FL365	-44.9	3.7	FL370	-45.5	2.6	2:24				
PER-SYD	4/ 8/77	39	3:15	-56	FL371	0:10	33.1S	119.4E	FL368	-52.7	3.8	FL371	-53.3	2.8	2:59				
PER-SYD	6/26/77	28	2:34	-41	FL317	0:10	33.6S	121.5E	FL292	-38.5	1.5	FL291	-38.3	1.5	2:15				
PER-SYD	8/ 5/76	33	2:48	-54	FL370	2:42	34.6S	148.1E	FL359	-48.2	3.2	FL369	-47.9	2.6	2:12				
PER-SYD	8/ 8/76	32	2:34	-48	FL370	1:29	34.5S	136.6E	FL362	-44.9	3.6	FL370	-46.0	1.4	2:14				
PER-SYD	9/28/76	37	3:10	-63	FL370	2:25	35.0S	141.8E	FL371	-55.9	5.6	FL379	-56.3	3.7	1:01				
PER-SYD	10/12/76	36	3:07	-53	FL330	0:15	33.4S	120.7E	FL340	-49.3	2.8								
PER-SYD	10/17/76	35	2:48	-56	FL360	0:57	33.9S	130.0E	FL361	-52.3	2.7	FL369	-51.8	1.7	1:30				
PER-SYD	11/16/76	33	2:39	-51	FL330	1:34	34.7S	137.7E	FL328	-48.4	2.1	FL330	-48.6	2.1	2:24				
PER-SYD	11/23/76	36	2:59	-61	FL370	2:34	34.8S	144.6E	FL349	-53.1	5.2	FL329	-50.0	1.8	1:19	FL369	-56.8	4.0	1:24

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
PER-SYD	12/11/76	31	2:34	-54	FL370	1:45	35.0S	139.0E	FL353	-48.0	3.9								
PHL-LHR	9/16/77	65	5:29	-54	FL331	1:44	49.2N	53.1W	FL331	-45.7	3.6	FL330	-45.7	3.6	5:29				
PHL-NCE	4/26/79	80	6:34	-56	FL370	5:34	48.4N	5.5W	FL344	-50.2	4.1	FL331	-48.7	2.7	2:54	FL350	-54.0	1.1	2:15
PIK-BGR	6/19/78	61	5:12	-58	FL390	4:42	50.1N	64.8W	FL328	-46.0	6.0	FL310	-43.0	2.5	3:47				
PPG-HNL	3/29/77	49	4:04	-61	FL410	0:09	11.7S	169.9W	FL408	-59.4	3.9	FL409	-59.9	1.6	3:54				
PPG-HNL	5/ 3/77	51	4:19	-61	FL410	2:45	7.9N	162.6W	FL405	-59.0	5.7	FL410	-60.2	.7	4:05				
PPG-HNL	5/10/77	48	4:09	-67	FL430	4:00	18.6N	158.4W	FL408	-59.7	6.2	FL410	-60.2	.5	3:19				
PPG-HNL	5/14/79	50	4:04	-52	FL370	3:44	17.6N	158.9W	FL366	-47.7	3.5	FL370	-48.5	1.5	3:44				
PPG-HNL	6/11/77	43	3:52	-51	FL370	2:52	11.1N	161.3W	FL367	-48.8	4.0	FL370	-49.8	.9	3:37				
PPG-HNL	6/13/77	49	4:05	-57	FL390	4:05	18.9N	158.4W	FL380	-51.4	5.4	FL372	-49.1	.8	1:09	FL389	-54.4	.8	2:25
PPG-HNL	6/30/77	48	4:04	-52	FL371	3:34	16.3N	159.5W	FL367	-49.2	4.1	FL370	-50.1	.8	3:49				
PPG-HNL	7/ 2/77	47	4:04	-52	FL371	3:49	17.9N	158.8W	FL366	-48.6	4.4	FL370	-49.7	.9	3:44				
PPG-HNL	7/ 4/77	51	4:19	-57	FL391	4:04	18.0N	158.8W	FL376	-51.0	4.9	FL370	-48.9	.6	2:09	FL390	-55.5	.7	1:45
PPG-HNL	8/21/76	50	4:03	-48	FL369	0:30	8.2S	168.4W	FL367	-45.1	2.9	FL368	-45.6	.7	3:48				
PPG-HNL	8/23/76	52	4:06	-46	FL369	1:30	.1N	165.4W	FL365	-43.8	3.7	FL368	-44.9	.5	3:40				
PPG-HNL	8/25/76	52	4:14	-49	FL370	0:54	5.0S	167.2W	FL368	-47.9	2.3	FL369	-48.4	.5	4:00				
PPG-HNL	10/23/78	47	3:59	-52	FL369	0:34	7.2S	168.0W	FL365	-50.2	3.9	FL369	-51.3	.4	3:39				
PPG-HNL	11/17/76	88	5:07	-58	FL390	4:49	20.2N	155.3W	FL349	-43.2	7.5	FL330	-37.9	.5	1:58	FL370	-48.6	.5	1:15
												FL390	-55.5	1.1	1:15				
PPG-HNL	12/12/77	49	4:09	-55	FL390	3:24	14.5N	160.1W	FL376	-49.8	4.6	FL370	-48.0	.4	1:54	FL389	-53.8	.5	1:45
PPG-HNL	12/15/76	52	4:14	-63	FL430	3:29	13.4N	160.5W	FL412	-58.6	4.2	FL410	-58.4	.6	3:09				
PPG-HNL	12/21/76	45	4:07	-63	FL410	3:32	15.1N	159.8W	FL401	-57.3	6.7	FL409	-59.0	.7	1:52	FL410	-60.3	1.3	1:45
PPG-HNL	12/28/76	46	4:00	-62	FL410	3:45	17.0N	159.1W	FL408	-59.0	4.2	FL410	-59.6	1.2	3:50				
PPG-MEL	11/ 8/76	50	5:07	-63	FL390	4:22	32.1S	159.3E	FL334	-44.9	10.9	FL310	-33.4	1.5	1:34	FL350	-53.7	1.0	1:12
PPG-PPT	3/29/77	26	2:15	-66	FL431	1:10	16.2S	159.9W	FL412	-61.0	7.9								
PPG-PPT	5/ 3/77	26	2:05	-61	FL410	1:45	16.9S	154.5W	FL404	-58.1	6.6	FL410	-59.8	.6	1:55				
PPG-PPT	5/10/77	20	2:00	-63	FL410	1:34	16.8S	155.2W	FL404	-60.0	6.2	FL409	-61.7	.7	1:49				
PPG-PPT	5/26/79	25	2:00	-38	FL331	0:15	15.3S	166.1W	FL326	-36.9	3.4	FL330	-38.0	0.0	1:39				
PPG-PPT	5/27/78	24	2:01	-51	FL370	0:10	15.1S	166.7W	FL365	-48.5	4.3	FL370	-50.0	.6	1:46				
PPG-PPT	8/24/76	22	1:50	-36	FL330	1:15	16.7S	156.5W	FL325	-33.4	3.4	FL329	-34.6	.6	1:34				
PPG-PPT	11/ 4/78	20	1:44	-41	FL330	0:09	14.9S	166.2W	FL326	-39.5	3.4	FL330	-40.5	.6	1:34				
PPG-PPT	12/14/76	25	2:00	-60	FL410	1:39	17.0S	154.4W	FL403	-56.6	6.3	FL410	-58.6	.8	1:45				
PPG-PPT	12/17/77	22	1:45	-35	FL330	0:50	16.2S	160.1W	FL325	-32.6	3.6	FL330	-33.8	.6	1:30				
PPG-PPT	12/21/76	27	2:05	-62	FL410	0:35	15.6S	164.1W	FL401	-58.7	7.7	FL409	-61.1	.7	1:49				
PPG-PPT	12/28/76	25	2:04	-67	FL430	0:15	15.0S	167.2W	FL419	-63.2	7.8	FL429	-66.1	.5	1:45				
PPG-SYD	1/ 9/77	56	4:37	-52	FL350	4:19	33.3S	155.0E	FL344	-43.9	6.3	FL349	-45.6	4.1	3:59				
PPG-SYD	6/10/77	58	4:49	-57	FL371	4:44	33.4S	155.0E	FL361	-48.9	4.5	FL350	-46.0	.9	1:50	FL370	-51.8	2.5	2:39
PPG-SYD	6/12/77	60	5:09	-58	FL390	5:04	33.6S	153.4E	FL371	-49.8	5.3	FL370	-49.5	.9	1:45	FL390	-54.3	1.5	1:54
PPG-SYD	6/29/77	56	4:50	-56	FL351	4:15	32.6S	157.8E	FL349	-45.6	3.4	FL350	-46.0	2.6	4:35				
PPG-SYD	7/ 1/77	53	4:42	-52	FL329	4:42	33.1S	153.3E	FL342	-43.8	5.4	FL350	-46.0	1.3	3:30				
PPG-SYD	7/ 3/77	59	5:00	-56	FL391	4:09	31.5S	159.0E	FL369	-49.1	5.2	FL350	-44.9	.3	1:05	FL369	-48.4	2.1	1:50
												FL390	-54.5	1.9	1:30				
PPG-SYD	8/22/76	62	5:06	-48	FL350	5:01	33.5S	154.9E	FL349	-41.1	3.6	FL350	-41.5	2.7	4:56				
PPG-SYD	8/30/76	63	5:09	-44	FL342	5:09	33.8S	152.9E	FL345	-37.7	3.7	FL349	-38.5	1.1	4:45				
PPT-AKL	8/14/77	53	4:39	-54	FL351	4:34	36.2S	177.2E	FL349	-47.2	4.3	FL350	-47.7	3.3	4:30				
PPT-AKL	8/21/77	56	4:35	-57	FL390	2:09	25.9S	166.0W	FL372	-49.5	4.7	FL350	-47.1	.4	1:10	FL390	-51.2	3.1	2:24
PPT-LAX	5/27/79	83	6:49	-55	FL370	6:39	32.0N	119.8W	FL363	-47.9	4.9	FL350	-43.9	.5	1:10	FL370	-49.9	1.9	5:10
PPT-LAX	5/28/78	77	6:29	-58	FL390	5:24	26.0N	125.3W	FL383	-53.9	3.1	FL370	-49.9	.6	2:09	FL389	-55.9	1.3	4:04
PPT-LAX	8/15/77	82	6:41	-51	FL370	0:59	8.0S	144.0W	FL366	-47.9	3.6	FL370	-48.9	1.0	6:01				
PPT-LAX	8/22/77	77	6:38	-51	FL370	2:34	3.8N	138.0W	FL358	-46.6	4.9	FL330	-39.1	1.0	1:09	FL370	-49.7	.5	4:28
PPT-LAX	11/ 5/78	81	6:47	-65	FL410	5:47	26.5N	124.8W	FL379	-54.1	6.2	FL369	-50.9	.9	3:17	FL390	-57.7	1.5	1:55
PPT-LAX	12/18/77	76	6:19	-62	FL390	6:04	31.0N	121.8W	FL374	-50.1	5.8	FL370	-47.6	.9	3:49	FL390	-57.0	2.8	2:05
PPT-PPG	3/29/77	25	2:06	-67	FL431	1:30	15.7S	163.8W	FL424	-63.9	5.8	FL431	-65.5	.7	1:50				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
PPT-PPG	5/ 3/77	28	2:20	-65	FL430	0:10	17.3S	152.1W	FL425	-63.8	5.1	FL429	-65.0	.2	2:09				
PPT-PPG	5/10/77	30	2:26	-67	FL429	0:10	17.2S	152.2W	FL421	-64.0	8.1	FL429	-66.4	.7	2:10				
PPT-PPG	5/14/79	33	2:14	-58	FL396	0:57	16.4S	158.6W	FL387	-54.2	5.8	FL392	-55.4	1.6	1:03				
PPT-PPG	5/17/77	12	2:18	-67	FL430	0:20	17.0S	153.9W	FL408	-60.1	12.3	FL429	-65.5	1.2	1:22				
PPT-PPG	8/25/76	28	2:14	-47	FL350	0:09	17.3S	152.6W	FL345	-43.7	4.0	FL349	-44.8	1.3	2:00				
PPT-PPG	10/23/78	29	2:20	-59	FL390	1:15	16.1S	161.0W	FL382	-55.2	6.5	FL390	-57.4	.7	2:00				
PPT-PPG	12/12/77	29	2:30	-54	FL391	0:15	17.1S	153.1W	FL380	-50.9	7.4	FL390	-53.4	.5	2:10				
PPT-PPG	12/14/76	29	2:20	-65	FL430	0:10	17.1S	152.2W	FL425	-62.6	5.2	FL429	-63.7	.6	2:09				
PPT-PPG	12/21/76	30	2:20	-67	FL430	0:45	16.7S	156.9W	FL421	-63.6	8.0	FL430	-65.9	.9	2:07				
PPT-PPG	12/28/76	29	2:24	-67	FL430	0:45	16.7S	156.8W	FL424	-64.7	5.5	FL430	-66.3	.5	2:10				
PTY-GIG	1/20/78	62	5:14	-53	FL371	4:54	19.7S	45.6W	FL355	-47.0	6.2	FL330	-40.1	.7	1:30	FL370	-51.2	.8	3:19
PTY-GIG	1/26/79	140	5:28	-51	FL371	5:20	20.3S	45.3W	FL350	-43.3	6.1	FL330	-37.8	.5	2:15	FL370	-49.0	.7	2:50
PTY-GIG	3/28/79	65	5:06	-49	FL371	2:24	5.5S	61.3W	FL353	-43.6	5.5	FL331	-38.0	.5	1:52	FL370	-48.2	.4	0:00
PTY-GIG	4/11/79	65	5:13	-50	FL371	4:38	17.3S	47.1W	FL334	-38.0	7.4	FL331	-36.8	.9	3:00	FL370	-49.3	.5	1:10
PTY-GIG	5/ 4/79	67	5:29	-52	FL371	5:24	20.9S	44.8W	FL364	-46.7	5.3	FL370	-48.6	1.4	4:44				
PTY-GIG	5/13/75	76	5:43	-55	FL369	5:13	18.6S	46.4W	FL363	-50.0	5.5	FL369	-51.8	1.3	4:58				
PTY-GIG	8/ 9/78	70	5:40	-52	FL370	4:10	11.5S	52.7W	FL354	-46.2	6.2	FL330	-40.0	0.0	1:45	FL370	-50.5	.8	3:35
PTY-GIG	8/25/78	63	5:24	-59	FL370	5:09	19.4S	45.7W	FL354	-51.8	6.3	FL330	-44.7	.4	1:54	FL370	-56.9	1.0	2:54
PTY-GUA	3/29/79	16	1:15	-45	FL350	0:35	11.4N	85.1W	FL341	-42.2	5.7								
PTY-GUA	4/12/79	14	1:04	-44	FL351	0:40	12.4N	86.5W	FL342	-40.7	5.1								
PTY-GUA	5/ 9/75	14	1:10	-47	FL350	0:45	12.5N	86.9W	FL340	-43.6	6.3								
PTY-GUA	8/10/78	15	1:10	-46	FL350	0:25	11.1N	84.2W	FL338	-42.1	5.8								
PTY-GUA	8/21/78	14	1:04	-52	FL351	0:25	10.9N	84.3W	FL341	-49.0	6.2								
PTY-GUA	9/ 4/76	14	1:05	-44	FL350	0:15	10.5N	83.8W	FL339	-40.6	6.5								
PTY-MIQ	3/30/75	15	1:08	-52	FL369	0:59	10.6N	69.4W	FL361	-49.0	5.4								
SEA-FAI	4/17/78	25	2:15	-56	FL317	0:05	49.3N	124.7W	FL343	-49.1	2.8	FL349	-49.0	2.5	1:59				
SEA-FAI	5/11/77	28	2:14	-49	FL343	0:09	49.7N	125.7W	FL355	-44.6	2.4	FL370	-42.8	.5	1:10				
SEA-FAI	5/18/78	19	1:30	-57	FL350	0:20	50.6N	126.9W	FL344	-53.3	5.0	FL349	-55.1	2.2	1:15				
SEA-FAI	6/ 2/78	29	2:19	-57	FL350	0:25	51.9N	126.7W	FL345	-54.3	4.3	FL350	-55.6	1.7	2:00				
SEA-FAI	6/ 3/77	27	2:07	-59	FL350	1:47	61.5N	140.0W	FL348	-50.8	4.2	FL349	-50.8	4.3	2:02				
SEA-FAI	6/ 6/77	24	2:04	-52	FL351	0:15	51.6N	126.0W	FL349	-48.5	2.6	FL350	-48.8	2.2	1:54				
SEA-FAI	6/20/77	28	2:15	-55	FL329	2:15	63.8N	145.2W	FL345	-48.3	3.2	FL350	-48.7	1.3	2:00				
SEA-FAI	6/21/78	31	2:30	-55	FL350	0:20	51.6N	126.8W	FL346	-49.5	4.2	FL350	-49.9	4.2	2:14				
SEA-FAI	7/ 5/78	28	2:14	-55	FL350	0:04	49.4N	125.0W	FL347	-51.4	3.4	FL350	-52.2	1.2	2:04				
SEA-FAI	7/ 7/77	27	2:25	-57	FL350	0:35	52.5N	128.0W	FL347	-54.5	4.0	FL350	-55.2	2.1	2:05				
SEA-FAI	7/17/77	27	2:19	-54	FL315	2:19	64.0N	145.7W	FL357	-46.1	4.3	FL370	-48.3	2.1	1:17				
SEA-FAI	11/15/76	31	2:26	-51	FL349	2:20	63.5N	144.7W	FL344	-39.5	4.4	FL348	-39.5	4.2	2:10				
SEA-FAI	12/ 6/76	30	2:30	-61	FL350	0:15	50.5N	126.6W	FL346	-57.3	3.8	FL350	-58.0	2.9	2:14				
SEA-FAI	12/13/77	29	2:24	-57	FL350	1:04	55.8N	131.2W	FL343	-53.0	3.8	FL350	-53.6	2.9	2:04				
SEA-HND	8/ 8/77	95	8:33	-62	FL391	1:03	50.2N	137.7W	FL391	-53.4	9.5	FL390	-49.3	7.0	2:41	FL410	-60.4	.9	2:30
												FL430	-60.4	1.2	1:32				
SEA-HNL	2/21/78	47	3:30	-51	FL331	2:49	32.6N	144.2W	FL314	-46.9	2.3	FL309	-45.9	.6	2:42				
SEA-HNL	3/30/76	44	3:54	-67	FL390	1:09	37.2N	139.8W	FL387	-63.9	4.1	FL389	-64.6	2.9	3:45				
SEA-HNL	3/31/76	53	4:39	-61	FL350	0:30	44.0N	128.2W	FL348	-57.5	2.4	FL350	-57.9	1.2	4:24				
SEA-HNL	4/ 1/76	54	4:25	-56	FL310	0:09	46.1N	125.6W	FL326	-51.9	2.4	FL331	-51.8	1.8	3:25				
SEA-HNL	4/ 2/76	55	4:39	-65	FL389	2:09	35.4N	140.9W	FL376	-61.1	4.7	FL370	-62.5	.9	1:35	FL388	-61.8	3.6	2:24
SEA-HNL	4/ 3/76	59	4:47	-64	FL383	0:10	46.1N	125.5W	FL377	-55.8	5.0	FL389	-54.5	4.1	1:49	FL367	-58.6	3.9	1:55
SEA-HNL	4/17/78	41	3:49	-59	FL350	2:09	39.2N	143.4W	FL330	-53.2	4.1	FL309	-49.6	1.5	1:50	FL350	-56.8	2.0	1:45
SEA-HNL	6/ 3/77	56	4:59	-60	FL391	1:39	38.1N	133.5W	FL377	-55.6	4.3	FL350	-51.2	.7	1:15	FL391	-58.2	1.3	3:19
SEA-HNL	6/ 6/77	49	4:39	-55	FL351	2:30	37.4N	145.4W	FL341	-48.8	4.4	FL350	-50.8	1.5	3:15				
SEA-HNL	6/21/77	54	4:30	-50	FL350	2:30	33.1N	143.2W	FL348	-48.5	3.0	FL349	-49.0	.6	4:19				
SEA-HNL	7/ 7/77	55	4:35	-62	FL411	3:30	28.7N	151.4W	FL376	-57.0	4.7	FL370	-57.3	.9	1:25				
SEA-HNL	7/18/77	54	4:34	-51	FL350	3:55	26.7N	154.0W	FL348	-47.6	2.1	FL350	-47.9	1.6	4:19				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SEA-HNL	11/15/76	59	5:04	-54	FL389	3:19	30.5N	146.3W	FL368	-49.5	4.0	FL350	-47.0	.9	1:34	FL388	-52.5	1.0	2:04
SEA-HNL	12/ 6/76	51	4:20	-58	FL350	0:09	45.7N	126.2W	FL348	-54.4	2.9	FL350	-54.8	1.6	4:10				
SEA-HNL	12/13/77	68	5:20	-59	FL390	1:45	38.9N	134.8W	FL373	-54.1	3.7	FL351	-53.0	2.6	1:29	FL390	-55.6	1.6	3:29
SEA-LAX	4/ 6/75	16	1:15	-51	FL368	0:05	44.9N	121.9W	FL387	-47.1	1.8								
SEA-LHR	1/24/78	98	8:14	-68	FL330	7:04	55.1N	18.3W	FL334	-56.1	6.8	FL330	-49.6	5.9	1:04	FL350	-52.4	4.1	2:25
												FL330	-60.0	1.7	1:15	FL330	-62.5	3.2	2:39
SEA-LHR	2/18/79	97	8:19	-68	FL331	2:30	65.2N	92.7W	FL339	-59.6	4.5	FL330	-61.9	2.9	4:04	FL370	-59.2	4.1	2:49
SEA-LHR	3/11/77	53	7:01	-61	FL330	1:30	59.8N	103.6W	FL341	-51.3	5.4	FL330	-57.6	2.8	2:02	FL370	-47.0	.9	2:17
SEA-LHR	3/15/78	100	8:30	-62	FL331	5:35	60.2N	41.6W	FL327	-52.4	4.3	FL330	-52.7	4.4	7:40				
SEA-LHR	3/20/75	101	7:35	-60	FL331	7:20	54.1N	4.5W	FL310	-47.5	4.1	FL329	-45.4	2.3	3:29	FL290	-47.3	2.1	3:07
SEA-LHR	3/22/78	87	7:35	-57	FL289	3:09	60.8N	77.3W	FL289	-48.7	3.1	FL289	-48.7	3.1	7:35				
SEA-LHR	3/25/76	89	7:35	-64	FL370	5:40	59.0N	29.1W	FL349	-56.2	4.3	FL331	-55.9	3.6	2:04	FL370	-57.8	4.0	3:26
SEA-LHR	3/26/79	91	7:29	-60	FL331	0:34	51.5N	113.1W	FL329	-51.1	3.8	FL331	-51.2	3.8	6:59				
SEA-LHR	4/ 5/79	98	8:04	-60	FL370	5:59	62.8N	28.7W	FL352	-53.3	3.8	FL331	-53.3	3.0	3:24	FL370	-53.5	4.3	4:19
SEA-LHR	4/29/76	91	7:50	-57	FL370	7:40	53.7N	2.9W	FL349	-50.8	3.4	FL330	-54.3	1.9	1:19	FL350	-47.1	1.0	2:15
												FL370	-52.0	3.0	2:54				
SEA-LHR	6/11/77	83	7:49	-60	FL370	0:15	48.9N	117.7W	FL397	-48.0	6.2	FL390	-43.3	3.4	2:24	FL410	-48.3	5.0	3:59
SEA-LHR	6/12/78	93	7:54	-58	FL370	7:29	56.1N	5.3W	FL344	-48.0	6.5	FL330	-45.5	5.5	4:34	FL370	-52.6	6.0	2:34
SEA-LHR	6/13/77	88	7:59	-57	FL369	0:05	48.7N	119.1W	FL391	-47.3	4.9	FL369	-53.7	1.9	1:34	FL390	-42.7	1.9	1:49
												FL410	-47.3	3.1	3:49				
SEA-LHR	6/18/77	96	7:59	-61	FL370	0:45	53.5N	116.2W	FL375	-50.4	5.3	FL370	-50.1	5.5	4:19	FL390	-50.5	4.6	2:39
SEA-LHR	6/20/77	81	7:41	-60	FL371	0:44	56.7N	112.6W	FL390	-50.0	4.9	FL370	-50.8	6.0	3:04	FL390	-46.4	1.7	1:09
												FL409	-50.3	3.8	3:04				
SEA-LHR	6/22/77	91	7:59	-56	FL390	1:19	58.5N	110.2W	FL394	-49.6	5.2	FL390	-49.4	3.9	2:34	FL409	-48.5	5.6	3:49
SEA-LHR	6/25/77	91	7:34	-57	FL370	1:15	58.5N	110.0W	FL394	-46.9	5.3	FL370	-54.1	1.7	1:54	FL390	-47.2	4.2	1:24
												FL409	-43.3	2.4	3:49				
SEA-LHR	6/27/77	93	7:45	-61	FL391	3:21	65.3N	76.6W	FL393	-47.7	4.6	FL369	-49.8	2.4	1:34	FL390	-49.3	5.8	2:26
												FL409	-45.4	2.6	3:24				
SEA-LHR	6/29/77	89	7:39	-57	FL371	0:10	48.9N	118.3W	FL395	-48.6	3.3	FL390	-46.9	1.4	2:44	FL410	-48.4	2.3	3:39
SEA-LHR	7/11/78	91	7:41	-58	FL370	6:51	58.1N	8.7W	FL323	-48.2	5.1	FL310	-42.6	1.4	1:01	FL329	-51.6	1.4	2:24
												FL291	-41.6	.9	1:04	FL330	-49.4	.5	1:04
SEA-LHR	9/ 3/77	89	8:08	-57	FL351	6:43	63.5N	15.4W	FL343	-49.0	4.3	FL330	-50.3	2.5	3:09	FL370	-46.8	4.2	2:19
												FL330	-51.4	1.7	1:20				
SEA-LHR	10/ 9/78	87	7:44	-57	FL330	5:49	64.2N	23.4W	FL330	-50.5	4.1	FL330	-50.6	4.0	7:33				
SEA-LHR	10/19/76	97	8:54	-60	FL349	2:11	63.4N	98.7W	FL360	-50.5	3.8	FL348	-56.8	1.5	1:18	FL369	-48.8	2.0	0:00
SEA-LHR	10/20/76	97	8:19	-54	FL350	2:34	59.6N	89.1W	FL355	-46.4	5.1	FL329	-51.2	1.4	1:39	FL349	-52.1	1.2	1:34
												FL369	-42.5	3.3	4:35				
SEA-LHR	10/21/78	85	7:18	-54	FL330	1:03	55.0N	105.9W	FL330	-48.5	3.8	FL330	-48.5	3.8	7:04				
SEA-LHR	12/ 7/77	96	8:02	-58	FL331	7:17	56.0N	10.1W	FL329	-51.5	3.2	FL330	-51.7	3.1	7:44				
SEA-LHR	12/ 9/77	93	8:01	-59	FL330	5:17	59.9N	38.8W	FL327	-52.1	4.9	FL330	-52.2	5.1	7:21				
SEA-LHR	12/15/76	92	8:09	-63	FL370	6:27	62.0N	20.3W	FL341	-53.4	4.9	FL309	-50.2	2.4	1:10	FL329	-53.0	3.4	3:25
												FL370	-56.0	4.9	3:07				
SEA-LHR	12/27/76	94	7:54	-66	FL370	4:20	66.7N	61.2W	FL359	-58.9	5.2	FL329	-54.7	4.5	1:54	FL369	-64.7	1.4	2:14
												FL389	-59.0	1.7	1:45				
SEA-ORD	2/13/79	25	2:00	-57	FL412	0:39	47.1N	108.9W	FL400	-52.3	3.9	FL411	-53.3	2.8	1:35				
SEA-ORD	3/29/77	37	2:42	-59	FL371	1:16	46.2N	105.8W	FL363	-49.9	6.2	FL370	-50.9	5.7	2:15				
SEA-ORD	4/ 1/77	30	2:24	-51	FL351	0:05	47.4N	119.1W	FL364	-48.3	1.3	FL369	-48.0	1.1	2:05				
SEA-ORD	4/ 9/77	33	2:33	-69	FL409	1:18	47.0N	103.9W	FL394	-61.4	7.5	FL409	-65.7	2.9	1:49				
SEA-ORD	4/12/75	24	2:24	-64	FL371	0:04	47.6N	118.7W	FL367	-57.1	3.8	FL370	-57.3	3.9	2:14				
SEA-ORD	4/29/76	31	2:29	-62	FL408	2:14	43.1N	93.6W	FL396	-54.6	3.5	FL409	-55.2	2.7	1:59				
SEA-ORD	4/29/77	30	2:24	-63	FL370	0:39	47.0N	111.7W	FL382	-57.2	3.6								
SEA-ORD	5/16/75	30	2:30	-64	FL403	1:30	45.7N	101.3W	FL373	-55.7	6.1	FL370	-56.3	3.9	1:14				
SEA-ORD	6/12/77	11	2:29	-58	FL390	2:14	43.9N	93.5W	FL356	-52.1	6.6	FL369	-55.1	1.0	1:39				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SEA-ORD	6/22/79	29	2:19	-57	FL390	2:03	43.8N	93.1W	FL377	-53.2	3.1	FL389	-55.1	1.2	1:13				
SEA-ORD	7/ 3/77	28	2:19	-54	FL370	0:24	47.1N	114.5W	FL363	-48.4	3.0	FL369	-49.0	2.0	2:00				
SEA-ORD	7/21/77	30	2:22	-54	FL367	0:10	47.4N	117.8W	FL360	-48.3	4.7	FL369	-50.3	1.0	2:00				
SEA-ORD	7/31/77	28	2:24	-57	FL370	0:30	46.7N	114.2W	FL364	-51.6	4.9	FL369	-52.7	3.7	2:04				
SEA-ORD	8/ 2/77	29	2:19	-58	FL390	1:24	45.2N	101.7W	FL384	-53.0	5.7	FL389	-56.1	.9	1:09				
SEA-ORD	8/14/75	29	2:19	-54	FL362	0:04	47.4N	117.8W	FL365	-49.3	5.2	FL371	-50.5	1.1	2:00				
SEA-ORD	12/10/76	28	2:20	-64	FL371	0:24	47.1N	114.4W	FL364	-57.6	4.6	FL370	-58.5	3.6	2:00				
SEA-ORD	12/19/76	30	2:30	-66	FL370	0:09	47.5N	117.9W	FL366	-52.7	6.6	FL369	-58.7	5.1	1:05				
SEA-PIK	1/21/79	263	7:21	-70	FL391	6:04	63.7N	21.9W	FL340	-55.8	3.7	FL330	-55.1	2.0	5:42	FL390	-59.4	5.6	1:13
SEA-SFO	4/ 6/79	14	1:04	-62	FL370	0:10	45.3N	122.6W	FL362	-57.1	5.1								
SEA-SFO	6/ 9/77	18	1:36	-61	FL371	1:30	39.3N	122.8W	FL390	-53.9	7.7	FL410	-56.4	1.2	1:15				
SEA-SFO	11/ 6/76	12	1:00	-61	FL390	0:09	45.2N	122.6W	FL380	-58.3	5.8								
SEA-SFO	12/29/76	14	1:04	-61	FL370	0:04	45.7N	122.5W	FL361	-58.1	3.2								
SFO-AKL	1/ 1/77	140	12:14	-65	FL410	11:14	29.7S	180.0E	FL386	-56.1	3.7	FL370	-57.7	2.1	1:39	FL390	-54.2	1.0	5:15
												FL410	-60.2	1.7	3:44				
SFO-AKL	2/ 3/77	133	11:25	-61	FL410	9:28	21.5S	175.4W	FL377	-51.1	5.8	FL359	-45.9	3.1	1:15	FL349	-43.8	.6	2:04
												FL370	-48.6	.6	1:29	FL389	-53.9	.8	3:19
												FL410	-59.3	1.0	2:16				
SFO-AKL	2/ 5/77	142	11:45	-59	FL390	11:45	35.5S	175.9E	FL372	-52.7	2.6	FL369	-50.1	2.1	3:25	FL390	-54.0	1.3	5:59
SFO-AKL	3/31/77	140	11:50	-58	FL390	6:54	4.0S	160.6W	FL371	-53.8	2.1	FL310	-50.8	1.7	1:14	FL349	-53.7	1.0	1:39
												FL369	-51.5	.5	2:50	FL389	-55.3	1.1	5:45
SFO-AKL	4/ 2/77	140	11:44	-60	FL390	11:44	35.6S	175.9E	FL367	-53.1	4.0	FL349	-52.5	2.0	1:18	FL369	-51.2	.8	2:24
												FL389	-56.0	1.1	6:00				
SFO-AKL	5/ 5/77	143	11:56	-58	FL390	10:01	23.4S	176.4W	FL377	-53.7	3.3	FL331	-47.6	.8	1:19	FL370	-52.6	2.4	2:44
												FL390	-55.5	1.0	7:26				
SFO-AKL	6/ 1/78	137	11:39	-67	FL410	9:59	25.2S	177.4W	FL376	-54.3	6.9	FL310	-42.6	1.3	1:13	FL350	-48.9	.7	1:15
												FL370	-51.8	.8	2:33	FL390	-56.8	1.2	4:02
												FL430	-65.3	1.0	1:25				
SFO-AKL	6/30/77	135	11:44	-57	FL390	9:49	23.7S	176.6W	FL372	-50.2	6.0	FL351	-45.2	.7	3:15	FL390	-55.5	.6	5:59
SFO-AKL	7/ 2/77	137	11:25	-57	FL390	7:50	13.2S	169.5W	FL367	-50.5	7.0	FL349	-45.7	.7	2:59	FL390	-56.1	.8	6:25
SFO-AKL	8/11/77	131	11:19	-63	FL411	7:26	9.7S	166.3W	FL376	-51.4	7.7	FL310	-37.8	1.8	1:14	FL350	-45.2	.7	1:08
												FL369	-50.9	.4	2:47	FL390	-56.3	.7	1:41
												FL410	-57.6	5.2	1:41				
SFO-AKL	8/13/77	134	11:54	-61	FL410	9:39	22.2S	175.8W	FL371	-50.3	7.1	FL350	-45.3	.8	4:25	FL390	-55.9	.6	3:39
												FL410	-58.1	1.0	2:09				
SFO-AKL	9/29/77	132	11:39	-62	FL410	8:49	16.7S	172.2W	FL381	-52.7	5.6	FL349	-46.7	1.6	3:44	FL369	-50.1	.4	1:09
												FL390	-54.8	.6	1:45	FL410	-58.2	3.8	4:24
SFO-AKL	10/ 1/77	116	11:23	-57	FL390	8:58	18.8S	173.6W	FL374	-51.1	4.6	FL349	-46.2	1.0	2:30	FL390	-54.3	2.6	6:39
SFO-AKL	10/13/77	240	11:28	-62	FL430	9:48	25.0S	177.3W	FL368	-51.0	3.9	FL349	-48.4	1.4	1:55	FL369	-50.3	.5	1:55
												FL390	-54.9	.7	4:23	FL430	-55.5	3.8	1:35
SFO-AKL	10/15/77	128	11:33	-59	FL410	8:48	17.4S	172.7W	FL375	-50.2	4.1	FL340	-48.4	1.0	1:10	FL349	-45.4	1.0	2:29
												FL369	-48.8	.4	1:31	FL389	-54.9	.7	2:54
												FL409	-52.2	2.8	2:45				
SFO-AKL	12/ 1/77	125	11:01	-56	FL390	6:11	3.6S	160.2W	FL372	-50.0	3.8	FL359	-49.6	1.9	1:49	FL350	-44.5	1.4	2:12
												FL369	-48.6	.9	1:30	FL390	-53.4	1.4	4:54
SFO-AKL	12/16/76	125	11:40	-61	FL410	7:50	9.9S	166.2W	FL387	-54.1	3.9	FL348	-51.3	1.0	1:19	FL369	-49.8	1.1	1:45
												FL390	-54.3	.6	3:00	FL410	-57.9	2.4	4:54
SFO-AKL	12/18/76	137	11:40	-58	FL390	10:00	24.3S	176.9W	FL366	-50.0	5.0	FL310	-44.2	2.3	1:25	FL350	-44.5	.8	2:41
												FL369	-49.4	.7	1:30	FL390	-54.8	1.6	5:29
SFO-AKL	12/23/76	141	11:39	-68	FL430	9:54	23.5S	176.5W	FL378	-53.9	4.3	FL349	-53.9	3.0	3:39	FL370	-50.0	1.0	2:38
												FL390	-55.5	1.4	3:09	FL429	-56.4	7.0	1:40

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN		
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD
SFO-AKL	12/25/76	142	12:08	-70	FL450	11:04	28.9S	179.7W	FL393	-57.4	6.3
SFO-AKL	12/29/77	149	12:09	-58	FL410	9:09	15.7S	170.5W	FL374	-52.1	3.7
SFO-AKL	12/30/76	144	12:14	-62	FL350	0:30	34.3N	126.7W	FL380	-55.2	3.8
SFO-BOS	5/11/75	49	4:05	-59	FL371	0:40	39.7N	113.1W	FL387	-54.3	4.2
SFO-BOS	9/12/75	44	3:43	-56	FL412	3:37	42.7N	77.8W	FL374	-51.5	4.3
SFO-BOS	10/ 7/75	48	4:00	-62	FL411	3:50	42.6N	75.7W	FL375	-53.3	4.8
SFO-BOS	10/19/75	48	4:15	-58	FL371	0:55	41.9N	111.4W	FL368	-52.8	5.0
SFO-BOS	12/29/75	52	4:18	-62	FL370	1:17	43.4N	108.7W	FL386	-56.3	5.0
SFO-FAI	10/28/76	75	4:11	-60	FL350	2:10	53.2N	131.7W	FL330	-49.8	4.8
SFO-GUM	12/ 3/78	125	10:39	-61	FL410	10:24	14.6N	148.1E	FL392	-53.5	6.0
SFO-HKG	1/18/78	162	13:31	-65	FL430	12:46	24.2N	120.5E	FL382	-50.2	7.2
SFO-HKG	1/20/78	159	13:43	-64	FL430	12:23	27.2N	124.1E	FL388	-51.3	6.9
SFO-HKG	1/22/78	162	13:39	-64	FL430	12:54	24.9N	121.2E	FL386	-53.5	6.9
SFO-HKG	1/25/78	163	13:48	-64	FL429	13:28	22.8N	118.2E	FL381	-53.3	4.8
SFO-HKG	1/27/78	157	13:15	-59	FL350	0:24	42.0N	125.6W	FL377	-49.7	4.7
SFO-HKG	1/29/78	162	13:27	-62	FL350	0:39	42.1N	130.2W	FL379	-52.1	5.8
SFO-HKG	2/ 1/78	161	13:34	-67	FL370	3:45	52.6N	157.7W	FL387	-53.6	8.3
SFO-HKG	2/ 3/78	150	12:59	-65	FL370	4:35	54.1N	174.8W	FL382	-53.4	7.9
SFO-HKG	2/ 5/78	159	13:21	-70	FL371	5:37	53.8N	173.3E	FL384	-55.0	7.7
SFO-HKG	4/ 7/79	160	13:33	-66	FL410	9:27	37.6N	141.6E	FL368	-53.9	7.8
SFO-HKG	4/11/79	158	13:22	-68	FL410	10:26	34.3N	134.3E	FL377	-52.2	6.9
SFO-HKG	5/24/78	148	13:22	-65	FL410	9:32	37.9N	142.1E	FL381	-52.5	7.2
SFO-HKG	5/26/78	154	13:09	-67	FL430	11:34	28.9N	126.5E	FL376	-55.2	8.5

FLIGHT SEGMENTS							
FL	T	SD	ETIM	FL	T	SD	ETIM
FL330	-49.0	.9	1:24	FL369	-53.3	2.0	2:25
FL390	-54.8	.4	2:45	FL410	-60.3	.7	2:49
FL449	-68.3	1.1	1:33				
FL320	-48.5	2.5	1:40	FL350	-49.2	.5	1:24
FL369	-50.0	2.2	2:50	FL390	-54.3	.7	2:39
FL409	-56.4	1.6	2:55				
FL350	-55.5	3.8	2:39	FL370	-50.9	.9	2:54
FL389	-55.0	.4	3:10	FL410	-60.2	1.0	2:49
FL370	-57.7	1.7	1:49	FL410	-52.3	.7	1:49
FL371	-52.1	3.1	2:54				
FL371	-52.4	3.6	3:09				
FL371	-53.4	4.5	3:50				
FL370	-60.5	.8	1:29	FL409	-52.2	3.2	1:54
FL310	-46.4	2.3	1:30	FL350	-52.7	3.7	2:24
FL370	-49.0	2.1	2:05	FL389	-50.5	3.5	3:45
FL410	-59.5	.7	4:14				
FL349	-49.4	5.1	2:02	FL369	-42.4	3.9	2:29
FL390	-49.8	1.8	2:55	FL409	-49.8	1.2	1:45
FL430	-61.7	3.0	2:39				
FL349	-49.3	6.5	2:54	FL369	-44.4	1.7	2:15
FL390	-51.7	1.9	2:24	FL410	-48.9	2.2	2:39
FL429	-61.5	3.4	2:48				
FL350	-59.0	.9	2:50	FL369	-45.5	2.5	2:54
FL390	-47.4	1.5	2:44	FL410	-54.7	1.8	1:39
FL430	-62.4	1.0	2:39				
FL330	-55.8	1.0	2:34	FL369	-50.3	4.2	2:15
FL390	-49.8	1.7	2:48	FL410	-51.0	2.1	1:39
FL429	-60.2	2.7	2:34				
FL350	-52.6	5.6	2:05	FL369	-47.0	2.8	6:00
FL390	-47.2	1.5	1:29	FL409	-55.1	1.4	2:54
FL350	-54.9	5.2	5:22	FL390	-45.0	2.3	3:24
FL410	-54.3	3.0	4:14				
FL350	-60.5	1.6	3:05	FL369	-63.3	3.5	1:15
FL390	-45.2	4.6	4:24	FL410	-46.8	2.6	2:00
FL430	-60.5	2.3	2:10				
FL350	-57.3	4.9	2:50	FL369	-54.1	5.5	3:00
FL390	-45.1	3.5	4:09	FL430	-63.0	1.0	2:19
FL350	-47.7	2.1	3:26	FL371	-62.1	6.4	2:51
FL390	-49.0	1.7	2:15	FL409	-53.6	1.7	1:45
FL430	-63.5	2.4	2:25				
FL280	-38.9	1.1	1:08	FL309	-50.7	1.6	1:39
FL369	-51.4	5.2	4:28	FL389	-63.1	.8	1:20
FL409	-59.8	3.6	4:16				
FL329	-49.9	.8	1:05	FL350	-53.1	3.6	2:35
FL369	-46.9	3.6	3:16	FL389	-45.8	1.1	1:19
FL410	-58.7	6.3	4:24				
FL351	-46.6	7.5	3:15	FL370	-49.2	3.2	2:13
FL390	-51.9	3.8	2:19	FL409	-60.0	1.9	4:00
FL331	-47.9	1.1	2:05	FL351	-48.2	6.2	3:15
FL390	-59.8	4.1	3:10	FL409	-63.8	1.4	1:54
FL430	-63.8	1.3	1:34				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-HKG	5/29/78	156	13:32	-65	FL411	11:12	33.3N	131.6E	FL371	-55.4	5.7	FL330	-49.9	1.0	1:15	FL350	-55.2	3.0	4:06
												FL370	-52.1	7.5	1:49	FL390	-56.9	5.5	3:27
												FL410	-60.4	2.3	2:19				
SFO-HKG	5/31/79	142	12:12	-59	FL390	8:37	39.3N	142.4E	FL376	-49.3	4.4	FL350	-48.7	1.8	2:35	FL369	-48.5	1.9	2:14
												FL389	-47.2	5.5	2:32	FL410	-53.4	3.0	3:19
SFO-HKG	6/ 2/79	143	12:25	-59	FL391	7:15	47.1N	154.7E	FL376	-51.8	4.6	FL330	-47.5	1.3	1:09	FL350	-50.2	4.1	2:15
												FL369	-49.5	3.1	2:24	FL390	-55.8	1.9	2:49
												FL410	-54.2	2.9	3:05				
SFO-HKG	6/ 4/79	149	12:37	-66	FL391	6:46	50.1N	160.2E	FL380	-53.0	7.9	FL349	-43.5	4.0	3:30	FL370	-49.0	2.1	1:56
												FL390	-58.8	3.7	3:15	FL410	-60.3	1.9	3:20
SFO-HKG	8/14/78	151	12:30	-59	FL411	12:24	22.0N	115.8E	FL373	-52.5	3.1	FL350	-50.1	.9	4:00	FL370	-52.7	2.0	3:34
												FL390	-54.5	1.3	2:40	FL410	-56.8	1.1	1:34
SFO-HKG	8/17/78	148	12:14	-56	FL390	6:29	35.8N	168.6E	FL372	-52.0	3.0	FL350	-50.8	1.2	4:09	FL370	-52.5	1.3	1:54
												FL390	-53.4	2.0	5:45				
SFO-HKG	8/19/78	145	12:19	-62	FL431	11:29	25.2N	122.0E	FL375	-53.4	3.7	FL350	-52.2	1.8	5:19	FL390	-54.1	1.8	5:34
SFO-HKG	8/21/78	140	12:25	-56	FL370	4:24	43.9N	171.4W	FL371	-51.1	3.4	FL350	-49.4	2.4	4:04	FL370	-50.8	4.2	1:59
												FL390	-52.9	1.5	5:54				
SFO-HKG	9/11/78	162	13:09	-60	FL411	11:45	26.7N	126.1E	FL376	-49.7	7.1	FL331	-44.9	1.6	2:20	FL351	-43.4	3.4	1:04
												FL371	-45.5	.6	2:45	FL391	-50.0	3.4	2:09
												FL411	-58.3	.7	4:03				
SFO-HKG	9/13/78	150	12:49	-60	FL411	8:44	26.2N	151.3E	FL375	-52.2	5.2	FL350	-47.9	.9	6:29	FL390	-55.8	.9	1:34
												FL410	-58.2	.8	4:10				
SFO-HKG	9/15/78	146	12:53	-59	FL390	4:34	31.9N	170.4W	FL377	-53.5	3.5	FL350	-50.4	1.2	3:54	FL390	-55.2	2.4	8:33
SFO-HKG	9/17/78	151	13:01	-60	FL411	10:30	23.8N	137.7E	FL376	-53.7	3.2	FL350	-50.9	1.2	4:30	FL370	-53.0	2.0	1:45
												FL390	-55.5	.8	3:39	FL410	-57.6	.9	2:30
SFO-HKG	12/ 9/77	162	13:45	-64	FL430	10:45	33.0N	131.5E	FL384	-54.3	6.7	FL350	-46.7	4.2	2:05	FL369	-55.9	1.0	2:10
												FL390	-52.4	4.3	3:04	FL410	-53.7	1.5	1:04
												FL430	-63.2	.9	3:24				
SFO-HND	1/ 9/78	107	9:00	-55	FL331	4:26	54.5N	176.3W	FL328	-49.1	2.8	FL310	-49.3	1.7	1:40	FL330	-49.8	2.6	5:56
SFO-HND	1/22/76	108	9:22	-61	FL370	5:16	54.7N	179.4W	FL348	-50.9	4.1	FL310	-51.9	3.4	1:45	FL329	-51.3	1.3	1:27
												FL369	-50.7	5.0	4:50				
SFO-HND	2/22/77	91	9:46	-65	FL370	3:58	55.1N	161.2W	FL371	-47.4	4.7	FL349	-46.6	.8	1:55	FL369	-55.5	7.1	1:23
												FL389	-45.4	1.9	4:46				
SFO-HND	2/27/76	113	9:30	-70	FL390	7:54	41.2N	154.0E	FL356	-52.2	9.2	FL310	-49.8	2.0	2:59	FL370	-44.3	1.5	2:05
												FL390	-62.3	7.5	3:20				
SFO-HND	3/11/75	119	9:49	-57	FL330	2:24	49.8N	143.2W	FL349	-48.3	3.3	FL310	-50.9	1.6	2:09	FL349	-45.9	2.0	1:39
												FL369	-47.1	2.5	4:55				
SFO-HND	3/18/76	111	9:45	-52	FL390	7:30	47.5N	156.4E	FL361	-45.9	2.3	FL350	-43.8	1.7	2:15	FL371	-46.6	.8	1:09
												FL390	-47.8	2.0	3:40				
SFO-HND	3/23/77	134	10:23	-66	FL391	8:06	46.3N	153.5E	FL359	-54.3	7.1	FL310	-49.0	1.6	2:30	FL350	-55.1	2.2	1:20
												FL370	-48.4	4.3	2:59	FL390	-62.9	3.7	2:38
SFO-HND	3/30/77	114	9:47	-64	FL391	8:22	43.0N	148.5E	FL366	-56.6	5.6	FL330	-58.8	.7	1:25	FL350	-59.7	1.5	2:10
												FL370	-51.0	4.6	2:07	FL390	-58.0	5.9	3:29
SFO-HND	4/ 4/78	107	9:22	-60	FL310	7:56	44.4N	150.5E	FL310	-49.3	4.2	FL310	-47.0	2.4	5:46	FL310	-54.1	2.7	3:00
SFO-HND	4/ 7/77	106	9:11	-64	FL391	9:00	37.9N	142.1E	FL372	-52.5	3.6	FL351	-50.7	3.0	1:49	FL371	-53.4	2.1	2:09
												FL391	-53.0	4.2	4:06				
SFO-HND	4/13/78	111	9:30	-63	FL349	7:05	49.5N	159.0E	FL341	-53.5	4.6	FL310	-50.7	1.9	1:39	FL349	-54.4	4.6	7:30
SFO-HND	4/18/77	115	9:45	-60	FL370	4:55	40.7N	174.3W	FL353	-53.0	3.7	FL331	-53.3	.9	1:50	FL350	-55.8	2.9	2:04
												FL370	-52.6	3.6	4:49				
SFO-HND	6/22/77	110	9:20	-55	FL350	6:00	52.7N	167.7E	FL341	-47.9	4.7	FL310	-43.4	2.9	1:35	FL350	-49.5	3.3	7:15
SFO-HND	7/27/77	111	9:17	-60	FL390	6:53	50.1N	160.1E	FL366	-51.0	6.5	FL350	-47.4	4.1	2:19	FL369	-50.4	3.8	2:24
												FL390	-57.3	1.2	3:04				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-HND	8/12/76	116	8:50	-53	FL330	6:15	50.5N	162.2E	FL323	-44.4	6.1	FL289	-34.4	2.2	1:16	FL309	-42.7	3.8	1:23
												FL330	-48.7	3.2	4:25	FL349	-42.8	2.3	1:11
SFO-HND	9/ 5/76	111	9:33	-57	FL330	4:19	57.6N	165.4W	FL327	-47.5	5.4	FL330	-48.7	4.6	8:13				
SFO-HND	10/ 4/77	108	9:32	-64	FL410	7:08	37.9N	163.6E	FL383	-57.0	4.0	FL349	-54.0	1.1	1:54	FL369	-55.9	1.3	1:49
												FL390	-59.1	2.4	2:32	FL410	-58.5	5.2	2:54
SFO-HND	10/ 7/77	112	9:24	-56	FL370	5:05	38.6N	177.4W	FL357	-50.4	4.6	FL311	-43.0	.6	1:15	FL350	-52.1	1.4	2:09
												FL370	-52.7	2.6	1:55	FL390	-53.6	1.0	2:24
SFO-HND	10/13/77	107	9:20	-59	FL351	4:54	54.0N	179.8E	FL341	-50.0	5.3	FL311	-43.0	.9	1:09	FL350	-52.1	3.3	7:30
SFO-HND	10/20/77	109	10:09	-55	FL351	6:00	55.1N	172.7E	FL350	-48.1	2.7	FL351	-49.3	3.0	3:20	FL370	-47.8	2.5	4:00
SFO-HND	10/26/77	112	8:55	-57	FL350	7:48	43.0N	148.5E	FL340	-46.7	5.4	FL310	-41.5	3.8	2:24	FL350	-48.6	4.3	0:00
SFO-HND	12/29/76	107	9:03	-56	FL323	0:04	40.4N	124.8W	FL368	-48.4	3.7	FL349	-49.2	1.7	1:25	FL370	-45.3	2.5	2:00
												FL390	-46.8	1.3	3:30				
SFO-HNL	1/ 1/78	54	4:33	-58	FL339	0:04	37.6N	125.2W	FL386	-50.6	2.5	FL390	-50.5	1.9	4:08				
SFO-HNL	1/ 3/77	50	4:14	-60	FL361	1:49	32.3N	138.7W	FL358	-54.4	4.4	FL360	-55.0	3.7	3:54				
SFO-HNL	1/ 4/79	54	4:24	-57	FL346	0:09	36.9N	125.3W	FL357	-48.4	3.7	FL360	-48.5	3.0	4:04				
SFO-HNL	1/ 6/77	52	4:07	-56	FL350	1:01	33.6N	132.8W	FL347	-50.6	5.1	FL350	-51.3	4.1	3:51				
SFO-HNL	1/ 6/78	53	4:31	-61	FL363	0:15	36.6N	126.4W	FL359	-48.7	8.8	FL362	-49.3	8.3	4:07				
SFO-HNL	1/ 6/78	54	4:28	-58	FL351	0:15	35.9N	125.5W	FL348	-48.0	7.2	FL350	-48.1	7.3	4:13				
SFO-HNL	1/ 8/78	56	4:39	-56	FL351	0:09	36.1N	124.9W	FL349	-45.2	3.9	FL350	-45.3	3.6	4:29				
SFO-HNL	1/ 9/79	59	4:28	-56	FL360	0:15	36.4N	127.1W	FL356	-51.4	4.4	FL359	-52.3	1.8	4:08				
SFO-HNL	1/11/78	57	4:55	-48	FL310	0:09	36.0N	125.0W	FL309	-42.0	4.8	FL310	-42.1	4.8	4:45				
SFO-HNL	1/11/78	16	1:25	-51	FL316	0:05	36.3N	124.6W	FL343	-47.2	2.6	FL350	-47.5	1.2	1:15				
SFO-HNL	1/11/78	51	4:09	-55	FL351	0:09	37.8N	125.4W	FL349	-47.6	5.6	FL350	-47.7	5.6	3:59				
SFO-HNL	1/14/77	50	4:09	-60	FL360	0:20	36.3N	127.5W	FL358	-55.0	4.7	FL360	-55.3	4.3	3:54				
SFO-HNL	1/14/78	51	4:19	-49	FL322	0:05	36.4N	124.4W	FL346	-43.2	2.6	FL350	-42.6	1.4	3:00				
SFO-HNL	1/14/79	39	4:24	-60	FL350	2:15	32.8N	143.6W	FL348	-50.4	4.3	FL350	-50.8	4.2	4:04				
SFO-HNL	1/15/78	60	5:04	-46	FL360	3:39	28.0N	147.8W	FL357	-43.0	2.4	FL359	-43.4	2.1	4:34				
SFO-HNL	1/16/78	61	5:02	-51	FL319	0:07	36.9N	124.7W	FL348	-44.0	1.7	FL350	-43.9	1.1	4:49				
SFO-HNL	1/19/78	52	4:12	-58	FL350	1:19	32.9N	134.7W	FL348	-51.0	5.6	FL350	-51.2	5.5	4:02				
SFO-HNL	1/19/79	48	3:54	-59	FL350	0:10	35.6N	126.4W	FL349	-53.1	5.3	FL350	-53.4	5.0	3:39				
SFO-HNL	1/21/78	48	4:15	-59	FL350	1:35	32.1N	136.6W	FL348	-55.6	3.7	FL349	-56.2	2.6	3:54				
SFO-HNL	1/22/79	49	4:00	-59	FL350	0:15	35.6N	126.7W	FL348	-43.8	6.5	FL349	-43.9	6.3	3:49				
SFO-HNL	1/23/78	57	3:58	-56	FL348	3:08	25.2N	149.9W	FL323	-48.4	4.3	FL309	-45.8	1.0	2:55				
SFO-HNL	1/25/78	47	4:11	-58	FL351	0:09	37.8N	125.7W	FL349	-52.3	5.8	FL350	-52.4	5.8	4:01				
SFO-HNL	1/25/79	49	3:59	-52	FL348	0:09	36.7N	126.2W	FL358	-46.9	3.3	FL360	-46.7	3.3	3:44				
SFO-HNL	1/26/76	49	4:00	-58	FL350	0:09	36.5N	125.6W	FL347	-48.5	4.3	FL350	-48.9	3.9	3:45				
SFO-HNL	1/26/78	48	3:54	-60	FL360	1:50	31.7N	140.1W	FL356	-53.1	6.7	FL359	-53.6	6.3	3:39				
SFO-HNL	1/27/77	39	4:31	-58	FL361	0:46	34.9N	132.0W	FL359	-51.9	4.8	FL360	-56.0	3.1	1:55	FL362	-48.9	3.1	2:11
SFO-HNL	1/27/78	50	3:56	-50	FL349	0:08	36.2N	124.7W	FL324	-45.5	3.1	FL310	-47.0	.8	2:22	FL350	-42.5	3.0	1:09
SFO-HNL	1/27/79	49	4:00	-62	FL360	0:20	36.3N	127.5W	FL357	-57.8	3.2	FL360	-58.3	2.2	3:45				
SFO-HNL	1/29/78	52	4:09	-58	FL351	1:24	32.2N	136.4W	FL349	-50.9	7.0	FL350	-51.2	6.9	4:00				
SFO-HNL	1/30/79	49	4:02	-61	FL360	1:15	33.8N	134.9W	FL355	-54.6	6.6	FL360	-55.9	5.6	3:37				
SFO-HNL	1/31/77	28	4:11	-62	FL360	0:30	36.0N	128.4W	FL346	-52.2	8.6	FL360	-57.3	4.1	3:35				
SFO-HNL	1/31/78	49	4:14	-62	FL357	0:09	36.8N	125.8W	FL358	-53.6	8.4	FL360	-54.2	8.2	3:59				
SFO-HNL	2/ 1/78	52	4:24	-59	FL351	0:09	36.0N	125.3W	FL348	-47.8	6.8	FL350	-47.9	6.8	4:14				
SFO-HNL	2/ 2/76	45	3:57	-55	FL350	0:42	34.6N	130.1W	FL349	-49.8	5.1	FL350	-50.0	4.9	3:46				
SFO-HNL	2/ 3/76	47	3:54	-57	FL350	3:34	23.2N	154.4W	FL348	-52.0	3.5	FL349	-52.0	3.5	3:39				
SFO-HNL	2/ 3/78	49	4:24	-58	FL351	0:45	34.6N	129.9W	FL347	-48.2	9.5	FL350	-49.0	8.9	4:09				
SFO-HNL	2/ 3/78	54	4:24	-61	FL360	1:15	34.1N	134.2W	FL357	-50.9	9.5	FL360	-51.6	9.0	4:09				
SFO-HNL	2/ 3/78	53	4:12	-61	FL360	0:15	36.6N	126.3W	FL359	-49.0	9.3	FL361	-49.2	9.3	3:52				
SFO-HNL	2/ 5/78	55	4:39	-40	FL350	0:20	35.7N	126.3W	FL347	-36.5	2.8	FL350	-36.6	2.6	4:19				
SFO-HNL	2/ 7/79	52	4:15	-55	FL351	0:09	35.8N	125.8W	FL344	-51.3	6.5	FL351	-53.4	1.2	3:45				
SFO-HNL	2/ 8/79	52	4:08	-50	FL322	0:05	36.8N	125.7W	FL321	-45.6	3.8	FL321	-45.8	3.7	3:59				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-HNL	2/10/76	47	3:59	-54	FL330	0:04	37.8N	125.2W	FL347	-50.2	3.4	FL350	-50.7	2.5	3:39				
SFO-HNL	2/12/77	51	4:09	-56	FL350	0:09	35.9N	125.4W	FL348	-50.8	4.5	FL349	-51.2	3.9	4:00				
SFO-HNL	2/12/78	56	4:39	-62	FL351	0:10	36.4N	125.5W	FL349	-51.2	5.9	FL350	-51.2	5.8	4:29				
SFO-HNL	2/15/78	53	4:22	-62	FL353	0:10	36.0N	125.3W	FL348	-53.1	7.7	FL351	-53.5	7.5	4:07				
SFO-HNL	2/17/78	47	4:09	-64	FL361	0:10	36.8N	125.6W	FL358	-56.8	7.1	FL360	-57.2	6.9	3:59				
SFO-HNL	2/18/79	56	4:34	-62	FL360	0:15	36.4N	127.0W	FL357	-55.1	5.8	FL360	-55.6	4.7	4:14				
SFO-HNL	2/19/78	62	4:14	-50	FL310	0:05	36.3N	124.5W	FL304	-45.0	4.6	FL310	-47.9	1.1	3:08				
SFO-HNL	2/19/79	62	5:04	-61	FL357	0:10	37.0N	124.9W	FL356	-52.1	4.9	FL359	-52.7	4.0	4:44				
SFO-HNL	2/20/77	54	4:18	-50	FL333	0:04	36.3N	124.6W	FL348	-44.1	2.5	FL349	-44.2	2.1	4:09				
SFO-HNL	2/20/79	58	4:40	-53	FL350	0:09	35.9N	125.5W	FL345	-48.9	4.1	FL350	-50.3	1.1	3:55				
SFO-HNL	2/21/78	51	4:24	-58	FL345	0:10	36.1N	124.8W	FL346	-50.0	7.8	FL350	-50.5	7.0	4:05				
SFO-HNL	2/22/78	51	4:21	-57	FL351	0:11	35.9N	125.5W	FL347	-48.3	8.0	FL350	-48.6	7.8	4:10				
SFO-HNL	2/25/78	51	4:19	-59	FL350	0:24	35.7N	127.3W	FL348	-51.2	6.4	FL350	-51.4	6.2	4:09				
SFO-HNL	2/26/76	53	4:34	-66	FL390	2:02	31.3N	139.4W	FL377	-60.2	5.1	FL369	-61.0	0.0	1:37	FL389	-61.1	4.4	2:35
SFO-HNL	2/27/78	60	4:23	-50	FL310	1:22	32.3N	135.4W	FL309	-41.1	6.5	FL309	-41.1	6.6	4:18				
SFO-HNL	2/28/78	54	4:30	-58	FL351	0:15	35.7N	126.3W	FL348	-43.9	5.9	FL350	-44.3	5.7	4:15				
SFO-HNL	2/28/78	53	4:24	-61	FL351	0:59	36.5N	133.3W	FL372	-51.9	5.3	FL350	-56.8	4.9	1:34	FL391	-49.7	2.1	2:24
SFO-HNL	2/28/79	52	3:52	-62	FL370	0:25	36.1N	128.2W	FL373	-55.4	4.9	FL369	-59.1	1.9	1:51	FL390	-52.6	.8	1:37
SFO-HNL	3/ 1/76	52	4:20	-58	FL350	1:04	33.8N	132.7W	FL347	-51.6	4.5	FL350	-52.4	3.0	4:00				
SFO-HNL	3/ 2/78	55	5:00	-44	FL351	1:24	33.2N	133.8W	FL347	-41.3	2.3	FL350	-41.6	1.5	4:34				
SFO-HNL	3/ 5/79	52	3:49	-61	FL370	0:14	35.2N	126.5W	FL367	-48.7	4.2	FL370	-49.0	3.8	3:35				
SFO-HNL	3/ 7/78	55	4:44	-61	FL360	0:09	36.8N	125.7W	FL359	-56.3	5.1	FL360	-56.6	4.6	4:35				
SFO-HNL	3/10/78	50	3:48	-63	FL351	0:04	36.8N	125.7W	FL360	-58.0	3.6	FL360	-58.0	3.5	3:34				
SFO-HNL	3/10/78	50	4:09	-62	FL361	1:19	33.6N	135.4W	FL357	-57.2	5.0	FL360	-57.9	3.4	3:50				
SFO-HNL	3/14/79	53	3:48	-63	FL371	1:42	31.6N	140.4W	FL360	-58.6	4.7	FL351	-58.0	3.6	1:08	FL370	-60.3	1.8	2:21
SFO-HNL	3/15/77	46	3:59	-62	FL350	0:39	34.9N	128.8W	FL348	-54.5	6.3	FL350	-54.6	6.3	3:49				
SFO-HNL	3/18/77	47	3:46	-60	FL360	1:22	32.9N	137.4W	FL356	-53.6	5.2	FL359	-54.1	4.7	3:26				
SFO-HNL	3/19/79	198	3:49	-63	FL370	0:48	34.9N	132.0W	FL369	-53.6	6.9	FL370	-53.7	6.8	0:00				
SFO-HNL	3/20/77	47	3:52	-59	FL347	0:07	36.0N	125.1W	FL348	-54.8	4.1	FL349	-55.1	3.6	3:45				
SFO-HNL	3/20/77	46	3:49	-59	FL350	0:10	36.0N	125.8W	FL348	-53.6	5.8	FL349	-53.9	5.6	3:39				
SFO-HNL	3/22/77	53	3:57	-60	FL350	0:23	35.5N	127.5W	FL348	-55.5	3.7	FL350	-55.9	2.8	3:44				
SFO-HNL	3/22/77	41	3:57	-62	FL360	0:13	36.6N	126.3W	FL358	-57.0	3.8	FL359	-57.3	3.2	3:49				
SFO-HNL	3/22/78	31	2:07	-57	FL351	1:31	32.1N	136.8W	FL349	-52.9	4.4	FL350	-53.4	4.0	2:00				
SFO-HNL	3/24/77	44	3:49	-62	FL387	2:05	31.3N	143.4W	FL360	-53.1	5.1	FL349	-56.8	1.1	1:04	FL390	-53.2	3.3	1:34
SFO-HNL	3/28/76	43	3:44	-58	FL351	1:04	33.3N	134.2W	FL348	-55.3	3.3	FL351	-56.0	1.7	3:24				
SFO-HNL	3/29/76	47	4:09	-58	FL350	0:19	37.3N	127.7W	FL346	-55.6	4.0	FL350	-56.5	1.1	3:54				
SFO-HNL	3/30/79	54	4:07	-53	FL330	0:05	36.8N	125.7W	FL330	-47.8	3.2	FL331	-48.1	2.7	3:57				
SFO-HNL	4/ 1/78	46	4:00	-54	FL320	0:30	36.0N	128.3W	FL319	-48.7	2.8	FL320	-48.8	2.7	3:54				
SFO-HNL	4/ 2/76	53	4:07	-66	FL390	1:37	32.3N	136.8W	FL375	-59.8	5.4	FL390	-63.4	2.6	2:45				
SFO-HNL	4/ 5/78	46	3:59	-62	FL361	0:39	35.5N	130.1W	FL358	-57.9	4.4	FL360	-58.6	2.7	3:45				
SFO-HNL	4/ 7/78	47	3:49	-57	FL360	0:49	35.0N	131.6W	FL357	-52.8	4.8	FL359	-53.6	3.7	3:34				
SFO-HNL	4/ 8/79	49	3:59	-57	FL370	2:09	30.5N	142.7W	FL356	-53.6	3.8	FL350	-53.5	.8	1:50	FL369	-55.5	1.2	1:45
SFO-HNL	4/ 9/77	48	3:59	-57	FL350	1:04	33.5N	133.1W	FL349	-52.9	2.8	FL350	-53.2	2.2	3:49				
SFO-HNL	4/11/76	44	4:00	-58	FL350	0:35	35.0N	129.3W	FL349	-52.8	3.0	FL350	-52.9	3.0	3:49				
SFO-HNL	4/11/77	41	4:14	-65	FL400	1:00	34.7N	132.6W	FL394	-61.8	4.6	FL399	-62.7	1.7	3:59				
SFO-HNL	4/11/77	49	3:59	-59	FL351	0:09	36.4N	125.7W	FL349	-54.5	2.8	FL350	-54.6	2.4	3:49				
SFO-HNL	4/11/78	50	4:15	-59	FL361	1:19	33.6N	135.5W	FL358	-56.2	3.1	FL360	-56.9	.9	4:00				
SFO-HNL	4/12/75	49	4:02	-67	FL390	0:30	35.2N	128.8W	FL387	-62.4	3.5	FL390	-63.1	1.9	3:46				
SFO-HNL	4/12/75	50	4:30	-68	FL411	2:09	32.1N	142.1W	FL396	-64.8	5.4	FL390	-65.0	.9	1:49	FL410	-66.9	.9	2:15
SFO-HNL	4/14/77	44	3:41	-54	FL351	0:09	35.9N	125.7W	FL348	-51.3	2.6	FL350	-51.7	1.4	3:31				
SFO-HNL	4/15/77	45	3:56	-52	FL350	0:10	35.9N	125.6W	FL346	-50.0	4.1	FL349	-50.8	1.6	3:40				
SFO-HNL	4/15/77	46	3:59	-53	FL350	0:09	36.1N	125.6W	FL347	-50.8	3.6	FL350	-51.6	1.6	3:44				
SFO-HNL	4/15/78	49	4:04	-56	FL349	2:09	33.0N	144.3W	FL346	-51.4	5.1	FL349	-51.9	4.4	3:49				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-HNL	4/17/76	53	4:02	-59	FL390	2:48	27.3N	147.6W	FL364	-53.6	3.5	FL350	-52.4	.7	2:04	FL389	-56.5	1.8	1:39
SFO-HNL	4/19/77	51	4:14	-64	FL390	2:49	29.0N	148.0W	FL361	-55.9	4.4	FL350	-55.6	.6	2:30	FL389	-58.1	4.9	1:20
SFO-HNL	4/19/77	50	4:10	-56	FL351	0:09	35.9N	125.5W	FL347	-53.6	3.9	FL350	-54.4	1.5	3:56				
SFO-HNL	4/19/79	51	4:09	-57	FL351	2:14	30.2N	143.4W	FL340	-52.9	2.4	FL331	-51.3	.6	1:49	FL350	-54.6	1.7	2:04
SFO-HNL	4/21/78	51	4:26	-57	FL360	0:21	36.4N	127.1W	FL358	-55.2	2.8	FL360	-55.6	1.1	4:05				
SFO-HNL	4/21/79	55	4:30	-52	FL331	0:05	36.8N	125.8W	FL331	-49.4	2.0	FL331	-49.6	1.8	4:19				
SFO-HNL	4/23/76	47	3:54	-58	FL390	2:19	29.1N	144.1W	FL364	-52.2	3.7	FL350	-51.2	.9	2:00	FL389	-55.2	1.1	1:30
SFO-HNL	4/25/78	48	4:04	-56	FL361	0:54	34.7N	132.6W	FL359	-53.0	1.6	FL360	-53.0	1.5	3:54				
SFO-HNL	4/25/78	45	3:59	-50	FL321	0:05	36.8N	125.6W	FL321	-44.4	1.4	FL320	-44.3	1.3	3:54				
SFO-HNL	4/26/77	54	4:24	-57	FL360	1:05	34.4N	133.2W	FL356	-53.7	4.8	FL359	-54.8	1.7	4:05				
SFO-HNL	4/27/76	50	4:08	-56	FL352	1:39	31.6N	138.6W	FL347	-51.7	4.3	FL351	-52.7	1.7	3:49				
SFO-HNL	4/27/78	46	3:55	-58	FL361	0:15	36.5N	126.9W	FL357	-55.7	4.1	FL360	-56.7	1.3	3:40				
SFO-HNL	5/ 1/77	47	4:04	-57	FL360	2:34	29.3N	145.1W	FL356	-52.9	4.0	FL360	-53.6	2.9	3:49				
SFO-HNL	5/ 1/77	41	4:00	-62	FL390	2:19	29.1N	143.6W	FL371	-56.8	4.5	FL349	-54.0	1.1	1:30	FL390	-59.8	2.0	2:05
SFO-HNL	5/ 8/78	44	4:00	-57	FL360	0:54	34.8N	132.3W	FL355	-51.9	5.2	FL360	-53.0	2.2	3:39				
SFO-HNL	5/ 9/79	50	4:04	-48	FL331	1:45	31.7N	140.2W	FL329	-44.9	2.8	FL330	-45.3	1.8	3:54				
SFO-HNL	5/10/75	46	3:59	-47	FL311	0:04	36.7N	125.0W	FL308	-43.5	2.6	FL309	-43.8	1.9	3:49				
SFO-HNL	5/12/75	47	4:02	-54	FL350	0:41	34.4N	130.8W	FL348	-51.2	3.2	FL350	-51.8	.8	3:50				
SFO-HNL	5/15/79	46	3:44	-54	FL350	0:45	35.2N	131.0W	FL348	-51.7	3.2	FL350	-52.3	.8	3:29				
SFO-HNL	5/16/75	45	3:44	-45	FL311	0:04	36.6N	125.3W	FL310	-39.9	1.6	FL310	-40.0	1.6	3:39				
SFO-HNL	5/16/78	50	4:09	-57	FL381	2:54	27.6N	148.5W	FL360	-52.9	4.7	FL360	-53.9	.6	2:30				
SFO-HNL	5/17/79	45	3:39	-48	FL331	3:09	25.0N	153.1W	FL328	-44.7	2.7	FL330	-45.3	1.5	3:24				
SFO-HNL	5/19/77	48	4:00	-56	FL359	0:05	36.8N	125.7W	FL359	-52.8	1.6	FL360	-53.0	1.3	3:54				
SFO-HNL	5/25/78	40	3:45	-55	FL351	0:09	35.5N	126.9W	FL349	-50.2	3.0	FL350	-50.7	2.0	3:23				
SFO-HNL	5/28/75	45	3:49	-52	FL350	0:10	36.3N	126.1W	FL346	-50.7	3.1	FL348	-51.3	.9	3:39				
SFO-HNL	5/28/76	47	4:00	-56	FL349	0:10	36.0N	125.1W	FL347	-51.1	4.0	FL350	-51.8	2.7	3:45				
SFO-HNL	5/29/79	47	3:49	-56	FL370	1:30	32.3N	138.7W	FL365	-53.4	4.5	FL370	-54.7	.8	3:30				
SFO-HNL	5/30/78	47	3:54	-56	FL361	0:09	36.6N	126.6W	FL359	-53.5	2.3	FL360	-53.9	1.1	3:39				
SFO-HNL	5/31/77	44	4:04	-61	FL390	0:09	36.0N	125.1W	FL384	-57.5	5.6	FL389	-59.0	1.2	3:44				
SFO-HNL	5/31/77	45	3:54	-55	FL360	0:15	36.5N	126.7W	FL357	-52.4	3.6	FL360	-53.0	1.1	3:44				
SFO-HNL	6/ 2/78	50	4:09	-54	FL360	0:09	36.6N	126.5W	FL357	-52.6	3.8	FL359	-53.4	1.0	3:54				
SFO-HNL	6/ 2/78	48	4:05	-54	FL360	0:10	36.6N	126.5W	FL359	-53.1	2.3	FL360	-53.5	.7	3:54				
SFO-HNL	6/ 2/79	48	3:54	-57	FL370	1:24	32.6N	137.9W	FL367	-53.8	3.4	FL370	-54.5	1.4	3:39				
SFO-HNL	6/ 6/78	50	4:05	-53	FL360	0:35	35.4N	130.4W	FL357	-50.7	3.7	FL359	-51.5	.7	3:49				
SFO-HNL	6/ 7/77	32	4:05	-54	FL359	1:30	32.8N	137.6W	FL355	-49.3	4.3	FL359	-50.4	1.2	3:34				
SFO-HNL	6/ 8/79	53	4:18	-57	FL370	0:30	35.6N	129.6W	FL367	-52.7	3.7	FL369	-53.4	1.9	4:03				
SFO-HNL	6/ 9/79	53	4:19	-55	FL366	0:35	35.3N	130.7W	FL365	-53.0	4.0	FL370	-54.2	.7	3:39				
SFO-HNL	6/13/75	43	3:45	-58	FL390	0:20	37.1N	128.4W	FL381	-55.1	6.7	FL389	-57.1	.7	3:19				
SFO-HNL	6/13/77	34	3:54	-56	FL361	0:09	36.5N	126.8W	FL360	-51.1	1.5	FL360	-51.2	1.5	3:49				
SFO-HNL	6/13/79	52	4:14	-55	FL361	1:14	34.7N	135.4W	FL358	-52.4	3.1	FL360	-53.0	1.3	4:00				
SFO-HNL	6/14/77	21	3:58	-56	FL360	1:26	33.0N	136.9W	FL352	-49.4	6.5	FL360	-51.4	2.2	3:41				
SFO-HNL	6/14/77	24	3:58	-55	FL360	0:45	35.3N	130.8W	FL356	-50.5	4.5	FL360	-51.3	2.3	3:43				
SFO-HNL	6/14/78	52	4:15	-55	FL360	0:24	36.3N	127.5W	FL358	-53.0	3.4	FL360	-53.6	1.4	4:00				
SFO-HNL	6/15/79	196	4:16	-56	FL370	3:00	28.0N	147.8W	FL369	-54.7	1.9	FL370	-55.1	.7	3:28				
SFO-HNL	6/17/77	46	3:49	-54	FL360	0:30	35.4N	130.3W	FL358	-51.4	1.7	FL360	-51.5	1.5	3:39				
SFO-HNL	6/17/78	49	4:00	-55	FL350	1:05	35.1N	134.5W	FL346	-49.8	4.7	FL350	-50.7	3.2	3:39				
SFO-HNL	6/17/79	48	3:56	-52	FL350	3:24	25.2N	152.8W	FL347	-50.1	2.8	FL350	-50.7	.7	3:36				
SFO-HNL	6/19/75	51	4:15	-52	FL351	0:10	36.4N	126.0W	FL348	-49.3	3.9	FL350	-51.1	.7	2:15	FL352	-49.0	.5	1:40
SFO-HNL	6/19/77	43	3:44	-54	FL361	0:09	36.4N	127.0W	FL359	-50.3	1.8	FL360	-50.5	1.4	3:34				
SFO-HNL	6/22/79	50	4:05	-57	FL370	2:05	30.6N	142.7W	FL359	-53.4	3.5	FL350	-52.0	.9	1:45	FL370	-55.5	1.2	2:05
SFO-HNL	6/25/77	47	3:50	-50	FL350	0:25	35.2N	127.9W	FL348	-48.1	3.1	FL350	-48.7	1.3	3:40				
SFO-HNL	6/27/78	52	4:15	-56	FL363	1:30	32.4N	138.4W	FL357	-50.3	4.4	FL360	-52.1	.9	1:10	FL360	-50.8	1.9	2:45
SFO-HNL	6/28/77	47	3:49	-52	FL360	0:20	36.2N	128.0W	FL357	-48.9	4.3	FL360	-49.7	2.1	3:34				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-HNL	6/28/77	44	3:44	-52	FL360	0:30	35.6N	129.8W	FL355	-48.3	4.8	FL359	-49.5	2.1	3:24				
SFO-HNL	7/ 1/79	48	3:54	-58	FL370	1:15	33.1N	136.9W	FL367	-54.3	4.0	FL370	-55.4	1.5	3:34				
SFO-HNL	7/ 5/78	55	4:29	-51	FL361	0:25	36.2N	127.9W	FL357	-48.6	3.9	FL360	-49.5	1.1	4:09				
SFO-HNL	7/ 6/77	49	4:05	-59	FL400	3:00	27.0N	149.6W	FL368	-53.5	4.4	FL360	-52.7	.7	2:35				
SFO-HNL	7/ 6/79	52	4:15	-54	FL361	0:15	35.8N	127.0W	FL357	-50.7	4.2	FL360	-51.4	2.4	4:00				
SFO-HNL	7/ 9/78	49	4:05	-56	FL390	2:40	27.7N	146.3W	FL366	-49.8	5.3	FL350	-45.5	.6	2:04	FL389	-55.7	.5	1:39
SFO-HNL	7/10/77	46	3:54	-56	FL370	2:49	28.6N	150.5W	FL356	-51.0	2.7	FL350	-50.5	1.0	2:24	FL369	-52.8	2.0	1:15
SFO-HNL	7/10/77	47	3:58	-53	FL360	2:30	29.1N	145.7W	FL358	-49.7	3.6	FL360	-50.3	1.5	3:49				
SFO-HNL	7/12/78	50	4:04	-45	FL320	1:30	32.9N	137.3W	FL319	-41.5	2.4	FL320	-41.8	1.8	4:00				
SFO-HNL	7/12/79	48	3:54	-52	FL370	2:24	26.6N	144.8W	FL365	-48.2	4.8	FL370	-49.5	1.1	3:29				
SFO-HNL	7/14/77	47	4:05	-52	FL360	0:39	35.1N	131.4W	FL357	-49.9	3.2	FL359	-50.6	.8	3:50				
SFO-HNL	7/14/78	52	4:15	-53	FL361	1:35	32.5N	138.2W	FL358	-48.8	4.2	FL360	-49.7	2.3	4:00				
SFO-HNL	7/15/77	48	4:04	-52	FL360	0:44	35.1N	131.4W	FL357	-50.5	3.5	FL360	-51.3	.6	3:49				
SFO-HNL	7/16/78	50	4:05	-50	FL361	0:24	35.9N	128.9W	FL358	-48.8	2.5	FL360	-49.3	.5	3:50				
SFO-HNL	7/16/78	52	4:14	-48	FL351	0:09	35.8N	125.7W	FL349	-46.8	2.1	FL350	-47.2	.7	4:04				
SFO-HNL	7/20/78	47	4:00	-49	FL360	3:09	26.1N	151.3W	FL339	-44.3	4.0	FL320	-41.5	.7	1:39	FL360	-48.0	.4	1:55
SFO-HNL	7/22/78	51	4:09	-40	FL310	0:45	34.3N	130.8W	FL309	-35.9	2.3	FL310	-36.1	2.1	4:00				
SFO-HNL	7/22/78	48	3:54	-51	FL361	0:09	36.5N	126.7W	FL358	-47.1	3.0	FL360	-47.6	1.6	3:40				
SFO-HNL	7/24/77	46	3:53	-53	FL350	0:21	36.9N	129.1W	FL349	-49.8	1.7	FL350	-49.9	1.7	3:47				
SFO-HNL	7/28/78	51	4:09	-51	FL361	3:05	27.2N	149.3W	FL359	-47.8	2.7	FL360	-48.2	1.2	3:59				
SFO-HNL	7/30/77	47	4:03	-53	FL360	1:15	33.4N	136.0W	FL358	-50.4	3.3	FL360	-51.1	1.5	3:48				
SFO-HNL	7/31/78	45	3:39	-57	FL391	2:14	27.6N	146.5W	FL373	-50.9	4.7	FL350	-45.7	.5	1:24	FL390	-55.1	1.1	1:54
SFO-HNL	8/ 3/78	50	4:04	-54	FL361	1:54	31.0N	141.6W	FL358	-50.6	3.5	FL360	-51.4	1.6	3:49				
SFO-HNL	8/ 4/77	51	4:16	-52	FL360	1:16	33.9N	134.8W	FL358	-49.5	3.1	FL360	-49.9	1.3	4:02				
SFO-HNL	8/ 7/78	49	3:59	-53	FL360	1:54	31.0N	141.8W	FL358	-49.9	3.3	FL360	-50.6	1.7	3:45				
SFO-HNL	8/ 8/77	47	4:07	-57	FL400	3:16	26.0N	151.5W	FL366	-51.1	4.5	FL360	-51.0	.8	2:52				
SFO-HNL	8/11/78	49	3:59	-54	FL360	1:44	31.2N	141.2W	FL349	-47.7	4.4	FL360	-49.9	2.4	2:49				
SFO-HNL	8/13/75	53	4:10	-56	FL391	2:05	31.5N	143.3W	FL370	-51.9	4.4	FL350	-50.0	1.2	1:24	FL390	-54.6	1.2	2:19
SFO-HNL	8/16/77	47	4:04	-52	FL360	1:26	32.9N	137.2W	FL358	-47.7	3.6	FL360	-48.1	2.5	3:47				
SFO-HNL	8/16/77	47	4:04	-50	FL349	1:19	34.3N	136.5W	FL346	-45.9	3.3	FL349	-46.5	2.1	3:44				
SFO-HNL	8/20/77	46	3:54	-53	FL360	1:15	33.4N	135.9W	FL357	-49.3	3.4	FL359	-49.9	2.2	3:39				
SFO-HNL	8/22/78	45	3:54	-48	FL320	0:05	36.7N	126.0W	FL320	-45.9	1.1	FL320	-46.0	.8	3:49				
SFO-HNL	8/31/77	44	4:00	-51	FL360	1:49	31.5N	140.7W	FL355	-47.2	4.8	FL359	-48.4	1.2	3:39				
SFO-HNL	8/31/77	45	3:59	-49	FL360	0:05	36.8N	125.8W	FL359	-47.3	1.8	FL359	-47.5	1.3	3:54				
SFO-HNL	9/ 4/77	43	4:05	-50	FL360	0:59	34.7N	132.4W	FL356	-48.1	3.6	FL359	-48.8	.6	3:46				
SFO-HNL	9/ 5/77	47	4:00	-50	FL349	3:39	24.8N	155.1W	FL348	-47.4	1.9	FL349	-47.7	1.0	3:50				
SFO-HNL	9/ 9/77	48	4:16	-52	FL360	1:24	33.2N	136.6W	FL357	-47.8	4.2	FL360	-48.6	2.2	3:51				
SFO-HNL	9/11/77	49	4:11	-54	FL360	0:15	36.6N	126.6W	FL357	-49.8	4.1	FL360	-50.6	2.5	3:51				
SFO-HNL	9/11/77	40	4:05	-56	FL360	2:09	30.1N	143.7W	FL358	-52.4	3.5	FL360	-53.1	2.4	3:45				
SFO-HNL	9/13/77	40	4:05	-57	FL359	0:39	35.5N	130.1W	FL356	-53.2	3.9	FL359	-54.0	2.3	3:39				
SFO-HNL	9/13/77	44	3:59	-58	FL360	1:34	32.4N	138.5W	FL357	-53.7	4.0	FL359	-54.3	2.5	3:44				
SFO-HNL	9/13/77	23	1:54	-55	FL360	0:00	30.5N	142.8W	FL359	-50.8	2.8	FL360	-51.2	1.9	1:49				
SFO-HNL	9/15/77	49	4:14	-57	FL361	1:10	34.2N	133.9W	FL358	-51.6	4.0	FL360	-52.2	3.2	3:59				
SFO-HNL	9/15/78	47	3:55	-51	FL360	2:15	29.4N	145.1W	FL355	-48.7	4.9	FL360	-49.9	.8	3:35				
SFO-HNL	9/17/77	46	3:44	-53	FL360	0:05	36.8N	125.8W	FL359	-49.3	1.6	FL359	-49.4	1.1	3:39				
SFO-HNL	9/17/77	50	4:05	-56	FL360	0:45	35.5N	130.2W	FL358	-52.3	3.5	FL360	-52.9	2.0	3:55				
SFO-HNL	9/19/77	44	3:46	-47	FL321	0:05	36.8N	125.7W	FL320	-41.5	2.0	FL320	-41.4	2.0	0:00				
SFO-HNL	9/22/77	44	3:39	-56	FL363	0:15	36.5N	126.7W	FL325	-42.3	5.7	FL320	-40.3	2.3	2:54				
SFO-HNL	9/24/77	34	3:54	-51	FL361	2:39	28.2N	147.4W	FL355	-48.3	5.2	FL360	-49.9	.8	3:34				
SFO-HNL	9/24/78	48	4:15	-54	FL360	0:09	36.5N	126.9W	FL359	-50.8	3.5	FL362	-51.5	1.9	3:45				
SFO-HNL	9/26/77	36	4:04	-51	FL361	0:00	36.6N	126.6W	FL361	-48.8	1.0	FL360	-48.8	1.0	4:04				
SFO-HNL	9/30/77	49	4:14	-50	FL360	2:30	29.6N	144.8W	FL358	-47.1	2.7	FL360	-47.5	1.3	4:04				
SFO-HNL	10/ 2/77	31	4:05	-54	FL360	0:39	35.2N	131.0W	FL355	-49.5	5.4	FL359	-50.6	2.6	3:34				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-HNL	10/ 4/76	47	3:44	-50	FL351	0:09	35.7N	126.3W	FL348	-48.0	2.1	FL350	-48.4	.9	3:30				
SFO-HNL	10/ 4/77	47	3:59	-56	FL360	0:20	36.1N	128.3W	FL360	-52.2	3.0	FL360	-52.3	3.0	3:54				
SFO-HNL	10/ 4/78	47	3:49	-53	FL361	0:40	35.1N	131.3W	FL358	-50.3	2.2	FL360	-50.7	1.2	3:34				
SFO-HNL	10/ 6/77	46	4:00	-53	FL361	0:54	35.0N	131.7W	FL358	-50.2	2.6	FL360	-50.7	1.3	3:45				
SFO-HNL	10/ 7/78	47	3:52	-55	FL361	0:34	35.6N	129.7W	FL357	-52.6	3.6	FL360	-53.3	1.4	3:37				
SFO-HNL	10/10/77	51	4:09	-55	FL361	0:30	35.9N	128.9W	FL358	-51.7	3.5	FL361	-52.2	2.0	3:54				
SFO-HNL	10/14/76	52	3:39	-52	FL350	1:42	30.5N	140.5W	FL349	-49.3	2.2	FL350	-49.5	2.0	0:00				
SFO-HNL	10/14/78	52	4:15	-56	FL389	3:15	27.1N	151.3W	FL356	-49.4	3.1	FL349	-49.1	2.0	3:00				
SFO-HNL	10/19/78	46	3:45	-57	FL359	0:09	36.5N	127.0W	FL357	-49.7	3.7	FL359	-50.1	3.4	3:30				
SFO-HNL	10/22/76	45	3:49	-56	FL360	0:35	35.4N	130.2W	FL357	-52.8	3.1	FL360	-53.3	1.5	3:34				
SFO-HNL	10/27/78	49	4:00	-51	FL349	2:15	28.9N	143.9W	FL347	-47.6	2.8	FL349	-48.0	2.0	3:45				
SFO-HNL	10/30/76	46	3:54	-46	FL317	0:05	36.9N	125.5W	FL319	-42.2	1.9	FL319	-42.2	1.9	3:49				
SFO-HNL	10/31/78	51	3:51	-59	FL360	1:15	33.0N	137.1W	FL358	-52.6	4.3	FL359	-53.0	3.8	3:36				
SFO-HNL	11/ 6/78	56	4:03	-59	FL393	3:15	24.7N	151.7W	FL361	-50.7	5.4	FL350	-48.1	2.8	2:54				
SFO-HNL	11/ 7/78	48	3:47	-51	FL350	0:09	35.9N	125.6W	FL344	-47.0	4.5	FL350	-48.3	1.5	3:26				
SFO-HNL	11/ 8/76	50	4:03	-54	FL350	0:45	37.9N	132.0W	FL345	-49.0	4.7	FL349	-50.4	1.8	3:38				
SFO-HNL	11/ 8/78	47	4:00	-54	FL360	2:54	27.0N	149.5W	FL357	-50.5	4.1	FL359	-51.3	1.3	3:45				
SFO-HNL	11/12/76	53	4:17	-55	FL388	3:00	27.1N	147.5W	FL357	-48.6	5.1	FL348	-46.8	1.3	2:34	FL388	-54.8	.4	1:12
SFO-HNL	11/19/76	49	4:03	-52	FL350	0:09	35.9N	125.3W	FL348	-48.2	4.1	FL350	-48.6	3.2	3:53				
SFO-HNL	11/19/77	48	4:09	-55	FL350	0:09	35.9N	125.3W	FL346	-50.0	5.5	FL350	-51.1	2.8	3:55				
SFO-HNL	11/24/76	48	4:04	-58	FL360	0:15	36.5N	126.8W	FL355	-55.1	4.9	FL360	-56.4	1.6	3:45				
SFO-HNL	11/24/76	51	4:00	-58	FL360	0:15	36.3N	127.4W	FL359	-55.7	2.6	FL360	-56.0	2.1	3:50				
SFO-HNL	11/25/77	49	4:09	-55	FL361	1:00	34.7N	132.5W	FL356	-51.5	5.0	FL361	-52.6	2.4	3:50				
SFO-HNL	11/27/76	46	4:07	-54	FL350	0:15	35.7N	126.3W	FL347	-51.0	3.4	FL349	-51.7	1.4	3:42				
SFO-HNL	12/ 2/76	46	3:54	-63	FL397	1:49	31.3N	141.0W	FL380	-56.7	3.4	FL360	-57.0	1.1	1:35	FL400	-57.0	3.2	2:00
SFO-HNL	12/ 3/76	46	3:46	-58	FL360	0:48	34.6N	132.9W	FL359	-54.3	3.3	FL360	-54.5	3.2	3:37				
SFO-HNL	12/ 3/76	48	4:00	-55	FL350	0:10	36.0N	125.1W	FL347	-49.6	4.1	FL350	-50.1	3.1	3:44				
SFO-HNL	12/ 3/77	48	4:09	-48	FL360	0:20	36.4N	127.1W	FL358	-45.1	3.4	FL360	-45.8	.9	3:24				
SFO-HNL	12/ 4/78	48	3:54	-53	FL350	2:05	29.3N	143.1W	FL347	-46.3	4.4	FL350	-47.1	2.8	3:39				
SFO-HNL	12/ 7/76	50	4:04	-61	FL381	1:15	33.7N	135.2W	FL386	-56.3	3.6	FL381	-58.8	.8	1:45	FL401	-55.1	1.8	1:49
SFO-HNL	12/ 9/78	47	3:50	-48	FL311	0:05	35.9N	125.4W	FL311	-43.6	2.9	FL310	-43.5	2.9	3:45				
SFO-HNL	12/10/76	48	3:56	-57	FL360	0:12	36.4N	127.0W	FL358	-49.4	5.0	FL359	-49.4	5.0	3:44				
SFO-HNL	12/10/77	53	4:25	-53	FL351	0:15	36.1N	126.0W	FL348	-49.4	3.8	FL350	-50.0	2.7	4:09				
SFO-HNL	12/11/78	41	4:14	-56	FL351	0:04	36.2N	125.7W	FL349	-53.0	2.3	FL349	-53.2	2.0	4:09				
SFO-HNL	12/14/76	49	4:09	-53	FL360	0:15	36.5N	126.7W	FL357	-49.1	2.9	FL360	-49.5	2.0	3:54				
SFO-HNL	12/16/76	48	4:04	-41	FL320	2:24	29.5N	144.9W	FL282	-34.8	3.1	FL280	-36.1	1.3	2:15	FL280	-32.1	3.2	1:34
SFO-HNL	12/16/76	50	4:17	-55	FL350	0:10	37.6N	126.8W	FL349	-46.8	3.6	FL350	-46.9	3.5	4:07				
SFO-HNL	12/16/76	52	4:24	-53	FL351	0:14	35.8N	125.9W	FL348	-46.4	4.7	FL350	-46.7	4.5	4:09				
SFO-HNL	12/16/78	47	3:54	-62	FL360	1:39	32.6N	138.1W	FL358	-57.9	4.3	FL359	-58.4	3.5	3:45				
SFO-HNL	12/17/78	49	4:08	-60	FL360	1:58	31.9N	139.6W	FL358	-54.7	3.5	FL359	-55.0	3.0	3:59				
SFO-HNL	12/18/77	55	4:40	-57	FL360	1:54	32.7N	137.7W	FL360	-51.1	3.6	FL359	-51.8	3.0	3:30				
SFO-HNL	12/19/77	59	5:03	-58	FL358	1:18	36.4N	133.8W	FL365	-51.3	4.8	FL350	-56.8	.4	1:03	FL372	-49.8	3.8	3:34
SFO-HNL	12/22/76	48	4:00	-61	FL360	1:00	34.2N	133.8W	FL359	-55.7	3.7	FL359	-55.8	3.7	3:49				
SFO-HNL	12/22/78	51	4:09	-54	FL360	0:15	36.6N	126.3W	FL357	-50.0	2.5	FL359	-50.2	2.0	3:59				
SFO-HNL	12/24/76	49	4:00	-57	FL350	0:09	35.9N	125.7W	FL348	-49.9	3.6	FL349	-50.0	3.5	3:49				
SFO-HNL	12/26/75	51	3:57	-54	FL350	2:10	29.8N	142.6W	FL325	-46.9	4.8	FL310	-44.3	.5	1:54	FL350	-51.9	1.3	1:36
SFO-HNL	12/26/76	47	4:09	-55	FL350	1:39	31.9N	137.3W	FL347	-51.2	4.5	FL350	-52.1	1.8	3:54				
SFO-HNL	12/26/78	56	4:34	-58	FL350	0:10	37.8N	125.7W	FL348	-47.9	3.5	FL350	-48.1	3.2	4:24				
SFO-HNL	12/28/78	51	4:09	-54	FL350	1:39	31.4N	138.4W	FL347	-47.7	3.0	FL350	-47.8	2.6	3:49				
SFO-HNL	12/28/78	47	4:04	-59	FL340	0:20	36.3N	127.5W	FL349	-45.4	5.5	FL360	-43.6	1.8	2:24				
SFO-HNL	12/29/76	48	4:04	-63	FL361	0:50	35.2N	130.9W	FL356	-57.9	4.5	FL360	-58.7	2.5	3:45				
SFO-HNL	12/29/77	37	3:09	-58	FL350	0:00	35.4N	133.6W	FL350	-49.7	4.0	FL350	-49.7	4.0	3:09				
SFO-HNL	12/30/75	45	3:54	-56	FL349	0:09	37.8N	126.0W	FL347	-53.8	3.5	FL350	-54.5	1.1	3:45				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-HNL	12/30/78	57	4:59	-59	FL361	0:24	36.3N	127.6W	FL358	-52.4	4.6	FL360	-52.7	4.5	4:39				
SFO-HNL	12/31/78	54	4:24	-61	FL360	0:15	36.6N	126.3W	FL358	-50.5	6.3	FL361	-50.9	6.1	4:04				
SFO-JFK	1/ 4/77	42	3:45	-54	FL310	0:05	38.3N	119.6W	FL365	-47.4	2.0	FL370	-47.1	1.4	3:19				
SFO-JFK	1/ 7/79	38	3:05	-62	FL365	3:05	41.5N	76.1W	FL370	-54.0	4.2	FL369	-54.0	4.2	3:05				
SFO-JFK	1/11/79	46	3:45	-62	FL371	1:35	41.2N	101.6W	FL368	-56.2	5.2	FL370	-58.8	2.0	2:20				
SFO-JFK	1/21/79	190	3:51	-63	FL370	1:21	41.2N	104.8W	FL373	-54.1	6.5	FL369	-57.8	4.7	2:05				
SFO-JFK	1/25/77	38	3:45	-60	FL371	0:42	39.6N	112.5W	FL393	-51.8	4.5	FL410	-49.2	3.1	1:58				
SFO-JFK	1/25/79	48	3:54	-57	FL370	2:30	41.8N	91.4W	FL365	-48.6	5.3	FL370	-49.9	4.5	3:20				
SFO-JFK	1/30/77	29	3:39	-61	FL356	0:00	38.4N	119.3W	FL391	-52.1	4.2	FL410	-49.7	2.2	1:53				
SFO-JFK	2/ 6/77	49	3:58	-67	FL410	0:04	38.3N	119.9W	FL408	-53.1	5.1	FL410	-53.3	5.1	3:50				
SFO-JFK	2/28/79	50	4:07	-67	FL371	0:21	38.8N	116.8W	FL376	-61.2	5.0	FL370	-62.8	4.3	2:43				
SFO-JFK	3/ 4/77	36	3:40	-64	FL370	0:00	38.2N	118.5W	FL372	-50.2	4.4	FL370	-51.2	4.3	2:30				
SFO-JFK	3/12/78	54	3:59	-63	FL364	3:54	41.3N	75.9W	FL378	-54.3	4.2	FL370	-54.0	3.1	2:24	FL410	-55.5	.5	1:07
SFO-JFK	3/19/77	41	3:25	-54	FL362	0:00	38.3N	119.4W	FL393	-46.5	3.4	FL369	-49.1	2.4	1:09	FL409	-44.7	2.0	1:54
SFO-JFK	3/23/77	45	3:45	-63	FL370	0:35	40.6N	113.9W	FL369	-55.6	6.7	FL370	-60.0	1.2	2:19				
SFO-JFK	4/ 3/77	48	4:15	-56	FL330	1:39	40.3N	106.8W	FL329	-52.0	2.6	FL329	-52.1	2.5	4:09				
SFO-JFK	4/14/76	54	4:02	-70	FL410	3:07	42.7N	86.2W	FL413	-58.1	6.0	FL409	-58.0	6.6	2:58				
SFO-JFK	4/15/78	45	3:49	-58	FL344	0:04	38.5N	119.6W	FL367	-53.6	3.6	FL370	-53.9	3.5	3:29				
SFO-JFK	4/16/76	49	4:05	-69	FL410	3:15	42.4N	85.5W	FL407	-55.8	9.2	FL410	-56.0	9.3	3:50				
SFO-JFK	4/18/76	48	3:59	-70	FL426	3:59	41.6N	76.1W	FL419	-56.8	7.2	FL410	-51.3	1.0	2:06	FL431	-62.7	6.1	1:04
SFO-JFK	4/20/76	53	3:59	-69	FL410	3:24	42.4N	82.3W	FL407	-57.1	6.3	FL410	-57.3	6.4	3:45				
SFO-JFK	4/23/78	46	3:48	-63	FL370	1:03	40.7N	108.5W	FL368	-54.6	5.6	FL370	-55.0	5.1	3:34				
SFO-JFK	4/30/77	46	4:00	-64	FL410	2:15	42.4N	96.8W	FL384	-57.7	4.3	FL369	-59.0	1.2	1:50	FL410	-57.7	4.8	1:35
SFO-JFK	5/ 8/77	48	3:52	-66	FL410	1:09	40.6N	108.4W	FL405	-58.6	6.4	FL409	-59.4	6.1	3:31				
SFO-JFK	5/11/77	27	4:00	-62	FL410	2:36	42.0N	92.2W	FL384	-55.0	4.0	FL369	-56.4	2.6	1:36	FL409	-55.4	2.8	1:20
SFO-JFK	5/19/77	62	4:19	-61	FL390	2:44	44.2N	92.9W	FL362	-52.5	5.6	FL370	-52.3	5.1	1:49	FL369	-55.8	.7	1:19
SFO-JFK	5/20/78	47	3:54	-63	FL410	2:15	42.1N	95.7W	FL389	-57.5	4.5	FL390	-58.1	.6	1:09	FL409	-59.1	2.3	1:34
SFO-JFK	5/22/77	25	3:51	-62	FL371	0:55	40.4N	110.7W	FL368	-58.1	3.6	FL370	-58.7	2.2	3:45				
SFO-JFK	5/27/78	49	4:03	-57	FL371	1:27	41.3N	104.7W	FL369	-52.4	2.8	FL370	-53.4	2.8	1:15	FL370	-53.2	.9	2:15
SFO-JFK	6/ 7/79	45	3:39	-54	FL370	2:35	42.4N	88.5W	FL362	-47.9	5.5	FL370	-50.0	3.3	2:55				
SFO-JFK	6/13/78	45	3:42	-57	FL385	2:12	41.7N	94.4W	FL383	-52.6	4.4	FL370	-55.1	.8	1:57	FL410	-49.6	4.0	1:15
SFO-JFK	6/17/78	44	3:39	-56	FL371	0:35	39.8N	112.6W	FL362	-50.9	5.8	FL370	-52.7	1.6	3:09				
SFO-JFK	6/26/78	44	3:35	-55	FL370	0:30	39.5N	114.0W	FL368	-49.4	3.8	FL370	-49.7	3.6	3:19				
SFO-JFK	7/ 3/77	48	4:01	-61	FL410	0:54	40.4N	110.9W	FL403	-57.4	5.4	FL409	-58.8	1.0	3:45				
SFO-JFK	7/13/78	46	3:40	-57	FL410	3:30	41.5N	78.2W	FL375	-49.4	5.1	FL370	-48.9	.9	2:30				
SFO-JFK	7/27/78	50	3:55	-56	FL370	2:40	42.4N	91.1W	FL365	-50.1	5.7	FL369	-51.5	2.6	3:29				
SFO-JFK	7/31/78	45	3:45	-57	FL371	2:24	42.9N	91.7W	FL368	-50.2	5.6	FL370	-51.2	2.5	2:45				
SFO-JFK	8/ 6/78	59	4:25	-54	FL370	2:39	42.0N	90.6W	FL364	-50.1	3.2	FL369	-51.7	.8	3:19				
SFO-JFK	8/10/78	206	3:47	-61	FL410	3:43	41.5N	77.9W	FL383	-54.2	3.4	FL371	-52.2	1.5	1:23				
SFO-JFK	8/11/78	44	3:39	-59	FL390	3:34	41.6N	78.3W	FL376	-51.9	3.5	FL370	-52.0	1.7	1:49	FL389	-53.1	2.6	1:30
SFO-JFK	8/12/78	48	3:54	-59	FL393	1:20	41.4N	105.9W	FL387	-54.6	3.5	FL391	-55.4	2.5	3:10				
SFO-JFK	8/13/78	50	3:57	-55	FL370	0:31	39.5N	113.9W	FL368	-51.4	3.4	FL371	-52.4	.7	2:25				
SFO-JFK	8/14/77	42	3:45	-59	FL410	0:19	39.3N	117.1W	FL406	-56.8	3.9	FL410	-57.7	1.4	3:30				
SFO-JFK	8/14/78	48	3:54	-54	FL371	0:19	38.5N	116.6W	FL366	-48.9	3.9	FL370	-49.7	2.6	1:49	FL370	-50.1	2.2	1:30
SFO-JFK	8/15/77	41	3:34	-52	FL370	3:14	42.3N	80.1W	FL367	-49.3	3.2	FL370	-50.1	1.0	3:19				
SFO-JFK	8/22/77	39	3:35	-62	FL390	2:39	42.5N	87.3W	FL369	-51.9	6.4	FL370	-51.9	2.0	1:50	FL389	-57.8	2.9	1:05
SFO-JFK	9/12/77	42	3:40	-56	FL371	1:30	42.0N	103.3W	FL367	-52.7	2.9	FL370	-53.4	1.2	3:24				
SFO-JFK	9/22/78	47	3:49	-59	FL391	2:00	41.8N	99.6W	FL384	-54.9	4.2	FL370	-55.1	.4	1:30	FL409	-56.2	1.1	1:20
SFO-JFK	10/ 2/77	23	3:39	-55	FL369	0:05	38.4N	119.7W	FL384	-50.3	2.8	FL369	-51.8	2.2	2:04				
SFO-JFK	10/ 7/78	48	4:05	-59	FL370	2:20	42.3N	95.5W	FL372	-51.9	4.3	FL370	-54.5	2.1	2:15	FL389	-49.5	2.8	1:19
SFO-JFK	10/17/77	51	4:19	-62	FL410	1:39	41.4N	103.9W	FL402	-55.5	5.2	FL410	-56.4	4.8	3:39				
SFO-JFK	10/17/78	46	3:45	-61	FL409	1:45	41.6N	100.7W	FL391	-56.9	4.3	FL409	-58.1	1.4	2:20				
SFO-JFK	10/18/78	211	3:57	-61	FL381	3:57	41.3N	77.4W	FL386	-55.5	2.4	FL369	-55.3	2.3	2:08	FL408	-55.9	.8	1:24

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-JFK	10/26/78	45	3:39	-53	FL369	1:45	42.7N	100.5W	FL366	-48.6	3.3	FL369	-49.0	2.7	3:19				
SFO-JFK	10/31/77	48	3:59	-55	FL350	0:34	39.5N	114.9W	FL346	-50.9	3.1	FL349	-51.0	2.8	3:24				
SFO-JFK	11/ 7/78	49	4:04	-58	FL370	1:19	40.3N	107.1W	FL364	-54.2	5.6	FL370	-55.8	2.4	3:35				
SFO-JFK	11/11/77	49	3:59	-64	FL370	2:08	41.8N	96.6W	FL381	-52.4	7.4	FL370	-58.0	2.3	2:20	FL410	-44.1	2.5	1:08
SFO-JFK	11/24/77	47	3:54	-64	FL389	1:29	41.1N	104.6W	FL374	-56.4	4.7	FL389	-60.9	2.1	1:05	FL369	-54.8	1.3	2:00
SFO-JFK	12/ 8/78	43	3:34	-54	FL356	0:09	38.2N	118.9W	FL366	-49.8	4.0	FL369	-50.0	3.6	3:14				
SFO-JFK	12/ 9/78	45	3:39	-59	FL370	0:15	38.2N	117.8W	FL365	-50.6	5.0	FL369	-50.8	4.7	3:19				
SFO-JFK	12/10/78	48	3:55	-62	FL370	0:25	39.0N	116.5W	FL365	-51.4	5.4	FL370	-51.7	4.9	3:29				
SFO-JFK	12/17/78	23	1:48	-61	FL370	1:00	42.3N	85.1W	FL362	-53.9	6.1	FL370	-55.2	5.5	1:39				
SFO-JFK	12/19/76	46	3:49	-56	FL345	0:00	38.3N	120.9W	FL415	-52.1	2.4	FL409	-51.5	2.7	1:45	FL429	-52.3	1.9	1:39
SFO-JFK	12/21/76	47	3:50	-67	FL390	0:25	40.6N	116.5W	FL398	-56.9	5.4	FL390	-61.0	3.5	1:35	FL409	-52.8	3.6	1:50
SFO-JFK	12/26/76	46	3:49	-69	FL410	1:30	41.8N	103.4W	FL406	-59.9	7.2	FL410	-60.5	6.8	3:35				
SFO-JFK	12/26/78	47	3:49	-59	FL356	0:05	38.3N	119.7W	FL366	-52.9	4.6	FL370	-53.3	3.9	3:35				
SFO-JFK	12/28/76	46	3:53	-67	FL391	1:07	43.2N	109.4W	FL394	-53.5	7.3	FL409	-48.0	2.6	2:06				
SFO-LHR	5/ 1/79	102	8:43	-63	FL370	1:15	46.5N	112.7W	FL380	-51.0	6.0	FL370	-51.6	6.6	5:09	FL389	-56.3	1.5	1:13
												FL409	-46.8	2.4	1:50				
SFO-LHR	5/ 8/79	101	8:43	-59	FL370	3:49	55.6N	77.1W	FL386	-50.7	2.8	FL369	-49.2	1.9	2:09	FL369	-50.4	4.5	1:45
												FL409	-51.9	.7	3:34				
SFO-LHR	6/10/77	96	8:38	-62	FL410	6:30	63.8N	29.3W	FL391	-49.8	6.0	FL370	-55.9	3.7	1:45	FL390	-45.9	1.9	2:24
												FL410	-50.0	6.4	3:49				
SFO-LHR	6/12/77	96	8:46	-61	FL391	1:41	45.8N	104.3W	FL394	-50.0	6.0	FL390	-50.1	6.8	3:11	FL409	-48.0	3.4	4:00
SFO-LHR	6/12/79	101	8:26	-58	FL370	2:05	53.2N	103.4W	FL386	-49.2	5.4	FL370	-52.8	5.1	4:08	FL410	-46.0	1.3	3:52
SFO-LHR	6/13/78	104	8:33	-58	FL370	7:14	58.1N	16.3W	FL340	-46.6	5.4	FL330	-46.6	1.1	1:15	FL310	-44.1	1.3	1:34
												FL369	-49.4	6.7	3:39				
SFO-LHR	6/14/77	93	8:49	-61	FL410	6:49	61.5N	26.8W	FL382	-51.2	5.5	FL369	-50.1	5.8	5:39	FL410	-53.4	3.8	2:49
SFO-LHR	6/15/77	101	8:48	-60	FL371	2:39	51.4N	92.8W	FL386	-51.4	6.0	FL370	-51.5	5.9	4:39	FL409	-51.6	5.6	3:29
SFO-LHR	6/17/77	106	8:59	-61	FL391	0:49	42.0N	112.7W	FL396	-51.3	4.4	FL390	-52.0	4.7	4:09	FL409	-50.3	3.8	3:49
SFO-LHR	6/19/77	97	8:59	-63	FL391	1:15	48.4N	116.9W	FL394	-51.9	5.6	FL390	-51.9	6.2	6:04	FL410	-51.8	1.5	2:19
SFO-LHR	6/21/77	100	9:17	-60	FL370	0:49	41.5N	113.4W	FL391	-51.6	6.0	FL369	-57.0	1.5	2:27	FL390	-49.5	1.2	1:15
												FL409	-49.2	5.5	4:49				
SFO-LHR	6/24/77	104	8:59	-61	FL371	4:04	63.7N	85.2W	FL384	-50.7	5.9	FL370	-55.2	3.7	4:39	FL410	-45.1	1.3	3:24
SFO-LHR	6/26/77	97	8:38	-59	FL370	1:44	51.9N	112.3W	FL385	-48.2	5.2	FL370	-50.9	4.9	4:48	FL410	-44.8	2.1	3:09
SFO-LHR	6/28/77	98	8:49	-56	FL370	1:24	49.7N	115.7W	FL385	-47.6	4.2	FL370	-51.5	2.3	2:39	FL390	-45.5	3.7	3:04
												FL410	-46.6	1.6	2:10				
SFO-LHR	7/24/78	111	9:04	-59	FL350	3:24	51.2N	82.8W	FL358	-48.1	4.0	FL330	-48.1	1.5	2:19	FL350	-52.4	4.9	1:54
												FL370	-47.0	2.3	2:00	FL389	-45.6	1.4	1:49
SFO-LHR	8/16/78	97	8:05	-57	FL370	6:25	59.9N	26.3W	FL345	-46.8	5.2	FL330	-47.2	2.9	3:30	FL370	-48.7	5.5	3:24
SFO-LHR	8/31/77	104	9:21	-59	FL370	4:51	52.7N	61.2W	FL350	-45.5	5.5	FL330	-42.9	1.7	2:07	FL350	-51.5	2.8	1:14
												FL369	-46.9	4.3	4:40				
SFO-LHR	9/ 2/77	102	8:34	-56	FL330	2:29	51.9N	91.3W	FL338	-47.8	4.7	FL330	-50.0	3.2	5:39	FL369	-44.8	3.8	2:00
SFO-LHR	9/10/78	81	8:24	-54	FL331	4:30	65.0N	65.3W	FL334	-49.3	3.9	FL330	-49.3	3.6	6:31				
SFO-LHR	10/10/78	100	8:39	-58	FL371	8:29	54.0N	2.4W	FL331	-50.1	4.2	FL330	-50.5	3.0	6:49				
SFO-LHR	10/17/77	100	9:13	-57	FL351	5:43	69.0N	48.6W	FL329	-49.2	7.0	FL290	-42.9	3.2	2:15	FL350	-53.2	4.3	5:24
SFO-LHR	10/28/77	618	10:37	-67	FL387	10:34	52.3N	2.0E	FL388	-54.2	3.7	FL349	-53.2	2.4	1:10	FL369	-53.0	1.8	3:17
												FL409	-55.1	3.3	4:04				
SFO-NRT	1/ 1/79	107	9:05	-59	FL330	3:25	52.9N	159.7W	FL327	-49.4	5.5	FL330	-50.2	5.4	7:50				
SFO-NRT	1/25/79	111	9:29	-65	FL370	2:24	48.1N	144.7W	FL392	-50.2	6.5	FL370	-58.7	4.8	2:14	FL390	-46.7	3.1	2:09
												FL409	-47.8	4.6	4:34				
SFO-NRT	2/20/79	114	9:24	-60	FL351	0:39	43.4N	126.8W	FL348	-49.3	5.9	FL350	-49.0	5.9	8:39				
SFO-NRT	3/13/79	111	9:09	-61	FL351	4:39	54.4N	177.3W	FL342	-47.7	6.8	FL330	-49.2	6.4	2:54	FL350	-46.6	7.1	5:34
SFO-NRT	4/29/79	112	8:58	-64	FL404	8:49	37.7N	142.8E	FL385	-52.6	5.6	FL369	-57.6	4.2	1:38	FL390	-47.2	3.9	2:42
												FL410	-54.1	2.4	2:45				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-NRT	5/ 6/79	119	9:45	-62	FL370	6:44	50.9N	161.9E	FL351	-52.1	6.7	FL331	-51.1	4.5	2:20	FL350	-47.7	4.2	3:08
												FL370	-58.7	1.4	1:41	FL390	-60.6	.5	1:15
SFO-NRT	5/31/78	113	9:39	-54	FL370	5:34	55.2N	173.0E	FL346	-46.2	4.9	FL330	-46.1	4.0	4:00	FL370	-46.8	6.0	4:00
SFO-NRT	6/19/78	113	9:17	-60	FL370	4:18	54.0N	169.7W	FL356	-52.5	4.8	FL330	-49.3	.6	1:54	FL369	-55.5	3.0	3:04
												FL390	-54.5	1.4	1:00				
SFO-NRT	7/ 3/78	110	9:04	-55	FL371	4:49	57.6N	178.4W	FL352	-45.5	4.9	FL310	-41.8	1.5	1:30	FL350	-44.1	3.9	1:54
												FL370	-47.9	4.4	2:10	FL390	-49.6	.8	2:04
SFO-NRT	10/13/78	108	9:09	-58	FL371	4:54	53.6N	178.1E	FL349	-46.8	5.0	FL310	-42.7	.7	1:05	FL350	-47.7	2.0	1:15
												FL370	-48.3	5.0	4:50				
SFO-NRT	10/24/78	111	9:29	-63	FL371	6:28	51.3N	163.3E	FL350	-50.8	8.4	FL310	-40.2	3.7	1:30	FL330	-48.7	2.8	2:06
												FL350	-51.1	2.7	1:15	FL370	-58.6	4.0	2:55
												FL390	-58.6	1.4	1:10				
SFO-NRT	11/ 5/78	114	9:49	-64	FL350	5:39	55.8N	175.3E	FL331	-46.9	7.3	FL309	-40.0	1.0	1:09	FL329	-46.5	2.5	2:19
												FL349	-51.7	6.6	4:49				
SFO-OKA	2/ 9/79	139	11:53	-68	FL370	5:05	57.7N	177.1W	FL371	-54.5	6.8	FL350	-50.6	6.9	3:05	FL369	-59.6	6.5	4:00
												FL389	-53.3	3.0	4:18				
SFO-OKA	4/ 9/79	146	12:24	-63	FL389	6:50	32.2N	173.7E	FL374	-55.6	2.9	FL349	-53.9	1.6	2:39	FL370	-56.3	3.3	2:49
												FL389	-56.3	2.1	6:24				
SFO-OKA	12/10/78	149	12:29	-58	FL411	11:59	30.9N	130.2E	FL375	-52.4	2.6	FL331	-53.1	2.8	1:24	FL350	-50.8	3.0	1:54
												FL370	-53.0	.8	2:39	FL390	-52.0	1.1	3:24
												FL410	-53.8	2.3	2:25				
SFO-OKA	12/24/78	138	11:49	-64	FL370	5:24	47.0N	179.5W	FL374	-54.0	4.3	FL350	-56.4	2.6	3:14	FL370	-58.3	4.2	2:00
												FL390	-51.3	2.7	6:04				
SFO-ORD	1/ 5/78	30	2:35	-68	FL370	2:00	42.1N	97.8W	FL363	-62.4	5.5	FL370	-64.0	2.6	2:15				
SFO-ORD	1/ 8/79	34	2:45	-68	FL371	0:15	38.5N	118.3W	FL383	-57.7	6.8	FL409	-53.2	2.1	1:20				
SFO-ORD	1/14/78	36	3:10	-64	FL371	1:00	40.9N	108.0W	FL349	-54.9	6.5	FL370	-60.1	3.4	1:35				
SFO-ORD	1/24/76	29	2:26	-56	FL317	0:00	38.4N	119.8W	FL366	-51.5	2.2	FL369	-51.3	2.1	2:10				
SFO-ORD	1/24/78	36	2:55	-58	FL331	0:50	39.4N	112.0W	FL328	-53.1	3.0	FL330	-53.5	2.7	2:45				
SFO-ORD	1/26/79	32	2:35	-54	FL310	0:00	38.3N	119.8W	FL365	-45.2	2.8	FL369	-44.1	1.6	1:35				
SFO-ORD	1/28/76	34	2:45	-62	FL371	0:54	41.6N	111.6W	FL369	-56.9	6.6	FL370	-60.1	3.3	2:05				
SFO-ORD	2/16/78	32	2:39	-63	FL371	0:15	38.6N	117.9W	FL381	-54.0	3.3	FL370	-56.2	2.6	1:15				
SFO-ORD	2/20/78	36	2:59	-66	FL370	0:09	38.6N	118.9W	FL363	-56.7	7.8	FL370	-57.3	7.9	2:34				
SFO-ORD	3/ 1/78	31	2:35	-67	FL371	1:35	41.5N	103.6W	FL366	-60.8	6.3	FL370	-61.7	5.3	2:19				
SFO-ORD	3/26/77	32	2:29	-58	FL370	1:55	42.1N	99.1W	FL366	-54.6	3.7	FL369	-55.3	2.5	2:19				
SFO-ORD	3/31/78	36	2:46	-55	FL331	0:15	38.8N	117.9W	FL328	-52.0	2.7	FL330	-52.6	1.0	2:31				
SFO-ORD	4/ 1/75	32	2:34	-57	FL371	0:09	38.5N	118.6W	FL364	-48.5	2.8	FL370	-48.7	2.4	2:15				
SFO-ORD	4/ 5/75	29	1:59	-63	FL371	0:17	39.5N	114.0W	FL365	-60.1	3.8	FL370	-61.4	1.7	1:41				
SFO-ORD	4/ 6/77	33	2:43	-64	FL396	1:57	41.9N	99.9W	FL377	-57.6	4.3	FL369	-58.3	3.1	1:45				
SFO-ORD	4/ 8/75	32	2:28	-59	FL342	2:09	40.5N	94.3W	FL333	-50.6	4.0	FL330	-48.7	2.6	2:04				
SFO-ORD	4/10/78	35	2:50	-57	FL371	2:45	42.4N	91.1W	FL352	-49.2	4.6	FL370	-49.0	4.4	1:39				
SFO-ORD	4/11/77	34	2:42	-66	FL409	2:37	42.4N	92.5W	FL375	-57.2	4.9	FL369	-55.8	2.8	1:30				
SFO-ORD	4/15/76	41	2:35	-64	FL390	2:24	42.3N	93.3W	FL369	-51.4	6.6	FL370	-50.0	4.7	1:30				
SFO-ORD	4/15/77	34	2:54	-65	FL390	2:20	42.0N	97.1W	FL366	-57.9	6.1	FL370	-58.4	1.8	1:50				
SFO-ORD	4/26/78	31	2:40	-61	FL370	2:20	42.2N	94.4W	FL359	-55.1	5.2	FL369	-57.0	3.3	2:05				
SFO-ORD	4/28/76	32	2:37	-64	FL410	1:57	41.9N	98.2W	FL381	-59.5	4.1	FL370	-59.0	1.1	1:11				
SFO-ORD	4/28/77	32	2:39	-60	FL370	1:24	41.3N	105.1W	FL362	-56.8	4.8	FL369	-58.3	1.3	2:20				
SFO-ORD	5/ 3/77	24	2:34	-60	FL370	1:09	40.9N	107.2W	FL362	-54.8	6.1	FL370	-56.8	2.3	2:04				
SFO-ORD	5/ 7/78	32	2:39	-59	FL370	0:19	38.6N	116.4W	FL365	-50.2	4.8	FL369	-50.7	4.3	2:24				
SFO-ORD	5/15/78	31	2:39	-56	FL370	0:40	41.2N	111.9W	FL365	-53.2	4.4	FL370	-54.2	1.0	2:19				
SFO-ORD	5/24/78	31	2:34	-57	FL370	1:18	41.3N	105.2W	FL362	-51.1	6.1	FL369	-52.6	4.3	2:11				
SFO-ORD	6/ 5/78	34	2:45	-58	FL371	2:20	40.6N	95.7W	FL362	-52.8	5.4	FL370	-54.4	2.6	2:20				
SFO-ORD	6/12/75	34	2:45	-59	FL371	0:34	39.6N	114.0W	FL366	-56.5	3.3	FL370	-57.4	1.8	2:24				
SFO-ORD	6/12/78	32	2:35	-56	FL371	0:15	38.6N	117.6W	FL363	-52.3	6.0	FL371	-54.1	1.8	2:15				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SFO-ORD	6/12/79	34	2:37	-57	FL370	2:15	43.3N	94.7W	FL364	-53.0	3.4	FL370	-53.9	1.3	2:13				
SFO-ORD	6/24/77	35	2:50	-56	FL370	1:45	41.9N	103.2W	FL361	-52.6	6.5	FL369	-54.9	.5	2:25				
SFO-ORD	6/25/78	46	3:28	-52	FL370	0:21	38.3N	116.1W	FL363	-48.7	3.7	FL370	-49.7	1.0	3:01				
SFO-ORD	6/30/79	32	2:37	-55	FL370	0:24	39.4N	115.0W	FL361	-52.0	4.6	FL370	-53.8	.8	2:07				
SFO-ORD	7/ 5/77	32	2:40	-53	FL363	0:08	38.7N	118.6W	FL364	-48.8	5.4	FL369	-50.0	1.3	2:21				
SFO-ORD	7/11/78	32	2:35	-57	FL410	1:20	41.6N	104.9W	FL381	-50.8	6.5								
SFO-ORD	7/13/77	30	2:34	-52	FL362	0:09	38.6N	118.7W	FL363	-50.2	4.6	FL370	-51.6	.5	2:05				
SFO-ORD	7/27/77	29	2:30	-50	FL370	0:15	38.6N	117.6W	FL362	-46.3	4.3	FL370	-47.6	1.2	2:09				
SFO-ORD	8/15/78	32	2:33	-51	FL371	1:15	39.3N	105.4W	FL368	-48.2	4.3	FL370	-49.7	.8	1:34				
SFO-ORD	9/ 7/75	28	2:20	-57	FL370	1:55	42.3N	97.7W	FL367	-51.7	3.9	FL370	-52.4	2.9	2:09				
SFO-ORD	9/10/77	28	2:30	-52	FL369	1:54	42.1N	97.7W	FL361	-49.2	4.9	FL369	-50.9	.6	2:04				
SFO-ORD	9/16/77	30	2:34	-58	FL369	2:24	42.4N	92.8W	FL359	-53.8	5.7	FL369	-56.0	1.0	2:09				
SFO-ORD	9/19/75	32	2:41	-51	FL371	1:15	40.9N	104.1W	FL365	-47.0	3.6	FL371	-48.0	2.2	2:19				
SFO-ORD	9/21/78	29	2:30	-58	FL370	0:21	38.8N	116.7W	FL358	-50.9	7.1	FL370	-54.5	2.3	1:50				
SFO-ORD	9/23/78	32	2:45	-55	FL371	0:15	38.7N	117.7W	FL363	-52.7	4.7	FL370	-54.3	.5	2:24				
SFO-ORD	10/13/78	34	2:45	-69	FL409	1:15	40.7N	108.0W	FL391	-55.3	8.0	FL408	-57.7	7.6	1:49				
SFO-ORD	10/16/78	129	2:41	-59	FL370	0:45	39.8N	112.7W	FL368	-57.0	2.9	FL369	-57.4	.9	2:26				
SFO-ORD	10/25/78	51	4:04	-52	FL369	3:09	42.4N	89.2W	FL351	-48.0	2.1	FL329	-47.3	1.0	1:30	FL369	-48.9	2.0	2:09
SFO-ORD	12/ 2/77	32	2:40	-56	FL390	1:30	41.1N	104.3W	FL385	-51.0	3.8	FL389	-53.3	1.7	1:04				
SFO-ORD	12/ 4/78	35	2:49	-46	FL331	0:59	39.6N	109.3W	FL344	-42.3	2.3	FL330	-42.1	2.0	1:24				
SFO-ORD	12/ 9/76	33	2:32	-66	FL392	1:28	41.2N	105.4W	FL381	-58.4	5.2	FL390	-59.7	4.6	1:37				
SFO-ORD	12/ 9/77	31	2:29	-61	FL370	1:34	41.8N	102.2W	FL364	-56.4	5.1	FL370	-57.5	3.6	2:09				
SFO-ORD	12/21/78	33	2:39	-62	FL391	1:24	40.9N	104.9W	FL370	-56.3	4.7	FL389	-57.3	2.5	1:10				
SFO-ORD	12/27/78	32	2:35	-66	FL370	1:50	41.9N	99.8W	FL363	-59.3	5.2	FL370	-60.7	3.3	2:15				
SFO-SEA	3/25/76	13	1:00	-65	FL374	0:05	39.5N	122.3W	FL383	-61.1	3.8								
SFO-TPE	11/27/78	155	13:09	-66	FL370	5:24	54.0N	179.2E	FL372	-52.8	5.7	FL349	-48.0	5.3	3:00	FL369	-54.5	4.4	4:49
												FL410	-56.4	2.2	3:35				
SFO-YVR	1/23/78	17	1:19	-59	FL350	0:04	39.7N	122.3W	FL347	-56.0	2.5	FL350	-56.7	1.1	1:09				
SFO-YVR	2/26/78	15	1:00	-53	FL304	0:59	47.8N	122.9W	FL376	-48.7	1.7								
SFO-YVR	4/10/77	14	1:05	-63	FL376	0:05	39.7N	122.1W	FL383	-57.2	3.3								
SFO-YVR	9/18/77	13	1:01	-62	FL391	0:41	44.8N	123.1W	FL372	-55.4	7.3								
SFO-YVR	10/ 5/77	14	1:05	-48	FL310	0:15	38.7N	127.9W	FL304	-45.1	3.1								
SFO-YVR	10/ 9/77	14	1:10	-63	FL391	0:10	40.4N	122.4W	FL381	-60.1	6.7								
SIN-BAH	5/26/77	74	6:19	-43	FL351	5:34	24.3N	58.1E	FL325	-35.6	4.8	FL310	-32.1	.7	3:35	FL350	-41.6	.7	2:20
SIN-BAH	6/21/77	41	5:30	-38	FL351	3:16	18.4N	70.7E	FL330	-33.9	3.3	FL310	-30.9	1.6	3:01				
SIN-BAH	8/ 6/77	69	5:55	-39	FL351	3:39	17.7N	71.8E	FL326	-34.0	3.4	FL310	-31.5	1.0	3:24	FL350	-38.0	.7	2:15
SIN-BAH	8/23/77	69	6:00	-38	FL351	3:45	18.3N	71.6E	FL325	-33.2	3.4	FL310	-30.8	1.0	3:20	FL350	-37.4	.7	2:15
SIN-BAH	8/31/77	73	6:05	-40	FL350	2:42	13.2N	80.0E	FL334	-36.0	3.5	FL310	-32.0	.8	2:27	FL350	-38.7	1.0	3:22
SIN-BAH	10/13/77	69	6:19	-45	FL351	5:19	23.4N	60.4E	FL349	-42.9	2.1	FL350	-43.0	.4	2:34	FL351	-43.5	.8	3:19
SIN-BAH	10/16/77	40	4:34	-46	FL350	4:29	25.7N	53.3E	FL350	-43.4	1.2	FL349	-43.4	1.2	4:34				
SIN-BAH	12/20/77	79	6:58	-46	FL350	6:13	22.6N	56.0E	FL317	-34.6	7.8	FL279	-25.5	2.2	1:59	FL310	-31.8	.6	2:00
												FL349	-43.4	2.0	2:33				
SIN-BAH	12/29/77	68	6:09	-44	FL350	1:49	6.0N	86.1E	FL339	-40.1	5.4	FL310	-31.9	.8	1:30	FL350	-43.3	.9	4:15
SIN-BKK	1/16/77	13	1:09	-44	FL351	0:30	7.0N	102.0E	FL342	-41.1	6.2								
SIN-BKK	1/30/77	15	1:09	-44	FL350	0:59	11.1N	100.5E	FL341	-40.8	5.5								
SIN-BKK	2/13/77	13	1:04	-43	FL350	0:04	4.5N	103.0E	FL343	-40.8	3.9								
SIN-BKK	2/21/77	16	1:11	-44	FL350	0:09	4.4N	103.0E	FL342	-41.4	5.7								
SIN-BKK	3/27/77	10	1:00	-43	FL350	0:25	7.2N	101.9E	FL345	-40.6	3.3								
SIN-BKK	5/14/77	12	1:00	-33	FL311	0:35	8.8N	101.3E	FL310	-31.9	.5								
SIN-BKK	5/20/77	13	1:09	-44	FL351	0:19	5.8N	102.7E	FL343	-40.7	5.7								
SIN-BKK	5/29/77	15	1:05	-44	FL350	0:29	7.8N	101.8E	FL346	-41.4	2.7								
SIN-BKK	6/ 9/77	14	1:09	-43	FL351	0:19	5.9N	102.4E	FL343	-40.2	5.0								
SIN-BKK	7/15/77	13	1:00	-25	FL280	0:04	4.8N	102.9E	FL280	-24.0	.7								

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SIN-BKK	7/23/77	14	1:15	-42	FL350	0:15	4.7N	102.9E	FL344	-39.3	5.1	FL350	-40.7	.7	1:05				
SIN-BKK	7/30/77	14	1:03	-33	FL310	0:04	4.6N	102.9E	FL307	-31.2	2.1								
SIN-BKK	10/25/76	17	1:12	-46	FL350	0:07	3.9N	102.8E	FL345	-42.1	4.5	FL349	-43.4	1.1	1:03				
SIN-BKK	11/ 4/76	15	1:08	-44	FL350	0:20	5.8N	102.4E	FL345	-41.5	4.8								
SIN-BKK	11/ 7/76	14	1:04	-43	FL350	0:04	4.4N	103.0E	FL343	-41.0	5.2								
SIN-BKK	11/12/77	11	1:04	-43	FL351	0:55	10.3N	100.8E	FL342	-39.9	5.4								
SIN-BKK	11/21/76	14	1:04	-43	FL350	0:09	4.6N	102.9E	FL344	-41.0	5.0								
SIN-BKK	11/28/76	14	1:05	-44	FL351	0:10	4.5N	102.9E	FL343	-40.4	5.7								
SIN-BKK	12/ 4/76	14	1:10	-44	FL350	0:10	4.4N	103.0E	FL345	-42.4	5.1								
SIN-DRW	2/ 9/78	36	3:04	-37	FL331	0:04	.1S	106.6E	FL329	-36.4	1.2	FL330	-36.6	.5	2:59				
SIN-HKG	1/20/78	31	2:39	-61	FL411	0:04	3.2N	104.7E	FL405	-58.9	4.9	FL410	-60.1	.7	2:29				
SIN-HKG	1/24/78	31	2:39	-63	FL411	0:09	3.7N	105.1E	FL407	-59.8	4.6	FL410	-60.6	1.0	2:29				
SIN-HKG	1/27/78	33	2:44	-61	FL410	0:15	4.1N	105.6E	FL404	-57.9	5.8	FL410	-59.5	.6	2:29				
SIN-HKG	1/29/78	32	2:44	-60	FL411	0:19	4.7N	106.2E	FL403	-57.1	5.9	FL410	-58.8	.6	2:24				
SIN-HKG	1/31/78	34	2:44	-65	FL430	1:44	12.9N	112.6E	FL412	-60.2	7.0	FL410	-60.1	.5	1:29				
SIN-HKG	2/ 3/78	32	2:34	-63	FL411	0:10	4.0N	105.4E	FL405	-60.1	5.9	FL410	-61.7	.7	2:19				
SIN-HKG	2/ 5/78	34	2:35	-62	FL411	2:00	16.3N	113.9E	FL407	-58.9	3.7	FL410	-59.8	1.4	2:25				
SIN-HKG	2/ 7/78	32	2:39	-62	FL411	2:24	19.1N	115.3E	FL406	-58.4	4.3	FL410	-59.6	1.1	2:24				
SIN-HKG	2/11/79	32	2:34	-61	FL410	0:14	4.6N	104.9E	FL402	-58.2	7.0	FL409	-60.1	.5	2:19				
SIN-HKG	4/13/79	33	2:39	-60	FL411	0:09	4.0N	104.7E	FL406	-58.5	4.3	FL410	-59.7	.4	2:24				
SIN-HKG	5/28/78	32	2:39	-60	FL411	0:20	5.2N	105.2E	FL402	-58.2	7.2	FL410	-58.5	1.2	2:19				
SIN-HKG	5/30/78	28	2:19	-60	FL411	0:00	5.5N	105.3E	FL406	-57.4	6.9	FL410	-58.7	1.0	2:14				
SIN-HKG	8/18/78	33	2:40	-62	FL410	0:15	4.5N	104.8E	FL403	-58.4	6.8	FL410	-60.2	1.4	2:18				
SIN-HKG	8/20/78	31	2:40	-62	FL410	0:09	4.0N	104.7E	FL406	-58.4	5.4	FL410	-59.8	1.5	2:25				
SIN-HKG	8/22/78	32	2:44	-62	FL411	0:15	4.4N	104.8E	FL405	-58.4	4.9	FL410	-59.7	1.1	2:29				
SIN-HKG	9/15/78	33	2:43	-63	FL411	0:10	3.9N	104.6E	FL405	-59.3	5.7	FL410	-60.7	1.3	2:28				
SIN-HKG	9/17/78	33	2:44	-62	FL410	0:09	4.0N	104.6E	FL404	-58.8	6.2	FL410	-60.4	1.0	2:29				
SIN-HKG	9/19/78	33	2:44	-61	FL410	0:09	3.9N	104.6E	FL406	-58.8	4.1	FL410	-59.8	.9	2:29				
SIN-HKG	11/29/78	31	2:40	-71	FL450	1:50	14.6N	112.2E	FL432	-65.3	12.0	FL450	-69.9	.7	2:04				
SIN-HKG	12/ 5/78	32	2:39	-61	FL410	1:09	10.6N	109.1E	FL404	-58.4	5.6	FL410	-59.9	1.0	2:24				
SIN-HKG	12/11/77	34	2:38	-62	FL411	0:10	3.5N	105.1E	FL408	-60.5	4.0	FL410	-61.2	1.0	2:33				
SIN-HKG	12/12/78	31	2:34	-60	FL410	0:09	3.9N	104.6E	FL402	-57.4	7.0	FL409	-59.3	.5	2:19				
SIN-HKG	12/26/78	34	2:43	-62	FL410	0:10	4.0N	104.6E	FL400	-57.9	6.8	FL410	-60.1	1.2	2:28				
SIN-MEL	2/24/77	72	6:09	-47	FL350	5:00	31.9S	133.4E	FL317	-33.6	7.9	FL290	-26.6	.6	2:04	FL349	-43.2	2.1	1:59
SIN-MEL	5/16/77	70	5:41	-48	FL331	5:24	36.1S	140.3E	FL325	-37.4	5.3	FL331	-39.0	3.9	4:51				
SIN-MEL	5/22/77	58	5:19	-53	FL331	5:14	36.9S	141.7E	FL318	-38.3	8.1	FL290	-28.3	.4	1:24	FL331	-43.4	4.2	3:24
SIN-MEL	6/11/77	67	5:53	-61	FL361	5:08	33.9S	136.6E	FL336	-44.2	10.9	FL331	-38.4	1.2	1:38	FL341	-42.4	2.4	1:14
												FL360	-59.7	.9	1:09				
SIN-MEL	6/23/77	70	6:04	-57	FL371	5:34	34.8S	138.3E	FL350	-44.6	6.5	FL331	-38.5	.7	1:39	FL350	-43.5	1.3	2:08
												FL370	-52.5	2.8	1:45				
SIN-MEL	8/17/77	70	5:49	-50	FL370	5:19	34.7S	138.1E	FL348	-41.9	5.2	FL330	-37.3	.7	1:54	FL350	-42.5	.7	2:04
												FL370	-48.3	1.0	1:30				
SIN-MEL	8/25/77	67	5:39	-60	FL370	5:34	37.0S	141.9E	FL339	-43.8	8.0	FL330	-38.1	.4	2:59	FL350	-50.3	3.7	1:35
SIN-MEL	8/28/77	56	5:04	-50	FL330	4:54	36.4S	141.0E	FL330	-40.0	4.2	FL330	-40.0	4.2	5:04				
SIN-MEL	10/15/77	67	5:49	-55	FL370	5:14	34.5S	137.7E	FL340	-43.7	7.8	FL330	-38.8	2.0	3:00	FL370	-53.0	1.1	1:09
SIN-MEL	10/27/76	72	5:49	-57	FL350	5:29	36.2S	140.4E	FL333	-43.2	7.0	FL330	-40.0	2.1	3:54	FL349	-53.7	2.3	1:30
SIN-MEL	11/ 6/76	70	6:03	-59	FL360	5:48	36.4S	140.8E	FL340	-45.7	9.5	FL330	-39.1	.4	1:18	FL360	-56.3	1.5	2:14
SIN-MEL	11/ 9/76	66	5:34	-56	FL350	5:34	37.3S	142.9E	FL332	-41.8	8.6	FL330	-38.8	.6	2:04	FL349	-50.3	4.1	2:20
SIN-MEL	12/ 6/76	72	5:59	-52	FL350	5:39	35.8S	139.8E	FL321	-37.1	8.2	FL290	-27.5	.6	1:45	FL330	-38.6	1.1	1:34
												FL350	-48.8	2.7	1:19				
SIN-MEL	12/22/77	66	5:54	-57	FL371	5:44	36.3S	141.0E	FL344	-42.3	7.2	FL330	-37.2	.8	3:15	FL370	-51.2	3.0	2:00
SIN-MEL	12/28/77	67	5:58	-57	FL371	5:38	36.0S	139.9E	FL344	-43.6	9.5	FL330	-37.5	1.0	2:23	FL370	-53.2	2.2	2:28

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SIN-SYD	1/ 3/78	73	6:05	-49	FL351	5:30	30.6S	143.9E	FL315	-35.5	8.6	FL290	-27.7	.5	2:55	FL330	-38.9	1.3	1:24
												FL350	-48.2	.6	1:23				
SIN-SYD	1/12/77	75	6:24	-55	FL370	6:19	33.5S	148.9E	FL324	-36.3	6.5	FL290	-28.1	.2	1:15	FL330	-37.1	1.7	4:04
SIN-SYD	1/21/77	70	6:00	-42	FL330	6:00	33.3S	149.2E	FL312	-32.5	4.7	FL290	-27.5	.6	2:04	FL330	-37.1	1.7	2:50
SIN-SYD	2/ 1/77	74	6:00	-50	FL350	5:45	32.4S	147.2E	FL324	-36.5	7.7	FL290	-28.0	.2	1:59	FL349	-43.5	3.3	2:58
SIN-SYD	2/15/77	78	6:17	-51	FL370	6:02	33.0S	148.0E	FL343	-39.4	5.6	FL330	-36.1	1.4	2:52	FL350	-39.2	.6	1:19
												FL370	-48.3	1.4	1:30				
SIN-SYD	3/29/77	73	6:04	-49	FL370	5:04	28.2S	140.3E	FL342	-40.7	5.6	FL329	-37.4	.6	3:45	FL370	-48.0	.2	1:54
SIN-SYD	4/29/77	67	5:49	-48	FL311	5:49	33.7S	149.6E	FL298	-33.0	6.8	FL290	-28.0	.5	3:30	FL310	-40.6	3.9	2:09
SIN-SYD	5/25/77	69	5:49	-48	FL331	5:45	33.5S	148.9E	FL330	-40.2	2.8	FL331	-40.4	2.6	5:39				
SIN-SYD	5/28/77	69	6:03	-51	FL330	5:39	31.6S	145.8E	FL323	-40.6	6.8	FL329	-42.8	4.7	4:52				
SIN-SYD	6/ 1/77	74	6:24	-58	FL370	6:04	32.4S	147.1E	FL350	-44.9	7.0	FL331	-38.5	.6	2:39	FL370	-51.9	4.0	2:34
SIN-SYD	7/14/77	68	5:55	-47	FL330	5:30	31.6S	145.8E	FL311	-32.5	7.1	FL290	-26.1	.6	2:42	FL330	-38.1	5.0	2:57
SIN-SYD	7/17/77	75	6:14	-49	FL369	6:09	34.4S	148.8E	FL331	-36.6	6.1	FL330	-37.0	1.7	3:44	FL369	-44.3	3.0	1:10
SIN-SYD	8/ 5/77	72	6:04	-49	FL330	5:09	28.9S	141.7E	FL314	-36.4	8.5	FL290	-27.1	.3	2:30	FL330	-44.6	3.0	2:39
SIN-SYD	8/ 8/77	71	6:14	-57	FL370	6:09	33.0S	148.2E	FL352	-44.5	6.0	FL329	-38.4	.6	2:15	FL370	-50.2	2.5	2:45
SIN-SYD	8/20/77	71	5:56	-48	FL370	4:31	25.1S	135.9E	FL348	-40.3	5.7	FL330	-35.7	.9	2:27	FL369	-46.9	.9	1:54
SIN-SYD	9/ 1/77	68	5:45	-43	FL351	3:15	19.5S	126.8E	FL321	-34.8	6.4	FL290	-27.5	.7	2:19	FL350	-41.1	.9	2:30
SIN-SYD	10/ 1/76	73	6:18	-58	FL360	6:13	33.2S	148.5E	FL330	-41.6	10.6	FL290	-27.8	.5	1:36	FL330	-39.9	.6	1:12
												FL350	-48.5	4.7	2:18				
SIN-SYD	10/18/77	67	5:54	-50	FL371	4:45	27.3S	138.8E	FL347	-41.7	4.6	FL330	-37.9	.3	2:00	FL350	-41.8	.7	1:45
												FL370	-48.2	.8	1:25				
SIN-SYD	10/20/76	81	5:52	-41	FL310	5:46	33.6S	148.7E	FL302	-34.2	5.2	FL290	-27.8	1.2	2:24	FL309	-38.1	1.8	3:16
SIN-SYD	11/ 8/77	69	6:14	-47	FL330	5:59	32.5S	147.0E	FL320	-37.5	6.8	FL290	-26.6	.6	1:20	FL330	-41.0	3.1	4:33
SIN-SYD	11/11/77	67	6:04	-53	FL351	5:49	32.4S	147.0E	FL323	-40.3	7.6	FL330	-37.7	.5	1:35	FL350	-44.5	1.3	2:05
SIN-SYD	11/25/77	67	6:09	-55	FL351	6:04	33.2S	148.4E	FL323	-38.2	10.1	FL290	-27.1	.5	2:04	FL350	-47.9	3.8	2:55
SIN-SYD	11/30/76	71	6:04	-44	FL330	5:14	29.6S	142.6E	FL316	-35.6	6.6	FL290	-27.1	.8	1:54	FL329	-40.0	3.0	3:49
SIN-SYD	12/13/77	73	6:04	-51	FL350	4:54	28.0S	140.0E	FL325	-38.3	9.2	FL290	-27.0	.4	1:39	FL350	-46.7	2.8	3:05
SIN-SYD	12/22/76	70	6:04	-53	FL370	5:49	32.4S	147.0E	FL339	-39.9	5.8	FL330	-36.9	.9	2:29	FL350	-42.3	2.5	2:05
SIN-SYD	12/30/76	75	6:19	-50	FL350	5:49	31.5S	145.9E	FL335	-39.9	6.6	FL329	-36.8	.9	2:09	FL349	-45.1	3.5	3:15
SIN-SYD	12/31/77	76	6:24	-57	FL381	5:24	28.9S	141.3E	FL353	-44.3	7.6	FL330	-36.4	.5	2:24	FL370	-49.8	1.5	1:20
												FL380	-55.0	1.1	1:10				
SNN-FRA	5/24/77	13	1:00	-55	FL344	1:00	50.6N	5.3E	FL344	-50.9	3.4								
SNN-JFK	1/27/76	79	6:01	-71	FL390	3:44	48.5N	52.7W	FL374	-65.5	5.4	FL360	-60.6	3.9	2:14	FL379	-68.6	.5	1:04
												FL390	-69.6	.7	2:13				
SNN-JFK	11/30/78	68	5:45	-56	FL319	2:55	53.7N	51.6W	FL326	-49.1	4.0	FL319	-49.8	3.6	3:04	FL349	-50.2	1.4	1:19
STL-HNL	3/26/78	84	7:19	-56	FL350	3:44	37.2N	129.4W	FL338	-51.0	4.1	FL310	-47.9	2.1	1:44	FL349	-52.3	3.8	5:09
SYD-AKL	1/ 9/78	20	1:33	-45	FL330	0:35	35.5S	160.1E	FL329	-39.7	3.2	FL329	-39.8	3.2	1:28				
SYD-AKL	1/30/78	20	1:45	-51	FL351	1:40	36.8S	171.8E	FL340	-42.4	4.2								
SYD-AKL	2/ 4/77	24	2:00	-65	FL410	1:09	36.1S	164.5E	FL404	-62.0	4.4	FL409	-63.3	1.7	1:39				
SYD-AKL	2/ 6/77	22	1:49	-49	FL330	1:39	36.8S	171.3E	FL327	-45.9	2.8	FL330	-46.6	1.4	1:39				
SYD-AKL	2/10/78	19	1:45	-44	FL330	1:35	36.8S	171.5E	FL325	-40.3	3.6	FL330	-41.4	1.2	1:34				
SYD-AKL	2/13/78	22	1:49	-43	FL330	0:59	36.0S	163.3E	FL328	-41.7	1.4	FL330	-42.0	.6	1:38				
SYD-AKL	2/17/79	23	1:49	-55	FL410	0:09	34.4S	154.7E	FL384	-52.7	2.0								
SYD-AKL	2/19/79	22	1:49	-54	FL410	0:54	35.9S	162.7E	FL403	-52.6	2.7	FL409	-53.4	.7	1:34				
SYD-AKL	2/20/78	23	1:50	-45	FL330	1:10	36.3S	165.9E	FL328	-42.7	2.1	FL329	-43.2	1.2	1:39				
SYD-AKL	3/ 3/78	22	1:45	-49	FL330	0:54	36.0S	163.1E	FL326	-46.2	3.0	FL330	-47.1	1.2	1:29				
SYD-AKL	3/ 3/78	21	1:40	-49	FL330	0:10	34.6S	155.3E	FL327	-44.2	3.4	FL330	-44.5	2.8	1:30				
SYD-AKL	4/ 1/77	22	1:49	-60	FL410	1:39	36.8S	171.0E	FL404	-57.8	2.1	FL409	-58.2	1.0	1:35				
SYD-AKL	4/15/77	23	1:54	-53	FL331	0:09	34.5S	154.9E	FL328	-50.4	3.0	FL331	-51.1	1.4	1:44				
SYD-AKL	4/25/79	22	1:44	-61	FL410	0:24	35.1S	157.8E	FL401	-59.0	4.1	FL409	-60.1	.7	1:29				
SYD-AKL	4/28/78	24	1:46	-50	FL329	0:09	34.5S	154.9E	FL320	-47.0	3.5	FL329	-49.4	1.0	1:05				
SYD-AKL	5/ 2/77	23	1:50	-50	FL331	0:50	35.7S	161.7E	FL328	-46.7	3.5	FL331	-47.5	1.4	1:40				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SYD-AKL	5/ 6/77	21	1:54	-66	FL410	1:20	36.4S	166.9E	FL400	-61.0	5.8	FL409	-62.7	2.2	1:34				
SYD-AKL	5/18/77	20	1:40	-48	FL331	1:19	36.6S	168.8E	FL329	-45.9	2.4	FL331	-46.6	.7	1:30				
SYD-AKL	5/20/77	12	1:50	-65	FL410	1:45	36.9S	171.9E	FL395	-56.7	5.0	FL409	-58.4	3.7	1:30				
SYD-AKL	5/22/78	22	1:54	-58	FL411	1:54	36.9S	172.2E	FL405	-53.9	2.5	FL411	-54.5	1.7	1:44				
SYD-AKL	5/24/78	21	1:45	-58	FL411	0:55	35.9S	162.7E	FL406	-55.9	1.6	FL410	-56.2	1.3	1:29				
SYD-AKL	6/10/78	25	1:44	-62	FL410	0:09	34.4S	154.8E	FL405	-53.5	5.2	FL410	-54.1	4.3	1:34				
SYD-AKL	6/15/77	15	1:39	-57	FL332	0:24	35.4S	159.6E	FL332	-55.5	1.1	FL331	-55.5	1.1	1:39				
SYD-AKL	6/20/77	25	1:59	-63	FL370	1:49	36.8S	171.1E	FL340	-56.4	5.0	FL331	-56.0	.8	1:04				
SYD-AKL	6/28/78	22	1:50	-57	FL383	0:05	34.3S	153.7E	FL403	-54.1	1.4	FL410	-54.0	1.2	1:30				
SYD-AKL	7/ 1/77	20	1:45	-51	FL370	1:39	36.8S	171.4E	FL367	-47.1	1.9	FL369	-47.1	1.9	1:39				
SYD-AKL	7/ 3/78	21	1:39	-69	FL410	1:19	36.5S	167.9E	FL401	-58.3	7.9	FL410	-60.3	6.6	1:19				
SYD-AKL	7/17/78	25	1:49	-61	FL371	1:15	36.3S	166.1E	FL370	-55.4	3.9	FL370	-55.1	3.7	1:13				
SYD-AKL	7/18/77	22	1:45	-51	FL370	1:39	36.8S	171.4E	FL362	-42.7	3.9	FL369	-42.6	4.1	1:30				
SYD-AKL	7/26/77	18	1:39	-49	FL321	0:04	34.3S	154.2E	FL356	-45.8	1.3	FL370	-45.8	1.1	1:19				
SYD-AKL	7/29/78	24	1:54	-57	FL372	0:15	34.6S	155.4E	FL365	-51.6	4.5	FL371	-51.9	4.5	1:44				
SYD-AKL	8/12/77	19	1:52	-63	FL370	1:41	36.8S	171.2E	FL366	-57.1	4.1	FL369	-57.1	4.3	1:41				
SYD-AKL	8/22/77	17	1:34	-48	FL330	0:45	35.7S	161.7E	FL325	-43.1	2.9	FL330	-43.5	2.9	1:19				
SYD-AKL	8/31/76	22	1:43	-46	FL322	0:05	34.6S	155.5E	FL326	-39.9	3.0	FL330	-39.4	2.8	1:28				
SYD-AKL	9/14/77	22	1:41	-57	FL331	1:36	36.8S	171.1E	FL326	-47.1	3.9	FL330	-47.1	4.0	1:31				
SYD-AKL	9/30/77	24	1:53	-54	FL319	1:52	36.9S	173.4E	FL397	-51.5	1.5	FL410	-51.8	.9	1:39				
SYD-AKL	10/ 2/78	26	2:04	-62	FL411	0:34	35.2S	158.5E	FL400	-56.3	4.7	FL410	-57.5	2.8	1:44				
SYD-AKL	10/ 5/77	23	1:37	-57	FL350	0:30	35.4S	159.9E	FL344	-54.0	3.5	FL350	-55.6	1.7	1:12				
SYD-AKL	10/14/77	12	1:54	-59	FL410	0:34	35.3S	159.1E	FL402	-54.2	3.6	FL410	-55.4	2.5	1:24				
SYD-AKL	10/18/78	21	1:39	-58	FL371	1:34	36.8S	171.7E	FL368	-52.0	4.0	FL370	-52.4	3.7	1:34				
SYD-AKL	10/23/78	22	1:49	-60	FL391	0:04	34.4S	154.6E	FL403	-57.2	1.3	FL409	-57.3	1.1	1:09				
SYD-AKL	10/31/76	22	1:45	-54	FL330	1:15	36.5S	167.4E	FL329	-50.1	2.7	FL329	-50.4	2.5	1:39				
SYD-AKL	11/13/76	23	1:43	-52	FL330	0:43	35.8S	162.1E	FL327	-48.2	3.6	FL330	-49.0	1.8	1:34				
SYD-AKL	11/24/76	23	1:46	-52	FL330	0:15	34.7S	156.1E	FL326	-49.3	3.5	FL329	-50.1	1.2	1:36				
SYD-AKL	11/28/77	22	1:54	-54	FL351	0:55	35.8S	161.8E	FL346	-51.2	5.5	FL350	-52.8	.9	1:44				
SYD-AKL	12/ 7/76	20	1:39	-51	FL330	0:34	35.5S	160.5E	FL329	-49.6	1.9	FL329	-50.0	.9	1:33				
SYD-AKL	12/ 8/76	21	1:44	-49	FL330	1:14	36.4S	166.8E	FL327	-45.4	4.7	FL330	-46.6	1.7	1:34				
SYD-AKL	12/15/76	31	1:49	-51	FL329	1:34	36.8S	170.5E	FL327	-46.4	4.3	FL330	-47.3	2.2	1:34				
SYD-AKL	12/17/76	24	1:56	-61	FL409	1:26	36.5S	167.8E	FL388	-53.0	6.1	FL409	-55.9	3.8	1:34				
SYD-AKL	12/23/77	20	1:39	-52	FL330	1:15	36.5S	168.0E	FL330	-50.3	1.1	FL330	-50.3	1.1	1:39				
SYD-AKL	12/26/77	23	1:50	-65	FL410	1:15	36.3S	166.2E	FL405	-60.0	4.1	FL410	-61.1	2.2	1:35				
SYD-AKL	12/27/76	22	1:44	-47	FL330	0:34	35.8S	159.7E	FL327	-44.4	3.2	FL330	-45.0	1.3	1:39				
SYD-AKL	12/28/77	23	1:48	-56	FL410	1:33	36.7S	169.6E	FL403	-51.1	3.5	FL410	-51.9	3.0	1:30				
SYD-AKL	12/30/77	22	1:51	-55	FL410	0:46	35.6S	161.0E	FL374	-49.5	3.0								
SYD-AKL	12/30/78	19	1:49	-63	FL411	1:49	36.9S	172.0E	FL406	-57.3	4.1	FL410	-58.2	1.9	1:34				
SYD-AKL	12/31/76	24	1:54	-60	FL371	1:00	35.9S	162.7E	FL366	-54.1	5.2	FL370	-55.1	4.1	1:44				
SYD-BKK	8/22/76	105	9:11	-54	FL390	7:40	1.4N	104.2E	FL347	-44.6	5.1	FL309	-41.6	3.5	2:06	FL349	-43.5	.7	4:58
												FL390	-53.1	.7	1:36				
SYD-BKK	8/29/76	98	8:29	-47	FL312	0:04	32.8S	147.6E	FL324	-38.6	4.5	FL311	-40.5	3.3	1:54	FL331	-39.4	.7	1:49
												FL311	-32.8	.5	2:19	FL351	-44.0	.6	1:50
SYD-BKK	10/20/77	98	8:11	-54	FL391	7:13	4.7N	102.9E	FL341	-43.2	6.3	FL310	-43.2	3.2	1:49	FL310	-34.2	1.6	1:33
												FL350	-42.4	.5	2:14	FL390	-52.7	.6	1:37
SYD-CHC	1/ 2/77	18	1:24	-43	FL330	1:09	41.4S	167.1E	FL303	-38.9	2.8								
SYD-CHC	1/ 5/78	27	1:52	-48	FL330	1:12	40.3S	164.2E	FL327	-45.4	3.4	FL330	-46.3	1.0	1:37				
SYD-CHC	1/26/78	23	1:49	-50	FL351	1:29	41.5S	167.5E	FL329	-44.3	4.6	FL330	-44.5	.6	1:19				
SYD-CHC	2/27/77	22	1:44	-53	FL370	1:29	41.7S	167.9E	FL349	-48.6	3.2	FL348	-48.4	.7	1:04				
SYD-CHC	4/17/77	24	1:54	-55	FL331	0:54	39.0S	161.1E	FL325	-51.6	4.7	FL331	-53.2	1.0	1:38				
SYD-CHC	8/26/76	20	1:45	-56	FL331	1:05	40.1S	163.9E	FL330	-52.7	2.4	FL331	-52.7	2.5	1:39				
SYD-CHC	12/18/77	19	1:30	-55	FL371	1:10	41.1S	166.4E	FL367	-50.7	3.5	FL370	-51.6	2.2	1:19				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SYD-CHC	12/19/76	21	1:50	-58	FL350	1:29	41.3S	166.9E	FL336	-49.9	4.7								
SYD-DRW	3/16/77	41	3:01	-41	FL350	0:37	28.7S	146.2E	FL349	-40.2	1.3	FL350	-40.4	.6	2:54				
SYD-DRW	3/30/77	36	3:02	-44	FL350	0:08	32.0S	149.0E	FL347	-42.3	2.7	FL350	-42.9	.9	2:49				
SYD-DRW	4/20/77	41	3:29	-45	FL350	0:09	31.8S	148.9E	FL348	-40.7	1.8	FL349	-40.8	1.5	3:19				
SYD-DRW	8/18/76	37	3:14	-49	FL338	0:04	32.2S	149.3E	FL347	-45.3	3.1	FL350	-45.9	1.4	2:59				
SYD-DRW	8/30/77	45	3:39	-53	FL390	0:45	28.8S	146.3E	FL372	-49.3	6.8	FL390	-52.6	.6	2:49				
SYD-DRW	10/ 6/76	45	3:02	-55	FL390	2:49	15.1S	133.1E	FL375	-51.6	3.7	FL390	-53.3	.8	1:56				
SYD-DRW	11/10/76	45	3:21	-54	FL350	0:07	32.2S	149.3E	FL347	-45.7	5.4	FL350	-46.3	4.0	3:09				
SYD-HKG	3/ 2/78	91	7:48	-55	FL390	7:44	20.6N	114.9E	FL375	-50.0	3.9	FL350	-45.4	2.1	1:29	FL370	-47.7	.5	1:54
												FL390	-53.2	.7	4:02				
SYD-HKG	5/13/77	96	7:52	-45	FL331	2:03	20.5S	139.2E	FL336	-41.3	2.0	FL310	-41.8	1.6	1:48	FL331	-38.6	2.8	1:19
												FL351	-42.0	.6	4:24				
SYD-HKG	7/19/77	95	7:37	-44	FL311	0:04	31.7S	148.8E	FL335	-38.0	4.3	FL310	-33.8	4.0	2:49	FL350	-40.5	1.8	4:27
SYD-HKG	7/26/77	96	8:12	-48	FL311	0:04	32.1S	149.2E	FL337	-40.0	3.0	FL310	-38.4	4.4	2:34	FL350	-40.8	1.6	5:22
SYD-HKG	8/12/77	79	6:53	-51	FL391	5:58	13.7N	118.5E	FL344	-41.7	6.9	FL350	-43.5	.7	4:28				
SYD-HKG	9/20/77	62	7:36	-53	FL391	6:17	10.9N	120.0E	FL353	-45.3	4.2	FL310	-45.8	1.5	1:01	FL350	-43.1	.9	3:27
SYD-HKG	9/27/77	78	7:09	-44	FL351	3:54	5.2S	128.5E	FL336	-40.7	2.9	FL310	-38.3	2.6	1:34	FL330	-37.6	.7	1:15
												FL350	-43.0	.6	4:04				
SYD-HKG	10/11/77	90	7:33	-47	FL323	0:34	27.9S	145.5E	FL342	-42.9	1.8	FL350	-42.8	.4	3:52				
SYD-HKG	11/29/77	88	7:54	-55	FL391	7:44	19.5N	115.5E	FL360	-45.5	5.2	FL351	-42.9	1.5	5:19	FL390	-53.4	.7	2:00
SYD-HND	2/ 6/78	100	8:25	-54	FL391	7:15	27.2N	141.6E	FL363	-45.4	5.7	FL350	-41.5	1.4	4:35	FL390	-52.3	1.0	2:54
SYD-HNL	1/ 5/78	98	8:34	-47	FL370	6:14	3.9N	168.6W	FL339	-37.6	6.5	FL330	-33.5	1.8	3:57	FL370	-45.9	.8	3:09
SYD-HNL	1/ 7/78	97	8:19	-48	FL371	6:34	7.8N	165.9W	FL338	-37.8	6.7	FL320	-29.8	1.6	1:04	FL330	-35.9	.6	3:15
												FL370	-47.0	.7	2:35				
SYD-HNL	1/10/78	99	8:27	-49	FL371	4:44	6.2S	174.8W	FL349	-42.1	5.9	FL330	-36.5	1.2	4:10	FL370	-48.0	.7	3:56
SYD-HNL	1/15/78	101	8:07	-46	FL330	1:49	23.9S	170.1E	FL321	-38.3	3.2	FL289	-34.8	2.4	1:39	FL330	-39.5	2.6	3:58
												FL330	-39.4	.7	2:02				
SYD-HNL	1/22/78	99	8:27	-53	FL390	7:12	11.4N	163.7W	FL356	-44.9	4.8	FL330	-42.4	1.3	1:04	FL360	-44.2	.6	1:10
												FL369	-46.3	.5	2:36	FL389	-51.1	1.1	1:09
SYD-HNL	1/26/78	98	8:19	-47	FL370	5:44	1.6N	169.9W	FL350	-42.7	3.6	FL330	-39.5	2.5	3:55	FL369	-45.8	.5	3:59
SYD-HNL	1/28/78	95	8:00	-47	FL371	6:30	8.7N	165.5W	FL343	-40.0	4.8	FL330	-37.1	2.0	4:55	FL370	-46.2	.5	2:45
SYD-HNL	1/31/78	94	7:59	-48	FL371	2:54	16.8S	178.1E	FL359	-42.9	4.5	FL351	-42.8	.4	1:40	FL370	-45.2	.9	5:00
SYD-HNL	2/ 2/78	93	8:04	-46	FL371	3:54	10.2S	177.3W	FL351	-40.7	4.7	FL330	-36.0	1.3	3:34	FL370	-44.9	.8	4:14
SYD-HNL	2/ 4/78	100	8:32	-47	FL370	5:58	2.2N	169.6W	FL352	-41.3	5.1	FL350	-40.3	.5	1:15	FL369	-45.8	.6	3:42
SYD-HNL	2/11/78	100	8:22	-48	FL371	7:22	13.6N	163.8W	FL358	-43.6	3.6	FL330	-39.0	.7	1:30	FL350	-40.7	.6	2:10
												FL370	-46.7	.8	4:24				
SYD-HNL	2/14/78	99	8:06	-47	FL371	4:22	8.0S	176.0W	FL354	-42.5	4.4	FL330	-37.6	2.9	3:07	FL370	-45.8	.8	4:39
SYD-HNL	2/18/78	30	2:49	-47	FL371	0:00	.6N	173.5W	FL369	-45.3	1.7	FL370	-45.6	1.0	2:44				
SYD-HNL	2/21/78	100	8:26	-47	FL371	5:04	4.0S	173.4W	FL353	-42.9	5.0	FL330	-38.3	4.4	3:24	FL370	-46.4	.6	4:41
SYD-HNL	2/24/78	98	8:19	-48	FL370	4:24	6.9S	175.4W	FL355	-43.9	3.3	FL330	-41.9	3.5	2:00	FL350	-40.7	1.0	1:49
												FL370	-46.6	.6	4:05				
SYD-HNL	2/26/78	66	7:24	-48	FL371	6:19	11.9N	163.4W	FL346	-41.1	5.7	FL330	-36.7	.8	2:39	FL370	-47.1	.9	2:15
SYD-HNL	3/ 4/78	97	8:15	-39	FL330	1:15	26.9S	166.1E	FL325	-36.6	2.0	FL329	-37.2	.7	7:05				
SYD-HNL	4/ 8/77	100	8:07	-51	FL371	8:01	19.2N	158.4W	FL341	-42.1	5.1	FL331	-40.4	2.6	4:14	FL370	-47.4	.8	2:54
SYD-HNL	4/10/77	96	7:56	-48	FL371	4:01	9.2S	176.8W	FL349	-43.8	3.8	FL331	-40.8	3.0	3:51	FL370	-47.0	.6	3:49
SYD-HNL	4/13/77	91	7:53	-51	FL370	7:48	19.0N	158.5W	FL350	-43.9	4.1	FL331	-40.6	3.4	3:34	FL370	-47.2	1.0	3:48
SYD-HNL	4/15/77	98	7:53	-43	FL291	0:09	32.1S	155.8E	FL317	-36.6	3.4	FL290	-35.8	5.7	2:14	FL331	-36.9	.7	5:19
SYD-HNL	5/18/77	100	8:05	-43	FL330	7:35	15.6N	160.4W	FL318	-36.7	3.8	FL290	-31.9	2.8	2:13	FL330	-38.8	1.7	5:37
SYD-HNL	6/12/77	94	7:55	-51	FL371	7:25	15.8N	160.8W	FL338	-42.3	5.3	FL291	-42.4	2.8	1:09	FL331	-38.0	1.0	3:59
												FL370	-49.2	1.2	2:26				
SYD-HNL	9/14/77	95	7:59	-49	FL371	5:49	4.8N	168.0W	FL331	-39.6	6.8	FL291	-32.5	6.2	1:48	FL330	-37.9	.6	3:38
												FL370	-48.7	.4	2:04				
SYD-HNL	9/16/77	92	8:09	-49	FL370	5:45	2.8N	168.9W	FL344	-42.2	5.2	FL330	-37.4	.8	3:44	FL369	-48.3	.5	3:09

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SYD-HNL	9/18/77	92	8:26	-55	FL330	0:12	32.0S	156.0E	FL341	-42.2	5.8	FL330	-39.3	4.8	5:50	FL370	-48.2	.7	0:00
SYD-HNL	9/21/77	91	8:14	-50	FL371	6:08	4.8N	168.0W	FL340	-43.5	4.8	FL290	-41.2	3.1	1:05	FL330	-39.5	1.6	3:48
												FL370	-49.3	.5	3:00				
SYD-HNL	9/23/77	84	8:22	-50	FL370	5:27	.2N	170.6W	FL342	-42.8	5.3	FL329	-39.9	1.7	4:12	FL369	-49.0	.3	2:54
SYD-HNL	9/25/77	61	7:54	-50	FL371	5:54	3.7N	168.7W	FL348	-43.8	4.6	FL330	-39.7	1.6	4:04	FL370	-48.6	1.1	3:25
SYD-HNL	10/ 5/77	87	7:54	-49	FL330	0:40	28.8S	162.5E	FL343	-42.6	2.3	FL331	-42.0	4.0	2:10	FL351	-42.8	.8	5:04
SYD-HNL	10/ 9/77	103	8:28	-50	FL331	1:00	28.8S	162.9E	FL342	-43.2	4.8	FL330	-39.3	3.2	3:59	FL370	-48.4	.9	3:18
SYD-KUL	12/17/76	81	6:46	-43	FL330	0:34	30.5S	144.0E	FL341	-40.6	2.0	FL329	-39.6	3.1	1:49	FL350	-41.4	.7	4:06
SYD-LAX	1/ 1/78	155	12:22	-61	FL420	12:07	33.4N	122.9W	FL377	-50.5	6.4	FL330	-46.4	2.5	1:30	FL349	-42.1	1.0	2:07
												FL369	-47.3	.8	2:30	FL390	-54.4	.5	2:10
SYD-LAX	1/ 7/79	141	12:04	-61	FL410	11:54	31.6N	120.7W	FL372	-49.0	6.2	FL419	-57.5	1.6	2:19				
												FL350	-41.8	1.0	2:30	FL370	-47.5	.6	4:09
SYD-LAX	1/14/79	133	11:20	-59	FL390	11:15	33.3N	120.9W	FL373	-49.5	4.9	FL390	-53.9	1.0	1:34	FL409	-58.4	1.2	2:19
												FL350	-42.9	1.3	1:15	FL371	-48.1	.5	1:45
SYD-LAX	1/21/79	140	12:00	-59	FL411	10:00	23.3N	139.5W	FL380	-49.9	6.4	FL370	-47.2	.4	1:25	FL388	-54.1	1.2	5:14
												FL330	-40.1	2.2	1:20	FL370	-48.3	.6	3:00
SYD-LAX	4/15/79	146	11:59	-66	FL430	10:24	26.0N	133.5W	FL382	-53.1	7.4	FL390	-53.0	1.5	2:50	FL410	-55.6	1.7	3:39
												FL330	-41.8	3.6	1:35	FL350	-44.8	.4	1:04
												FL370	-50.1	.6	2:07	FL390	-55.5	.5	1:39
SYD-LAX	5/ 4/79	146	12:24	-65	FL411	12:04	30.9N	122.3W	FL377	-52.5	6.1	FL410	-59.8	1.9	3:13	FL429	-60.7	1.7	1:29
												FL330	-45.2	1.3	2:39	FL370	-49.8	1.2	4:45
SYD-LAX	6/ 2/78	151	12:35	-64	FL410	12:05	30.1N	123.6W	FL375	-54.5	5.4	FL410	-59.4	2.2	4:39				
												FL330	-48.3	2.8	2:40	FL370	-51.7	1.3	3:19
SYD-LAX	6/ 4/78	144	12:11	-65	FL410	9:02	22.1N	148.7W	FL377	-53.6	7.2	FL390	-55.9	1.0	3:14	FL410	-63.1	.6	2:24
												FL330	-42.8	.6	1:14	FL351	-46.5	.6	2:04
												FL370	-50.3	.6	2:15	FL389	-58.2	.7	2:37
SYD-LAX	6/15/79	141	12:05	-62	FL410	10:30	24.0N	132.0W	FL377	-53.1	5.5	FL410	-63.7	.8	1:19	FL420	-61.5	.9	1:39
												FL330	-49.8	4.5	1:09	FL350	-46.0	1.0	1:30
												FL369	-49.7	.8	3:19	FL390	-54.6	.8	2:17
SYD-LAX	7/23/78	146	12:04	-61	FL411	7:54	10.0N	147.0W	FL382	-52.9	6.6	FL410	-60.8	1.2	3:00				
												FL330	-40.9	.5	1:24	FL370	-50.0	1.1	3:54
SYD-LAX	8/ 4/78	154	12:44	-62	FL410	9:44	16.4N	140.7W	FL376	-53.3	5.7	FL391	-55.9	.3	1:54	FL411	-59.4	1.2	4:04
												FL330	-48.1	3.5	2:44	FL370	-49.7	.6	4:05
SYD-LAX	8/25/78	143	12:11	-61	FL410	12:06	33.7N	121.6W	FL377	-52.5	6.3	FL409	-60.2	.9	3:44				
												FL330	-42.9	5.2	2:19	FL371	-50.5	.7	3:15
SYD-LAX	10/ 8/78	137	12:02	-62	FL410	9:07	15.6N	141.5W	FL377	-53.0	5.7	FL390	-55.8	.4	2:56	FL409	-59.2	.6	3:04
												FL330	-50.3	2.0	1:07	FL368	-48.9	.6	1:34
												FL370	-49.4	.6	1:40	FL389	-55.4	.8	2:44
SYD-LAX	10/29/78	144	12:32	-62	FL411	9:27	16.4N	140.7W	FL378	-53.9	4.6	FL409	-60.5	1.2	2:54				
												FL350	-50.9	3.4	2:19	FL371	-48.7	.6	2:15
SYD-LAX	11/26/77	135	12:37	-63	FL409	12:27	32.0N	120.6W	FL383	-52.7	5.8	FL390	-55.4	.7	3:02	FL411	-59.8	1.0	3:00
												FL370	-48.1	.7	4:19	FL390	-53.2	.7	1:03
												FL409	-58.9	1.4	4:46				
SYD-LAX	12/ 4/77	117	10:05	-59	FL410	8:53	26.8N	128.3W	FL382	-51.2	4.7	FL350	-44.8	1.7	1:19	FL369	-47.9	.3	3:09
												FL390	-53.3	1.3	2:24	FL410	-57.1	1.1	2:31
SYD-LAX	12/17/78	140	12:19	-64	FL410	12:14	31.9N	120.9W	FL374	-52.8	6.2	FL330	-46.1	3.1	2:19	FL369	-50.5	.9	2:55
												FL390	-54.9	.9	2:19	FL410	-60.7	1.2	3:20
SYD-LAX	12/24/77	142	12:03	-60	FL410	8:18	13.5N	152.2W	FL383	-51.6	5.8	FL350	-43.1	1.1	1:19	FL369	-46.6	.6	1:30
												FL390	-54.1	.5	2:45	FL410	-56.6	2.2	4:29
SYD-MNL	1/ 1/77	74	6:19	-44	FL350	4:50	1.6N	127.3E	FL342	-40.6	2.4	FL330	-39.3	1.3	1:10	FL350	-41.9	.6	4:14
SYD-MNL	1/ 4/77	71	6:14	-46	FL330	0:49	26.6S	144.4E	FL338	-41.2	2.9	FL330	-40.8	3.8	1:30	FL350	-41.7	.8	3:44
SYD-MNL	2/26/77	74	6:14	-43	FL350	4:34	.6N	128.5E	FL333	-37.7	5.1	FL310	-32.2	3.2	2:29	FL350	-41.8	.8	3:24
SYD-MNL	8/17/76	79	6:27	-45	FL351	3:29	8.0S	134.0E	FL336	-41.4	3.3	FL310	-37.4	2.2	2:14	FL350	-43.8	.7	3:52

APPENDIX B

FLIGHT SUMMARY

-------FLIGHT DATA--------				-----COLDEST OBSERVATION----					-----MEAN------			-------------FLIGHT SEGMENTS----------							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SYD-MNL	10/ 5/76	83	6:24	-57	FL370	0:29	29.3S	146.7E	FL377	-52.2	3.6	FL369	-52.0	3.4	1:43	FL390	-53.6	.5	3:01
SYD-MNL	10/23/76	74	6:24	-44	FL310	0:05	31.5S	148.6E	FL332	-40.4	4.0	FL310	-36.6	3.5	2:44	FL350	-43.3	.5	3:24
SYD-NAN	1/ 5/77	33	2:44	-47	FL330	0:09	32.2S	155.6E	FL329	-36.5	3.7	FL329	-36.5	3.7	2:39				
SYD-NAN	1/ 9/78	30	2:29	-37	FL330	2:29	19.3S	175.8E	FL329	-34.5	1.6	FL330	-34.8	1.0	2:19				
SYD-NAN	1/13/77	32	2:44	-42	FL331	0:04	32.6S	154.7E	FL330	-36.8	2.8	FL330	-36.7	2.8	2:39				
SYD-NAN	1/13/78	34	2:42	-45	FL330	0:40	30.0S	160.5E	FL328	-42.0	2.9	FL330	-42.5	2.2	2:31				
SYD-NAN	1/15/77	32	2:49	-39	FL331	0:10	32.2S	155.5E	FL328	-35.0	3.2	FL330	-35.4	2.6	2:34				
SYD-NAN	1/18/78	36	2:48	-41	FL330	0:50	29.5S	161.5E	FL327	-38.7	3.3	FL330	-39.5	1.0	2:33				
SYD-NAN	1/20/78	34	2:43	-44	FL330	1:19	26.9S	166.1E	FL326	-40.5	3.5	FL329	-41.5	2.0	2:27				
SYD-NAN	1/30/78	19	2:45	-42	FL331	2:04	23.3S	170.9E	FL328	-38.7	3.4	FL330	-39.6	2.2	2:34				
SYD-NAN	2/11/77	39	2:47	-43	FL330	0:52	29.2S	162.0E	FL328	-39.6	2.9	FL330	-40.0	2.4	2:38				
SYD-NAN	2/19/77	33	2:45	-42	FL331	1:05	28.3S	163.9E	FL329	-38.9	1.3	FL330	-39.0	1.2	2:34				
SYD-NAN	2/28/77	34	2:45	-39	FL331	1:25	26.4S	166.7E	FL328	-37.1	1.2	FL330	-37.4	.7	2:29				
SYD-NAN	3/19/77	35	2:40	-39	FL330	0:12	31.6S	157.0E	FL330	-35.1	2.0	FL330	-35.0	2.0	2:36				
SYD-NAN	3/21/77	32	2:49	-37	FL301	0:00	32.8S	153.9E	FL328	-35.6	2.2	FL330	-35.9	.6	2:34				
SYD-NAN	4/ 2/77	32	2:55	-48	FL351	0:43	30.0S	160.4E	FL344	-44.6	3.2	FL350	-45.3	1.0	2:06				
SYD-NAN	4/11/78	32	2:39	-43	FL330	0:09	32.9S	154.8E	FL341	-41.4	1.8	FL349	-42.6	.5	1:35				
SYD-NAN	4/18/77	32	2:39	-43	FL322	0:05	32.6S	154.7E	FL311	-34.3	4.1	FL331	-36.3	.6	1:13				
SYD-NAN	4/23/77	31	2:29	-44	FL322	0:05	32.5S	154.8E	FL329	-38.2	2.6	FL330	-37.9	2.4	2:19				
SYD-NAN	4/30/77	32	2:38	-51	FL331	0:09	32.1S	155.8E	FL328	-45.0	5.9	FL330	-45.7	4.8	2:24				
SYD-NAN	5/ 6/77	35	2:39	-49	FL330	0:10	33.2S	155.1E	FL326	-43.0	3.1	FL330	-43.3	2.8	2:29				
SYD-NAN	5/ 6/77	30	2:35	-54	FL337	0:09	33.0S	155.6E	FL347	-48.7	2.3	FL350	-48.7	1.9	2:15				
SYD-NAN	6/ 2/79	36	2:55	-56	FL371	0:19	32.5S	157.1E	FL365	-49.4	4.6	FL370	-50.2	2.3	2:34				
SYD-NAN	6/ 4/77	24	2:30	-48	FL327	0:00	32.5S	154.8E	FL331	-42.5	3.7	FL330	-42.5	3.7	2:30				
SYD-NAN	6/18/77	30	2:24	-45	FL331	0:19	30.2S	156.0E	FL330	-41.9	2.0	FL331	-41.9	1.9	2:19				
SYD-NAN	7/ 2/77	27	2:24	-43	FL311	0:00	31.9S	156.2E	FL311	-35.7	2.0	FL311	-35.7	2.0	2:24				
SYD-NAN	7/ 9/77	32	2:39	-52	FL330	0:09	32.3S	155.4E	FL329	-41.2	6.0	FL330	-41.0	6.0	2:34				
SYD-NAN	7/22/77	30	2:29	-47	FL331	0:09	32.9S	156.0E	FL329	-41.9	2.4	FL330	-42.1	2.3	2:14				
SYD-NAN	7/24/77	33	2:39	-52	FL370	0:54	29.4S	162.5E	FL365	-49.2	2.2	FL370	-49.7	1.0	2:19				
SYD-NAN	8/ 5/78	35	2:54	-49	FL350	1:49	24.8S	168.9E	FL335	-46.2	2.6	FL330	-45.8	1.6	1:34	FL349	-48.1	1.1	1:04
SYD-NAN	8/27/76	33	2:39	-48	FL315	0:05	32.7S	154.4E	FL329	-39.6	3.8	FL330	-39.1	3.3	2:30				
SYD-NAN	8/29/76	32	2:34	-49	FL330	0:10	32.7S	156.3E	FL329	-41.1	6.6	FL330	-40.8	6.7	2:24				
SYD-NAN	9/ 8/77	30	2:25	-42	FL315	0:05	32.5S	155.0E	FL325	-37.1	2.2								
SYD-NAN	9/ 9/78	35	2:48	-52	FL331	0:20	32.3S	157.4E	FL329	-45.8	4.0	FL330	-45.8	4.0	2:37				
SYD-NAN	9/10/77	30	2:29	-46	FL331	0:25	31.1S	158.2E	FL329	-41.3	3.5	FL330	-41.7	3.2	2:18				
SYD-NAN	9/12/77	30	2:38	-52	FL308	0:05	32.8S	154.0E	FL328	-41.5	3.9	FL330	-41.1	3.4	2:23				
SYD-NAN	9/29/77	29	2:45	-51	FL330	0:25	32.1S	157.4E	FL349	-46.9	2.9	FL370	-47.0	1.7	1:30				
SYD-NAN	10/ 1/77	32	2:42	-49	FL370	2:37	19.4S	175.5E	FL365	-44.4	2.4	FL370	-44.8	1.6	2:26				
SYD-NAN	10/ 3/76	32	2:52	-52	FL330	0:32	30.7S	158.9E	FL329	-48.2	3.9	FL330	-48.4	3.9	0:00				
SYD-NAN	10/ 3/77	34	2:55	-57	FL371	0:15	32.3S	155.2E	FL365	-51.5	6.3	FL370	-52.7	4.3	2:34				
SYD-NAN	10/ 9/76	35	3:01	-54	FL370	1:22	27.9S	164.7E	FL351	-48.5	2.0	FL330	-47.9	1.6	1:07	FL370	-49.3	1.6	1:33
SYD-NAN	10/13/76	32	2:52	-51	FL330	0:10	32.5S	155.8E	FL329	-46.1	2.4	FL330	-46.2	2.2	0:00				
SYD-NAN	10/21/76	28	2:24	-45	FL330	0:15	31.6S	156.9E	FL328	-42.6	1.7	FL330	-42.9	1.2	2:15				
SYD-NAN	10/29/76	34	2:45	-51	FL330	0:15	31.8S	156.4E	FL327	-42.6	5.9	FL330	-43.1	5.0	2:30				
SYD-NAN	11/14/78	35	2:45	-50	FL330	0:15	31.9S	156.3E	FL329	-44.3	3.0	FL330	-44.3	3.0	2:34				
SYD-NAN	11/18/76	34	2:37	-49	FL330	0:59	28.6S	162.2E	FL327	-44.7	2.3	FL329	-44.6	2.1	2:23				
SYD-NAN	11/26/76	30	2:34	-48	FL330	0:35	30.2S	160.0E	FL303	-37.8	6.8	FL289	-33.1	2.9	1:34				
SYD-NAN	12/ 2/76	32	2:39	-48	FL323	0:04	32.4S	155.0E	FL328	-42.7	2.3	FL329	-42.5	2.2	2:30				
SYD-NAN	12/10/77	32	2:39	-41	FL310	0:04	32.5S	155.0E	FL310	-39.1	2.1	FL309	-39.2	2.1	2:34				
SYD-NAN	12/13/76	34	2:44	-34	FL290	0:09	32.2S	155.5E	FL290	-31.5	1.7	FL290	-31.6	1.7	2:39				
SYD-NAN	12/15/76	31	2:45	-43	FL330	1:25	26.6S	166.5E	FL321	-38.2	5.0	FL330	-40.7	1.3	2:00				
SYD-NAN	12/16/77	32	2:44	-51	FL350	0:39	30.2S	161.2E	FL347	-46.8	4.0	FL349	-48.9	2.1	1:20				
SYD-NAN	12/23/76	31	2:39	-42	FL330	0:04	32.6S	154.6E	FL329	-39.6	1.5	FL329	-39.8	1.1	2:34				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SYD-NAN	12/24/76	33	2:39	-47	FL351	1:00	29.2S	162.7E	FL333	-42.3	5.4	FL350	-45.8	.9	1:39				
SYD-NAN	12/25/76	33	2:42	-43	FL330	0:34	30.5S	159.4E	FL328	-40.0	2.3	FL330	-40.3	1.8	2:33				
SYD-NAN	12/26/76	33	2:44	-44	FL330	0:09	32.5S	156.1E	FL328	-41.3	2.0	FL330	-41.5	1.8	2:34				
SYD-NOU	8/25/76	20	1:35	-48	FL320	0:05	33.6S	154.2E	FL327	-44.1	1.8	FL330	-43.9	1.7	1:25				
SYD-NOU	10/12/77	20	1:34	-52	FL331	0:04	33.1S	154.8E	FL330	-45.8	5.0	FL330	-45.7	5.1	1:29				
SYD-NOU	10/19/77	18	1:34	-47	FL331	0:04	33.1S	154.8E	FL326	-39.8	5.2	FL330	-40.6	3.8	1:24				
SYD-NOU	11/30/77	20	1:34	-45	FL330	0:04	32.9S	154.8E	FL329	-41.2	3.3	FL330	-41.3	3.3	1:30				
SYD-NOU	12/14/77	20	1:39	-45	FL330	0:09	32.9S	154.7E	FL325	-42.0	3.5	FL330	-43.2	1.2	1:24				
SYD-PER	1/ 7/77	38	3:14	-48	FL350	2:04	32.3S	128.8E	FL348	-46.3	3.4	FL350	-47.0	.7	3:04				
SYD-PER	1/23/77	43	3:34	-41	FL351	0:04	33.8S	149.1E	FL316	-38.6	1.7	FL310	-38.5	1.5	2:54				
SYD-PER	4/ 5/77	47	3:50	-62	FL390	2:55	32.3S	126.3E	FL368	-54.9	5.2	FL350	-51.6	1.1	1:10	FL390	-59.8	1.1	1:24
SYD-PER	7/13/76	44	3:39	-63	FL390	3:24	32.1S	120.3E	FL380	-51.8	5.4	FL369	-49.0	1.8	1:09				
SYD-PER	8/ 3/76	43	3:49	-55	FL351	1:15	33.3S	138.6E	FL347	-51.8	2.6	FL350	-52.3	1.5	3:29				
SYD-PER	8/ 6/76	47	3:57	-54	FL390	3:19	32.2S	122.4E	FL357	-46.6	4.5	FL350	-44.4	1.9	2:19				
SYD-PER	9/26/76	43	3:12	-57	FL351	0:57	33.7S	139.9E	FL344	-52.8	3.8	FL351	-54.0	2.9	2:36				
SYD-PER	10/10/76	43	3:12	-55	FL350	0:46	34.1S	141.4E	FL319	-46.7	6.2	FL350	-52.8	1.5	1:02	FL281	-39.8	2.6	0:00
SYD-PER	10/15/76	40	3:29	-51	FL391	2:29	32.3S	125.7E	FL356	-47.6	2.1	FL349	-45.4	1.2	1:04				
SYD-PER	11/14/76	48	3:59	-54	FL350	3:19	32.3S	123.8E	FL335	-48.4	3.4	FL310	-45.2	.4	1:24	FL349	-50.6	2.3	2:19
SYD-PER	12/ 9/76	47	3:54	-56	FL369	2:59	32.3S	125.9E	FL355	-50.8	3.8	FL350	-49.5	.9	2:19	FL369	-54.4	.8	1:15
SYD-PPG	6/11/77	48	3:57	-55	FL331	0:09	33.0S	155.6E	FL354	-50.0	3.1	FL330	-49.5	4.9	1:19	FL369	-50.6	.7	2:22
SYD-PPG	6/13/77	47	3:59	-55	FL331	0:04	33.2S	155.1E	FL356	-49.0	3.2	FL372	-50.2	.9	2:15				
SYD-PPG	6/30/77	49	4:09	-53	FL331	0:49	31.5S	161.3E	FL348	-48.0	3.5	FL331	-47.8	3.5	1:19	FL370	-50.0	.9	1:40
SYD-PPG	7/ 2/77	44	3:49	-51	FL370	2:24	23.3S	177.5E	FL347	-46.0	4.6	FL331	-42.0	2.5	1:59	FL370	-50.6	.6	1:35
SYD-PPG	7/ 4/77	45	3:49	-54	FL327	0:05	33.4S	154.9E	FL347	-48.2	4.2	FL330	-46.8	5.3	2:04	FL370	-50.2	.5	1:30
SYD-PPG	8/21/76	47	3:59	-51	FL330	0:50	31.0S	162.7E	FL341	-43.9	5.5	FL330	-43.4	5.8	2:15	FL368	-47.1	.5	1:05
SYD-PPG	8/23/76	45	3:44	-49	FL326	0:04	33.4S	155.2E	FL340	-43.5	4.2	FL329	-42.2	4.4	2:34				
SYD-SFO	4/ 3/77	144	12:09	-68	FL409	9:39	25.1N	144.4W	FL383	-55.4	7.3	FL333	-44.6	.8	1:44	FL375	-52.1	.5	2:30
												FL390	-55.9	.5	1:25	FL408	-63.1	3.0	4:14
SYD-SFO	7/ 3/77	150	12:54	-67	FL430	9:24	20.0N	150.8W	FL394	-57.2	6.9	FL350	-48.4	2.9	2:24	FL369	-50.5	.5	1:34
												FL389	-56.0	.6	1:45	FL409	-60.9	.3	2:34
												FL429	-64.7	1.3	3:44				
SYD-SFO	8/14/77	132	12:03	-63	FL430	10:23	28.8N	139.3W	FL380	-52.6	6.0	FL330	-42.2	2.7	1:24	FL369	-50.5	.5	3:34
												FL390	-56.4	.5	2:44	FL430	-58.7	2.3	1:35
SYD-SFO	10/ 2/77	126	12:22	-65	FL410	11:27	32.1N	132.6W	FL377	-53.6	6.7	FL330	-49.1	1.2	1:30	FL369	-49.5	.9	3:57
												FL390	-55.9	.6	2:20	FL409	-62.4	1.2	3:24
SYD-SFO	10/16/77	137	12:19	-60	FL410	8:34	19.9N	153.2W	FL380	-51.8	6.2	FL349	-43.7	.6	2:24	FL369	-48.8	.4	2:54
												FL400	-57.8	.5	2:04	FL409	-58.1	1.4	2:34
												FL419	-57.5	.7	1:05				
SYD-SFO	12/19/76	141	12:04	-58	FL411	10:23	29.3N	138.4W	FL375	-49.9	5.4	FL329	-42.4	3.4	2:29	FL370	-48.9	.7	4:14
												FL390	-55.6	1.0	1:45	FL410	-55.0	1.6	2:09
SYD-SFO	12/26/76	143	12:24	-62	FL410	9:24	17.4N	141.1W	FL378	-52.3	6.1	FL330	-42.9	.9	1:24	FL369	-49.6	.6	5:24
												FL390	-55.2	.4	1:30	FL410	-60.3	1.2	3:24
SYD-SIN	1/ 1/78	77	6:23	-43	FL350	2:43	20.0S	127.3E	FL332	-39.5	3.8	FL310	-36.5	2.3	2:23	FL350	-42.3	1.0	3:34
SYD-SIN	1/10/77	76	6:24	-44	FL350	6:21	.1N	105.3E	FL332	-38.0	4.4	FL310	-33.8	3.1	2:44	FL349	-41.4	1.2	3:30
SYD-SIN	1/16/77	78	6:39	-42	FL351	1:05	29.1S	141.8E	FL344	-39.7	3.2	FL350	-41.0	1.1	5:34				
SYD-SIN	1/19/77	77	6:24	-54	FL390	5:39	3.8S	109.7E	FL355	-43.2	5.7	FL350	-40.9	.9	4:04	FL390	-53.1	.4	1:20
SYD-SIN	1/30/77	72	6:12	-44	FL348	1:59	23.0S	132.5E	FL343	-41.8	1.4	FL330	-41.4	.9	1:49	FL350	-42.2	.9	4:13
SYD-SIN	2/13/77	77	6:18	-43	FL350	6:03	1.1S	106.8E	FL344	-39.3	2.9	FL350	-40.4	1.4	5:19				
SYD-SIN	3/27/77	73	6:18	-43	FL350	3:53	14.5S	120.8E	FL334	-39.7	3.5	FL310	-36.0	3.2	2:24	FL350	-42.1	.4	3:39
SYD-SIN	4/27/77	78	6:32	-45	FL311	0:04	32.8S	147.6E	FL315	-37.2	4.3	FL310	-40.6	2.9	1:59	FL331	-41.1	.9	1:24
												FL310	-32.9	1.3	2:52				
SYD-SIN	5/26/77	85	7:20	-45	FL351	3:54	18.3S	125.0E	FL330	-40.0	4.4	FL310	-36.8	3.4	3:34	FL350	-43.6	.7	3:30
SYD-SIN	5/29/77	77	6:45	-48	FL311	0:04	33.0S	148.0E	FL336	-43.7	1.6	FL310	-45.0	1.6	1:45	FL350	-43.6	.6	3:55

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
SYD-SIN	7/12/77	57	6:34	-45	FL310	0:05	31.6S	148.7E	FL330	-38.7	4.6	FL310	-34.9	3.9	3:04	FL350	-42.4	.5	3:09
SYD-SIN	8/ 3/77	79	6:39	-47	FL311	0:05	33.1S	148.2E	FL330	-38.5	4.5	FL310	-35.8	5.1	2:44	FL350	-41.9	.5	2:39
SYD-SIN	8/ 6/77	75	6:29	-49	FL310	0:04	32.9S	147.8E	FL340	-43.5	2.0	FL330	-43.8	2.1	1:19	FL350	-42.7	.6	4:00
SYD-SIN	8/18/77	68	6:19	-43	FL308	0:00	33.0S	148.0E	FL338	-40.0	3.6	FL350	-42.3	.5	3:55				
SYD-SIN	9/29/76	81	6:23	-51	FL334	1:09	27.7S	139.6E	FL342	-44.2	1.9	FL310	-45.9	.3	1:00	FL350	-43.7	1.6	0:00
SYD-SIN	10/16/77	71	6:48	-47	FL310	0:00	32.6S	147.3E	FL341	-42.3	2.1	FL330	-41.1	3.5	1:55	FL350	-42.4	.7	4:05
SYD-SIN	10/18/76	78	6:45	-57	FL350	0:46	30.2S	143.6E	FL348	-45.1	3.7	FL349	-45.0	3.7	6:34				
SYD-SIN	11/ 6/77	76	6:32	-49	FL355	2:37	22.4S	130.9E	FL336	-43.6	2.4	FL310	-41.8	1.8	2:18	FL351	-44.9	1.8	3:55
SYD-SIN	11/ 7/76	86	6:53	-54	FL348	0:19	32.2S	146.6E	FL346	-46.3	4.0	FL350	-46.5	4.1	6:33				
SYD-SIN	11/16/77	79	6:46	-50	FL329	0:05	32.9S	147.8E	FL345	-44.9	2.7	FL330	-47.9	1.6	1:41	FL350	-43.8	2.2	4:53
SYD-SIN	11/21/76	82	6:49	-52	FL350	1:49	25.8S	136.8E	FL349	-44.6	3.7	FL350	-44.5	3.7	6:34				
SYD-SIN	11/23/77	68	6:39	-51	FL351	1:04	28.4S	140.6E	FL319	-36.9	6.8	FL310	-32.9	1.0	4:10				
SYD-SIN	11/28/76	85	6:51	-46	FL310	0:05	31.8S	148.9E	FL329	-38.6	4.5	FL309	-36.5	4.7	2:36	FL349	-41.6	.5	3:25
SYD-SIN	12/11/77	73	6:25	-49	FL351	2:21	22.2S	131.1E	FL340	-43.5	2.1	FL350	-43.8	2.1	4:08				
SYD-SIN	12/20/76	78	6:39	-42	FL350	2:34	21.9S	130.8E	FL338	-39.2	3.7	FL310	-34.3	2.6	1:49	FL350	-41.7	.5	4:19
SYD-SIN	12/29/77	78	6:24	-48	FL351	1:09	27.6S	139.5E	FL344	-42.6	2.2	FL350	-43.2	1.8	5:14				
SYD-SYD	11/27/77	20	2:00	-53	FL363	0:10	30.6S	152.3E	FL353	-49.5	4.3								
THR-ATH	2/22/77	37	3:08	-58	FL349	2:24	35.0N	30.5E	FL347	-55.0	2.1	FL348	-55.3	1.4	2:58				
THR-ATH	3/17/77	40	2:53	-55	FL350	0:11	34.2N	47.9E	FL338	-51.3	3.5	FL349	-51.6	2.8	2:09				
THR-ATH	3/31/77	36	2:25	-47	FL281	0:40	34.1N	42.8E	FL281	-40.3	3.8	FL280	-40.4	3.7	2:22				
THR-ATH	4/21/77	37	3:09	-57	FL350	0:45	34.1N	43.6E	FL347	-53.2	2.6	FL349	-53.5	2.2	2:59				
THR-ATH	6/10/77	34	2:24	-54	FL351	2:13	35.1N	26.8E	FL347	-45.2	6.1	FL350	-46.0	5.3	2:15				
THR-ATH	8/10/76	31	2:29	-42	FL370	0:34	34.1N	43.1E	FL349	-37.4	2.9	FL350	-38.0	.6	1:44				
THR-ATH	8/15/76	29	2:44	-40	FL351	0:29	34.1N	44.1E	FL347	-38.2	2.5	FL350	-38.9	.4	2:29				
THR-ATH	10/26/76	38	3:04	-55	FL350	1:59	34.9N	33.8E	FL348	-51.9	2.5	FL349	-52.3	1.4	2:59				
THR-ATH	11/ 5/76	34	2:51	-57	FL350	2:41	35.6N	25.7E	FL346	-52.2	3.7	FL350	-53.1	1.4	2:36				
THR-BKK	2/23/77	63	5:00	-51	FL330	0:10	33.0N	54.9E	FL339	-45.7	2.3	FL329	-44.8	1.9	3:30	FL370	-48.5	1.0	1:09
THR-BKK	5/16/77	66	5:24	-47	FL330	2:04	28.5N	73.2E	FL323	-38.6	4.5	FL330	-39.5	4.5	4:19				
THR-BKK	6/11/77	66	5:26	-38	FL331	2:25	28.6N	76.3E	FL330	-35.9	1.5	FL331	-36.1	1.2	5:05				
THR-BKK	8/11/76	63	5:30	-35	FL330	5:10	16.3N	97.2E	FL322	-30.3	3.9	FL330	-32.1	1.2	4:24				
THR-BKK	8/16/76	65	5:29	-37	FL330	5:29	14.8N	98.8E	FL314	-29.5	5.5	FL290	-23.2	1.5	2:04	FL329	-33.9	1.5	3:09
THR-BKK	9/14/78	66	5:32	-50	FL370	5:07	17.0N	96.3E	FL338	-39.8	9.9	FL290	-27.6	.5	2:09	FL370	-48.0	1.0	3:13
THR-BKK	10/27/76	62	5:19	-46	FL330	1:39	28.6N	68.9E	FL318	-40.1	2.9	FL290	-39.4	.5	1:25	FL330	-40.4	3.2	3:34
THR-BKK	11/ 2/78	62	5:04	-51	FL370	2:53	25.6N	83.1E	FL353	-47.3	3.1	FL330	-44.4	2.4	1:51	FL369	-49.4	.7	3:00
THR-BKK	11/ 6/76	61	5:14	-43	FL330	2:14	28.5N	75.4E	FL313	-37.3	2.7	FL290	-35.0	1.8	2:04	FL329	-39.0	1.9	3:04
THR-BKK	12/ 6/76	59	5:10	-53	FL330	0:24	31.7N	57.2E	FL328	-43.3	4.9	FL329	-43.5	4.5	4:55				
THR-BOM	7/30/78	36	2:50	-45	FL370	2:25	23.5N	70.9E	FL365	-41.7	4.5	FL370	-43.0	1.1	2:34				
THR-BOM	8/31/78	33	2:42	-56	FL370	0:49	30.5N	59.2E	FL367	-53.0	3.4	FL370	-53.8	1.3	2:32				
THR-BOM	11/25/78	31	2:35	-57	FL370	0:15	33.2N	54.4E	FL365	-53.9	3.1	FL369	-54.6	1.6	2:20				
THR-BOM	12/17/78	29	2:33	-58	FL368	0:07	33.6N	53.6E	FL365	-53.1	4.3	FL370	-54.1	2.6	2:21				
THR-BOM	12/23/78	31	2:39	-54	FL370	0:39	31.5N	57.6E	FL364	-48.6	3.0	FL369	-49.0	2.6	2:19				
THR-DEL	1/ 6/77	30	2:19	-56	FL331	0:27	32.5N	55.7E	FL329	-50.3	2.7	FL330	-50.3	2.7	2:07				
THR-DEL	3/23/76	29	2:20	-60	FL371	0:09	33.6N	53.7E	FL368	-56.1	2.8	FL371	-56.5	1.9	2:10				
THR-DEL	3/25/75	29	2:20	-55	FL330	0:15	33.0N	54.9E	FL329	-52.6	1.9	FL330	-52.9	.9	2:15				
THR-DEL	3/28/77	32	2:35	-58	FL371	1:30	29.1N	65.0E	FL363	-53.8	5.3	FL370	-55.1	2.0	2:20				
THR-DEL	4/ 5/77	29	2:19	-56	FL370	2:19	28.5N	74.5E	FL365	-53.1	3.1	FL370	-53.9	1.0	2:04				
THR-DEL	5/20/77	31	2:27	-47	FL331	0:05	34.3N	53.0E	FL330	-45.6	1.8	FL330	-45.8	1.1	2:22				
THR-DEL	5/23/78	29	2:19	-48	FL370	0:35	30.9N	58.6E	FL365	-45.5	3.5	FL370	-46.8	1.1	2:03				
THR-DEL	5/30/79	28	2:15	-47	FL331	0:09	33.0N	54.9E	FL326	-44.0	3.9	FL330	-45.0	1.2	2:00				
THR-DEL	8/17/76	34	2:19	-40	FL370	1:57	28.4N	71.2E	FL367	-38.1	2.9	FL369	-38.8	.5	0:00				
THR-DEL	9/ 6/78	30	2:24	-36	FL330	0:09	33.3N	54.3E	FL329	-34.8	1.6	FL330	-35.1	.6	2:15				
THR-DEL	10/11/77	25	2:09	-47	FL331	0:09	33.1N	54.7E	FL329	-42.9	2.6	FL331	-43.0	2.7	2:00				
THR-DEL	10/16/76	28	2:19	-57	FL370	0:15	33.2N	54.5E	FL364	-51.1	4.8	FL369	-51.8	3.5	2:04				

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
THR-DEL	10/19/77	31	2:29	-45	FL330	2:10	28.5N	73.1E	FL325	-41.6	2.7	FL330	-42.3	1.4	2:09				
THR-DEL	10/24/77	25	2:20	-43	FL329	0:10	32.9N	54.9E	FL327	-40.9	2.2	FL330	-41.6	1.2	2:05				
THR-DEL	12/ 7/78	30	2:25	-43	FL291	0:05	34.1N	53.1E	FL289	-40.0	1.3	FL290	-40.1	1.2	2:20				
THR-DEL	12/20/76	30	2:24	-65	FL370	0:35	31.4N	57.8E	FL368	-61.3	3.1	FL369	-61.4	2.8	2:15				
THR-DEL	12/26/78	31	2:21	-54	FL330	0:05	34.1N	53.1E	FL329	-48.9	2.0	FL330	-49.2	1.5	2:15				
THR-FRA	2/24/77	40	4:39	-59	FL350	4:36	48.8N	12.1E	FL347	-54.5	2.2	FL350	-55.0	1.4	4:22				
THR-FRA	3/25/77	46	4:04	-53	FL311	3:24	45.6N	17.4E	FL309	-50.1	2.1	FL310	-50.3	1.5	3:54				
THR-FRA	4/ 1/77	60	4:02	-61	FL350	0:19	37.4N	46.2E	FL322	-51.0	5.4	FL310	-47.8	1.7	2:52				
THR-FRA	4/ 9/77	22	1:45	-50	FL310	0:04	36.8N	48.2E	FL309	-48.9	1.3	FL310	-49.1	.7	1:40				
THR-FRA	4/20/77	56	4:37	-58	FL351	2:49	42.3N	25.4E	FL356	-53.6	3.4	FL352	-54.8	1.7	3:15				
THR-FRA	5/21/77	49	4:03	-63	FL387	2:58	43.7N	21.6E	FL357	-53.2	4.4	FL349	-52.8	1.4	2:39	FL390	-57.0	4.6	1:05
THR-FRA	5/21/78	53	4:19	-59	FL350	3:30	45.1N	18.7E	FL331	-50.8	7.6	FL350	-55.1	3.2	2:59				
THR-FRA	6/ 5/78	51	4:11	-58	FL350	2:04	40.4N	30.5E	FL347	-53.4	5.8	FL350	-54.2	4.5	3:56				
THR-FRA	6/24/77	41	3:22	-56	FL351	3:09	47.9N	14.5E	FL340	-43.7	8.8	FL350	-46.3	6.4	2:42				
THR-FRA	6/24/78	50	4:08	-58	FL357	3:46	47.2N	15.3E	FL348	-47.1	8.4	FL351	-47.7	6.6	3:29				
THR-FRA	7/ 8/78	51	4:09	-48	FL350	3:19	45.2N	18.9E	FL346	-41.9	3.9	FL349	-42.6	2.1	3:49				
THR-FRA	7/29/77	52	4:22	-50	FL351	3:53	47.0N	15.4E	FL348	-43.4	4.7	FL350	-43.9	4.1	4:08				
THR-FRA	8/14/76	46	3:33	-53	FL350	2:52	45.3N	18.6E	FL329	-40.9	8.9	FL309	-34.1	5.0	1:31	FL350	-51.3	1.6	1:10
THR-FRA	8/28/77	49	4:08	-61	FL390	3:29	45.7N	17.1E	FL356	-48.2	7.2	FL350	-46.8	3.8	2:59				
THR-FRA	9/ 7/76	52	4:16	-52	FL350	4:11	48.8N	12.4E	FL348	-42.3	5.1	FL350	-42.9	4.5	4:01				
THR-FRA	10/ 9/77	33	2:45	-64	FL390	2:39	48.6N	13.0E	FL371	-53.6	6.9	FL390	-56.6	3.1	2:04				
THR-FRA	10/16/78	45	4:04	-58	FL350	0:09	37.0N	47.3E	FL348	-56.7	2.5	FL350	-57.2	.7	3:49				
THR-FRA	10/28/77	46	3:38	-57	FL347	0:36	38.3N	43.8E	FL345	-55.9	2.3	FL346	-56.3	.8	0:00				
THR-FRA	10/30/78	45	3:55	-47	FL280	2:05	40.8N	29.1E	FL280	-42.2	2.3	FL280	-42.3	2.3	3:50				
THR-FRA	11/24/77	57	3:40	-60	FL385	1:42	40.1N	32.3E	FL370	-55.4	2.7	FL350	-55.5	1.0	1:30	FL390	-55.9	2.2	1:54
THR-FRA	12/31/76	54	4:17	-64	FL350	1:44	40.0N	33.1E	FL347	-59.5	3.3	FL350	-60.0	2.5	4:02				
THR-IST	1/ 7/79	29	2:24	-59	FL350	1:14	40.0N	41.2E	FL323	-53.6	3.3								
THR-IST	1/24/76	21	2:07	-56	FL310	1:22	39.0N	37.4E	FL309	-53.0	2.2	FL310	-53.4	1.6	2:02				
THR-IST	2/25/79	49	2:23	-53	FL352	0:34	37.6N	45.3E	FL367	-50.5	1.2	FL350	-51.6	.7	1:34				
THR-IST	3/17/79	25	2:00	-48	FL310	1:20	39.8N	36.9E	FL310	-46.5	.8	FL309	-46.5	.8	2:00				
THR-IST	3/20/76	23	1:55	-61	FL351	0:15	37.1N	47.0E	FL342	-54.0	4.9	FL351	-55.1	4.0	1:34				
THR-IST	7/31/78	25	1:59	-48	FL391	0:19	37.4N	46.2E	FL378	-44.5	6.9	FL390	-47.7	.5	1:34				
THR-IST	8/19/78	28	2:22	-55	FL391	0:31	37.7N	45.1E	FL383	-52.1	6.0	FL390	-53.6	.8	2:07				
THR-IST	9/ 1/78	31	2:28	-58	FL391	0:15	36.9N	47.7E	FL381	-55.8	4.4	FL391	-57.4	.6	2:09				
THR-IST	11/23/78	25	2:04	-52	FL310	0:39	38.3N	43.7E	FL308	-50.3	1.7	FL309	-50.8	.7	1:50				
THR-IST	11/26/78	22	1:54	-60	FL350	0:49	39.3N	42.2E	FL325	-54.0	6.0	FL350	-58.5	.9	1:09				
THR-IST	11/29/78	30	2:22	-61	FL350	0:58	39.0N	42.6E	FL344	-58.0	2.5	FL349	-58.9	1.0	2:02				
THR-IST	12/18/78	29	2:27	-60	FL351	0:50	38.6N	43.2E	FL345	-55.6	4.2	FL350	-56.6	2.8	2:11				
THR-IST	12/24/78	29	2:15	-62	FL363	1:39	39.9N	35.4E	FL353	-56.4	3.7	FL350	-57.4	1.3	1:30				
THR-KHI	3/16/79	19	1:30	-40	FL291	0:05	34.0N	53.3E	FL290	-36.9	2.3	FL290	-37.0	2.3	1:24				
THR-KHI	6/25/77	20	1:35	-34	FL331	1:00	29.1N	61.5E	FL327	-32.5	2.2	FL330	-33.1	.5	1:25				
THR-KHI	8/18/78	23	1:55	-50	FL370	1:40	26.4N	65.4E	FL361	-46.4	6.5	FL370	-48.8	.5	1:39				
THR-KHI	8/24/77	17	1:30	-45	FL371	0:45	30.2N	59.8E	FL364	-42.2	4.5	FL370	-43.6	.6	1:15				
THR-KHI	9/11/77	17	1:34	-36	FL331	0:34	31.2N	58.1E	FL321	-32.9	4.3	FL331	-35.0	.4	1:09				
THR-KHI	11/22/78	19	1:30	-58	FL371	0:54	29.5N	60.9E	FL356	-53.1	5.4	FL370	-55.8	2.2	1:04				
THR-KHI	12/20/78	21	1:37	-58	FL365	0:07	33.6N	53.7E	FL358	-49.8	4.8	FL369	-50.8	2.4	1:20				
VIE-BAH	4/28/77	54	4:25	-55	FL331	1:50	39.3N	35.7E	FL329	-49.8	4.3	FL331	-50.7	3.2	4:00				
VIE-BAH	9/30/76	46	3:40	-52	FL330	0:08	46.4N	21.1E	FL329	-45.8	3.3	FL330	-45.9	3.3	0:00				
YQX-JFK	1/ 8/79	25	2:04	-61	FL350	0:10	47.6N	57.2W	FL344	-56.4	4.7	FL350	-57.8	1.8	1:49				
YVR-HND	10/ 6/77	106	9:24	-55	FL351	2:56	44.7N	157.1W	FL356	-51.6	3.4	FL331	-49.2	.4	1:54	FL351	-52.2	1.4	2:28
												FL370	-54.1	1.1	1:35	FL390	-53.5	.6	2:09
YVR-SFO	1/16/78	14	1:04	-49	FL304	0:00	47.8N	123.1W	FL359	-41.4	3.1								
YVR-SFO	2/27/78	13	1:04	-51	FL295	0:00	47.5N	123.4W	FL360	-49.5	1.0								

APPENDIX B

FLIGHT SUMMARY

FLIGHT DATA				COLDEST OBSERVATION					MEAN			FLIGHT SEGMENTS							
ROUTE	MO/DY/YR	OBS	ETIM	T	FL	ETIM	LAT	LONG	FL	T	SD	FL	T	SD	ETIM	FL	T	SD	ETIM
YVR-SFO	4/11/77	14	1:04	-62	FL370	0:25	44.4N	122.8W	FL361	-59.6	3.9								
YVR-SFO	9/19/77	13	1:00	-61	FL370	0:08	46.6N	122.9W	FL363	-54.9	5.1								
YYZ-ORD	12/29/78	30	1:22	-63	FL386	0:15	43.1N	83.3W	FL313	-52.0	6.4								

APPENDIX C

Static Air Temperature Climatology

The grid used to present the temperature climatology consists of 5^{o} latitude, 30^{o} longitude and 2000 feet vertical resolution. Climatologies are presented from FL270 to FL430 for each month of the year. The mean and standard deviation for the N statistically independent temperature observations are given for each grid box. In addition, the empirical 98, 50, 16, 2 and .3 probability percentiles are presented where the numbers presented represent the temperature for which the probability is X% that the temperature will be colder than the given member. All tabulated temperatures are given in tenths of degrees celsius (10 * ^{o}C).

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-445 5 -450 2 -440 -445 -448 -450			-418 31 -489 12 -382 -405 -452 -483			
30	-402 29 -440 6 -361 -410 -424 -438			-350 57 -400 3 -274 -380 -394 -399			
20	-362 33 -419 9 -320 -370 -390 -415	-350 17 -370 5 -322 -350 -364 -369		-250 1			
10	-315 15 -330 2 -301 -315 -325 -329	-320 1	-235 31 -290 8 -201 -225 -275 -289	-240 1			-272 38 -358 38 -215 -270 -311 -345
0		-275 18 -300 4 -251 -275 -290 -299	-270 1	-230 1			-254 29 -319 11 -214 -240 -280 -312
10				-225 25 -250 2 -201 -225 -242 -249			
20			-236 16 -260 5 -220 -230 -254 -259				
30			-230 10 -240 2 -220 -230 -237 -240				
40 S							

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60					-470 1			-470 1	60
50	-450 1		-420 1	-430 1 -410 1	-490 59 -589 10 -387 -495 -546 -583	-470 46 -559 9 -405 -450 -507 -552	-471 19 -500 7 -442 -470 -490 -499	-478 54 -588 20 -388 -485 -539 -579 -458 27 -500 10 -412 -460 -486 -498	50
40	-410 50 -460 2 -362 -410 -444 -458 -394 32 -468 53 -330 -390 -420 -460	-450 28 -490 5 -412 -460 -471 -488 -397 17 -420 3 -380 -390 -410 -419	-424 47 -517 54 -340 -440 -470 -500 -360 40 -400 2 -322 -360 -387 -398			-434 31 -480 10 -384 -435 -466 -478		-427 45 -516 71 -340 -440 -470 -500 -398 34 -486 72 -330 -400 -430 -466	40
30	-366 23 -390 9 -316 -370 -387 -390	-379 39 -458 35 -300 -380 -416 -446						-378 39 -457 53 -281 -380 -417 -440 -351 39 -419 15 -270 -350 -385 -412	30
20		-280 1						-268 40 -357 51 -200 -270 -310 -340 -258 27 -319 17 -216 -250 -280 -314	20
10		-285 15 -300 2 -271 -285 -295 -299	-260 15 -280 6 -240 -265 -272 -279 -265 9 -280 4 -260 -260 -270 -279					-258 26 -299 10 -207 -265 -276 -296 -265 9 -280 4 -260 -260 -270 -279	10
0								-236 16 -260 5 -220 -230 -254 -259 -230 10 -240 2 -220 -230 -237 -240	0
10									10
20				-245 21 -280 4 -230 -235 -261 -278				-218 24 -259 10 -182 -220 -240 -256 -240 22 -280 9 -203 -240 -257 -277	20
30								-270 9 -280 5 -260 -270 -280 -280 -284 28 -339 39 -230 -290 -310 -332	30
40 S								-303 25 -340 7 -271 -300 -330 -339	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-483 26 -520 3 -460 -470 -504 -518						
	-482 46 -560 10 -424 -465 -541 -558			-446 40 -519 16 -358 -445 -476 -514			
30	-453 32 -490 8 -401 -465 -480 -489			-420 1			
	-402 27 -450 9 -362 -410 -424 -447	-403 5 -410 3 -400 -400 -407 -410				-270 1	
20	-362 28 -390 5 -314 -370 -384 -389	-332 25 -370 5 -302 -320 -357 -368	-303 29 -350 4 -271 -295 -326 -347			-311 45 -408 27 -246 -300 -360 -400	
		-305 14 -320 6 -282 -305 -320 -320		-250 1		-285 27 -358 14 -260 -275 -309 -347	
10		-302 12 -320 6 -282 -300 -312 -319	-300 24 -330 3 -271 -300 -320 -329	-290 1		-259 12 -270 8 -240 -260 -270 -270	
		-293 17 -310 3 -271 -300 -307 -310				-250 12 -260 4 -231 -255 -260 -260	
0			-290 17 -310 6 -262 -290 -310 -310			-240 -240 2 -240 -240 -240 -240	
			-280 6 -290 6 -271 -280 -282 -289			-240 1	
10			-285 5 -290 6 -280 -285 -290 -290				
			-277 5 -280 3 -270 -280 -280 -280	-280 1			
20			-300 1	-280 1	-278 23 -320 6 -251 -275 -296 -317	-290 1	
	-300 1		-295 15 -310 2 -281 -295 -305 -309		-315 55 -370 2 -262 -315 -352 -368		
30	-250 1		-315 5 -320 2 -310 -315 -318 -320		-357 33 -380 3 -313 -380 -380 -380		
			-320 1	-338 45 -400 6 -281 -335 -392 -399	-315 31 -379 20 -280 -310 -359 -372		
40 S				-337 32 -399 14 -300 -335 -370 -395	-370 37 -400 4 -314 -385 -400 -400		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN LAT
70 N								70 N
60					-620 1		-620 1	60
50	-467 17 -490 3 -450 -460 -480 -489	-460 1	-490 1		-525 50 -590 11 -452 -520 -574 -588	-489 40 -569 13 -435 -470 -531 -563	-506 48 -589 24 -439 -495 -570 -585	50
40	-450 30 -480 5 -403 -450 -480 -480	-463 28 -510 12 -422 -465 -487 -510	-473 38 -539 50 -400 -480 -510 -530			-510 36 -559 20 -430 -515 -540 -556	-502 37 -559 25 -430 -510 -540 -555	40
30	-436 37 -499 35 -357 -440 -470 -493	-439 33 -500 13 -385 -440 -462 -498	-440 1			-488 41 -559 19 -440 -490 -531 -553	-474 38 -555 89 -400 -480 -510 -540	30
20	-440 25 -470 4 -402 -445 -460 -469	-422 42 -520 29 -347 -420 -455 -520				-453 19 -480 3 -440 -440 -467 -478	-445 40 -558 78 -355 -445 -480 -539	20
10	-280 1	-370 20 -390 2 -351 -370 -384 -389				-460 20 -480 2 -441 -460 -474 -479	-431 40 -520 44 -356 -430 -470 -520	10
0		-280 1					-383 47 -449 16 -273 -400 -410 -444	0
10		-325 5 -330 2 -320 -325 -328 -330					-318 43 -408 42 -255 -310 -370 -394	10
20		-300 16 -320 3 -281 -300 -314 -319	-322 20 -350 5 -292 -330 -337 -348				-292 27 -358 23 -254 -290 -320 -347	20
30			-316 14 -330 5 -292 -320 -324 -329				-292 28 -348 26 -240 -295 -320 -340	30
40 S							-288 32 -330 12 -234 -295 -320 -328	40S
							-278 26 -310 8 -240 -285 -308 -310	
							-274 15 -290 7 -244 -280 -280 -289	
							-285 5 -290 6 -280 -285 -290 -290	
							-278 4 -280 4 -271 -280 -280 -280	
							-282 20 -320 9 -252 -280 -297 -317	
				-310 1			-305 34 -369 6 -262 -305 -322 -364	
							-325 45 -380 6 -256 -315 -380 -380	
							-321 35 -399 27 -280 -320 -360 -395	
							-344 36 -400 18 -300 -340 -386 -400	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-540 10 -550 2 -530 -540 -547 -550				-500 10 -510 2 -490 -500 -507 -510		
30	-532 26 -570 14 -475 -540 -549 -567			-480 38 -540 17 -423 -490 -510 -540	-510 1		
20	-497 30 -559 12 -460 -490 -530 -553			-425 58 -480 6 -341 -450 -480 -480			
10	-473 27 -520 18 -433 -465 -503 -520	-451 21 -490 7 -422 -450 -471 -488		-378 35 -439 5 -342 -360 -408 -436		-380 1	
0	-383 26 -410 6 -342 -390 -410 -410	-374 21 -400 5 -350 -380 -394 -399	-345 26 -399 13 -302 -340 -370 -393	-367 9 -380 3 -360 -360 -374 -379		-354 42 -430 39 -290 -350 -410 -430	
10		-358 15 -380 13 -332 -360 -371 -380	-341 6 -350 7 -331 -340 -350 -350	-340 1		-344 32 -419 10 -302 -335 -366 -411	
20		-330 -330 2 -330 -330 -330 -330	-357 17 -380 3 -340 -350 -370 -379	-310 1		-329 25 -407 16 -300 -325 -340 -392	
30		-339 9 -350 8 -330 -335 -350 -350	-330 10 -340 2 -320 -330 -337 -340			-316 16 -340 19 -284 -320 -330 -340	
40 S			-338 12 -350 10 -320 -340 -350 -350			-311 17 -340 14 -290 -310 -329 -340	
						-313 11 -330 14 -293 -310 -320 -330	
			-360 1		-323 13 -340 4 -310 -320 -335 -339	-318 9 -330 6 -310 -315 -330 -330	
			-355 5 -360 2 -350 -355 -358 -360	-320 1	-330 10 -340 2 -320 -330 -337 -340	-305 5 -310 2 -300 -305 -308 -310	
			-350 1	-317 5 -320 3 -310 -320 -320 -320	-313 31 -369 11 -270 -310 -344 -366	-340 1	
	-347 19 -360 3 -322 -360 -360 -360	-335 5 -340 2 -330 -335 -338 -340		-333 19 -360 4 -311 -330 -350 -359	-337 38 -390 3 -310 -310 -364 -387		
	-340 20 -360 2 -321 -340 -354 -359	-360 1		-364 31 -419 7 -321 -370 -382 -415	-300 22 -320 3 -272 -310 -317 -320		
			-380 22 -410 3 -360 -370 -397 -408	-382 28 -429 18 -330 -390 -400 -427	-366 28 -429 14 -325 -365 -389 -425		
				-400 29 -430 9 -338 -400 -427 -430	-387 32 -430 11 -326 -380 -420 -428		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-560 1	-549 36 -600 11 -494 -560 -590 -598			-550 34 -600 12 -494 -560 -590 -598	60
	-500 50 -569 3 -460 -470 -538 -566			-525 15 -540 2 -511 -525 -535 -539	-542 38 -618 18 -483 -550 -573 -610	-544 53 -600 9 -463 -570 -597 -600		-538 45 -618 32 -460 -545 -590 -608	
50	-507 47 -570 7 -428 -500 -560 -569	-538 8 -550 4 -530 -535 -545 -549	-470 1	-473 45 -559 11 -422 -460 -528 -556	-512 44 -579 9 -452 -520 -550 -575	-533 29 -570 4 -501 -530 -560 -569		-503 47 -579 36 -420 -505 -550 -573	50
	-486 20 -520 5 -462 -480 -501 -518	-505 16 -530 17 -473 -510 -520 -527	-491 43 -560 53 -420 -500 -540 -560	-470 30 -500 2 -441 -470 -490 -499		-517 28 -560 6 -490 -505 -552 -559		-496 37 -560 87 -420 -500 -532 -560	
40	-477 38 -539 41 -390 -480 -510 -532	-480 46 -559 22 -400 -485 -526 -552	-515 5 -520 2 -510 -515 -518 -520					-487 43 -567 97 -399 -490 -536 -560	40
	-455 33 -519 22 -404 -470 -480 -512	-464 46 -539 24 -369 -470 -506 -535						-463 45 -556 64 -353 -470 -500 -537	
30	-430 57 -480 8 -307 -450 -469 -479	-380 1						-444 49 -520 40 -329 -450 -488 -520	30
	-430 -430 2 -430 -430 -430 -430	-350 1						-359 39 -430 69 -294 -360 -410 -430	
20		-370 1	-380 1					-351 22 -416 33 -306 -350 -370 -394	20
		-370 1	-356 22 -380 8 -314 -360 -379 -380					-339 27 -407 31 -300 -340 -370 -392	
10			-350 -350 2 -350 -350 -350 -350	-360 1				-326 19 -359 32 -266 -330 -350 -354	10
				-340 -340 2 -340 -340 -340 -340				-323 20 -350 26 -290 -325 -350 -350	
0				-320 -320 2 -320 -320 -320 -320				-314 11 -330 16 -293 -315 -320 -330	0
				-330 -330 2 -330 -330 -330 -330				-325 14 -359 13 -310 -330 -331 -355	
10				-325 5 -330 2 -320 -325 -328 -330				-328 18 -360 9 -302 -320 -347 -358	10
				-354 16 -380 5 -332 -350 -367 -378				-326 30 -379 21 -270 -330 -350 -376	
20				-330 1				-337 24 -389 13 -310 -330 -360 -383	20
								-345 37 -419 13 -280 -360 -371 -410	
30								-376 29 -430 35 -327 -370 -400 -430	30
								-393 32 -430 20 -324 -400 -420 -430	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-493 17 -510 3 -471 -500 -507 -510	
50					-494 39 -550 7 -442 -480 -540 -549	-533 50 -590 7 -440 -550 -580 -589	
					-520 30 -560 8 -473 -525 -549 -559		
40	-584 14 -600 5 -562 -590 -594 -599			-510 32 -569 5 -481 -500 -532 -565	-533 45 -600 9 -462 -540 -574 -597	-560 10 -570 2 -550 -560 -567 -570	
	-556 38 -619 22 -484 -560 -586 -616			-507 57 -589 26 -390 -505 -560 -585	-470 75 -608 11 -346 -480 -530 -600		
30	-533 17 -560 13 -510 -530 -551 -560			-440 60 -520 8 -363 -445 -506 -519	-425 15 -440 2 -411 -425 -435 -439		
	-493 16 -510 8 -463 -490 -510 -510	-501 24 -540 10 -470 -505 -526 -538		-394 43 -480 9 -352 -380 -443 -477		-428 44 -480 10 -380 -420 -480 -480	
20	-417 26 -440 3 -382 -430 -437 -440	-433 32 -489 9 -390 -440 -457 -485	-394 25 -440 12 -362 -385 -417 -440	-400 29 -440 3 -371 -390 -424 -438	-360 9 -370 5 -350 -360 -370 -370	-401 44 -518 51 -330 -390 -450 -510	
		-420 30 -470 7 -390 -400 -451 -468	-383 4 -390 4 -360 -380 -385 -389	-373 5 -380 3 -370 -370 -377 -380		-400 -400 2 -400 -400 -400 -400	
10		-402 19 -430 6 -380 -400 -422 -429	-395 15 -410 2 -381 -395 -405 -409	-380 -380 2 -380 -380 -380 -380		-400 -400 2 -400 -400 -400 -400	
		-390 13 -400 7 -370 -400 -400 -400	-385 9 -400 4 -360 -380 -390 -399	-380 -380 3 -360 -380 -380 -380		-375 17 -390 4 -351 -380 -390 -390	
0		-392 9 -400 6 -380 -395 -400 -400	-383 17 -419 6 -370 -380 -388 -416	-378 4 -380 4 -371 -380 -380 -380		-368 23 -400 6 -332 -375 -384 -398	
		-402 21 -430 6 -380 -395 -430 -430	-410 10 -420 2 -400 -410 -417 -420	-378 15 -400 4 -361 -375 -390 -399		-368 13 -390 12 -344 -365 -380 -388	
10		-430 1	-396 21 -430 10 -370 -395 -420 -428	-367 5 -370 3 -360 -370 -370 -370	-360 8 -370 3 -350 -360 -367 -370	-364 13 -389 19 -344 -360 -380 -386	
			-383 26 -420 11 -350 -380 -414 -420	-375 5 -380 2 -370 -375 -378 -380	-368 15 -400 14 -350 -365 -380 -397	-371 10 -390 13 -360 -370 -380 -388	
20			-388 25 -410 6 -351 -400 -410 -410	-370 9 -380 5 -360 -370 -380 -360	-371 25 -429 29 -331 -370 -390 -424	-390 1	
	-393 8 -400 4 -381 -395 -400 -400		-395 21 -410 4 -362 -405 -410 -410	-388 25 -449 12 -360 -385 -402 -441	-379 39 -457 34 -317 -390 -420 -440		
30	-380 1	-435 5 -440 4 -430 -435 -440 -440	-420 19 -450 7 -400 -410 -440 -449	-408 25 -459 12 -372 -410 -425 -456	-392 46 -478 33 -290 -390 -439 -467		
			-414 16 -449 10 -400 -410 -426 -446	-428 31 -490 12 -384 -425 -457 -488	-416 30 -488 39 -360 -420 -440 -475		
40 S				-441 29 -470 9 -385 -460 -460 -468	-443 31 -489 29 -360 -450 -470 -484		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-550 1	-577 17 -600 3 -560 -570 -590 -599	-567 5 -570 3 -560 -570 -570 -570	-560 1			-568 14 -599 8 -551 -565 -570 -596	70 N
		-565 15 -580 2 -551 -565 -575 -579		-548 33 -599 4 -512 -540 -571 -596	-555 30 -590 4 -521 -555 -585 -589			-554 30 -600 10 -512 -545 -586 -598	
60		-540 1	-580 1	-574 50 -630 17 -493 -590 -624 -630	-623 55 -690 18 -523 -625 -680 -690			-589 62 -690 40 -486 -600 -640 -690	60
	-503 25 -530 3 -472 -510 -524 -529	-530 43 -570 4 -464 -545 -565 -569	-490 10 -500 2 -480 -490 -497 -500	-571 46 -639 18 -483 -590 -613 -637	-592 44 -659 27 -505 -590 -650 -655	-580 30 -629 4 -551 -570 -601 -626		-561 55 -658 72 -448 -565 -616 -650	
50	-539 34 -570 7 -468 -550 -560 -569	-515 65 -580 2 -453 -515 -559 -577	-534 34 -599 13 -485 -520 -571 -595	-553 40 -620 15 -477 -550 -588 -620	-583 30 -620 4 -542 -586 -610 -619	-587 21 -629 11 -560 -580 -604 -626		-550 42 -628 60 -460 -550 -596 -620	50
	-550 20 -580 5 -522 -550 -567 -578	-529 30 -570 16 -476 -535 -560 -570	-523 35 -615 55 -460 -520 -554 -589	-530 14 -540 6 -503 -535 -540 -540	-550 1	-568 25 -609 12 -524 -570 -590 -606		-534 37 -617 116 -460 -540 -570 -600	
40	-513 41 -588 64 -400 -520 -550 -580	-498 47 -579 32 -389 -500 -540 -574	-500 49 -560 3 -442 -500 -541 -558			-590 1		-513 53 -615 159 -370 -520 -560 -607	40
	-496 48 -560 51 -380 -510 -530 -560	-506 45 -579 18 -417 -500 -553 -577						-497 51 -577 92 -380 -510 -540 -562	
30	-465 53 -560 35 -380 -470 -510 -560	-450 36 -520 13 -410 -440 -501 -518						-458 53 -560 85 -367 -470 -510 -553	30
	-445 55 -539 4 -410 -415 -482 -533	-431 23 -480 14 -403 -420 -459 -477						-408 42 -534 101 -340 -400 -450 -510	
20		-432 15 -460 10 -412 -430 -446 -458	-420 1					-412 28 -469 27 -370 -410 -440 -465	20
		-420 13 -440 5 -410 -410 -434 -439	-418 19 -440 6 -391 -420 -440 -440					-407 20 -440 23 -380 -410 -430 -440	
10			-405 11 -420 4 -391 -405 -415 -419	-370 1				-387 15 -419 23 -359 -390 -400 -416	10
			-398 15 -410 5 -380 -410 -410 -410					-384 19 -419 27 -340 -380 -400 -415	
0			-387 9 -400 3 -380 -380 -394 -399					-382 22 -430 27 -350 -380 -400 -430	0
			-400 1					-375 23 -430 37 -347 -370 -400 -430	
10								-373 18 -420 40 -350 -370 -390 -420	10
				-390 1				-374 24 -429 42 -336 -375 -394 -422	
20								-384 34 -458 54 -320 -390 -415 -449	20
								-402 40 -477 57 -295 -410 -440 -460	
30								-418 29 -490 61 -360 -420 -440 -488	30
								-443 31 -489 38 -360 -450 -470 -483	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-480 22 -510 3 -460 -470 -497 -508	
50					-505 70 -599 4 -422 -500 -571 -596	-550 59 -610 5 -456 -550 -610 -610	
40	-600 31 -640 6 -552 -610 -624 -638			-510 71 -609 3 -451 -470 -565 -604	-531 51 -639 7 -481 -510 -563 -630		
30	-590 31 -640 20 -531 -595 -610 -640			-516 62 -610 16 -423 -530 -576 -607	-498 64 -638 6 -460 -475 -512 -624	-460 10 -470 2 -450 -460 -467 -470	
20	-562 29 -600 13 -500 -570 -581 -598			-452 49 -510 6 -376 -445 -510 -510	-430 8 -440 3 -420 -430 -437 -440		
10	-533 38 -560 3 -483 -560 -560 -560	-529 40 -589 10 -457 -540 -566 -586		-442 38 -480 5 -376 -450 -467 -478	-421 20 -459 10 -392 -425 -436 -456	-423 5 -430 3 -420 -420 -427 -430	
0	-490 17 -510 5 -470 -500 -504 -509	-507 38 -589 6 -480 -495 -518 -581	-435 31 -509 12 -392 -435 -455 -501		-428 4 -430 4 -421 -430 -430 -430	-476 60 -598 34 -396 -455 -554 -587	
10	-440 1	-466 17 -490 10 -440 -470 -486 -490	-460 26 -509 6 -431 -455 -478 -506	-420 1	-415 5 -420 6 -410 -415 -420 -420	-443 43 -567 92 -378 -430 -480 -552	
20		-449 12 -470 8 -431 -450 -459 -469	-440 -440 -440 2 -440 -440 -440 -440	-425 5 -430 2 -420 -425 -428 -430		-427 11 -440 6 -411 -425 -440 -440	
30		-444 10 -460 8 -430 -445 -450 -459	-433 5 -440 3 -430 -430 -437 -440	-423 5 -430 3 -420 -420 -427 -430		-420 1	
40		-450 10 -460 4 -440 -450 -460 -460	-435 13 -460 6 -421 -430 -444 -458	-423 11 -440 4 -411 -420 -430 -439		-426 8 -440 5 -420 -420 -434 -439	
50		-430 24 -460 5 -392 -440 -447 -458	-424 10 -430 9 -403 -430 -430 -430	-418 4 -420 4 -411 -420 -420 -420		-424 8 -440 10 -412 -420 -430 -438	
60			-420 8 -430 13 -402 -420 -430 -430	-417 5 -420 3 -410 -420 -420 -420	-420 16 -440 3 -401 -420 -434 -439	-422 12 -440 11 -396 -420 -430 -438	
70 N			-413 10 -420 8 -393 -415 -420 -420	-414 7 -420 8 -401 -415 -420 -420	-424 16 -450 17 -400 -420 -440 -450	-425 20 -470 13 -400 -420 -432 -468	
			-400 7 -410 4 -391 -400 -405 -409	-417 10 -430 12 -400 -420 -430 -430	-434 24 -470 25 -385 -430 -460 -470	-419 15 -440 7 -400 -420 -430 -439	
			-413 4 -420 4 -410 -410 -415 -419	-417 17 -440 6 -400 -410 -440 -440	-433 34 -490 38 -380 -430 -471 -490	-425 5 -430 2 -420 -425 -428 -430	
			-418 13 -440 6 -401 -415 -432 -439	-438 31 -480 6 -402 -425 -480 -480	-441 35 -490 35 -380 -440 -480 -490	-420 -420 2 -420 -420 -420 -420	
			-445 21 -480 6 -420 -445 -464 -478	-466 28 -500 16 -410 -470 -496 -500	-459 38 -529 36 -387 -460 -494 -523		
40 S				-481 25 -519 18 -430 -490 -503 -517	-479 29 -529 19 -434 -470 -510 -526		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-503 76 -620 6 -441 -455 -604 -618							-503 76 -620 6 -441 -455 -604 -618	70 N
60	-525 80 -630 8 -431 -515 -609 -627	-552 66 -640 9 -455 -580 -620 -637			-630 1			-544 75 -639 18 -433 -575 -623 -637	60
		-557 57 -659 20 -464 -565 -620 -652	-565 48 -620 6 -500 -580 -612 -619	-573 55 -658 15 -480 -570 -620 -649	-596 43 -659 13 -522 -610 -640 -655			-567 57 -660 57 -461 -570 -620 -660	
50	-521 62 -610 8 -460 -500 -590 -607	-583 41 -640 12 -512 -585 -632 -640	-569 41 -639 21 -498 -570 -610 -636	-560 47 -639 8 -486 -555 -599 -634	-592 40 -670 19 -544 -580 -632 -670	-577 48 -659 9 -496 -590 -610 -652		-567 53 -670 86 -457 -570 -610 -663	50
	-534 62 -620 20 -440 -555 -590 -620	-555 50 -620 4 -484 -560 -596 -617	-566 43 -620 28 -485 -580 -610 -620	-586 32 -630 24 -540 -585 -623 -630	-613 22 -640 4 -582 -615 -630 -639	-591 62 -670 17 -480 -620 -640 -667		-568 54 -667 104 -440 -580 -620 -640	
40	-563 61 -648 28 -415 -590 -607 -634	-538 49 -600 26 -445 -560 -590 -600	-530 44 -610 84 -447 -530 -580 -603	-556 13 -570 7 -532 -560 -570 -570		-585 44 -640 24 -499 -595 -623 -640		-544 54 -644 186 -437 -550 -600 -640	40
	-547 49 -620 89 -400 -560 -590 -620	-552 49 -628 28 -442 -560 -600 -619	-500 65 -600 6 -431 -480 -576 -597			-557 69 -640 3 -474 -560 -614 -637		-543 58 -640 171 -404 -560 -600 -630	
30	-525 52 -600 107 -421 -530 -580 -600	-519 38 -580 17 -456 -510 -564 -577						-516 58 -600 155 -401 -530 -580 -600	30
	-495 54 -607 86 -400 -500 -550 -593	-499 23 -540 9 -463 -500 -517 -537						-492 55 -606 146 -400 -490 -550 -591	
20	-450 44 -539 25 -385 -450 -490 -535	-489 22 -530 10 -455 -480 -511 -528	-490 -490 2 -490 -490 -490 -490					-450 44 -581 158 -380 -440 -499 -549	20
	-452 7 -460 6 -441 -450 -460 -460	-483 17 -510 10 -454 -480 -501 -510	-478 18 -500 4 -460 -475 -495 -499					-461 25 -510 44 -419 -460 -490 -510	
10	-443 5 -450 6 -440 -440 -450 -450	-470 1	-467 15 -490 14 -443 -470 -480 -487	-435 5 -440 2 -430 -435 -438 -440				-452 18 -489 36 -420 -450 -474 -483	10
	-440 -440 3 -440 -440 -440 -440		-455 11 -470 4 -441 -455 -465 -469	-450 1				-439 13 -469 27 -420 -440 -450 -465	
0			-464 10 -480 5 -451 -460 -474 -479					-437 18 -479 29 -410 -430 -460 -474	0
			-467 5 -470 3 -480 -470 -470 -470	-465 5 -470 2 -460 -465 -468 -470				-430 20 -470 34 -390 -430 -454 -470	
10			-460 1	-460 10 -470 4 -450 -460 -470 -470				-427 19 -470 37 -400 -420 -450 -470	10
				-463 8 -470 4 -451 -465 -470 -470				-423 19 -470 44 -399 -420 -440 -470	
20				-470 -470 2 -470 -470 -470 -470				-427 23 -470 45 -389 -430 -460 -470	20
				-460 1				-430 31 -490 51 -380 -420 -470 -490	
30								-438 33 -490 47 -388 -430 -480 -490	30
								-460 34 -528 58 -391 -465 -490 -520	
40 S								-480 27 -529 37 -427 -480 -510 -523	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-551 54 -620 7 -466 -560 -610 -619	
50					-478 18 -500 4 -452 -480 -490 -499	-488 58 -627 24 -405 -470 -543 -612	
40					-514 41 -608 18 -440 -515 -550 -596	-511 56 -638 21 -410 -510 -558 -628	
30					-481 31 -520 12 -432 -480 -512 -520	-640 42 -670 3 -584 -670 -670 -670	
20				-475 5 -480 2 -470 -475 -478 -480	-516 61 -620 12 -434 -520 -580 -618	-585 63 -670 4 -512 -580 -646 -667	
10	-590 20 -610 2 -571 -590 -604 -609			-495 37 -550 15 -428 -490 -540 -547	-475 33 -584 41 -428 -470 -506 -550	-480 68 -580 6 -421 -440 -572 -579	
0	-565 17 -580 6 -533 -570 -580 -580			-472 12 -500 16 -453 -470 -480 -497	-459 14 -489 21 -434 -460 -470 -486	-440 1	
10	-571 10 -580 7 -552 -570 -580 -580	-551 35 -600 7 -495 -540 -590 -599		-479 16 -500 16 -453 -480 -496 -500	-470 1	-504 51 -610 36 -444 -490 -562 -610	
20	-580 1	-539 27 -580 12 -500 -540 -570 -578	-509 35 -569 7 -462 -500 -541 -566	-478 13 -490 4 -461 -480 -490 -490		-485 49 -608 71 -400 -480 -540 -592	
30		-513 33 -550 4 -480 -510 -545 -549	-524 13 -550 9 -510 -520 -537 -548			-463 13 -489 18 -440 -460 -473 -487	
40 S		-483 5 -490 3 -480 -480 -487 -490	-503 9 -510 3 -491 -510 -510 -510			-471 11 -489 23 -450 -470 -480 -486	
		-490 1	-498 13 -510 4 -481 -500 -510 -510			-475 13 -508 29 -456 -480 -490 -499	
			-497 9 -510 3 -490 -490 -504 -509			-476 14 -500 31 -446 -480 -490 -500	
						-473 15 -508 27 -445 -470 -490 -500	
				-460 1	-480 8 -490 3 -470 -480 -487 -490	-473 12 -490 14 -453 -480 -480 -490	
				-467 9 -480 3 -460 -460 -474 -479	-475 17 -490 6 -443 -480 -490 -490	-468 16 -480 5 -442 -480 -480 -480	
				-460 8 -470 3 -450 -460 -467 -470	-474 17 -490 8 -450 -480 -490 -490	-483 5 -490 3 -480 -480 -487 -490	
				-457 12 -470 3 -441 -460 -467 -470	-472 27 -510 9 -425 -470 -497 -508		
				-470 1	-494 36 -530 7 -440 -520 -520 -529		
				-496 31 -549 21 -434 -500 -520 -546	-515 13 -540 6 -501 -510 -524 -538		
				-528 31 -570 13 -460 -540 -552 -570	-517 46 -570 7 -445 -540 -560 -569		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-533 59 -600 4 -445 -545 -581 -598							-533 59 -600 4 -445 -545 -581 -598	70 N
	-558 61 -678 14 -455 -560 -590 -670	-617 52 -670 6 -520 -630 -654 -668						-569 63 -679 27 -455 -580 -637 -675	
60	-557 67 -660 11 -438 -570 -612 -660	-576 46 -610 7 -481 -600 -600 -609		-650 1	-530 10 -540 2 -520 -530 -537 -540			-520 69 -660 49 -410 -510 -593 -660	60
	-547 67 -650 6 -471 -530 -626 -647	-548 82 -659 6 -425 -560 -628 -656	-530 52 -600 5 -462 -550 -574 -597	-626 55 -689 24 -479 -645 -670 -685	-633 43 -699 31 -560 -640 -672 -694	-558 63 -640 5 -472 -580 -614 -637		-575 76 -697 116 -433 -570 -660 -690	
50	-576 76 -660 16 -435 -610 -646 -657		-578 44 -620 5 -506 -580 -620 -620	-630 28 -688 33 -566 -630 -659 -677	-633 39 -690 12 -572 -635 -680 -688	-566 20 -600 5 -542 -560 -581 -598		-593 68 -690 86 -437 -615 -650 -683	50
	-581 81 -670 24 -405 -605 -646 -670	-552 63 -678 69 -450 -540 -620 -663	-557 56 -648 54 -451 -560 -620 -639	-589 46 -640 9 -506 -620 -627 -638	-607 36 -650 10 -537 -605 -640 -648	-589 52 -660 12 -493 -590 -642 -658		-561 65 -674 196 -420 -570 -620 -670	
40	-554 60 -650 81 -406 -560 -612 -650	-559 65 -680 91 -418 -570 -620 -656	-556 67 -620 16 -440 -590 -620 -620			-530 1		-538 67 -680 253 -420 -540 -610 -650	40
	-554 56 -640 153 -420 -570 -610 -630	-532 53 -638 18 -447 -515 -580 -626	-520 43 -580 3 -481 -500 -554 -577					-536 60 -640 218 -430 -560 -600 -630	
30	-529 59 -620 130 -410 -530 -590 -620	-535 15 -550 2 -521 -535 -545 -549	-525 25 -550 2 -501 -525 -542 -549					-523 56 -620 201 -410 -530 -590 -610	30
	-506 55 -589 20 -418 -510 -560 -586	-520 1	-550 -550 2 -550 -550 -550 -550					-497 50 -606 118 -403 -490 -550 -587	
20	-570 1	-509 15 -530 7 -491 -500 -530 -530	-540 1					-494 34 -568 40 -440 -490 -530 -554	20
		-530 1	-508 13 -530 13 -490 -510 -521 -530					-487 21 -530 43 -450 -480 -510 -530	
10	-473 12 -490 3 -460 -470 -484 -489		-500 10 -510 2 -490 -500 -507 -510					-479 15 -510 39 -458 -480 -490 -510	10
			-520 1	-530 1				-481 18 -529 36 -447 -480 -490 -523	
0			-510 1	-520 10 -530 2 -510 -520 -527 -530				-478 20 -528 30 -446 -475 -490 -518	0
			-500 10 -510 2 -490 -500 -507 -510	-505 13 -520 6 -490 -505 -520 -520				-483 19 -520 26 -455 -480 -500 -520	
10				-504 12 -520 5 -490 -510 -514 -519				-479 21 -519 19 -440 -480 -492 -516	10
				-507 14 -530 6 -491 -500 -522 -529				-483 21 -529 20 -450 -485 -500 -526	
20				-507 12 -520 3 -491 -510 -517 -520				-476 28 -520 15 -426 -470 -508 -517	20
								-491 35 -530 8 -440 -505 -520 -529	
30								-500 29 -549 27 -435 -500 -520 -545	30
								-524 37 -570 20 -444 -540 -560 -570	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-570 40 -610 2 -532 -570 -597 -608	
60						-518 44 -599 24 -440 -520 -560 -595	
50					-498 37 -550 10 -452 -500 -536 -548	-506 30 -559 20 -454 -510 -530 -556	
40	-620 1				-495 32 -559 24 -445 -490 -530 -551	-480 37 -540 21 -398 -480 -510 -540	
30	-600 1			-500 34 -559 6 -453 -495 -528 -556	-499 47 -607 17 -433 -510 -534 -591	-557 61 -630 3 -483 -560 -608 -627	
20	-577 19 -590 3 -552 -590 -590 -590			-502 23 -550 12 -474 -490 -520 -550	-511 54 -638 12 -421 -510 -540 -625	-473 33 -510 3 -432 -480 -500 -509	
10			-530 20 -550 2 -511 -530 -544 -549	-500 1	-495 36 -568 21 -444 -480 -538 -558	-509 54 -590 30 -420 -500 -567 -590	
0			-570 1		-482 20 -510 6 -461 -470 -510 -510	-478 21 -510 5 -451 -490 -497 -508	
10			-585 5 -590 2 -580 -585 -588 -590			-512 13 -530 9 -490 -520 -520 -528	
20			-580 1			-510 37 -619 25 -480 -500 -532 -615	
30			-537 5 -540 3 -530 -540 -540 -540			-530 25 -570 7 -500 -540 -551 -568	
40			-535 5 -540 2 -530 -535 -538 -540			-530 14 -550 7 -504 -530 -540 -549	
30			-530 1			-543 7 -550 7 -531 -540 -550 -550	
20						-543 8 -550 4 -531 -545 -550 -550	
10						-540 -540 5 -540 -540 -540 -540	
0						-539 6 -550 8 -530 -540 -540 -549	
10						-539 6 -550 7 -530 -540 -540 -549	
20						-538 4 -540 6 -531 -540 -540 -540	
30				-580 1	-523 19 -550 3 -510 -510 -537 -548	-532 9 -540 6 -520 -535 -540 -540	
40 S				-625 15 -640 2 -611 -625 -635 -639	-562 24 -590 9 -522 -570 -587 -590 -558 41 -600 12 -485 -570 -590 -598	-535 17 -550 4 -511 -540 -550 -550	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-539 65 -610 8 -418 -560 -598 -609							-545 62 -610 10 -421 -560 -606 -610	70 N
60	-551 57 -667 11 -472 -540 -582 -672	-565 135 -699 2 -435 -565 -657 -695		-550 1	-647 68 -700 3 -556 -690 -697 -700			-539 67 -700 41 -438 -540 -582 -700	60
	-519 42 -580 7 -454 -510 -561 -578	-593 50 -660 3 -542 -580 -634 -657		-580 28 -620 3 -560 -560 -801 -618	-597 52 -680 6 -540 -585 -656 -677			-527 53 -677 49 -450 -520 -566 -661	
50	-480 8 -490 3 -470 -480 -487 -490	-545 25 -570 2 -521 -545 -562 -569	-535 39 -590 4 -483 -535 -566 -587	-596 75 -690 5 -512 -570 -684 -689	-579 43 -669 9 -516 -570 -610 -660	-562 34 -600 6 -512 -570 -592 -599		-516 57 -688 74 -424 -510 -570 -675	50
	-576 86 -710 7 -482 -530 -691 -708	-504 50 -580 7 -451 -490 -570 -579	-581 59 -698 8 -506 -560 -620 -689	-710 1	-625 37 -680 6 -581 -625 -656 -677	-617 53 -700 6 -553 -600 -676 -697		-555 77 -710 55 -440 -550 -637 -709	
40	-660 54 -700 6 -553 -680 -692 -699	-543 65 -670 68 -433 -545 -613 -667	-546 71 -699 38 -447 -535 -620 -693	-680 1	-540 1	-593 76 -710 7 -496 -570 -700 -709		-547 72 -706 143 -430 -540 -623 -700	40
	-581 59 -669 32 -496 -585 -650 -684	-565 61 -668 53 -441 -560 -630 -660	-535 25 -560 2 -511 -535 -552 -559			-490 1		-542 63 -685 152 -430 -540 -618 -670	
30	-571 50 -640 45 -480 -580 -630 -640	-546 65 -668 14 -460 -540 -618 -660	-590 1					-552 60 -664 72 -460 -550 -620 -640	30
	-535 45 -648 38 -460 -535 -570 -635	-590 8 -600 3 -580 -590 -597 -600						-536 43 -647 53 -460 -530 -587 -630	
20	-514 25 -550 8 -480 -510 -546 -550	-585 5 -590 2 -580 -585 -588 -590						-516 37 -619 37 -480 -510 -550 -613	20
	-570 10 -580 2 -560 -570 -577 -580							-542 28 -580 10 -500 -545 -570 -578	
	-545 5 -550 4 -540 -545 -550 -550							-543 22 -590 13 -507 -540 -552 -588	
10	-540 10 -550 2 -530 -540 -547 -550							-546 14 -579 10 -530 -545 -550 -575	10
								-540 8 -550 7 -530 -540 -550 -550	
0								-539 3 -540 7 -531 -540 -540 -540	0
								-538 6 -550 9 -530 -540 -540 -548	
10								-539 6 -550 7 -530 -540 -540 -549	10
								-538 4 -540 6 -531 -540 -540 -540	
20								-532 9 -540 6 -520 -535 -540 -540	20
								-536 24 -579 8 -510 -540 -550 -576	
30								-562 24 -590 9 -522 -570 -587 -590	30
								-567 45 -639 14 -468 -585 -599 -632	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-496 39 -540 5 -442 -490 -540 -540	-515 5 -520 2 -510 -515 -518 -520	
50					-484 33 -549 27 -435 -470 -530 -545	-468 18 -500 6 -450 -465 -484 -498	
40					-477 39 -559 32 -412 -470 -520 -554	-547 57 -659 14 -483 -525 -627 -652	
30	-623 29 -660 3 -591 -620 -647 -658			-513 30 -598 16 -470 -505 -530 -585	-482 33 -569 20 -440 -470 -510 -562	-496 44 -579 12 -422 -490 -535 -573	
20	-596 55 -690 11 -520 -600 -648 -690			-528 28 -580 22 -484 -530 -560 -580	-475 10 -490 6 -461 -475 -482 -489	-513 41 -599 24 -465 -490 -563 -595	
10	-601 29 -659 11 -554 -610 -624 -654			-531 34 -579 12 -470 -540 -560 -576			
0	-610 14 -620 3 -591 -620 -620 -620	-603 33 -630 8 -560 -625 -630 -630	-591 12 -610 12 -570 -590 -600 -608	-565 9 -580 4 -560 -560 -570 -579			
10		-608 30 -650 6 -570 -615 -634 -648	-595 9 -610 8 -581 -595 -600 -609	-565 5 -570 2 -560 -565 -568 -570		-565 35 -600 2 -531 -565 -589 -599	
20			-600 8 -610 7 -590 -600 -610 -610			-553 26 -590 3 -530 -540 -574 -588	
30			-605 8 -620 11 -592 -600 -610 -618			-580 1	
40 S			-613 9 -630 7 -601 -610 -620 -629			-580 1	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-520 1	-470 40 -510 2 -432 -470 -497 -508						-487 40 -520 3 -433 -510 -517 -520	60
	-518 40 -560 5 -454 -530 -554 -559	-518 19 -550 12 -484 -515 -540 -548		-547 12 -560 3 -531 -550 -557 -560	-563 19 -590 3 -550 -550 -577 -588			-521 33 -587 30 -446 -525 -550 -573	
50		-514 24 -559 12 -474 -515 -532 -556	-530 20 -550 2 -511 -530 -544 -549	-510 1	-677 19 -690 3 -652 -690 -690 -690			-503 54 -690 51 -440 -490 -530 -690	50
	-590 33 -639 7 -541 -600 -611 -636	-514 23 -540 5 -482 -510 -540 -540	-556 50 -656 11 -500 -550 -604 -650	-690 13 -710 6 -671 -690 -702 -709	-730 1	-730 1		-537 80 -730 77 -420 -520 -627 -720	
40	-571 71 -700 12 -467 -545 -660 -698	-536 40 -609 12 -472 -535 -575 -606	-544 68 -679 18 -460 -520 -621 -677			-623 8 -630 4 -611 -625 -630 -630		-525 61 -697 94 -439 -510 -590 -681	40
	-545 55 -698 39 -460 -540 -590 -685	-567 49 -698 12 -512 -550 -612 -675	-520 1			-569 39 -620 9 -512 -570 -607 -618		-538 51 -697 116 -460 -530 -590 -674	
30	-578 43 -649 20 -491 -585 -610 -642	-550 20 -570 2 -531 -550 -564 -569				-490 1		-567 51 -690 46 -470 -560 -610 -690	30
	-575 35 -639 13 -522 -580 -602 -635							-584 33 -658 28 -525 -580 -617 -649	
20	-582 25 -610 9 -528 -590 -600 -608							-590 26 -630 36 -527 -590 -620 -630	20
	-573 12 -590 3 -560 -570 -584 -589							-589 28 -649 20 -534 -590 -610 -642	
10	-590 1							-599 8 -610 8 -590 -600 -609 -610	10
	-590 1							-602 10 -620 13 -582 -600 -610 -618	
0								-609 14 -630 8 -583 -610 -619 -629	0
10								-600 -600 2 -600 -600 -600 -600	10
								-600 -600 2 -600 -600 -600 -600	
20								-585 5 -590 2 -580 -585 -588 -590	20
								-640 10 -650 2 -630 -640 -647 -650	
30								-607 25 -640 3 -581 -600 -627 -638	30
								-600 20 -620 2 -581 -600 -614 -619	
40 S									40S

LONGITUDE

APPENDIX C

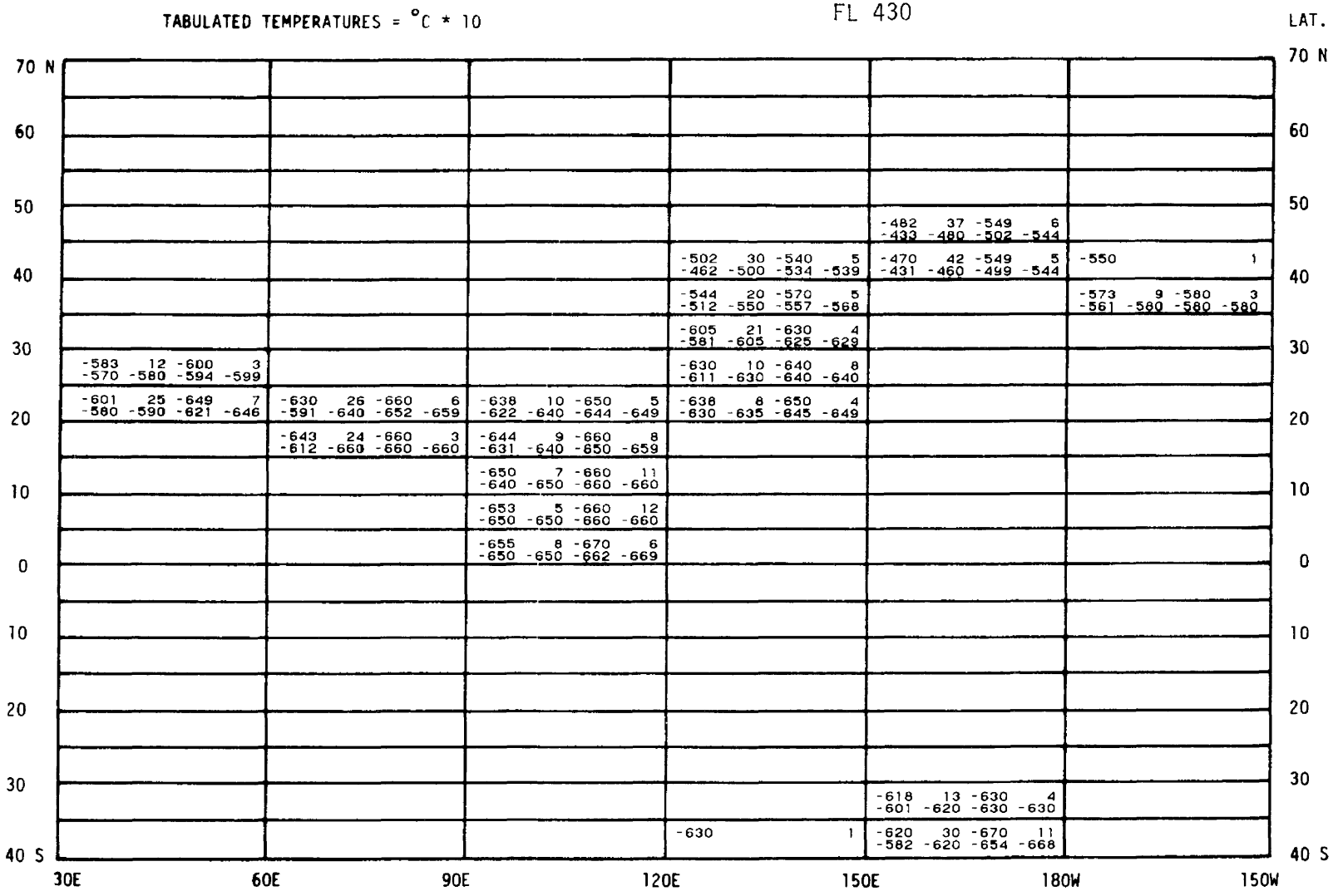
STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JANUARY
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-560 1				-560 1	60
50		-510 1 -500 1	-500 1					-505 5 -510 2 -500 -505 -508 -510	50
40	-520 8 -530 3 -510 -520 -527 -530	-500 1	-520 35 -579 4 -500 -500 -542 -575	-665 65 -730 2 -603 -665 -709 -727				-523 75 -725 13 -437 -500 -582 -699	40
30	-563 40 -640 15 -506 -560 -595 -640	-550 -550 3 -550 -550 -550 -550	-537 5 -540 3 -530 -540 -540 -540					-505 39 -550 17 -433 -520 -540 -550	30
20	-520 1	-540 20 -560 2 -521 -540 -554 -559						-559 33 -640 26 -505 -560 -580 -640	20
10	-580 1							-574 41 -630 7 -520 -580 -620 -629	10
0								-614 25 -640 12 -572 -625 -640 -640	0
10								-624 26 -659 22 -580 -630 -650 -656	10
20								-644 14 -660 11 -614 -640 -660 -660	20
30								-650 7 -660 11 -640 -650 -660 -660	30
40 S								-653 5 -660 12 -650 -650 -660 -660 -655 8 -670 6 -650 -650 -662 -669 -618 13 -630 4 -601 -620 -630 -630 -621 29 -670 12 -582 -625 -652 -668	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-470 1						
30	-400 1 -370 1 -322 17 -350 5 -301 -320 -337 -348	-365 15 -380 2 -351 -365 -375 -379		-427 33 -470 15 -363 -430 -460 -467 -413 17 -430 3 -391 -420 -427 -430 -303 41 -350 3 -252 -310 -337 -348			
20		-190 1	-260 12 -270 8 -234 -260 -270 -270 -223 18 -250 6 -201 -220 -242 -249	-235 5 -240 2 -230 -235 -238 -240		-289 44 -360 39 -198 -290 -339 -360 -243 43 -338 11 -200 -220 -278 -330	
10			-210 -210 3 -210 -210 -210 -210 -230 10 -240 2 -220 -230 -237 -240 -220 1	-230 1			
0					-215 5 -220 2 -210 -215 -218 -220		
10	-225 15 -240 2 -211 -225 -235 -239	-260 1 -270 -270 2 -270 -270 -270 -270	-280 1 -287 22 -339 7 -271 -280 -282 -333	-275 32 -320 4 -232 -275 -301 -318 -289 30 -340 8 -243 -285 -318 -337	-210 1 -284 17 -300 7 -260 -290 -300 -300 -325 36 -370 12 -270 -335 -362 -370		
20							
30							
40 S							

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60									60
50	-435 45 -480 2 -392 -435 -466 -478				-465 5 -470 2 -460 -465 -468 -470	-480 -480 2 -480 -480 -480 -480	-473 6 -480 4 -461 -475 -480 -480		50
40	-388 29 -449 38 -327 -390 -420 -443	-408 32 -450 5 -370 -420 -437 -448 -363 47 -439 7 -292 -380 -392 -434	-415 52 -490 39 -303 -420 -460 -490 -416 52 -470 5 -351 -430 -470 -470			-455 5 -460 2 -450 -455 -458 -460 -440 53 -500 6 -362 -455 -492 -499 -340 1	-445 34 -480 4 -394 -455 -470 -479 -418 52 -498 51 -310 -430 -460 -490 -396 40 -470 67 -313 -390 -440 -470		40
30	-368 55 -430 13 -237 -380 -411 -428	-369 44 -458 25 -289 -370 -412 -446					-372 47 -456 42 -261 -380 -420 -435 -325 34 -379 10 -259 -325 -350 -375		30
20		-260 1					-284 41 -360 48 -199 -280 -330 -360 -238 44 -338 12 -192 -215 -275 -329		20
10							-226 17 -250 8 -201 -230 -240 -249		10
0							-210 -210 3 -210 -210 -210 -210 -230 10 -240 2 -220 -230 -237 -240		0
10							-220 1 -230 1		10
20							-215 5 -220 2 -210 -215 -218 -220 -237 21 -260 3 -211 -240 -254 -259		20
30						-290 1	-264 28 -290 5 -215 -270 -284 -289 -283 23 -339 18 -240 -280 -300 -333		30
40 S							-310 38 -370 20 -248 -305 -350 -370		40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-495 5 -500 2 -490 -495 -498 -500						
30	-480 10 -490 2 -470 -480 -487 -490			-468 38 -529 22 -400 -470 -506 -526			
20	-433 16 -460 4 -420 -425 -446 -458			-418 29 -450 4 -381 -420 -445 -449			
10	-374 37 -410 7 -298 -390 -400 -409	-420 1		-323 33 -360 3 -282 -330 -350 -359		-410 1	
0	-380 1		-296 21 -330 7 -262 -290 -311 -328	-280 1		-334 52 -419 44 -237 -350 -381 -411	
10		-280 1	-295 15 -310 2 -281 -295 -305 -309	-280 -280 2 -280 -280 -280 -280		-274 36 -330 9 -223 -270 -314 -328	
20			-285 15 -300 2 -271 -285 -295 -299	-260 1		-246 14 -270 5 -231 -240 -257 -268	
30			-280 -280 2 -280 -280 -280 -280			-280 1	
40 S			-285 5 -290 2 -280 -285 -288 -290				
			-270 14 -280 3 -251 -280 -280 -280				
			-273 8 -280 4 -261 -275 -280 -280				
			-277 5 -280 3 -270 -280 -280 -280	-255 15 -270 2 -241 -255 -265 -269			
			-270 -270 2 -270 -270 -270 -270		-280 8 -290 3 -270 -280 -287 -290		
	-290 1	-317 9 -330 3 -310 -310 -324 -329					
	-240 1	-320 -320 2 -320 -320 -320 -320			-293 12 -310 3 -280 -290 -304 -309		
			-330 10 -340 2 -320 -330 -337 -340	-337 9 -350 3 -330 -330 -344 -349	-336 35 -399 22 -280 -330 -373 -396		
				-348 34 -418 18 -303 -350 -380 -410	-370 29 -410 3 -341 -360 -394 -408		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60		-530 1		-530 1	-480 1			-513 24 -530 3 -482 -530 -530 -530	60
50	-518 4 -520 4 -511 -520 -520 -520	-530 -530 2 -530 -530 -530 -530	-420 1 -410 20 -430 2	-490 30 -520 2 -461 -490 -510 -519	-483 29 -510 4 -442 -490 -510 -510	-515 30 -550 4 -481 -515 -545 -549 -570 1		-496 39 -550 13 -425 -510 -531 -548 -494 57 -569 7	50
40	-437 32 -480 21 -380 -430 -478 -480	-483 44 -530 8 -414 -485 -530 -530 -419 41 -490 13	-391 -410 -424 -429 -466 48 -540 37 -380 -470 -520 -540 -380 10 -390 2			-487 33 -520 7 -441 -510 -520 -520 -410 1		-395 -520 -522 -564 -473 46 -540 54 -381 -480 -520 -539 -443 42 -528 61	40
30	-396 65 -509 12 -273 -405 -447 -501 -400 1	-370 -400 -462 -488 -428 36 -489 38 -347 -430 -461 -483	-370 -380 -387 -390					-370 -440 -484 -518 -421 44 -507 58 -323 -420 -460 -489 -371 44 -420 13	30
20								-282 -390 -410 -418 -329 51 -418 53 -240 -340 -380 -410	20
10								-279 30 -330 14 -225 -280 -309 -327 -258 21 -299 8	10
0								-231 -255 -270 -296 -280 -280 3 -280 -280 -280 -280 -285 5 -290 2	0
10								-280 -285 -288 -290 -270 14 -280 3 -251 -280 -280 -280 -273 8 -280 4	10
20								-261 -275 -280 -280 -268 15 -280 5 -242 -270 -280 -280 -276 8 -290 5	20
30						-300 1		-270 -270 -284 -289 -310 14 -330 4 -291 -310 -320 -329 -294 26 -320 7	30
40 S								-245 -300 -320 -320 -336 32 -399 27 -280 -330 -360 -395 -351 34 -419 21 -304 -350 -380 -416	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50						-480 1	
40	-468 11 -480 4 -451 -470 -475 -479			-488 52 -550 17 -362 -500 -514 -550	-505 5 -510 2 -500 -505 -508 -510		
30	-486 12 -500 5 -471 -480 -500 -500			-480 21 -500 4 -451 -485 -500 -500			
20	-405 52 -460 12 -320 -425 -452 -460	-414 48 -489 8 -343 -430 -449 -484		-380 1		-407 34 -440 3 -362 -420 -434 -439	
10	-370 37 -410 5 -306 -380 -397 -408	-350 36 -390 6 -301 -355 -390 -390	-348 16 -380 9 -330 -340 -364 -378	-347 9 -360 3 -340 -340 -354 -359		-376 48 -460 45 -278 -380 -420 -460	
0		-345 16 -360 6 -314 -350 -352 -359	-329 8 -340 7 -320 -330 -340 -340			-331 29 -399 8 -310 -320 -348 -393	
10			-350 7 -360 4 -341 -350 -355 -359	-350 19 -380 4 -331 -345 -366 -378		-312 13 -349 15 -293 -310 -320 -342	
20						-305 11 -330 17 -290 -300 -314 -327	
30			-348 26 -370 5 -303 -360 -370 -370			-313 20 -368 16 -283 -310 -326 -358	
40 S			-310 10 -320 2 -300 -310 -317 -320			-309 12 -330 14 -290 -310 -320 -327	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60		-570 1	-490 10 -500 2 -480 -490 -497 -500	-546 8 -560 5 -540 -540 -554 -559	-550 21 -570 6 -513 -555 -570 -570			-541 26 -570 14 -485 -545 -569 -570	60
	-505 25 -530 2 -481 -505 -522 -529				-538 16 -560 6 -512 -540 -552 -559	-523 31 -550 3 -482 -540 -547 -550		-524 28 -560 12 -480 -535 -550 -558	
50	-518 32 -570 5 -481 -520 -544 -567				-534 8 -540 5 -521 -540 -540 -540	-540 14 -560 4 -521 -540 -550 -559		-530 23 -570 14 -483 -535 -540 -567	50
	-486 26 -530 5 -460 -490 -504 -527	-540 38 -599 20 -474 -540 -580 -592	-491 57 -570 35 -369 -510 -541 -570			-544 28 -580 7 -510 -560 -570 -579		-511 54 -596 67 -426 -510 -570 -580	
40	-487 31 -548 27 -411 -490 -510 -534	-486 42 -569 15 -413 -480 -525 -562	-480 20 -500 2 -461 -480 -494 -499			-450 10 -460 2 -440 -450 -457 -460		-485 39 -566 69 -391 -490 -510 -550	40
	-468 40 -529 30 -376 -480 -500 -524	-448 31 -490 12 -392 -450 -482 -490						-466 37 -528 51 -380 -480 -500 -520	
30	-461 51 -519 9 -363 -480 -490 -515	-400 -400 2 -400 -400 -400 -400						-421 53 -517 35 -320 -430 -460 -500	30
	-425 45 -470 2 -382 -425 -458 -468	-360 1						-370 45 -468 71 -284 -370 -408 -460	
20								-334 22 -398 21 -310 -330 -350 -384	20
								-325 23 -379 23 -294 -320 -350 -371	
10								-305 11 -330 17 -290 -300 -314 -327	10
								-321 26 -370 21 -284 -310 -356 -370	
0								-309 12 -330 16 -290 -310 -320 -327	0
								-311 22 -378 13 -290 -310 -320 -366	
10								-309 11 -320 9 -292 -310 -320 -320	10
								-330 24 -380 12 -294 -330 -347 -378	
20				-380 1				-326 21 -379 11 -310 -320 -338 -374	20
						-320 1		-339 21 -380 14 -310 -335 -359 -377	
30								-381 35 -449 25 -335 -370 -430 -440	30
								-413 28 -479 21 -374 -420 -440 -472	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-460 30 -490 2 -431 -460 -480 -489	-435 5 -440 2 -430 -435 -438 -440	
50					-584 20 -610 5 -552 -590 -597 -608		
40	-490 1			-545 32 -580 4 -502 -550 -575 -579	-550 37 -600 11 -484 -570 -584 -598	-536 5 -540 5 -530 -540 -540 -540	
30	-493 21 -520 3 -471 -490 -510 -519			-540 39 -589 21 -464 -550 -580 -586	-542 29 -590 13 -495 -540 -571 -588		
20	-503 48 -560 8 -431 -510 -550 -559			-535 5 -540 2 -530 -535 -538 -540	-527 19 -540 3 -502 -540 -540 -540	-510 20 -530 2 -491 -510 -524 -529	
10	-447 19 -480 7 -421 -440 -461 -478	-455 38 -520 11 -394 -450 -496 -520		-403 18 -420 4 -381 -405 -420 -420		-458 58 -530 14 -343 -460 -520 -530	
0	-425 34 -460 4 -374 -435 -450 -459	-427 28 -470 7 -390 -430 -451 -468	-405 20 -440 10 -374 -400 -426 -438	-410 24 -450 4 -390 -400 -431 -448		-427 52 -545 54 -350 -425 -480 -519	
10		-400 6 -410 5 -391 -400 -404 -409	-395 5 -400 4 -390 -395 -400 -400	-375 5 -380 2 -370 -375 -378 -380		-383 15 -400 4 -361 -385 -395 -399	
20			-390 10 -400 2 -380 -390 -397 -400	-373 5 -380 3 -370 -370 -377 -380			
30				-377 5 -380 3 -370 -380 -380 -380		-370 1	
40 S			-355 5 -360 2 -350 -355 -358 -360	-378 4 -380 4 -371 -380 -380 -380		-350 1	
			-372 4 -380 5 -370 -370 -374 -379	-373 5 -380 3 -370 -370 -377 -380		-390 1	
			-367 5 -370 3 -360 -370 -370 -370	-383 19 -410 3 -370 -370 -397 -408		-368 10 -380 5 -360 -360 -380 -360	
			-390 1	-373 12 -390 3 -360 -370 -384 -389	-358 13 -380 6 -341 -355 -372 -379	-371 15 -400 8 -351 -370 -380 -397	
				-365 5 -370 2 -360 -365 -368 -370	-357 14 -380 12 -340 -355 -372 -380	-420 -420 2 -420 -420 -420 -420	
	-374 13 -390 7 -351 -380 -380 -389	-397 26 -420 3 -362 -410 -417 -420	-340 1	-360 1	-377 19 -410 19 -341 -380 -391 -410	-410 1	
	-360 14 -380 3 -350 -350 -370 -379	-420 1		-390 1	-407 25 -449 21 -364 -410 -430 -446		
			-392 46 -479 6 -342 -375 -432 -474	-460 31 -490 6 -404 -475 -482 -489	-430 36 -489 30 -362 -430 -464 -484		
				-443 41 -490 8 -367 -455 -479 -489	-458 28 -519 31 -416 -460 -480 -514		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-680 -680 -680 -680 2	-640 -621 -640 -654 20 -659 -660 2	-626 -610 -630 -637 15 -648 -650 5	-570 1			-634 -577 -630 -671 33 -680 10 -680	70 N
		-660 -650 -660 -667 10 -670 2 -670			-535 -521 -535 -545 15 -549 -550 2			-598 -522 -600 -660 64 -669 -670 4	
60		-630 1	-470 1		-573 -542 -590 -590 24 -590 3 -590			-564 -476 -590 -604 55 -627 -630 5	60
					-550 -512 -540 -575 37 -614 -619 5			-504 -430 -510 -547 60 -609 -618 9	
50		-470 1		-513 -448 -505 -550 42 -587 -590 14	-526 -483 -515 -568 33 -587 -590 14	-603 -590 -600 -614 12 -619 -620 3		-534 -462 -530 -590 47 -613 -619 37	50
	-542 -495 -550 -560 26 -560 5	-548 -460 -550 -582 44 -606 -609 12	-516 -450 -520 -560 42 -576 -596 41	-490 -451 -465 -544 43 -558 -560 6		-556 -477 -560 -597 41 -610 10		-530 -450 -540 -570 44 -610 95	
40	-526 -442 -530 -570 43 -591 -599 44	-537 -440 -545 -576 45 -600 22 -600	-527 -465 -540 -551 37 -576 -579 7			-520 -491 -520 -540 24 -549 -550 3		-532 -442 -540 -570 41 -598 -600 113	40
	-504 -340 -520 -550 62 -590 51 -590	-501 -397 -505 -550 50 -566 -569 22				-500 1		-505 -370 -520 -550 55 -582 -590 89	
30	-470 -340 -480 -504 45 -535 -539 28							-458 -340 -460 -508 47 -530 -538 64	30
	-477 -452 -470 -488 21 -516 -519 6							-427 -350 -430 -480 47 -520 -542 85	
20								-391 -363 -390 -400 13 -407 -410 15	20
								-380 -370 -380 -387 11 -398 -400 5	
10								-375 -370 -375 -380 5 -380 4	10
								-367 -350 -370 -380 13 -380 -380 7	
0								-374 -370 -370 -380 7 -388 -390 9	0
								-372 -360 -370 -380 14 -404 -409 11	
10								-368 -343 -370 -383 16 -397 -399 18	10
								-366 -340 -360 -380 24 -420 -420 16	
20				-420 1				-379 -336 -380 -409 22 -420 33 -420	20
								-402 -350 -405 -430 27 -445 -449 26	
30								-429 -348 -430 -480 42 -490 -490 42	30
								-455 -398 -460 -480 31 -512 -519 39	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-508 40 -569 4 -462 -509 -536 -565	
50					-497 66 -638 6 -441 -480 -520 -625	-501 71 -638 7 -420 -490 -544 -628	
40	-540 1			-562 25 -600 5 -532 -550 -587 -598	-549 67 -630 10 -450 -545 -620 -628	-539 54 -629 8 -470 -555 -570 -622	-480 10 -490 2 -470 -480 -487 -490
30	-532 49 -628 20 -431 -535 -570 -615			-534 50 -608 28 -407 -540 -577 -599	-513 59 -609 16 -443 -510 -580 -601	-473 12 -490 3 -460 -470 -484 -489	
20	-519 49 -589 21 -420 -530 -560 -586			-529 44 -580 7 -447 -540 -570 -579	-554 31 -609 5 -521 -550 -578 -606	-520 1	
10	-459 40 -567 15 -410 -450 -493 -550	-493 44 -540 10 -420 -510 -536 -540		-467 23 -510 7 -441 -460 -491 -508		-472 56 -579 26 -380 -475 -530 -575	
0	-420 1	-453 16 -470 7 -422 -460 -460 -469	-441 12 -460 8 -421 -440 -450 -459	-450 14 -460 3 -431 -460 -480 -460		-458 46 -570 97 -389 -450 -510 -542	
10		-450 -450 2 -450 -450 -450 -450	-443 15 -479 12 -422 -440 -452 -476	-455 25 -480 2 -431 -455 -472 -479	-470 -470 2 -470 -470 -470 -470	-469 38 -539 8 -420 -480 -489 -533	
20			-440 20 -460 10 -395 -450 -456 -460	-446 16 -470 5 -430 -440 -464 -469	-482 4 -470 5 -460 -460 -464 -469	-455 38 -510 4 -420 -445 -491 -508	
30			-438 13 -460 5 -421 -440 -447 -458	-430 -430 4 -430 -430 -430 -430		-446 29 -490 5 -420 -430 -477 -488	
40 S			-440 19 -479 6 -421 -435 -448 -476	-427 5 -430 3 -420 -430 -430 -430		-421 20 -469 8 -401 -415 -429 -464	
			-422 4 -430 5 -420 -420 -424 -429	-418 4 -420 4 -411 -420 -420 -420		-413 5 -420 9 -410 -410 -420 -420	
			-420 -420 3 -420 -420 -420 -420	-408 9 -420 6 -392 -410 -412 -419	-420 -420 3 -420 -420 -420 -420	-416 12 -449 14 -400 -415 -420 -445	
			-405 5 -410 2 -400 -405 -408 -410	-410 7 -420 4 -401 -410 -415 -419	-411 7 -420 18 -400 -410 -420 -420	-415 5 -420 8 -410 -415 -420 -420	
			-400 -400 2 -400 -400 -400 -400	-404 9 -420 8 -391 -400 -410 -419	-410 11 -439 23 -394 -410 -420 -436	-468 15 -490 4 -451 -465 -480 -489	
	-422 15 -450 5 -410 -420 -431 -448	-395 5 -400 2 -390 -395 -398 -400	-390 1	-405 13 -430 10 -390 -400 -420 -428	-420 19 -460 27 -385 -420 -438 -460	-475 15 -490 4 -460 -475 -490 -490	
	-405 5 -410 2 -400 -405 -408 -410	-433 29 -460 7 -391 -450 -460 -460	-460 1	-417 23 -480 9 -390 -410 -437 -457	-451 28 -509 26 -415 -450 -480 -505	-485 5 -490 2 -480 -485 -488 -490	
			-500 20 -520 2 -481 -500 -514 -519	-461 33 -500 9 -403 -470 -494 -500	-477 31 -529 26 -425 -475 -520 -525		
40 S				-477 39 -540 21 -414 -470 -528 -540	-497 21 -539 25 -460 -490 -520 -535		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-440 1	-670 1	-665 15 -680 2 -651 -665 -675 -679	-606 41 -670 5 -570 -580 -651 -668				-608 73 -680 9 -461 -640 -670 -678	70 N
	-584 79 -660 5 -457 -620 -654 -659	-558 64 -630 12 -452 -590 -615 -630						-566 70 -660 17 -450 -590 -630 -657	
60	-450 1	-570 63 -678 23 -454 -580 -630 -667	-490 57 -569 3 -441 -460 -535 -566	-540 1	-633 41 -670 4 -573 -645 -670 -670			-559 70 -679 36 -447 -570 -630 -673	60
	-499 53 -628 10 -429 -485 -531 -614	-563 56 -669 12 -502 -540 -632 -663	-558 54 -649 17 -459 -540 -624 -644	-546 50 -600 5 -481 -580 -587 -598	-596 39 -640 14 -530 -605 -630 -640	-545 25 -570 2 -521 -545 -562 -569		-546 64 -666 73 -420 -540 -630 -646	
50	-564 64 -649 24 -444 -570 -623 -641	-575 5 -580 2 -570 -575 -578 -580	-555 53 -630 22 -448 -555 -613 -630	-544 47 -610 10 -464 -545 -591 -608	-557 54 -629 6 -481 -580 -590 -625	-594 26 -640 7 -570 -590 -621 -638		-560 57 -648 81 -446 -570 -620 -634	50
	-565 61 -630 23 -449 -600 -610 -630	-585 43 -630 30 -476 -600 -620 -630	-535 55 -620 61 -398 -550 -600 -618	-550 22 -580 4 -521 -550 -570 -579		-584 31 -640 14 -535 -580 -610 -637		-555 55 -636 148 -439 -565 -610 -630	
40	-570 49 -638 73 -441 -590 -615 -630	-563 52 -629 45 -418 -580 -610 -621	-556 42 -610 12 -492 -575 -592 -608	-567 12 -580 3 -551 -570 -577 -580		-556 41 -619 7 -486 -550 -591 -616		-553 54 -634 207 -420 -560 -600 -630	40
	-535 62 -627 111 -372 -550 -584 -620	-498 68 -580 12 -397 -495 -570 -578				-580 1		-530 60 -625 158 -381 -550 -580 -620	
30	-502 55 -607 93 -388 -510 -550 -583							-490 55 -605 151 -380 -500 -550 -580	30
	-476 50 -559 22 -374 -480 -520 -552							-460 44 -570 138 -387 -450 -510 -545	
20	-460 15 -480 6 -441 -455 -480 -480							-456 25 -535 32 -420 -450 -480 -509	20
	-456 15 -480 5 -440 -460 -467 -478							-450 22 -507 28 -407 -450 -465 -493	
10	-456 4 -460 4 -451 -460 -460 -460							-443 19 -489 18 -420 -435 -460 -483	10
	-457 12 -470 3 -441 -460 -467 -470							-433 21 -479 20 -404 -430 -459 -476	
0	-460 1							-419 11 -458 19 -410 -420 -420 -449	0
								-415 11 -448 26 -395 -420 -420 -440	
10				-460 -460 2 -460 -460 -460 -460				-414 13 -460 34 -400 -410 -420 -460	10
				-470 1				-416 23 -488 38 -390 -410 -431 -475	
20				-430 1				-420 24 -490 50 -390 -420 -442 -490	20
								-441 31 -509 47 -390 -440 -480 -501	
30								-474 32 -529 37 -414 -480 -520 -523	30
								-488 32 -540 46 -419 -490 -520 -540	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-525 25 -550 2 -501 -525 -542 -549	60
					-603 95 -680 3 -478 -660 -674 -679	-554 70 -680 21 -470 -560 -626 -680	
50					-568 79 -699 22 -468 -550 -666 -696	-559 79 -689 23 -450 -560 -665 -686	50
					-541 42 -620 17 -480 -530 -589 -617	-531 45 -619 11 -458 -530 -568 -612	
40	-495 25 -520 2 -471 -495 -512 -519			-568 56 -650 6 -501 -560 -634 -648	-540 47 -639 25 -475 -530 -602 -630	-516 50 -610 14 -453 -510 -578 -607	40
	-545 34 -609 6 -503 -540 -562 -604			-537 51 -629 29 -450 -540 -585 -624	-511 47 -599 34 -443 -505 -560 -593	-464 60 -579 9 -412 -420 -536 -575	
30	-533 25 -570 4 -510 -525 -556 -568	-480 1		-513 35 -588 15 -444 -520 -540 -576	-513 53 -570 20 -418 -530 -560 -570	-562 47 -620 5 -520 -530 -620 -620	30
	-500 1	-508 29 -550 4 -480 -500 -536 -548		-498 21 -530 12 -464 -505 -520 -528	-540 23 -570 5 -511 -540 -564 -569	-507 51 -608 36 -410 -510 -554 -596	
20		-493 18 -510 4 -471 -495 -510 -510	-494 18 -520 7 -470 -500 -510 -519	-485 5 -490 2 -480 -485 -483 -490		-489 47 -600 65 -413 -490 -530 -597	20
		-490 7 -500 4 -481 -490 -495 -499	-497 8 -510 9 -482 -500 -500 -508			-471 22 -537 18 -440 -470 -483 -523	
10			-483 4 -490 4 -480 -480 -485 -489	-508 9 -520 6 -492 -510 -512 -519		-471 14 -518 23 -454 -470 -480 -507	10
			-480 -480 3 -480 -480 -480 -480			-474 16 -510 27 -455 -470 -490 -510	
0			-487 5 -490 3 -480 -490 -490 -490			-475 15 -510 27 -455 -470 -490 -510	0
						-475 18 -519 24 -450 -470 -483 -515	
10				-460 1		-472 19 -519 21 -444 -470 -488 -516	10
			-440 1	-462 4 -470 5 -460 -460 -464 -469	-467 5 -470 3 -460 -470 -470 -470	-490 26 -539 13 -460 -480 -520 -535	
20				-462 4 -470 5 -460 -460 -464 -469	-430 1	-503 33 -550 3 -480 -480 -528 -547	20
	-467 19 -480 3 -442 -480 -480 -480	-443 5 -450 3 -440 -440 -447 -450		-460 9 -470 5 -450 -460 -470 -470	-480 20 -500 2 -461 -480 -494 -499	-485 5 -490 2 -480 -485 -488 -490	
30		-446 10 -460 5 -431 -450 -454 -459		-462 18 -480 5 -440 -470 -480 -480	-460 -460 3 -460 -460 -460 -460	-495 5 -500 2 -490 -495 -498 -500	30
			-498 31 -540 6 -470 -485 -540 -540	-496 29 -530 11 -444 -500 -530 -530	-460 14 -480 3 -450 -450 -470 -479		
40 S				-526 42 -580 14 -443 -525 -570 -580	-548 18 -570 4 -522 -550 -560 -569		40 S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-528 58 -667 11 -446 -530 -554 -648			-590 1	-550 1			-535 56 -667 13 -447 -540 -562 -651	70 N
	-567 61 -679 18 -483 -550 -636 -677	-573 58 -650 15 -468 -570 -648 -650			-573 5 -580 3 -570 -570 -577 -580			-567 57 -679 38 -475 -565 -641 -673	
60	-508 40 -589 10 -445 -510 -540 -581	-563 60 -660 15 -458 -560 -633 -657		-513 9 -520 3 -501 -520 -520 -520	-636 54 -680 5 -540 -650 -674 -679			-556 70 -680 57 -452 -540 -650 -680	60
	-514 28 -569 8 -481 -510 -530 -564	-528 55 -609 5 -453 -530 -578 -606	-485 35 -520 2 -451 -485 -509 -519	-547 71 -620 10 -437 -575 -616 -620	-573 51 -649 9 -478 -590 -607 -644	-670 1		-555 73 -698 80 -450 -550 -650 -690	
50	-535 54 -648 24 -455 -530 -603 -636	-533 32 -580 6 -484 -530 -564 -578	-523 47 -580 4 -454 -530 -561 -578	-589 58 -640 14 -460 -610 -630 -637	-611 52 -679 11 -516 -620 -654 -676	-574 46 -639 7 -511 -580 -611 -636		-555 57 -674 94 -450 -545 -620 -651	50
	-571 68 -689 24 -455 -575 -640 -661	-580 60 -678 57 -461 -590 -630 -670	-552 61 -666 50 -450 -550 -620 -641	-551 87 -679 8 -441 -570 -620 -672	-520 62 -639 5 -471 -490 -563 -630	-555 36 -620 8 -513 -540 -596 -617		-557 63 -680 199 -450 -560 -630 -670	
40	-604 59 -667 57 -421 -630 -640 -650	-585 52 -670 109 -472 -590 -640 -668	-556 52 -640 14 -490 -560 -609 -637	-564 55 -630 7 -474 -580 -620 -629	-645 5 -650 2 -640 -645 -648 -650	-517 39 -570 3 -481 -500 -548 -567		-567 64 -670 270 -420 -580 -630 -656	40
	-578 53 -670 129 -450 -590 -620 -654	-538 52 -620 14 -435 -545 -579 -617	-553 18 -580 4 -531 -550 -566 -578					-561 57 -670 192 -430 -565 -620 -650	
30	-537 56 -640 110 -410 -540 -600 -628	-550 1	-537 9 -550 3 -530 -530 -544 -549					-527 54 -640 172 -410 -520 -590 -620	30
	-503 62 -610 18 -400 -495 -573 -610	-515 5 -520 2 -510 -515 -518 -520	-525 5 -530 2 -520 -525 -528 -530					-493 47 -610 100 -410 -490 -530 -600	
20	-505 5 -510 2 -500 -505 -508 -510		-510 8 -520 3 -500 -510 -517 -520					-484 22 -538 36 -440 -490 -500 -526	20
	-494 5 -500 5 -490 -490 -500 -500			-505 5 -510 2 -500 -505 -508 -510				-483 19 -520 40 -458 -480 -508 -520	
10	-493 5 -500 3 -490 -490 -497 -500			-500 -500 3 -500 -500 -500 -500				-479 17 -510 36 -457 -480 -500 -510	10
	-500 1			-495 5 -500 2 -490 -495 -498 -500				-478 15 -510 33 -456 -470 -490 -510	
0	-507 5 -510 3 -500 -510 -510 -510			-520 1				-480 21 -520 28 -450 -470 -510 -520	0
	-505 5 -510 2 -500 -505 -508 -510			-520 1				-476 22 -520 25 -445 -470 -502 -520	
10	-530 1							-480 27 -539 23 -449 -470 -515 -536	10
								-472 31 -548 9 -435 -460 -480 -539	
20								-464 19 -500 15 -440 -460 -480 -497	20
								-461 19 -500 15 -433 -460 -480 -497	
30								-491 31 -540 20 -444 -480 -530 -540	30
								-531 39 -580 18 -447 -535 -570 -580	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W	LAT.
70 N						-550 1		70 N
60						-526 47 -666 36 -467 -520 -568 -642		60
50					-513 34 -579 18 -440 -515 -543 -573	-507 39 -615 35 -430 -510 -541 -586		50
40	-550 73 -649 3 -482 -520 -608 -645			-497 47 -589 12 -424 -495 -542 -581	-503 34 -560 35 -430 -500 -540 -560	-504 44 -653 25 -445 -500 -542 -612		40
30	-607 68 -660 3 -516 -650 -657 -660			-536 59 -679 21 -440 -530 -578 -672	-506 55 -630 27 -435 -490 -550 -630	-598 89 -700 16 -473 -600 -700 -700		30
20	-575 15 -590 2 -561 -575 -585 -589			-531 19 -560 8 -501 -535 -549 -559	-536 77 -699 20 -420 -550 -600 -696	-595 44 -669 8 -534 -580 -639 -666		20
10		-580 -580 2 -580 -580 -580 -580		-530 10 -540 2 -520 -530 -537 -540	-515 51 -684 28 -445 -510 -550 -647	-493 69 -650 18 -403 -480 -533 -650		10
0			-553 5 -560 3 -550 -550 -557 -560	-525 5 -530 2 -520 -525 -528 -530	-533 39 -618 7 -485 -530 -534 -609	-540 57 -619 3 -491 -510 -585 -616		0
10			-560 7 -570 4 -551 -560 -565 -569	-520 1	-467 31 -510 3 -440 -450 -491 -508	-528 51 -628 6 -465 -520 -550 -620		10
20			-558 4 -560 4 -551 -560 -560 -560	-560 17 -570 4 -532 -570 -570 -570		-529 42 -629 21 -474 -510 -582 -622		20
30			-558 4 -560 4 -551 -560 -560 -560			-575 5 -580 2 -570 -575 -578 -580		30
40 S			-550 12 -560 4 -531 -555 -560 -560			-555 15 -570 2 -541 -555 -565 -569		40 S
			-540 1			-550 22 -580 3 -530 -540 -567 -578		
			-530 -530 2 -530 -530 -530 -530			-546 12 -570 5 -540 -540 -551 -568		
			-530 1			-544 13 -570 8 -530 -540 -558 -569		
						-550 14 -570 6 -540 -540 -570 -570		
						-545 5 -550 4 -540 -545 -550 -550		
						-560 21 -590 5 -540 -550 -584 -589		
					-560 -560 2 -560 -560 -560 -560	-573 24 -590 6 -540 -590 -590 -590		
			-470 1		-547 12 -560 3 -531 -550 -557 -560	-570 25 -590 5 -532 -590 -590 -590		
			-483 22 -529 7 -470 -470 -501 -526	-538 27 -589 6 -502 -540 -550 -585	-561 24 -609 10 -530 -560 -580 -605	-607 9 -620 3 -600 -600 -614 -619		
				-549 32 -600 7 -511 -540 -581 -598	-583 39 -630 15 -513 -590 -620 -627	-590 1		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-499 43 -569 13 -427 -500 -540 -563							-503 43 -569 14 -428 -505 -540 -565	70 N
	-532 72 -689 16 -436 -515 -594 -684	-460 1						-527 56 -687 53 -450 -520 -577 -670	
60	-494 52 -598 8 -421 -495 -510 -587			-560 16 -580 3 -541 -560 -574 -579	-584 26 -629 7 -551 -580 -601 -626			-517 45 -628 71 -420 -510 -560 -612	60
	-496 67 -685 13 -430 -490 -542 -659	-560 1	-430 1	-473 45 -510 3 -414 -500 -507 -510	-609 82 -710 8 -487 -620 -704 -710	-532 25 -550 6 -484 -545 -550 -550		-512 58 -710 92 -430 -500 -550 -694	
50	-557 69 -679 21 -446 -540 -628 -676	-535 45 -580 2 -492 -535 -566 -578	-570 87 -670 4 -463 -575 -656 -668	-609 62 -718 7 -503 -610 -624 -708	-689 36 -730 10 -617 -695 -726 -730	-571 44 -650 10 -512 -565 -618 -648		-568 84 -730 97 -439 -550 -670 -721	50
	-586 63 -680 12 -482 -580 -655 -678	-575 53 -689 38 -507 -560 -641 -683	-537 54 -649 33 -456 -530 -589 -644	-650 1	-595 5 -600 2 -590 -595 -598 -600	-581 54 -670 9 -512 -590 -639 -667		-556 64 -696 138 -435 -550 -631 -683	
40	-575 83 -690 14 -470 -575 -650 -690	-594 59 -688 60 -502 -590 -660 -680	-561 63 -679 10 -485 -540 -638 -676					-556 73 -690 154 -421 -540 -650 -689	40
	-569 67 -670 51 -460 -560 -650 -670	-558 45 -659 9 -512 -550 -592 -650	-540 1					-560 59 -670 81 -460 -540 -640 -664	
30	-550 60 -659 49 -440 -530 -623 -650	-580 1						-545 59 -658 63 -440 -530 -611 -650	30
	-532 53 -638 14 -463 -520 -589 -627	-570 1	-580 1					-534 44 -639 42 -468 -525 -584 -632	
20			-565 5 -570 2 -560 -565 -568 -570	-560 1				-560 15 -580 10 -525 -560 -570 -578	20
			-560 1	-555 5 -560 2 -550 -555 -558 -560				-558 12 -570 13 -532 -560 -570 -570	
10				-550 -550 3 -550 -550 -550 -550				-553 13 -579 10 -532 -550 -560 -576	10
				-550 7 -560 4 -541 -550 -555 -559				-548 11 -570 13 -532 -550 -560 -568	
0	-560 1			-550 7 -560 4 -541 -550 -555 -559				-546 12 -570 14 -530 -540 -560 -567	0
	-570 -570 2 -570 -570 -570 -570			-565 5 -570 2 -560 -565 -568 -570				-553 16 -570 12 -530 -550 -570 -570	
10	-570 -570 3 -570 -570 -570 -570			-570 1				-554 15 -570 9 -532 -550 -570 -570	10
	-575 5 -580 2 -570 -575 -578 -580			-525 5 -530 2 -520 -525 -528 -530				-556 24 -590 9 -522 -550 -580 -588	
20								-570 21 -590 8 -540 -575 -590 -590	20
								-551 37 -590 9 -480 -550 -590 -590	
30								-540 46 -619 26 -470 -540 -590 -615	30
								-573 39 -629 23 -510 -580 -620 -628	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-540 1	
50					-468 40 -530 5 -413 -460 -504 -527	-450 1	
40					-506 35 -578 33 -439 -510 -539 -567	-517 26 -540 3 -482 -530 -537 -540	
30	-535 25 -560 2 -511 -535 -552 -559			-527 25 -560 15 -490 -530 -558 -560	-506 28 -578 36 -444 -510 -530 -566	-536 28 -570 7 -492 -530 -570 -570	
20	-568 29 -620 15 -518 -570 -598 -617			-544 55 -698 21 -468 -540 -576 -688	-533 68 -699 20 -458 -510 -549 -696	-566 42 -640 9 -520 -550 -614 -637	
10	-579 17 -600 7 -551 -590 -590 -599			-530 27 -560 4 -492 -535 -555 -559	-550 96 -708 4 -471 -510 -628 -700	-517 34 -589 21 -460 -520 -550 -582	
0			-605 11 -620 8 -590 -605 -619 -620			-580 50 -649 3 -540 -550 -618 -646	
10			-610 8 -620 7 -600 -610 -620 -620			-655 5 -660 2 -650 -655 -658 -660	
20			-608 7 -620 6 -600 -610 -612 -619			-617 33 -640 3 -573 -640 -640 -640	
30	-560 1		-608 13 -630 8 -590 -610 -619 -629			-630 1	
40 S			-603 19 -630 4 -581 -600 -620 -629				

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-533 9 -540 3 -521 -540 -540 -540							-533 9 -540 3 -521 -540 -540 -540	70 N
60	-550 -550 2 -550 -550 -550 -550	-597 34 -630 3 -552 -610 -624 -629						-572 35 -630 6 -541 -550 -614 -628	60
	-521 71 -640 8 -440 -515 -609 -637	-546 85 -718 13 -430 -530 -614 -706	-480 1	-495 25 -520 2 -471 -495 -512 -519	-540 1			-518 75 -715 31 -422 -520 -602 -684	
50		-546 59 -640 14 -453 -560 -598 -637	-485 15 -500 4 -462 -490 -495 -499	-514 42 -560 5 -452 -530 -554 -559	-620 37 -660 4 -564 -630 -650 -659	-520 10 -530 2 -510 -520 -527 -530		-522 51 -656 65 -450 -520 -568 -640	50
	-563 71 -727 8 -493 -545 -595 -712	-543 36 -619 24 -475 -545 -580 -611	-522 49 -647 17 -450 -520 -553 -631	-545 9 -560 4 -540 -540 -550 -559	-560 1			-527 43 -707 97 -449 -520 -560 -622	
40	-636 71 -740 14 -543 -640 -736 -740	-541 47 -667 12 -487 -530 -575 -652	-541 58 -680 33 -456 -530 -599 -680			-590 66 -660 4 -512 -595 -655 -659		-554 66 -740 107 -461 -530 -620 -735	40
	-581 76 -729 48 -440 -570 -685 -721	-567 49 -668 7 -511 -560 -584 -659	-565 25 -590 2 -541 -565 -582 -589			-552 48 -650 13 -500 -550 -603 -648		-557 66 -726 118 -450 -550 -630 -717	
30	-599 51 -660 12 -524 -605 -650 -658	-560 1	-577 17 -600 3 -560 -570 -590 -599			-537 19 -550 3 -512 -550 -550 -550		-572 43 -659 38 -505 -560 -622 -653	30
	-581 52 -660 11 -522 -550 -644 -658	-560 1	-590 1					-579 40 -659 20 -524 -570 -638 -656	
20	-598 45 -650 5 -550 -590 -650 -650	-550 1	-630 -630 2 -630 -630 -630 -630					-599 36 -650 19 -544 -600 -632 -650	20
	-580 10 -590 2 -570 -580 -587 -590							-613 24 -660 11 -574 -610 -632 -658	
								-611 20 -640 9 -575 -610 -634 -640	
10								-605 20 -630 10 -565 -610 -626 -630	10
				-610 1				-604 17 -630 5 -581 -610 -617 -628	
0				-600 20 -620 2 -581 -600 -614 -619				-600 20 -620 2 -581 -600 -614 -619	0
				-610 -610 4 -610 -610 -610 -610				-610 -610 4 -610 -610 -610 -610	
10				-610 8 -620 3 -600 -610 -617 -620				-610 8 -620 3 -600 -610 -617 -620	10
				-597 12 -610 3 -581 -600 -607 -610				-598 11 -610 4 -581 -600 -605 -609	
20				-560 1				-590 22 -610 3 -562 -600 -607 -610	20
								-607 17 -630 3 -590 -600 -620 -629	
30								-593 35 -630 8 -533 -590 -630 -630	30
								-580 46 -650 11 -532 -570 -644 -650	
40 S									40S

LONGITUDE

APPENDIX C

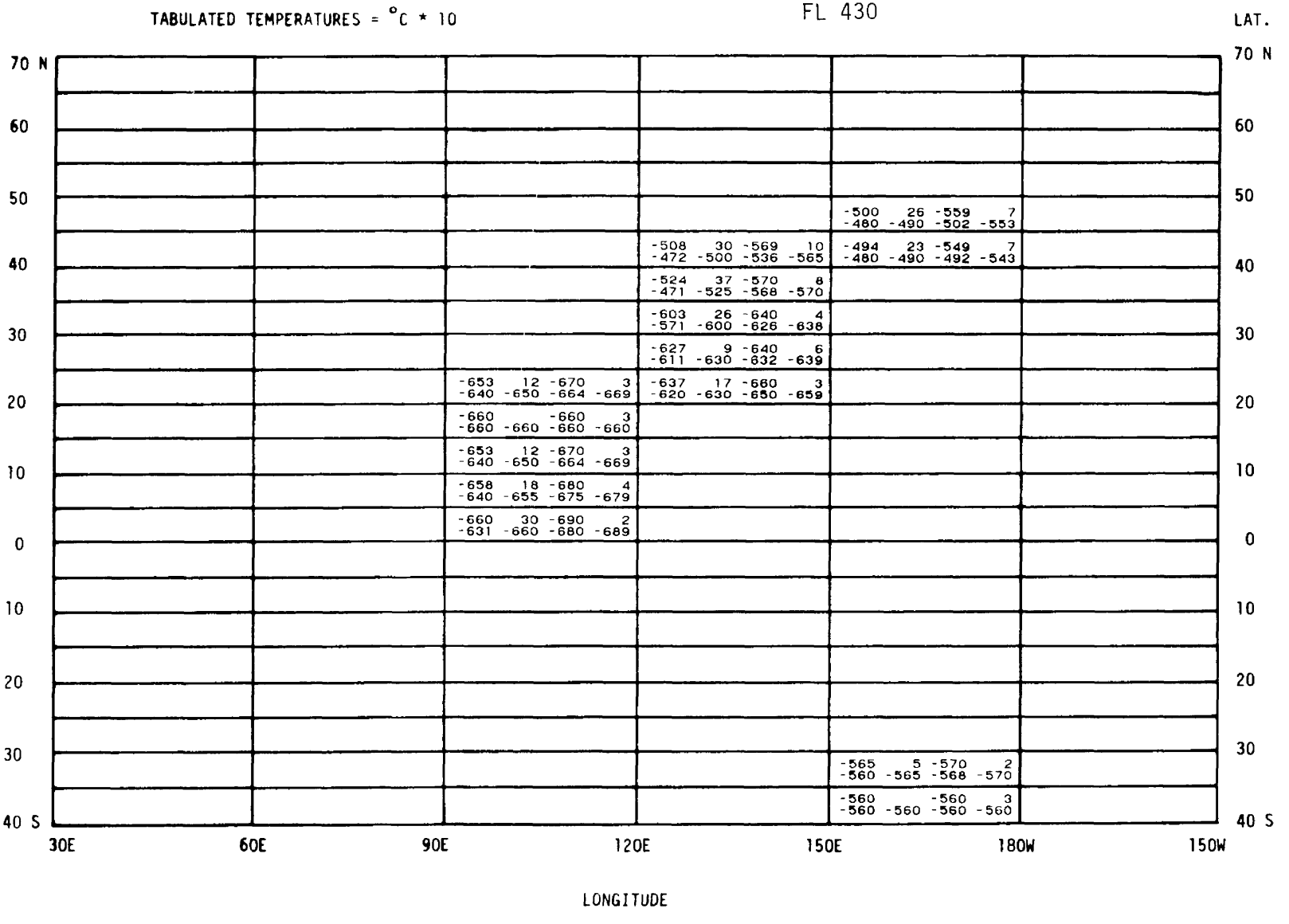
STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

FEBRUARY
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-550 -550 -550 -550 2	-535 -521 -535 -545 -549 15 -550 2			-543 -522 -550 -550 -550 13 -550 4	60
50		-540 1	-495 -471 -495 -512 -519 25 -520 2	-510 -472 -510 -537 -548 40 -550 2		-510 1		-510 -470 -515 -542 -549 31 -550 6	50
40	-550 1	-547 -521 -550 -564 -569 21 -570 3	-504 -480 -520 -520 -520 20 -520 5					-511 -480 -500 -543 -567 29 -570 15	40
30	-575 -550 -575 -590 -599 17 -600 8	-583 -570 -580 -594 -599 12 -600 3	-532 -483 -520 -564 -587 37 -590 5					-519 -475 -510 -570 -595 39 -599 26	30
20	-599 -540 -590 -642 -684 51 -669 7	-533 -510 -520 -554 -568 26 -570 3						-547 -474 -550 -581 -596 37 -599 19	20
10	-580 -530 -540 -628 -665 64 -669 3							-600 -540 -590 -640 -680 44 -688 11	10
0								-611 -532 -630 -637 -665 44 -669 9	0
10								-645 -621 -645 -662 -669 17 -670 6	10
20								-660 -660 -660 -660 -660 -660 3	20
30								-653 -640 -650 -664 -669 12 -670 3	30
40 S								-658 -640 -655 -675 -679 18 -680 4	40S
								-660 -631 -660 -680 -689 30 -690 2	
								-565 -560 -565 -568 -570 5 -570 2	
								-560 -560 -560 -560 -560 -560 3	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-430 51 -480 3 -364 -450 -470 -479						
40	-387 19 -400 3 -362 -400 -400 -400			-409 38 -459 21 -318 -420 -440 -456			
30	-422 67 -510 6 -351 -410 -494 -508			-355 47 -429 4 -311 -340 -396 -426			
30	-340 1	-328 26 -370 4 -301 -320 -346 -367					
20			-264 25 -309 8 -223 -265 -279 -306			-307 36 -369 29 -238 -310 -345 -364	
20			-248 20 -280 6 -230 -240 -272 -279			-330 22 -350 3 -302 -340 -347 -350	
10			-252 21 -280 5 -222 -250 -274 -279	-224 10 -240 5 -211 -220 -234 -239			
10							
0			-210 1				
0			-230 1				
10							
10				-220 20 -240 2 -201 -220 -234 -239			
20					-216 16 -240 5 -200 -210 -234 -239		
20	-210 1						
30							
30			-263 21 -290 3 -241 -260 -280 -289	-293 23 -330 4 -271 -285 -311 -328	-324 17 -350 5 -310 -310 -344 -349		
40 S				-295 5 -300 2 -290 -295 -298 -300	-380 1		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60									60
50	-413 25 -440 3 -382 -420 -434 -439	-450 60 -510 2 -392 -450 -491 -508			-453 49 -558 15 -364 -450 -503 -546 -480 1	-457 51 -520 7 -381 -460 -501 -518 -436 37 -499 9 -368 -430 -467 -495	-455 50 -557 22 -363 -455 -506 -543 -436 41 -510 15 -368 -430 -478 -507		50
40	-408 38 -489 29 -336 -410 -445 -484	-402 38 -450 11 -336 -400 -444 -450 -418 17 -450 8 -391 -420 -429 -447	-412 44 -508 53 -330 -410 -460 -499 -365 25 -410 2 -361 -385 -402 -409			-403 44 -460 9 -325 -400 -447 -458 -343 15 -360 4 -321 -345 -355 -359	-411 44 -508 76 -330 -410 -460 -490 -404 38 -488 67 -323 -410 -440 -477		40
30	-376 39 -439 7 -321 -390 -402 -435	-385 28 -448 28 -335 -380 -417 -439	-297 9 -310 3 -290 -290 -304 -309				-386 43 -507 45 -319 -380 -430 -492 -318 25 -369 8 -290 -315 -336 -366		30
20		-260 10 -270 2 -250 -260 -267 -270					-298 38 -369 37 -217 -290 -340 -363 -273 40 -350 11 -230 -270 -315 -348		20
10		-267 17 -290 3 -250 -260 -280 -289	-258 13 -270 4 -241 -260 -270 -270 -230 1				-248 23 -290 17 -213 -250 -270 -287 -230 1		10
0							-210 1 -230 1		0
10							-220 20 -240 2 -201 -220 -234 -239		10
20				-240 1			-216 16 -240 5 -200 -210 -234 -239 -225 15 -240 2 -211 -225 -235 -239		20
30							-298 32 -350 12 -244 -300 -332 -348		30
40 S							-323 40 -380 3 -290 -300 -354 -377		40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-460 40 -500 2 -422 -460 -487 -498			-453 37 -519 22 -377 -465 -486 -516	-520 30 -550 2 -491 -520 -540 -549		
30	-465 32 -519 12 -410 -470 -492 -516			-430 30 -479 7 -382 -440 -442 -475			
20	-440 45 -539 16 -380 -435 -476 -531			-365 21 -390 4 -341 -365 -385 -389		-397 9 -410 3 -390 -390 -404 -409	
10	-390 22 -420 3 -370 -380 -407 -418	-358 27 -400 12 -322 -350 -385 -400	-304 24 -330 5 -263 -310 -324 -329	-310 10 -320 2 -300 -310 -317 -320		-354 36 -419 40 -288 -360 -390 -412	
0		-323 18 -340 4 -301 -325 -340 -340	-303 15 -320 7 -281 -310 -320 -320	-307 5 -310 3 -300 -310 -310 -310		-290 10 -300 2 -280 -290 -297 -300	
10			-287 15 -310 7 -262 -290 -300 -309	-282 18 -300 6 -252 -285 -300 -300			
20			-280 -280 2 -280 -280 -280 -280				
30							
40							
50							
60				-270 1			
70 N					-260 1		
	-280 1	-270 1					
	-350 1				-300 1		
			-320 -320 2 -320 -320 -320 -320	-337 31 -380 3 -310 -320 -361 -378	-335 35 -390 4 -301 -325 -366 -387		
40 S				-370 23 -400 5 -341 -370 -394 -399	-400 1		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60			-535 44 -570 4 -465 -555 -565 -569	-476 12 -490 7 -452 -480 -480 -489				-497 40 -570 11 -452 -480 -554 -568	60
		-515 25 -540 2 -491 -515 -532 -539	-560 1	-480 1	-497 29 -549 7 -462 -480 -521 -546			-505 32 -560 11 -464 -490 -544 -558	
50		-480 12 -500 4 -470 -475 -490 -499		-463 12 -480 3 -450 -460 -474 -479	-484 22 -520 18 -450 -480 -503 -520	-495 31 -559 13 -445 -490 -522 -555		-486 26 -558 38 -447 -480 -510 -545	50
	-503 39 -540 3 -453 -520 -534 -539	-488 36 -540 4 -442 -485 -516 -537	-480 -480 2 -480 -480 -480 -480	-460 14 -480 3 -450 -450 -470 -479	-475 5 -480 2 -470 -475 -478 -480	-486 38 -560 12 -424 -490 -512 -558		-484 35 -559 26 -430 -480 -520 -555	
40	-470 10 -480 2 -460 -470 -477 -480	-440 31 -499 24 -375 -440 -463 -495	-444 47 -528 76 -340 -450 -480 -515	-520 15 -530 5 -492 -530 -530 -530		-455 45 -539 13 -392 -450 -510 -533		-448 45 -536 122 -356 -450 -490 -530	40
	-432 27 -479 21 -390 -440 -460 -476	-431 35 -499 14 -383 -430 -468 -495	-448 38 -519 8 -394 -440 -485 -516			-412 60 -536 6 -370 -385 -444 -528		-444 41 -547 85 -370 -440 -480 -526	
30	-433 39 -490 12 -390 -440 -480 -488	-425 27 -480 37 -370 -430 -450 -480				-370 1		-429 35 -534 73 -370 -430 -470 -501	30
	-411 11 -420 7 -391 -420 -420 -420	-363 24 -380 3 -332 -380 -380 -380	-328 13 -350 5 -311 -330 -337 -348					-371 34 -420 37 -317 -380 -410 -420	
20	-370 1	-343 26 -380 3 -320 -330 -364 -378	-350 10 -360 2 -340 -350 -357 -360					-347 37 -418 53 -280 -340 -387 -410	20
		-285 5 -290 2 -280 -285 -288 -290						-304 18 -340 18 -280 -305 -320 -340	
								-285 16 -310 13 -252 -290 -300 -308	
10			-295 15 -310 2 -281 -295 -305 -309					-288 13 -310 4 -280 -280 -296 -308	10
0									0
10								-270 1	10
								-260 1	
20				-287 5 -290 3 -280 -290 -290 -290				-282 7 -290 5 -271 -280 -290 -290	20
								-325 25 -350 2 -301 -325 -342 -349	
30								-332 30 -390 9 -302 -320 -369 -388	30
								-375 24 -400 6 -341 -380 -400 -400	
40 S									40S

LONGITUDE

APPENDIX C

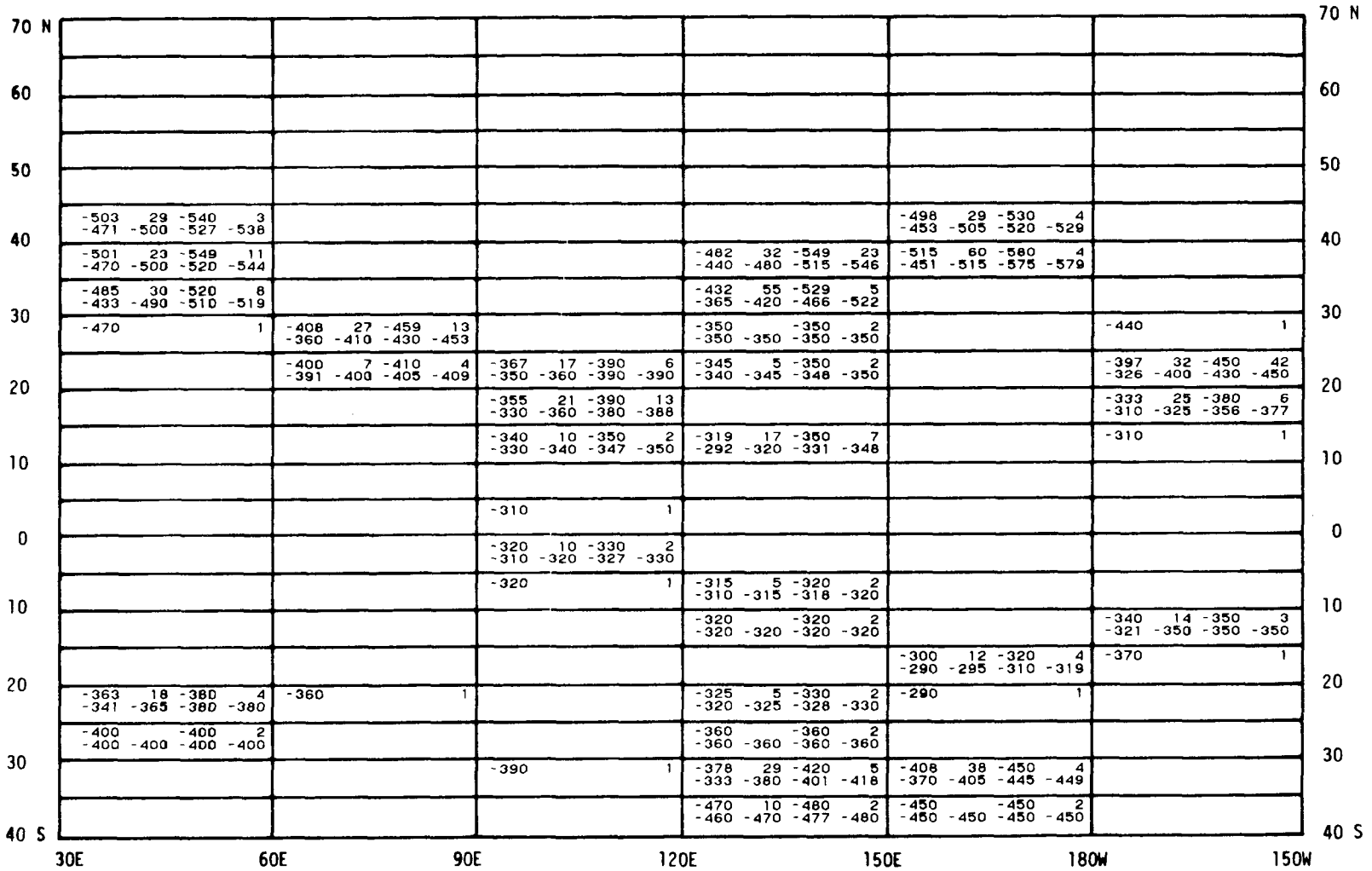
STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N					-590 20 -610 2 -571 -590 -604 -609			-590 20 -610 2 -571 -590 -604 -609	70 N
60				-440 1	-583 5 -590 3 -580 -580 -587 -590			-548 62 -590 4 -448 -580 -585 -589	60
		-510 1			-530 30 -579 6 -484 -530 -548 -576			-527 29 -579 7 -484 -520 -542 -575	
50	-480 14 -490 3 -461 -490 -490 -490	-518 20 -550 4 -500 -510 -536 -548		-500 27 -530 6 -446 -505 -520 -529	-517 35 -589 35 -447 -510 -546 -583	-513 33 -569 9 -455 -520 -530 -564		-512 33 -588 59 -442 -510 -540 -578	50
	-517 29 -540 6 -464 -530 -540 -540	-510 1	-510 16 -530 6 -482 -515 -522 -529	-505 25 -530 2 -481 -505 -522 -529	-490 1	-513 28 -560 13 -465 -510 -541 -558		-512 26 -559 29 -460 -510 -540 -554	
40	-502 16 -520 6 -473 -505 -512 -519	-509 26 -558 31 -456 -510 -540 -548	-488 39 -558 64 -430 -490 -530 -550	-540 1	-520 1	-507 40 -579 12 -437 -515 -542 -573		-497 36 -573 122 -430 -500 -536 -556	40
	-487 40 -577 32 -412 -490 -520 -561	-490 30 -540 17 -450 -490 -524 -540	-446 29 -509 9 -420 -440 -472 -505			-470 55 -559 5 -395 -470 -509 -554		-484 39 -580 101 -420 -480 -520 -570	
30	-463 41 -530 17 -383 -460 -504 -530	-456 28 -519 31 -402 -450 -480 -514						-460 37 -530 61 -382 -450 -500 -530	30
	-438 31 -490 6 -410 -430 -466 -487		-430 1					-415 36 -489 24 -350 -415 -453 -481	
20	-420 36 -450 3 -373 -440 -447 -450							-394 33 -450 57 -331 -390 -430 -450	20
		-367 19 -380 3 -342 -380 -380 -380						-350 25 -389 22 -310 -345 -380 -386	
10			-360 14 -380 4 -341 -360 -370 -379					-333 24 -379 14 -295 -330 -359 -375	10
			-340 16 -360 4 -321 -340 -355 -359					-340 16 -360 4 -321 -340 -355 -358	
0								-310 1	0
								-320 10 -330 2 -310 -320 -327 -330	
10								-317 5 -320 3 -310 -320 -320 -320	10
								-332 15 -350 5 -320 -320 -350 -350	
20				-360 1				-322 32 -370 6 -290 -310 -362 -369	20
								-344 29 -380 8 -294 -345 -378 -380	
30						-380 1		-380 18 -400 5 -360 -380 -400 -400	30
								-391 34 -450 10 -337 -385 -431 -448	
40 S								-460 12 -480 4 -450 -455 -470 -479	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-450 1	
						-450 1	
50					-540 28 -580 6 -502 -535 -572 -579	-570 43 -620 5 -520 -580 -614 -619	
40	-555 5 -560 2 -550 -555 -558 -560			-510 40 -550 2 -472 -510 -537 -548	-550 25 -589 13 -505 -560 -570 -585		
	-541 43 -619 7 -482 -550 -572 -614			-521 51 -590 25 -414 -540 -562 -590	-538 31 -590 9 -492 -530 -567 -587		
30	-504 24 -549 18 -470 -505 -523 -547			-493 66 -560 4 -404 -505 -555 -559		-515 5 -520 2 -510 -515 -518 -520	
	-460 1	-473 36 -539 20 -410 -475 -510 -532		-445 5 -450 2 -440 -445 -448 -450		-483 38 -530 8 -416 -490 -519 -529	
20	-445 5 -450 2 -440 -445 -448 -450	-442 13 -460 5 -422 -440 -454 -459	-403 19 -430 9 -372 -400 -420 -428	-430 1	-398 23 -420 4 -371 -400 -420 -420	-445 44 -530 45 -360 -450 -490 -530	
		-440 17 -450 4 -412 -450 -450 -450	-396 14 -429 12 -374 -390 -402 -426		-389 12 -419 13 -380 -380 -400 -415	-408 44 -470 8 -346 -390 -459 -469	
10			-397 13 -410 10 -372 -400 -410 -410	-388 19 -410 8 -361 -380 -410 -410		-380 -380 2 -380 -380 -380 -380	
			-395 15 -410 4 -380 -395 -410 -410	-380 -380 2 -380 -380 -380 -380		-380 -380 2 -380 -380 -380 -380	
0			-380 -380 2 -380 -380 -380 -380	-380 -380 2 -380 -380 -380 -380		-375 5 -380 2 -370 -375 -378 -380	
			-368 18 -380 6 -334 -375 -380 -380	-380 -380 2 -380 -380 -380 -380		-368 4 -370 4 -361 -370 -370 -370	
10			-370 -370 3 -370 -370 -370 -370	-373 4 -380 4 -370 -370 -375 -379		-368 8 -380 4 -360 -365 -375 -379	
			-370 -370 2 -370 -370 -370 -370	-368 15 -380 5 -342 -370 -380 -380	-363 5 -370 3 -360 -360 -367 -370	-377 17 -400 3 -360 -370 -390 -399	
20				-380 -380 2 -380 -380 -380 -380	-364 10 -380 7 -350 -370 -370 -379	-390 1	
	-405 21 -440 4 -390 -395 -421 -438	-370 -370 2 -370 -370 -370 -370		-375 15 -390 2 -361 -375 -385 -389	-359 15 -380 7 -340 -360 -370 -379		
	-440 1	-393 4 -400 4 -390 -390 -395 -399	-410 1		-365 19 -390 6 -333 -365 -382 -389		
30			-425 9 -430 4 -411 -430 -430 -430	-444 34 -480 5 -386 -450 -467 -478	-427 61 -490 6 -351 -435 -490 -490		
40 S				-455 35 -490 2 -421 -455 -479 -489	-471 33 -520 9 -413 -480 -497 -517		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N					-570 1			-570 1	70 N
60		-580 36 -610 3 -533 -600 -607 -610	-515 55 -609 11 -436 -510 -580 -604	-548 43 -619 6 -485 -540 -588 -616	-530 20 -550 2 -511 -530 -544 -549			-535 52 -619 22 -443 -535 -593 -616	60
		-542 45 -610 9 -463 -550 -582 -607	-505 35 -540 2 -471 -505 -529 -539	-519 40 -579 13 -435 -530 -550 -573	-539 31 -589 21 -490 -550 -570 -586			-530 40 -607 46 -448 -540 -568 -592	
50	-490 44 -559 5 -432 -490 -528 -556	-574 47 -600 5 -489 -600 -600 -600	-520 -520 2 -520 -520 -520 -520	-543 30 -608 27 -485 -540 -570 -600	-546 41 -610 56 -472 -545 -600 -609	-550 24 -580 12 -520 -550 -580 -580		-543 41 -610 108 -460 -540 -590 -609	50
	-535 41 -570 8 -444 -550 -559 -569	-558 25 -580 4 -522 -565 -580 -580	-517 33 -579 19 -441 -510 -541 -573	-524 37 -589 49 -459 -530 -563 -580	-538 29 -589 18 -487 -535 -566 -587	-558 29 -590 4 -521 -560 -585 -589		-531 37 -617 113 -437 -530 -570 -590	
40	-560 44 -600 7 -477 -580 -600 -600	-521 39 -586 43 -418 -530 -550 -565	-518 39 -598 78 -430 -515 -560 -585	-521 38 -560 11 -456 -540 -560 -560	-538 29 -579 8 -478 -545 -550 -576	-547 38 -599 10 -474 -550 -580 -596		-526 40 -600 174 -430 -530 -560 -595	40
	-525 34 -598 39 -446 -530 -550 -585	-522 31 -579 21 -468 -520 -550 -576	-498 33 -530 8 -443 -505 -530 -530			-477 39 -530 3 -441 -460 -508 -527		-522 40 -613 112 -440 -530 -560 -590	
30	-505 34 -559 36 -427 -520 -534 -553	-489 38 -568 26 -425 -495 -520 -555	-494 21 -520 5 -462 -490 -514 -519			-450 20 -470 2 -431 -450 -464 -469		-498 36 -567 93 -420 -500 -530 -560	30
	-499 21 -540 34 -453 -500 -517 -540	-438 12 -460 6 -430 -430 -452 -459	-466 22 -500 9 -430 -470 -480 -497					-481 33 -540 80 -410 -490 -510 -540	
20	-497 19 -510 3 -472 -510 -510 -510	-438 7 -450 6 -430 -440 -442 -449	-460 1					-439 41 -530 76 -365 -440 -480 -520	20
		-415 14 -439 11 -390 -420 -420 -436						-404 26 -469 48 -368 -400 -425 -461	
10		-393 5 -400 3 -390 -390 -397 -400	-410 20 -430 6 -373 -420 -422 -429					-396 18 -429 29 -366 -400 -410 -424	10
			-380 1					-387 12 -410 9 -380 -380 -402 -410	
0			-380 -380 2 -380 -380 -380 -380					-379 3 -380 8 -371 -380 -380 -380	0
			-390 -390 2 -390 -390 -390 -390					-373 14 -390 14 -338 -375 -380 -390	
10								-370 6 -380 11 -360 -370 -374 -380	10
								-369 13 -399 13 -345 -370 -380 -395	
20								-370 13 -390 10 -350 -370 -380 -388	20
				-420 1				-378 26 -439 16 -340 -370 -396 -434	
30								-384 27 -439 12 -337 -390 -402 -433	30
								-432 44 -490 15 -353 -430 -480 -490	
40 S								-468 34 -519 11 -412 -480 -494 -516	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
						-640 1	
60					-550 20 -570 2 -531 -550 -564 -569	-536 61 -649 9 -452 -520 -587 -640	
					-525 65 -619 12 -413 -525 -592 -616	-558 54 -610 10 -462 -580 -606 -610	
50					-535 72 -659 14 -450 -505 -619 -652	-549 39 -600 7 -484 -550 -590 -599	
	-555 25 -580 2 -531 -555 -572 -579			-487 41 -540 6 -441 -475 -540 -540	-554 59 -640 19 -461 -550 -621 -640	-510 40 -550 2 -472 -510 -537 -548	
40	-551 47 -610 7 -481 -560 -591 -608			-501 52 -599 23 -406 -490 -560 -591	-515 9 -530 4 -510 -510 -520 -529		
	-550 27 -609 22 -501 -550 -570 -602	-505 5 -510 2 -500 -505 -508 -510		-518 52 -609 12 -422 -520 -552 -606	-530 20 -560 5 -502 -530 -547 -558	-560 20 -580 2 -541 -560 -574 -579	
30	-518 4 -520 4 -511 -520 -520 -520	-508 38 -570 32 -425 -520 -540 -570		-486 27 -530 7 -444 -490 -511 -528	-560 1	-519 42 -580 28 -430 -530 -560 -580	
	-520 1	-495 19 -520 13 -470 -500 -520 -520	-468 26 -510 9 -430 -470 -490 -507	-495 5 -500 2 -490 -495 -498 -500		-494 42 -568 75 -410 -500 -540 -560	
20		-470 50 -520 2 -422 -470 -504 -518	-459 18 -499 14 -430 -460 -470 -495		-452 28 -509 6 -430 -440 -470 -505	-433 32 -509 7 -410 -420 -433 -500	
			-442 15 -460 14 -413 -445 -459 -460	-435 14 -460 13 -412 -440 -450 -458	-436 5 -440 10 -430 -440 -440 -440	-414 8 -420 5 -401 -420 -420 -420	
10			-438 13 -460 10 -420 -435 -450 -458			-418 9 -430 6 -410 -415 -430 -430	
			-422 12 -430 5 -402 -430 -430 -430			-425 5 -430 6 -420 -425 -430 -430	
0			-424 5 -430 7 -420 -420 -430 -430			-423 7 -430 6 -411 -425 -430 -430	
			-423 5 -430 3 -420 -420 -427 -430	-420 -420 2 -420 -420 -420 -420		-416 9 -430 7 -401 -420 -420 -429	
10			-420 1	-418 7 -430 5 -410 -420 -424 -429	-410 8 -420 3 -400 -410 -417 -420	-423 12 -440 3 -410 -420 -434 -439	
				-417 9 -430 6 -401 -420 -422 -429	-407 12 -420 3 -391 -410 -417 -420		
20		-425 5 -430 2 -420 -425 -428 -430		-424 12 -440 7 -410 -420 -440 -440	-400 17 -430 6 -380 -400 -414 -428		
		-450 10 -460 2 -440 -450 -457 -460		-433 21 -470 6 -410 -435 -446 -467	-400 8 -410 6 -390 -400 -410 -410		
30				-447 41 -500 3 -402 -440 -481 -498	-442 48 -510 6 -401 -410 -510 -510		
				-471 32 -500 7 -408 -470 -500 -500	-515 30 -550 4 -472 -520 -540 -549		
40 S							

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 350

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-528 29 -550 4 -483 -540 -550 -550	-515 15 -530 2 -501 -515 -525 -529						-523 26 -550 6 -482 -530 -550 -550	70 N
	-533 16 -560 4 -520 -525 -546 -558	-550 34 -619 12 -500 -550 -575 -613	-567 19 -580 3 -542 -580 -580 -580	-527 47 -560 3 -464 -560 -560 -560	-565 5 -570 2 -560 -565 -568 -570			-551 37 -639 25 -479 -560 -580 -630	
60	-490 30 -520 2 -461 -490 -510 -519	-548 49 -630 13 -482 -540 -612 -630	-505 9 -510 4 -491 -510 -510 -510	-574 33 -610 10 -512 -585 -600 -608	-575 51 -640 16 -480 -590 -630 -637			-553 52 -648 56 -460 -560 -610 -639	60
	-483 25 -510 3 -452 -490 -504 -509	-562 64 -640 6 -464 -575 -624 -638	-577 46 -650 14 -498 -575 -620 -647	-555 59 -630 31 -432 -570 -610 -630	-566 46 -638 53 -470 -570 -617 -630	-585 46 -630 8 -496 -605 -619 -629		-560 55 -646 137 -447 -570 -612 -640	
50	-573 48 -620 12 -463 -590 -605 -620	-560 21 -580 4 -531 -565 -580 -580	-561 49 -649 32 -461 -570 -610 -644	-542 51 -630 27 -430 -550 -580 -630	-570 36 -620 3 -540 -550 -598 -617	-551 52 -610 7 -471 -580 -600 -609		-553 53 -657 106 -441 -560 -602 -639	50
	-583 29 -619 24 -515 -590 -610 -615	-560 48 -628 63 -422 -570 -600 -620	-543 58 -646 70 -430 -550 -610 -630		-546 55 -590 5 -456 -580 -590 -590	-588 35 -630 8 -530 -600 -610 -627		-554 54 -644 199 -430 -570 -610 -630	
40	-562 40 -627 99 -430 -570 -590 -620	-551 41 -590 53 -460 -560 -580 -590	-546 46 -619 14 -446 -540 -589 -615			-490 1		-549 47 -624 201 -420 -560 -590 -610	40
	-550 44 -616 136 -437 -560 -580 -603	-528 39 -580 17 -466 -540 -570 -580	-530 30 -560 2 -501 -530 -550 -559					-545 43 -614 198 -430 -550 -580 -610	
30	-523 45 -587 110 -395 -530 -570 -580	-520 22 -550 6 -483 -525 -534 -548	-502 25 -530 5 -471 -500 -530 -530					-518 43 -584 193 -417 -530 -560 -580	30
	-509 45 -559 20 -411 -525 -550 -556	-489 19 -529 8 -463 -485 -499 -526	-503 24 -520 3 -472 -520 -520 -520					-495 39 -566 131 -412 -500 -532 -560	
20	-530 1	-470 10 -490 10 -460 -470 -480 -488						-458 29 -529 40 -410 -460 -480 -522	20
		-460 1	-455 11 -470 13 -432 -460 -461 -470					-440 17 -470 56 -410 -440 -460 -469	
10			-444 19 -480 5 -430 -440 -454 -477					-434 17 -479 21 -410 -430 -450 -472	10
			-430 1	-420 1				-424 8 -430 13 -405 -430 -430 -430	
0			-450 1	-425 5 -430 2 -420 -425 -426 -430				-426 9 -449 16 -413 -425 -430 -444	0
				-433 4 -440 4 -430 -430 -435 -439				-422 9 -440 16 -403 -420 -430 -437	
10				-438 8 -450 4 -430 -435 -445 -449				-423 13 -450 16 -403 -420 -436 -447	10
				-448 15 -470 4 -431 -445 -460 -469				-424 20 -469 13 -392 -420 -441 -465	
20				-500 1				-420 27 -497 16 -380 -420 -436 -482	20
								-421 24 -470 14 -390 -410 -440 -467	
30								-443 46 -510 9 -400 -410 -507 -510	30
								-487 37 -549 11 -414 -490 -518 -546	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-540 1	
						-534 72 -668 5 -463 -510 -580 -659	
60					-470 1	-510 55 -639 23 -434 -490 -564 -631	
					-526 71 -670 16 -443 -510 -596 -670	-513 71 -648 21 -406 -500 -580 -638	
50					-568 65 -670 13 -502 -530 -670 -670	-611 46 -650 9 -506 -630 -644 -650	
	-550 30 -580 2 -521 -550 -570 -579			-555 45 -600 2 -512 -555 -586 -598	-548 72 -669 18 -443 -540 -636 -663	-568 66 -640 21 -454 -600 -638 -640	
40	-527 30 -589 7 -501 -510 -552 -585			-559 65 -659 27 -431 -560 -638 -665	-542 64 -667 33 -438 -530 -628 -651	-560 57 -640 14 -473 -570 -627 -640	
	-579 28 -610 8 -533 -585 -609 -610			-542 85 -630 6 -421 -575 -622 -629	-496 75 -648 15 -386 -530 -540 -636	-590 22 -620 3 -570 -580 -607 -618	
30	-540 1	-536 37 -590 13 -482 -550 -571 -588		-535 5 -540 2 -530 -535 -538 -540		-557 46 -610 26 -460 -570 -600 -610	
		-496 17 -510 8 -463 -500 -510 -510	-505 13 -530 10 -484 -500 -516 -528	-490 1	-470 1	-515 42 -598 67 -443 -510 -564 -590	
20		-475 5 -480 2 -470 -475 -478 -480	-504 14 -520 14 -480 -505 -520 -520	-483 13 -500 4 -470 -480 -495 -499	-487 5 -490 3 -480 -490 -490 -490	-467 17 -490 3 -450 -460 -480 -489	
			-501 16 -520 7 -480 -500 -520 -520	-488 6 -500 11 -480 -490 -490 -498	-480 -480 3 -480 -480 -480 -480	-458 4 -460 4 -451 -460 -460 -460	
10			-480 1			-476 17 -510 5 -461 -470 -484 -507	
			-470 1			-494 30 -540 5 -470 -470 -527 -538	
0						-470 -470 2 -470 -470 -470 -470	
				-470 1		-450 20 -470 2 -431 -450 -464 -469	
10				-478 4 -480 4 -471 -480 -480 -480			
				-478 13 -490 6 -453 -480 -490 -490			
20				-478 19 -500 6 -451 -480 -500 -500			
		-560 10 -570 2 -550 -560 -567 -570	-590 1	-480 15 -500 6 -460 -485 -492 -499			
30			-540 44 -590 5 -466 -540 -577 -588	-483 15 -510 7 -461 -480 -491 -508	-530 1		
				-489 36 -530 7 -432 -510 -520 -529			
40 S							

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-518 25 -560 12 -482 -515 -537 -560	-530 1						-520 24 -560 14 -483 -525 -539 -560	70 N
60	-512 43 -590 12 -454 -500 -557 -588	-514 23 -550 14 -475 -510 -539 -550	-570 1	-565 70 -640 6 -462 -590 -632 -639	-515 57 -609 4 -470 -490 -562 -604			-524 52 -666 42 -456 -510 -580 -645	60
	-547 51 -640 9 -500 -520 -606 -637	-542 59 -649 11 -442 -530 -600 -646	-650 1	-617 34 -669 10 -570 -615 -650 -666	-571 56 -650 13 -482 -590 -641 -650			-549 65 -666 68 -433 -540 -633 -650	
50	-518 58 -629 9 -442 -510 -573 -624	-508 29 -530 5 -456 -520 -524 -529	-543 74 -639 3 -463 -530 -605 -636	-586 63 -679 36 -441 -600 -640 -673	-592 49 -696 43 -507 -600 -633 -675	-595 59 -670 6 -513 -600 -654 -668		-562 70 -692 139 -438 -570 -630 -670	50
	-588 57 -659 25 -459 -610 -640 -655	-595 65 -660 11 -474 -600 -654 -660	-577 62 -660 12 -471 -575 -652 -660	-599 50 -660 17 -480 -610 -640 -657	-633 5 -640 3 -630 -630 -637 -640	-578 57 -659 8 -494 -585 -629 -656		-589 59 -670 98 -469 -610 -650 -670	
40	-609 51 -670 29 -476 -630 -640 -670	-560 66 -670 77 -440 -580 -628 -665	-563 70 -678 56 -430 -575 -632 -669		-540 57 -619 3 -491 -510 -585 -616	-579 53 -669 9 -502 -580 -629 -665		-567 67 -674 217 -440 -580 -640 -670	40
	-597 46 -650 59 -483 -610 -640 -650	-570 59 -666 118 -430 -580 -630 -657	-539 57 -630 23 -430 -570 -580 -630					-567 60 -670 281 -430 -580 -630 -650	
30	-573 52 -640 110 -450 -580 -620 -638	-548 54 -639 33 -439 -560 -599 -634	-566 17 -580 8 -533 -570 -580 -580					-561 58 -645 183 -420 -580 -620 -640	30
	-563 48 -630 95 -459 -570 -610 -621	-560 37 -600 4 -504 -570 -590 -599	-545 15 -570 8 -521 -545 -559 -569					-558 46 -630 149 -460 -570 -600 -620	
20	-540 40 -609 22 -463 -545 -570 -602	-523 37 -570 4 -472 -525 -556 -568	-550 1					-517 40 -607 114 -450 -510 -570 -590	20
	-520 1	-535 15 -550 2 -521 -535 -545 -549	-515 15 -530 2 -501 -515 -525 -529					-497 22 -548 31 -456 -500 -520 -538	
10	-515 5 -520 2 -510 -515 -518 -520		-503 12 -520 6 -482 -505 -512 -519	-500 1				-491 18 -520 34 -457 -490 -510 -520	10
	-510 1		-495 15 -510 2 -481 -495 -505 -509	-505 5 -510 2 -500 -505 -508 -510				-488 19 -510 11 -462 -480 -510 -510	
0				-500 8 -510 3 -490 -500 -507 -510				-493 24 -540 9 -470 -490 -517 -537	0
			-480 1	-500 11 -520 5 -490 -500 -507 -518				-490 16 -520 8 -470 -480 -500 -517	
10			-490 1	-500 21 -520 9 -456 -510 -517 -520				-489 26 -520 13 -435 -480 -511 -520	10
				-500 12 -510 6 -481 -505 -510 -510				-491 14 -510 10 -472 -485 -510 -510	
20				-505 14 -520 8 -481 -505 -520 -520				-494 19 -520 14 -458 -490 -519 -520	20
				-508 13 -520 4 -491 -510 -520 -520				-490 22 -520 10 -452 -495 -511 -520	
30								-510 45 -590 9 -460 -490 -564 -587	30
								-508 41 -589 13 -460 -490 -542 -585	
40 S								-489 36 -530 7 -432 -510 -520 -529	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-480 1	
60						-509 62 -669 24 -425 -495 -559 -661	
					-508 59 -637 16 -415 -500 -562 -622	-500 48 -598 28 -435 -495 -557 -589	
50					-520 46 -662 47 -438 -520 -560 -615	-501 40 -588 20 -434 -500 -530 -575	
					-552 65 -689 49 -470 -540 -623 -680	-564 90 -690 11 -456 -520 -680 -688	
40	-595 45 -640 2 -552 -595 -626 -638			-562 67 -679 25 -459 -530 -640 -670	-557 69 -698 34 -467 -550 -630 -687	-601 70 -689 19 -514 -570 -680 -686	
	-567 52 -639 3 -530 -530 -605 -636			-552 70 -680 28 -460 -540 -630 -680	-531 76 -698 11 -460 -490 -594 -686	-516 25 -550 7 -481 -510 -550 -550	
30	-550 1			-545 5 -550 2 -540 -545 -548 -550	-517 48 -599 7 -445 -530 -552 -594	-508 8 -520 4 -500 -505 -515 -519	
	-530 1	-550 1		-550 14 -570 3 -540 -540 -560 -569		-598 40 -669 6 -543 -600 -622 -664	
20			-558 15 -580 5 -541 -550 -574 -579	-550 10 -560 2 -540 -550 -557 -560		-546 38 -609 15 -486 -560 -580 -604	
			-543 5 -550 3 -540 -540 -547 -550			-525 15 -540 2 -511 -525 -535 -539	
10			-540 1	-543 8 -550 4 -531 -545 -550 -550	-535 5 -540 2 -530 -535 -538 -540	-550 -550 2 -550 -550 -550 -550	
				-540 -540 2 -540 -540 -540 -540		-550 1	
0				-535 5 -540 2 -530 -535 -538 -540		-560 10 -570 2 -550 -560 -567 -570	
				-540 -540 2 -540 -540 -540 -540		-563 13 -580 4 -550 -560 -575 -579	
10				-520 1		-558 8 -570 4 -550 -555 -565 -569	
						-558 13 -580 5 -541 -560 -567 -578	
20						-550 -550 2 -550 -550 -550 -550	
						-550 -550 2 -550 -550 -550 -550	
30			-580 1		-550 1	-550 1	
				-490 1	-545 5 -550 2 -540 -545 -548 -550		
40 S				-510 1	-565 17 -580 4 -541 -570 -580 -580		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-502 15 -520 10 -474 -510 -516 -520							-500 16 -520 11 -472 -510 -514 -520	70 N
	-505 31 -560 13 -457 -500 -541 -558	-523 26 -579 6 -510 -510 -532 -574						-510 51 -667 43 -428 -500 -543 -653	
60	-507 35 -570 13 -462 -500 -542 -568	-539 42 -667 18 -484 -530 -563 -650	-570 1	-595 5 -600 2 -590 -595 -598 -600	-550 1			-516 51 -663 79 -436 -520 -570 -623	60
	-547 71 -679 11 -456 -520 -634 -672	-540 39 -639 13 -492 -530 -563 -630	-550 79 -670 8 -443 -545 -643 -667	-533 85 -650 7 -424 -520 -631 -648	-603 24 -620 3 -572 -620 -620 -620	-600 30 -630 2 -571 -600 -620 -629		-529 57 -677 111 -432 -520 -584 -666	
50	-564 70 -660 17 -446 -560 -644 -657	-528 75 -659 5 -451 -530 -583 -650	-535 79 -698 32 -426 -520 -640 -688	-598 85 -690 9 -470 -640 -687 -687		-623 26 -660 3 -600 -610 -644 -658		-554 76 -696 126 -435 -540 -650 -690	50
	-634 58 -689 27 -500 -660 -680 -685	-561 70 -678 54 -440 -565 -640 -670	-571 74 -678 56 -441 -585 -650 -670	-660 1		-592 65 -640 6 -492 -635 -640 -640		-577 73 -693 224 -440 -580 -660 -680	
40	-620 62 -690 34 -497 -640 -677 -690	-569 71 -687 92 -436 -570 -650 -672	-564 65 -669 19 -454 -590 -621 -663					-571 72 -694 194 -449 -570 -650 -681	40
	-584 61 -679 40 -460 -580 -640 -672	-567 56 -659 20 -475 -565 -649 -656	-591 19 -620 12 -549 -590 -610 -618					-571 57 -677 86 -460 -570 -634 -670	
30	-581 50 -649 35 -484 -590 -636 -643	-588 32 -639 10 -529 -585 -620 -636	-593 9 -610 6 -581 -590 -602 -609					-582 44 -666 62 -500 -590 -622 -648	30
	-539 48 -639 7 -491 -520 -583 -630	-587 7 -600 6 -580 -585 -592 -599						-553 37 -637 35 -487 -560 -586 -620	
20		-585 5 -590 2 -580 -585 -588 -590	-560 1					-551 24 -590 8 -514 -545 -578 -589	20
			-565 5 -570 2 -560 -565 -568 -570					-546 11 -570 11 -530 -550 -554 -568	
10			-558 13 -570 4 -541 -560 -570 -570	-550 1				-551 12 -570 8 -540 -550 -568 -570	10
			-550 14 -570 3 -540 -540 -560 -569	-560 8 -570 3 -550 -560 -567 -570				-552 14 -570 10 -532 -550 -570 -570	
0			-520 -520 4 -520 -520 -520 -520	-557 9 -570 3 -550 -550 -564 -569				-545 20 -580 13 -520 -550 -570 -578	0
			-510 1	-550 -550 2 -550 -550 -550 -550				-545 19 -570 8 -511 -550 -559 -569	
10				-565 5 -570 2 -560 -565 -568 -570				-560 12 -580 7 -541 -560 -570 -579	10
				-570 10 -580 2 -560 -570 -577 -580				-560 12 -580 4 -550 -555 -570 -579	
20				-550 1				-550 -550 3 -550 -550 -550 -550	20
								-560 14 -580 3 -550 -550 -570 -579	
30								-527 26 -550 3 -492 -540 -547 -550	30
								-554 27 -580 5 -512 -560 -580 -580	
40 S									40S

LONGITUDE

APPENDIX C

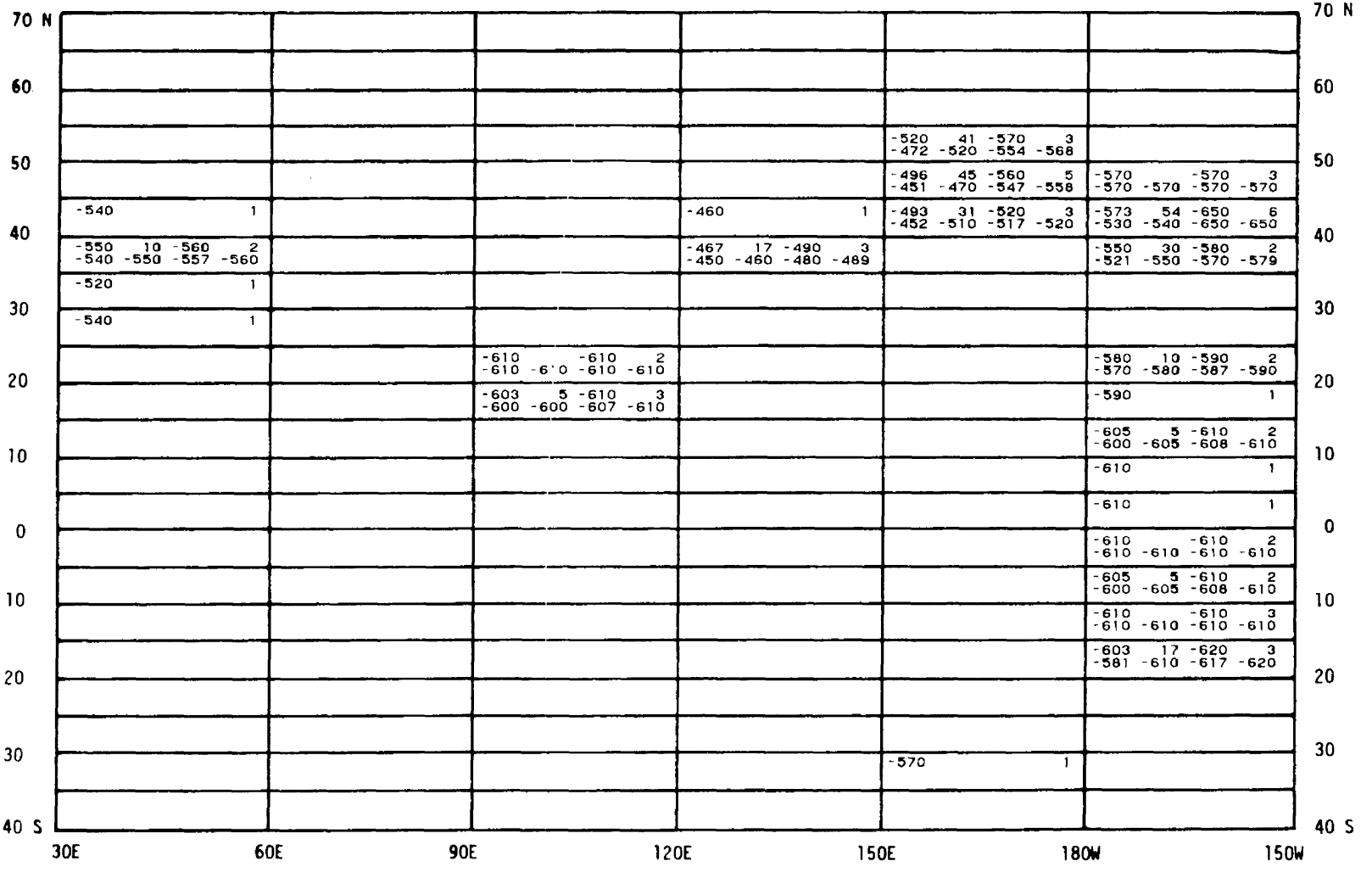
STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-500 1	-500 1						-500 -500 2 -500 -500 -500 -500	60
		-517 -520 3 -510 -520 -520 -520		-520 -520 2 -520 -520 -520 -520	-537 -550 3 -530 -530 -544 -549			-525 -550 8 -511 -520 -530 -547	
50	-600 1	-543 -550 3 -540 -540 -547 -550	-590 1	-535 -540 2 -530 -535 -538 -540				-545 -600 10 -479 -540 -581 -598	50
	-625 -719 4 -563 -610 -667 -713	-517 -540 3 -500 -510 -530 -539	-566 -640 5 -501 -540 -640 -640	-510 1				-551 -715 21 -454 -540 -610 -688	
40	-657 -740 6 -566 -655 -716 -737	-571 -689 12 -442 -575 -630 -683	-573 -690 18 -480 -560 -643 -690		-550 1	-615 -650 4 -554 -630 -645 -649		-578 -735 52 -450 -560 -650 -710	40
	-592 -660 5 -532 -570 -654 -659	-542 -600 11 -452 -550 -584 -598	-578 -649 11 -492 -590 -620 -644					-555 -659 34 -447 -560 -607 -653	
30		-553 -560 3 -550 -550 -557 -560	-628 -660 5 -566 -640 -654 -659					-591 -660 9 -525 -580 -647 -658	30
	-585 -590 2 -580 -585 -588 -590							-570 -590 3 -542 -580 -587 -590	
20								-595 -610 4 -571 -600 -610 -610	20
			-620 1					-604 -620 5 -591 -600 -614 -619	
10								-605 -610 2 -600 -605 -608 -610	10
								-610 1	
0								-610 1	0
								-610 -610 2 -610 -610 -610 -610	
10								-605 -610 2 -600 -605 -608 -610	10
								-610 -610 3 -610 -610 -610 -610	
20								-603 -620 3 -581 -610 -617 -620	20
30								-570 1	30
40 S									40S

LONGITUDE

APPENDIX C

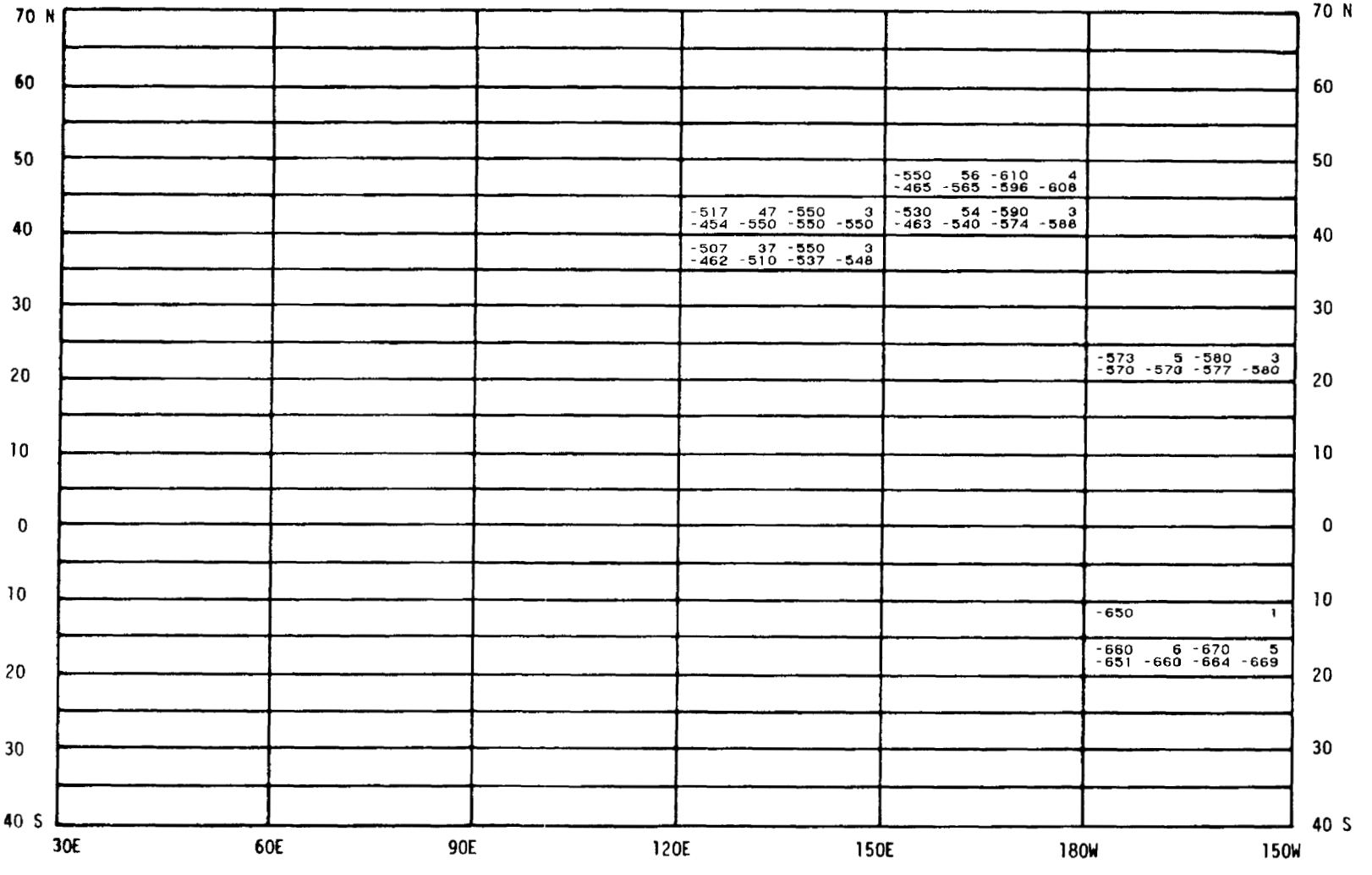
STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

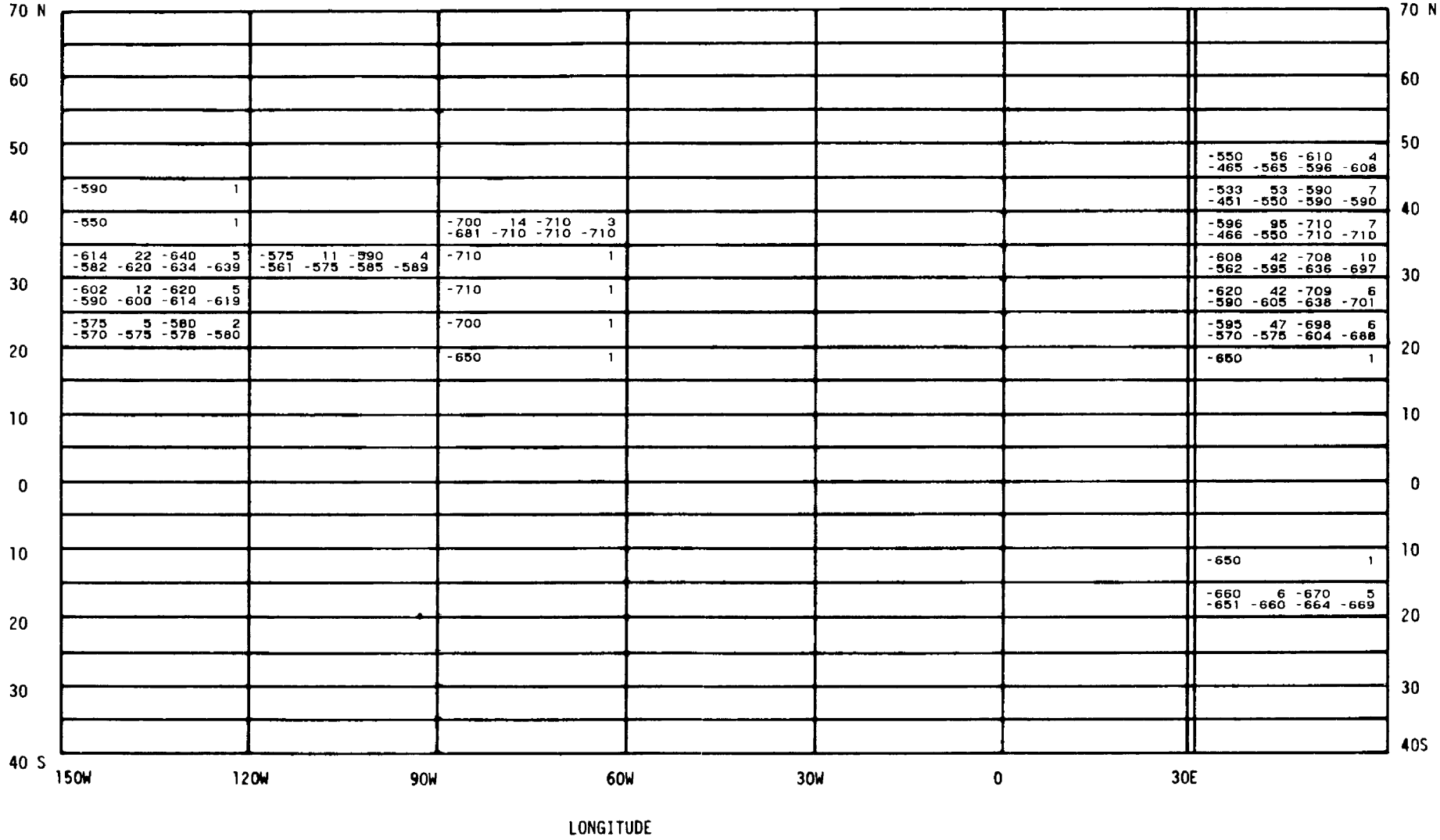
STATIC AIR TEMPERATURE CLIMATOLOGY

MARCH
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

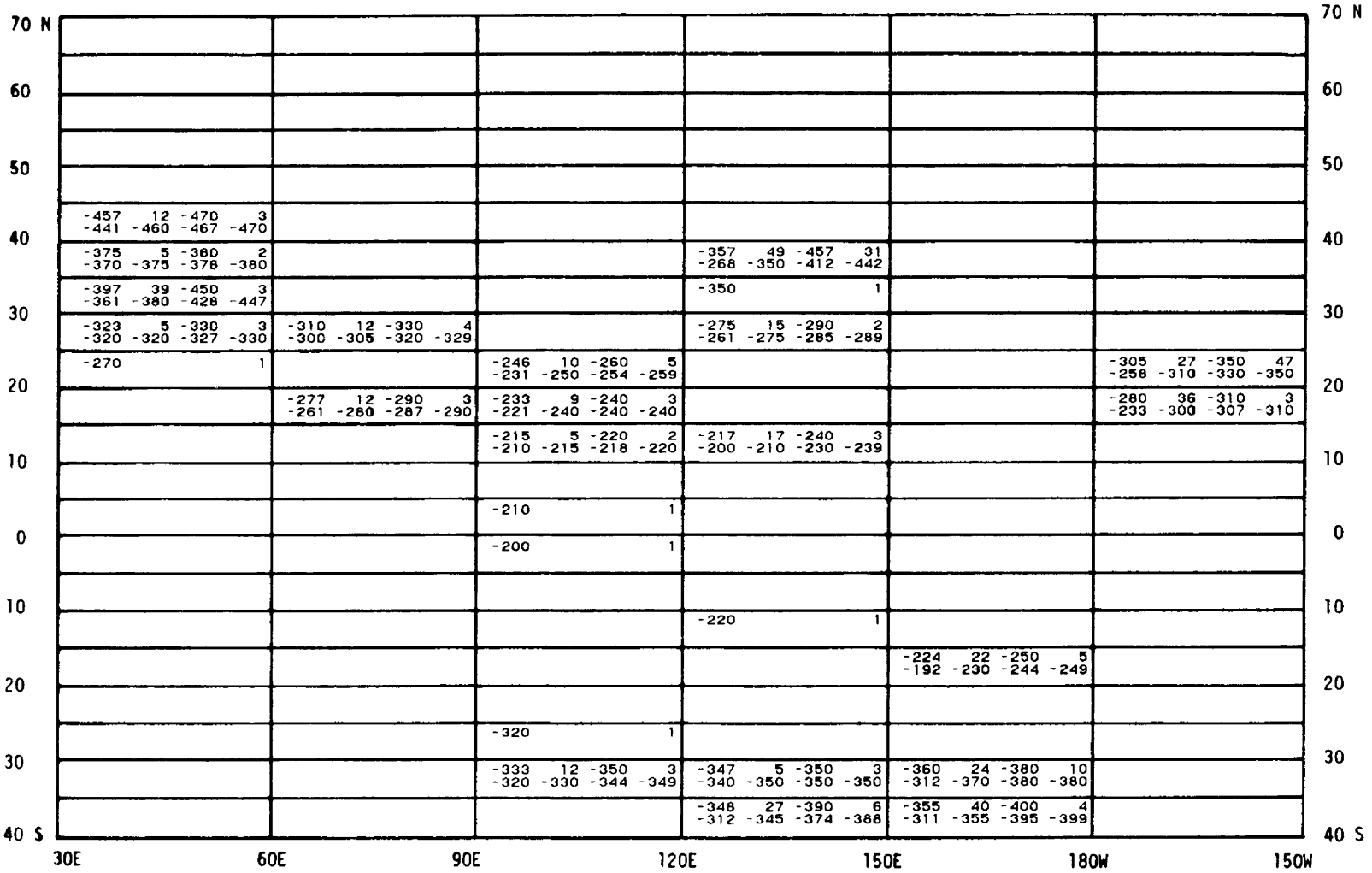
STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60									60
50	-447 25 -490 7 -411 -450 -471 -488				-419 34 -470 7 -365 -410 -460 -469	-464 14 -480 5 -450 -460 -480 -480		-438 36 -480 12 -369 -450 -472 -480	50
40	-390 10 -400 2 -380 -390 -397 -400	-396 28 -449 10 -345 -395 -416 -445	-392 48 -489 49 -300 -390 -440 -480			-436 36 -480 10 -361 -440 -466 -478		-441 32 -490 17 -369 -440 -470 -487	40
30	-372 30 -455 40 -328 -370 -400 -429	-408 55 -489 4 -342 -400 -456 -486	-399 38 -450 7 -351 -390 -440 -449			-420 30 -479 7 -382 -410 -442 -475		-398 45 -488 71 -304 -400 -440 -480	30
20	-365 30 -430 15 -330 -370 -380 -427	-359 34 -448 34 -320 -350 -387 -437				-350 1		-370 42 -482 85 -287 -370 -420 -460	20
10								-362 34 -450 53 -320 -360 -387 -449	10
0			-280 1					-307 21 -330 9 -265 -310 -327 -330	0
10		-230 1						-299 31 -350 54 -231 -300 -330 -350	10
20		-270 1	-228 30 -270 10 -184 -220 -266 -270					-260 31 -310 10 -222 -250 -296 -308	20
30			-255 15 -270 2 -241 -255 -265 -269					-227 28 -270 16 -186 -215 -266 -270	30
40 S								-255 15 -270 2 -241 -255 -265 -269	40S
								-210 1	
								-200 1	
								-220 1	
								-224 22 -250 5 -192 -230 -244 -249	
				-295 25 -320 2 -271 -295 -312 -319				-295 25 -320 2 -271 -295 -312 -319	
								-320 1	
								-353 22 -380 16 -313 -355 -376 -380	
								-351 33 -400 10 -310 -345 -390 -398	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-452 7 -460 6 -441 -450 -460 -460						
40	-461 23 -500 9 -432 -450 -487 -498			-395 44 -509 33 -329 -390 -430 -504	-460 1		
30	-415 31 -479 6 -382 -405 -432 -474			-372 30 -400 6 -316 -380 -392 -399		-410 1	
30	-340 1	-360 16 -380 4 -341 -360 -375 -379		-320 16 -340 3 -301 -320 -334 -339		-413 4 -420 4 -410 -410 -415 -419	
20		-298 12 -320 5 -290 -290 -307 -318	-260 1			-358 30 -430 48 -289 -350 -380 -430	
20		-292 18 -310 5 -262 -290 -310 -310	-300 20 -320 2 -281 -300 -314 -319	-273 15 -290 4 -251 -275 -285 -289		-333 43 -380 6 -256 -350 -364 -378	
10		-295 5 -300 2 -290 -295 -298 -300	-287 25 -320 3 -261 -280 -307 -318	-247 9 -260 6 -231 -250 -252 -259		-233 8 -240 4 -221 -235 -240 -240	
10			-290 1			-250 1	
0			-265 5 -270 2 -260 -265 -268 -270				
0			-280 -280 2 -280 -280 -280 -280				
10			-285 5 -290 2 -280 -285 -288 -290				
10			-280 -280 2 -280 -280 -280 -280	-265 15 -280 2 -251 -265 -275 -279			
20				-280 -280 2 -280 -280 -280 -280	-263 21 -290 3 -241 -260 -280 -289		
20			-320 21 -350 4 -300 -315 -340 -349	-290 1	-278 39 -339 4 -241 -265 -311 -336		
30			-347 17 -370 6 -321 -350 -362 -369		-350 42 -410 6 -292 -350 -394 -408		
30			-373 25 -400 3 -342 -380 -394 -399	-377 21 -400 3 -351 -380 -394 -399	-393 33 -468 16 -329 -400 -410 -458		
40 S				-410 16 -440 6 -391 -405 -424 -438	-420 1		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-480 1							-480 1	60
50		-470 1		-380 -380 2 -380 -380 -380 -380	-474 35 -510 17 -396 -480 -504 -510	-481 25 -510 13 -427 -490 -501 -510	-471 38 -510 33 -380 -480 -500 -510		50
40	-461 28 -519 13 -417 -460 -482 -515	-457 12 -470 3 -441 -460 -467 -470	-470 1	-430 37 -470 3 -382 -440 -460 -469	-450 22 -480 3 -430 -440 -467 -478	-447 37 -519 10 -394 -445 -481 -515	-453 32 -520 33 -386 -460 -479 -520		40
30	-423 37 -480 6 -380 -425 -456 -477	-440 20 -489 8 -421 -435 -440 -483	-426 42 -520 71 -340 -430 -470 -516			-452 32 -510 12 -391 -450 -477 -508	-431 40 -520 103 -340 -440 -470 -510		30
20	-422 27 -478 33 -370 -430 -440 -467	-416 24 -460 12 -380 -410 -442 -458	-410 38 -460 6 -346 -410 -444 -458			-400 1	-415 39 -507 95 -340 -420 -450 -500		20
10	-412 23 -469 17 -373 -410 -430 -460	-413 32 -480 37 -360 -410 -450 -480	-420 1				-409 32 -480 68 -360 -410 -440 -480		10
0	-400 20 -420 2 -381 -400 -414 -419	-390 10 -400 2 -380 -390 -397 -400	-330 1				-371 37 -420 17 -306 -380 -410 -420		0
10		-360 1	-322 21 -350 6 -291 -325 -342 -349				-348 35 -430 61 -282 -350 -380 -426		10
20		-267 9 -280 3 -260 -260 -274 -279	-300 1				-298 38 -379 21 -250 -290 -344 -372		20
30			-285 17 -300 4 -261 -290 -300 -300				-283 28 -319 19 -224 -260 -300 -313		30
40 S			-273 11 -290 4 -261 -270 -280 -289				-272 15 -290 6 -251 -270 -290 -290		40S
			-280 1				-270 8 -280 3 -260 -270 -277 -280		
							-280 -280 2 -280 -280 -280 -280		
							-285 5 -290 2 -280 -285 -288 -290		
							-273 13 -280 4 -252 -280 -280 -280		
				-310 1			-277 22 -310 6 -242 -280 -294 -308		
				-333 15 -350 4 -311 -335 -345 -349			-308 35 -350 13 -242 -310 -341 -350		
							-348 32 -409 12 -294 -350 -375 -406		
							-388 32 -467 22 -328 -395 -410 -453		
							-411 16 -440 7 -391 -410 -421 -438		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-460 1	-473 33 -520 4 -432 -470 -501 -518	
50					-520 16 -540 3 -501 -520 -534 -539	-460 1	
40	-480 20 -500 2 -461 -480 -494 -499			-555 45 -600 2 -512 -555 -586 -598	-565 25 -590 2 -541 -565 -582 -589		
30	-483 31 -530 15 -417 -480 -508 -530			-442 40 -530 35 -377 -430 -480 -530	-600 1 -470 10 -480 2 -460 -470 -477 -480		
20	-458 37 -519 12 -390 -465 -490 -513			-432 23 -460 6 -400 -440 -452 -459			
10	-421 29 -460 10 -380 -420 -456 -460	-413 22 -450 11 -382 -410 -434 -448		-370 -370 2 -370 -370 -370 -370			
0	-387 35 -459 6 -352 -375 -404 -453	-366 16 -390 10 -334 -370 -380 -388	-345 13 -370 6 -331 -340 -354 -368	-370 1		-403 28 -458 61 -360 -400 -440 -450	
10		-338 9 -350 6 -322 -340 -342 -349	-341 15 -360 7 -321 -340 -360 -360		-330 1	-365 21 -390 8 -331 -375 -380 -389	
20		-328 4 -330 4 -321 -330 -330 -330	-333 16 -360 4 -320 -325 -346 -358	-313 16 -349 10 -292 -310 -326 -346		-322 4 -330 5 -320 -320 -324 -329	
30		-330 1	-328 4 -330 4 -321 -330 -330 -330			-319 12 -330 7 -300 -320 -330 -330	
40 S		-310 1	-325 5 -330 2 -320 -325 -328 -330			-321 14 -349 7 -302 -320 -321 -346	
		-310 -310 2 -310 -310 -310 -310	-327 5 -330 3 -320 -330 -330 -330			-312 7 -320 5 -301 -310 -320 -320	
			-325 9 -330 4 -311 -330 -330 -330	-325 5 -330 2 -320 -325 -328 -330	-310 1	-310 -310 3 -310 -310 -310 -310	
			-330 10 -340 2 -320 -330 -337 -340	-333 15 -350 4 -311 -335 -345 -349	-313 5 -320 3 -310 -310 -317 -320	-320 1	
				-370 1	-320 19 -359 6 -301 -315 -328 -356		
			-390 -390 2 -390 -390 -390 -390	-375 5 -380 2 -370 -375 -378 -380			
				-415 18 -440 4 -391 -415 -430 -439	-340 51 -409 3 -291 -320 -381 -406		
			-450 30 -480 2 -421 -450 -470 -479	-463 31 -500 7 -406 -460 -490 -499	-431 45 -480 15 -325 -440 -470 -480		
				-470 42 -510 7 -410 -480 -510 -510	-474 12 -490 5 -460 -480 -484 -489		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-480 1	-487 17 -510 3 -470 -480 -500 -509			-520 14 -530 3 -501 -530 -530 -530			-480 1 -488 31 -530 11 -436 -480 -524 -530	60
50	-502 23 -540 6 -471 -505 -516 -537	-505 15 -520 2 -491 -505 -515 -519	-510 1	-505 15 -520 2 -491 -505 -515 -519	-500 26 -540 24 -455 -500 -530 -540	-511 27 -540 9 -462 -520 -537 -540	-503 26 -540 45 -459 -500 -530 -540	-513 31 -587 34 -457 -510 -540 -570	50
40	-517 30 -560 15 -466 -510 -555 -560	-497 21 -520 3 -471 -500 -514 -519	-475 40 -548 68 -400 -480 -510 -540	-508 33 -550 4 -471 -505 -540 -549	-504 25 -530 7 -456 -510 -530 -530	-490 26 -530 5 -452 -490 -511 -528	-481 39 -600 116 -400 -480 -510 -547	-462 36 -530 99 -400 -460 -500 -530	40
30	-500 25 -540 12 -454 -500 -530 -538	-478 27 -529 26 -420 -480 -510 -525	-460 30 -490 2 -431 -460 -480 -489			-450 1	-456 28 -520 53 -390 -450 -487 -520	-421 33 -507 29 -370 -420 -450 -488	30
20	-470 23 -510 33 -419 -470 -490 -510	-474 37 -529 11 -404 -480 -504 -526	-452 20 -490 15 -430 -450 -468 -490				-392 32 -460 89 -338 -390 -430 -452	-345 22 -389 29 -310 -340 -370 -384	20
10	-466 23 -519 20 -440 -460 -490 -516	-450 1					-321 15 -359 33 -290 -320 -330 -354	-326 13 -350 14 -300 -330 -330 -347	10
0	-452 37 -510 5 -402 -450 -484 -507	-380 1	-377 5 -380 3 -370 -380 -380 -380	-340 -340 2 -340 -340 -340 -340			-325 16 -360 12 -302 -320 -335 -358	-320 12 -340 12 -302 -320 -332 -340	0
10	-370 1	-343 25 -370 3 -312 -350 -364 -369	-325 15 -340 4 -310 -325 -340 -340	-345 5 -350 2 -340 -345 -348 -350			-323 13 -350 12 -310 -325 -332 -348	10
20			-320 14 -340 10 -294 -320 -336 -340	-350 -350 2 -350 -350 -350 -350			-329 16 -350 12 -310 -325 -350 -350	20
30			-345 5 -350 2 -340 -345 -348 -350	-355 5 -360 2 -350 -355 -358 -360			-333 25 -370 9 -302 -320 -360 -368	30
40 S			-330 1	-360 1			-361 26 -390 7 -322 -370 -390 -390	40S
				-333 9 -340 3 -321 -340 -340 -340			-383 52 -440 7 -294 -410 -421 -438	
							-442 43 -499 24 -341 -450 -480 -495	
							-472 33 -510 12 -410 -480 -510 -510	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-520 30 -550 2 -491 -520 -540 -549	
50					-473 34 -520 3 -441 -460 -501 -518	-485 32 -520 4 -442 -490 -515 -519	
40	-540 -540 -540 2 -540 -540 -540 -540			-488 30 -530 4 -451 -485 -516 -528	-483 5 -490 3 -480 -480 -487 -490	-543 5 -550 3 -540 -540 -547 -550	
30	-517 25 -550 21 -462 -520 -540 -550			-504 32 -560 37 -434 -500 -540 -560	-533 38 -590 14 -468 -550 -560 -587	-547 33 -570 3 -503 -570 -570 -570	
20	-504 31 -559 14 -440 -510 -529 -555			-470 16 -490 3 -451 -470 -484 -489	-535 18 -560 8 -511 -530 -559 -560		
10	-473 29 -510 3 -441 -470 -497 -508	-465 28 -509 16 -410 -470 -490 -504		-494 8 -500 5 -481 -500 -500 -500			
0	-390 1	-393 24 -410 6 -346 -400 -410 -410	-393 11 -410 6 -380 -395 -402 -409	-413 25 -440 3 -382 -420 -434 -439	-450 1	-481 30 -520 18 -433 -485 -513 -520	
10		-388 13 -400 4 -371 -390 -400 -400	-390 30 -420 2 -361 -390 -410 -419	-400 1		-457 28 -518 71 -400 -450 -480 -510	
20		-374 7 -380 7 -361 -380 -380 -380	-370 20 -390 2 -351 -370 -384 -389	-390 -390 2 -390 -390 -390 -390	-374 11 -390 9 -360 -370 -387 -390	-406 22 -449 8 -380 -405 -420 -446	
30		-380 9 -400 7 -370 -380 -381 -398	-380 -380 5 -380 -380 -380 -380	-378 16 -409 10 -352 -380 -390 -406	-393 8 -400 4 -381 -395 -400 -400	-373 5 -380 3 -370 -370 -377 -380	
40 S		-373 14 -380 7 -344 -380 -380 -380	-379 11 -400 7 -361 -380 -381 -398			-373 4 -380 4 -370 -370 -375 -379	
		-383 8 -390 4 -371 -385 -390 -390	-370 7 -380 4 -361 -370 -375 -379			-367 12 -380 6 -343 -370 -372 -379	
			-377 23 -400 10 -342 -385 -400 -400	-370 -370 2 -370 -370 -370 -370		-374 7 -380 7 -361 -380 -380 -380	
			-370 27 -410 9 -340 -350 -400 -408	-365 5 -370 2 -360 -365 -368 -370	-377 15 -400 6 -360 -375 -392 -399	-373 7 -380 9 -362 -370 -380 -380	
			-377 17 -400 6 -360 -370 -400 -400	-405 5 -410 2 -400 -405 -408 -410	-385 15 -429 13 -370 -380 -391 -423	-374 5 -380 7 -370 -370 -380 -380	
			-397 21 -420 3 -371 -400 -414 -419	-420 -420 2 -420 -420 -420 -420	-404 26 -450 14 -370 -410 -430 -447		
					-427 41 -509 18 -360 -425 -473 -503	-485 5 -490 2 -480 -485 -488 -490	
			-480 1	-483 30 -500 4 -434 -500 -500 -500	-470 37 -529 28 -405 -470 -510 -525		
				-504 12 -520 5 -490 -510 -514 -519	-505 26 -550 12 -460 -505 -525 -548		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-570 1	-560 1	-565 25 -590 4 -540 -565 -590 -590	-565 15 -580 2 -551 -565 -575 -579			-565 19 -590 8 -540 -565 -589 -590	70 N
		-557 5 -560 3 -550 -560 -560 -560	-537 31 -580 3 -510 -520 -561 -578	-577 21 -600 3 -551 -580 -594 -599	-573 16 -590 9 -542 -580 -587 -590			-565 24 -599 18 -513 -575 -583 -597	
60		-560 10 -570 2 -550 -560 -567 -570	-587 9 -600 3 -580 -580 -594 -599	-529 24 -570 15 -500 -520 -560 -567	-534 39 -589 22 -458 -550 -570 -586			-536 35 -599 44 -467 -550 -570 -591	60
	-530 1	-543 18 -560 7 -512 -550 -560 -560	-543 9 -550 3 -531 -550 -550 -550	-515 36 -569 28 -432 -520 -547 -565	-523 34 -589 42 -460 -525 -560 -582	-524 35 -570 7 -474 -510 -570 -570		-520 36 -587 95 -440 -520 -550 -580	
50	-549 13 -560 8 -523 -550 -560 -560	-552 17 -580 5 -531 -550 -567 -578	-512 37 -569 19 -438 -520 -550 -563	-501 30 -569 21 -454 -500 -536 -562	-540 1	-541 25 -580 8 -501 -550 -559 -577		-520 35 -580 68 -453 -525 -550 -577	50
	-538 25 -580 11 -502 -540 -564 -578	-527 30 -588 28 -480 -520 -560 -579	-502 44 -578 73 -400 -510 -545 -570	-520 12 -540 4 -510 -515 -530 -539		-522 23 -550 5 -500 -510 -550 -550		-515 41 -590 144 -409 -520 -560 -580	
40	-512 28 -568 67 -453 -510 -540 -560	-511 27 -550 25 -460 -510 -540 -550	-463 24 -480 3 -432 -480 -480 -480			-495 5 -500 2 -490 -495 -498 -500		-511 29 -565 163 -450 -510 -540 -560	40
	-500 28 -556 67 -443 -510 -530 -540	-494 35 -560 18 -450 -490 -533 -560				-470 1		-498 30 -560 108 -441 -500 -530 -560	
30	-481 26 -530 37 -437 -480 -510 -530	-462 24 -509 9 -432 -460 -480 -505						-473 30 -530 87 -410 -470 -510 -523	30
	-457 21 -480 3 -431 -460 -474 -479	-430 18 -460 9 -395 -430 -440 -457	-409 20 -440 7 -381 -400 -430 -439					-443 35 -517 104 -360 -440 -460 -509	
20		-383 5 -390 3 -380 -380 -387 -390	-389 20 -430 8 -370 -380 -408 -427					-389 20 -448 36 -360 -380 -410 -436	20
			-378 24 -419 10 -340 -380 -400 -416					-378 17 -419 36 -340 -380 -394 -413	
10			-382 20 -400 6 -351 -390 -400 -400					-379 12 -400 22 -354 -380 -390 -400	10
			-377 17 -400 3 -360 -370 -390 -399	-390 1				-374 14 -400 24 -340 -380 -380 -400	
0			-360 -360 2 -360 -360 -360 -360					-374 10 -390 17 -360 -370 -380 -390	0
			-360 1	-380 -380 2 -380 -380 -380 -380				-375 16 -400 24 -345 -375 -393 -400	
10				-380 1				-373 19 -409 25 -340 -370 -392 -405	10
								-385 17 -429 21 -360 -380 -400 -422	
20				-420 19 -450 4 -401 -415 -436 -448				-407 25 -450 23 -370 -410 -430 -450	20
								-433 43 -509 20 -360 -430 -480 -502	
30								-472 36 -529 33 -406 -470 -510 -524	30
								-505 23 -550 17 -460 -510 -520 -547	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-510 20 -530 2 -491 -510 -524 -529	
					-595 5 -600 2 -590 -595 -598 -600	-571 50 -640 7 -501 -560 -621 -638	
50					-539 55 -666 20 -454 -530 -600 -643	-532 61 -620 13 -442 -560 -592 -618	
					-554 58 -640 29 -460 -560 -625 -640	-539 46 -619 8 -453 -540 -559 -612	
40	-544 23 -580 7 -504 -550 -561 -578			-551 28 -609 13 -497 -550 -571 -603	-550 46 -620 33 -460 -550 -599 -620	-552 25 -580 10 -504 -555 -576 -580	
	-544 28 -609 22 -494 -550 -566 -602			-542 26 -616 38 -490 -540 -561 -590	-579 31 -620 8 -534 -565 -619 -620	-540 1	
	-550 21 -590 15 -520 -550 -570 -587			-506 22 -539 10 -464 -515 -520 -536	-523 8 -530 4 -511 -525 -530 -530	-560 1	
30	-530 8 -540 3 -520 -530 -537 -540	-496 31 -540 17 -433 -500 -529 -540		-457 27 -500 9 -406 -460 -477 -497	-487 36 -530 10 -450 -485 -526 -530	-515 25 -550 30 -462 -520 -540 -550	
		-433 17 -450 3 -411 -440 -447 -450	-454 17 -480 10 -430 -455 -470 -478	-454 22 -490 8 -421 -455 -470 -487	-473 28 -520 12 -432 -470 -502 -518	-497 30 -550 110 -422 -500 -530 -540	
20		-435 5 -440 2 -430 -435 -438 -440	-433 11 -450 8 -420 -435 -440 -449	-438 7 -450 5 -430 -440 -444 -449	-435 15 -479 35 -420 -430 -450 -473	-452 24 -490 10 -420 -445 -480 -488	
		-432 7 -440 5 -421 -430 -440 -440	-435 9 -450 8 -421 -435 -440 -449	-423 7 -439 26 -410 -420 -430 -435	-419 9 -430 15 -396 -420 -428 -430	-430 8 -440 3 -420 -430 -437 -440	
10		-422 4 -430 6 -420 -420 -422 -429	-430 8 -440 6 -420 -430 -440 -440			-435 15 -450 4 -420 -435 -450 -450	
		-418 4 -420 5 -411 -420 -420 -420	-420 -420 2 -420 -420 -420 -420			-423 14 -450 6 -410 -420 -434 -448	
0		-408 11 -420 8 -391 -405 -420 -420	-416 15 -440 7 -391 -420 -421 -438			-423 7 -430 7 -411 -420 -430 -430	
			-404 11 -429 10 -390 -400 -410 -426		-415 5 -420 2 -410 -415 -418 -420	-418 7 -430 6 -410 -420 -422 -429	
10			-403 7 -410 6 -391 -405 -410 -410	-415 5 -420 2 -410 -415 -418 -420	-416 8 -420 5 -402 -420 -420 -420	-420 16 -440 3 -401 -420 -434 -439	
			-417 9 -430 3 -410 -410 -424 -429	-410 -410 2 -410 -410 -410 -410	-428 17 -450 12 -394 -430 -442 -450	-450 1	
20			-455 5 -460 2 -450 -455 -458 -460	-400 -400 2 -400 -400 -400 -400	-436 16 -459 19 -404 -440 -450 -456	-473 26 -510 4 -441 -470 -496 -508	
			-485 5 -490 2 -480 -485 -488 -490	-420 10 -430 2 -410 -420 -427 -430	-456 37 -529 17 -393 -460 -484 -524	-490 14 -510 3 -480 -480 -500 -509	
30			-506 10 -520 5 -491 -510 -514 -519	-492 31 -530 6 -450 -505 -514 -528	-518 24 -559 17 -483 -520 -540 -554		
40 S				-525 38 -569 8 -443 -535 -540 -566	-544 12 -560 7 -522 -550 -550 -559		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 350

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-576 34 -620 5 -523 -590 -601 -618	-485 25 -510 2 -461 -485 -502 -509	-537 48 -609 6 -480 -540 -578 -606	-552 47 -620 13 -475 -550 -610 -618	-530 40 -570 2 -492 -530 -557 -568			-547 49 -620 28 -465 -555 -604 -620	70 N
	-556 45 -630 16 -486 -555 -602 -627	-553 47 -619 22 -474 -570 -600 -616	-520 10 -530 2 -510 -520 -527 -530	-585 5 -590 2 -580 -585 -588 -590	-580 41 -630 3 -532 -580 -614 -628			-554 46 -630 47 -479 -560 -600 -630	
60	-536 69 -620 5 -471 -490 -620 -620	-559 50 -639 38 -467 -565 -610 -633	-508 29 -540 4 -463 -515 -530 -539	-590 -590 2 -590 -590 -590 -590	-565 32 -590 4 -514 -580 -585 -589			-558 51 -640 62 -462 -565 -610 -638	60
	-536 32 -570 14 -473 -545 -569 -570	-583 42 -640 38 -477 -590 -611 -640	-557 52 -649 17 -480 -560 -610 -640	-548 47 -619 30 -416 -560 -580 -614	-557 34 -628 39 -485 -560 -589 -615	-550 42 -610 10 -474 -560 -587 -608		-555 48 -659 181 -450 -560 -600 -640	
50	-551 40 -619 28 -475 -565 -587 -615	-570 38 -638 18 -490 -580 -600 -630	-564 59 -649 44 -409 -575 -620 -641	-536 46 -590 28 -416 -550 -570 -590	-561 21 -609 11 -532 -560 -574 -604	-573 43 -620 15 -476 -590 -608 -620		-556 50 -645 181 -426 -570 -600 -640	50
	-561 43 -610 36 -462 -570 -600 -610	-550 32 -599 46 -479 -560 -580 -591	-544 48 -620 84 -427 -560 -590 -607	-480 40 -520 2 -442 -480 -507 -518		-585 34 -630 19 -514 -590 -620 -630		-552 43 -630 250 -440 -560 -590 -620	
40	-556 30 -610 99 -490 -560 -590 -600	-537 38 -590 46 -439 -540 -570 -590	-538 45 -580 13 -424 -550 -562 -580			-540 20 -560 2 -521 -540 -554 -559		-548 33 -620 229 -460 -550 -580 -610	40
	-542 25 -600 127 -490 -540 -570 -590	-532 33 -570 13 -452 -550 -551 -568	-500 1					-539 27 -600 171 -480 -540 -570 -590	
30	-528 25 -577 99 -480 -530 -550 -570	-513 13 -520 4 -492 -520 -520 -520	-505 5 -510 2 -500 -505 -508 -510					-516 32 -575 174 -440 -520 -550 -570	30
	-504 29 -550 25 -460 -510 -532 -550	-484 15 -510 8 -461 -480 -499 -509	-478 16 -490 4 -452 -485 -490 -490					-490 32 -550 180 -420 -490 -520 -544	
20	-473 22 -519 6 -460 -460 -488 -516	-453 16 -480 8 -424 -450 -468 -479	-443 17 -460 3 -421 -450 -457 -460					-442 20 -513 77 -420 -440 -460 -485	20
	-453 5 -460 3 -450 -450 -457 -460		-441 17 -479 27 -405 -440 -460 -475	-460 1				-431 18 -477 88 -407 -430 -440 -463	
10	-440 10 -450 2 -430 -440 -447 -450		-440 10 -450 2 -430 -440 -447 -450	-450 -450 2 -450 -450 -450 -450				-432 12 -450 22 -420 -430 -450 -450	10
	-430 1		-437 9 -450 3 -430 -430 -444 -449	-455 5 -460 2 -450 -455 -458 -460				-427 14 -459 19 -410 -420 -450 -456	
0			-430 10 -440 2 -420 -430 -437 -440	-455 11 -470 4 -441 -455 -465 -469				-422 19 -469 28 -390 -420 -440 -465	0
			-430 1	-437 11 -460 6 -430 -430 -444 -458				-417 16 -459 25 -390 -420 -430 -450	
10				-447 12 -470 10 -432 -440 -460 -468				-425 21 -469 26 -395 -420 -440 -465	10
				-458 15 -480 11 -432 -460 -470 -478				-438 22 -479 29 -401 -440 -460 -474	
20				-468 4 -470 4 -461 -470 -470 -470				-444 24 -507 31 -400 -440 -462 -492	20
								-460 36 -529 24 -395 -470 -490 -521	
30								-510 26 -558 28 -450 -510 -540 -549	30
								-534 31 -570 15 -455 -540 -550 -567	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-542 58 -640 12 -472 -520 -622 -638	
					-515 90 -668 4 -451 -470 -579 -659	-560 58 -679 46 -470 -550 -630 -671	
50					-543 77 -688 27 -440 -530 -638 -680	-563 63 -687 30 -462 -555 -630 -667	
					-569 65 -660 28 -456 -590 -637 -660	-581 54 -668 21 -472 -590 -630 -658	
40				-600 26 -649 5 -580 -590 -618 -646	-583 41 -658 55 -500 -590 -624 -649	-595 34 -640 39 -513 -600 -630 -640	
	-568 31 -619 4 -541 -555 -591 -616			-577 36 -648 59 -493 -580 -610 -638	-559 41 -630 60 -490 -570 -606 -630	-577 43 -620 6 -497 -590 -612 -619	
30	-539 53 -609 8 -451 -550 -579 -606			-546 29 -589 17 -493 -560 -570 -584	-533 33 -580 3 -510 -510 -558 -577	-595 29 -620 4 -552 -605 -620 -620	
		-515 44 -570 13 -430 -530 -551 -568		-504 14 -520 8 -481 -510 -519 -520	-490 7 -500 4 -481 -490 -495 -499	-559 27 -618 34 -496 -560 -580 -613	
20		-507 30 -560 10 -470 -500 -541 -558	-498 20 -520 10 -455 -505 -516 -520	-499 15 -520 7 -480 -500 -510 -519	-505 25 -540 6 -481 -490 -540 -540	-535 31 -590 108 -470 -540 -569 -589	
			-492 11 -510 9 -480 -490 -507 -510	-484 5 -490 9 -480 -480 -490 -490	-482 10 -500 9 -470 -480 -490 -498	-498 20 -530 12 -470 -505 -512 -528	
10			-490 17 -510 5 -470 -500 -504 -509	-478 14 -519 19 -460 -480 -490 -513	-470 1	-475 11 -500 11 -462 -470 -484 -498	
			-510 1			-478 15 -519 14 -463 -470 -489 -515	
0						-491 21 -539 16 -470 -485 -516 -534	
			-490 -490 2 -490 -490 -490 -490			-491 18 -520 17 -470 -490 -520 -520	
10			-500 1	-490 -490 2 -490 -490 -490 -490		-495 18 -530 16 -463 -490 -510 -527	
			-490 1	-485 15 -500 2 -471 -485 -495 -499	-500 1	-501 14 -530 12 -482 -500 -512 -528	
20			-505 5 -510 2 -500 -505 -508 -510	-495 5 -500 2 -490 -495 -498 -500	-520 8 -530 3 -510 -520 -527 -530	-518 7 -530 5 -510 -520 -524 -529	
			-540 -540 2 -540 -540 -540 -540	-495 5 -500 2 -490 -495 -498 -500	-477 19 -490 3 -452 -490 -490 -490	-518 31 -569 4 -491 -505 -541 -566	
30			-550 1	-510 -510 2 -510 -510 -510 -510	-450 1	-490 1	
			-565 5 -570 2 -560 -565 -568 -570	-537 41 -590 15 -440 -550 -568 -587			
40 S				-556 53 -590 7 -444 -580 -590 -590	-575 15 -590 2 -561 -575 -585 -589		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-543 62 -620 9 -462 -520 -617 -620	-470 -470 2 -470 -470 -470 -470	-488 39 -540 4 -450 -480 -526 -538	-493 5 -500 3 -490 -490 -497 -500	-510 1			-514 55 -620 19 -450 -500 -592 -620	70 N
	-538 60 -659 38 -455 -530 -610 -653	-538 47 -639 23 -464 -530 -585 -636	-490 1	-598 31 -649 4 -571 -585 -621 -646	-554 30 -600 5 -512 -550 -581 -598			-542 55 -658 83 -460 -540 -609 -650	
60	-565 62 -649 34 -460 -585 -630 -643	-560 61 -668 28 -461 -565 -627 -659	-510 73 -609 3 -442 -480 -568 -605	-462 35 -529 5 -431 -450 -485 -524	-572 47 -640 10 -497 -550 -626 -638			-556 64 -676 130 -446 -550 -630 -670	60
	-565 59 -640 17 -453 -570 -624 -637	-518 62 -629 10 -445 -500 -596 -625	-548 61 -629 5 -449 -560 -585 -624	-558 73 -640 16 -440 -585 -630 -640	-585 58 -659 33 -466 -600 -640 -654	-566 68 -650 5 -481 -600 -624 -647		-561 68 -690 143 -440 -570 -630 -670	
50	-590 54 -649 32 -466 -610 -640 -644	-544 73 -640 14 -426 -525 -629 -640	-550 70 -630 21 -424 -580 -618 -630	-560 58 -650 29 -468 -570 -615 -650	-566 51 -640 12 -471 -570 -630 -638	-575 54 -639 10 -465 -585 -616 -636		-569 62 -665 167 -440 -590 -630 -660	50
	-596 42 -640 45 -505 -610 -630 -640	-577 43 -647 103 -480 -590 -617 -640	-570 47 -648 54 -480 -580 -610 -639			-565 57 -620 8 -460 -585 -619 -620		-582 43 -651 309 -480 -590 -620 -640	
40	-583 38 -647 93 -499 -590 -620 -640	-579 33 -638 84 -477 -590 -610 -623	-585 19 -610 8 -553 -585 -608 -610			-640 1		-576 38 -650 315 -483 -580 -610 -640	40
	-578 29 -630 172 -510 -580 -610 -620	-545 49 -600 14 -453 -565 -580 -600	-574 16 -600 5 -552 -570 -587 -598					-572 34 -630 223 -464 -570 -610 -620	
30	-565 22 -616 148 -529 -570 -590 -610		-562 23 -590 6 -523 -565 -582 -589					-557 31 -620 213 -472 -560 -580 -610	30
	-549 20 -589 48 -508 -550 -570 -581	-517 25 -550 3 -491 -510 -537 -548	-521 23 -550 8 -483 -525 -548 -550					-532 31 -590 200 -470 -540 -560 -580	
20	-525 5 -530 2 -520 -525 -528 -530	-515 23 -550 10 -482 -515 -540 -548	-502 21 -549 10 -480 -500 -516 -545					-497 21 -550 61 -470 -490 -520 -548	20
	-502 17 -530 5 -481 -500 -517 -528	-530 1	-490 16 -529 24 -470 -480 -510 -525	-507 9 -520 3 -500 -500 -514 -519				-486 18 -530 69 -460 -480 -501 -530	
10	-495 15 -510 2 -481 -495 -505 -509		-495 9 -500 4 -481 -500 -500 -500	-498 11 -520 6 -490 -495 -504 -518				-487 17 -520 27 -465 -490 -500 -520	10
	-500 1		-500 -500 2 -500 -500 -500 -500	-497 7 -510 7 -490 -500 -500 -509				-494 17 -538 26 -470 -490 -510 -530	
0	-495 5 -500 2 -490 -495 -498 -500			-496 13 -510 12 -472 -500 -510 -510				-493 16 -520 33 -470 -490 -510 -520	0
	-510 1			-500 9 -510 12 -482 -500 -510 -510				-497 15 -529 32 -466 -500 -510 -524	
10				-507 13 -520 13 -482 -510 -520 -520				-502 14 -529 29 -476 -500 -520 -524	10
				-511 11 -530 12 -492 -510 -520 -528				-512 11 -530 24 -490 -510 -520 -530	
20				-504 18 -530 8 -480 -505 -520 -529				-505 26 -568 19 -461 -500 -531 -559	20
								-502 32 -550 5 -453 -510 -524 -547	
30								-541 40 -590 17 -442 -550 -570 -587	30
								-560 48 -590 9 -449 -580 -590 -590	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-550 1	
60						-529 55 -670 47 -459 -520 -576 -670	
					-515 55 -684 27 -440 -500 -567 -648	-512 49 -690 54 -450 -510 -545 -685	
50					-539 59 -656 48 -440 -550 -600 -632	-541 56 -649 19 -457 -540 -592 -643	
					-569 63 -680 44 -440 -580 -631 -680	-636 35 -689 32 -550 -640 -680 -684	
40				-593 56 -678 24 -474 -620 -640 -666	-597 59 -689 49 -479 -610 -650 -680	-643 24 -697 37 -592 -650 -662 -678	
				-603 42 -669 34 -507 -615 -640 -663	-581 53 -659 18 -477 -575 -640 -657	-562 55 -639 5 -477 -560 -602 -635	
30					-610 16 -630 3 -591 -610 -624 -629	-610 1	
	-570 30 -600 2 -541 -570 -590 -599	-565 5 -570 2 -560 -565 -568 -570		-558 4 -560 4 -551 -560 -560 -560	-557 5 -560 3 -550 -560 -560 -560	-600 29 -640 10 -552 -610 -626 -638	
		-535 5 -540 2 -530 -535 -538 -540	-548 13 -560 4 -531 -550 -560 -560	-546 12 -560 5 -531 -540 -560 -560		-572 31 -620 27 -530 -580 -600 -620	
20			-535 5 -540 2 -530 -535 -538 -540	-525 9 -540 4 -520 -520 -530 -539	-543 5 -550 3 -540 -540 -547 -550	-530 1	
			-540 -540 2 -540 -540 -540 -540	-540 1	-540 1	-570 1	
10						-562 4 -570 5 -560 -560 -564 -569	
			-550 1			-558 4 -560 5 -551 -560 -560 -560	
0						-548 12 -560 5 -531 -550 -560 -560	
						-552 16 -570 5 -531 -550 -570 -570	
10			-500 1		-550 1	-558 7 -570 5 -550 -560 -564 -569	
			-510 14 -520 3 -491 -520 -520 -520	-510 -510 2 -510 -510 -510 -510	-550 1	-565 5 -570 4 -560 -565 -570 -570	
20			-523 17 -540 3 -501 -530 -537 -540	-505 5 -510 2 -500 -505 -508 -510	-500 1	-560 -560 4 -560 -560 -560 -560	
			-555 11 -570 4 -541 -555 -565 -569	-510 -510 2 -510 -510 -510 -510	-520 36 -570 3 -490 -500 -548 -567	-553 45 -590 3 -494 -580 -587 -590	
30			-577 25 -610 3 -551 -570 -597 -608	-583 54 -620 4 -497 -610 -615 -619	-563 30 -580 7 -500 -570 -580 -580		
40 S				-630 1	-570 36 -600 8 -503 -580 -600 -600		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-549 46 -650 16 -500 -540 -590 -647							-549 45 -650 17 -500 -550 -582 -647	70 N
	-543 54 -649 32 -460 -530 -600 -644	-556 61 -630 7 -475 -520 -630 -630			-550 50 -600 2 -502 -550 -584 -598			-537 56 -670 88 -460 -520 -600 -663	
60	-534 49 -649 22 -468 -520 -570 -642	-559 64 -650 20 -454 -555 -630 -650	-490 70 -560 2 -423 -490 -538 -557	-508 44 -560 5 -444 -500 -554 -559	-543 48 -639 9 -480 -550 -582 -632			-525 56 -690 139 -440 -510 -570 -660	60
	-503 35 -569 9 -462 -500 -534 -565	-577 47 -660 15 -506 -580 -628 -657	-556 65 -678 7 -458 -550 -584 -668	-493 50 -608 11 -424 -500 -522 -596	-547 53 -620 11 -466 -540 -614 -620	-572 45 -659 6 -514 -565 -596 -652		-540 59 -673 126 -440 -540 -600 -660	
50	-590 63 -670 23 -469 -610 -640 -670	-581 62 -670 21 -490 -580 -660 -670	-553 76 -670 30 -446 -545 -650 -670	-493 53 -570 6 -432 -475 -562 -569	-660 1	-578 33 -630 4 -550 -565 -606 -627		-582 69 -685 161 -442 -590 -650 -680	50
	-604 54 -680 36 -498 -605 -664 -680	-601 55 -680 82 -472 -620 -650 -674	-558 74 -678 42 -429 -555 -650 -664	-613 33 -650 3 -572 -620 -640 -649				-599 61 -692 273 -460 -620 -650 -680	
40	-617 48 -660 63 -487 -630 -661 -678	-597 47 -675 81 -486 -610 -640 -660	-602 32 -630 5 -546 -610 -624 -629					-602 49 -680 206 -480 -610 -650 -670	40
	-620 28 -669 46 -570 -620 -650 -661	-589 42 -640 14 -488 -590 -629 -637	-590 1					-612 33 -668 65 -548 -610 -648 -660	
30	-611 29 -659 30 -550 -615 -640 -654	-612 7 -620 5 -601 -610 -620 -620	-605 5 -610 2 -600 -605 -608 -610					-599 31 -658 58 -550 -605 -630 -650	30
	-560 21 -628 32 -536 -560 -570 -618	-577 9 -590 3 -570 -570 -584 -589	-569 19 -600 10 -542 -565 -591 -600					-564 25 -628 83 -530 -560 -590 -620	
20		-560 10 -570 2 -550 -560 -567 -570	-545 13 -570 11 -530 -540 -560 -568					-541 14 -570 23 -520 -540 -555 -570	20
	-570 1		-540 13 -560 7 -521 -540 -550 -559	-553 5 -560 3 -550 -550 -557 -560				-546 14 -570 16 -523 -545 -560 -570	
10	-560 1		-547 17 -570 3 -530 -540 -560 -569	-552 4 -560 5 -550 -550 -554 -559				-555 11 -570 14 -533 -560 -560 -570	10
			-550 10 -560 2 -540 -550 -557 -560	-548 7 -560 8 -540 -550 -550 -559				-551 8 -560 16 -540 -550 -560 -560	
0				-549 9 -560 9 -540 -550 -560 -560				-549 10 -560 14 -533 -550 -560 -560	0
	-560 1			-554 10 -570 5 -541 -550 -564 -569				-554 13 -570 11 -532 -550 -570 -570	
10	-555 5 -560 2 -550 -555 -558 -560			-556 8 -570 5 -550 -550 -564 -569				-552 16 -570 14 -513 -550 -560 -570	10
	-560 1			-555 5 -560 4 -550 -555 -560 -560				-543 25 -570 15 -496 -550 -560 -570	
20				-550 10 -560 2 -540 -550 -557 -560				-535 25 -560 12 -500 -540 -560 -560	20
								-538 35 -590 12 -490 -545 -572 -588	
30								-571 39 -620 14 -490 -575 -610 -617	30
								-577 39 -629 9 -503 -580 -600 -625	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-460 1	
50					-511 43 -579 11 -450 -510 -554 -576	-510 39 -579 8 -460 -510 -546 -576	
40	-540 1			-549 54 -649 18 -467 -540 -616 -647	-527 47 -638 37 -447 -520 -570 -626	-572 50 -630 5 -502 -580 -624 -629	
30	-620 20 -640 2 -601 -620 -634 -639			-611 48 -670 18 -530 -625 -660 -670	-533 50 -659 39 -458 -530 -570 -652	-604 59 -690 10 -524 -595 -677 -690	
20	-612 31 -650 5 -581 -590 -650 -650			-635 50 -680 4 -556 -655 -670 -679	-534 45 -628 20 -468 -525 -589 -619	-590 61 -699 19 -504 -570 -661 -693	
10	-625 15 -640 2 -611 -625 -635 -639			-596 16 -620 5 -572 -600 -607 -618		-645 5 -650 2 -640 -645 -648 -650	
0		-560 1	-588 11 -600 6 -571 -590 -600 -600	-595 5 -600 2 -590 -595 -598 -600		-663 12 -680 3 -650 -660 -674 -679	
10			-594 5 -600 8 -590 -590 -600 -600			-650 22 -670 3 -622 -660 -667 -670	
20			-595 5 -600 4 -590 -595 -600 -600			-626 30 -650 5 -582 -650 -650 -650	
30			-600 -600 2 -600 -600 -600 -600			-603 8 -610 4 -591 -605 -610 -610	
40 S			-600 1			-620 1 -610 1	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60		-520 1						-490 30 -520 2 -461 -490 -510 -519	60
		-576 80 -680 5 -472 -590 -654 -677		-530 1				-524 57 -677 25 -450 -520 -580 -661	
50		-594 66 -690 8 -490 -585 -674 -689	-587 84 -699 3 -502 -560 -655 -694	-550 47 -610 6 -491 -550 -602 -609	-600 30 -630 2 -571 -600 -620 -629			-547 59 -698 61 -452 -550 -604 -688	50
	-700 10 -710 4 -690 -700 -710 -710	-573 55 -690 16 -492 -555 -610 -690	-583 68 -690 18 -493 -575 -656 -690	-530 59 -629 6 -470 -520 -582 -624	-598 51 -680 8 -533 -585 -663 -679	-568 48 -639 5 -511 -580 -608 -636		-567 67 -710 105 -461 -550 -650 -690	
40	-624 72 -710 35 -487 -630 -700 -710	-599 44 -669 26 -530 -605 -640 -665	-604 66 -699 26 -495 -605 -690 -695	-513 61 -599 3 -470 -470 -558 -595		-575 35 -610 2 -541 -575 -599 -609		-587 68 -710 150 -470 -580 -670 -710	40
	-617 67 -709 25 -474 -630 -682 -705	-561 64 -680 17 -466 -550 -638 -677	-614 40 -679 5 -562 -620 -642 -675			-550 10 -560 2 -540 -550 -557 -560		-601 63 -708 71 -468 -610 -668 -696	
30	-648 35 -680 10 -590 -665 -676 -680	-573 34 -620 3 -541 -560 -601 -618	-645 25 -670 2 -621 -645 -662 -669			-560 1		-626 45 -680 25 -545 -650 -670 -680	30
	-644 35 -680 7 -576 -650 -670 -679		-650 10 -660 2 -640 -650 -657 -660					-633 34 -680 19 -570 -640 -670 -680	
20	-636 21 -670 5 -611 -640 -651 -668		-640 16 -660 3 -621 -640 -654 -659					-616 32 -670 20 -564 -615 -659 -670	20
	-603 24 -620 3 -572 -620 -620 -620		-610 14 -620 3 -591 -620 -620 -620					-606 23 -650 19 -574 -600 -624 -650	
10	-610 -610 2 -610 -610 -610 -610							-601 8 -610 10 -590 -600 -610 -610	10
	-610 1							-608 8 -620 4 -600 -605 -615 -619	
0				-600 1				-603 5 -610 3 -600 -600 -607 -610	0
				-605 5 -610 2 -600 -605 -608 -610				-605 5 -610 2 -600 -605 -608 -610	
10				-600 1				-600 1	10
				-605 5 -610 2 -600 -605 -608 -610				-605 5 -610 2 -600 -605 -608 -610	
20				-605 5 -610 2 -600 -605 -608 -610				-613 12 -630 3 -600 -610 -624 -629	20
				-610 1				-617 17 -640 3 -600 -610 -630 -639	
30								-585 5 -590 2 -580 -585 -588 -590	30
								-602 7 -610 5 -591 -600 -610 -610	
40 S								-598 16 -610 11 -564 -610 -610 -610	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

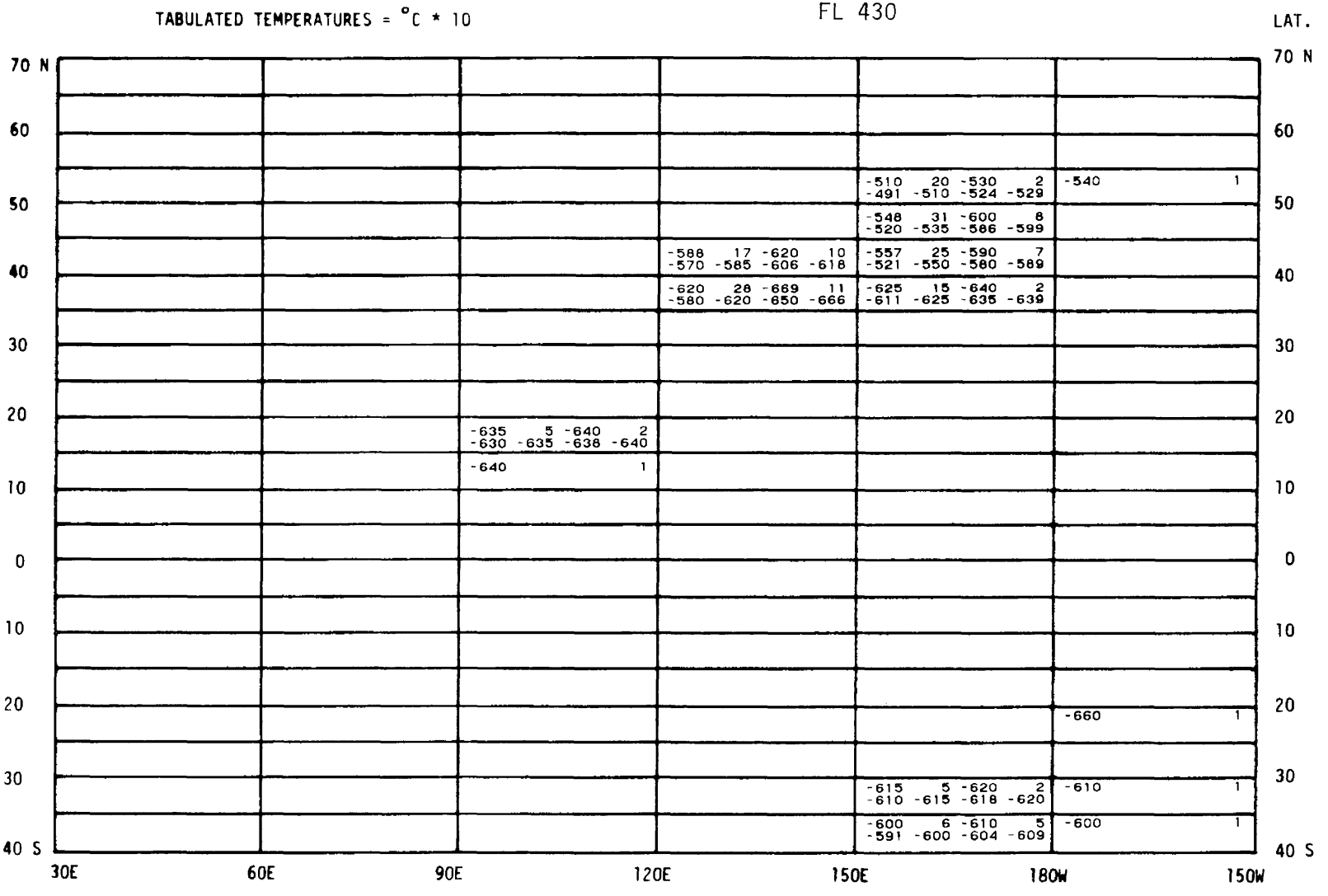
APRIL

FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

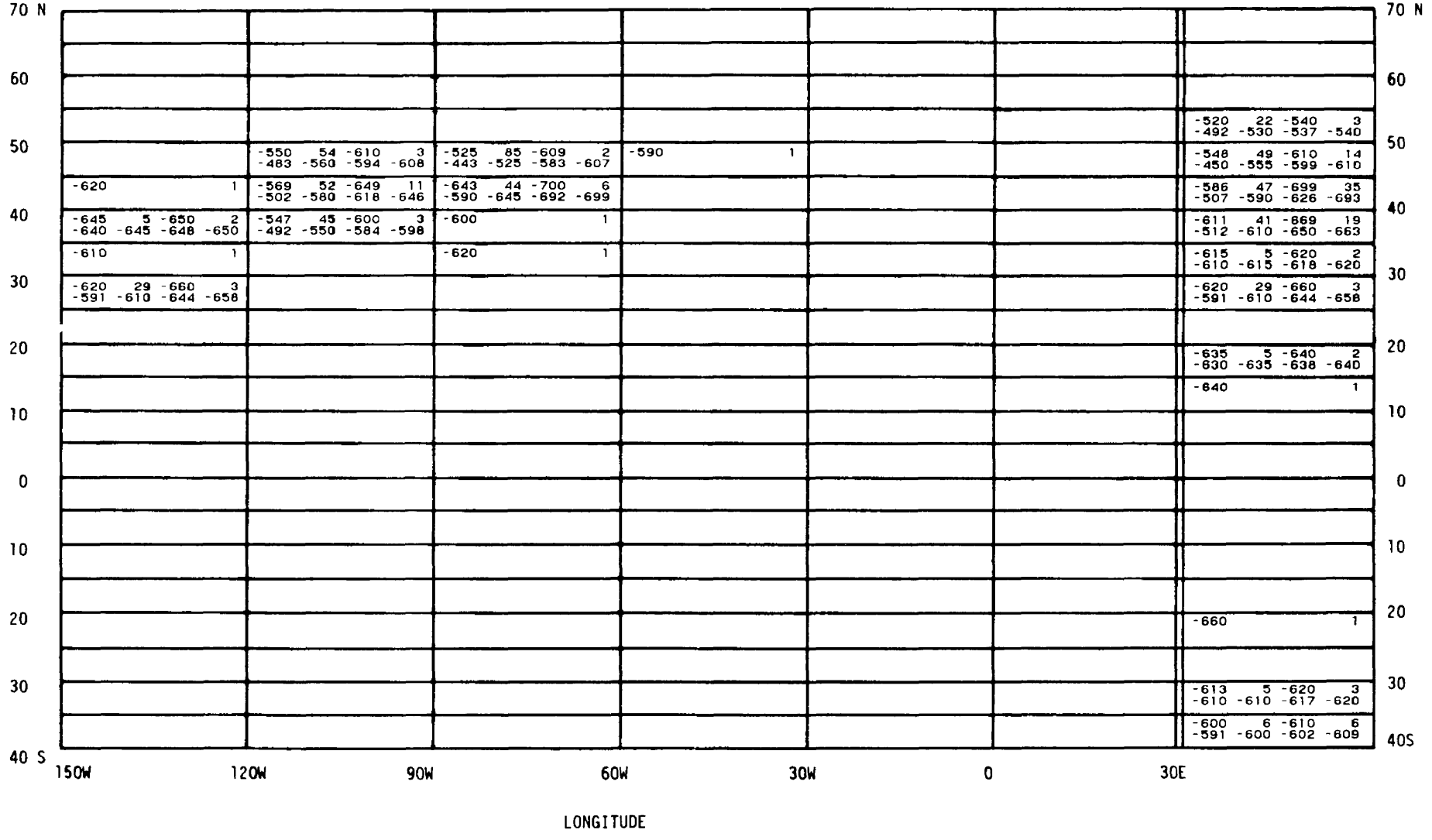
STATIC AIR TEMPERATURE CLIMATOLOGY

APRIL
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-366 31 -400 5 -322 -380 -394 -399			-317 41 -389 17 -260 -320 -360 -384			
30	-355 25 -380 2 -331 -355 -372 -379			-273 34 -320 8 -230 -280 -300 -317			
20	-300 16 -320 4 -281 -300 -315 -319	-300 22 -330 3 -280 -290 -317 -328		-205 5 -210 2 -200 -205 -208 -210			
10	-265 25 -290 2 -241 -265 -282 -289	-257 5 -260 3 -250 -260 -260 -260	-213 25 -240 3 -182 -220 -234 -239			-294 26 -370 38 -250 -290 -320 -370	
0		-233 21 -260 3 -211 -230 -250 -259	-233 21 -260 3 -211 -230 -250 -259	-180 1		-260 20 -280 2 -241 -260 -274 -279	
10			-214 14 -240 5 -201 -210 -221 -238	-235 29 -270 13 -185 -250 -261 -270			
20			-233 8 -240 4 -221 -235 -240 -240				
30			-247 12 -260 3 -231 -250 -257 -260				
40 S						-232 27 -280 5 -202 -220 -254 -277	
					-230 20 -250 2 -211 -230 -244 -249	-245 15 -260 2 -231 -245 -255 -259	
			-343 29 -380 3 -311 -340 -367 -378	-355 15 -370 2 -341 -355 -365 -369	-352 32 -380 6 -302 -365 -380 -380		
				-388 27 -430 6 -360 -385 -414 -428	-377 56 -479 6 -312 -365 -424 -473		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60									60
50	-410 29 -440 3 -372 -420 -434 -439	-390 1			-418 34 -469 12 -364 -425 -450 -466	-392 36 -440 15 -318 -390 -435 -440		-403 37 -468 27 -326 -400 -440 -460	50
	-360 1	-332 37 -390 14 -260 -330 -378 -387	-358 47 -475 39 -288 -350 -400 -450			-382 32 -430 5 -350 -370 -417 -428		-392 32 -440 9 -350 -390 -427 -438	
40	-349 36 -438 30 -296 -340 -380 -428	-363 26 -400 3 -340 -350 -384 -398	-320 1			-343 18 -360 4 -321 -345 -360 -360		-351 44 -473 58 -281 -350 -400 -439	40
	-355 32 -428 11 -312 -360 -374 -420	-334 36 -390 32 -266 -340 -370 -390				-370 35 -400 4 -314 -385 -395 -399		-343 41 -436 60 -260 -340 -386 -420	
30								-330 43 -424 53 -230 -330 -370 -390	30
								-279 43 -330 9 -202 -290 -317 -328	
		-230 1						-284 34 -370 47 -217 -280 -310 -370	
20		-250 1						-235 28 -279 10 -185 -235 -260 -278	20
		-230 -230 2 -230 -230 -230 -230	-231 19 -260 9 -202 -240 -247 -258					-230 24 -270 29 -191 -230 -260 -270	
10			-236 5 -240 5 -230 -240 -240 -240					-236 5 -240 5 -230 -240 -240 -240	10
								-233 8 -240 4 -221 -235 -240 -240	
0								-247 12 -260 3 -231 -250 -257 -260	0
10								-232 27 -280 5 -202 -220 -254 -277	10
	-240 1							-238 17 -260 5 -212 -240 -254 -259	
20				-279 22 -300 7 -242 -280 -300 -300				-279 22 -300 7 -242 -280 -300 -300	20
30								-350 29 -380 11 -302 -350 -380 -380	30
								-383 44 -478 12 -314 -370 -415 -469	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-393 28 -430 6 -360 -395 -422 -429						
30	-408 38 -460 14 -350 -415 -448 -460			-341 24 -380 11 -296 -340 -358 -378			
20	-378 32 -439 12 -332 -380 -405 -436			-333 31 -360 3 -292 -350 -357 -360			
10	-354 8 -360 5 -341 -360 -360 -360	-335 18 -360 4 -311 -335 -350 -359		-230 -230 2 -230 -230 -230 -230			
0	-294 27 -330 5 -262 -280 -324 -329	-263 12 -280 3 -250 -260 -274 -279	-263 12 -280 8 -241 -265 -270 -279	-230 1		-342 23 -399 44 -309 -340 -360 -391	
10		-268 15 -290 4 -251 -265 -280 -289	-240 21 -280 5 -221 -230 -254 -277			-312 26 -350 5 -272 -320 -331 -348	
20		-270 1	-265 21 -300 6 -233 -265 -276 -297	-280 20 -310 9 -243 -280 -297 -308			
30		-260 1		-270 -270 2 -270 -270 -270 -270			
40 S			-278 16 -300 5 -252 -280 -287 -298	-275 5 -280 2 -270 -275 -278 -280			
			-290 -290 4 -290 -290 -290 -290	-270 10 -280 2 -260 -270 -277 -280			
			-285 5 -290 4 -280 -285 -290 -290	-260 -260 2 -260 -260 -260 -260			
			-290 1			-290 14 -310 4 -271 -290 -300 -309	
					-297 17 -320 3 -280 -290 -310 -319	-300 1	
				-320 1	-295 5 -300 2 -290 -295 -298 -300		
				-360 1	-330 20 -350 2 -311 -330 -344 -349		
			-420 1	-423 33 -460 3 -382 -430 -450 -459	-387 29 -430 9 -350 -380 -422 -430		
				-419 26 -450 11 -358 -420 -440 -448	-426 27 -460 5 -391 -430 -454 -459		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-480 1							-480 1	60
50	-440 -440 -440 2 -440 -440 -440 -440			-440 -480 -480 3 -374 -470 -477 -480	-469 42 -530 12 -402 -465 -512 -528 -380 1	-432 28 -480 13 -377 -430 -452 -478 -424 34 -460 17 -343 -430 -460 -460	-450 40 -529 25 -384 -440 -493 -525 -426 37 -479 23 -348 -430 -460 -476		50
40	-400 1 -388 35 -460 22 -350 -375 -426 -460	-395 41 -460 13 -332 -390 -441 -458 -406 35 -460 9 -353 -400 -444 -458	-409 40 -506 62 -340 -410 -450 -488 -383 46 -479 7 -340 -370 -413 -472	-435 35 -480 6 -375 -440 -464 -478	-440 1	-401 32 -450 15 -346 -400 -438 -447 -395 15 -410 2 -381 -395 -405 -409	-407 39 -504 104 -340 -410 -440 -480 -386 41 -476 65 -320 -380 -430 -460		40
30	-379 36 -439 8 -323 -385 -400 -434	-377 37 -449 21 -316 -370 -416 -446 -350 1	-360 14 -370 3 -341 -370 -370 -370 -333 17 -350 3 -311 -340 -347 -350			-400 1	-374 36 -449 48 -299 -370 -400 -441 -328 42 -360 15 -230 -340 -360 -360		30
20		-293 5 -300 3 -290 -290 -297 -300	-340 20 -360 2 -321 -340 -354 -359 -290 17 -320 8 -270 -290 -300 -317				-323 40 -398 63 -242 -330 -360 -390 -274 38 -349 14 -223 -270 -318 -342 -281 20 -319 27 -235 -280 -300 -315		20
10			-273 20 -300 6 -242 -275 -292 -299				-271 17 -300 9 -243 -270 -287 -298		10
0							-277 14 -300 7 -252 -280 -281 -298 -283 11 -290 6 -262 -290 -290 -290		0
10							-277 12 -290 6 -260 -280 -290 -290 -290 13 -310 5 -272 -290 -297 -308		10
20				-360 1 -300 17 -330 5 -281 -300 -311 -328			-310 28 -360 5 -281 -300 -334 -357 -301 15 -330 8 -281 -300 -318 -329		20
30				-420 1			-340 22 -360 3 -312 -350 -357 -360 -399 33 -459 14 -350 -400 -430 -452		30
40 S							-421 27 -460 16 -362 -425 -446 -457		40S

LONGITUDE

APPENDIX C

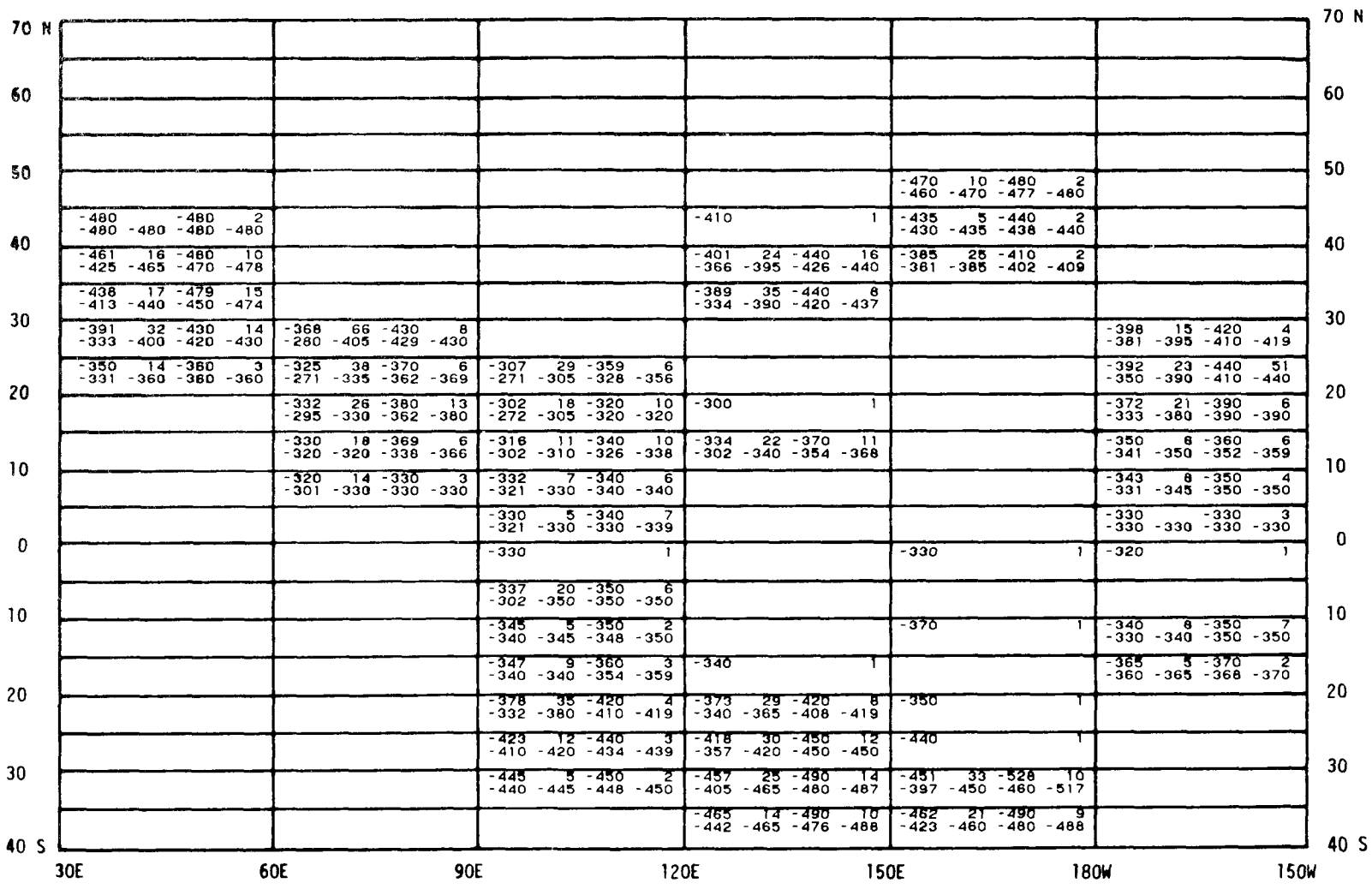
STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N					-550 1			-550 1	70 N
60	-480 1				-500 -500 -500 2 -500 -500 -500 -500			-493 9 -500 3 -481 -500 -500 -500	60
				-467 14 -480 6 -442 -470 -480 -480	-500 35 -560 11 -452 -490 -544 -558			-488 34 -560 17 -443 -480 -523 -557	
50	-467 12 -480 3 -451 -470 -477 -480		-450 1	-456 40 -520 5 -411 -450 -494 -517 -467 21 -490 3 -441 -470 -484 -489	-501 33 -560 27 -436 -510 -528 -560 -420 -420 -420 3 -420 -420 -420 -420	-497 31 -550 14 -435 -500 -520 -547 -476 28 -510 10 -422 -490 -496 -508		-495 36 -560 46 -419 -500 -520 -560 -464 28 -509 22 -420 -470 -490 -506	50
40	-448 7 -460 6 -440 -450 -452 -459 -442 30 -546 37 -394 -440 -460 -521	-438 29 -490 20 -380 -435 -460 -490 -452 30 -509 10 -412 -450 -480 -505	-447 43 -528 60 -380 -450 -490 -520 -483 26 -520 3 -460 -470 -504 -518		-435 5 -440 2 -430 -435 -438 -440	-497 9 -510 6 -481 -500 -502 -509 -473 9 -480 3 -461 -480 -480 -480		-448 39 -527 99 -380 -450 -490 -520 -439 36 -543 81 -372 -440 -470 -514	40
30	-435 29 -499 20 -390 -440 -460 -492 -410 12 -420 4 -391 -415 -420 -420	-446 33 -500 26 -380 -440 -480 -500	-410 1					-434 34 -500 70 -360 -440 -460 -500 -388 43 -430 30 -280 -400 -420 -430	30
20	-420 1	-300 1 -347 12 -360 3 -331 -350 -357 -360	-400 30 -430 2 -371 -400 -420 -429					-376 40 -440 70 -274 -380 -410 -440 -330 33 -390 33 -276 -320 -378 -390	20
10		-335 5 -340 2 -330 -335 -338 -340	-333 16 -360 12 -302 -340 -342 -358 -331 20 -369 7 -302 -330 -341 -366	-340 1				-331 19 -370 47 -300 -330 -350 -370 -332 15 -369 21 -300 -330 -340 -362	10
0				-320 -320 -320 2 -320 -320 -320 -320 -320 1				-328 6 -340 12 -320 -330 -330 -338 -325 5 -330 4 -320 -325 -330 -330	0
10	-330 1			-333 12 -350 3 -320 -330 -344 -349 -338 8 -350 4 -330 -335 -345 -349				-336 18 -350 9 -303 -350 -350 -350 -341 11 -369 15 -330 -340 -350 -364	10
20				-370 30 -400 2 -341 -370 -390 -399 -390 1				-356 20 -399 8 -340 -350 -369 -396 -374 30 -420 14 -333 -365 -409 -420	20
30				-450 1				-421 27 -450 16 -359 -420 -446 -450 -454 27 -527 27 -395 -450 -478 -509	30
40 S								-464 18 -490 19 -427 -460 -480 -490	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-470 1	
50					-550 30 -580 2 -521 -550 -570 -579	-550 1	
40	-515 5 -520 2 -510 -515 -518 -520			-495 35 -530 2 -461 -495 -519 -529	-527 17 -550 3 -510 -520 -540 -549 -471 39 -530 13 -420 -480 -520 -528	-455 25 -480 2 -431 -455 -472 -479	
30	-502 19 -520 11 -456 -510 -514 -520 -471 31 -510 12 -398 -470 -492 -508			-462 34 -529 18 -403 -455 -493 -523 -421 27 -460 7 -382 -430 -450 -459	-461 27 -510 18 -410 -455 -483 -510 -480 1	-490 1	
20	-448 33 -490 4 -402 -450 -476 -488 -400 8 -410 3 -390 -400 -407 -410	-434 35 -470 14 -365 -445 -460 -470 -380 25 -410 8 -350 -380 -409 -410	-359 12 -370 7 -334 -360 -370 -370	-390 12 -410 7 -371 -390 -400 -409 -367 5 -370 3 -360 -370 -370 -370	-460 10 -470 2 -450 -460 -467 -470 -445 15 -460 2 -431 -445 -455 -459	-460 14 -480 21 -434 -460 -478 -480 -443 19 -480 76 -405 -440 -460 -475	
10		-371 14 -400 14 -353 -370 -389 -397 -375 8 -380 6 -361 -380 -380 -380	-365 5 -370 4 -360 -365 -370 -370 -365 11 -380 4 -351 -365 -375 -379	-405 25 -430 2 -381 -405 -422 -429 -391 23 -420 21 -338 -400 -410 -420	-419 16 -459 16 -400 -420 -430 -454 -383 5 -390 3 -380 -380 -387 -390	-423 30 -450 7 -365 -440 -440 -449 -410 8 -420 3 -400 -410 -417 -420	
0		-377 5 -380 3 -370 -380 -380 -380 -375 5 -380 2 -370 -375 -378 -380 -380 1	-384 5 -390 5 -380 -380 -390 -390 -378 11 -390 4 -361 -380 -385 -389 -390 -390 2 -390 -390 -390 -390			-385 5 -390 2 -380 -385 -388 -390 -390 -390 3 -390 -390 -390 -390 -377 5 -380 3 -370 -380 -380 -380	
10			-380 15 -400 6 -360 -385 -392 -399 -375 20 -400 6 -342 -380 -392 -399	-385 11 -400 4 -371 -385 -395 -399	-380 1	-383 4 -390 4 -380 -380 -385 -389 -383 4 -390 4 -380 -380 -385 -389	
20			-390 -390 5 -390 -390 -390 -390 -400 8 -410 3 -390 -400 -407 -410	-397 18 -430 6 -372 -395 -406 -427 -407 26 -450 11 -380 -400 -438 -450	-396 12 -410 5 -381 -390 -410 -410 -415 19 -440 6 -383 -415 -432 -439	-385 9 -400 8 -380 -380 -398 -400 -410 8 -420 3 -400 -410 -417 -420	
30			-440 1 -450 1	-441 40 -490 8 -374 -445 -480 -489 -475 41 -539 11 -392 -480 -510 -534	-437 34 -480 6 -384 -435 -472 -479 -496 35 -549 20 -435 -500 -540 -546	-468 36 -520 4 -431 -460 -501 -518 -490 1	
40 S				-511 16 -530 8 -483 -515 -529 -530	-485 30 -549 8 -444 -480 -499 -543		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N				-570 1				-570 1	70 N
60	-450 1							-450 1	60
	-460 40 -500 2 -422 -460 -487 -498			-499 34 -540 7 -436 -510 -521 -538	-511 22 -550 9 -462 -510 -530 -547			-499 33 -549 19 -424 -500 -530 -546	
50	-540 34 -580 6 -492 -540 -580 -580		-530 50 -580 2 -482 -530 -564 -578	-491 61 -550 15 -373 -520 -540 -550	-522 42 -579 33 -426 -530 -560 -574	-544 8 -550 5 -531 -550 -550 -550		-520 48 -580 64 -390 -530 -560 -580	50
	-519 25 -550 8 -483 -515 -549 -550	-490 29 -530 3 -461 -480 -514 -528	-495 39 -569 12 -421 -485 -525 -563	-508 40 -560 31 -406 -520 -540 -560	-531 22 -560 11 -492 -540 -550 -558	-546 10 -570 7 -540 -540 -551 -568		-514 37 -570 75 -410 -520 -550 -565	
40	-486 19 -510 8 -453 -490 -508 -510	-495 30 -540 23 -444 -500 -525 -540	-484 40 -586 64 -390 -480 -520 -565	-483 31 -510 6 -432 -500 -510 -510	-515 25 -540 2 -491 -515 -532 -539	-513 17 -540 10 -477 -510 -526 -538		-488 37 -582 132 -402 -490 -520 -544	40
	-485 23 -539 40 -450 -480 -510 -532	-497 28 -559 18 -460 -490 -520 -557	-471 41 -559 7 -422 -460 -483 -550			-500 -500 2 -500 -500 -500 -500		-480 31 -560 114 -413 -480 -510 -547	
30	-474 27 -530 69 -410 -480 -500 -526	-480 31 -540 26 -430 -480 -510 -540	-455 5 -460 2 -450 -455 -458 -460					-472 31 -540 118 -393 -480 -500 -530	30
	-467 19 -518 38 -440 -470 -481 -505	-457 34 -510 16 -403 -465 -490 -507	-450 1					-453 31 -517 103 -380 -460 -480 -500	
20	-453 15 -470 6 -431 -455 -470 -470	-431 37 -480 9 -372 -440 -467 -478	-450 1					-430 34 -480 115 -353 -440 -460 -477	20
		-395 26 -439 4 -380 -380 -411 -436	-403 4 -410 4 -400 -400 -405 -409					-398 29 -458 51 -360 -400 -430 -450	
10		-420 1	-391 15 -410 8 -371 -390 -409 -410	-400 1				-389 21 -420 47 -348 -390 -410 -420	10
			-387 17 -420 7 -370 -380 -401 -418	-400 1				-385 12 -419 18 -370 -380 -393 -413	
0			-375 5 -380 2 -370 -375 -378 -380					-380 10 -390 11 -362 -380 -390 -390	0
								-382 7 -390 6 -371 -380 -390 -390	
10								-381 12 -400 10 -360 -380 -390 -398	10
								-380 15 -400 15 -346 -380 -390 -400	
20				-430 36 -480 4 -382 -430 -461 -478				-391 13 -429 24 -375 -390 -400 -421	20
								-412 25 -478 27 -380 -410 -438 -464	
30								-445 38 -516 19 -374 -440 -480 -509	30
								-488 38 -549 33 -406 -490 -529 -544	
40 S								-498 27 -549 16 -449 -500 -526 -544	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-490 1	-478 43 -559 8 -430 -470 -524 -556	
50					-562 41 -620 9 -495 -560 -607 -618	-554 29 -580 11 -488 -560 -574 -580	
40	-550 15 -580 5 -540 -540 -561 -578			-574 29 -610 7 -525 -570 -600 -609	-516 37 -579 13 -445 -520 -542 -575	-538 22 -570 4 -511 -535 -556 -568	
30	-534 29 -588 14 -480 -540 -550 -580			-480 1	-497 38 -540 6 -435 -495 -540 -540	-521 14 -540 9 -493 -520 -530 -538	
20	-505 42 -550 12 -419 -525 -540 -548			-508 26 -550 16 -466 -500 -540 -547	-500 25 -530 12 -462 -505 -530 -530	-535 15 -550 2 -521 -535 -545 -549	
10	-467 26 -500 6 -431 -470 -492 -499	-433 47 -520 12 -390 -415 -502 -518		-473 20 -500 8 -441 -475 -490 -499	-489 18 -530 14 -470 -480 -509 -527	-500 23 -539 25 -460 -500 -520 -535	
0	-440 14 -460 3 -430 -430 -450 -459	-416 17 -440 8 -391 -415 -438 -440	-410 16 -430 6 -382 -415 -422 -429	-432 20 -460 5 -410 -430 -454 -459	-489 21 -520 18 -453 -490 -513 -520	-491 23 -540 87 -450 -490 -520 -533	
10		-417 17 -440 7 -392 -410 -440 -440	-430 -430 2 -430 -430 -430 -430	-420 20 -440 2 -401 -420 -434 -439	-474 13 -500 17 -450 -470 -484 -497	-445 5 -450 2 -440 -445 -448 -450	
20		-415 5 -420 2 -410 -415 -418 -420	-427 9 -440 6 -411 -430 -432 -439	-435 25 -460 2 -411 -435 -452 -459	-480 10 -490 2 -470 -480 -487 -490	-438 7 -450 5 -430 -440 -444 -449	
30		-405 5 -410 2 -400 -405 -408 -410	-428 10 -440 5 -420 -420 -440 -440	-453 23 -480 18 -413 -460 -470 -480		-436 7 -450 7 -430 -430 -440 -449	
40 S		-420 -420 2 -420 -420 -420 -420	-430 7 -440 4 -421 -430 -435 -439	-425 5 -430 2 -420 -425 -428 -430		-436 8 -450 10 -422 -440 -440 -448	
		-410 14 -420 3 -391 -420 -420 -420	-433 4 -440 8 -430 -430 -439 -440	-430 -430 2 -430 -430 -430 -430		-435 5 -440 8 -430 -435 -440 -440	
			-424 14 -440 13 -400 -430 -440 -440	-415 5 -420 2 -410 -415 -418 -420		-439 9 -460 8 -430 -440 -440 -457	
			-426 18 -440 12 -384 -430 -440 -440	-420 -420 2 -420 -420 -420 -420	-440 10 -450 2 -430 -440 -447 -450	-450 12 -460 9 -432 -460 -460 -460	
			-427 17 -440 7 -394 -430 -440 -440	-433 8 -440 4 -421 -435 -440 -440	-435 5 -440 4 -430 -435 -440 -440	-460 1	
			-427 5 -430 3 -420 -430 -430 -430	-440 8 -450 6 -430 -440 -450 -450	-451 16 -470 7 -430 -450 -470 -470	-480 30 -510 2 -451 -480 -500 -509	
			-480 -480 2 -480 -480 -480 -480	-478 38 -520 4 -431 -480 -515 -519	-456 24 -480 9 -420 -460 -480 -480	-520 20 -540 2 -501 -520 -534 -539	
			-490 1	-460 1	-485 33 -530 8 -431 -490 -518 -529		
					-523 34 -570 7 -465 -530 -551 -568		
				-551 20 -570 9 -513 -560 -570 -570	-539 21 -570 8 -510 -540 -559 -569		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 350

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-430 1		-615 15 -630 2 -601 -615 -625 -629	-570 10 -580 2 -560 -570 -577 -580	-460 1			-543 73 -630 6 -433 -570 -606 -627	70 N
	-450 10 -460 2 -440 -450 -457 -460	-445 34 -499 4 -411 -435 -471 -496	-590 1		-470 1			-468 53 -588 8 -413 -450 -496 -577	
60	-502 63 -570 6 -404 -520 -562 -569	-571 51 -620 13 -462 -580 -620 -620	-580 1	-550 49 -600 9 -456 -560 -600 -600	-561 37 -600 15 -478 -570 -590 -600			-541 58 -620 53 -430 -560 -600 -620	60
	-516 60 -580 9 -405 -530 -567 -578	-574 29 -620 11 -532 -570 -604 -618	-551 50 -600 10 -441 -565 -591 -600	-523 52 -629 43 -408 -530 -560 -622	-545 48 -618 52 -440 -550 -590 -610	-560 13 -580 5 -550 -550 -574 -579		-541 50 -626 150 -420 -550 -582 -620	
50	-536 40 -590 17 -456 -550 -574 -587	-534 29 -570 5 -492 -530 -564 -569	-553 20 -617 23 -520 -550 -570 -598	-519 39 -580 35 -420 -520 -550 -580	-500 50 -579 7 -424 -520 -532 -574	-562 21 -590 13 -530 -560 -590 -590		-537 39 -617 111 -426 -540 -570 -600	50
	-529 37 -570 20 -437 -540 -560 -570	-539 34 -599 44 -486 -535 -580 -591	-521 35 -580 62 -434 -520 -550 -578	-465 51 -520 4 -402 -470 -515 -519	-530 1	-553 25 -599 18 -503 -555 -580 -593		-529 37 -600 177 -430 -530 -560 -590	
40	-526 24 -576 67 -480 -530 -550 -560	-532 34 -590 55 -460 -530 -560 -590	-511 34 -570 13 -465 -500 -560 -568			-553 4 -560 4 -550 -550 -555 -559		-525 31 -590 175 -460 -530 -550 -585	40
	-516 25 -560 107 -470 -520 -540 -560	-521 34 -588 20 -448 -520 -559 -579	-503 18 -520 4 -481 -505 -520 -520			-540 1		-512 29 -575 166 -450 -520 -540 -560	
30	-507 23 -550 96 -469 -510 -530 -550	-465 15 -480 2 -451 -465 -475 -479	-495 5 -500 2 -490 -495 -498 -500					-495 34 -550 162 -400 -500 -530 -548	30
	-493 21 -539 26 -460 -490 -510 -535	-470 35 -530 5 -440 -450 -504 -527	-490 -490 2 -490 -490 -490 -490					-482 33 -540 157 -400 -490 -510 -530	
20	-466 16 -490 11 -442 -470 -484 -490	-440 14 -460 4 -421 -440 -450 -459	-460 -460 3 -460 -460 -460 -460					-455 25 -499 48 -409 -460 -480 -491	20
	-453 10 -470 7 -440 -450 -460 -469	-480 1	-453 17 -470 18 -417 -460 -470 -470	-445 5 -450 2 -440 -445 -448 -450				-449 21 -488 61 -410 -450 -470 -480	
10	-438 12 -450 5 -421 -440 -450 -450		-430 1	-447 5 -450 3 -440 -450 -450 -450				-432 13 -450 25 -405 -430 -450 -450	10
	-433 5 -440 3 -430 -430 -437 -440		-480 1	-445 5 -450 2 -440 -445 -448 -450				-435 13 -478 24 -420 -430 -440 -466	
0	-420 1			-440 -440 2 -440 -440 -440 -440				-429 12 -440 24 -399 -430 -440 -440	0
	-435 5 -440 2 -430 -435 -438 -440			-452 12 -470 5 -440 -450 -464 -469				-433 16 -469 32 -400 -430 -440 -464	
10	-440 10 -450 2 -430 -440 -447 -450			-458 12 -470 5 -441 -460 -470 -470				-439 18 -470 36 -394 -440 -460 -470	10
				-469 10 -480 7 -451 -470 -480 -480				-448 20 -480 28 -406 -450 -470 -480	
20				-470 1				-459 31 -519 19 -420 -460 -484 -516	20
								-488 31 -540 13 -432 -490 -521 -538	
30				-520 1				-519 31 -570 9 -465 -520 -547 -567	30
								-545 21 -570 17 -510 -550 -570 -570	40S
40 S									

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-500 39 -560 4 -461 -490 -536 -557	
					-480 10 -490 2 -470 -480 -487 -490	-494 53 -618 19 -421 -490 -540 -609	
50					-562 50 -630 14 -463 -565 -618 -627	-500 55 -628 13 -425 -490 -552 -616	
					-553 45 -610 13 -449 -560 -591 -608	-549 57 -640 13 -455 -540 -612 -638	
40	-580 10 -590 2 -570 -580 -587 -590			-588 29 -620 4 -551 -590 -615 -619	-572 29 -629 22 -508 -580 -596 -622	-567 39 -600 6 -490 -580 -584 -598	
	-554 34 -590 8 -493 -560 -589 -590			-560 20 -600 21 -530 -550 -578 -600	-556 27 -600 18 -500 -555 -583 -600		
30	-501 25 -540 7 -480 -480 -530 -539	-500 1		-518 32 -569 19 -450 -520 -550 -566	-562 28 -600 13 -510 -570 -582 -600	-568 27 -610 4 -541 -560 -591 -608	
	-515 5 -520 2 -510 -515 -518 -520	-480 17 -510 8 -460 -480 -498 -509		-485 27 -530 11 -436 -480 -508 -528	-513 17 -530 3 -491 -520 -527 -530	-542 19 -588 37 -500 -550 -560 -576	
20		-469 20 -509 7 -442 -460 -481 -506	-464 11 -490 8 -451 -460 -469 -487	-479 17 -500 7 -451 -480 -500 -500	-500 1	-525 22 -570 74 -485 -525 -540 -570	
		-477 5 -480 3 -470 -480 -480 -480	-460 6 -470 12 -450 -460 -462 -470	-501 20 -520 7 -471 -510 -520 -520	-510 24 -560 22 -474 -510 -533 -560	-529 15 -550 11 -510 -530 -544 -550	
10			-468 7 -480 6 -460 -470 -472 -479	-470 8 -480 6 -460 -470 -480 -480		-504 5 -510 5 -500 -500 -510 -510	
			-475 5 -480 6 -470 -475 -480 -480			-500 12 -520 12 -480 -500 -510 -518	
0			-480 -480 2 -480 -480 -480 -480			-496 8 -510 17 -483 -500 -500 -510	
						-495 10 -510 12 -480 -490 -510 -510	
10						-495 13 -520 15 -473 -490 -510 -517	
						-502 11 -520 14 -483 -500 -510 -520	
20					-510 1	-515 13 -540 13 -500 -510 -530 -538	
					-530 1	-528 16 -540 5 -502 -540 -540 -540	
30				-580 -580 2 -580 -580 -580 -580	-540 1	-540 -540 2 -540 -540 -540 -540	
			-580 1	-558 41 -590 6 -485 -580 -590 -590	-538 32 -590 5 -501 -540 -564 -587		
40 S				-551 34 -590 8 -493 -555 -589 -590	-615 5 -620 2 -610 -615 -618 -620		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-480 8 -490 3 -470 -480 -487 -490		-560 1	-525 65 -590 2 -463 -525 -569 -587	-480 1			-504 46 -589 7 -461 -480 -561 -586	70 N
	-523 73 -650 17 -430 -490 -613 -647	-532 48 -590 5 -455 -550 -571 -588	-470 1	-530 60 -590 2 -472 -530 -571 -588	-473 29 -510 4 -441 -470 -500 -509			-514 63 -649 33 -430 -490 -590 -644	
60	-552 69 -659 13 -432 -570 -621 -653	-573 51 -630 8 -471 -585 -618 -629	-557 29 -590 3 -522 -560 -580 -589	-516 61 -590 7 -441 -500 -580 -589	-568 45 -610 10 -469 -585 -600 -608			-533 64 -655 62 -432 -540 -592 -630	60
	-522 49 -609 5 -481 -490 -565 -604	-554 42 -600 5 -485 -570 -587 -598	-465 43 -520 4 -404 -470 -496 -517	-503 61 -617 32 -406 -490 -570 -601	-555 53 -629 44 -446 -570 -600 -621	-530 44 -599 4 -482 -520 -566 -596		-531 61 -630 121 -414 -540 -600 -626	
50	-558 55 -630 13 -475 -570 -620 -628	-560 69 -630 8 -430 -590 -626 -630	-535 51 -618 14 -443 -550 -570 -610	-541 55 -600 27 -426 -560 -590 -600	-572 38 -629 9 -505 -570 -600 -625	-588 21 -610 6 -560 -595 -610 -610		-552 54 -637 103 -430 -560 -600 -630	50
	-561 38 -610 14 -488 -570 -599 -610	-557 41 -637 98 -459 -560 -600 -621	-550 37 -610 58 -460 -560 -580 -609	-543 66 -600 3 -455 -580 -594 -599		-586 27 -630 12 -552 -585 -615 -630		-560 39 -633 219 -460 -560 -600 -626	
40	-563 28 -628 66 -493 -560 -590 -614	-567 38 -635 90 -470 -570 -610 -620	-558 26 -600 11 -520 -550 -588 -600					-563 32 -634 214 -483 -560 -590 -620	40
	-556 24 -606 131 -516 -560 -580 -600	-553 29 -600 16 -485 -555 -570 -597	-570 14 -590 3 -560 -560 -580 -589					-550 30 -610 194 -479 -550 -580 -600	
30	-548 20 -597 98 -510 -550 -570 -590	-530 21 -570 6 -510 -525 -546 -567						-537 29 -595 165 -463 -540 -560 -590	30
	-536 22 -588 27 -505 -540 -558 -580	-521 19 -550 13 -492 -520 -540 -548	-530 1					-518 30 -582 136 -457 -520 -540 -570	
20	-511 8 -530 7 -501 -510 -511 -528	-517 20 -550 20 -484 -520 -540 -550	-530 1					-505 28 -560 83 -456 -510 -530 -554	20
	-504 9 -520 11 -490 -500 -510 -518	-502 12 -510 5 -482 -510 -510 -510	-503 11 -520 16 -483 -510 -510 -517					-495 17 -520 49 -460 -500 -510 -520	
10	-500 11 -510 7 -481 -500 -510 -510		-499 10 -510 7 -490 -490 -510 -510	-500 1				-495 14 -519 33 -470 -500 -510 -514	10
	-490 7 -500 4 -481 -490 -495 -499		-495 12 -510 11 -480 -490 -510 -510	-513 8 -520 4 -501 -515 -520 -520				-496 11 -520 38 -480 -495 -510 -520	
0	-486 7 -500 7 -480 -480 -490 -499		-497 12 -520 7 -490 -490 -510 -519	-507 9 -520 7 -491 -510 -510 -519				-496 12 -520 33 -480 -490 -510 -520	0
	-497 5 -500 3 -490 -500 -500 -500		-485 5 -490 2 -480 -485 -488 -490	-504 17 -539 14 -475 -500 -520 -535				-499 15 -538 34 -470 -500 -510 -527	
10	-510 1			-513 15 -540 12 -490 -515 -522 -538				-507 14 -539 27 -485 -510 -520 -535	10
				-521 13 -550 15 -510 -520 -528 -550				-518 13 -550 29 -500 -520 -530 -550	
20				-530 12 -550 7 -511 -530 -540 -549				-529 13 -550 13 -502 -530 -540 -548	20
				-560 1				-557 18 -580 6 -540 -550 -580 -580	
30				-585 15 -600 2 -571 -585 -595 -599				-556 37 -600 14 -485 -575 -590 -597	30
								-564 40 -620 10 -494 -570 -601 -618	
40 S									40S

LONGITUDE

APPENDIX C

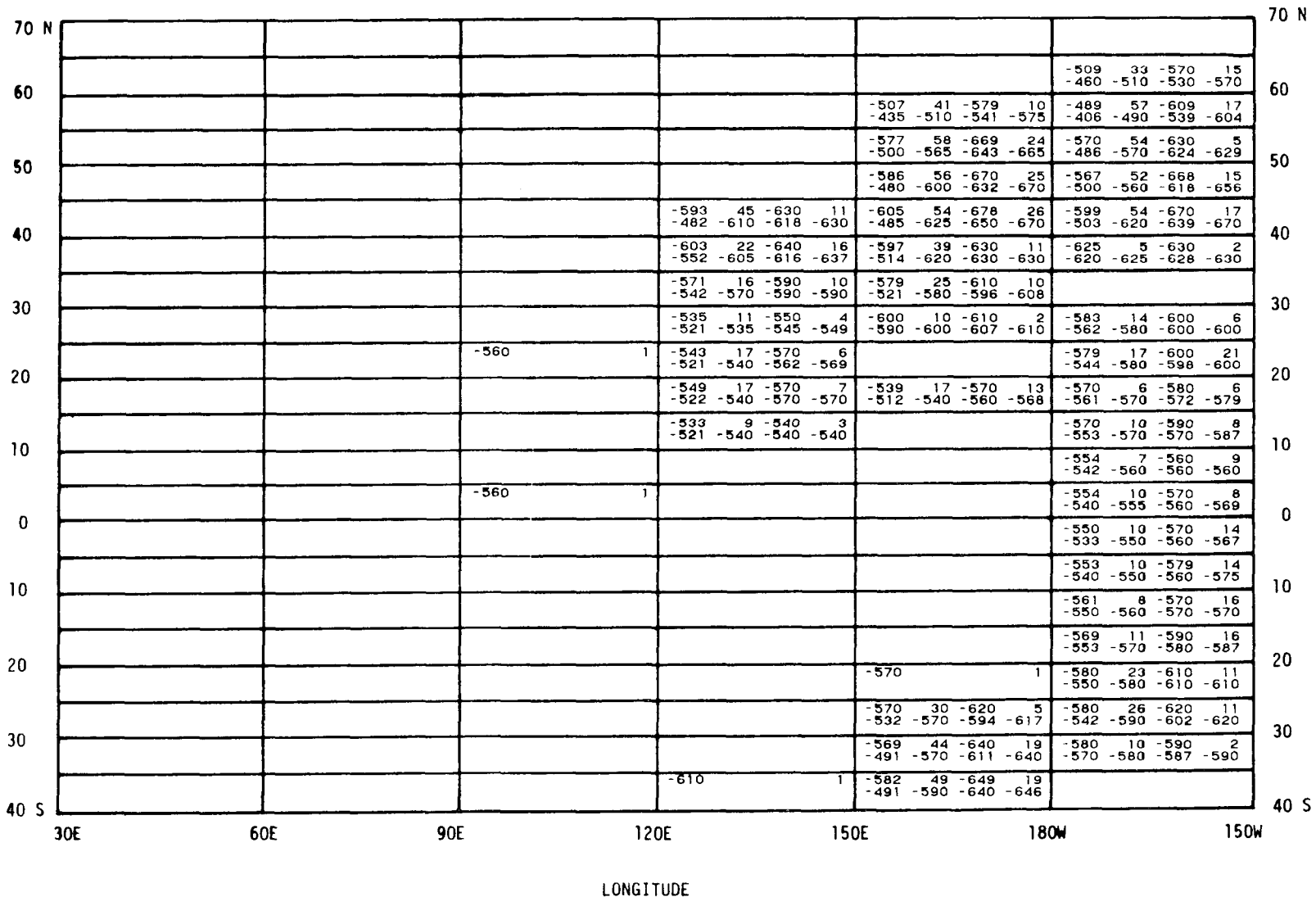
STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-473 12 -490 3 -460 -470 -484 -489	-510 1	-495 15 -510 2 -481 -495 -505 -509	-543 45 -590 4 -482 -550 -585 -589				-509 42 -590 10 -462 -500 -554 -588	70 N
	-511 45 -570 12 -452 -490 -570 -570	-495 21 -520 4 -471 -495 -515 -519	-520 1	-580 1	-560 1			-512 38 -579 34 -457 -510 -570 -573	
60	-555 75 -660 11 -466 -520 -648 -660	-529 42 -609 12 -472 -515 -572 -603	-520 1	-505 57 -609 8 -440 -500 -564 -604	-534 41 -609 8 -483 -525 -575 -606			-517 58 -660 67 -423 -510 -580 -654	60
	-470 1	-542 34 -590 5 -501 -540 -577 -588	-474 12 -490 5 -460 -480 -484 -489	-494 47 -617 14 -433 -480 -538 -599	-538 50 -649 13 -472 -520 -573 -640			-540 62 -668 67 -443 -520 -620 -657	
50	-558 60 -630 11 -462 -590 -620 -628	-579 65 -640 10 -464 -610 -630 -638	-583 52 -640 18 -477 -595 -630 -640	-555 59 -630 13 -434 -560 -612 -630	-525 15 -540 2 -511 -525 -535 -539	-563 23 -600 4 -541 -555 -581 -598		-572 57 -670 98 -460 -580 -630 -670	50
	-596 51 -669 18 -483 -600 -643 -663	-577 51 -658 62 -462 -580 -630 -650	-582 62 -860 45 -438 -610 -630 -660	-460 40 -500 2 -422 -460 -487 -498	-525 25 -550 2 -501 -525 -542 -549	-602 28 -630 5 -554 -610 -624 -629		-586 56 -674 188 -450 -600 -640 -663	
40	-584 39 -640 15 -523 -580 -620 -640	-580 46 -658 69 -470 -580 -630 -650	-615 22 -659 8 -591 -605 -630 -656					-588 42 -660 121 -470 -590 -630 -650	40
	-585 30 -639 47 -525 -580 -610 -631	-594 30 -639 27 -520 -600 -620 -635	-605 5 -610 2 -600 -605 -608 -610					-586 29 -640 96 -510 -590 -610 -631	
30	-593 20 -630 41 -550 -590 -620 -630	-584 44 -630 10 -520 -605 -626 -630	-600 10 -610 2 -590 -600 -607 -610					-588 28 -630 65 -520 -590 -620 -630	30
	-581 20 -610 14 -553 -585 -600 -610	-586 28 -620 8 -540 -595 -609 -619	-580 7 -590 4 -571 -580 -585 -589					-576 23 -618 54 -531 -580 -600 -610	
20	-560 14 -580 3 -550 -550 -570 -579	-571 12 -590 8 -551 -570 -580 -589	-563 4 -570 4 -560 -560 -563 -569					-555 19 -589 41 -518 -560 -570 -582	20
	-555 5 -580 2 -550 -555 -558 -560		-560 -560 2 -560 -560 -560 -560					-559 17 -589 15 -526 -560 -570 -584	
10	-550 -550 3 -550 -550 -550 -550		-564 11 -580 10 -550 -565 -576 -580					-558 10 -580 22 -544 -560 -570 -580	10
	-550 1		-562 13 -580 6 -541 -565 -572 -579	-570 7 -580 4 -561 -570 -575 -579				-559 12 -580 20 -540 -560 -570 -580	
0	-530 1		-550 1	-566 8 -580 9 -552 -570 -570 -578				-555 13 -579 25 -530 -550 -570 -575	0
	-540 -540 2 -540 -540 -540 -540			-564 10 -580 7 -550 -570 -570 -579				-555 12 -580 23 -540 -550 -570 -580	
10	-550 -550 2 -550 -550 -550 -550			-566 5 -570 5 -560 -570 -570 -570				-561 8 -570 23 -550 -560 -570 -570	10
	-550 1			-570 7 -580 4 -561 -570 -575 -579				-568 11 -589 21 -550 -570 -580 -586	
20				-600 1				-581 22 -610 13 -550 -580 -610 -610	20
								-577 28 -620 16 -533 -580 -608 -620	
30								-570 42 -640 21 -492 -570 -610 -640	30
								-583 48 -649 20 -491 -590 -640 -646	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-510 46 -560 4 -444 -520 -550 -559		
50					-567 70 -670 13 -462 -550 -633 -670	-610 50 -660 2 -562 -610 -644 -658	
40	-600 1			-598 51 -690 13 -507 -600 -634 -688	-565 61 -679 22 -474 -580 -629 -672	-569 53 -697 12 -489 -560 -612 -682	
30	-600 14 -620 3 -590 -590 -610 -619			-588 71 -710 12 -510 -585 -685 -708	-560 1	-598 66 -660 8 -487 -630 -659 -660	
20	-597 41 -650 3 -552 -590 -631 -648			-619 56 -689 14 -498 -625 -670 -685		-570 1	
10	-570 1			-623 18 -650 6 -601 -620 -642 -649			
0			-574 14 -590 5 -552 -580 -584 -589	-614 15 -640 5 -600 -610 -627 -638			
10			-575 5 -580 4 -570 -575 -580 -580	-590 -590 2 -590 -590 -590 -590		-624 24 -669 7 -585 -620 -632 -665	
20			-588 8 -600 4 -580 -585 -595 -599			-610 16 -630 3 -591 -610 -624 -629	
30			-595 5 -600 4 -590 -595 -600 -600			-608 4 -610 4 -601 -610 -610 -610	
40 S						-610 6 -620 6 -601 -610 -612 -619	
						-603 8 -620 8 -591 -600 -609 -619	
						-598 8 -610 9 -582 -600 -600 -608	
						-599 3 -600 7 -591 -600 -600 -600	
						-604 9 -620 7 -591 -600 -610 -619	
						-610 16 -640 12 -582 -610 -622 -638	
						-635 5 -640 2 -630 -635 -638 -640	
						-650 -650 2 -650 -650 -650 -650	
					-599 48 -669 7 -540 -620 -641 -666		
					-611 39 -660 12 -552 -610 -652 -660		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY

FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-523 5 -530 3 -520 -520 -527 -530	-495 25 -520 2 -471 -495 -512 -519			-512 21 -530 5 -474 -520 -524 -529	60
50	-630 1 -560 1	-574 59 -650 5 -485 -590 -624 -647 -569 53 -630 9 -500 -560 -627 -630	-520 1 -613 45 -650 3 -554 -640 -647 -650	-483 50 -550 4 -431 -475 -531 -548 -489 66 -628 7 -405 -480 -505 -614	-536 67 -640 7 -444 -530 -621 -638 -574 63 -669 10 -464 -555 -646 -666			-534 67 -649 22 -434 -530 -616 -646 -562 70 -670 45 -435 -550 -640 -670	50
40	-588 65 -670 9 -502 -590 -667 -670 -631 51 -680 27 -507 -660 -670 -680	-583 74 -670 9 -443 -590 -662 -670 -622 49 -679 12 -517 -640 -660 -676	-591 66 -660 14 -468 -625 -650 -657 -581 60 -680 28 -481 -580 -650 -680	-507 30 -569 6 -481 -495 -522 -564 -460 1	-525 9 -540 4 -520 -520 -530 -539	-600 10 -610 2 -590 -600 -607 -610		-569 64 -695 76 -465 -565 -650 -675 -602 61 -707 104 -471 -610 -670 -689	40
30	-620 67 -700 13 -484 -650 -682 -700 -636 52 -700 16 -522 -650 -680 -697	-604 40 -660 18 -530 -610 -653 -660 -634 34 -680 13 -577 -630 -671 -680	-603 65 -670 10 -481 -625 -666 -670 -620 1			-600 10 -610 2 -590 -600 -607 -610 -650 1		-609 54 -700 62 -472 -610 -660 -698 -630 42 -699 40 -541 -635 -670 -692	30
20	-646 30 -700 16 -596 -650 -678 -697 -628 25 -679 12 -590 -625 -650 -673 -602 23 -620 6 -570 -615 -620 -620	-630 1 -620 -620 2 -620 -620 -620 -620 -610 1						-635 33 -699 23 -579 -630 -660 -696 -614 30 -679 28 -561 -620 -644 -675 -596 22 -630 14 -570 -600 -620 -627	20
10	-610 15 -620 5 -582 -620 -620 -620 -615 5 -620 2 -610 -615 -618 -620							-602 15 -620 13 -580 -610 -620 -620 -606 10 -620 12 -590 -610 -612 -620	10
0								-603 8 -620 8 -591 -600 -609 -619 -598 8 -610 9 -582 -600 -600 -608	0
10								-599 3 -600 7 -591 -600 -600 -600 -604 9 -620 7 -591 -600 -610 -619	10
20				-630 1				-610 16 -640 12 -582 -610 -622 -638 -633 5 -640 3 -630 -630 -637 -640	20
30				-625 5 -630 2 -620 -625 -628 -630 -600 10 -610 2 -590 -600 -607 -610				-638 13 -650 4 -621 -640 -650 -650 -599 43 -669 9 -540 -610 -634 -665	30
40 S								-611 39 -660 12 -552 -610 -652 -660	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

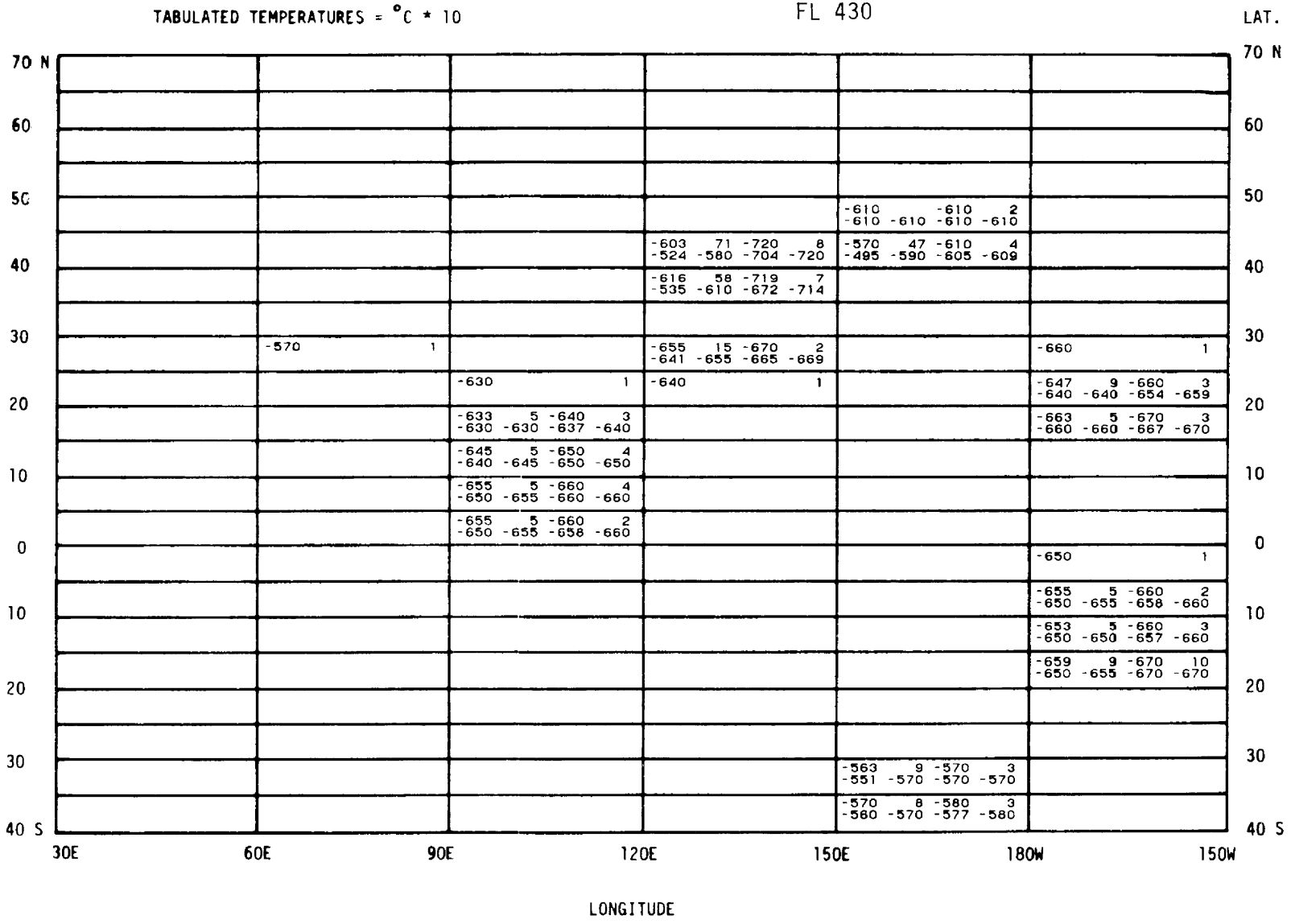
MAY

FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

MAY
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-440 1				-440 1	60
		-510 1	-480 1	-485 15 -500 2 -471 -485 -495 -499				-490 16 -510 4 -471 -490 -505 -509	
50	-570 1	-510 1	-505 15 -520 2 -491 -505 -515 -519					-552 48 -610 6 -492 -545 -610 -610	50
	-593 12 -610 3 -580 -590 -604 -609	-553 49 -620 6 -485 -540 -612 -619	-553 68 -649 3 -500 -510 -605 -644					-578 61 -720 24 -485 -580 -613 -720	
40	-595 27 -620 4 -553 -605 -615 -619	-587 32 -639 7 -534 -590 -611 -636	-675 45 -710 8 -581 -700 -709 -710					-623 57 -719 26 -530 -610 -700 -715	40
	-700 -700 2 -700 -700 -700 -700	-670 28 -690 3 -632 -690 -690 -690	-630 1					-673 31 -700 6 -630 -690 -700 -700	
30	-680 1							-644 39 -680 5 -576 -660 -674 -679	30
								-642 10 -660 5 -631 -640 -647 -658	
20								-648 16 -670 6 -630 -650 -662 -669	20
								-645 5 -650 4 -640 -645 -650 -650	
10								-655 5 -660 4 -650 -655 -660 -660	10
								-655 5 -660 2 -650 -655 -658 -660	
0								-650 1	0
								-655 5 -660 2 -650 -655 -658 -660	
10								-653 5 -660 3 -650 -650 -657 -660	10
								-659 9 -670 10 -650 -655 -670 -670	
20									20
30								-563 9 -570 3 -551 -570 -570 -570	30
								-570 8 -580 3 -560 -570 -577 -580	
40 S									40S

LONGITUDE

APPENDIX C

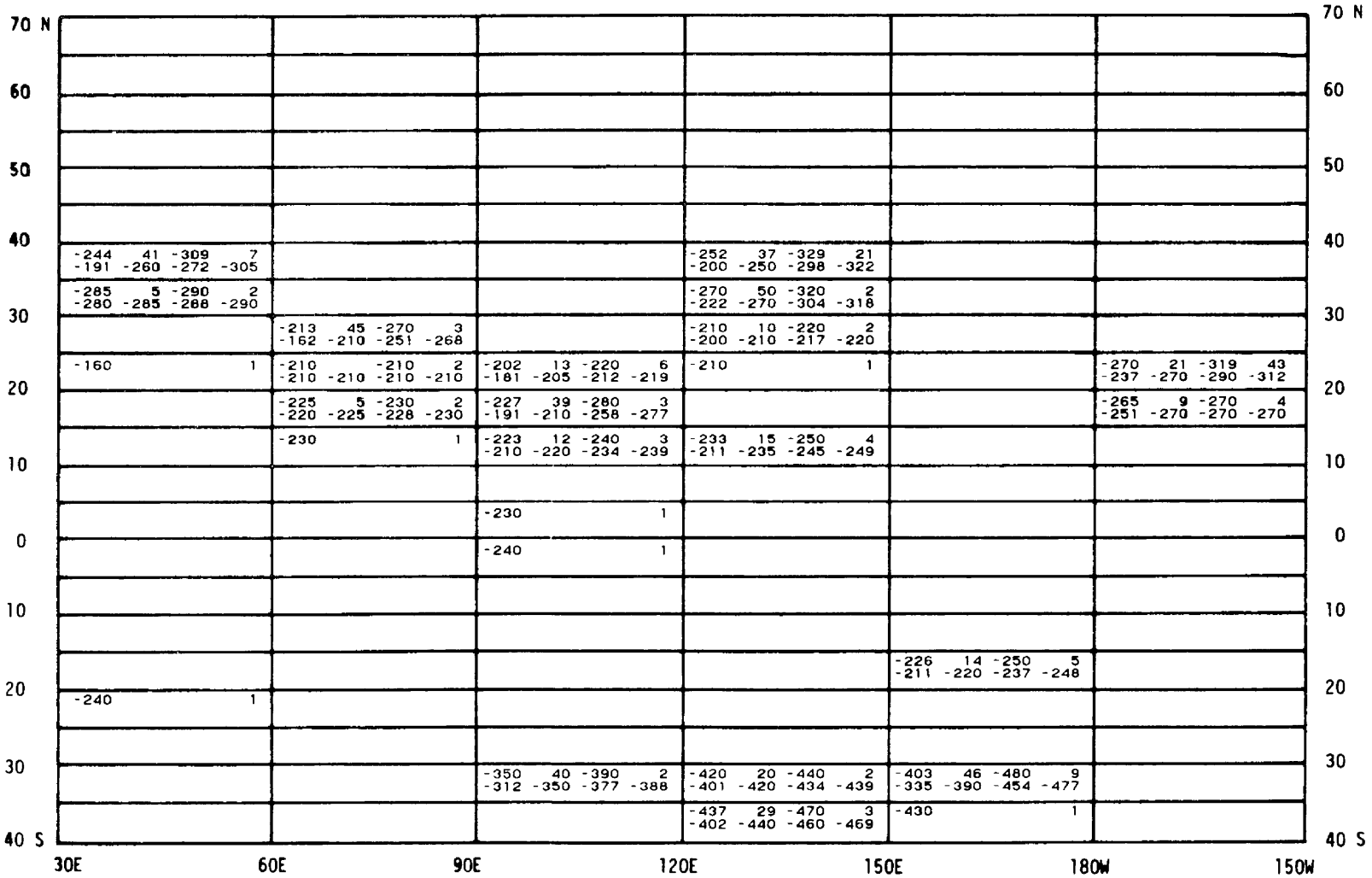
STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-410 20 -430 2 -391 -410 -424 -429				-330 1			-410 20 -430 2 -391 -410 -424 -429 -330 1	60
50	-330 29 -380 8 -293 -320 -359 -377	-360 1		-350 -350 2 -350 -350 -350 -350	-377 24 -420 11 -336 -370 -398 -418 -370 1	-337 96 -400 7 -135 -380 -390 -399 -340 10 -350 2 -330 -340 -347 -350		-362 66 -419 18 -181 -375 -393 -417 -339 25 -380 14 -295 -350 -360 -377	50
40	-370 1	-323 36 -389 15 -260 -330 -358 -382	-310 35 -390 51 -250 -300 -350 -390	-340 1		-350 1		-314 36 -390 69 -254 -310 -350 -390	40
30	-307 30 -360 40 -253 -310 -338 -360 -284 24 -339 14 -253 -280 -310 -332	-319 53 -428 9 -250 -320 -347 -417 -297 27 -359 25 -245 -300 -320 -350	-309 29 -350 9 -260 -310 -334 -348			-315 25 -340 2 -291 -315 -332 -339		-291 45 -412 88 -200 -300 -330 -360 -291 28 -357 43 -237 -290 -320 -343 -212 35 -269 5 -163 -210 -238 -266	30
20								-257 34 -318 53 -180 -260 -290 -310 -243 30 -280 9 -193 -250 -270 -278	20
10		-245 5 -250 2 -240 -245 -248 -250						-232 14 -250 10 -210 -235 -248 -250	10
0								-230 1 -240 1	0
10									10
20								-226 14 -250 5 -211 -220 -237 -248 -240 1	20
30				-310 1				-391 51 -479 14 -310 -390 -440 -475	30
40 S								-435 25 -470 4 -402 -435 -456 -468	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-380 1				-340 1		
	-280 50 -350 5 -212 -290 -324 -347			-310 37 -407 15 -248 -310 -328 -393	-340 1		
30	-290 57 -379 4 -240 -270 -342 -375			-260 -260 2 -260 -260 -260 -260			
	-265 45 -310 2 -222 -265 -296 -308	-280 31 -310 4 -241 -285 -310 -310		-265 15 -280 2 -251 -265 -275 -279			
20	-225 5 -230 2 -220 -225 -228 -230	-220 8 -230 6 -210 -220 -230 -230	-260 19 -280 7 -224 -270 -270 -279	-280 1		-328 22 -378 55 -291 -330 -350 -368	
		-237 12 -250 3 -221 -240 -247 -250	-270 1	-280 1		-311 17 -330 7 -282 -320 -330 -330	
10		-280 1		-288 19 -310 5 -261 -300 -304 -309			
		-290 -290 2 -290 -290 -290 -290					
0		-295 5 -300 2 -290 -295 -298 -300					
		-280 20 -300 2 -261 -280 -294 -299	-270 8 -280 3 -260 -270 -277 -280				
10			-280 1				
					-280 1	-265 15 -280 2 -251 -265 -275 -279	
20	-280 1		-290 1		-290 14 -310 3 -280 -280 -300 -309	-280 10 -290 2 -270 -280 -287 -290	
			-295 5 -300 2 -290 -295 -298 -300				
30			-315 15 -330 2 -301 -315 -325 -329		-415 15 -430 2 -401 -415 -425 -429		
			-375 5 -380 2 -370 -375 -378 -380	-392 12 -410 5 -380 -390 -404 -409	-438 32 -490 11 -384 -440 -468 -488		
40 S				-479 32 -539 9 -425 -480 -497 -534	-420 20 -440 2 -401 -420 -434 -439		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-500 1				-410 1			-500 1 -410 1	60
50	-383 28 -420 9 -343 -370 -417 -420	-415 15 -430 2 -401 -415 -425 -429			-418 30 -497 25 -365 -420 -450 -481	-438 25 -470 4 -402 -440 -456 -468 -444 15 -470 8 -421 -440 -459 -469		-421 30 -497 29 -366 -420 -450 -483 -412 36 -469 19 -347 -420 -441 -466	50
40	-400 1 -368 34 -439 25 -305 -370 -402 -435	-349 26 -399 15 -320 -340 -380 -394 -351 29 -419 15 -313 -350 -370 -412	-365 39 -430 48 -280 -370 -410 -430 -337 19 -360 6 -303 -340 -352 -359			-399 30 -440 8 -353 -400 -436 -440 -365 5 -370 2 -360 -365 -368 -370		-366 38 -440 74 -289 -370 -410 -435 -342 43 -438 69 -240 -350 -380 -426	40
30	-346 23 -390 16 -302 -345 -366 -387	-341 21 -380 28 -305 -340 -367 -380						-336 34 -389 50 -240 -340 -370 -380 -273 33 -310 8 -223 -270 -310 -310	30
20								-309 43 -378 71 -214 -320 -350 -366 -287 35 -330 12 -224 -290 -322 -330	20
10		-290 1						-287 17 -310 7 -261 -290 -300 -309 -290 -290 2 -290 -290 -290 -290	10
0								-295 5 -300 2 -290 -295 -298 -300 -274 15 -300 5 -260 -270 -287 -298	0
10								-280 1 -270 14 -280 3 -251 -280 -280 -280	10
20								-286 12 -310 7 -271 -280 -291 -308 -295 5 -300 2 -290 -295 -298 -300	20
30								-365 52 -430 4 -302 -365 -416 -428 -418 36 -489 18 -373 -410 -460 -487	30
40 S								-468 38 -539 11 -404 -480 -494 -532	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-397 50 -450 3 -333 -410 -437 -448				-410 1		
30	-371 66 -450 10 -280 -390 -440 -448			-354 39 -429 19 -304 -350 -402 -426			
20	-332 44 -400 6 -281 -320 -384 -398			-323 15 -340 6 -301 -325 -340 -340	-325 11 -340 4 -311 -325 -335 -339	-450 1	
10	-280 12 -300 4 -270 -275 -290 -299	-312 35 -370 11 -252 -310 -340 -370		-350 1	-370 -370 2 -370 -370 -370 -370	-404 24 -450 7 -380 -400 -431 -448	
0	-270 1	-307 19 -320 3 -282 -320 -320 -320	-308 15 -320 5 -282 -310 -320 -320	-290 1	-400 1	-376 18 -418 63 -342 -370 -391 -410	
10		-285 5 -290 2 -280 -285 -288 -290	-313 5 -320 3 -310 -310 -317 -320			-353 16 -380 4 -340 -345 -366 -378	
20		-315 5 -320 2 -310 -315 -318 -320	-331 10 -340 9 -312 -330 -340 -340	-357 5 -360 3 -350 -360 -360 -360		-336 10 -350 5 -321 -340 -344 -349	
30		-335 5 -340 2 -330 -335 -338 -340	-327 11 -340 6 -311 -325 -340 -340			-320 8 -330 3 -310 -320 -327 -330	
40 S		-335 5 -340 2 -330 -335 -338 -340				-320 1	

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40		-345 5 -350 2 -340 -345 -348 -350	-330 1		-330 1	-330 1	
30			-340 1		-340 1		
20					-335 15 -350 2 -321 -335 -345 -349	-340 14 -360 4 -321 -340 -350 -359	
10			-320 1		-320 8 -330 3 -310 -320 -327 -330	-320 10 -330 2 -310 -320 -327 -330	
0	-320 1			-400 1			
10				-450 1	-380 60 -440 2 -322 -380 -421 -438	-420 1	
20			-445 35 -480 2 -411 -445 -469 -479	-466 29 -510 8 -414 -470 -489 -507	-488 39 -549 15 -402 -490 -520 -544		
30				-501 29 -540 8 -454 -500 -538 -540	-504 29 -550 5 -471 -500 -531 -548		
40 S							

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-530 1	-510 20 -530 2 -491 -510 -524 -529	-473 9 -480 3 -461 -480 -480 -480				-495 26 -530 6 -462 -485 -530 -530	70 N
60	-503 33 -550 4 -462 -500 -531 -548			-457 26 -480 3 -422 -470 -477 -480	-424 23 -460 7 -391 -420 -450 -459			-454 43 -548 14 -393 -455 -489 -540	60
				-460 20 -480 2 -441 -460 -474 -479	-453 23 -490 7 -421 -450 -480 -489			-454 23 -490 9 -422 -450 -480 -488	
50		-440 1	-445 17 -460 4 -421 -450 -460 -460	-439 29 -509 8 -411 -430 -449 -502	-469 31 -529 32 -406 -475 -500 -524	-468 13 -480 4 -451 -470 -480 -480		-462 31 -529 49 -410 -460 -493 -520	50
	-440 34 -489 11 -384 -440 -470 -486	-490 16 -510 3 -471 -490 -504 -509	-390 1	-460 51 -530 6 -411 -435 -530 -530	-482 32 -510 5 -425 -500 -504 -509	-466 16 -480 9 -433 -470 -480 -480		-459 38 -530 35 -387 -470 -496 -530	
40	-447 22 -470 7 -411 -450 -470 -470	-417 33 -480 35 -367 -410 -460 -480	-413 40 -489 46 -339 -410 -460 -481	-460 20 -480 2 -441 -460 -474 -479		-438 32 -480 9 -376 -450 -467 -478		-419 38 -487 103 -340 -420 -460 -480	40
	-409 27 -477 50 -370 -410 -440 -460	-406 28 -449 23 -360 -400 -440 -446	-407 18 -440 7 -390 -400 -421 -438			-445 15 -460 2 -431 -445 -455 -459		-396 41 -473 111 -302 -400 -440 -460	
30	-397 27 -459 33 -349 -400 -420 -454	-401 25 -459 25 -370 -400 -430 -450						-384 40 -460 75 -295 -390 -420 -455	30
	-399 32 -460 9 -360 -390 -432 -457							-355 56 -459 34 -257 -370 -400 -453	
20	-373 17 -390 3 -351 -380 -387 -390							-366 31 -418 77 -280 -370 -390 -410	20
		-340 1						-326 28 -379 10 -282 -330 -346 -375	
10								-335 14 -360 19 -310 -340 -350 -360	10
								-326 11 -340 11 -310 -330 -340 -340	
0								-330 8 -340 3 -320 -330 -337 -340	0
								-336 8 -350 5 -330 -330 -344 -349	
10								-340 -340 2 -340 -340 -340 -340	10
								-338 15 -360 6 -320 -340 -352 -359	
20								-320 8 -330 6 -310 -320 -330 -330	20
								-360 40 -400 2 -322 -360 -387 -398	
30								-408 52 -450 4 -326 -430 -445 -449	30
								-478 38 -549 25 -394 -480 -512 -540	
40 S								-502 29 -550 13 -455 -500 -540 -548	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-430 10 -440 2 -420 -430 -437 -440	-491 26 -510 7 -437 -500 -510 -510	
50					-495 5 -500 2 -490 -495 -498 -500	-500 1	
40	-405 35 -440 2 -371 -405 -429 -439			-400 14 -420 3 -390 -390 -410 -419	-465 23 -490 6 -424 -470 -482 -489	-500 12 -510 4 -481 -505 -510 -510	
30	-383 47 -460 9 -323 -360 -444 -458			-400 26 -440 22 -348 -395 -430 -440	-424 22 -460 7 -391 -430 -441 -458		
20	-383 59 -490 11 -330 -350 -456 -488			-430 40 -470 2 -392 -430 -457 -468	-394 17 -420 8 -363 -395 -409 -419		
10	-360 20 -380 2 -341 -360 -374 -379	-357 21 -390 12 -330 -360 -380 -388		-390 7 -400 4 -381 -390 -395 -399	-460 1	-443 20 -480 16 -420 -440 -466 -480	
0		-348 22 -380 5 -330 -330 -374 -379	-365 15 -380 8 -334 -370 -379 -380	-360 14 -370 3 -341 -370 -370 -370	-405 9 -420 4 -400 -400 -410 -419	-433 20 -480 70 -400 -430 -450 -476	
10		-345 5 -350 2 -340 -345 -348 -350	-347 19 -360 3 -322 -360 -360 -360		-399 6 -410 7 -390 -400 -400 -409	-404 5 -410 5 -400 -400 -410 -410	
20		-367 5 -370 3 -360 -370 -370 -370	-355 5 -360 2 -350 -355 -358 -360	-384 14 -400 5 -362 -390 -394 -399	-395 5 -400 2 -390 -395 -398 -400	-397 12 -410 3 -381 -400 -407 -410	
30		-380 10 -390 2 -370 -380 -387 -390	-380 -380 3 -380 -380 -380 -380			-390 1	
40 S			-377 12 -390 3 -361 -380 -387 -390			-383 8 -390 4 -371 -385 -390 -390	
		-370 1	-385 9 -390 4 -371 -390 -390 -390			-378 4 -380 5 -371 -380 -380 -380	
			-383 16 -410 7 -361 -380 -400 -409			-377 5 -380 6 -370 -380 -380 -380	
			-379 6 -390 7 -370 -380 -380 -389	-390 1	-387 9 -400 3 -380 -380 -394 -399	-383 14 -410 9 -362 -380 -397 -408	
			-380 10 -390 2 -370 -380 -387 -390	-400 1	-384 9 -400 7 -371 -380 -390 -399	-380 17 -400 5 -352 -380 -394 -399	
			-420 10 -430 2 -410 -420 -427 -430	-420 1	-410 18 -449 8 -391 -400 -420 -446	-415 5 -420 2 -410 -415 -418 -420	
			-420 1	-417 25 -450 3 -391 -410 -437 -448	-440 32 -500 16 -379 -440 -476 -497	-465 45 -510 2 -422 -465 -496 -508	
			-550 1	-483 48 -549 3 -441 -460 -521 -546	-510 40 -569 21 -434 -510 -550 -566		
				-531 36 -580 11 -482 -520 -570 -578	-549 23 -580 12 -512 -555 -570 -578		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-490 1	-420 1	-410 -410 2 -410 -410 -410 -410				-433 33 -489 4 -410 -415 -456 -486	70 N
60	-520 29 -550 3 -482 -530 -544 -549		-425 25 -450 2 -401 -425 -442 -449	-423 40 -480 4 -372 -420 -456 -477				-456 57 -550 9 -375 -450 -516 -547	60
	-400 1	-505 25 -530 2 -481 -505 -522 -529	-475 5 -480 2 -470 -475 -478 -480	-527 26 -550 3 -492 -540 -547 -550	-500 46 -550 6 -418 -505 -542 -549			-489 43 -550 23 -404 -490 -535 -550	
50		-535 15 -550 2 -521 -535 -545 -549	-460 1	-504 23 -540 10 -464 -510 -526 -538	-498 39 -550 37 -397 -510 -530 -550	-450 1		-499 36 -550 54 -401 -510 -530 -550	50
	-499 20 -540 9 -472 -500 -514 -537	-490 18 -520 6 -470 -490 -504 -518	-488 27 -520 8 -441 -500 -509 -519	-471 35 -530 21 -414 -460 -508 -530		-480 1		-482 30 -538 55 -420 -480 -510 -530	
40	-490 17 -529 8 -470 -490 -490 -524	-458 28 -519 21 -414 -460 -488 -512	-462 39 -529 48 -380 -470 -500 -521	-450 17 -460 4 -422 -460 -460 -460	-475 5 -480 2 -470 -475 -478 -480	-463 39 -510 8 -388 -465 -499 -509		-458 38 -530 103 -380 -460 -500 -520	40
	-457 26 -519 46 -409 -455 -480 -511	-450 28 -508 28 -400 -450 -484 -499	-438 38 -509 8 -370 -440 -449 -502			-495 5 -500 4 -490 -495 -500 -500		-436 41 -516 125 -350 -440 -480 -510	
30	-450 25 -508 63 -402 -450 -480 -498	-441 24 -479 18 -400 -440 -460 -477				-470 1		-440 38 -507 95 -330 -440 -470 -491	30
	-455 23 -499 35 -417 -450 -480 -493	-423 29 -460 4 -391 -420 -450 -459						-429 44 -498 74 -330 -440 -473 -490	
	-446 20 -480 7 -421 -440 -461 -478	-405 15 -420 2 -391 -405 -415 -419						-420 34 -480 99 -330 -430 -450 -480	
20		-400 1						-386 26 -410 18 -327 -400 -403 -410	20
		-370 1						-380 17 -410 16 -353 -380 -400 -407	
10								-382 7 -390 6 -371 -380 -390 -390	10
								-380 11 -390 7 -361 -380 -390 -390	
0								-380 8 -390 10 -370 -380 -390 -390	0
								-380 12 -410 13 -362 -380 -382 -408	
10				-420 1				-384 14 -419 21 -364 -380 -398 -416	10
				-420 1				-386 15 -419 16 -356 -385 -400 -414	
20				-440 1				-415 16 -450 14 -393 -415 -429 -447	20
				-470 1				-440 34 -509 23 -379 -440 -475 -506	
30				-480 1				-507 41 -569 26 -435 -510 -550 -565	30
40 S								-540 31 -580 23 -484 -550 -570 -580	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-515 15 -530 2 -501 -515 -525 -529	-486 28 -539 5 -461 -480 -502 -535	
50					-501 61 -589 15 -400 -510 -565 -584	-502 39 -569 10 -452 -490 -550 -566	
40	-497 74 -580 3 -404 -510 -558 -577			-516 46 -589 17 -430 -530 -554 -584	-541 20 -570 9 -512 -540 -564 -570		
30	-466 52 -559 8 -400 -460 -509 -553			-482 21 -520 6 -452 -480 -496 -517	-480 24 -520 15 -450 -480 -505 -520	-540 20 -560 2 -521 -540 -554 -559	
20	-450 35 -510 9 -412 -440 -496 -510			-444 32 -489 19 -371 -450 -470 -486	-473 20 -519 10 -444 -470 -486 -515		
10	-405 35 -440 2 -371 -405 -429 -439	-389 22 -439 11 -360 -390 -404 -434		-451 37 -539 12 -420 -440 -474 -536	-480 23 -529 12 -452 -475 -502 -526	-495 15 -510 2 -481 -495 -505 -509	
0	-370 1	-381 9 -390 9 -370 -380 -390 -390	-413 21 -459 12 -384 -405 -432 -456	-425 23 -479 8 -401 -420 -438 -474	-480 15 -510 7 -461 -480 -491 -508	-497 22 -539 36 -460 -500 -520 -533	
10		-395 9 -400 4 -381 -400 -400 -400	-399 11 -420 12 -382 -400 -410 -418	-408 8 -420 4 -400 -405 -415 -419	-478 15 -510 6 -470 -470 -486 -507	-483 21 -527 86 -440 -480 -510 -520	
20		-440 1	-416 14 -440 9 -392 -420 -427 -438	-425 25 -450 2 -401 -425 -442 -449	-456 8 -470 5 -450 -450 -464 -469	-462 7 -470 6 -451 -460 -470 -470	
10			-423 5 -430 3 -420 -420 -427 -430	-440 6 -450 6 -431 -440 -442 -449		-450 13 -470 8 -431 -450 -460 -469	
0			-420 -420 2 -420 -420 -420 -420			-439 12 -460 11 -420 -440 -450 -458	
10		-405 15 -420 2 -391 -405 -415 -419	-428 16 -460 5 -420 -420 -434 -457			-435 9 -450 13 -420 -430 -441 -450	
20			-423 13 -450 7 -410 -420 -431 -448		-445 5 -450 2 -440 -445 -448 -450	-431 10 -450 12 -420 -430 -440 -448	
30			-421 12 -440 8 -401 -420 -430 -439		-448 14 -470 8 -430 -445 -460 -469	-439 10 -460 11 -430 -440 -450 -458	
40	-435 15 -460 4 -421 -430 -446 -458		-417 11 -430 10 -400 -420 -430 -430	-440 10 -450 2 -430 -440 -447 -450	-446 20 -470 9 -413 -440 -470 -470	-448 12 -470 12 -430 -450 -460 -468	
40 S	-485 5 -490 2 -460 -485 -488 -490	-425 5 -430 2 -420 -425 -428 -430	-427 12 -440 6 -410 -430 -440 -440	-440 9 -450 5 -430 -440 -450 -450	-459 14 -480 16 -433 -455 -470 -480	-453 7 -460 9 -442 -450 -460 -460	
			-437 17 -460 3 -420 -430 -450 -459	-488 57 -560 4 -413 -490 -541 -558	-479 36 -560 16 -440 -465 -520 -557	-468 20 -509 6 -451 -460 -478 -506	
			-465 5 -470 2 -460 -465 -468 -470	-508 45 -579 4 -461 -495 -546 -576	-543 45 -590 15 -463 -560 -580 -590	-485 35 -520 2 -451 -485 -509 -519	
				-549 43 -610 13 -480 -570 -591 -608	-583 30 -610 8 -524 -595 -609 -610		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-580 1		-440 1	-433 12 -450 3 -420 -430 -444 -449	-403 29 -440 3 -371 -400 -427 -438			-441 58 -577 8 -374 -435 -449 -562	70 N
	-519 43 -569 11 -462 -510 -564 -586	-508 54 -580 10 -425 -530 -561 -578	-460 1		-460 71 -560 6 -374 -435 -552 -559			-500 59 -589 28 -392 -505 -560 -585	
60	-513 52 -560 8 -417 -530 -560 -560	-524 58 -580 10 -421 -545 -580 -580	-496 64 -580 5 -412 -500 -561 -578		-554 24 -580 8 -511 -560 -579 -580			-519 52 -580 38 -410 -525 -571 -580	60
	-515 50 -579 20 -400 -520 -570 -576	-540 47 -580 4 -465 -560 -575 -579	-521 36 -590 12 -467 -510 -557 -588	-520 21 -559 23 -480 -520 -540 -556	-532 36 -598 57 -435 -540 -560 -589	-530 50 -560 5 -440 -550 -560 -560		-522 42 -596 146 -400 -530 -560 -590	
50	-512 33 -559 21 -430 -520 -540 -556	-535 21 -560 4 -511 -535 -555 -559	-520 34 -569 26 -465 -525 -560 -565	-517 38 -579 26 -425 -520 -540 -575	-490 50 -530 3 -424 -520 -527 -530	-544 29 -580 9 -502 -550 -574 -580		-521 37 -587 115 -420 -520 -558 -580	50
	-521 24 -559 35 -477 -520 -546 -553	-506 29 -568 61 -452 -510 -530 -560	-513 37 -578 63 -442 -510 -550 -570		-470 29 -519 4 -450 -455 -491 -516	-511 40 -580 12 -454 -500 -550 -580		-508 35 -580 201 -450 -510 -540 -570	
40	-512 26 -557 92 -460 -515 -540 -550	-500 24 -550 61 -460 -500 -530 -548	-485 22 -520 24 -440 -485 -510 -520			-533 39 -570 6 -458 -545 -562 -569		-497 34 -563 220 -408 -500 -530 -550	40
	-506 26 -556 135 -460 -510 -530 -550	-474 19 -510 9 -450 -480 -490 -507				-530 1		-496 33 -555 180 -420 -500 -530 -550	
30	-498 26 -554 103 -440 -500 -520 -540							-485 40 -550 167 -373 -490 -520 -537	30
	-480 25 -530 36 -444 -480 -510 -530	-460 1						-468 38 -530 155 -371 -480 -504 -529	
20	-464 11 -489 11 -450 -460 -470 -486							-434 33 -488 40 -380 -450 -470 -474	20
	-456 9 -470 7 -441 -460 -460 -469	-450 1						-439 19 -470 32 -396 -440 -460 -470	
10	-450 -450 2 -450 -450 -450 -450							-438 13 -460 16 -420 -440 -450 -457	10
			-460 1					-434 12 -460 16 -420 -430 -446 -457	
0			-460 1	-460 1				-430 17 -460 21 -402 -430 -448 -460	0
				-460 1				-435 14 -460 21 -410 -430 -450 -460	
10				-470 1				-441 18 -470 29 -406 -440 -460 -470	10
								-438 20 -470 30 -400 -440 -460 -470	
20								-450 21 -507 37 -410 -450 -470 -488	20
								-473 41 -560 29 -416 -460 -520 -560	
30								-529 50 -590 21 -460 -540 -580 -590	30
40 S								-562 42 -610 21 -480 -570 -600 -610	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60			-480 1		-535 5 -540 2 -530 -535 -538 -540	-528 41 -570 6 -449 -540 -554 -568 -537 46 -610 27 -456 -550 -580 -610	
50					-537 45 -618 15 -451 -540 -580 -609	-528 59 -619 20 -414 -530 -590 -612	
40	-470 1			-470 36 -520 3 -440 -450 -498 -517	-543 49 -609 11 -432 -550 -580 -604 -540 41 -610 34 -453 -540 -584 -610	-538 31 -589 16 -480 -550 -560 -581 -554 50 -619 14 -460 -580 -599 -615	
30	-463 5 -470 3 -460 -460 -467 -470 -400 1			-507 28 -540 19 -448 -520 -531 -540 -515 26 -550 13 -472 -520 -540 -548	-526 18 -569 26 -495 -520 -540 -565 -518 29 -569 11 -466 -520 -540 -564	-563 15 -580 4 -541 -565 -575 -579 -542 12 -550 5 -522 -550 -550 -550	
20	-410 1 -440 8 -450 3 -430 -440 -447 -450	-471 11 -490 7 -460 -470 -480 -489	-508 27 -540 8 -470 -510 -539 -540 -473 9 -480 3 -461 -480 -480 -480	-518 27 -560 6 -491 -505 -552 -559 -500 1	-529 22 -568 57 -490 -530 -550 -560 -517 23 -567 110 -480 -520 -540 -560		
10	-470 1	-468 7 -480 5 -460 -470 -474 -479 -476 8 -490 9 -462 -480 -480 -488	-478 11 -490 4 -461 -480 -485 -489 -490 6 -500 5 -481 -490 -494 -499	-490 1	-510 13 -530 12 -484 -510 -522 -530 -500 12 -520 12 -480 -500 -510 -518		
0		-483 8 -490 8 -470 -485 -490 -490 -485 5 -490 2 -480 -485 -488 -490			-497 14 -520 18 -480 -495 -513 -520 -498 16 -529 20 -474 -495 -520 -526		
10	-460 1			-510 1	-504 12 -520 19 -484 -500 -520 -520 -505 10 -520 15 -490 -500 -518 -520		
20	-490 -490 2 -490 -490 -490 -490			-480 1	-499 10 -510 9 -482 -500 -510 -510 -509 13 -539 10 -492 -510 -516 -536		
30		-450 1	-485 5 -490 2 -480 -485 -488 -490 -537 25 -570 3 -511 -530 -557 -568	-510 17 -549 11 -490 -510 -520 -544 -510 13 -530 10 -492 -510 -526 -530	-514 15 -540 5 -500 -510 -527 -538 -540 1		
40 S		-502 48 -579 5 -451 -490 -548 -576	-566 42 -610 10 -471 -575 -596 -608 -540 66 -610 12 -432 -570 -602 -610	-538 24 -570 10 -500 -545 -560 -568 -568 48 -630 5 -520 -550 -624 -629			

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-508 57 -560 8 -400 -535 -559 -560	-470 10 -480 2 -460 -470 -477 -480	-497 37 -550 6 -442 -505 -526 -547	-448 31 -509 10 -410 -450 -472 -506	-412 17 -430 5 -382 -420 -424 -429			-468 52 -560 31 -386 -460 -532 -560	70 N
60	-535 51 -610 17 -460 -540 -594 -610	-520 55 -609 19 -437 -520 -590 -606	-516 73 -609 5 -422 -550 -578 -606	-480 47 -520 4 -405 -500 -515 -519	-499 70 -599 12 -383 -490 -570 -593			-518 60 -610 63 -405 -520 -581 -610	60
	-527 59 -609 20 -424 -525 -590 -606	-533 54 -609 22 -460 -540 -596 -606	-469 28 -510 8 -423 -465 -499 -509	-490 58 -589 9 -412 -480 -549 -585	-551 39 -600 17 -466 -570 -580 -600			-527 54 -610 106 -420 -530 -582 -610	
50	-539 59 -610 12 -433 -560 -602 -610	-555 37 -610 27 -470 -560 -590 -610	-544 37 -600 7 -501 -540 -581 -598	-540 33 -600 14 -495 -535 -586 -600	-533 45 -590 35 -437 -550 -580 -590	-520 1		-539 47 -620 131 -426 -540 -590 -610	50
	-566 27 -610 25 -515 -570 -592 -610	-558 21 -599 32 -512 -560 -580 -594	-557 28 -609 10 -507 -555 -580 -605	-562 29 -610 18 -513 -560 -593 -610	-500 60 -560 2 -442 -500 -541 -558	-533 52 -570 3 -464 -570 -570 -570		-555 33 -610 117 -466 -560 -580 -610	
	-559 24 -599 43 -510 -560 -580 -592	-541 28 -596 141 -480 -540 -570 -590	-539 31 -606 69 -474 -540 -570 -590		-535 25 -560 2 -511 -535 -552 -559	-547 63 -610 7 -461 -570 -610 -610		-543 34 -611 314 -460 -540 -580 -607	
40	-542 25 -601 103 -490 -540 -570 -570	-539 26 -596 147 -470 -540 -560 -590	-539 15 -560 16 -506 -540 -550 -560			-513 62 -599 3 -461 -480 -562 -595		-536 28 -600 321 -464 -540 -560 -590	40
	-533 22 -583 236 -490 -530 -550 -570	-531 13 -559 18 -510 -530 -540 -557	-530 10 -540 2 -520 -530 -537 -540					-532 23 -581 286 -480 -530 -550 -570	
30	-529 22 -580 181 -490 -530 -550 -570		-530 8 -540 3 -520 -530 -537 -540					-528 24 -580 256 -481 -530 -550 -570	30
	-515 20 -550 32 -486 -510 -540 -550	-490 10 -500 2 -480 -490 -497 -500	-527 9 -540 3 -520 -520 -534 -539					-512 26 -565 161 -460 -510 -540 -558	
20	-530 1	-493 15 -520 6 -472 -490 -504 -518	-520 -520 2 -520 -520 -520 -520					-496 21 -530 32 -460 -495 -520 -530	20
	-511 11 -530 7 -500 -510 -520 -529	-510 1	-515 5 -520 2 -510 -515 -518 -520					-496 17 -529 36 -467 -500 -510 -523	
10	-512 12 -530 5 -500 -510 -524 -529		-510 -510 2 -510 -510 -510 -510					-497 15 -529 33 -470 -490 -510 -524	10
			-510 -510 2 -510 -510 -510 -510					-498 16 -529 24 -475 -495 -520 -525	
0			-510 1	-510 1				-504 11 -520 21 -484 -510 -518 -520	0
				-540 1				-505 16 -539 18 -470 -505 -520 -533	
10								-497 10 -510 11 -482 -500 -510 -510	10
								-506 15 -539 11 -482 -510 -514 -536	
20								-508 17 -549 18 -483 -505 -520 -547	20
								-513 26 -569 15 -461 -510 -530 -562	
30				-590 1				-544 44 -609 26 -455 -555 -590 -605	30
								-548 63 -630 17 -433 -570 -610 -627	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-473 47 -539 4 -413 -470 -511 -536	
60						-469 50 -579 16 -393 -465 -512 -571	
50					-536 72 -650 9 -435 -550 -615 -648	-507 82 -639 15 -400 -480 -615 -634	
40					-531 83 -660 13 -415 -510 -632 -658	-586 45 -640 10 -493 -595 -626 -638	
30	-480 -480 -480 2 -480 -480 -480 -480			-578 8 -590 4 -570 -575 -585 -589	-552 68 -649 10 -452 -570 -612 -646	-582 56 -640 15 -483 -610 -630 -637	
20	-510 1	-480 -480 -480 2 -480 -480 -480 -480		-561 24 -620 19 -534 -550 -572 -620	-581 37 -640 21 -508 -580 -626 -640	-618 37 -659 24 -510 -630 -650 -655	
10		-490 10 -500 2 -480 -490 -497 -500	-520 -520 3 -520 -520 -520 -520	-549 18 -570 7 -514 -550 -560 -569	-588 22 -600 19 -514 -570 -590 -600	-589 46 -640 7 -500 -600 -630 -639	
0		-530 -530 2 -530 -530 -530 -530	-530 1	-520 -520 2 -520 -520 -520 -520	-558 11 -580 6 -550 -555 -564 -578	-570 -570 3 -570 -570 -570 -570	
10			-533 19 -560 4 -511 -530 -550 -559	-520 1	-558 18 -580 5 -540 -550 -580 -580	-562 24 -599 13 -512 -570 -571 -595	
20			-550 -550 2 -550 -550 -550 -550	-540 1		-564 16 -590 20 -534 -570 -580 -590	
30						-583 9 -590 3 -571 -590 -590 -590	
40 S						-568 18 -590 4 -550 -565 -585 -589	
						-557 20 -580 10 -524 -555 -580 -580	
						-551 7 -560 14 -540 -550 -560 -560	
						-551 15 -570 14 -518 -550 -560 -570	
						-561 6 -570 12 -550 -560 -570 -570	
		-520 1				-560 8 -570 12 -542 -560 -570 -570	
	-520 1	-520 -520 -520 2 -520 -520 -520 -520				-559 13 -580 11 -540 -560 -570 -578	
						-562 19 -609 9 -542 -560 -570 -604	
					-530 14 -550 3 -620 -520 -540 -549	-550 15 -560 5 -522 -560 -560 -560	
					-551 33 -619 13 -492 -550 -571 -610		
				-543 74 -610 3 -446 -580 -600 -609	-577 54 -670 18 -503 -570 -656 -670		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-485 40 -520 6 -408 -500 -512 -519	-456 41 -539 13 -392 -460 -492 -535	-476 45 -604 31 -402 -480 -510 -568	-462 32 -538 28 -405 -460 -497 -529	-481 44 -559 9 -422 -470 -527 -555			-470 41 -596 91 -398 -460 -510 -544	70 N
	-486 26 -530 5 -461 -470 -511 -528	-469 36 -560 29 -406 -460 -500 -560	-475 35 -539 21 -414 -480 -508 -536	-498 55 -590 9 -415 -490 -560 -588	-528 61 -648 18 -420 -545 -580 -636			-485 51 -638 98 -400 -480 -540 -591	
60	-512 42 -609 19 -450 -510 -534 -606	-502 50 -628 37 -429 -490 -550 -616	-466 40 -520 12 -400 -470 -510 -518	-530 83 -620 3 -425 -550 -598 -617	-563 65 -640 16 -456 -580 -630 -637			-513 64 -647 111 -402 -500 -600 -640	60
	-523 74 -648 4 -480 -480 -568 -640	-531 54 -630 21 -448 -520 -594 -630	-526 29 -579 7 -491 -520 -551 -576	-480 1	-516 41 -609 15 -463 -510 -550 -602	-590 10 -600 2 -580 -590 -597 -600		-535 60 -658 73 -434 -530 -610 -650	
50	-572 49 -630 18 -490 -585 -623 -630	-559 48 -629 21 -480 -560 -618 -626	-582 27 -620 5 -542 -580 -607 -618	-608 17 -630 6 -582 -610 -822 -629	-615 5 -620 2 -610 -615 -618 -620	-580 20 -600 2 -561 -580 -594 -599		-573 52 -648 79 -460 -590 -620 -634	50
	-585 39 -649 15 -510 -590 -618 -644	-580 28 -630 77 -510 -580 -610 -625	-566 38 -620 34 -457 -570 -610 -620		-603 18 -620 4 -581 -605 -620 -620			-584 37 -655 179 -501 -590 -620 -650	
40	-581 19 -610 22 -544 -580 -600 -610	-575 28 -630 125 -490 -570 -610 -620	-575 15 -600 13 -545 -570 -591 -600					-574 27 -634 205 -500 -570 -600 -620	40
	-565 25 -600 52 -510 -570 -590 -600	-567 16 -599 29 -536 -570 -580 -594	-573 5 -580 3 -570 -570 -577 -580					-563 24 -600 102 -490 -570 -580 -600	
30	-569 18 -600 38 -537 -570 -590 -600	-555 11 -570 4 -541 -555 -565 -569	-570 1					-561 28 -600 66 -489 -570 -580 -600	30
	-575 24 -610 10 -542 -575 -606 -610	-545 5 -550 4 -540 -545 -550 -550	-570 1					-557 27 -610 41 -496 -560 -580 -610	
20	-580 8 -590 3 -570 -580 -587 -590	-553 12 -570 3 -540 -550 -564 -569	-570 -570 2 -570 -570 -570 -570					-561 22 -590 15 -530 -570 -588 -590	20
	-566 7 -580 7 -560 -560 -570 -579		-570 -570 2 -570 -570 -570 -570					-559 20 -590 17 -513 -560 -574 -587	
10	-563 8 -570 4 -551 -565 -570 -570		-570 -570 2 -570 -570 -570 -570					-559 16 -580 18 -527 -560 -573 -580	10
			-560 1					-552 7 -560 15 -540 -550 -560 -560	
0								-551 15 -570 14 -518 -550 -560 -570	0
				-560 1				-561 6 -570 13 -550 -560 -570 -570	
10				-570 -570 2 -570 -570 -570 -570				-559 13 -570 15 -526 -560 -570 -570	10
				-585 5 -590 2 -580 -585 -588 -590				-555 22 -590 16 -520 -560 -576 -587	
20				-580 -580 2 -580 -580 -580 -580				-565 19 -609 11 -542 -560 -580 -604	20
				-600 -600 2 -600 -600 -600 -600				-554 28 -600 10 -520 -555 -582 -600	
30				-630 1				-556 38 -630 14 -493 -555 -579 -627	30
								-572 58 -670 21 -464 -570 -642 -670	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-460 1	
50					-510 43 -560 5 -444 -510 -554 -559	-465 59 -549 4 -401 -455 -521 -546	
40					-520 41 -589 17 -446 -520 -570 -584	-530 1	
30	-505 35 -540 2 -471 -505 -529 -539			-614 17 -640 11 -590 -610 -630 -638	-568 47 -659 19 -464 -570 -602 -653	-638 44 -670 5 -558 -660 -664 -669	
20	-527 12 -550 6 -511 -525 -534 -548			-597 26 -630 16 -536 -600 -620 -627	-609 28 -640 8 -561 -615 -639 -640	-530 8 -540 3 -520 -530 -537 -540	
10	-548 26 -580 4 -512 -550 -570 -579			-558 54 -640 8 -503 -520 -620 -637	-628 8 -640 4 -620 -625 -635 -639	-550 20 -570 2 -531 -550 -564 -569	
0	-540 30 -570 2 -511 -540 -560 -569			-570 21 -600 6 -541 -570 -592 -599			
10			-578 4 -580 4 -571 -580 -580 -580	-577 12 -590 3 -561 -580 -587 -590		-590 -590 3 -590 -590 -590 -590	
20		-553 17 -570 3 -531 -560 -567 -570	-583 9 -590 3 -571 -590 -590 -590				
30			-580 10 -590 2 -570 -580 -587 -590				
40 S				-480 1	-554 38 -610 8 -493 -555 -595 -609		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-446 22 -470 5 -420 -460 -464 -469	-452 27 -490 5 -412 -450 -477 -488	-456 40 -576 14 -423 -440 -479 -557	-483 25 -510 3 -452 -490 -504 -509			-457 35 -575 27 -415 -450 -488 -544	70 N
		-470 29 -510 10 -432 -460 -506 -510	-467 24 -490 7 -425 -460 -490 -490	-483 46 -589 26 -425 -470 -530 -585	-517 53 -619 22 -440 -515 -573 -616			-490 48 -618 66 -423 -480 -540 -604	
60		-501 42 -609 14 -453 -490 -509 -602	-475 27 -510 4 -441 -475 -500 -509	-477 41 -559 6 -432 -470 -496 -552	-507 42 -599 40 -448 -500 -558 -592			-500 45 -608 73 -424 -490 -550 -596	60
	-620 1	-533 45 -620 26 -460 -525 -590 -620			-511 43 -599 20 -451 -495 -560 -592			-524 45 -620 65 -446 -520 -570 -620	
50	-589 44 -650 10 -511 -585 -640 -648	-561 58 -659 28 -471 -545 -630 -655	-563 52 -650 16 -473 -565 -612 -650	-628 18 -650 4 -602 -630 -640 -649		-615 5 -620 4 -610 -615 -620 -620		-576 55 -667 86 -467 -570 -640 -660	50
	-597 43 -670 25 -525 -590 -642 -670	-588 42 -659 32 -512 -595 -630 -654	-575 52 -639 20 -465 -595 -630 -636			-563 40 -610 4 -504 -570 -596 -608		-588 46 -670 105 -491 -590 -630 -659	
40	-597 47 -650 18 -510 -615 -643 -650	-593 34 -639 12 -513 -600 -612 -636	-587 33 -630 3 -551 -580 -614 -628					-589 42 -650 61 -510 -600 -630 -650	40
	-616 28 -650 7 -572 -620 -640 -649	-633 5 -640 3 -630 -630 -637 -640						-585 51 -649 22 -504 -595 -640 -646	
30	-620 30 -670 15 -563 -620 -648 -667							-600 40 -669 23 -523 -600 -640 -666	30
	-616 20 -650 10 -590 -615 -638 -648							-598 24 -649 20 -564 -590 -630 -646	
20	-606 14 -630 5 -591 -600 -617 -628							-585 26 -629 11 -536 -590 -604 -626	20
	-595 5 -600 2 -590 -595 -598 -600							-588 11 -600 4 -571 -590 -595 -598	
10									10
0									0
10									10
20								-613 34 -660 3 -581 -600 -641 -658	20
								-596 39 -669 5 -561 -590 -619 -664	
30								-571 54 -620 7 -470 -590 -620 -620	30
								-546 42 -610 9 -482 -550 -589 -608	
40 S									40S

LONGITUDE

APPENDIX C

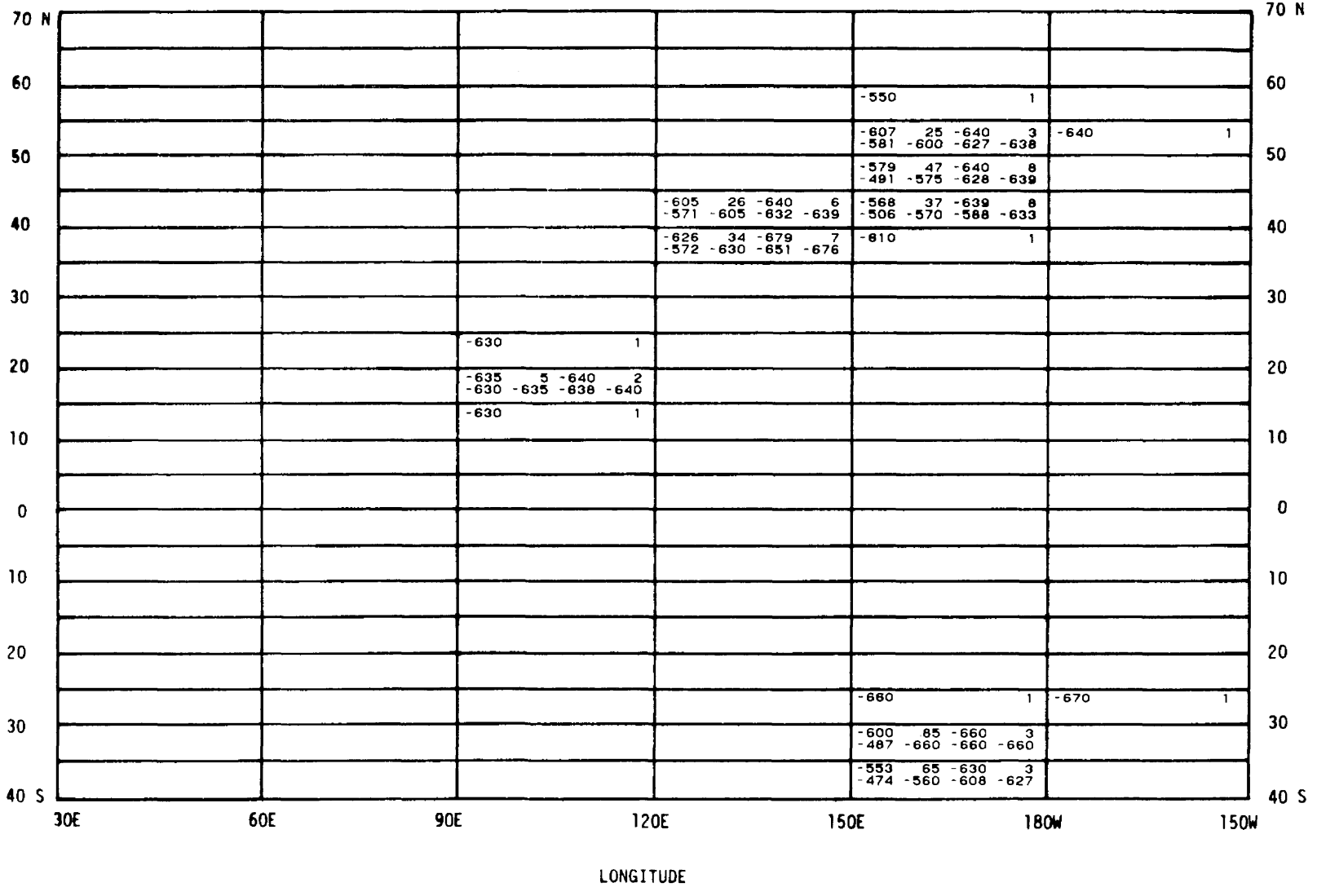
STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JUNE
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-440 1						-440 1	70 N
60		-483 26 -520 3 -460 -470 -504 -518	-500 -500 2 -500 -500 -500 -500					-490 22 -520 5 -461 -500 -507 -518	60
		-507 23 -550 6 -481 -500 -526 -547	-490 1					-510 25 -550 8 -481 -500 -546 -550	
50	-533 40 -599 4 -501 -515 -562 -595	-536 46 -610 5 -491 -510 -584 -607						-559 54 -640 13 -492 -570 -612 -640	50
	-538 26 -570 4 -502 -540 -560 -569	-567 26 -590 3 -532 -580 -587 -590	-580 60 -640 2 -522 -580 -621 -638	-630 1				-571 48 -640 18 -487 -570 -630 -640	
40	-670 1	-600 22 -630 3 -580 -590 -617 -628	-636 44 -709 5 -591 -620 -678 -706					-601 45 -707 23 -518 -590 -640 -692	40
	-670 1	-641 18 -660 13 -597 -640 -651 -660	-597 45 -650 3 -542 -600 -634 -648					-631 32 -679 25 -554 -640 -652 -675	
30	-603 19 -620 4 -572 -610 -615 -619	-617 34 -650 3 -572 -630 -644 -649						-609 27 -650 7 -570 -610 -631 -648	30
	-595 35 -630 2 -561 -595 -619 -629							-595 35 -630 2 -561 -595 -619 -629	
20								-630 1	20
								-635 5 -640 2 -630 -635 -638 -640	
10								-630 1	10
0									0
10									10
20									20
30								-665 5 -670 2 -660 -665 -668 -670	30
								-600 85 -660 3 -487 -660 -660 -660	
40 S								-553 65 -630 3 -474 -560 -608 -627	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-215 23 -250 4 -191 -210 -236 -248			-234 33 -309 11 -200 -220 -270 -302			
30	-197 5 -200 3 -190 -200 -200 -200	-180 1		-225 5 -230 2 -220 -225 -228 -230 -227 12 -240 3 -211 -230 -237 -240			
20		-200 23 -230 6 -170 -205 -222 -229	-185 22 -220 4 -161 -180 -201 -218 -220 28 -260 6 -182 -215 -252 -259	-250 1		-265 32 -346 40 -228 -260 -298 -327 -258 19 -280 4 -231 -260 -275 -279	
10			-214 25 -240 5 -181 -220 -240 -240 -255 5 -260 2 -250 -255 -256 -260	-234 17 -260 13 -202 -240 -250 -258			
0			-227 17 -250 3 -210 -220 -240 -249				
10							
20					-213 5 -220 3 -210 -210 -217 -220	-225 15 -240 2 -211 -225 -235 -239	
30			-341 38 -409 8 -293 -335 -378 -406	-420 10 -430 2 -410 -420 -427 -430	-394 31 -449 7 -352 -390 -421 -446		
40 S				-444 12 -460 5 -430 -450 -454 -459	-427 56 -480 3 -354 -450 -470 -479		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60									60
50	-358 20 -380 6 -323 -365 -372 -379	-310 1			-346 41 -429 11 -276 -340 -384 -422	-350 45 -458 12 -279 -345 -377 -447		-348 43 -458 23 -270 -340 -385 -447	50
40	-289 20 -330 16 -253 -290 -300 -327	-273 29 -319 19 -230 -270 -301 -316 -257 18 -290 10 -232 -260 -276 -288	-283 35 -349 43 -218 -290 -320 -342 -277 29 -310 3 -242 -280 -300 -309			-340 39 -380 4 -283 -350 -375 -379 -304 30 -350 7 -254 -310 -331 -348 -277 42 -320 3 -223 -290 -310 -319		-347 31 -380 11 -286 -360 -374 -380 -282 34 -350 69 -224 -290 -311 -346 -261 36 -329 47 -199 -270 -300 -321	40
30	-281 28 -330 13 -240 -280 -302 -328	-261 20 -319 17 -233 -260 -274 -310						-267 26 -329 32 -226 -260 -290 -324 -207 20 -240 7 -181 -200 -230 -239	30
20		-250 1						-258 39 -346 44 -177 -250 -291 -324 -225 32 -279 18 -170 -225 -253 -277	20
10		-260 14 -270 3 -241 -270 -270 -270	-253 25 -280 3 -222 -260 -274 -279					-235 24 -279 24 -185 -240 -260 -275 -255 5 -260 2 -250 -255 -258 -260	10
0								-227 17 -250 3 -210 -220 -240 -249	0
10									10
20								-218 12 -240 5 -210 -210 -227 -238	20
30								-372 45 -449 17 -296 -380 -414 -444	30
40 S								-438 36 -480 8 -361 -450 -459 -477	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-310 50 -379 3 -270 -280 -348 -376						
30	-298 61 -389 4 -224 -290 -347 -385			-274 21 -310 16 -243 -280 -290 -307			
20	-222 13 -249 12 -202 -225 -230 -246						
10	-223 13 -240 4 -210 -220 -235 -239	-190 1		-270 10 -280 2 -260 -270 -277 -280			
0	-213 9 -220 3 -201 -220 -220 -220	-220 17 -250 6 -200 -220 -234 -248	-240 10 -250 2 -230 -240 -247 -250				-313 24 -366 63 -270 -320 -330 -350
10		-220 20 -240 2 -201 -220 -234 -239	-238 19 -260 6 -211 -240 -260 -260	-287 5 -290 3 -280 -290 -290 -290	-290 1		-287 17 -319 7 -262 -290 -291 -316
20		-267 5 -270 3 -260 -270 -270 -270	-256 21 -290 5 -231 -260 -271 -288	-274 11 -290 13 -252 -280 -281 -290	-290 1		
30		-290 -290 2 -290 -290 -290 -290	-260 1	-270 -270 2 -270 -270 -270 -270			
40 S		-285 5 -290 2 -280 -285 -288 -290	-285 5 -290 2 -280 -285 -288 -290	-275 5 -280 2 -270 -275 -278 -280			
			-267 5 -270 3 -260 -270 -270 -270	-265 5 -270 2 -260 -265 -268 -270			
			-267 9 -280 3 -260 -260 -274 -279	-270 1			
			-255 5 -260 2 -250 -255 -258 -260	-260 1			-310 1
			-260 1	-260 1	-302 25 -330 5 -262 -310 -324 -329		-280 1
			-310 -310 2 -310 -310 -310 -310				
			-370 35 -429 5 -331 -370 -398 -426				
			-407 9 -420 3 -400 -400 -414 -419	-444 26 -490 5 -420 -440 -464 -487	-425 49 -489 8 -324 -435 -458 -486		
				-464 26 -510 12 -420 -465 -485 -508	-443 49 -519 8 -366 -445 -488 -516		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-397 45 -459 3 -360 -370 -431 -456			-417 9 -430 3 -410 -410 -424 -429	-395 5 -400 2 -390 -395 -398 -400			-404 30 -459 8 -361 -405 -428 -456	60
					-410 20 -430 2 -391 -410 -424 -429	-370 1		-397 25 -430 3 -371 -390 -417 -428	
50				-350 -350 -350 2 -350 -350 -350 -350	-386 35 -450 22 -334 -370 -426 -450	-402 25 -430 6 -362 -405 -430 -430		-387 34 -450 30 -336 -375 -430 -450	50
	-400 22 -430 3 -380 -390 -417 -428	-420 1		-420 10 -430 2 -410 -420 -427 -430	-370 1	-386 33 -430 12 -330 -385 -420 -428		-393 31 -430 19 -330 -390 -421 -430	
40	-404 21 -420 5 -372 -420 -420 -420	-311 21 -359 18 -273 -310 -330 -353	-322 30 -398 39 -275 -330 -340 -385			-347 35 -380 10 -271 -355 -380 -380		-328 37 -420 75 -265 -330 -362 -420	40
	-333 30 -390 28 -275 -335 -360 -390	-318 17 -340 12 -284 -320 -332 -340	-335 21 -360 6 -302 -335 -360 -360			-310 44 -379 5 -252 -320 -342 -375		-314 38 -390 71 -244 -310 -360 -390	
30	-321 35 -389 22 -274 -320 -388 -386	-319 26 -379 24 -275 -320 -340 -375				-260 10 -270 2 -250 -260 -267 -270		-298 49 -388 60 -210 -310 -346 -380	30
								-231 29 -280 7 -192 -230 -261 -278	
								-300 40 -366 74 -200 -310 -330 -350	
20		-280 -280 -280 2 -280 -280 -280 -280						-266 30 -318 21 -204 -280 -290 -308	20
			-298 19 -330 5 -280 -290 -317 -328					-275 20 -328 27 -235 -280 -290 -320	
10								-276 12 -290 5 -261 -270 -290 -290	10
								-282 7 -290 6 -271 -280 -290 -290	
0								-266 5 -270 5 -260 -270 -270 -270	0
								-268 8 -280 4 -260 -265 -275 -279	
10								-270 23 -310 4 -251 -260 -286 -307	10
								-289 27 -330 8 -260 -285 -319 -329	
20								-310 -310 -310 2 -310 -310 -310 -310	20
								-370 35 -429 5 -331 -370 -398 -426	
30								-428 40 -490 16 -337 -425 -456 -490	30
								-455 39 -519 20 -375 -460 -490 -516	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-286 14 -300 5 -262 -290 -294 -299			-329 22 -360 13 -292 -330 -351 -360	-310 1		
30	-277 16 -319 18 -260 -280 -290 -313			-315 5 -320 2 -310 -315 -318 -320			
20	-281 18 -310 7 -260 -280 -300 -309	-267 18 -318 15 -240 -270 -278 -309		-300 10 -310 2 -290 -300 -307 -310			-373 25 -400 3 -342 -380 -394 -399
10	-283 12 -300 3 -270 -280 -294 -299	-278 18 -319 11 -252 -270 -294 -316	-293 31 -349 6 -261 -285 -318 -346		-385 5 -390 2 -380 -385 -388 -390		-364 26 -435 82 -306 -370 -380 -420
0		-283 29 -320 3 -251 -280 -307 -318	-320 1	-327 21 -350 3 -301 -330 -344 -349	-358 19 -380 4 -331 -360 -375 -379		-343 14 -370 6 -330 -340 -354 -368
10		-320 1	-322 12 -330 5 -302 -330 -330 -330	-334 17 -360 14 -310 -330 -350 -360			-328 10 -350 9 -312 -330 -330 -347
20		-320 1	-334 10 -350 5 -321 -330 -344 -349				-331 13 -350 8 -311 -335 -340 -349
30		-310 1	-325 5 -330 2 -320 -325 -328 -330				-336 10 -350 5 -321 -340 -344 -349
40 S			-325 5 -330 2 -320 -325 -328 -330				-340 1
			-350 17 -370 5 -330 -360 -364 -369	-320 1			
			-348 20 -370 6 -320 -360 -362 -369	-320 -320 3 -320 -320 -320 -320			-355 5 -360 2 -350 -355 -358 -360
			-353 29 -390 6 -311 -360 -382 -389	-323 13 -350 7 -310 -320 -331 -348	-342 20 -370 6 -312 -340 -362 -369	-340 -340 2 -340 -340 -340 -340	
			-366 39 -410 7 -311 -360 -410 -410	-327 18 -369 12 -310 -320 -342 -366	-350 -350 2 -350 -350 -350 -350		
			-443 26 -480 3 -420 -430 -464 -478	-386 41 -460 11 -330 -390 -420 -458	-365 5 -370 2 -360 -365 -368 -370		
			-450 -450 2 -450 -450 -450 -450	-464 29 -510 15 -410 -470 -490 -507	-451 48 -530 13 -382 -450 -502 -528		
				-489 33 -550 11 -434 -480 -516 -548	-470 13 -490 5 -460 -460 -484 -489		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N				-480 1	-460 1			-470 10 -480 2 -460 -470 -477 -480	70 N
60	-530 10 -540 2 -520 -530 -537 -540		-480 1	-460 1	-455 5 -460 4 -450 -455 -460 -460			-478 32 -540 8 -450 -460 -515 -537	60
		-450 1		-480 -480 2 -480 -480 -480 -480	-463 21 -509 9 -432 -460 -470 -504	-435 5 -440 2 -430 -435 -438 -440		-461 21 -509 14 -430 -460 -479 -502	
50	-410 1	-450 20 -470 2 -431 -450 -464 -469			-445 28 -479 21 -394 -460 -470 -476	-453 22 -490 4 -440 -440 -466 -487		-445 27 -489 28 -395 -450 -470 -485	50
	-434 17 -460 5 -411 -440 -447 -458	-435 25 -460 2 -411 -435 -452 -459	-420 10 -430 2 -410 -420 -427 -430	-454 21 -480 7 -422 -450 -480 -480		-460 16 -480 3 -441 -460 -474 -479		-444 23 -480 19 -410 -440 -471 -480	
40	-440 1	-384 31 -459 45 -329 -390 -410 -451	-381 37 -450 52 -320 -380 -420 -450			-403 31 -430 3 -362 -420 -427 -430		-384 35 -457 101 -320 -390 -420 -450	40
	-390 27 -467 23 -354 -380 -410 -452	-368 26 -419 22 -324 -360 -396 -416	-385 17 -400 4 -361 -390 -400 -400			-358 59 -420 4 -282 -365 -415 -419		-362 41 -461 72 -284 -365 -400 -430	
30	-384 29 -440 39 -335 -380 -410 -440	-369 29 -420 15 -316 -370 -390 -420				-280 1		-352 52 -440 75 -260 -360 -400 -435	30
	-373 32 -430 6 -341 -360 -406 -427							-301 50 -427 33 -240 -280 -350 -411	
20	-335 15 -350 2 -321 -335 -345 -349							-349 41 -434 106 -261 -360 -380 -420	20
		-350 10 -360 2 -340 -350 -357 -360						-334 31 -379 19 -261 -340 -361 -376	
10			-365 11 -380 4 -351 -365 -375 -379					-334 18 -379 33 -306 -330 -350 -374	10
								-331 12 -350 14 -313 -330 -340 -350	
0				-330 1				-330 12 -350 9 -312 -330 -340 -348	0
				-340 -340 2 -340 -340 -340 -340				-334 8 -340 5 -321 -340 -340 -340	
10				-340 1				-344 18 -370 7 -321 -340 -360 -369	10
								-342 20 -370 11 -320 -350 -360 -368	
20								-339 24 -389 21 -310 -340 -360 -386	20
								-342 32 -410 21 -310 -330 -368 -410	
30								-394 44 -479 16 -330 -395 -442 -474	30
								-457 38 -529 30 -386 -450 -494 -524	
40 S								-483 30 -550 16 -436 -480 -500 -547	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W	LAT.
70 N								70 N
60					-430 1			60
50					-447 9 -460 3 -440 -440 -454 -459			50
40	-340 29 -380 3 -311 -330 -364 -378			-400 16 -420 4 -381 -400 -415 -419	-450 35 -509 5 -411 -450 -478 -506			40
30	-339 34 -437 16 -300 -335 -350 -422			-394 24 -429 19 -341 -400 -411 -426	-432 30 -489 9 -392 -430 -460 -485			30
20	-321 16 -359 15 -300 -320 -330 -354			-383 12 -400 3 -370 -380 -394 -399	-420 10 -430 2 -410 -420 -427 -430			20
10	-320 -320 2 -320 -320 -320 -320	-308 12 -339 17 -290 -310 -320 -334		-390 1	-390 1	-450 1		10
0		-319 10 -330 7 -301 -320 -330 -330	-355 27 -390 4 -321 -355 -380 -389	-350 1	-430 16 -450 3 -411 -430 -444 -449	-431 31 -470 17 -370 -440 -464 -470		0
10		-345 18 -380 6 -330 -340 -356 -377	-347 5 -350 3 -340 -350 -350 -350	-350 8 -360 3 -340 -350 -357 -360	-417 27 -468 82 -366 -420 -440 -460			10
20		-360 -360 4 -360 -360 -360 -360	-350 1	-379 10 -400 14 -360 -380 -389 -397	-406 20 -460 31 -380 -400 -420 -460	-420 1		20
30		-363 12 -380 3 -350 -360 -374 -379	-362 4 -370 5 -360 -360 -364 -369	-365 5 -370 2 -360 -365 -368 -370	-410 30 -440 2 -381 -410 -430 -439	-395 5 -400 2 -390 -395 -398 -400		30
40 S		-390 10 -400 2 -380 -390 -397 -400	-373 5 -380 3 -370 -370 -377 -380	-380 -380 2 -380 -380 -380 -380		-385 15 -400 2 -371 -385 -395 -399		40 S
		-375 9 -380 4 -361 -380 -380 -380	-368 8 -380 4 -360 -365 -375 -379	-370 -370 2 -370 -370 -370 -370		-360 1		
			-384 24 -420 7 -360 -380 -410 -419	-360 1		-373 19 -400 3 -360 -360 -387 -398		
			-360 -360 6 -360 -360 -360 -360		-375 15 -390 2 -361 -375 -385 -389	-378 20 -410 4 -360 -370 -396 -408		
			-356 7 -360 7 -341 -360 -360 -360	-365 15 -380 2 -351 -365 -375 -379	-399 16 -410 7 -371 -410 -410 -410	-403 12 -420 3 -390 -400 -414 -419		
			-379 27 -410 8 -334 -380 -409 -410	-353 17 -370 3 -331 -360 -367 -370	-387 14 -400 6 -370 -390 -400 -400	-370 1		
			-412 23 -440 5 -373 -420 -427 -438	-400 24 -440 4 -380 -390 -421 -438	-419 23 -469 12 -387 -410 -442 -466	-410 1		
			-459 34 -510 8 -420 -445 -499 -509	-492 48 -550 9 -406 -510 -537 -548	-476 39 -539 21 -414 -480 -520 -536	-410 1		
				-543 30 -590 13 -500 -540 -580 -588	-487 29 -539 6 -444 -485 -500 -535			

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N			-410 1	-487 19 -500 3 -462 -500 -500 -500	-490 1			-472 34 -500 5 -414 -490 -500 -500	70 N
60	-550 1		-523 9 -530 3 -511 -530 -530 -530		-493 5 -500 3 -490 -490 -497 -500			-514 21 -550 7 -490 -510 -531 -548	60
		-520 -520 -520 2 -520 -520 -520 -520	-540 1	-525 11 -530 6 -503 -530 -530 -530	-506 22 -539 12 -457 -510 -520 -536	505 15 -520 2 491 -505 -515 -519		-510 26 -540 24 -439 -520 -530 -540	
50	-460 1			-485 46 -559 17 -413 -490 -540 -554	-482 31 -549 38 -437 -480 -511 -543	495 25 -520 2 471 -495 -512 -519		-481 36 -558 61 -422 -480 -520 -548	50
	-465 32 -500 4 -422 -470 -495 -499	-492 18 -510 6 -462 -495 -510 -510	-443 30 -480 8 -401 -440 -479 -480	-462 31 -520 15 -416 -450 -498 -517	-470 20 -490 2 -451 -470 -484 -488	475 17 -500 4 460 -470 -490 -499		-463 32 -519 44 -409 -460 -500 -511	
40	-498 7 -510 5 -490 -500 -504 -509	-434 38 -499 25 -370 -450 -470 -490	-430 32 -488 57 -371 -430 -460 -480			419 35 -460 7 370 -440 -450 -459		-430 39 -507 110 -362 -430 -470 -500	40
	-436 23 -489 34 -400 -430 -460 -483	-407 23 -450 23 -370 -410 -430 -450	-428 18 -450 4 -410 -425 -445 -449			393 40 -450 3 360 -370 -424 -447		-404 42 -487 101 -310 -410 -440 -480	
30	-420 27 -490 80 -370 -420 -440 -484	-408 20 -449 13 -375 -400 -430 -445						-404 42 -490 113 -302 -410 -440 -478	30
	-424 29 -488 52 -380 -420 -450 -480	-405 7 -410 8 -391 -410 -410 -410						-401 52 -487 97 -290 -410 -450 -480	
20	-420 29 -470 8 -381 -415 -455 -469	-410 17 -440 7 -390 -410 -421 -438						-408 37 -470 112 -320 -410 -440 -460	20
		-410 14 -430 7 -390 -410 -420 -429						-393 32 -460 51 -330 -400 -420 -460	
10		-395 5 -400 2 -390 -395 -398 -400	-413 13 -430 4 -400 -410 -425 -429					-384 21 -439 29 -356 -380 -400 -434	10
								-367 12 -399 12 -352 -380 -372 -396	
0								-378 11 -400 8 -361 -380 -380 -397	0
								-372 12 -399 13 -360 -370 -380 -395	
10								-382 22 -420 12 -360 -380 -410 -418	10
								-375 21 -419 11 -360 -360 -394 -416	
20								-375 23 -410 17 -343 -370 -410 -410	20
								-379 25 -410 18 -330 -375 -403 -410	
30								-414 24 -469 22 -374 -410 -440 -462	30
								-476 42 -549 38 -407 -475 -520 -543	
40 S								-525 40 -589 19 -454 -520 -580 -586	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-535 5 -540 2 -530 -535 -538 -540	-567 5 -570 3 -560 -570 -570 -570	
					-490 33 -530 6 -441 -505 -514 -528		
50					-500 35 -540 4 -461 -500 -535 -539	-470 1	
					-471 32 -530 8 -441 -460 -513 -529	-495 45 -540 2 -452 -495 -526 -538	
40	-453 39 -519 7 -402 -460 -482 -515			-435 5 -440 2 -430 -435 -438 -440	-468 32 -529 12 -430 -460 -495 -526		
	-400 28 -450 21 -352 -400 -420 -450			-454 24 -490 17 -423 -450 -484 -490	-450 21 -480 4 -422 -450 -466 -478		
30	-381 17 -400 11 -360 -380 -400 -400			-430 7 -440 4 -421 -430 -435 -439	-471 20 -510 10 -442 -470 -491 -508	-465 15 -480 2 -451 -465 -475 -479	
	-380 8 -390 3 -370 -380 -387 -390	-390 14 -400 6 -363 -395 -400 -400		-423 15 -440 6 -401 -425 -440 -440	-492 15 -510 5 -471 -500 -504 -509	-487 26 -530 37 -430 -490 -510 -530	
20	-370 -370 3 -370 -370 -370 -370	-390 17 -420 8 -370 -385 -409 -419	-407 24 -440 6 -371 -415 -424 -438	-416 16 -440 5 -400 -410 -434 -439	-469 17 -509 13 -442 -470 -481 -505	-471 23 -527 109 -422 -470 -490 -520	
		-403 5 -410 6 -400 -400 -410 -410	-399 26 -440 8 -370 -395 -435 -440	-444 5 -450 7 -440 -440 -450 -450	-454 19 -499 23 -430 -450 -475 -496	-480 1	
10		-417 11 -430 6 -401 -415 -430 -430	-418 15 -440 5 -401 -410 -434 -439	-437 15 -460 27 -400 -440 -450 -460	-430 1		
		-427 7 -440 6 -420 -425 -432 -439	-427 17 -450 3 -410 -420 -440 -449	-408 8 -420 4 -400 -405 -415 -419		-442 16 -450 5 -413 -450 -450 -450	
0		-433 7 -440 6 -421 -435 -440 -440	-423 5 -430 3 -420 -420 -427 -430	-405 11 -420 4 -391 -405 -415 -419		-440 21 -460 9 -403 -450 -460 -460	
		-426 19 -450 8 -400 -435 -440 -449	-425 14 -440 10 -400 -430 -440 -440	-410 14 -430 3 -400 -400 -420 -429		-441 15 -460 13 -412 -440 -460 -460	
10			-419 15 -440 14 -393 -420 -430 -440	-420 12 -430 6 -401 -425 -430 -430		-443 16 -470 11 -412 -440 -454 -468	
			-409 17 -430 10 -382 -405 -430 -430	-420 10 -440 8 -410 -420 -429 -439	-448 11 -460 4 -431 -450 -455 -459	-447 10 -460 10 -430 -450 -456 -460	
20			-402 19 -430 10 -364 -405 -416 -428	-428 9 -440 6 -420 -425 -440 -440	-447 9 -460 7 -431 -450 -450 -459	-457 7 -470 6 -450 -455 -462 -469	
			-386 19 -410 7 -352 -390 -400 -409	-440 14 -450 3 -421 -450 -450 -450	-449 13 -460 12 -422 -450 -480 -460	-470 40 -549 6 -423 -460 -494 -543	
30			-428 23 -470 6 -401 -425 -446 -467	-415 5 -420 2 -410 -415 -418 -420	-471 27 -557 17 -436 -460 -480 -541	-491 38 -560 8 -443 -480 -535 -557	
			-490 49 -569 6 -423 -485 -538 -566	-507 52 -589 10 -411 -510 -552 -586	-496 35 -559 20 -440 -500 -530 -556		
40 S				-536 32 -579 18 -464 -540 -570 -577	-470 56 -579 7 -412 -460 -522 -573		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-530 29 -570 3 -501 -520 -554 -568		-400 1	-505 39 -560 4 -453 -505 -536 -557	-535 15 -550 2 -521 -535 -545 -549			-508 49 -570 10 -409 -515 -556 -568	70 N
	-534 21 -570 11 -510 -530 -558 -570	-519 54 -599 12 -421 -530 -560 -596		-490 22 -520 3 -470 -480 -507 -518	-505 42 -560 10 -421 -510 -541 -558			-521 43 -598 39 -410 -530 -569 -585	
60	-530 23 -570 4 -511 -520 -546 -567	-492 56 -580 14 -403 -490 -550 -577	-515 38 -560 4 -462 -520 -550 -559	-542 15 -560 5 -521 -550 -554 -559	-511 38 -559 22 -420 -520 -546 -556	-543 12 -560 3 -530 -540 -554 -559		-511 43 -578 60 -412 -520 -550 -570	60
	-519 43 -570 9 -433 -530 -562 -570	-498 40 -569 6 -443 -500 -522 -564	-513 38 -589 24 -448 -520 -550 -585	-506 30 -578 19 -464 -500 -531 -569	-509 41 -588 26 -425 -500 -550 -575	-535 17 -570 11 -512 -530 -554 -568		-512 38 -590 100 -430 -510 -550 -580	
50	-530 27 -560 9 -475 -540 -550 -558	-518 25 -569 6 -500 -510 -530 -565	-500 32 -579 30 -449 -490 -527 -574	-492 39 -569 15 -430 -500 -533 -562	-505 45 -550 2 -482 -505 -536 -548	-528 24 -560 14 -485 -530 -558 -560		-505 36 -577 86 -430 -500 -540 -570	50
	-509 24 -550 25 -470 -510 -540 -550	-485 32 -540 60 -420 -490 -520 -538	-481 25 -538 63 -440 -480 -501 -530	-500 30 -530 2 -471 -500 -520 -529		-491 35 -539 19 -411 -500 -520 -536		-485 32 -550 190 -420 -490 -520 -540	
40	-484 30 -557 90 -430 -480 -520 -550	-462 18 -500 54 -421 -460 -480 -500	-462 16 -490 11 -440 -460 -474 -488			-396 17 -420 5 -372 -390 -414 -419		-463 37 -554 202 -380 -460 -490 -540	40
	-475 30 -535 166 -420 -480 -510 -530	-450 19 -480 9 -420 -450 -467 -478				-360 1		-467 37 -534 203 -370 -470 -500 -530	
30	-477 28 -536 124 -430 -480 -510 -530	-470 1						-473 35 -535 182 -390 -480 -510 -530	30
	-465 19 -518 35 -437 -460 -480 -506	-473 7 -480 6 -461 -475 -480 -480						-461 32 -524 185 -370 -460 -490 -520	
20	-456 8 -470 10 -442 -460 -460 -468	-470 7 -480 9 -460 -470 -477 -480						-444 29 -498 64 -373 -450 -470 -487	20
	-453 7 -480 7 -441 -450 -460 -460	-440 10 -450 2 -430 -440 -447 -450	-465 5 -470 13 -460 -470 -470 -470					-441 20 -470 61 -400 -440 -460 -470	
10	-450 -450 2 -450 -450 -450 -450		-430 1	-450 1				-430 18 -450 22 -400 -430 -450 -450	10
				-450 1				-430 19 -460 23 -394 -430 -450 -460	
0								-430 18 -460 34 -400 -430 -447 -460	0
								-427 19 -469 31 -396 -430 -442 -464	
10								-428 21 -460 32 -386 -430 -450 -460	10
								-430 26 -469 29 -371 -430 -450 -464	
20								-437 38 -544 28 -361 -450 -460 -512	20
								-465 38 -560 33 -406 -460 -480 -560	
30								-498 43 -588 36 -414 -500 -530 -576	30
								-518 50 -580 25 -420 -530 -570 -580	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-523 50 -590 3 -472 -510 -564 -587	
					-465 45 -510 2 -422 -465 -496 -508	-523 64 -620 21 -418 -510 -598 -620	
50					-519 53 -580 17 -406 -530 -564 -580	-538 50 -609 13 -429 -530 -581 -605	
					-521 41 -589 29 -450 -520 -565 -584	-522 41 -560 11 -430 -520 -560 -560	
40				-488 19 -520 5 -470 -480 -507 -518	-526 31 -569 22 -474 -540 -556 -566	-485 75 -560 2 -413 -485 -536 -557	
	-440 8 -450 3 -430 -440 -447 -450	-430 1		-508 23 -540 22 -470 -510 -530 -540	-527 13 -540 7 -502 -530 -540 -540	-540 1	
	-420 8 -430 3 -410 -420 -427 -430				-526 12 -550 10 -510 -525 -536 -548		
30		-430 -430 2 -430 -430 -430 -430			-545 5 -550 4 -540 -545 -550 -550	-523 27 -580 38 -477 -520 -551 -580	
		-441 20 -479 7 -412 -440 -451 -476	-470 21 -510 5 -451 -460 -484 -507	-478 11 -490 4 -461 -480 -485 -489		-506 27 -570 122 -464 -500 -540 -566	
20			-463 16 -490 6 -450 -455 -482 -489	-484 12 -510 7 -471 -480 -491 -508	-514 12 -540 8 -500 -510 -520 -537	-503 16 -530 16 -473 -500 -520 -530	
			-447 9 -460 3 -440 -440 -454 -459	-492 14 -520 16 -480 -485 -510 -517		-493 11 -500 8 -471 -500 -500 -500	
10			-470 -470 2 -470 -470 -470 -470			-491 16 -520 14 -460 -490 -500 -517	
			-470 -470 2 -470 -470 -470 -470			-496 12 -510 18 -470 -500 -510 -510	
0						-499 10 -520 16 -490 -500 -506 -520	
						-505 11 -520 15 -483 -510 -510 -520	
10					-495 5 -500 2 -490 -495 -498 -500	-504 9 -520 17 -490 -500 -510 -520	
			-460 1		-500 8 -510 3 -490 -500 -507 -510	-506 7 -520 14 -493 -510 -510 -517	
20				-480 1	-499 10 -510 10 -482 -500 -510 -510	-504 15 -530 7 -481 -510 -511 -528	
				-475 5 -480 2 -470 -475 -478 -480	-500 16 -520 8 -472 -505 -512 -519	-450 1	
30			-490 1	-504 28 -540 17 -439 -510 -530 -537	-494 40 -569 12 -440 -505 -520 -566		
40 S				-539 41 -599 19 -461 -540 -581 -596	-494 61 -619 17 -396 -480 -564 -614		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-510 53 -590 6 -451 -495 -574 -588	-407 5 -410 3 -400 -410 -410 -410	-396 14 -410 5 -372 -400 -404 -409	-544 58 -590 9 -421 -570 -590 -590	-595 5 -600 2 -590 -595 -598 -600			-494 81 -599 25 -384 -480 -590 -595	70 N
	-538 54 -600 16 -453 -550 -590 -597	-482 40 -559 13 -412 -480 -521 -553		-524 40 -570 7 -464 -520 -570 -570	-518 74 -599 11 -410 -570 -580 -596			-516 58 -600 50 -410 -510 -582 -600	
60	-536 40 -580 12 -470 -540 -580 -580	-479 30 -549 7 -451 -470 -483 -542	-511 66 -590 7 -441 -470 -590 -590	-497 50 -579 10 -403 -500 -540 -573	-517 62 -580 10 -414 -530 -580 -580	-560 20 -580 2 -541 -560 -574 -579		-515 58 -620 71 -410 -510 -580 -616	60
	-534 50 -590 9 -431 -550 -577 -588	-529 42 -580 8 -461 -545 -568 -579	-524 47 -610 14 -453 -525 -568 -607	-505 55 -580 11 -420 -480 -580 -580	-538 39 -600 17 -473 -550 -580 -597	-560 42 -590 3 -504 -590 -590 -590		-528 50 -610 92 -408 -540 -580 -602	
50	-520 71 -590 14 -395 -560 -570 -590	-538 36 -589 24 -475 -540 -580 -585	-562 37 -610 15 -493 -580 -590 -607	-555 41 -600 12 -469 -565 -592 -600	-570 1	-530 40 -570 2 -492 -530 -557 -568		-535 47 -607 108 -411 -550 -580 -600	50
	-558 32 -590 15 -477 -570 -580 -590	-511 20 -567 102 -480 -510 -530 -560	-521 31 -580 61 -456 -520 -550 -580	-540 1		-502 50 -570 5 -441 -510 -551 -568		-518 30 -590 213 -452 -510 -550 -580	
40	-517 32 -580 63 -452 -510 -550 -578	-503 18 -550 105 -470 -500 -520 -549	-495 5 -500 2 -490 -495 -498 -500			-490 1		-507 26 -580 205 -450 -500 -530 -569	40
	-505 27 -580 200 -460 -500 -530 -560	-505 26 -550 13 -462 -510 -531 -548						-505 28 -580 226 -460 -500 -530 -560	
30	-506 25 -570 180 -460 -500 -530 -560	-520 1						-509 28 -580 225 -460 -510 -540 -570	30
	-500 26 -559 41 -460 -500 -528 -552	-510 14 -530 3 -500 -500 -520 -529						-501 30 -570 182 -446 -500 -530 -560	
20		-510 9 -520 5 -500 -510 -520 -520						-497 22 -539 42 -450 -500 -520 -532	20
	-508 11 -520 4 -491 -510 -515 -519	-510 1	-515 6 -520 16 -503 -520 -520 -520					-499 20 -520 48 -440 -500 -520 -520	
10	-510 8 -520 3 -500 -510 -517 -520							-492 17 -520 19 -460 -490 -510 -520	10
								-493 14 -510 20 -464 -495 -510 -510	
0								-499 10 -520 16 -490 -500 -506 -520	0
								-505 11 -520 15 -483 -510 -510 -520	
10								-503 9 -520 19 -490 -500 -510 -520	10
								-503 13 -519 18 -470 -510 -510 -517	
20								-500 13 -529 18 -480 -500 -510 -523	20
								-489 22 -520 9 -453 -490 -510 -518	
30								-500 33 -568 30 -432 -510 -530 -558	30
								-518 56 -618 36 -404 -515 -580 -606	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-510 43 -570 3 -471 -490 -544 -567	
60						-506 54 -620 24 -445 -495 -550 -620	
					-486 57 -608 11 -404 -490 -522 -596	-489 53 -616 22 -420 -490 -540 -595	
50					-505 58 -600 15 -423 -490 -578 -597	-550 58 -620 15 -443 -570 -605 -620	
					-550 44 -609 25 -450 -550 -600 -605	-572 52 -629 31 -458 -600 -610 -624	
40	-480 1			-546 36 -580 7 -490 -560 -570 -579	-555 28 -609 22 -508 -545 -586 -606	-598 21 -620 6 -570 -605 -620 -620	
	-480 -480 2 -480 -480 -480 -480			-547 28 -590 14 -498 -545 -579 -587	-558 17 -590 12 -540 -555 -572 -588	-586 19 -610 5 -561 -590 -604 -609	
30	-480 -480 2 -480 -480 -480 -480			-535 5 -540 2 -530 -535 -538 -540	-553 16 -580 9 -532 -550 -570 -578	-560 1	
		-490 8 -500 3 -480 -490 -497 -500		-515 15 -530 2 -501 -515 -525 -529	-580 1	-572 18 -609 18 -550 -565 -590 -607	
20		-490 10 -500 2 -480 -490 -497 -500	-560 1	-525 15 -540 4 -502 -530 -535 -539		-562 22 -600 29 -526 -550 -590 -600	
				-546 5 -550 5 -540 -550 -550 -550		-570 1	
10				-540 1		-560 12 -580 4 -550 -555 -570 -579	
						-555 5 -560 8 -550 -555 -560 -560	
0						-554 9 -570 16 -540 -560 -560 -567	
						-558 9 -570 14 -543 -560 -569 -570	
10						-559 7 -570 13 -550 -560 -570 -570	
						-564 8 -570 11 -550 -570 -570 -570	
20						-563 13 -580 7 -541 -570 -570 -579	
						-558 16 -580 6 -540 -560 -572 -579	
30					-558 16 -570 4 -532 -565 -570 -570	-537 34 -570 3 -492 -550 -564 -569	
			-630 1	-538 55 -629 4 -491 -515 -582 -624	-524 42 -570 10 -452 -540 -560 -568		
40 S				-540 30 -590 5 -510 -540 -564 -587	-563 87 -680 12 -439 -560 -665 -680		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-483 45 -616 11 -444 -470 -484 -594	-410 8 -420 3 -400 -410 -417 -420	-400 13 -420 6 -381 -400 -412 -419	-460 29 -490 3 -422 -470 -484 -489				-456 53 -616 26 -385 -465 -490 -595	70 N
60	-521 62 -630 15 -463 -500 -610 -627	-473 27 -519 12 -422 -480 -492 -516	-460 40 -500 5 -394 -480 -494 -499	-504 50 -599 10 -429 -490 -557 -595	-410 1			-498 55 -628 67 -413 -480 -544 -620	60
50	-508 30 -569 11 -462 -510 -532 -566	-516 46 -629 12 -464 -505 -537 -621	-479 31 -539 13 -432 -480 -511 -535	-510 57 -610 16 -429 -495 -576 -607	-506 57 -600 23 -414 -490 -570 -600	-580 1		-500 52 -627 109 -420 -490 -557 -610	50
40	-516 62 -619 12 -390 -510 -575 -613	-524 45 -610 16 -456 -520 -576 -607	-526 50 -590 9 -453 -520 -587 -590	-535 61 -619 8 -443 -550 -589 -616	-549 45 -600 13 -460 -560 -591 -600	-490 1		-529 56 -620 89 -428 -530 -590 -620	40
30	-533 74 -620 15 -384 -550 -608 -620	-537 34 -627 15 -490 -540 -558 -610	-561 41 -610 3 -474 -570 -594 -608	-560 55 -620 11 -442 -570 -614 -620	-527 34 -580 6 -474 -525 -556 -577	-530 1		-553 53 -630 113 -432 -560 -610 -620	30
20	-568 41 -629 10 -520 -565 -610 -626	-546 17 -590 37 -522 -540 -560 -590	-552 31 -610 39 -483 -550 -580 -610	-620 1				-554 31 -626 123 -490 -550 -590 -620	20
10	-546 29 -600 14 -510 -540 -579 -597	-545 15 -580 76 -505 -545 -560 -575	-570 1					-547 23 -606 124 -495 -550 -570 -595	10
0	-549 29 -608 58 -491 -550 -580 -600	-546 15 -579 14 -523 -550 -560 -575	-570 -570 3 -570 -570 -570 -570					-548 27 -607 89 -488 -550 -580 -600	0
10	-554 22 -599 43 -500 -560 -570 -592	-556 13 -580 7 -541 -550 -570 -579	-570 1					-556 26 -608 75 -495 -560 -580 -600	10
20	-554 19 -590 7 -531 -550 -571 -588	-560 12 -580 4 -550 -555 -570 -579						-554 26 -600 47 -498 -550 -566 -600	20
30	-553 5 -560 3 -550 -550 -557 -560							-551 9 -570 9 -540 -550 -557 -568	30
40 S	-554 5 -560 5 -550 -550 -560 -560							-555 10 -579 10 -542 -550 -560 -576	40S
	-555 5 -560 4 -550 -555 -560 -560							-555 5 -560 12 -550 -555 -560 -560	
								-554 9 -570 16 -540 -560 -560 -567	
								-558 9 -570 14 -543 -560 -569 -570	
								-559 7 -570 13 -550 -560 -570 -570	
								-564 8 -570 11 -550 -570 -570 -570	
								-563 13 -580 7 -541 -570 -570 -579	
								-558 16 -580 6 -540 -560 -572 -579	
								-549 27 -570 7 -495 -560 -570 -570	
								-535 52 -630 15 -453 -540 -568 -630	
								-556 75 -680 17 -443 -540 -643 -680	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY

FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-455 15 -470 2 -441 -455 -465 -469	
					-510 75 -638 4 -461 -470 -558 -630	-480 1	
50					-530 46 -638 14 -465 -525 -568 -627		
					-543 44 -638 18 -467 -540 -583 -630	-599 32 -659 13 -550 -600 -621 -653	
40	-490 1			-562 13 -599 10 -550 -560 -560 -593	-575 38 -620 16 -502 -585 -616 -620	-570 1	
	-530 10 -540 2 -520 -530 -537 -540			-576 23 -610 11 -536 -570 -604 -610	-600 20 -620 2 -581 -600 -614 -619		
30	-550 1						
	-550 1					-573 31 -620 4 -541 -565 -601 -618	
20			-575 15 -590 2 -561 -575 -585 -589			-576 24 -610 7 -540 -580 -591 -608	
			-595 5 -600 2 -590 -595 -598 -600	-590 1		-640 1	
10						-610 -610 2 -610 -610 -610 -610	
						-610 -610 2 -610 -610 -610 -610	
0						-610 1	
10							
20						-610 16 -630 3 -591 -610 -624 -629	
						-598 29 -630 4 -561 -600 -625 -629	
30					-560 1	-602 44 -660 5 -552 -580 -654 -659	
					-557 40 -610 6 -501 -565 -594 -608		
40 S					-581 76 -689 10 -462 -590 -666 -686		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-485 55 -540 2 -432 -485 -522 -538							-485 55 -540 2 -432 -485 -522 -538	70 N
	-540 1	-475 35 -510 2 -441 -475 -499 -509		-517 37 -570 6 -455 -520 -546 -567	-545 35 -580 2 -511 -545 -569 -579			-507 44 -580 13 -440 -510 -542 -578	
60		-506 19 -540 8 -480 -510 -519 -537		-505 50 -590 11 -422 -500 -550 -588	-518 48 -580 16 -432 -510 -566 -580	-520 30 -550 2 -491 -520 -540 -549		-510 47 -634 42 -420 -510 -560 -599	60
		-555 39 -630 17 -486 -550 -589 -627	-530 60 -590 2 -472 -530 -571 -588	-543 61 -620 11 -426 -540 -608 -620	-509 38 -569 9 -452 -500 -540 -565			-537 50 -638 53 -450 -540 -590 -630	
50	-575 58 -670 11 -498 -550 -648 -668	-572 45 -629 22 -484 -590 -616 -626	-601 24 -649 19 -554 -610 -611 -646	-625 5 -630 2 -620 -625 -628 -630		-520 1		-577 47 -667 86 -480 -585 -620 -660	50
	-596 56 -690 17 -513 -600 -664 -687	-580 29 -620 23 -520 -580 -610 -620	-569 49 -629 37 -460 -590 -612 -623			-520 22 -540 3 -492 -530 -537 -540		-574 45 -687 108 -480 -580 -610 -669	
40	-596 20 -630 13 -565 -600 -620 -628	-587 12 -600 18 -557 -590 -600 -600						-585 23 -629 46 -529 -590 -608 -621	40
	-590 14 -610 8 -563 -590 -600 -609	-580 1						-585 17 -610 10 -552 -590 -600 -608	
30	-595 22 -630 13 -550 -590 -612 -630							-587 27 -630 18 -540 -590 -613 -630	30
	-602 15 -630 10 -582 -600 -616 -628							-589 23 -629 19 -540 -590 -610 -626	
20	-606 10 -620 8 -591 -605 -619 -620							-606 14 -639 12 -590 -600 -620 -636	20
	-607 5 -610 3 -600 -610 -610 -610							-608 4 -610 5 -601 -610 -610 -610	
10	-590 1							-603 9 -610 3 -591 -610 -610 -610	10
								-610 1	
0									0
10									10
								-610 16 -630 3 -591 -610 -624 -629	
20								-598 29 -630 4 -561 -600 -625 -629	20
								-595 43 -660 5 -551 -575 -652 -659	
30								-557 40 -610 5 -501 -565 -594 -608	30
								-581 76 -689 10 -462 -590 -666 -686	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

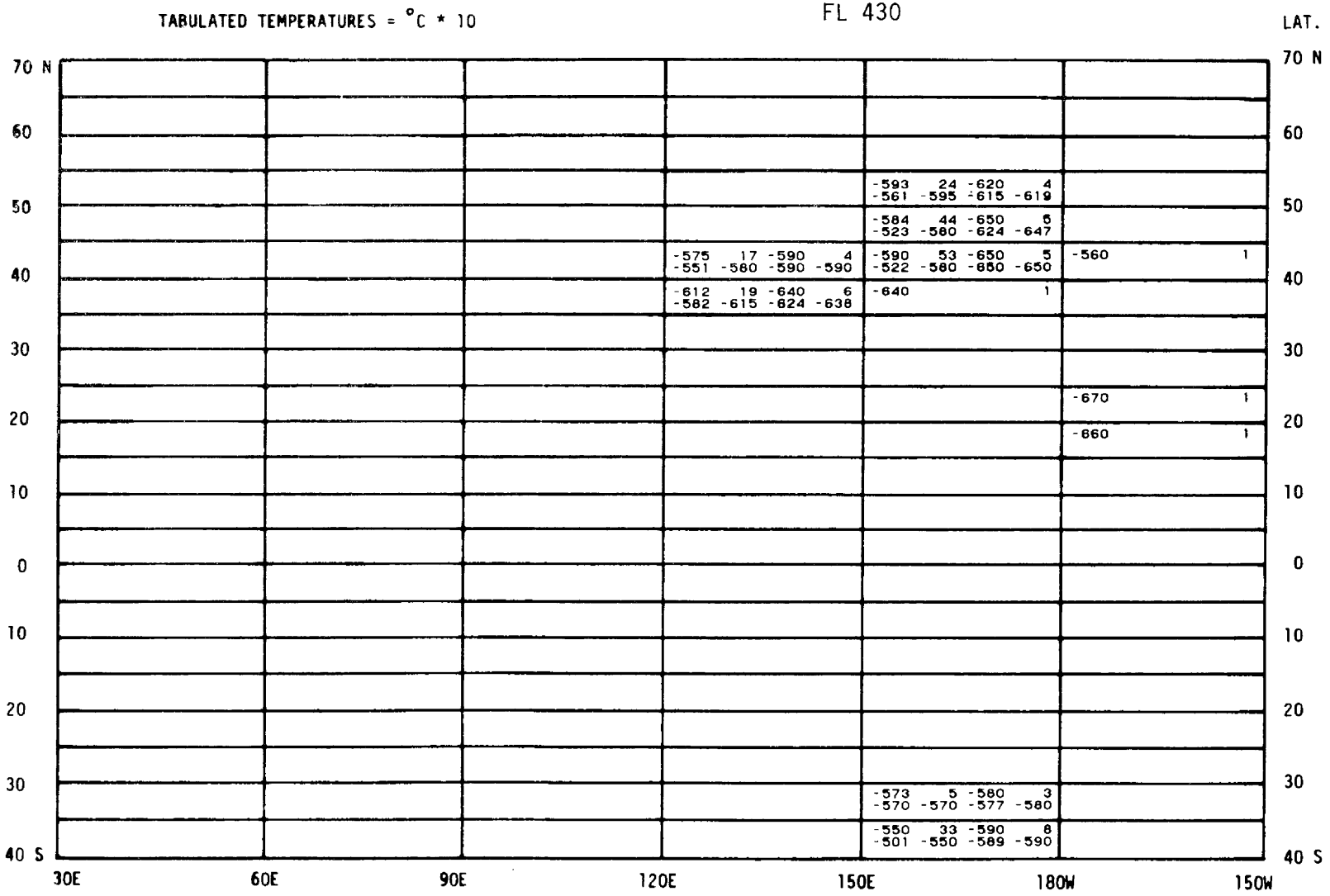
JULY

FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

JULY
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-490 50 -540 2 -442 -490 -524 -538				-490 50 -540 2 -442 -490 -524 -538	60
50			-500 30 -530 2 -471 -500 -520 -529	-520 49 -589 5 -445 -530 -558 -586				-543 54 -620 11 -446 -540 -598 -618	50
40	-580 28 -620 3 -560 -580 -601 -618	-625 5 -630 2 -620 -625 -628 -630	-555 37 -610 8 -487 -560 -588 -607	-560 10 -570 2 -550 -560 -567 -570				-565 40 -648 15 -491 -560 -605 -639	40
30	-610 22 -630 3 -582 -620 -627 -630	-635 5 -640 2 -630 -635 -638 -640	-551 51 -639 8 -491 -535 -606 -636					-574 46 -650 23 -494 -570 -625 -650	30
20	-640 10 -650 2 -630 -640 -647 -650							-618 20 -640 12 -580 -620 -640 -640	20
10	-655 5 -660 2 -650 -655 -658 -660							-640 10 -650 2 -630 -640 -647 -650	10
0	-660 -680 2 -660 -660 -680 -660							-655 5 -660 2 -650 -655 -658 -660	0
10								-663 5 -670 3 -660 -660 -667 -670	10
20								-660 1	20
30								-573 5 -580 3 -570 -570 -577 -580	30
40 S								-550 33 -590 8 -501 -550 -589 -590	40S

LONGITUDE

APPENDIX C

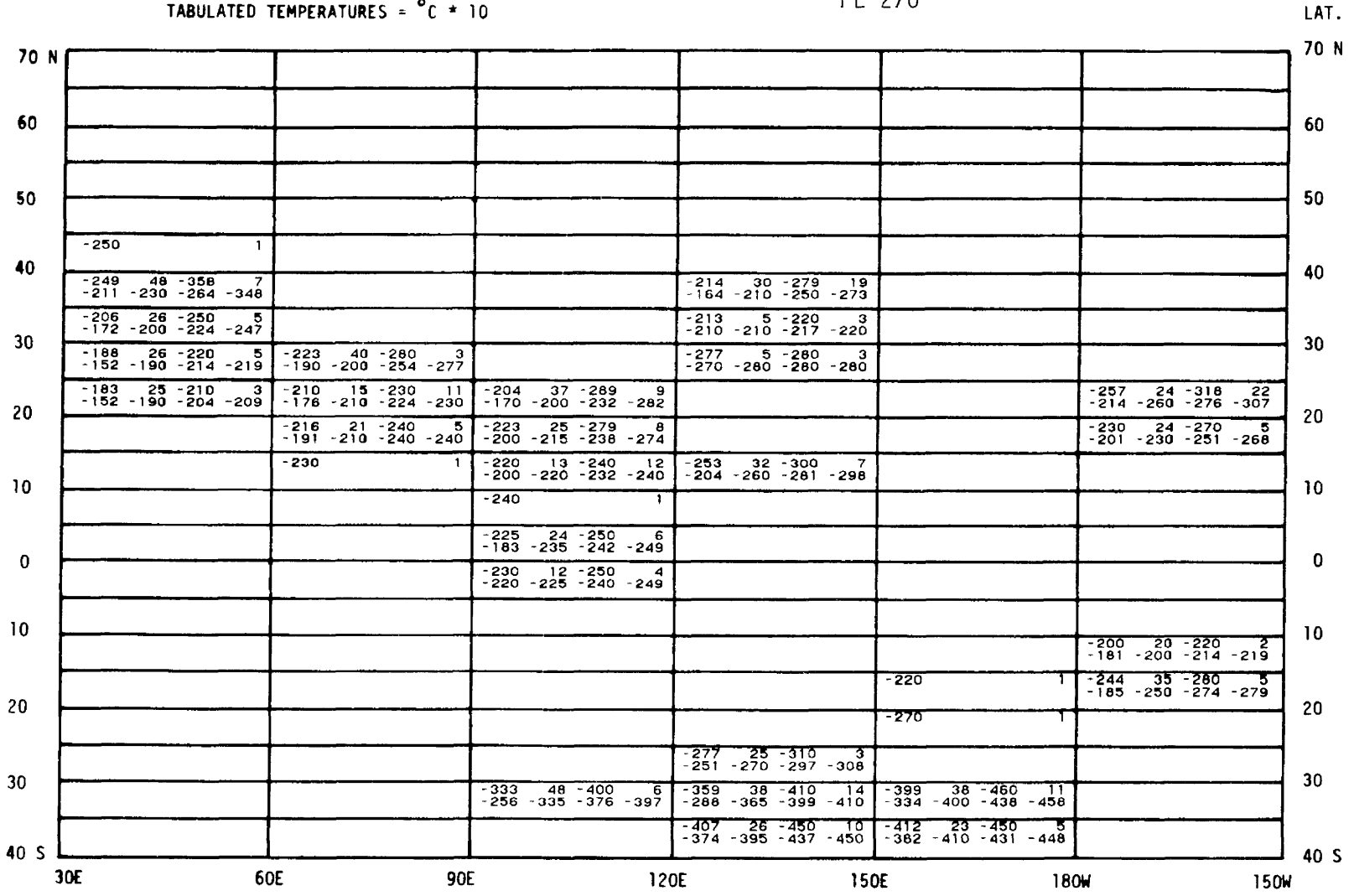
STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN LAT
70 N					-420 1		-420 1	70 N
60					-420 1		-420 1	60
50						-370 10 -380 2 -360 -370 -377 -380	-370 10 -380 2 -360 -370 -377 -380	50
40	-300 1	-290 1			-375 34 -449 10 -332 -370 -400 -441	-362 30 -420 9 -323 -350 -394 -417	-369 33 -448 19 -324 -360 -400 -439	40
30	-289 24 -339 25 -255 -290 -312 -335	-291 31 -340 9 -243 -280 -327 -338	-287 36 -377 38 -227 -260 -330 -358			-364 48 -525 15 -330 -350 -378 -494	-359 50 -524 16 -302 -350 -376 -491	30
20	-249 23 -299 14 -213 -250 -269 -292	-284 19 -310 5 -261 -280 -304 -309	-295 15 -310 2 -281 -295 -305 -309			-344 53 -459 14 -275 -330 -379 -455	-300 46 -456 63 -230 -290 -331 -426	20
10		-266 26 -329 22 -224 -260 -290 -322				-285 26 -329 10 -242 -285 -306 -326	-263 44 -356 68 -173 -270 -303 -337	10
0							-250 32 -327 44 -196 -250 -281 -313	0
10		-260 1					-222 46 -280 11 -154 -210 -280 -280	10
20		-280 40 -320 2 -242 -280 -307 -318					-231 37 -316 46 -168 -230 -270 -293	20
30	-280 1		-237 5 -240 3 -230 -240 -240 -240				-228 31 -318 20 -194 -220 -240 -305	30
40 S			-273 12 -290 3 -260 -270 -284 -289	-347 12 -360 3 -331 -350 -357 -360			-233 25 -299 23 -200 -230 -250 -291	40S
							-265 18 -290 4 -241 -265 -280 -289	
							-225 24 -250 6 -183 -235 -242 -249	
							-230 12 -250 4 -220 -225 -240 -249	
				-400 1				
							-200 20 -220 2 -181 -200 -214 -219	
							-246 34 -280 7 -185 -250 -280 -280	
							-328 35 -360 4 -274 -340 -355 -359	
							-277 25 -310 3 -251 -270 -297 -308	
							-369 47 -459 32 -269 -375 -410 -454	
							-409 25 -450 15 -373 -400 -443 -450	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-378 71 -450 4 -284 -390 -445 -449						
40	-313 73 -449 16 -233 -300 -416 -444			-290 31 -349 10 -250 -285 -320 -345			
30	-266 37 -368 28 -205 -260 -290 -354	-230 1		-230 1			
30	-248 23 -280 11 -200 -250 -270 -278	-236 28 -308 9 -210 -230 -237 -299		-290 50 -340 2 -242 -290 -324 -338			
20	-231 11 -250 6 -220 -230 -240 -249	-233 25 -317 20 -210 -230 -250 -297	-247 26 -299 10 -212 -250 -266 -295			-308 33 -390 37 -252 -310 -340 -390	
20		-246 18 -270 7 -220 -250 -260 -269	-246 14 -270 9 -230 -240 -260 -268	-285 25 -310 2 -261 -285 -302 -309		-258 16 -260 5 -240 -250 -274 -279	
10		-271 16 -290 7 -242 -280 -280 -289	-259 29 -300 10 -205 -260 -286 -298	-286 26 -310 5 -251 -300 -310 -310			
10		-293 11 -300 6 -272 -300 -300 -300	-276 11 -290 8 -260 -280 -289 -290				
0		-310 -310 2 -310 -310 -310 -310	-282 16 -310 12 -262 -280 -302 -310				
0		-310 1	-287 13 -310 7 -271 -280 -300 -309				
10			-283 11 -300 4 -271 -280 -290 -299				
10			-275 5 -280 2 -270 -275 -278 -280	-276 22 -300 5 -242 -270 -300 -300		-247 17 -270 3 -230 -240 -260 -269	
20			-280 -280 2 -280 -280 -280 -280	-270 1	-268 32 -329 5 -241 -250 -292 -325	-268 37 -330 6 -240 -245 -314 -328	
20			-294 23 -339 5 -280 -280 -308 -336	-280 1	-320 1		
30			-320 42 -409 7 -281 -310 -352 -403	-310 16 -330 3 -291 -310 -324 -329	-330 1		
30			-383 45 -420 3 -324 -410 -417 -420	-418 54 -519 13 -325 -420 -462 -510	-432 27 -480 13 -392 -430 -470 -478		
40 S				-447 35 -519 21 -400 -440 -486 -516	-440 25 -460 5 -402 -460 -460 -460		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60					-445 25 -470 2 -421 -445 -462 -469			-445 25 -470 2 -421 -445 -462 -469	60
					-420 1			-420 1	
50			-430 1	-480 -480 2 -480 -480 -480 -480	-432 31 -470 11 -384 -430 -470 -470	-417 37 -509 21 -380 -400 -440 -506		-426 37 -509 35 -380 -420 -470 -503	50
	-360 25 -400 4 -331 -355 -381 -398		-420 14 -430 3 -401 -430 -430 -430	-430 22 -450 3 -402 -440 -447 -450	-470 1	-408 36 -460 16 -346 -405 -440 -457		-407 38 -469 27 -335 -400 -440 -465	
40	-340 1	-334 43 -400 9 -282 -320 -384 -398	-350 40 -447 38 -282 -345 -400 -428			-386 50 -497 15 -291 -390 -410 -483		-357 48 -490 67 -280 -350 -400 -450	40
	-343 27 -409 18 -310 -330 -373 -403	-335 24 -390 12 -310 -330 -350 -388	-385 35 -420 2 -351 -385 -409 -419			-329 22 -369 11 -302 -320 -350 -366		-326 47 -446 69 -244 -330 -370 -426	
	-296 24 -330 13 -255 -290 -321 -330	-316 37 -418 18 -257 -310 -323 -410	-340 1			-330 10 -340 2 -320 -330 -337 -340		-288 42 -414 64 -215 -290 -320 -385	
30		-300 1	-390 1					-255 43 -387 24 -199 -240 -286 -367	30
		-310 1						-272 46 -390 76 -210 -260 -320 -365	
20		-290 1						-253 22 -309 24 -220 -255 -270 -301	20
		-330 1	-310 22 -330 3 -282 -320 -327 -330					-276 31 -330 26 -215 -280 -310 -330	
10			-327 33 -350 3 -283 -350 -350 -350					-291 25 -350 17 -260 -290 -300 -350	10
								-286 18 -310 14 -263 -280 -310 -310	
0								-290 14 -310 8 -271 -285 -309 -310	0
								-283 11 -300 4 -271 -280 -290 -299	
10								-267 23 -300 10 -232 -270 -291 -300	10
	-295 5 -300 2 -290 -295 -298 -300							-273 31 -330 16 -240 -270 -306 -330	
20				-347 26 -370 3 -312 -360 -367 -370				-311 33 -370 10 -280 -300 -351 -368	20
								-318 35 -408 11 -282 -310 -338 -398	
30								-421 45 -517 29 -320 -420 -465 -498	30
								-445 34 -519 26 -400 -440 -470 -515	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-420 1	
50							
40	-354 21 -380 7 -321 -360 -380 -380						
	-326 30 -390 17 -286 -320 -349 -390			-328 34 -398 17 -273 -330 -360 -387	-367 26 -390 3 -332 -380 -387 -390		
30	-291 21 -320 20 -241 -300 -310 -320			-290 1			
	-286 20 -329 15 -248 -290 -300 -322	-270 13 -289 24 -238 -270 -280 -285		-305 5 -310 2 -300 -305 -308 -310		-380 1	
20	-282 13 -300 5 -262 -280 -294 -299	-284 10 -300 11 -270 -280 -294 -300	-305 22 -359 12 -280 -300 -322 -353	-350 50 -400 2 -302 -350 -384 -398		-372 29 -428 28 -321 -370 -400 -419	
		-308 8 -329 14 -300 -310 -310 -325	-310 15 -330 6 -283 -310 -322 -329	-390 1	-333 5 -340 3 -330 -330 -337 -340	-320 19 -350 6 -292 -320 -334 -348	
10		-316 9 -330 10 -302 -315 -326 -330	-315 13 -330 6 -300 -315 -330 -330	-341 26 -380 8 -310 -335 -376 -380	-380 1	-302 21 -330 6 -264 -305 -314 -328	
		-334 16 -369 9 -312 -330 -340 -365	-324 7 -330 10 -312 -325 -330 -330			-283 33 -330 4 -242 -280 -311 -328	
0		-375 5 -380 2 -370 -375 -378 -380	-334 17 -370 11 -312 -330 -348 -368			-250 1	
		-357 19 -370 3 -332 -370 -370 -370	-329 23 -369 11 -284 -330 -344 -366				
10			-341 16 -370 10 -330 -330 -361 -370	-343 8 -350 4 -331 -345 -350 -350			
			-345 15 -370 6 -330 -340 -362 -369	-333 5 -340 3 -330 -330 -337 -340	-320 1	-310 20 -330 2 -291 -310 -324 -329	
20			-344 23 -380 7 -312 -340 -370 -379	-345 15 -360 2 -331 -345 -355 -359	-300 1	-320 36 -370 3 -290 -300 -348 -367	
			-345 17 -370 4 -330 -340 -360 -369	-342 23 -370 9 -310 -340 -367 -370	-300 1		
30			-330 1	-384 34 -458 16 -333 -385 -416 -448	-370 1		
			-397 37 -440 3 -352 -400 -427 -438	-450 36 -500 16 -375 -455 -486 -497	-455 38 -510 12 -392 -455 -487 -510		
40 S				-471 32 -519 14 -405 -480 -499 -515	-495 22 -520 4 -462 -500 -510 -519		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N					-510 1			-510 1	70 N
					-500 8 -510 3 -490 -500 -507 -510			-500 8 -510 3 -490 -500 -507 -510	
60	-470 1			-510 43 -550 3 -453 -530 -544 -549	-494 26 -520 5 -453 -490 -520 -520	-467 29 -500 3 -432 -470 -490 -499		-484 38 -549 13 -422 -490 -521 -545	60
	-465 15 -480 2 -451 -465 -475 -479		-500 1	-515 5 -520 2 -510 -515 -518 -520	-479 40 -558 15 -411 -480 -520 -549	-485 51 -589 13 -422 -470 -524 -585		-483 43 -588 33 -413 -480 -520 -577	
50	-420 1	-420 1			-420 1	-444 24 -498 18 -413 -440 -470 -490		-441 24 -498 21 -414 -430 -470 -488	50
		-395 28 -430 13 -340 -400 -421 -430	-377 36 -487 45 -339 -370 -400 -472			-427 39 -509 22 -374 -420 -466 -502		-390 42 -505 87 -330 -380 -430 -490	
40	-385 24 -430 35 -350 -380 -410 -430	-367 24 -419 12 -327 -360 -390 -413	-400 1			-355 39 -400 8 -293 -375 -389 -399		-358 38 -430 93 -280 -360 -393 -430	40
	-355 34 -419 27 -285 -360 -388 -415	-349 36 -448 11 -312 -340 -364 -434						-331 43 -445 59 -263 -330 -370 -418	
30	-358 20 -390 4 -340 -350 -378 -388	-350 1						-288 33 -389 47 -238 -280 -306 -381	30
								-333 47 -427 58 -270 -330 -369 -410	
20		-350 20 -370 2 -331 -350 -364 -369						-318 22 -388 32 -286 -310 -330 -376	20
			-345 15 -360 2 -331 -345 -355 -359					-323 25 -380 33 -286 -320 -339 -380	
10			-363 33 -410 3 -340 -340 -388 -407					-326 30 -407 26 -255 -330 -340 -390	10
								-334 31 -380 14 -266 -330 -369 -377	
0				-420 1				-341 32 -418 15 -286 -340 -370 -405	0
				-420 -420 2 -420 -420 -420 -420				-351 29 -420 16 -330 -340 -370 -420	
10	-360 10 -370 2 -350 -360 -367 -370			-425 5 -430 2 -420 -425 -428 -430				-349 34 -430 16 -299 -340 -370 -427	10
	-370 1			-433 29 -470 4 -392 -435 -456 -468				-359 49 -468 18 -293 -355 -401 -460	
20				-410 45 -470 3 -362 -400 -448 -467				-352 39 -467 17 -303 -350 -370 -448	20
								-380 35 -458 18 -330 -375 -413 -445	
30								-447 40 -510 31 -356 -450 -482 -510	30
								-476 32 -520 18 -407 -480 -500 -520	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-500 1	-487 12 -500 3 -471 -490 -497 -500	
50					-525 5 -530 2 -520 -525 -528 -530		
40	-386 52 -479 7 -321 -370 -422 -473			-410 1	-475 48 -530 4 -412 -480 -520 -529	-450 1	
30	-349 25 -418 28 -315 -350 -367 -404			-374 23 -439 21 -334 -380 -380 -432	-459 36 -509 7 -395 -470 -481 -506		
20	-341 25 -452 30 -320 -340 -350 -408			-375 14 -400 10 -360 -370 -390 -398	-388 27 -439 5 -370 -370 -408 -436		
10	-340 18 -370 13 -310 -340 -360 -368	-322 12 -340 25 -295 -320 -330 -340		-365 17 -409 11 -342 -360 -370 -402		-444 27 -480 5 -403 -440 -467 -478	
0	-338 11 -350 4 -321 -340 -345 -349	-341 24 -442 29 -310 -340 -350 -400	-360 29 -429 16 -313 -360 -382 -424	-367 28 -410 6 -340 -355 -402 -409	-450 7 -460 4 -441 -450 -455 -459	-421 29 -478 34 -363 -420 -450 -467	
10		-344 14 -360 17 -310 -350 -354 -360	-352 16 -370 12 -322 -355 -370 -370	-370 1	-413 26 -450 9 -380 -410 -447 -450	-335 5 -340 2 -330 -335 -338 -340	
20		-363 8 -380 9 -352 -360 -370 -378	-364 18 -390 12 -332 -365 -382 -390	-379 3 -380 7 -371 -380 -380 -380		-370 1	
30		-375 15 -400 4 -361 -370 -386 -398	-370 12 -390 7 -351 -370 -380 -389	-385 5 -390 4 -380 -385 -390 -390		-320 1	
40 S		-392 7 -400 5 -381 -390 -400 -400	-380 13 -400 9 -360 -380 -390 -398	-393 4 -400 4 -390 -390 -395 -399		-280 1	
		-386 10 -400 5 -371 -390 -394 -399	-380 15 -400 18 -353 -385 -390 -400	-395 5 -400 4 -390 -395 -400 -400			
			-379 15 -409 25 -355 -380 -390 -405	-397 17 -420 3 -380 -390 -410 -419		-350 1	
			-378 14 -409 23 -354 -380 -390 -406	-370 10 -380 2 -360 -370 -377 -380	-365 25 -390 2 -341 -365 -382 -389	-369 28 -400 7 -324 -370 -400 -400	
			-383 15 -410 16 -360 -380 -400 -407	-380 15 -400 12 -360 -375 -400 -400	-374 23 -410 5 -342 -380 -391 -408	-361 27 -400 7 -324 -350 -400 -400	
			-390 10 -410 8 -380 -390 -399 -409	-401 28 -459 14 -363 -390 -429 -455	-386 29 -439 14 -343 -385 -419 -435		
				-442 49 -519 12 -364 -455 -490 -513	-433 42 -537 19 -364 -430 -470 -522	-350 1	
			-470 33 -520 4 -440 -460 -501 -518	-480 40 -569 21 -410 -480 -508 -566	-481 44 -559 21 -394 -490 -518 -556		
				-495 40 -578 17 -423 -500 -524 -567	-465 63 -578 14 -390 -440 -539 -570		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N				-558 4 -560 5 -551 -560 -560 -560	-528 25 -560 5 -492 -540 -547 -558			-543 23 -560 10 -494 -555 -560 -560	70 N
60			-440 24 -470 3 -411 -440 -460 -469		-540 1			-465 48 -539 4 -412 -455 -506 -536	60
		-500 37 -550 3 -461 -490 -531 -548	-470 1		-533 15 -550 4 -511 -535 -545 -549	-560 1		-509 32 -560 13 -462 -500 -550 -558	
50		-523 26 -560 3 -500 -510 -544 -558	-570 1	-479 49 -550 15 -413 -490 -530 -550	-495 44 -579 23 -434 -490 -550 -571	-503 43 -569 11 -424 -490 -544 -566		-496 46 -578 55 -411 -490 -550 -570	50
		-468 37 -510 5 -412 -490 -497 -508	-459 55 -569 9 -393 -430 -510 -560	-461 51 -559 14 -383 -450 -500 -552	-468 26 -500 5 -432 -470 -494 -499	-486 26 -540 21 -448 -480 -516 -540		-471 42 -568 59 -390 -470 -510 -557	
40		-428 30 -480 19 -374 -420 -461 -480	-450 47 -579 45 -379 -440 -500 -571	-490 1		-456 41 -566 25 -368 -460 -482 -541		-444 46 -577 105 -333 -440 -484 -568	40
	-431 33 -508 27 -380 -430 -468 -494	-405 30 -460 17 -363 -400 -440 -457	-440 1			-414 51 -489 12 -342 -425 -462 -486		-392 44 -503 111 -320 -380 -440 -480	
30	-416 40 -500 45 -330 -420 -460 -500	-414 29 -479 12 -372 -410 -440 -471				-340 1		-388 47 -500 98 -320 -390 -440 -481	30
	-438 27 -480 31 -386 -450 -460 -480	-417 31 -470 7 -381 -420 -451 -468	-490 1					-384 56 -487 93 -308 -370 -453 -480	
20	-423 17 -450 8 -401 -420 -446 -450	-405 29 -450 4 -380 -395 -431 -448	-490 10 -500 2 -480 -490 -497 -500					-386 48 -494 107 -311 -380 -450 -478	20
		-407 31 -450 3 -380 -390 -431 -448	-475 5 -480 2 -470 -475 -478 -480					-370 41 -479 46 -318 -360 -408 -471	
10			-424 28 -470 7 -400 -410 -460 -469	-470 1				-381 32 -470 37 -337 -380 -400 -470	10
			-420 22 -450 3 -400 -410 -437 -448	-470 1				-384 32 -469 20 -331 -380 -400 -462	
0			-425 25 -450 4 -400 -425 -450 -450	-460 1				-391 34 -459 24 -317 -390 -400 -455	0
			-430 22 -450 3 -402 -440 -447 -450	-460 1				-390 24 -459 31 -356 -390 -400 -454	
10	-385 5 -390 2 -380 -385 -388 -390							-380 16 -419 31 -350 -380 -390 -414	10
	-405 5 -410 2 -400 -405 -408 -410							-377 20 -410 36 -334 -380 -394 -410	
20				-440 1				-379 22 -436 41 -336 -380 -400 -416	20
								-393 26 -458 36 -347 -390 -420 -446	
30								-434 47 -538 32 -350 -435 -471 -528	30
				-540 1				-481 42 -569 47 -390 -480 -520 -561	
40 S								-482 54 -580 31 -390 -490 -532 -580	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50					-428 55 -510 6 -362 -420 -486 -507	-460 50 -510 2 -412 -460 -494 -508	
50					-468 42 -520 20 -394 -475 -510 -520	-440 52 -529 4 -401 -415 -477 -523	
40	-450 55 -510 4 -391 -450 -505 -509			-447 31 -519 9 -412 -440 -460 -510	-454 33 -519 18 -384 -460 -480 -513	-510 16 -530 9 -482 -510 -527 -530	
40	-405 43 -500 15 -363 -390 -435 -500			-431 29 -517 16 -389 -420 -450 -499	-400 1	-513 18 -540 16 -483 -510 -536 -540	
30	-392 24 -440 47 -357 -390 -416 -440			-413 5 -420 3 -410 -410 -417 -420	-430 22 -460 3 -410 -420 -447 -458		
30	-393 14 -410 12 -372 -395 -410 -410	-394 35 -479 13 -360 -380 -440 -470		-430 8 -440 3 -420 -430 -437 -440	-427 5 -430 3 -420 -430 -430 -430	-473 19 -519 16 -439 -470 -490 -511	
20	-386 10 -410 7 -380 -380 -391 -408	-396 28 -487 14 -380 -390 -409 -469	-415 21 -440 8 -380 -420 -430 -439	-450 30 -480 2 -421 -450 -470 -479	-480 19 -510 8 -460 -470 -500 -509	-468 26 -530 62 -420 -465 -490 -530	
20		-401 13 -420 16 -380 -400 -416 -420	-413 13 -430 4 -400 -410 -425 -429	-447 25 -480 3 -421 -440 -467 -478	-466 20 -500 10 -440 -460 -490 -498	-420 37 -460 4 -372 -425 -455 -459	
10		-413 11 -430 6 -400 -415 -422 -429	-425 13 -440 16 -400 -430 -440 -440	-430 21 -479 9 -403 -430 -437 -474		-404 28 -450 7 -371 -400 -440 -449	
10		-438 10 -450 5 -422 -440 -444 -449	-438 11 -460 10 -422 -440 -446 -458	-435 5 -440 4 -430 -435 -440 -440		-411 27 -460 10 -380 -400 -446 -458	
0		-438 8 -450 4 -430 -435 -445 -449	-432 14 -460 13 -410 -430 -441 -458	-438 4 -440 4 -431 -440 -440 -440		-402 29 -450 12 -354 -400 -440 -448	
0		-435 9 -440 4 -421 -440 -440 -440	-435 13 -460 21 -420 -430 -450 -460	-445 5 -450 4 -440 -445 -450 -450		-395 33 -450 11 -350 -390 -428 -450	
10			-429 11 -450 20 -414 -430 -440 -450	-445 5 -450 4 -440 -445 -450 -450		-395 33 -450 14 -350 -390 -438 -450	
10			-430 13 -460 16 -413 -425 -440 -457	-436 11 -459 15 -413 -440 -440 -454	-413 33 -450 4 -364 -420 -436 -448	-401 29 -450 10 -370 -390 -436 -448	
20			-428 17 -460 11 -410 -420 -450 -458	-430 15 -459 19 -404 -430 -441 -456	-434 36 -470 5 -374 -450 -464 -469	-441 31 -470 9 -392 -450 -470 -470	
20			-431 16 -460 9 -420 -420 -452 -460	-441 17 -470 14 -413 -445 -459 -467	-429 40 -490 15 -380 -410 -478 -490	-434 39 -490 10 -382 -435 -480 -488	
30			-427 21 -460 6 -400 -430 -444 -458	-469 29 -520 8 -431 -470 -498 -517	-433 39 -500 12 -384 -425 -490 -498	-444 42 -490 5 -383 -440 -490 -490	
30			-444 36 -499 5 -393 -450 -468 -496	-502 34 -550 17 -453 -500 -540 -550	-479 49 -560 14 -388 -480 -509 -560	-507 12 -520 3 -491 -510 -517 -520	
40 S				-523 46 -580 20 -430 -530 -560 -580	-515 69 -590 13 -390 -550 -580 -588	-510 1	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-540 1	-503 95 -629 3 -403 -480 -582 -624	-590 1	-558 32 -600 4 -513 -560 -581 -598	-535 25 -560 2 -511 -535 -552 -559			-540 61 -629 11 -416 -560 -594 -624	70 N
	-545 5 -550 2 -540 -545 -548 -550	-521 42 -570 13 -460 -540 -561 -570		-570 1	-564 5 -570 5 -560 -560 -570 -570			-536 38 -570 21 -460 -550 -570 -570	
60	-537 12 -550 3 -521 -540 -547 -550	-524 41 -580 13 -460 -530 -571 -580	-513 38 -570 4 -471 -505 -546 -567	-552 67 -610 5 -446 -590 -610 -610	-547 48 -619 12 -472 -565 -585 -616	-555 5 -560 2 -550 -555 -558 -560		-536 47 -619 39 -455 -550 -580 -612	60
		-521 30 -579 7 -490 -520 -542 -575	-540 21 -560 9 -502 -550 -560 -560	-523 41 -588 26 -440 -540 -560 -580	-528 51 -610 38 -440 -540 -580 -610	-533 45 -610 10 -490 -520 -592 -610		-520 52 -610 98 -389 -530 -570 -610	
50	-520 18 -540 5 -492 -530 -534 -539	-503 20 -530 6 -472 -505 -522 -529	-505 39 -580 24 -439 -510 -543 -580	-518 43 -616 29 -451 -510 -570 -592	-551 39 -620 10 -510 -545 -594 -620	-526 22 -569 12 -490 -530 -540 -563		-506 47 -620 110 -402 -510 -550 -613	50
	-508 22 -540 24 -465 -510 -530 -540	-483 24 -530 39 -440 -480 -509 -530	-489 28 -557 54 -431 -490 -515 -540	-480 -480 2 -480 -480 -480 -480		-517 48 -590 21 -404 -520 -540 -590		-488 37 -590 180 -406 -490 -520 -548	
40	-498 27 -563 74 -450 -500 -530 -540	-469 24 -519 33 -420 -470 -490 -514	-476 10 -490 5 -461 -480 -484 -489			-447 47 -539 15 -390 -430 -500 -534		-474 44 -554 175 -375 -480 -520 -540	40
	-476 29 -530 99 -410 -480 -500 -520	-445 33 -528 12 -400 -440 -462 -517				-410 29 -459 4 -390 -395 -431 -456		-447 47 -530 168 -370 -450 -500 -520	
30	-476 21 -528 77 -440 -480 -498 -515	-468 27 -510 6 -441 -455 -502 -509						-457 39 -526 130 -370 -465 -490 -514	30
	-462 19 -509 27 -435 -460 -480 -505	-460 31 -520 9 -432 -440 -499 -518						-452 37 -530 137 -380 -460 -482 -523	
20	-452 9 -470 11 -440 -450 -460 -468	-467 28 -510 7 -441 -450 -510 -510						-436 34 -510 55 -380 -440 -460 -509	20
	-458 10 -470 5 -450 -450 -470 -470		-469 23 -520 15 -450 -460 -493 -520	-520 1				-438 32 -520 59 -382 -430 -460 -520	
10	-455 11 -470 4 -441 -455 -485 -469		-485 24 -520 6 -460 -480 -512 -519	-515 5 -520 2 -510 -515 -518 -520				-443 33 -520 41 -380 -440 -466 -520	10
	-450 8 -480 3 -440 -450 -457 -460		-500 28 -520 3 -462 -520 -520 -520	-503 25 -520 4 -463 -515 -520 -520				-437 38 -520 43 -367 -440 -460 -520	
0	-437 12 -450 3 -421 -440 -447 -450		-493 33 -530 4 -460 -490 -525 -529	-467 24 -500 3 -450 -460 -484 -498				-433 34 -529 50 -350 -435 -450 -520	0
	-440 -440 2 -440 -440 -440 -440		-490 30 -520 2 -461 -490 -510 -519	-478 33 -530 6 -450 -460 -522 -529				-430 37 -529 48 -350 -430 -450 -521	
10	-467 5 -470 3 -460 -470 -470 -470			-490 29 -530 6 -461 -475 -530 -530				-434 33 -530 54 -370 -440 -460 -527	10
	-460 1			-494 27 -540 5 -470 -480 -521 -538				-439 30 -536 50 -390 -430 -470 -511	
20				-530 1				-436 34 -524 49 -380 -430 -470 -492	20
								-443 38 -518 31 -380 -440 -490 -508	
30								-487 44 -560 39 -388 -490 -539 -560	30
								-520 56 -589 34 -406 -535 -570 -583	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-585 5 -590 2 -580 -585 -588 -590	70 N
60						-557 22 -590 14 -515 -555 -580 -587	60
					-446 47 -529 5 -392 -440 -479 -524	-490 52 -579 10 -432 -470 -560 -576	
50					-483 45 -550 16 -413 -500 -520 -547	-499 44 -569 22 -424 -500 -550 -562	50
					-509 33 -569 31 -442 -510 -540 -564	-531 45 -590 23 -444 -540 -580 -590	
40	-465 65 -530 2 -403 -465 -509 -527			-486 15 -510 8 -461 -490 -499 -509	-507 28 -586 43 -457 -500 -533 -565	-521 37 -570 9 -470 -520 -567 -570	40
	-427 36 -489 6 -381 -430 -450 -485			-486 16 -510 26 -455 -480 -500 -510	-506 30 -559 19 -460 -520 -530 -556	-535 12 -550 11 -506 -540 -540 -548	
	-471 58 -560 8 -394 -470 -543 -559			-459 17 -480 8 -431 -460 -479 -480	-527 9 -540 3 -520 -520 -534 -539		
30	-430 8 -440 3 -420 -430 -437 -440	-465 60 -559 10 -382 -465 -526 -555		-457 17 -480 3 -440 -450 -470 -479		-511 17 -540 15 -483 -510 -528 -540	30
		-478 48 -540 5 -422 -450 -534 -539	-458 21 -500 13 -422 -460 -472 -498	-523 52 -560 3 -454 -560 -560 -560		-503 21 -548 56 -461 -500 -520 -540	
20		-466 9 -480 8 -460 -460 -479 -480	-465 17 -490 13 -432 -470 -480 -488	-535 39 -570 4 -474 -550 -565 -569	-510 1	-491 28 -530 11 -442 -490 -514 -528	20
		-470 1	-471 19 -490 12 -440 -480 -490 -490	-504 19 -540 5 -490 -500 -514 -537		-465 20 -500 12 -440 -460 -485 -500	
10		-480 1	-483 14 -500 8 -454 -485 -490 -499			-473 30 -519 20 -430 -470 -510 -516	10
			-484 8 -500 5 -480 -480 -487 -498			-482 31 -519 23 -424 -490 -510 -516	
0			-480 1			-475 32 -510 22 -430 -490 -510 -510	0
				-500 1	-510 1	-475 31 -519 21 -424 -480 -508 -516	
10				-476 16 -500 5 -460 -470 -494 -499	-513 5 -520 3 -510 -510 -517 -520	-481 30 -520 12 -432 -490 -510 -518	10
				-466 19 -500 8 -434 -460 -480 -497	-510 -510 2 -510 -510 -510 -510	-483 28 -520 9 -435 -480 -514 -520	
20				-486 18 -510 9 -452 -490 -500 -508	-500 1	-510 29 -550 6 -471 -510 -542 -549	20
				-489 19 -510 16 -446 -500 -506 -510	-510 -510 2 -510 -510 -510 -510	-550 8 -560 3 -540 -550 -557 -560	
30			-480 1	-502 44 -599 33 -430 -490 -558 -594	-518 28 -540 4 -474 -530 -535 -539	-485 23 -520 4 -481 -480 -506 -518	30
40 S				-524 46 -600 18 -457 -505 -583 -600	-506 74 -629 7 -400 -470 -582 -624		40 S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-545 28 -590 6 -511 -540 -574 -588	-535 25 -560 2 -511 -535 -552 -559		-505 45 -550 4 -460 -505 -550 -550	-570 10 -580 2 -560 -570 -577 -580			-542 40 -590 16 -460 -550 -580 -590	70 N
	-562 34 -610 12 -504 -570 -592 -608	-536 58 -600 7 -451 -570 -590 -599	-400 1	-510 48 -560 4 -443 -520 -555 -559	-534 55 -590 5 -453 -560 -584 -589			-544 48 -609 43 -434 -560 -590 -602	
60	-548 49 -600 6 -466 -555 -600 -600	-535 41 -599 6 -490 -535 -568 -596	-535 38 -590 4 -491 -530 -571 -588	-520 80 -639 4 -432 -505 -592 -634	-530 42 -570 5 -472 -550 -570 -570	-540 37 -580 4 -484 -550 -566 -578		-515 59 -635 44 -416 -515 -571 -606	60
	-482 56 -570 9 -420 -460 -559 -570	-555 25 -599 10 -507 -555 -576 -596	-562 29 -600 10 -514 -565 -596 -600	-541 41 -609 23 -449 -540 -585 -601	-565 53 -639 31 -460 -570 -622 -634	-545 30 -580 6 -502 -550 -572 -579		-532 55 -636 126 -420 -540 -590 -630	
50	-519 42 -589 24 -438 -525 -553 -585	-538 22 -580 18 -500 -540 -553 -580	-559 45 -630 15 -490 -570 -608 -627	-548 47 -648 34 -486 -530 -607 -637	-606 47 -660 7 -532 -620 -660 -660	-563 40 -658 13 -510 -560 -592 -648		-538 47 -660 165 -450 -540 -580 -644	50
	-533 30 -590 16 -483 -530 -556 -587	-517 23 -568 67 -480 -510 -540 -560	-531 32 -610 53 -480 -530 -567 -609	-520 27 -560 4 -491 -515 -546 -558		-563 55 -649 12 -458 -565 -615 -646		-521 34 -637 214 -460 -520 -550 -605	
40	-504 23 -539 37 -457 -510 -530 -533	-507 21 -558 65 -470 -510 -530 -547	-523 29 -589 8 -491 -520 -530 -582			-545 25 -570 2 -521 -545 -562 -569		-503 30 -580 174 -440 -510 -530 -555	40
	-507 29 -550 125 -430 -510 -530 -550	-500 26 -520 6 -453 -515 -520 -520	-545 35 -580 4 -510 -545 -580 -580					-504 34 -580 154 -430 -510 -530 -550	
30	-510 26 -550 106 -450 -510 -530 -550	-490 20 -510 2 -471 -490 -504 -509	-580 1					-504 34 -572 140 -416 -510 -530 -550	30
	-500 23 -540 31 -460 -500 -520 -540	-517 25 -550 3 -491 -510 -537 -548	-580 -580 2 -580 -580 -580 -580					-498 31 -580 113 -432 -500 -521 -560	
20	-493 11 -510 6 -480 -495 -502 -509	-550 -550 2 -550 -550 -550 -550	-580 -580 2 -580 -580 -580 -580					-490 37 -580 47 -439 -480 -526 -580	20
	-503 11 -510 9 -482 -510 -510 -510	-520 1	-523 24 -579 9 -502 -510 -542 -575	-570 1				-491 31 -579 50 -440 -490 -510 -570	
10	-504 5 -510 7 -500 -500 -510 -510		-530 20 -550 2 -511 -530 -544 -549					-484 28 -547 38 -430 -490 -510 -528	10
	-502 4 -510 5 -500 -500 -504 -509			-580 1				-488 31 -574 34 -427 -500 -510 -540	
0	-496 5 -500 5 -490 -500 -500 -500		-523 26 -560 3 -500 -510 -544 -558	-580 -580 2 -580 -580 -580 -580				-489 39 -580 33 -430 -500 -510 -580	0
	-500 8 -510 3 -490 -500 -507 -510		-530 30 -560 2 -501 -530 -550 -559	-544 33 -580 5 -501 -560 -574 -579				-493 39 -579 33 -426 -500 -510 -574	
10	-510 8 -520 3 -500 -510 -517 -520			-557 30 -580 6 -511 -575 -580 -580				-502 39 -580 29 -436 -510 -520 -580	10
	-510 1			-565 36 -600 6 -511 -585 -592 -599				-500 46 -599 26 -430 -500 -520 -595	
20				-567 46 -630 3 -521 -550 -604 -627				-507 39 -626 19 -454 -500 -541 -601	20
				-500 20 -520 2 -481 -500 -514 -519				-500 27 -559 23 -449 -500 -515 -556	
30				-533 26 -570 3 -510 -520 -554 -568				-504 42 -599 45 -430 -490 -540 -591	30
								-519 56 -628 25 -419 -500 -582 -616	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-560 70 -630 2 -493 -560 -608 -627	
60						-539 64 -640 15 -446 -530 -618 -637	
50					-474 52 -569 8 -413 -455 -526 -564	-511 70 -620 12 -414 -505 -610 -618	
40	-550 1				-506 47 -570 14 -413 -505 -550 -567	-533 62 -630 19 -434 -550 -610 -630	
30	-540 8 -550 3 -530 -540 -547 -550			-540 -540 2 -540 -540 -540 -540	-553 43 -620 24 -473 -565 -590 -620	-568 51 -630 37 -457 -590 -620 -630	
20	-480 1	-575 5 -580 2 -570 -575 -578 -580		-537 22 -580 12 -510 -535 -565 -578	-528 36 -579 20 -458 -530 -560 -576	-552 39 -610 13 -485 -550 -600 -608	
10	-505 5 -510 2 -500 -505 -508 -510	-533 33 -580 3 -510 -510 -558 -577	-510 12 -520 4 -491 -515 -520 -520	-534 25 -560 9 -490 -540 -557 -560	-546 23 -589 26 -490 -540 -570 -585	-564 17 -590 8 -541 -560 -586 -590	
0		-510 1	-523 8 -530 4 -511 -525 -530 -530	-547 23 -570 11 -500 -560 -560 -568			
10			-536 12 -550 7 -512 -540 -540 -549	-531 11 -550 16 -506 -530 -540 -547		-551 14 -580 7 -540 -550 -561 -578	
20			-545 5 -550 4 -540 -545 -550 -550	-570 51 -630 4 -511 -570 -620 -629		-549 22 -580 11 -510 -550 -570 -578	
30			-560 19 -590 4 -541 -555 -576 -588	-620 -620 2 -620 -620 -620 -620		-539 43 -570 8 -461 -560 -570 -570	
40 S						-544 40 -570 8 -471 -565 -570 -570	
						-553 30 -570 7 -490 -560 -570 -570	
						-552 7 -560 5 -541 -550 -560 -560	
						-560 5 -570 8 -551 -560 -560 -569	
						-554 21 -570 9 -508 -560 -570 -570	
				-530 1		-549 25 -570 7 -497 -560 -560 -569	
				-530 -530 2 -530 -530 -530 -530		-567 5 -570 6 -560 -570 -570 -570	
				-525 5 -530 2 -520 -525 -528 -530		-558 18 -580 4 -540 -555 -575 -579	
				-530 1		-543 16 -570 4 -530 -535 -556 -568	
			-540 1	-540 1	-523 47 -590 4 -471 -515 -566 -587	-517 25 -550 3 -491 -510 -537 -548	
				-570 1	-536 66 -630 14 -435 -540 -599 -630		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-550 63 -640 12 -464 -560 -622 -638	-450 1	-496 71 -609 5 -414 -460 -565 -604	-485 55 -540 2 -432 -485 -522 -538				-528 71 -639 22 -418 -515 -616 -636	70 N
	-554 58 -630 13 -462 -560 -620 -628	-518 53 -590 12 -444 -505 -582 -590	-490 20 -510 2 -471 -490 -504 -509	-470 1	-540 62 -610 3 -464 -550 -591 -608			-534 61 -639 46 -440 -525 -608 -631	
60	-530 33 -589 5 -500 -530 -552 -585	-515 37 -579 11 -454 -520 -548 -576	-553 68 -620 4 -472 -560 -620 -620	-497 42 -559 6 -441 -505 -528 -556	-513 54 -629 7 -471 -490 -553 -620	-557 9 -570 3 -550 -550 -564 -569		-512 56 -628 56 -412 -505 -570 -620	60
	-562 70 -620 5 -440 -600 -614 -619	-570 29 -600 5 -531 -590 -594 -599	-523 24 -550 4 -491 -525 -545 -549	-560 10 -570 2 -550 -560 -567 -570	-586 33 -620 8 -520 -590 -618 -620	-543 68 -610 3 -455 -570 -597 -608		-540 58 -630 60 -430 -550 -600 -628	
50	-565 61 -640 17 -443 -580 -620 -637	-542 30 -589 18 -490 -545 -570 -587	-543 9 -560 6 -531 -540 -552 -559	-558 47 -610 5 -478 -570 -584 -607	-606 19 -630 7 -580 -610 -630 -630	-584 23 -610 5 -552 -580 -610 -610		-562 47 -636 119 -450 -570 -610 -630	50
	-562 34 -619 9 -500 -560 -587 -615	-550 28 -590 40 -489 -555 -580 -590	-560 26 -618 38 -510 -560 -581 -605	-570 8 -580 3 -560 -570 -577 -580		-568 40 -600 4 -505 -585 -595 -599		-551 32 -620 130 -470 -560 -580 -604	
40	-548 29 -590 11 -494 -550 -578 -590	-547 18 -590 53 -520 -540 -567 -590	-548 23 -580 6 -520 -550 -572 -579					-547 22 -590 119 -497 -540 -570 -590	40
	-544 26 -589 24 -500 -550 -570 -585	-550 15 -580 7 -531 -550 -561 -576						-544 25 -588 51 -490 -550 -560 -580	
30	-538 25 -589 17 -493 -540 -554 -584	-550 8 -560 3 -540 -550 -557 -560						-539 22 -589 46 -489 -540 -558 -581	30
	-540 21 -580 5 -511 -550 -580 -560	-550 1						-541 33 -628 30 -496 -540 -570 -618	
20								-543 45 -620 15 -463 -550 -570 -620	20
	-580 1							-543 31 -580 16 -473 -545 -570 -577	
10	-580 1		-570 1					-554 24 -580 13 -494 -560 -570 -578	10
			-555 5 -560 2 -550 -555 -558 -560					-555 13 -589 11 -540 -550 -560 -584	
0			-550 1					-559 6 -570 9 -550 -560 -560 -568	0
								-554 21 -570 9 -508 -560 -570 -570	
10								-546 24 -570 8 -496 -555 -560 -569	10
								-558 16 -570 8 -530 -565 -570 -570	
20								-547 21 -580 6 -521 -540 -572 -579	20
								-540 15 -570 5 -530 -530 -551 -568	
30								-524 35 -589 9 -473 -540 -547 -584	30
								-539 64 -630 15 -436 -570 -598 -630	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-507 50 -560 3 -443 -520 -547 -558	
					-500 65 -570 4 -431 -500 -565 -569	-530 29 -560 3 -492 -540 -554 -559	
50					-521 51 -638 14 -435 -520 -559 -624	-645 9 -650 4 -631 -650 -650 -650	
					-563 32 -629 19 -501 -560 -591 -623	-592 55 -670 13 -520 -600 -651 -668	
40	-545 5 -550 2 -540 -545 -548 -550			-569 11 -590 9 -552 -570 -577 -588	-581 29 -620 12 -550 -580 -610 -618	-548 26 -590 5 -520 -550 -571 -588	
	-545 10 -560 6 -531 -545 -552 -559			-570 21 -629 15 -550 -570 -570 -624	-580 1		
30	-553 9 -560 3 -541 -560 -560 -560						
	-557 5 -560 3 -550 -560 -560 -560			-563 5 -570 3 -560 -560 -567 -570		-565 5 -570 2 -560 -565 -568 -570	
20	-560 1	-560 -560 -560 3 -560 -560 -560 -560	-573 15 -590 4 -551 -575 -585 -589	-580 -580 2 -580 -580 -580 -580		-580 20 -600 2 -561 -580 -594 -599	
		-560 1	-582 9 -590 6 -570 -585 -590 -590				
10			-599 9 -610 9 -590 -600 -610 -610				
			-610 7 -620 8 -600 -610 -619 -620				
0			-620 -620 3 -620 -620 -620 -620				
10						-630 1	
						-620 -620 2 -620 -620 -620 -620	
20						-613 18 -630 4 -591 -615 -630 -630	
						-607 15 -630 6 -582 -610 -614 -628	
30					-545 27 -580 4 -511 -545 -570 -579	-570 19 -590 4 -542 -575 -585 -589	
					-533 45 -580 7 -450 -530 -570 -579		
40 S					-525 50 -570 4 -446 -545 -560 -569		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60		-530 1		-460 -460 2 -460 -460 -460 -460	-485 25 -510 2 -461 -485 -502 -509			-493 40 -559 8 -443 -485 -529 -556	60
		-511 45 -609 10 -462 -495 -556 -601	-550 1	-497 40 -550 11 -436 -490 -538 -550	-521 34 -579 13 -470 -520 -551 -575	-517 9 -530 3 -510 -510 -524 -529		-512 42 -606 45 -430 -510 -550 -584	
50	-540 1	-492 33 -578 9 -470 -480 -497 -567	-574 49 -630 5 -495 -600 -611 -628	-553 34 -610 9 -502 -560 -584 -607	-527 45 -580 7 -462 -530 -570 -579			-539 57 -650 49 -449 -530 -600 -650	50
	-586 56 -687 20 -467 -590 -630 -667	-542 42 -609 19 -470 -550 -581 -606	-573 47 -649 18 -500 -560 -630 -647	-576 63 -660 11 -476 -580 -644 -658	-553 54 -620 4 -500 -545 -606 -618	-480 1		-569 52 -684 105 -470 -560 -630 -660	
40	-583 41 -685 27 -516 -580 -630 -659	-562 38 -600 11 -490 -580 -590 -598	-595 24 -630 31 -546 -600 -620 -630	-615 5 -620 2 -610 -615 -618 -620		-540 20 -560 6 -503 -550 -552 -559		-579 35 -671 105 -500 -580 -610 -630	40
	-577 33 -639 24 -520 -580 -603 -635	-584 33 -640 20 -524 -590 -610 -640						-575 31 -640 66 -520 -570 -606 -640	
30	-600 7 -610 4 -591 -600 -605 -609	-585 5 -590 2 -580 -585 -588 -590						-581 22 -610 9 -543 -590 -600 -608	30
	-597 5 -600 6 -590 -600 -600 -600							-576 18 -600 14 -553 -570 -600 -600	
20	-603 8 -610 4 -591 -605 -610 -610							-579 19 -610 16 -553 -580 -600 -610	20
	-615 5 -620 2 -610 -615 -618 -620							-587 18 -620 9 -562 -590 -604 -618	
10	-610 -610 2 -610 -610 -610 -610							-601 9 -610 11 -590 -600 -610 -610	10
								-610 7 -620 8 -600 -610 -619 -620	
0								-620 -620 3 -620 -620 -620 -620	0
10								-630 1	10
								-620 -620 2 -620 -620 -620 -620	
20								-613 18 -630 4 -591 -615 -630 -630	20
								-607 15 -630 6 -582 -610 -614 -628	
30								-558 26 -590 8 -513 -565 -580 -589	30
								-533 45 -580 7 -450 -530 -570 -579	
40 S								-525 50 -570 4 -446 -545 -560 -569	40S

LONGITUDE

APPENDIX C

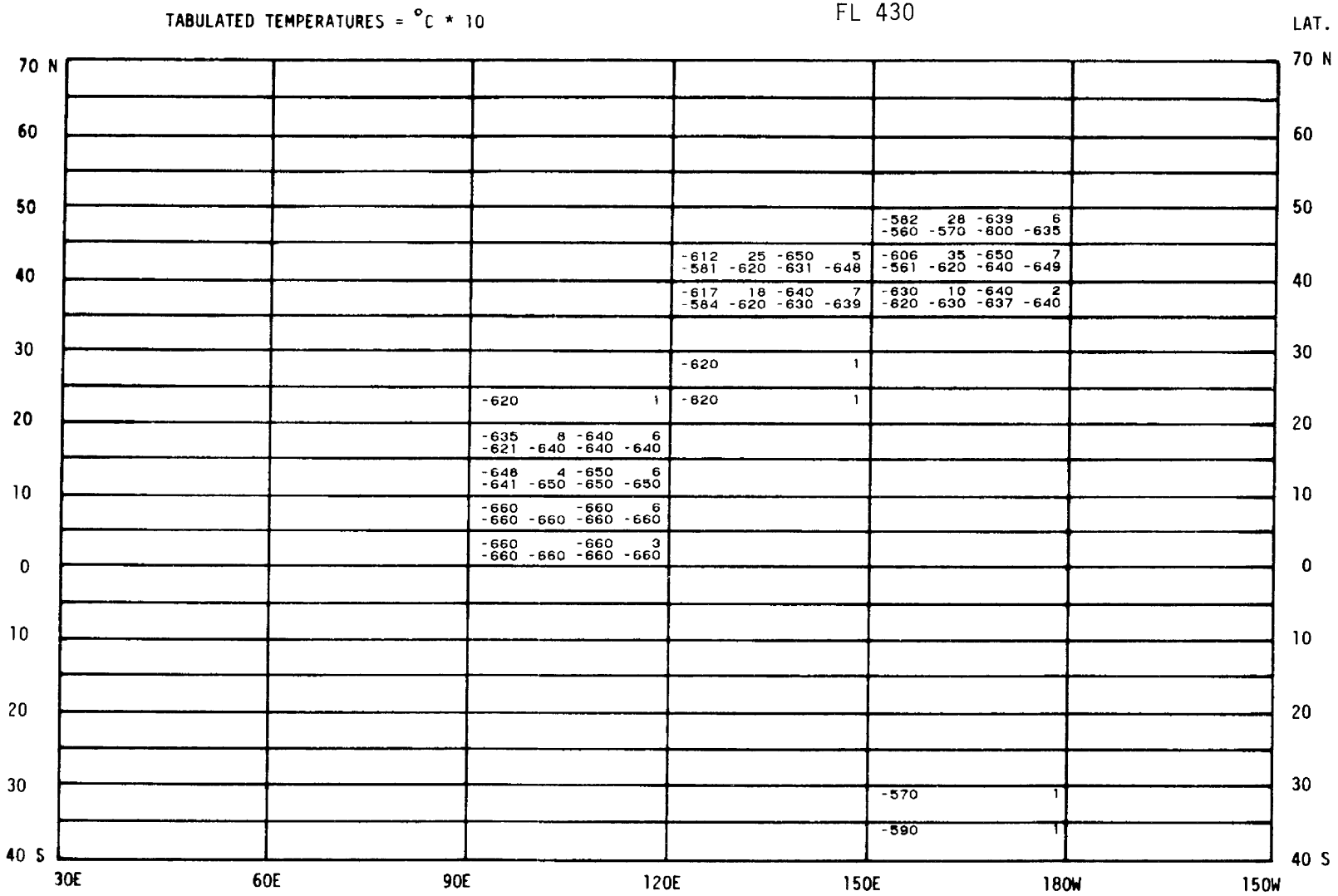
STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

AUGUST
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60					-560 1			-560 1	60
50					-580 1			-580 1	50
40		-603 25 -640 4 -572 -600 -621 -638	-620 14 -640 3 -610 -610 -630 -639	-610 1				-598 28 -640 14 -560 -600 -638 -640	40
30	-570 1	-600 10 -610 2 -590 -600 -607 -610	-633 39 -670 6 -558 -645 -662 -669					-615 35 -669 20 -554 -620 -650 -666	30
20	-600 20 -620 2 -581 -600 -614 -619	-635 5 -640 2 -630 -635 -638 -640						-618 22 -640 12 -572 -625 -640 -640	20
10	-630 1							-600 20 -620 2 -581 -600 -614 -619	10
0								-625 5 -630 2 -620 -625 -628 -630	0
10								-620 -620 2 -620 -620 -620 -620	10
20								-635 8 -640 6 -621 -640 -640 -640	20
30								-648 4 -650 6 -641 -650 -650 -650	30
40 S								-660 -660 6 -660 -660 -660 -660	40S
								-660 -660 3 -660 -660 -660 -660	
								-570 1	
								-590 1	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-190 1			-256 20 -309 21 -230 -250 -270 -302			
30	-275 75 -350 2 -203 -275 -326 -347			-220 1			
20	-245 15 -260 2 -231 -245 -255 -259	-210 1					
10	-220 50 -270 2 -172 -220 -254 -268	-250 23 -270 4 -213 -260 -265 -269	-225 17 -250 4 -210 -220 -240 -249			-256 25 -290 23 -210 -260 -280 -290	
0		-213 26 -250 3 -190 -200 -234 -248	-200 1			-250 15 -270 8 -223 -255 -260 -269	
10			-210 10 -220 2 -200 -210 -217 -220	-220 1		-260 1	
20			-270 1				
30					-248 27 -290 4 -221 -240 -271 -288		
40 S			-367 12 -380 3 -351 -370 -377 -380	-380 44 -449 4 -332 -370 -416 -446	-295 25 -320 2 -271 -295 -312 -319 -430 32 -469 10 -359 -435 -450 -466		
				-428 15 -450 4 -411 -425 -440 -449			

LONGITUDE

APPENDIX C

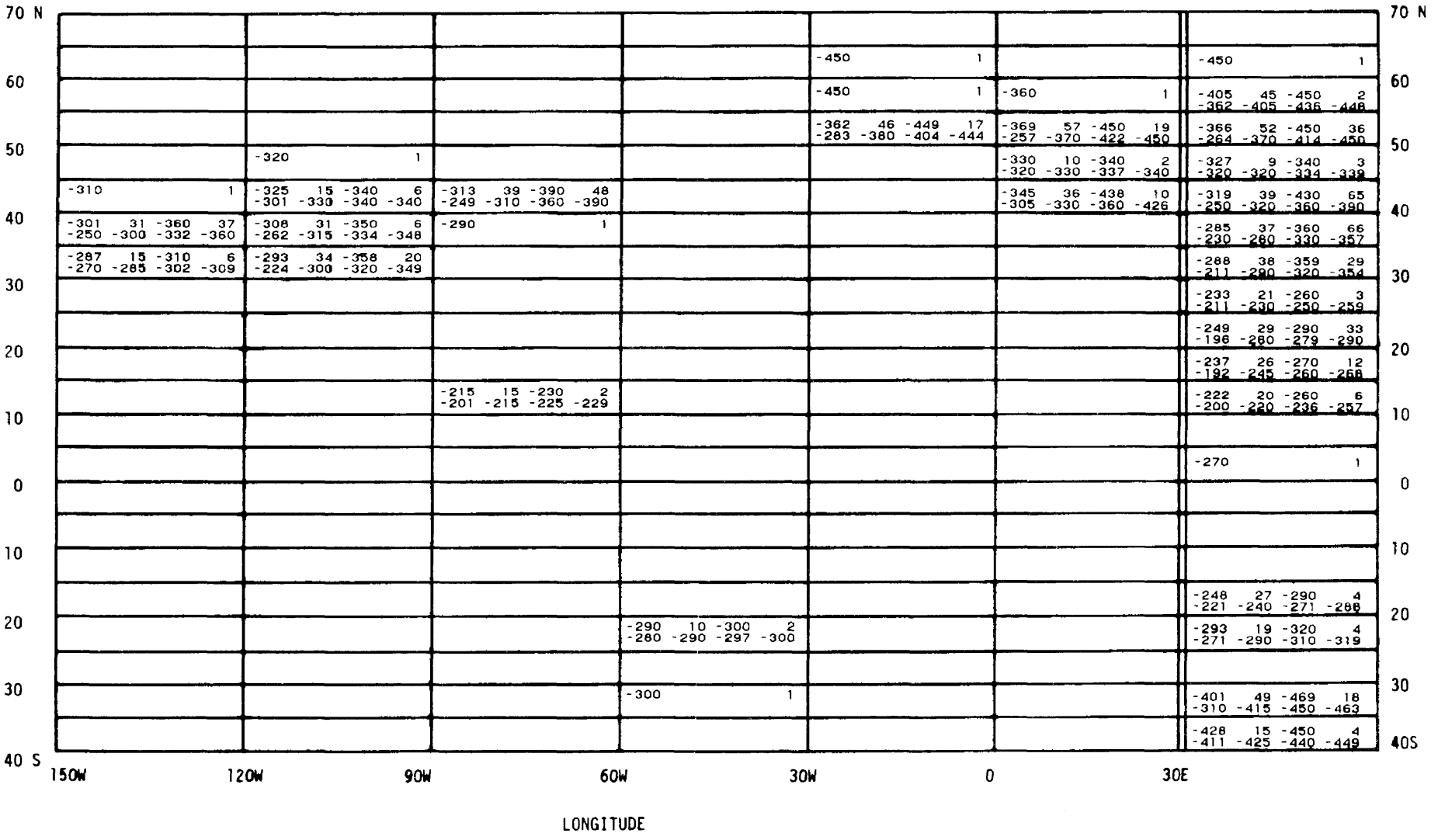
STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-375 5 -380 2 -370 -375 -378 -380						
	-326 45 -380 5 -255 -330 -367 -378			-294 26 -339 19 -250 -290 -321 -336			
30	-275 5 -280 4 -270 -275 -280 -280	-270 1		-260 1			
	-285 5 -290 2 -280 -285 -288 -290	-262 22 -280 5 -231 -280 -280 -280					-340 1
20	-255 25 -280 4 -230 -255 -280 -280	-243 11 -260 4 -231 -240 -250 -259	-280 17 -300 8 -251 -285 -299 -300				-311 22 -340 14 -268 -320 -330 -340
		-262 19 -280 5 -232 -270 -280 -280					-280 20 -310 11 -250 -280 -300 -308
10		-283 4 -290 4 -280 -280 -285 -289	-310 1				-255 5 -260 2 -250 -255 -258 -260
		-295 5 -300 2 -290 -295 -298 -300					
0			-310 1				
			-280 -280 2 -280 -280 -280 -280				
10			-280 -280 2 -280 -280 -280 -280				
			-270 1	-260 1			
20					-283 14 -300 7 -261 -280 -300 -300		
			-290 1		-305 11 -320 4 -291 -305 -315 -319		
30			-355 25 -380 2 -331 -355 -372 -379		-360 56 -459 6 -284 -355 -404 -453		
			-440 1	-440 1	-404 37 -459 16 -333 -405 -440 -454		
40 S				-440 31 -470 4 -393 -450 -465 -469	-470 14 -480 3 -451 -480 -480 -480		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 290

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-320 1	-313 5 -320 3 -310 -310 -317 -320			-315 5 -320 4 -310 -315 -320 -320	60
50	-373 17 -390 3 -351 -380 -387 -390	-370 1		412 52 -460 5 -326 -440 -454 -459	-405 49 -500 25 -320 -410 -453 -500	-405 49 -480 21 -320 -410 -458 -480		-406 49 -500 51 -320 -410 -460 -500	50
40	-352 20 -399 10 -322 -350 -360 -393	-352 21 -390 14 -320 -350 -378 -387	-352 41 -481 62 -280 -360 -390 -438	-470 1	-390 1	-378 31 -420 9 -330 -380 -412 -420		-383 36 -468 14 -330 -380 -418 -457	40
30	-340 30 -370 10 -282 -355 -360 -368	-357 26 -390 12 -320 -355 -382 -390	-380 16 -400 3 -361 -380 -394 -399		-360 1	-418 51 -500 12 -362 -395 -482 -498		-362 46 -497 91 -280 -360 -390 -490	30
20	-360 -360 2 -360 -360 -360 -360	-328 21 -360 11 -292 -330 -350 -358						-330 41 -400 50 -250 -330 -380 -400	20
10		-290 1						-320 35 -369 27 -265 -330 -360 -365	10
0		-270 1						-294 43 -360 10 -232 -280 -351 -360	0
10			-280 1					-286 33 -340 30 -230 -290 -320 -340	10
20				-280 1				-275 21 -310 17 -236 -280 -300 -307	20
30								-278 17 -310 8 -251 -280 -289 -307	30
40 S								-290 8 -300 3 -280 -290 -297 -300	40S
								-310 1	
								-280 -280 2 -280 -280 -280 -280	
								-280 -280 2 -280 -280 -280 -280	
								-265 5 -270 2 -260 -265 -268 -270	
								-283 14 -300 7 -261 -280 -300 -300	
								-298 13 -320 6 -281 -295 -312 -319	
								-359 50 -459 8 -286 -355 -389 -450	
								-408 36 -459 18 -333 -410 -440 -453	
								-453 29 -480 7 -396 -460 -480 -480	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-480 1	
50							
40					-413 12 -430 3 -400 -410 -424 -429		
30	-377 47 -430 6 -289 -390 -406 -427			-363 27 -420 21 -330 -360 -380 -420	-425 38 -460 4 -372 -435 -460 -460		
20	-354 24 -380 7 -312 -360 -380 -380			-335 15 -350 2 -321 -335 -345 -349			
10	-338 25 -360 5 -294 -350 -354 -359	-250 1					
0	-315 35 -350 2 -281 -315 -339 -349		-331 13 -350 11 -310 -330 -344 -350			-367 18 -390 21 -324 -370 -380 -390	
10			-270 1	-330 1		-331 14 -350 7 -311 -330 -350 -350	
20			-307 9 -320 3 -300 -300 -314 -319	-310 1		-330 8 -340 16 -320 -330 -340 -340	
30		-340 -340 2 -340 -340 -340 -340				-331 10 -350 18 -320 -330 -340 -350	
40 S			-360 10 -370 2 -350 -360 -367 -370			-333 6 -340 16 -323 -330 -340 -340	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N					-520 1			-520 1	70 N
60				-468 43 -510 4 -404 -480 -505 -509	-523 18 -550 10 -492 -530 -540 -548	-510 28 -550 3 -490 -490 -531 -548		-506 36 -550 18 -420 -510 -540 -550	60
50				-508 66 -619 12 -404 -530 -560 -613	-487 43 -560 18 -423 -480 -533 -560	-482 33 -530 6 -441 -475 -522 -529		-493 52 -617 36 -414 -485 -540 -599	50
40	-450 10 -460 2 -440 -450 -457 -460	-410 1	-470 69 -560 5 -384 -440 -547 -558	-457 58 -550 24 -375 -465 -520 -550 -430 63 -568 21 -310 -420 -498 -554	-443 54 -557 51 -320 -440 -490 -540 -450 46 -529 4 -420 -425 -482 -524	-437 42 -490 14 -358 -445 -488 -490 -440 44 -529 6 -401 -420 -474 -523		-446 54 -557 89 -328 -440 -490 -550 -439 59 -569 39 -310 -430 -500 -562	40
30	-425 5 -430 2 -420 -425 -428 -430 -405 34 -460 25 -340 -400 -442 -460	-419 32 -469 16 -363 -420 -450 -464 -387 34 -440 12 -332 -390 -422 -438	-407 36 -511 63 -342 -410 -440 -468 -367 34 -400 3 -322 -380 -394 -399	-375 11 -390 4 -361 -375 -385 -389	-398 15 -420 4 -381 -395 -410 -419	-434 52 -529 8 -373 -415 -494 -526 -380 1		-410 36 -527 100 -350 -410 -442 -500 -387 39 -460 72 -324 -390 -426 -460	30
20	-370 12 -380 4 -351 -375 -380 -380	-382 33 -458 11 -332 -380 -398 -450						-368 31 -457 24 -315 -370 -383 -437 -323 40 -360 6 -254 -345 -352 -359	20
10			-340 1					-352 26 -390 34 -300 -355 -377 -390 -324 23 -350 9 -276 -330 -344 -350	10
0			-290 1					-326 12 -340 21 -300 -330 -340 -340 -330 13 -350 21 -302 -330 -340 -350	0
10								-336 11 -369 18 -323 -330 -340 -363 -341 13 -370 14 -330 -335 -350 -367	10
20				-390 1 -380 1				-336 8 -350 5 -330 -330 -344 -349 -333 9 -340 3 -321 -340 -340 -340 -345 34 -400 8 -294 -335 -386 -399 -371 30 -429 9 -330 -370 -394 -425	20
30				-410 1				-408 44 -470 16 -340 -410 -460 -470 -457 33 -519 26 -400 -460 -490 -515	30
40 S								-535 5 -540 2 -530 -535 -538 -540	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-495 5 -500 2 -490 -495 -498 -500	-550 16 -570 3 -531 -550 -564 -569	
50					-515 5 -520 2 -510 -515 -518 -520	-475 5 -480 2 -470 -475 -478 -480	
40	-440 52 -510 4 -381 -435 -491 -506			-418 23 -440 4 -382 -425 -435 -439	-440 41 -500 10 -372 -440 -486 -498		
30	-398 49 -509 16 -346 -380 -456 -504			-411 26 -449 19 -357 -420 -431 -446	-448 52 -559 16 -380 -435 -508 -554		
20	-355 22 -399 10 -324 -355 -371 -396			-380 16 -410 6 -361 -375 -394 -408	-443 21 -470 3 -421 -440 -460 -469		
10	-350 20 -370 2 -331 -350 -364 -369	-356 19 -390 11 -322 -360 -374 -388		-393 11 -410 12 -372 -390 -402 -410		-419 18 -450 9 -400 -410 -440 -448	
0		-342 17 -360 6 -320 -345 -360 -360	-375 11 -390 10 -360 -380 -386 -390	-385 14 -400 6 -362 -385 -400 -400		-413 23 -469 30 -370 -410 -434 -464	
10		-350 16 -370 4 -331 -350 -365 -369	-363 17 -380 3 -341 -370 -377 -380	-370 1		-390 1	
20		-373 23 -410 4 -351 -365 -391 -408	-387 5 -390 3 -380 -390 -390 -390			-395 5 -400 2 -390 -395 -398 -400	
30		-367 12 -400 3 -371 -390 -397 -400	-385 11 -400 4 -371 -385 -395 -399	-380 -380 2 -380 -380 -380 -380		-385 5 -390 2 -380 -385 -388 -390	
40 S		-384 5 -390 5 -380 -380 -390 -390	-388 10 -400 5 -380 -380 -400 -400	-380 -380 3 -380 -380 -380 -380		-383 5 -390 3 -380 -380 -387 -390	
		-382 23 -420 6 -351 -385 -396 -417	-370 10 -380 2 -360 -370 -377 -380	-380 -380 2 -380 -380 -380 -380	-380 1	-375 13 -400 12 -352 -375 -382 -398	
			-385 35 -420 4 -350 -385 -420 -420	-385 5 -390 2 -380 -385 -388 -390	-389 11 -410 7 -371 -390 -391 -408	-383 8 -400 15 -370 -380 -390 -397	
			-360 22 -390 3 -340 -350 -377 -388	-375 5 -380 2 -370 -375 -378 -380	-381 9 -400 10 -364 -380 -386 -398	-386 8 -400 11 -372 -390 -390 -398	
			-372 23 -400 6 -341 -375 -392 -399	-383 5 -390 3 -380 -380 -387 -390	-387 14 -410 18 -363 -385 -400 -410		
			-350 8 -360 3 -340 -350 -357 -360	-390 1	-398 22 -450 17 -370 -390 -414 -447		
			-433 9 -440 3 -421 -440 -440 -440	-510 1	-422 43 -489 18 -353 -420 -473 -487		
			-470 37 -510 4 -422 -475 -505 -509	-490 24 -520 3 -461 -490 -510 -519	-474 47 -549 12 -392 -480 -512 -543		
				-478 63 -560 5 -420 -440 -554 -559	-510 45 -570 4 -452 -510 -551 -568		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N			-540 1	-532 7 -540 6 -521 -530 -540 -540	-550 20 -570 2 -531 -550 -564 -569			-537 13 -569 9 -522 -530 -540 -565	70 N
			-515 25 -540 2 -491 -515 -532 -539	-497 19 -510 3 -472 -510 -510 -510	-491 40 -540 7 -440 -520 -521 -538			-497 34 -540 12 -440 -510 -525 -540	
60	-530 1	-530 38 -560 5 -472 -560 -560 -560	-544 22 -560 5 -504 -550 -560 -560	-478 32 -500 8 -414 -495 -500 -500	-491 30 -530 14 -440 -500 -519 -530	-510 1		-506 38 -569 39 -433 -500 -550 -562	60
	-515 5 -520 2 -510 -515 -518 -520	-511 23 -559 7 -482 -510 -522 -555	-522 23 -560 6 -492 -515 -544 -558	-484 43 -577 57 -400 -490 -520 -560	-492 31 -560 84 -437 -490 -520 -553	-510 14 -530 3 -500 -500 -520 -529		-491 36 -570 163 -405 -490 -520 -560	
50	-482 27 -530 5 -452 -470 -504 -527	-480 12 -500 4 -470 -475 -490 -499	-462 38 -548 25 -400 -470 -492 -536	-476 43 -593 59 -410 -470 -520 -560	-484 52 -570 13 -422 -460 -570 -570	-506 17 -520 5 -481 -520 -520 -520		-473 43 -589 121 -400 -470 -520 -570	50
	-457 5 -460 3 -450 -460 -460 -460	-449 27 -489 21 -390 -450 -478 -486	-464 38 -562 89 -400 -460 -500 -540	-420 -420 3 -420 -420 -420 -420	-460 1	-471 42 -510 11 -384 -490 -500 -508		-458 40 -565 152 -380 -455 -500 -540	
40	-451 24 -499 37 -397 -450 -470 -493	-445 23 -479 19 -391 -450 -470 -476	-455 15 -470 2 -441 -455 -465 -469		-465 5 -470 2 -460 -465 -468 -470	-420 1		-434 36 -507 99 -360 -440 -470 -490	40
	-440 22 -490 40 -388 -440 -450 -490	-430 30 -480 8 -391 -425 -459 -477	-450 -450 2 -450 -450 -450 -450					-421 39 -490 66 -340 -430 -450 -487	
30	-434 20 -469 20 -400 -435 -450 -466	-385 15 -400 2 -371 -385 -395 -399	-460 1					-404 36 -468 57 -330 -400 -450 -460	30
	-460 1	-365 5 -370 2 -360 -365 -368 -370	-450 1					-395 33 -468 56 -322 -400 -422 -460	
20		-373 19 -400 3 -360 -360 -387 -398	-440 1					-370 28 -439 13 -332 -370 -391 -430	20
		-340 1						-378 21 -410 10 -342 -385 -396 -408	
10			-373 12 -390 3 -360 -370 -384 -389					-382 11 -400 14 -363 -380 -390 -400	10
								-384 7 -400 16 -380 -380 -390 -400	
0								-377 15 -419 23 -350 -380 -390 -411	0
								-385 16 -420 28 -350 -380 -390 -420	
10				-420 1				-382 15 -418 27 -345 -380 -390 -410	10
				-450 10 -460 2 -440 -450 -457 -460				-388 24 -458 29 -346 -390 -400 -449	
20				-450 1				-393 28 -450 22 -344 -390 -416 -450	20
				-460 1				-429 43 -509 23 -354 -420 -475 -501	
30				-460 1				-475 41 -548 20 -394 -480 -510 -539	30
								-492 58 -570 9 -420 -490 -557 -568	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50					-435 15 -450 2 -421 -435 -445 -449	-490 23 -520 7 -461 -490 -520 -520	
					-498 39 -588 14 -426 -490 -519 -580	-526 46 -600 7 -472 -510 -590 -599	
40	-458 66 -569 4 -402 -430 -503 -562			-470 8 -480 3 -460 -470 -477 -480	-505 35 -588 11 -470 -490 -534 -580	-507 5 -510 3 -500 -510 -510 -510	40
	-467 58 -549 13 -390 -470 -530 -545			-453 26 -499 21 -398 -460 -478 -492	-450 1	-514 5 -520 5 -510 -510 -520 -520	
	-420 50 -470 4 -370 -420 -470 -470			-430 10 -440 2 -420 -430 -437 -440		-497 15 -530 12 -474 -490 -512 -528	
30	-450 10 -460 2 -440 -450 -457 -460	-378 4 -380 5 -371 -380 -380 -380		-440 1	-465 5 -470 2 -460 -465 -468 -470	-485 18 -520 16 -453 -490 -502 -517	30
	-440 1	-403 14 -420 6 -382 -400 -420 -420	-410 10 -420 4 -400 -410 -420 -420			-469 21 -510 40 -426 -470 -490 -510	
20		-415 17 -440 6 -391 -415 -432 -439	-413 19 -440 3 -400 -400 -427 -438			-430 1	20
		-422 16 -450 6 -401 -420 -434 -448	-410 20 -430 2 -391 -410 -424 -429	-430 1			
10		-425 5 -430 4 -420 -425 -430 -430		-435 5 -440 4 -430 -435 -440 -440		-443 12 -460 3 -430 -440 -454 -459	10
		-435 5 -440 4 -430 -435 -440 -440	-440 1	-435 5 -440 4 -430 -435 -440 -440		-447 12 -460 6 -430 -450 -460 -460	
0		-438 18 -460 4 -420 -435 -455 -459	-437 12 -450 3 -421 -440 -447 -450	-440 -440 3 -440 -440 -440 -440		-442 8 -450 11 -424 -440 -450 -450	0
		-450 1	-428 18 -450 10 -394 -430 -446 -450	-433 4 -440 4 -430 -430 -435 -439	-438 8 -450 4 -430 -435 -445 -449	-438 12 -460 10 -420 -440 -446 -458	
10			-423 25 -450 7 -381 -440 -440 -449	-442 10 -460 5 -431 -440 -447 -458	-438 11 -460 14 -415 -440 -440 -457	-437 15 -460 6 -412 -440 -444 -458	10
			-407 22 -450 7 -390 -400 -431 -448	-430 7 -440 4 -421 -430 -435 -439	-435 16 -459 18 -397 -440 -450 -457		
20			-407 9 -420 3 -400 -400 -414 -419	-444 26 -480 5 -420 -430 -474 -479	-437 33 -490 15 -390 -440 -475 -490		20
			-405 5 -410 2 -400 -405 -408 -410	-433 33 -480 3 -410 -410 -458 -477	-467 49 -549 10 -385 -460 -511 -545		
30			-465 30 -500 4 -431 -465 -495 -499	-487 68 -570 10 -410 -480 -566 -570	-493 37 -550 6 -450 -495 -526 -547		30
40 S				-430 -430 3 -430 -430 -430 -430	-512 47 -580 5 -452 -520 -554 -577		40 S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-550	1 -630 -630	-630 2 -485 -630 -630 -461	25 -510 2 -500 -485 -502 -509	1			-547 64 -630 6 -464 -530 -630 -630	70 N
60	60 -590 2 -552 -530 -571 -588 -467	44 -610 10 -555 -597 -610	-535 -521	15 -550 2 -547 -535 -545 -549 -465	46 -590 6 -570 -582 -589	-480 1		-543 47 -610 21 -460 -550 -588 -610	60
	1 -551 -480	40 -619 23 -545 -550 -590 -616 -500	43 -600 6 -497 -540 -592 -599 -424	39 -579 15 -503 -500 -520 -574 -444	34 -580 21 -500 -528 -580	-540 40 -580 2 -502 -540 -567 -578		-524 46 -618 68 -443 -510 -580 -607	
50	69 -599 5 -543 -510 -549 -594 -483	30 -589 14 -561 -555 -569 -585 -512	37 -639 12 -515 -565 -585 -631 -425	46 -618 63 -527 -510 -580 -610 -452	42 -640 81 -520 -560 -610	-525 15 -550 6 -502 -525 -534 -548		-523 45 -644 190 -420 -520 -570 -610	50
	48 -590 12 -510 -560 -580 -588 -472	33 -550 3 -520 -510 -537 -548 -460	34 -607 50 -521 -520 -550 -590 -438	43 -618 70 -535 -520 -570 -610 -492	42 -619 6 -520 -564 -613	-530 22 -560 12 -492 -530 -552 -560		-522 41 -620 174 -439 -520 -560 -610	
40	41 -550 17 -508 -520 -530 -547 -466	27 -550 33 -509 -510 -540 -550 -445	30 -568 75 -490 -510 -540 -560 -427	38 -559 7 -495 -490 -502 -553 -490	5 -500 2 -495 -498 -500	-503 47 -570 12 -414 -520 -545 -568		-504 35 -580 167 -420 -510 -540 -567	40
	30 -567 86 -489 -510 -534 -560 -443	29 -540 40 -478 -480 -520 -540 -461	15 -500 4 -475 -490 -499	-505 -500	5 -510 2 -505 -508 -510	-533 31 -560 3 -492 -550 -557 -560		-492 36 -565 175 -405 -500 -530 -555	
30	33 -578 79 -444 -490 -530 -570 -420	20 -460 5 -460 -460 -460						-490 38 -577 102 -420 -490 -520 -570	30
	25 -559 49 -490 -513 -550							-478 36 -558 75 -380 -480 -502 -545	
20	19 -490 11 -425 -470 -484 -490 -420	5 -430 2 -425 -428 -430						-458 30 -510 64 -400 -460 -489 -510	20
	-450 2 -435 -450 -450 -450 -430	5 -440 2 -435 -438 -440						-424 19 -450 14 -393 -430 -440 -450	
10	1		-422 -372	32 -460 5 -440 -447 -458				-423 24 -460 15 -376 -430 -448 -457	10
								-434 11 -459 11 -420 -430 -440 -456	
								-440 10 -460 15 -430 -440 -450 -460	
0			-460	1				-441 12 -460 22 -420 -440 -450 -460	0
			-450	1 -460 -460	-460 3 -460 -460 -460			-437 15 -460 33 -403 -440 -450 -460	
10				-470 -460	14 -490 3 -460 -480 -489			-438 20 -487 35 -387 -440 -456 -470	10
				-485 -480	5 -490 2 -485 -486 -490			-431 24 -489 31 -390 -440 -450 -484	
20				-410	1			-434 31 -490 24 -390 -430 -473 -490	20
								-452 48 -549 15 -386 -450 -500 -542	
30								-484 55 -570 20 -410 -485 -550 -570	30
40 S								-481 54 -579 8 -430 -460 -538 -574	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-500 8 -510 3 -490 -500 -507 -510	
50					-490 1	-521 63 -620 19 -434 -510 -610 -620	
40					-516 43 -608 18 -447 -515 -560 -596	-509 51 -590 13 -445 -500 -580 -588	
30				-496 14 -520 5 -481 -490 -507 -518	-517 36 -598 33 -446 -510 -550 -587	-537 33 -590 26 -485 -545 -570 -590	
20	-480 22 -500 3 -452 -490 -497 -500			-500 21 -550 38 -470 -490 -520 -550	-513 31 -612 53 -460 -510 -547 -570	-515 48 -590 6 -470 -495 -574 -588	
10				-497 26 -530 10 -462 -495 -526 -530	-509 29 -560 17 -446 -510 -534 -557	-560 10 -570 2 -550 -560 -567 -570	
0		-475 5 -480 2 -470 -475 -478 -480		-490 14 -510 3 -480 -480 -500 -509	-540 -540 2 -540 -540 -540 -540	-540 -540 2 -540 -540 -540 -540	
10		-464 20 -480 5 -440 -480 -480 -480	-485 16 -510 6 -462 -480 -502 -509			-516 23 -570 27 -490 -510 -540 -570	
20		-447 5 -450 3 -440 -450 -450 -450	-477 13 -500 10 -460 -480 -490 -498			-506 21 -550 41 -470 -500 -528 -550	
30			-485 10 -500 10 -470 -485 -496 -500			-494 15 -539 16 -473 -490 -500 -531	
40 S			-488 8 -500 4 -480 -485 -495 -499			-488 8 -509 19 -474 -490 -490 -506	
						-493 9 -510 21 -474 -490 -500 -510	
						-494 11 -510 18 -480 -490 -510 -510	
		-470 1				-484 14 -510 10 -462 -485 -496 -508	
			-450 1			-497 12 -510 7 -480 -500 -510 -510	
				-500 1	-500 1	-508 4 -510 4 -501 -510 -510 -510	
				-495 5 -500 2 -490 -495 -498 -500	-495 5 -500 2 -490 -495 -498 -500	-510 -510 2 -510 -510 -510 -510	
			-455 5 -460 2 -450 -455 -458 -460	-485 5 -490 4 -480 -485 -490 -490	-444 37 -490 5 -392 -440 -484 -489	-510 10 -520 2 -500 -510 -517 -520	
			-485 5 -490 2 -480 -485 -488 -490	-475 9 -480 4 -461 -480 -480 -480	-475 21 -519 8 -451 -470 -489 -516	-505 15 -520 2 -491 -505 -515 -519	
			-495 5 -500 2 -490 -495 -498 -500	-535 76 -630 8 -411 -520 -626 -630	-494 26 -530 5 -470 -480 -524 -529		
				-484 46 -550 5 -423 -470 -531 -548			

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-540 33 -590 4 -510 -530 -571 -588		-480 1	-492 16 -510 5 -471 -490 -510 -510	-500 20 -520 2 -481 -500 -514 -519			-508 33 -589 12 -472 -510 -527 -581	70 N
60	-563 39 -619 18 -483 -575 -600 -617	-539 45 -638 13 -472 -540 -572 -628	-465 5 -470 2 -460 -465 -468 -470	-497 36 -560 10 -445 -485 -538 -560	-520 60 -590 9 -416 -540 -574 -588			-531 51 -637 55 -441 -540 -584 -619	60
	-547 25 -580 3 -521 -540 -567 -578	-537 47 -630 14 -483 -535 -578 -627	-513 29 -550 3 -481 -510 -537 -548	-460 48 -559 6 -420 -445 -488 -551	-526 63 -620 16 -400 -545 -570 -617	-537 53 -600 3 -473 -540 -581 -598		-521 59 -628 65 -406 -520 -580 -620	
50	-574 34 -600 5 -515 -590 -600 -600	-563 41 -620 6 -521 -545 -620 -620	-526 58 -620 17 -443 -510 -604 -620	-516 40 -614 37 -420 -530 -550 -577	-551 57 -668 58 -423 -560 -600 -680	-561 46 -650 14 -490 -560 -590 -647		-536 54 -665 168 -427 -540 -590 -650	50
	-534 45 -610 12 -480 -530 -592 -608	-549 30 -580 9 -481 -560 -567 -578	-543 40 -629 32 -469 -545 -580 -624	-533 39 -609 35 -437 -530 -570 -603	-564 16 -590 9 -540 -570 -577 -588	-560 18 -590 8 -533 -555 -579 -589		-536 38 -625 164 -450 -540 -570 -607	
40	-552 29 -609 20 -510 -550 -580 -606	-538 30 -603 77 -470 -540 -570 -580	-540 34 -628 73 -480 -540 -575 -616	-530 8 -540 3 -520 -530 -537 -540	-620 1	-579 35 -630 8 -533 -575 -625 -630		-535 35 -630 246 -470 -540 -570 -620	40
	-533 28 -588 61 -482 -540 -560 -578	-534 28 -580 58 -490 -540 -560 -580	-526 5 -530 8 -520 -530 -530 -530					-524 30 -584 187 -467 -520 -560 -580	
30	-526 30 -607 115 -470 -530 -560 -590	-530 25 -560 4 -492 -535 -550 -559	-517 9 -530 3 -510 -510 -524 -529					-524 30 -606 136 -470 -530 -560 -590	30
	-523 24 -587 85 -480 -520 -540 -580							-519 25 -587 117 -480 -520 -540 -580	
	-516 21 -550 11 -474 -520 -534 -548	-480 1						-502 25 -550 64 -445 -500 -529 -550	
20			-540 1					-485 22 -540 30 -446 -490 -500 -540	20
	-510 1		-473 33 -520 3 -450 -450 -498 -517					-487 14 -519 33 -450 -490 -499 -514	
10	-510 1		-490 28 -510 3 -452 -510 -510 -510					-492 13 -510 29 -461 -490 -505 -510	10
			-485 35 -520 2 -451 -485 -509 -519	-450 1				-491 18 -519 21 -450 -490 -510 -516	
0			-510 1	-480 28 -520 3 -460 -460 -501 -518				-484 19 -520 15 -460 -480 -508 -517	0
				-487 24 -520 3 -470 -470 -504 -518				-490 20 -520 11 -454 -500 -510 -518	
10				-470 -470 2 -470 -470 -470 -470				-496 16 -510 8 -470 -500 -510 -510	10
				-455 15 -470 2 -441 -455 -465 -469				-489 22 -510 8 -444 -495 -509 -510	
20				-430 1				-466 34 -519 14 -398 -480 -490 -515	20
								-480 19 -520 16 -453 -480 -490 -520	
30								-516 61 -630 15 -420 -500 -586 -630	30
								-484 46 -550 5 -423 -470 -531 -548	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-500 1	
60						-532 61 -639 27 -445 -520 -598 -635	
50					-494 24 -530 10 -462 -490 -520 -528	-513 42 -599 28 -455 -500 -557 -595	
40	-580 1				-489 37 -559 14 -433 -485 -528 -555	-561 54 -649 19 -460 -550 -611 -646	
30	-577 5 -580 3 -570 -580 -580 -580			-544 15 -560 5 -522 -540 -560 -560	-540 49 -628 21 -446 -540 -590 -618	-560 45 -639 32 -482 -555 -610 -634	
20	-585 5 -590 2 -580 -585 -588 -590			-534 15 -560 5 -520 -530 -547 -558	-560 32 -619 25 -494 -570 -590 -610	-585 32 -640 15 -550 -570 -620 -640	
10	-540 1	-585 5 -590 2 -580 -585 -588 -590		-500 -500 2 -500 -500 -500 -500	-576 27 -610 9 -526 -580 -604 -610	-601 8 -610 8 -590 -600 -610 -610	
0			-537 15 -560 7 -512 -540 -550 -559	-530 31 -560 4 -491 -535 -560 -560	-560 1	-590 -590 3 -590 -590 -590 -590	
10			-524 12 -540 5 -510 -530 -534 -539	-535 11 -560 8 -521 -530 -540 -557	-562 13 -590 13 -542 -560 -571 -588	-580 10 -590 2 -570 -580 -587 -590	
20			-537 15 -560 7 -520 -530 -550 -559	-530 1		-565 15 -590 6 -542 -565 -574 -588	
30			-545 15 -560 4 -530 -545 -560 -560			-570 1	
40 S			-548 11 -560 4 -531 -550 -555 -559			-565 5 -570 2 -560 -565 -568 -570	
						-555 5 -560 2 -550 -555 -558 -560	
						-563 15 -580 4 -541 -565 -575 -579	
						-558 8 -570 4 -550 -555 -565 -569	
						-545 5 -550 2 -540 -545 -548 -550	
				-603 17 -620 3 -581 -610 -617 -620	-500 -500 2 -500 -500 -500 -500		
				-530 1	-517 12 -530 3 -501 -520 -527 -530		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-551 44 -630 9 -492 -550 -596 -627		-520 -520 2 -520 -520 -520 -520					-542 42 -629 12 -492 -530 -572 -626	70 N
60	-539 47 -648 22 -455 -540 -580 -637	-530 52 -638 6 -482 -515 -552 -629	-475 21 -510 4 -460 -465 -491 -508	-472 20 -510 5 -451 -470 -484 -507	-488 40 -540 5 -432 -490 -527 -538	-545 45 -590 2 -502 -545 -576 -588		-524 56 -648 71 -434 -520 -590 -640	60
	-553 52 -640 16 -483 -540 -610 -637	-556 37 -630 11 -512 -550 -590 -628	-504 27 -550 7 -471 -490 -531 -548	-493 23 -530 8 -454 -490 -518 -529	-568 50 -649 6 -494 -565 -609 -644	-533 54 -609 3 -490 -500 -575 -606		-526 48 -647 91 -458 -520 -586 -632	
50	-539 53 -630 10 -464 -535 -595 -630	-571 17 -600 7 -551 -560 -590 -599	-550 41 -638 11 -502 -530 -590 -630	-543 53 -649 24 -459 -530 -610 -645	-595 33 -630 15 -533 -610 -630 -630	-610 1		-550 54 -650 101 -450 -550 -610 -640	50
	-561 55 -638 18 -453 -580 -610 -630	-583 32 -620 11 -522 -590 -610 -618	-559 55 -648 20 -423 -570 -600 -639	-563 52 -639 18 -447 -575 -606 -633				-559 50 -646 120 -438 -570 -610 -640	
40	-586 36 -620 20 -504 -595 -620 -620	-568 23 -609 41 -510 -570 -590 -602	-554 43 -628 39 -455 -560 -599 -615	-630 1	-623 15 -640 4 -601 -625 -635 -639	-560 1		-568 36 -640 152 -470 -570 -600 -630	40
	-568 24 -600 10 -524 -570 -591 -600	-557 24 -609 49 -500 -560 -580 -600	-561 20 -590 9 -532 -560 -584 -590					-564 27 -610 93 -517 -560 -590 -610	
30	-550 23 -600 26 -510 -550 -570 -600	-542 23 -570 6 -511 -545 -562 -569	-568 18 -590 4 -542 -570 -580 -589					-553 27 -600 44 -500 -560 -581 -600	30
	-559 17 -599 19 -534 -560 -570 -593	-535 5 -540 2 -530 -535 -538 -540	-600 1					-559 22 -600 44 -507 -560 -580 -600	
20	-560 8 -570 3 -550 -560 -587 -570	-530 1	-585 5 -590 2 -580 -585 -588 -590					-549 21 -590 27 -515 -540 -570 -590	20
			-580 -580 2 -580 -580 -580 -580					-544 27 -580 8 -510 -535 -579 -580	
10			-560 -560 2 -560 -560 -560 -560					-545 17 -570 12 -520 -550 -560 -568	10
			-557 5 -560 3 -550 -560 -560 -560					-551 12 -560 9 -530 -560 -560 -560	
0			-555 11 -570 4 -541 -555 -565 -569					-555 14 -580 12 -532 -555 -570 -578	0
			-560 8 -570 3 -550 -560 -567 -570	-560 1				-559 8 -570 8 -550 -560 -569 -570	
10				-570 10 -580 2 -560 -570 -577 -580				-558 15 -580 4 -541 -555 -570 -579	10
				-580 1				-580 1	
20									20
30								-562 52 -620 5 -500 -580 -614 -619	30
40 S								-520 12 -530 4 -501 -525 -530 -530	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W	LAT.
70 N								70 N
60							-499 24 -530 7 -462 -500 -520 -529	60
					-533 45 -619 6 -475 -520 -564 -613		-531 49 -638 12 -464 -525 -570 -625	
50					-552 58 -669 23 -464 -560 -595 -661		-604 51 -660 11 -524 -610 -654 -660	50
					-550 47 -610 31 -466 -560 -592 -610		-604 35 -669 24 -539 -610 -633 -665	
40	-590 1			-549 26 -580 12 -502 -550 -580 -580	-561 41 -610 27 -470 -570 -600 -610		-599 37 -669 10 -544 -590 -636 -665	40
	-587 5 -590 3 -580 -590 -590 -590			-580 17 -610 26 -550 -580 -600 -610	-585 24 -620 16 -530 -590 -600 -617			
30	-580 10 -590 2 -570 -580 -587 -590			-585 5 -590 2 -580 -585 -588 -590				30
	-570 -570 2 -570 -570 -570 -570			-588 7 -600 5 -580 -590 -594 -599	-600 1		-590 1	
20	-570 1	-580 -580 3 -580 -580 -580 -580	-586 7 -590 7 -571 -590 -590 -590	-582 9 -600 9 -570 -580 -590 -598			-590 20 -610 2 -571 -590 -604 -609	20
		-580 1	-591 6 -600 7 -581 -590 -600 -600					
10			-600 7 -610 9 -590 -600 -607 -610					10
			-615 7 -630 8 -610 -610 -620 -629				-590 1	
0			-620 8 -630 3 -610 -620 -627 -630				-580 1	0
10							-605 5 -610 2 -600 -605 -608 -610	10
							-610 -610 2 -610 -610 -610 -610	
20							-615 5 -620 2 -610 -615 -618 -620	20
							-600 10 -610 2 -590 -600 -607 -610	
30					-520 1		-550 30 -580 2 -521 -550 -570 -579	30
					-527 5 -530 3 -520 -530 -530 -530			
40 S					-523 8 -530 4 -511 -525 -530 -530			40 S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-553 8 -560 4 -541 -555 -560 -560	-540 20 -560 2 -521 -540 -554 -559		-655 5 -660 2 -650 -655 -658 -660				-539 54 -660 15 -466 -530 -560 -657	60
	-558 26 -600 4 -531 -550 -576 -597	-554 39 -620 13 -490 -550 -592 -618	-505 25 -530 2 -481 -505 -522 -529	-500 36 -588 8 -471 -490 -508 -579	-593 54 -650 10 -492 -615 -636 -648	-547 17 -570 3 -530 -540 -560 -569		-544 51 -648 58 -470 -540 -609 -640	
50	-656 19 -680 5 -631 -660 -674 -679	-565 48 -639 17 -480 -570 -604 -634	-557 37 -629 6 -521 -545 -582 -624	-574 59 -679 18 -497 -550 -653 -673	-593 61 -670 16 -490 -620 -650 -667	-510 1		-576 60 -680 97 -470 -570 -650 -671	50
	-624 42 -680 27 -527 -640 -660 -680	-582 55 -670 17 -483 -600 -624 -667	-603 40 -679 20 -531 -595 -650 -672	-620 57 -689 10 -514 -635 -670 -686		-630 30 -660 2 -601 -630 -650 -659		-594 53 -686 131 -476 -600 -650 -680	
40	-610 50 -670 28 -495 -625 -650 -670	-580 43 -620 7 -511 -590 -620 -620	-599 48 -659 25 -515 -620 -650 -655			-620 40 -660 2 -582 -620 -647 -658		-586 49 -670 112 -490 -590 -642 -670	40
	-597 25 -649 20 -560 -590 -629 -646	-583 32 -640 13 -522 -580 -612 -638	-545 5 -550 2 -540 -545 -548 -550					-585 25 -648 80 -530 -590 -610 -640	
30	-575 5 -580 2 -570 -575 -578 -580	-570 30 -600 2 -541 -570 -590 -599						-578 17 -600 8 -544 -580 -590 -599	30
	-578 9 -590 6 -570 -575 -590 -590							-583 11 -600 15 -570 -580 -590 -600	
20	-607 26 -630 3 -572 -620 -627 -630							-586 15 -629 25 -570 -580 -592 -625	20
	-625 5 -630 2 -620 -625 -628 -630							-597 16 -630 10 -580 -590 -611 -628	
10	-620 -620 2 -620 -620 -620 -620							-604 10 -620 11 -590 -600 -614 -620	10
	-620 1							-613 10 -630 10 -594 -610 -620 -628	
0								-610 19 -630 4 -582 -615 -625 -629	0
10								-605 5 -610 2 -600 -605 -608 -610	10
								-610 -610 2 -610 -610 -610 -610	
20								-615 5 -620 2 -610 -615 -618 -620	20
								-600 10 -610 2 -590 -600 -607 -610	
30								-540 28 -580 3 -520 -520 -561 -578	30
								-527 5 -530 3 -520 -530 -530 -530	
40 S								-523 8 -530 4 -511 -525 -530 -530	40S

LONGITUDE

APPENDIX C

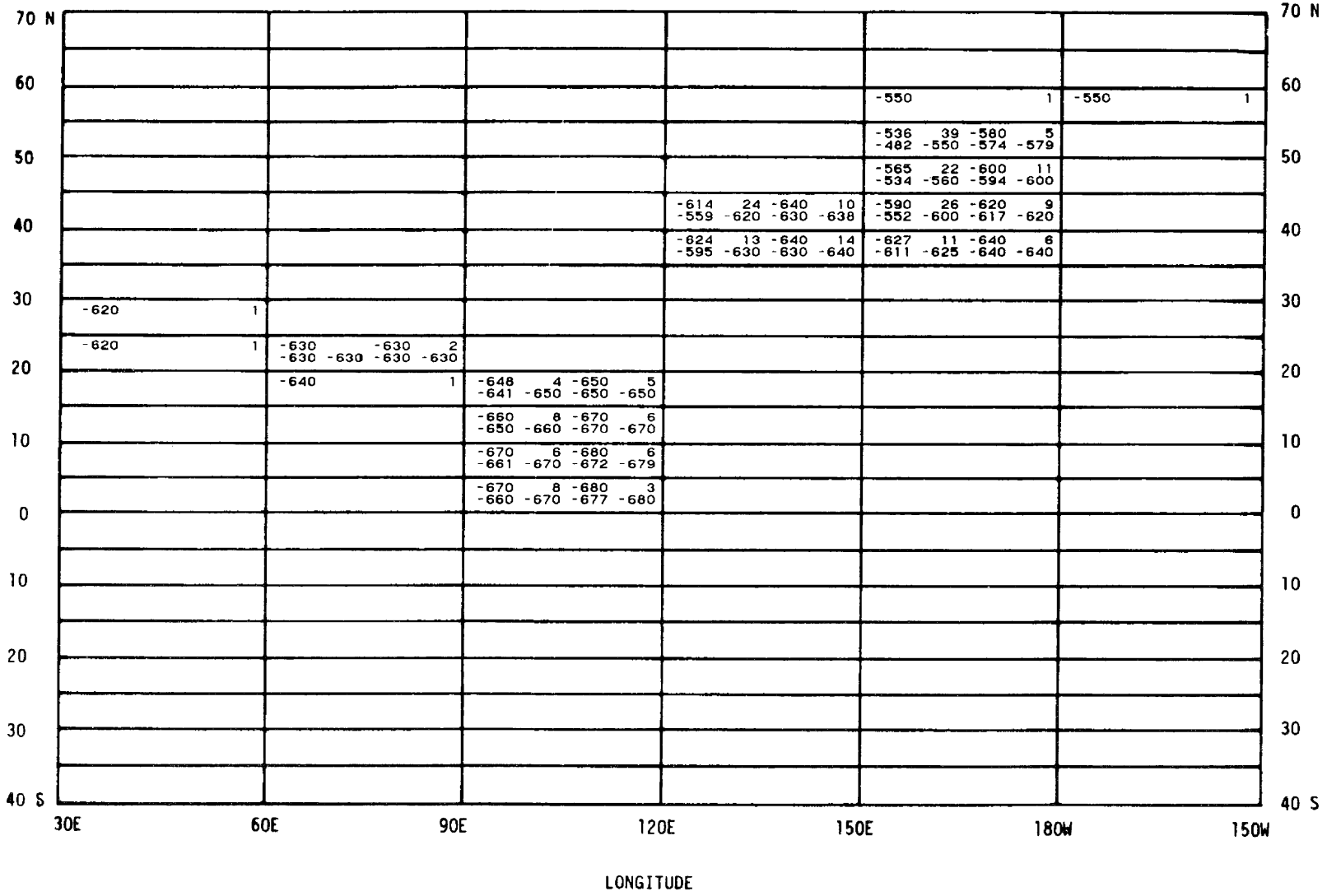
STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

SEPTEMBER
FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60		-540 1		-495 15 -510 2 -481 -495 -505 -509				-526 27 -550 5 -482 -540 -550 -550	60
50	-595 25 -620 2 -571 -595 -612 -619	-520 1 -560 50 -620 3 -514 -610 -617 -620	-547 33 -570 3 -503 -570 -570 -570 -638 38 -680 9 -565 -650 -670 -678	-515 25 -540 2 -491 -515 -532 -539				-534 35 -580 11 -482 -540 -570 -578 -595 47 -679 25 -520 -590 -652 -675	50
40	-618 27 -640 6 -566 -625 -640 -640 -603 31 -630 3 -562 -620 -627 -630	-605 5 -610 2 -600 -605 -608 -610 -620 8 -630 3 -610 -620 -627 -630	-607 52 -679 10 -530 -625 -651 -676 -600 1					-606 36 -678 37 -530 -620 -640 -666 -621 17 -640 27 -576 -620 -630 -640	40
30								-620 1	30
20								-827 5 -630 3 -620 -630 -630 -630 -647 5 -650 6 -640 -650 -650 -650	20
10								-660 8 -670 6 -650 -660 -670 -670 -670 6 -680 6 -661 -670 -672 -679	10
0								-670 8 -680 3 -660 -670 -677 -680	0
10									10
20									20
30									30
40 S									40S

LONGITUDE

APPENDIX C

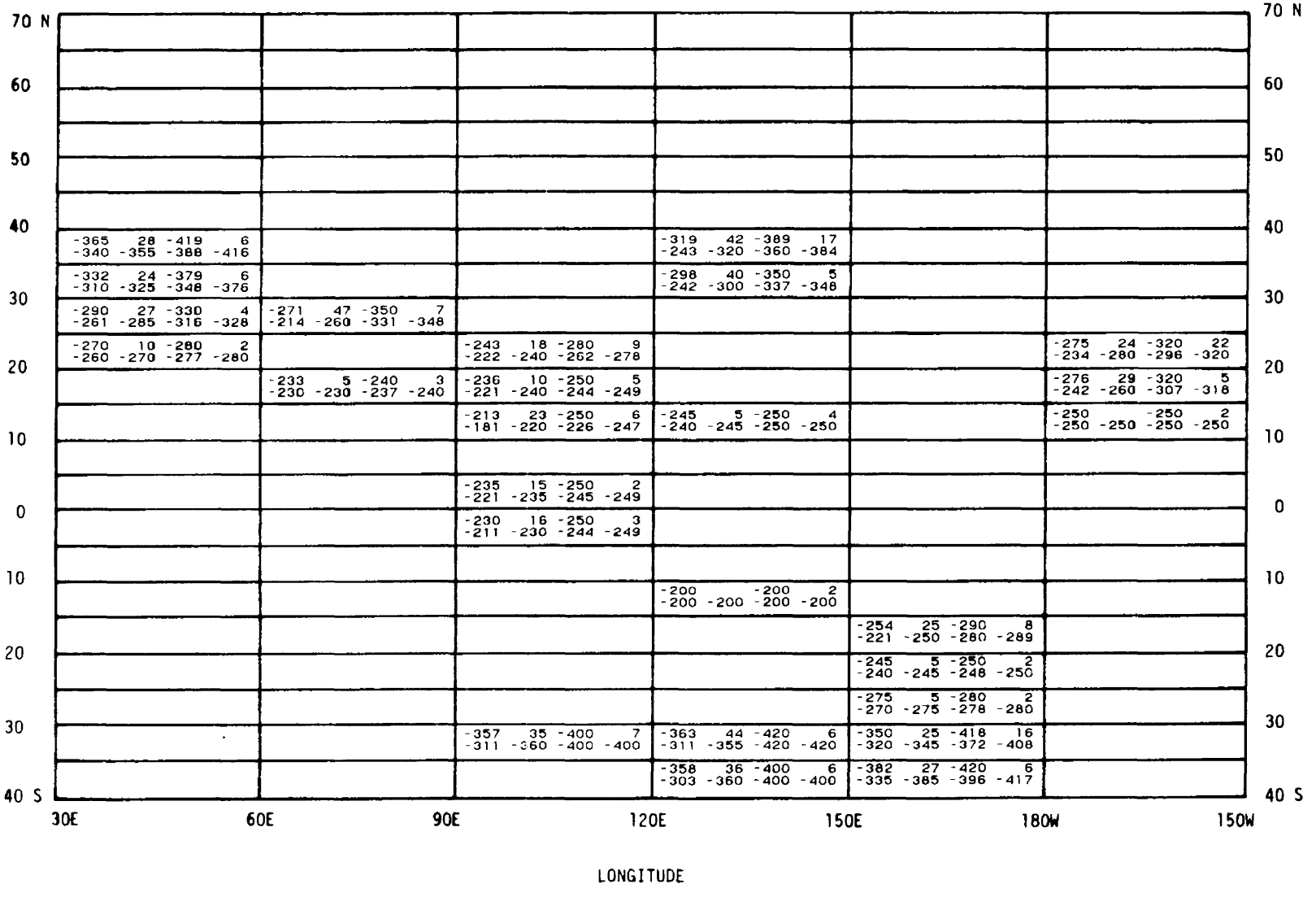
STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-553 5 -560 3 -550 -550 -557 -560							-553 5 -560 3 -550 -550 -557 -560	70 N
60									60
50					-360 68 -449 23 -178 -380 -410 -441	-377 40 -439 23 -304 -380 -420 -436		-368 56 -449 46 -196 -380 -418 -441	50
40	-357 60 -439 3 -301 -330 -405 -436					-372 33 -429 5 -340 -370 -398 -426		-366 46 -440 8 -304 -355 -424 -439	40
30	-370 16 -390 3 -351 -370 -384 -389	-338 39 -399 6 -282 -345 -368 -396	-353 42 -459 50 -280 -355 -382 -450			-368 7 -380 5 -360 -370 -374 -379		-354 40 -458 64 -280 -360 -380 -447	30
20	-337 28 -389 23 -290 -330 -370 -386	-323 15 -350 6 -310 -320 -334 -348	-330 1			-345 23 -370 4 -312 -350 -365 -369		-333 35 -415 57 -270 -330 -370 -390	20
10	-322 40 -389 5 -281 -310 -358 -386	-328 23 -369 24 -290 -330 -353 -365						-324 30 -389 40 -263 -325 -350 -382	10
0								-278 42 -349 11 -216 -270 -330 -346	0
10								-268 26 -320 33 -226 -270 -290 -320	10
20								-251 28 -319 13 -222 -240 -263 -315	20
30								-230 23 -250 12 -182 -240 -250 -250	30
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-570 1	
60							
50							
40	-415 34 -460 4 -372 -415 -446 -458						
	-428 17 -450 8 -401 -425 -449 -450			-354 35 -419 25 -300 -350 -392 -415			
30	-382 20 -410 13 -345 -380 -401 -410	-390 1		-334 38 -380 7 -266 -350 -361 -378			
	-303 26 -340 4 -271 -300 -326 -338	-363 36 -400 8 -301 -375 -398 -400					
20	-311 25 -359 7 -274 -310 -322 -355	-284 14 -310 12 -262 -280 -300 -308	-288 22 -320 4 -261 -285 -306 -318			-316 24 -350 17 -273 -320 -334 -350	
		-264 17 -290 9 -240 -260 -284 -290	-273 16 -290 8 -250 -280 -289 -290	-280 8 -290 3 -270 -280 -287 -290		-280 21 -310 5 -260 -270 -304 -309	
10		-276 8 -280 9 -260 -280 -280 -280	-285 15 -300 2 -271 -285 -295 -299	-280 -280 2 -280 -280 -280 -280		-278 11 -290 4 -261 -280 -285 -289	
		-277 7 -290 6 -270 -275 -282 -289	-280 -280 2 -280 -280 -280 -280	-285 5 -290 4 -280 -285 -290 -290		-290 1	
0		-280 -280 4 -280 -280 -280 -280	-270 10 -280 2 -260 -270 -277 -280	-283 5 -290 3 -280 -280 -287 -290			
		-280 -280 2 -280 -280 -280 -280	-279 6 -290 7 -270 -280 -280 -289	-285 5 -290 2 -280 -285 -288 -290			
10			-278 4 -280 4 -271 -280 -280 -280	-280 1			
			-300 10 -310 2 -290 -300 -307 -310	-300 10 -310 2 -290 -300 -307 -310		-310 1	
20					-303 33 -369 8 -261 -295 -328 -364	-300 1	
					-290 -290 3 -290 -290 -290 -290		
30					-365 47 -420 4 -295 -375 -401 -418		
			-400 50 -450 2 -352 -400 -434 -448	-411 29 -450 7 -371 -410 -450 -450	-397 25 -430 10 -354 -400 -420 -428		
40 S				-419 21 -450 8 -391 -415 -448 -450	-434 9 -450 7 -421 -430 -440 -449		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-555 5 -560 2 -550 -555 -558 -560							-560 8 -570 3 -550 -560 -567 -570	70 N
	-530 1			-480 1	-467 12 -480 3 -451 -470 -477 -480			-482 26 -529 5 -452 -480 -498 -526	
60		-465 5 -470 2 -460 -465 -468 -470		-450 -450 2 -450 -450 -450 -450	-455 30 -500 4 -421 -450 -481 -498			-456 22 -499 8 -423 -455 -469 -496	60
		-450 10 -460 2 -440 -450 -457 -460			-426 48 -500 26 -305 -425 -460 -500	-417 29 -469 18 -380 -410 -450 -467		-423 41 -500 45 -357 -420 -458 -500	
50	-385 22 -410 4 -352 -390 -400 -409	-433 37 -480 3 -392 -430 -464 -478	-407 33 -430 3 -363 -430 -430 -430	-385 25 -410 2 -361 -385 -402 -409		-423 38 -489 23 -354 -430 -454 -486		-416 38 -489 35 -350 -420 -440 -483	50
	-380 39 -449 8 -317 -375 -415 -446	-412 39 -489 10 -352 -415 -436 -481	-405 49 -509 48 -299 -400 -455 -501			-410 34 -469 20 -348 -420 -440 -462		-405 44 -507 90 -308 -400 -448 -492	
40	-386 28 -439 25 -340 -380 -420 -435	-383 32 -439 11 -340 -380 -414 -436	-400 106 -480 3 -259 -470 -477 -480			-363 48 -429 3 -321 -340 -401 -426		-379 43 -478 75 -300 -380 -420 -460	40
	-362 25 -390 6 -322 -370 -382 -389	-363 20 -390 16 -319 -365 -380 -390						-364 29 -410 43 -302 -370 -390 -410	
30								-343 43 -400 12 -274 -350 -385 -400	30
								-303 26 -359 40 -260 -300 -330 -352	
20								-272 18 -309 25 -240 -270 -290 -305	20
								-278 10 -300 17 -260 -280 -280 -297	
10								-281 7 -290 13 -270 -280 -290 -290	10
								-279 7 -290 9 -263 -280 -280 -288	
0								-280 6 -290 11 -270 -280 -284 -290	0
								-278 4 -280 5 -271 -280 -280 -280	
10								-302 10 -310 5 -290 -310 -310 -310	10
								-302 31 -369 9 -262 -300 -324 -364	
20								-290 -290 3 -290 -290 -290 -290	20
								-365 47 -420 4 -295 -375 -401 -418	
30						-420 1		-403 30 -450 20 -350 -410 -430 -450	30
40 S						-430 1		-426 18 -450 16 -393 -430 -446 -450	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-480 20 -500 2 -461 -480 -494 -499				-513 9 -520 3 -501 -520 -520 -520		
	-470 43 -530 6 -397 -470 -506 -527			-385 40 -459 26 -315 -390 -430 -455	-425 55 -480 2 -372 -425 -462 -478		
30	-426 19 -450 14 -380 -430 -440 -447			-383 19 -400 4 -352 -390 -395 -399			
	-389 29 -440 14 -343 -385 -419 -437	-366 26 -410 14 -323 -360 -398 -407			-480 1		-445 17 -460 4 -421 -450 -460 -460
20	-393 12 -410 3 -380 -390 -404 -409	-351 22 -390 7 -321 -350 -371 -388	-348 27 -390 6 -304 -350 -366 -387	-330 1			-389 22 -430 29 -356 -390 -410 -430
		-336 13 -360 9 -313 -330 -347 -358	-338 7 -350 10 -330 -340 -346 -350	-343 5 -350 3 -340 -340 -347 -350			-353 14 -380 6 -340 -350 -364 -378
10		-340 22 -370 3 -320 -330 -357 -368	-323 21 -340 12 -284 -335 -340 -340	-338 13 -350 4 -321 -340 -350 -350			-337 7 -350 11 -330 -340 -344 -350
		-310 20 -330 2 -291 -310 -324 -329	-332 4 -340 6 -330 -330 -332 -339				-336 15 -379 12 -320 -330 -340 -371
0			-313 17 -330 3 -291 -320 -327 -330				-331 14 -350 9 -312 -330 -347 -350
		-315 15 -330 2 -301 -315 -325 -329	-333 12 -350 3 -320 -330 -344 -349		-330 1		-333 12 -350 8 -320 -330 -349 -350
10			-295 5 -300 2 -290 -295 -298 -300				-330 -330 5 -330 -330 -330 -330
			-326 22 -360 5 -301 -320 -347 -358	-332 10 -350 5 -321 -330 -337 -348	-330 -330 2 -330 -330 -330 -330		-330 -330 3 -330 -330 -330 -330
20			-334 21 -360 5 -310 -340 -354 -359	-348 20 -380 6 -330 -340 -372 -379	-341 15 -370 9 -322 -340 -357 -368		
			-357 26 -409 6 -331 -350 -370 -405	-366 23 -400 8 -331 -370 -389 -399	-395 46 -440 4 -341 -400 -440 -440		
30			-390 17 -420 6 -370 -390 -404 -418	-407 35 -460 9 -338 -410 -434 -457	-438 4 -440 4 -431 -440 -440 -440		
			-434 53 -510 5 -371 -440 -484 -507	-446 35 -519 14 -400 -435 -479 -515	-446 22 -489 20 -401 -445 -470 -486		
40 S				-460 33 -490 5 -412 -480 -490 -490	-478 24 -510 6 -442 -480 -502 -509		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-580 1	-450 1	-525 5 -530 2 -520 -525 -528 -530	-524 19 -560 5 -510 -520 -534 -557	-560 1			-526 34 -579 10 -461 -520 -560 -576	70 N
	-590 1			-500 10 -510 2 -490 -500 -507 -510	-527 12 -540 3 -511 -530 -537 -540			-528 32 -589 6 -492 -520 -550 -585	
60	-475 5 -480 2 -470 -475 -478 -480	-480 1		-520 1	-466 36 -539 17 -413 -470 -500 -530			-470 35 -539 21 -414 -480 -500 -532	60
	-478 8 -490 4 -470 -475 -485 -489		-550 1	-461 26 -509 12 -409 -460 -475 -506	-447 52 -529 48 -280 -455 -490 -521	-478 27 -529 14 -435 -480 -500 -525		-457 46 -545 79 -286 -460 -490 -530	
50	-460 30 -509 10 -422 -455 -490 -506	-460 30 -490 2 -431 -460 -480 -489	-466 44 -500 5 -387 -490 -494 -499	-410 37 -460 8 -361 -405 -458 -460	-440 51 -500 5 -380 -460 -487 -498	-468 38 -529 14 -420 -480 -500 -522		-452 44 -527 44 -369 -460 -500 -513	50
	-428 28 -470 17 -380 -440 -454 -467	-443 28 -490 13 -392 -440 -471 -488	-447 41 -536 74 -365 -450 -480 -515	-400 1		-474 33 -520 14 -403 -470 -509 -517		-449 40 -533 124 -375 -450 -490 -520	
40	-431 29 -479 33 -363 -440 -460 -474	-430 24 -460 10 -385 -425 -456 -460	-475 25 -500 2 -451 -475 -492 -499			-450 51 -500 4 -374 -465 -495 -499		-421 45 -523 83 -333 -430 -460 -500	40
	-416 24 -459 16 -369 -420 -440 -454	-425 22 -460 12 -392 -425 -445 -460						-419 25 -460 46 -359 -420 -440 -460	
30	-402 4 -410 5 -400 -400 -404 -409							-391 37 -478 38 -327 -395 -421 -465	30
	-400 1							-377 29 -430 47 -318 -380 -406 -430	
20								-341 13 -378 28 -321 -340 -350 -369	20
								-332 18 -368 30 -292 -335 -344 -358	
10								-332 15 -378 20 -301 -330 -340 -365	10
								-327 16 -350 12 -294 -325 -342 -350	
0								-330 14 -350 14 -305 -330 -349 -350	0
								-320 16 -330 7 -291 -330 -330 -330	
10								-329 14 -360 15 -303 -330 -338 -357	10
								-341 19 -379 20 -310 -340 -360 -376	
20								-369 33 -440 18 -330 -360 -403 -440	20
								-408 31 -459 19 -344 -410 -440 -453	
30						-440 1		-444 32 -519 40 -378 -440 -470 -512	30
						-480 1		-471 29 -510 12 -414 -480 -492 -508	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
						-590 1	
60						-503 74 -590 3 -414 -510 -564 -587	60
					-565 15 -580 2 -551 -565 -575 -579	-500 51 -569 6 -410 -505 -530 -565	
50					-519 50 -590 7 -444 -520 -580 -589	-460 21 -490 4 -432 -460 -476 -488	50
	-493 17 -510 3 -471 -500 -507 -510			-475 56 -559 4 -421 -460 -526 -556	-458 73 -580 16 -370 -430 -570 -577	-407 38 -460 3 -380 -380 -434 -457	
40	-489 22 -520 26 -445 -490 -510 -520			-444 37 -529 30 -392 -435 -480 -524	-447 38 -529 7 -402 -440 -463 -522		40
	-471 31 -520 30 -416 -475 -510 -520			-421 44 -460 11 -342 -450 -454 -460			
30	-442 27 -480 6 -410 -440 -472 -479	-430 25 -470 26 -390 -425 -460 -470		-410 33 -450 6 -361 -425 -434 -448	-410 1	-441 14 -460 11 -414 -440 -454 -460	30
	-395 5 -400 2 -390 -395 -398 -400	-388 8 -409 13 -380 -390 -390 -405	-385 16 -420 11 -362 -380 -398 -418	-393 15 -410 4 -371 -395 -405 -409	-410 1	-422 19 -459 34 -387 -420 -440 -453	
20		-386 16 -419 7 -370 -380 -391 -416	-391 14 -420 11 -380 -380 -404 -418	-380 -380 3 -380 -380 -380 -380	-392 15 -410 6 -371 -390 -410 -410	-435 5 -440 2 -430 -435 -438 -440	20
		-380 13 -400 7 -361 -380 -390 -399	-384 8 -400 9 -372 -380 -390 -398	-385 15 -400 2 -371 -385 -395 -399			
10		-373 12 -390 3 -360 -370 -384 -389	-377 7 -390 7 -370 -380 -380 -389	-380 -380 2 -380 -380 -380 -380			10
		-380 1	-371 10 -380 9 -352 -370 -380 -360	-383 5 -390 3 -360 -380 -387 -390		-383 8 -390 4 -371 -385 -390 -390	
0		-407 5 -410 3 -400 -410 -410 -410	-381 8 -400 7 -371 -380 -381 -398	-380 -380 4 -380 -380 -380 -380	-380 1	-384 9 -400 8 -371 -380 -390 -399	0
			-387 20 -410 13 -350 -380 -410 -410	-386 7 -400 7 -380 -380 -390 -399	-375 5 -380 2 -370 -375 -378 -380	-386 11 -400 11 -372 -380 -400 -400	
10			-382 23 -420 17 -350 -380 -404 -417	-389 11 -410 8 -380 -385 -399 -409	-390 14 -410 5 -371 -390 -404 -409	-393 7 -400 7 -381 -390 -400 -400	10
			-392 24 -420 12 -347 -395 -412 -420	-394 10 -410 7 -380 -400 -400 -409	-394 17 -429 10 -372 -390 -410 -426		
20			-393 25 -439 12 -362 -390 -412 -436	-413 25 -460 13 -380 -410 -441 -458	-413 38 -499 15 -373 -400 -448 -492		20
			-432 48 -499 6 -362 -445 -468 -496	-446 36 -499 10 -379 -460 -476 -496	-457 36 -519 22 -388 -460 -490 -512		
30			-480 42 -520 4 -422 -490 -520 -520	-499 30 -540 14 -445 -505 -529 -540	-501 25 -550 28 -455 -500 -520 -550		30
				-514 19 -530 5 -482 -520 -530 -530	-518 29 -560 14 -473 -520 -549 -560		
40 S							40 S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N		-510 1	-498 53 -550 4 -441 -500 -550 -550	-536 19 -560 9 -495 -540 -550 -558	-515 35 -550 2 -481 -515 -539 -549			-522 36 -560 16 -443 -540 -550 -557	70 N
60	-610 1	-539 9 -560 8 -530 -540 -540 -557	-508 43 -550 4 -461 -510 -550 -550	-494 24 -530 5 -462 -490 -517 -528	-515 38 -580 13 -445 -520 -542 -578			-522 39 -608 32 -452 -530 -550 -598	60
50	-500 1	-523 10 -540 10 -504 -520 -530 -538	-475 15 -490 2 -461 -475 -485 -489	-489 38 -559 21 -424 -480 -538 -556	-490 32 -549 32 -416 -495 -520 -544			-495 37 -584 69 -414 -500 -530 -556	50
40	-500 1	-511 17 -540 10 -490 -505 -530 -538	-507 26 -520 6 -456 -520 -520 -520	-495 57 -580 40 -377 -500 -558 -580	-490 61 -596 60 -292 -500 -540 -580	-526 24 -579 7 -510 -510 -542 -575		-498 55 -592 132 -319 -505 -550 -580	40
30	-481 18 -500 9 -445 -490 -497 -500	-500 28 -520 3 -462 -520 -520 -520	-490 53 -579 22 -384 -505 -536 -572	-479 43 -550 31 -380 -480 -522 -550	-481 66 -530 7 -351 -510 -530 -530	-524 34 -579 11 -470 -520 -550 -574		-490 48 -587 94 -380 -490 -530 -580	30
20	-485 36 -530 4 -433 -490 -516 -528	-476 31 -520 11 -420 -480 -504 -518	-492 48 -570 63 -380 -500 -530 -570	-520 1		-515 23 -550 17 -473 -510 -540 -550		-487 51 -576 122 -374 -500 -530 -570	20
10	-471 30 -520 52 -400 -470 -500 -520	-473 30 -529 13 -422 -480 -492 -525				-519 25 -560 10 -490 -510 -546 -558		-471 37 -556 138 -400 -470 -510 -540	10
0	-466 24 -509 43 -410 -470 -490 -502	-458 29 -509 10 -420 -455 -486 -506				-500 1		-462 33 -520 95 -368 -470 -490 -511	0
10	-449 16 -479 27 -420 -450 -470 -475							-437 25 -480 77 -380 -440 -460 -475	10
20	-430 -430 3 -430 -430 -430 -430							-407 23 -458 68 -370 -410 -430 -450	20
30								-392 18 -439 29 -370 -380 -410 -434	30
40 S								-383 11 -400 18 -363 -380 -393 -400	40S
								-377 8 -390 12 -362 -380 -382 -390	
								-376 10 -390 17 -353 -380 -384 -390	
								-385 11 -410 23 -370 -380 -400 -410	
								-386 15 -410 33 -350 -380 -400 -410	
								-386 18 -419 37 -350 -390 -400 -413	
								-393 19 -429 29 -357 -390 -410 -424	
								-407 32 -496 40 -368 -400 -440 -477	
								-451 39 -518 38 -367 -460 -490 -505	
						-470 1		-498 29 -550 47 -438 -500 -520 -550	
						-540 1		-518 27 -560 20 -474 -520 -540 -560	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 350

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60					-515 35 -550 2 -481 -515 -539 -549	-507 26 -550 6 -471 -510 -526 -547	
50					-519 47 -600 10 -460 -510 -572 -598	-534 37 -580 8 -473 -550 -568 -579	
40	-562 23 -590 6 -523 -565 -582 -589			-538 43 -600 15 -470 -550 -580 -597	-520 42 -609 20 -448 -525 -559 -606	-513 44 -570 4 -470 -505 -556 -568	
30	-553 27 -590 23 -499 -550 -580 -590			-511 35 -569 7 -456 -500 -541 -566	-503 38 -569 7 -445 -500 -532 -565	-545 29 -600 12 -510 -545 -575 -598	
20	-524 32 -580 25 -465 -530 -550 -580	-450 1		-490 43 -560 23 -420 -490 -545 -560	-512 25 -559 11 -472 -510 -534 -556	-533 19 -560 4 -511 -530 -550 -559	
10	-480 25 -520 6 -451 -475 -504 -518	-463 17 -490 24 -429 -465 -480 -490		-451 24 -499 18 -413 -450 -480 -497	-470 8 -480 3 -460 -470 -477 -480	-510 10 -520 2 -500 -510 -517 -520	
0	-450 -450 2 -450 -450 -450 -450	-447 11 -460 16 -430 -450 -460 -460	-443 11 -470 16 -430 -440 -450 -467	-448 11 -460 12 -430 -450 -460 -460	-440 1	-499 22 -550 18 -467 -495 -513 -550	
10		-432 10 -450 10 -414 -430 -440 -448	-440 13 -460 14 -408 -440 -450 -457	-447 9 -480 6 -431 -450 -452 -459		-478 23 -510 50 -420 -480 -500 -510	
20		-426 6 -440 11 -420 -430 -430 -438	-432 19 -460 15 -386 -440 -440 -457	-430 1		-465 15 -480 6 -441 -470 -480 -480	
30		-429 6 -440 7 -420 -430 -430 -439	-437 10 -459 10 -422 -440 -440 -456	-430 -430 3 -430 -430 -430 -430		-453 18 -470 4 -431 -455 -470 -470	
40 S		-432 7 -440 6 -421 -430 -440 -440	-433 12 -460 6 -421 -430 -436 -457	-430 3 -430 -430 -430 -430		-448 15 -470 6 -430 -450 -462 -469	
		-433 12 -450 6 -412 -435 -442 -449	-426 8 -440 11 -412 -430 -430 -438	-433 4 -440 4 -430 -430 -435 -439	-440 20 -460 2 -421 -440 -454 -459	-436 14 -460 12 -420 -430 -452 -460	
			-426 13 -440 17 -400 -430 -440 -440	-433 4 -440 4 -430 -430 -435 -439	-430 1	-435 13 -460 13 -420 -430 -450 -458	
			-424 12 -440 9 -402 -430 -430 -438	-438 4 -440 5 -431 -440 -440 -440	-440 10 -460 11 -422 -440 -450 -458	-440 12 -460 11 -422 -440 -454 -460	
			-425 5 -430 4 -420 -425 -430 -430	-430 10 -450 8 -420 -430 -439 -449	-441 16 -470 17 -413 -440 -454 -470	-446 15 -480 9 -430 -440 -457 -477	
			-420 10 -430 2 -410 -420 -427 -430	-432 13 -450 11 -412 -430 -444 -450	-446 33 -529 21 -404 -440 -480 -522	-444 10 -460 5 -431 -440 -454 -459	
			-400 1	-445 21 -490 12 -422 -440 -465 -488	-498 43 -560 28 -425 -500 -540 -560	-471 30 -520 7 -432 -460 -501 -518	
			-500 1	-501 46 -560 13 -422 -500 -551 -560	-516 42 -589 27 -435 -520 -550 -585	-495 29 -540 4 -462 -490 -516 -537	
				-521 31 -570 27 -465 -520 -550 -570	-545 33 -589 13 -480 -550 -570 -585		
				-546 20 -570 15 -503 -550 -560 -567			

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 350

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-546 31 -590 8 -503 -545 -586 -590	-505 38 -540 4 -452 -515 -540 -540	-487 27 -539 7 -451 -490 -492 -534	-570 49 -640 9 -495 -570 -624 -638	-537 48 -580 3 -474 -560 -574 -579			-534 50 -639 31 -450 -540 -582 -634	70 N
	-533 12 -550 7 -520 -540 -540 -549	-551 33 -619 18 -497 -550 -583 -613	-545 23 -580 4 -521 -540 -566 -578	-543 36 -590 7 -510 -520 -590 -590	-539 43 -580 8 -456 -560 -570 -579			-544 33 -617 44 -484 -545 -580 -603	
60	-507 48 -550 3 -444 -530 -544 -549	-549 37 -639 22 -494 -540 -580 -632	-533 54 -609 6 -440 -535 -570 -605	-470 39 -510 4 -413 -480 -505 -509	-535 24 -570 13 -487 -540 -560 -568			-530 43 -637 56 -431 -530 -562 -619	60
	-577 40 -610 3 -523 -600 -607 -610	-551 32 -609 13 -497 -550 -581 -605	-536 52 -619 17 -426 -540 -590 -614	-530 52 -600 41 -400 -540 -586 -600	-524 48 -609 49 -380 -540 -550 -600	-533 53 -619 8 -446 -540 -576 -614		-531 49 -620 149 -399 -540 -580 -610	
50	-539 33 -580 14 -466 -545 -560 -580	-560 20 -580 2 -541 -560 -574 -579	-529 47 -589 39 -400 -540 -570 -582	-528 45 -590 29 -411 -530 -570 -590	-553 26 -580 6 -505 -560 -572 -579	-560 33 -609 17 -479 -570 -584 -604		-536 43 -606 126 -415 -540 -580 -590	50
	-538 27 -599 24 -485 -545 -553 -595	-526 31 -579 33 -450 -530 -550 -574	-529 43 -614 97 -440 -530 -570 -600	-493 34 -540 3 -461 -480 -521 -538		-556 18 -580 17 -516 -560 -570 -580		-532 39 -613 219 -450 -540 -570 -600	
40	-527 29 -590 57 -460 -530 -550 -589	-514 23 -549 31 -460 -520 -532 -544	-506 29 -540 5 -462 -510 -534 -539			-565 24 -600 10 -522 -570 -586 -598		-523 37 -595 160 -432 -520 -560 -590	40
	-503 28 -588 75 -440 -500 -520 -566	-483 32 -539 10 -432 -485 -511 -536				-535 11 -550 4 -521 -535 -545 -549		-500 35 -586 146 -420 -500 -540 -580	
30	-492 24 -538 62 -432 -500 -510 -528					-510 20 -530 2 -491 -510 -524 -529		-482 27 -550 127 -430 -480 -510 -535	30
	-477 19 -510 27 -440 -480 -500 -510					-490 1		-467 24 -510 119 -430 -470 -500 -510	
20	-463 11 -480 16 -450 -460 -478 -480							-449 18 -480 47 -409 -450 -470 -480	20
	-456 7 -470 9 -450 -450 -460 -468							-437 18 -470 42 -396 -440 -454 -470	
10	-457 5 -480 3 -450 -460 -460 -460							-439 13 -469 29 -420 -430 -455 -464	10
								-434 11 -460 28 -420 -430 -440 -460	
0								-432 12 -460 36 -410 -430 -440 -460	0
								-433 13 -460 34 -400 -430 -440 -460	
10								-435 14 -478 37 -407 -430 -450 -466	10
								-437 15 -470 37 -410 -440 -450 -470	
20								-449 31 -529 42 -408 -440 -480 -522	20
								-496 45 -560 46 -418 -500 -540 -560	
30						-520 1		-518 36 -588 56 -442 -520 -550 -579	30
						-560 1		-546 27 -588 29 -480 -550 -570 -579	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-550 1	
60						-540 1	
						-516 43 -580 15 -443 -520 -563 -580	
50					-536 48 -629 12 -464 -530 -582 -621	-533 46 -599 20 -460 -540 -580 -596	
					-535 61 -630 31 -422 -540 -592 -630	-517 53 -610 32 -446 -500 -590 -610	
40	-568 32 -610 4 -523 -570 -591 -608			-510 44 -579 4 -462 -500 -546 -576	-527 47 -617 47 -450 -520 -580 -602	-531 53 -590 18 -440 -545 -590 -590	
	-548 24 -570 11 -492 -550 -570 -570			-525 41 -599 37 -450 -520 -582 -593	-544 41 -619 41 -474 -550 -590 -612	-565 9 -580 8 -551 -565 -570 -579	
30	-537 40 -570 3 -483 -560 -567 -570			-490 20 -520 7 -461 -490 -510 -519	-534 27 -570 5 -501 -530 -564 -569	-543 34 -619 7 -511 -540 -553 -612	
	-525 15 -540 2 -511 -525 -535 -539	-497 26 -550 12 -462 -490 -517 -548		-497 12 -510 3 -481 -500 -507 -510	-510 -510 -510 2 -510 -510 -510 -510	-525 23 -560 32 -480 -530 -550 -560	
20		-495 9 -510 10 -480 -500 -500 -508	-496 13 -510 9 -472 -500 -507 -510		-520 1	-518 21 -559 38 -480 -520 -540 -553	
			-491 11 -510 15 -473 -490 -500 -510	-470 1		-502 11 -520 11 -482 -500 -514 -520	
10		-475 5 -480 2 -470 -475 -478 -480	-483 14 -500 15 -453 -490 -498 -500	-485 5 -490 4 -480 -485 -490 -490		-495 11 -520 15 -483 -490 -500 -520	
		-470 1	-484 10 -500 12 -470 -490 -490 -498			-497 11 -519 23 -480 -500 -510 -516	
0			-490 10 -500 2 -480 -490 -497 -500			-495 14 -520 24 -480 -490 -510 -520	
		-450 1	-450 1		-520 1	-496 15 -520 20 -480 -490 -510 -520	
10			-460 1		-490 1	-497 13 -520 19 -480 -500 -510 -520	
				-490 1	-493 5 -500 3 -490 -490 -497 -500	-499 11 -520 15 -480 -500 -510 -517	
20			-480 1	-493 12 -510 3 -480 -490 -504 -509	-490 11 -500 5 -472 -490 -500 -500	-502 10 -520 10 -490 -500 -510 -518	
				-490 15 -520 6 -471 -490 -496 -517	-485 22 -529 8 -453 -485 -499 -526	-502 7 -510 5 -491 -500 -510 -510	
30				-517 29 -570 9 -482 -510 -544 -567	-523 49 -570 9 -442 -550 -567 -570	-530 20 -550 2 -511 -530 -544 -549	
			-555 5 -560 2 -550 -555 -558 -560	-539 37 -589 22 -470 -550 -570 -586	-548 46 -600 9 -450 -560 -577 -597		
40 S				-561 37 -610 8 -503 -565 -599 -609	-562 29 -590 6 -513 -570 -590 -590		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-546 44 -639 9 -478 -530 -574 -630	-520 1	-510 16 -530 4 -491 -510 -525 -529	-490 25 -520 4 -461 -490 -515 -519	-480 1			-523 41 -637 20 -464 -520 -550 -617	70 N
	-553 58 -687 12 -494 -525 -600 -670	-559 50 -649 14 -488 -565 -600 -645	-480 1	-513 53 -619 6 -470 -490 -556 -612	-505 22 -540 6 -472 -505 -524 -538			-540 54 -685 40 -470 -520 -600 -659	
60	-518 38 -580 5 -480 -510 -554 -577	-555 54 -639 11 -466 -560 -608 -636	-478 30 -500 6 -424 -495 -500 -500	-513 65 -619 4 -452 -490 -562 -613	-518 67 -620 16 -403 -500 -590 -617			-520 57 -637 57 -411 -510 -580 -620	60
	-548 53 -620 15 -466 -560 -600 -620	-541 39 -599 7 -481 -550 -562 -595	-518 65 -600 16 -406 -525 -580 -600	-540 47 -628 24 -438 -550 -580 -616	-539 54 -630 68 -453 -550 -610 -630	-603 33 -669 7 -570 -600 -622 -664		-540 54 -650 169 -437 -550 -591 -630	
50	-560 34 -629 24 -499 -570 -583 -621	-566 53 -610 7 -467 -600 -610 -610	-553 54 -620 35 -417 -560 -610 -620	-549 41 -629 49 -460 -560 -590 -620	-538 30 -599 12 -490 -540 -557 -596	-580 35 -620 10 -503 -585 -606 -618		-545 51 -630 200 -440 -550 -600 -630	50
	-570 39 -630 27 -510 -570 -618 -630	-548 38 -600 71 -470 -550 -590 -600	-550 44 -637 90 -453 -550 -598 -622	-510 43 -570 3 -471 -490 -544 -567	-470 1	-588 25 -620 8 -537 -595 -600 -617		-546 45 -632 273 -450 -550 -590 -620	
40	-552 35 -640 54 -481 -555 -580 -638	-546 36 -598 58 -470 -560 -580 -590	-580 16 -600 4 -561 -580 -595 -599			-595 5 -600 2 -590 -595 -598 -600		-545 38 -640 215 -470 -550 -580 -610	40
	-546 27 -618 84 -500 -540 -570 -603	-519 30 -550 9 -463 -530 -547 -550	-545 5 -550 2 -540 -545 -548 -550					-539 31 -620 117 -473 -540 -570 -607	
30	-533 26 -596 63 -472 -540 -550 -578							-525 27 -593 114 -470 -530 -550 -570	30
	-534 12 -550 5 -520 -540 -544 -549					-540 1		-513 21 -558 64 -480 -510 -540 -550	
20	-495 15 -510 2 -481 -495 -505 -509							-495 13 -520 29 -470 -500 -510 -520	20
	-509 11 -520 8 -491 -510 -520 -520							-492 15 -520 44 -459 -490 -501 -520	
10	-511 15 -540 7 -491 -510 -521 -538							-495 15 -537 43 -470 -490 -510 -523	10
								-495 13 -520 26 -480 -490 -510 -520	
0								-493 20 -520 23 -450 -490 -515 -520	0
								-495 15 -520 21 -468 -490 -510 -520	
10								-497 11 -519 19 -480 -500 -510 -516	10
	-540 1							-498 15 -539 20 -474 -500 -510 -532	
20								-491 19 -529 19 -457 -490 -510 -526	20
								-521 39 -570 20 -444 -530 -560 -570	
30						-550 1		-543 38 -599 34 -460 -550 -570 -593	30
								-561 34 -610 14 -503 -570 -590 -607	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-540 1	
60						-521 38 -629 26 -470 -520 -540 -625	
					-540 33 -609 14 -493 -540 -569 -605	-512 37 -595 39 -448 -510 -550 -570	
50					-533 39 -600 21 -468 -530 -576 -600	-522 37 -617 24 -464 -520 -560 -602	
					-566 59 -650 10 -492 -545 -640 -648	-571 45 -659 8 -504 -565 -608 -653	
40	-530 1			-564 28 -609 9 -520 -570 -580 -605	-568 42 -629 20 -490 -565 -610 -626	-574 34 -638 18 -513 -580 -610 -630	
				-565 30 -610 14 -530 -550 -599 -610	-563 43 -620 13 -487 -550 -620 -620	-595 21 -620 6 -562 -595 -620 -620	
30	-540 10 -550 2 -530 -540 -547 -550			-560 -560 2 -560 -560 -560 -560	-564 10 -580 5 -551 -560 -574 -579	-647 26 -670 3 -612 -660 -667 -670	
	-557 12 -570 3 -541 -560 -567 -570	-540 1				-590 17 -610 5 -562 -590 -604 -609	
20						-552 25 -590 6 -520 -555 -574 -588	
						-573 4 -580 4 -570 -570 -575 -579	
10			-543 9 -550 3 -531 -550 -550 -550	-540 1		-560 -560 2 -560 -560 -560 -560	
			-545 9 -550 4 -531 -550 -550 -550	-540 -540 2 -540 -540 -540 -540		-557 6 -570 10 -550 -560 -560 -568	
0			-535 5 -540 2 -530 -535 -538 -540	-545 5 -550 2 -540 -545 -548 -550		-555 8 -570 18 -543 -550 -563 -570	
			-533 17 -550 3 -511 -540 -547 -550	-540 -540 2 -540 -540 -540 -540	-560 1	-553 9 -570 20 -540 -550 -560 -570	
10			-550 -550 2 -550 -550 -550 -550	-540 -540 2 -540 -540 -540 -540	-560 -560 2 -560 -560 -560 -560	-553 8 -570 16 -540 -550 -560 -567	
			-540 -540 2 -540 -540 -540 -540	-527 17 -550 3 -510 -520 -540 -549	-550 -550 2 -550 -550 -550 -550	-558 9 -570 16 -540 -560 -566 -570	
20				-533 12 -550 3 -520 -530 -544 -549	-560 -560 2 -560 -560 -560 -560	-561 17 -590 12 -532 -560 -572 -588	
				-535 5 -540 2 -530 -535 -538 -540	-545 5 -550 2 -540 -545 -548 -550	-554 16 -570 5 -531 -560 -570 -570	
30				-530 1	-548 39 -609 4 -511 -535 -581 -606	-573 41 -620 3 -522 -580 -607 -618	
			-573 21 -600 3 -551 -570 -590 -599	-583 35 -610 6 -516 -600 -610 -610	-551 47 -619 10 -492 -545 -600 -616		
40 S				-608 19 -620 5 -573 -620 -620 -620	-549 57 -649 15 -473 -550 -608 -644		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-510 21 -550 6 -490 -505 -526 -547	-515 5 -520 2 -510 -515 -518 -520	-500 10 -510 2 -490 -500 -507 -510	-520 1				-513 18 -550 12 -490 -510 -525 -548	70 N
	-529 40 -619 16 -469 -520 -562 -614	-514 30 -550 5 -464 -520 -537 -548	-520 28 -540 3 -482 -540 -540 -540	-605 45 -640 4 -535 -625 -640 -640	-580 1			-530 44 -640 55 -461 -520 -564 -639	
60	-561 43 -630 14 -503 -545 -618 -627	-562 39 -629 6 -513 -550 -598 -626	-528 42 -599 5 -490 -510 -568 -596	-497 25 -540 15 -463 -490 -528 -540	-508 42 -600 23 -460 -500 -550 -600			-522 43 -630 116 -453 -515 -560 -620	60
	-585 55 -670 12 -512 -585 -640 -670	-562 41 -629 10 -489 -570 -596 -625	-542 54 -639 5 -482 -540 -576 -632	-563 40 -620 16 -492 -565 -606 -620	-566 59 -650 29 -476 -570 -630 -650	-603 82 -680 3 -496 -640 -667 -678		-553 53 -676 120 -474 -540 -620 -662	
50	-598 37 -660 21 -544 -590 -646 -660	-577 51 -640 7 -486 -590 -621 -638	-594 47 -679 13 -512 -590 -641 -673	-582 54 -680 16 -493 -580 -640 -677	-592 55 -660 9 -488 -620 -637 -657	-603 56 -660 7 -512 -610 -660 -660		-587 51 -680 91 -488 -580 -640 -672	50
	-597 38 -650 24 -520 -590 -643 -650	-575 40 -640 40 -508 -580 -620 -640	-568 49 -675 55 -490 -570 -610 -649		-540 10 -550 2 -530 -540 -547 -550	-605 34 -660 10 -562 -605 -641 -658		-575 43 -669 179 -490 -580 -620 -650	
40	-567 41 -630 13 -505 -560 -620 -628	-569 32 -628 56 -501 -570 -610 -620	-585 16 -610 6 -562 -580 -602 -609					-570 34 -630 108 -500 -570 -610 -620	40
	-567 12 -580 3 -551 -570 -577 -580	-559 26 -609 12 -509 -560 -575 -606	-560 1					-569 34 -669 28 -516 -560 -587 -665	
30	-563 22 -600 4 -550 -550 -576 -597							-570 24 -610 13 -540 -560 -600 -608	30
	-550 1					-570 1		-554 23 -590 8 -520 -555 -570 -587	
20	-563 5 -570 3 -560 -560 -567 -570					-565 5 -570 2 -560 -565 -568 -570		-568 6 -580 9 -560 -570 -570 -578	20
	-564 5 -570 7 -560 -560 -570 -570					-560 1		-557 11 -670 14 -533 -560 -569 -570	
10	-563 7 -580 6 -560 -560 -584 -578					-560 -560 2 -560 -560 -560 -560		-555 10 -579 24 -535 -580 -560 -575	10
	-570 -570 2 -570 -570 -570 -570					-550 10 -560 2 -540 -550 -557 -560		-553 11 -570 26 -535 -550 -570 -570	
0	-570 -570 2 -570 -570 -570 -570					-540 -540 2 -540 -540 -540 -540		-551 12 -570 30 -527 -560 -564 -570	0
	-570 -570 2 -570 -570 -570 -570					-560 -560 2 -560 -560 -560 -560		-554 9 -570 26 -540 -550 -560 -570	
10	-570 1					-580 1		-553 15 -579 25 -515 -560 -570 -575	10
	-570 1							-557 18 -589 18 -523 -560 -570 -587	
20								-548 15 -570 9 -530 -540 -567 -570	20
								-555 40 -620 8 -511 -540 -606 -619	
30						-570 1		-565 42 -619 20 -494 -570 -600 -616	30
								-564 57 -649 20 -474 -570 -620 -642	
40 S									40S

LONGITUDE

APPENDIX C

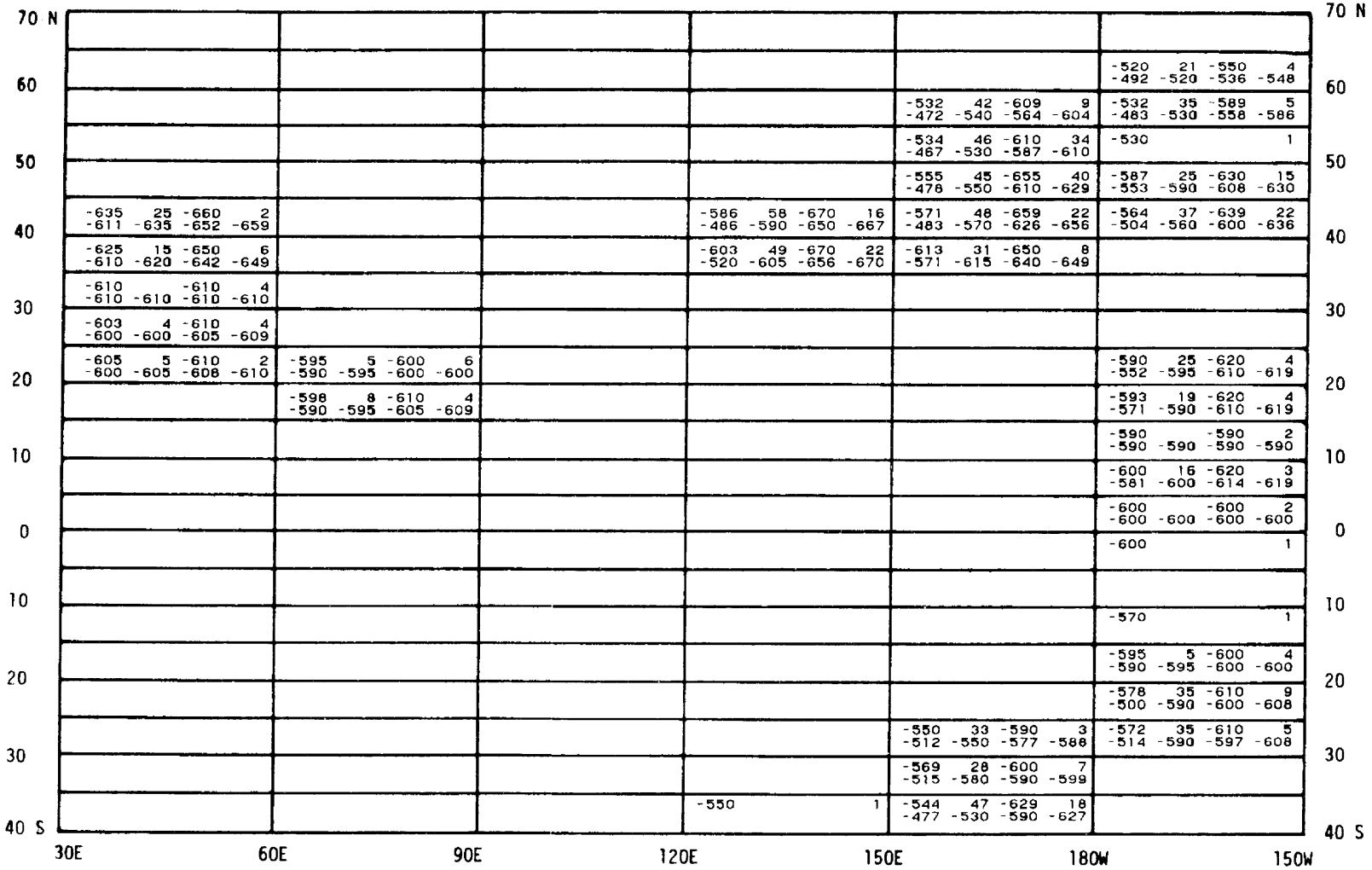
STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N						-560 1		-560 1	70 N
	-540 1	-550 1		-528 31 -560 4 -482 -535 -555 -559	-510 36 -560 3 -480 -490 -538 -557	-640 1		-532 41 -637 14 -480 -530 -559 -619	
60	-578 54 -670 12 -512 -565 -647 -670	-572 38 -649 9 -523 -560 -604 -644	-480 20 -500 2 -461 -480 -494 -499	-506 38 -580 16 -470 -490 -556 -577	-576 60 -669 11 -484 -590 -634 -664	-650 1		-547 57 -670 65 -470 -540 -610 -670	60
	-677 68 -730 3 -586 -720 -727 -730	-556 42 -639 16 -486 -550 -596 -631	-510 28 -530 3 -472 -530 -530 -530	-553 39 -638 18 -474 -550 -593 -630	-573 65 -670 28 -480 -565 -650 -670	-640 10 -650 2 -630 -640 -647 -650		-556 58 -727 105 -470 -550 -610 -670	
50	-607 65 -729 13 -522 -590 -700 -723	-573 46 -696 26 -485 -580 -610 -675	-575 55 -669 23 -493 -560 -640 -666	-575 52 -660 28 -481 -575 -637 -660	-573 34 -610 9 -501 -570 -604 -610	-677 5 -680 3 -670 -680 -680 -680		-575 52 -716 157 -480 -570 -620 -696	50
	-590 30 -649 32 -530 -590 -620 -644	-589 48 -689 21 -494 -600 -618 -686	-585 50 -679 42 -495 -585 -624 -672			-655 9 -660 4 -641 -660 -660 -660		-584 47 -685 161 -492 -590 -630 -670	
40	-595 20 -629 27 -550 -600 -610 -625	-593 39 -659 22 -524 -590 -650 -656	-555 45 -600 4 -510 -555 -600 -600					-598 38 -670 89 -518 -600 -640 -662	40
	-591 22 -648 23 -554 -590 -610 -637	-583 42 -640 9 -500 -590 -617 -637						-591 28 -649 36 -532 -595 -610 -643	
30	-597 24 -640 21 -548 -600 -620 -640							-598 22 -640 25 -550 -600 -620 -640	30
	-605 18 -630 17 -570 -600 -624 -630							-601 18 -630 29 -561 -600 -620 -630	
20	-608 16 -630 13 -575 -610 -620 -628							-603 17 -629 21 -570 -600 -620 -626	20
	-616 9 -630 7 -601 -620 -620 -629							-610 13 -630 9 -590 -610 -620 -628	
10	-610 10 -620 2 -600 -610 -617 -620							-604 15 -620 5 -582 -600 -620 -620	10
								-600 -600 2 -600 -600 -600 -600	
0								-600 1	0
10						-630 1		-600 30 -630 2 -571 -600 -620 -629	10
								-595 5 -600 4 -590 -595 -600 -600	
20								-578 35 -610 9 -500 -590 -600 -608	20
								-564 36 -610 8 -510 -575 -590 -607	
30						-580 1		-570 26 -600 8 -516 -580 -589 -599	30
								-545 46 -629 19 -477 -540 -590 -626	
40 S									40S

LONGITUDE

APPENDIX C

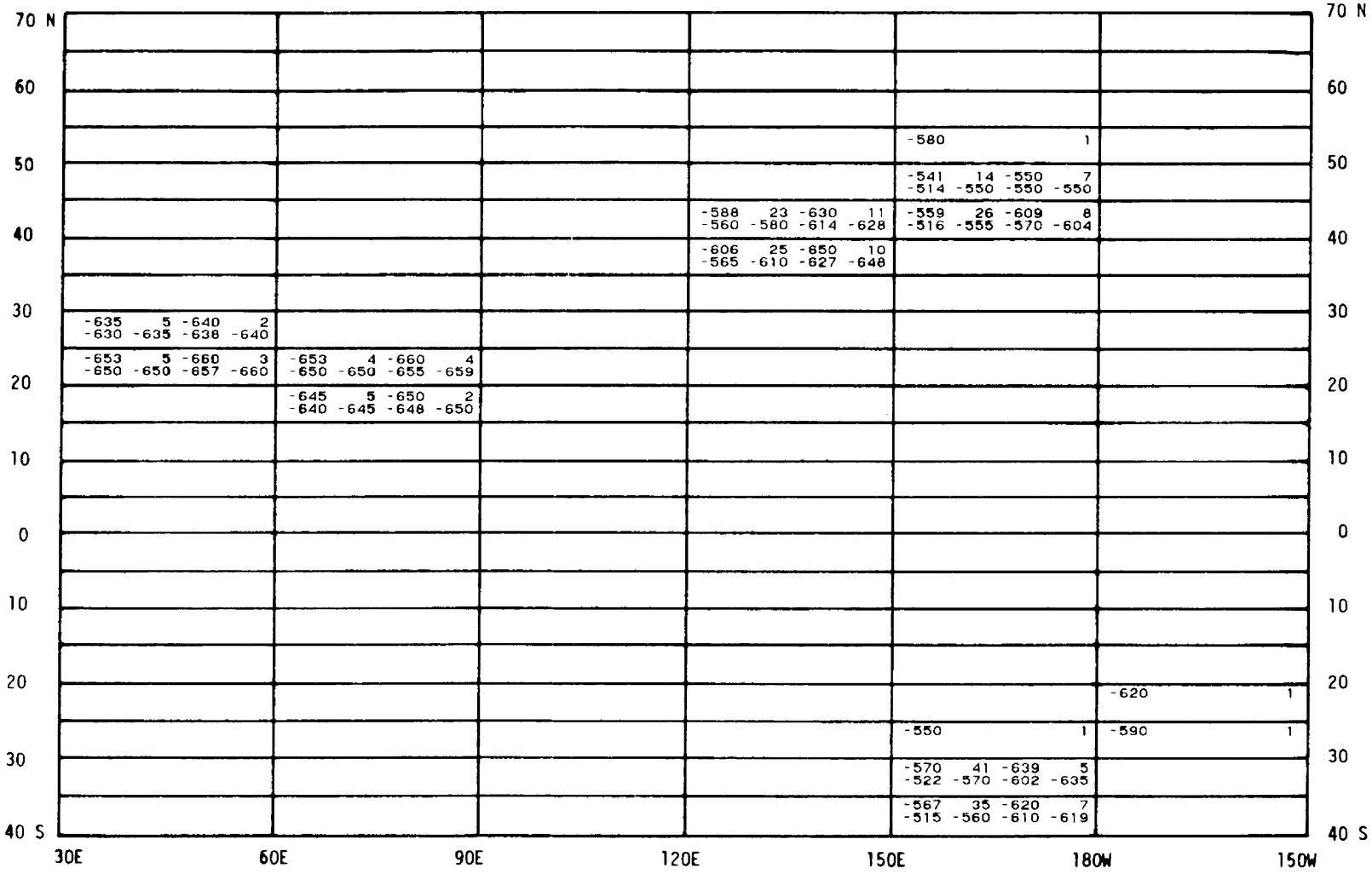
STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

OCTOBER
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60		-520 1		-513 38 -550 4 -471 -515 -550 -550	-530 20 -550 2 -511 -530 -544 -549	-630 1		-533 47 -628 8 -471 -535 -550 -619	60
50		-520 10 -530 2 -510 -520 -527 -530	-550 39 -610 5 -510 -540 -591 -608	-536 35 -589 5 -484 -540 -558 -586		-620 1		-548 40 -620 14 -488 -540 -589 -617	50
		-570 30 -600 2 -541 -570 -590 -599	-584 27 -620 13 -522 -590 -601 -618	-620 1				-571 32 -620 23 -510 -570 -600 -620	
40	-628 29 -660 4 -583 -635 -650 -659	-630 1	-582 37 -639 14 -503 -590 -610 -635	-620 -620 2 -620 -620 -620 -620				-587 36 -658 40 -506 -585 -620 -644	40
	-658 18 -680 4 -640 -655 -675 -679	-627 5 -630 3 -620 -630 -630 -630						-622 30 -680 17 -570 -620 -644 -677	
30								-635 5 -640 2 -630 -635 -638 -640	30
								-653 5 -660 7 -650 -650 -660 -660	
20								-645 5 -650 2 -640 -645 -648 -650	20
10									10
0									0
10						-660 1		-660 1	10
						-635 15 -650 2 -621 -635 -645 -649		-635 15 -650 2 -621 -635 -645 -649	
20						-615 5 -620 2 -610 -615 -618 -620		-617 5 -620 3 -610 -620 -620 -620	20
						-615 5 -620 2 -610 -615 -618 -620		-593 27 -620 4 -552 -600 -615 -619	
30						-610 1		-577 40 -640 6 -522 -575 -616 -637	30
40 S								-567 35 -620 7 -515 -560 -610 -619	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-400 1						
30	-417 9 -430 3 -410 -410 -424 -429			-340 42 -419 15 -273 -340 -378 -414			
20	-382 39 -440 5 -340 -380 -421 -438						
10	-326 37 -370 11 -256 -330 -360 -368			-270 1			
0	-310 29 -350 3 -281 -300 -334 -348		-253 25 -280 3 -222 -260 -274 -279	-270 1			-278 30 -340 26 -230 -280 -310 -340
10		-210 1	-240 1	-220 1			-263 15 -280 4 -241 -265 -275 -279
20			-223 10 -240 7 -210 -220 -230 -239	-215 15 -230 2 -201 -215 -225 -229			
30							
40 S			-236 8 -250 10 -222 -240 -240 -248				
			-240 11 -250 5 -222 -240 -250 -250				
				-225 5 -230 2 -220 -225 -228 -230			-250 22 -270 3 -222 -260 -267 -270
					-240 14 -260 5 -221 -240 -254 -259		-200 1
					-250 1		
			-365 40 -410 4 -304 -375 -396 -408	-336 44 -390 5 -272 -360 -371 -388	-335 40 -399 6 -281 -345 -360 -395		
				-344 18 -370 11 -312 -340 -360 -368	-380 34 -430 4 -341 -375 -411 -428		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 270

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60									60
50	-317 9 -330 3 -310 -310 -324 -329				-430 34 -480 4 -391 -425 -461 -478	-431 66 -549 7 -345 -420 -483 -542		-431 56 -548 11 -348 -420 -480 -536	50
40	-370 1	-340 37 -380 3 -292 -350 -370 -379	-386 56 -489 40 -280 -395 -438 -482			-443 38 -490 4 -401 -440 -480 -489		-389 69 -490 7 -310 -400 -471 -488	40
30	-333 31 -370 20 -274 -340 -370 -370	-395 45 -440 2 -352 -395 -426 -438	-352 41 -380 5 -278 -370 -374 -379			-470 52 -550 9 -386 -470 -527 -547		-398 63 -547 54 -281 -400 -465 -529	30
20	-319 44 -399 11 -254 -310 -368 -396	-338 35 -399 21 -284 -340 -380 -396				-358 24 -400 6 -330 -360 -376 -397		-347 41 -438 51 -270 -350 -380 -430	20
10								-338 43 -437 37 -264 -340 -380 -418	10
0	-230 1							-322 39 -370 12 -254 -325 -360 -368	0
10								-277 32 -349 34 -227 -280 -307 -343	10
20								-246 24 -280 7 -211 -240 -270 -279	20
30								-221 12 -240 9 -202 -220 -230 -238	30
40 S									40S
								-236 8 -250 10 -222 -240 -240 -248	
								-240 11 -250 5 -222 -240 -250 -250	
								-240 21 -270 5 -220 -230 -264 -269	
								-233 20 -260 6 -202 -235 -252 -259	
								-250 1	
				-380 1				-346 43 -410 16 -273 -355 -386 -407	
								-353 28 -428 15 -313 -350 -368 -419	

LONGITUDE

APPENDIX C

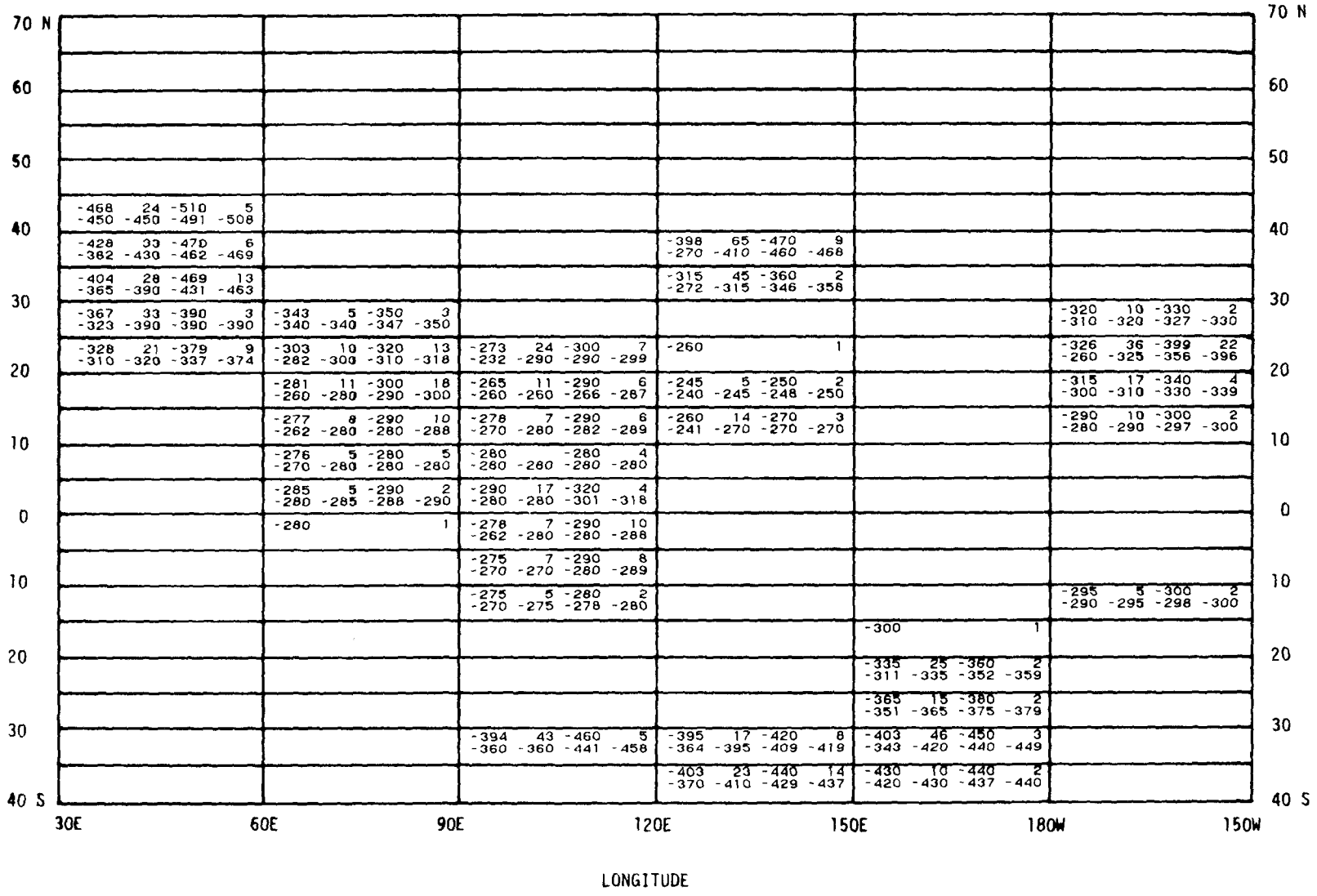
STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-450 1							-450 1	60
50					-460 37 -510 3 -421 -450 -491 -508			-460 37 -510 3 -421 -450 -491 -508	50
40	-350 10 -360 2 -340 -350 -357 -360		-360 1	-460 1	-444 27 -490 11 -404 -430 -478 -490	-467 46 -520 11 -376 -480 -508 -520		-456 39 -520 23 -383 -460 -490 -520	40
30	-370 8 -380 3 -360 -370 -377 -380	-418 38 -470 6 -355 -420 -454 -468	-419 28 -488 31 -370 -420 -450 -478	-473 25 -500 3 -442 -480 -494 -499		-492 34 -530 13 -422 -510 -521 -530		-467 58 -530 19 -347 -480 -511 -530	30
20	-368 35 -429 8 -321 -370 -390 -424	-410 21 -440 7 -382 -400 -440 -440	-365 31 -410 6 -314 -365 -394 -408	-410 1		-479 52 -569 21 -384 -470 -530 -566		-439 49 -568 67 -363 -430 -490 -557	20
10	-362 30 -410 5 -330 -370 -384 -407	-372 34 -458 21 -314 -370 -398 -444				-418 27 -460 4 -391 -410 -441 -458		-395 47 -470 40 -299 -400 -448 -470	10
0								-378 39 -469 41 -302 -380 -410 -462	0
10								-346 28 -390 8 -311 -340 -385 -390	10
20		-300 1						-312 34 -398 52 -250 -310 -340 -390	20
30			-270 10 -280 2 -260 -270 -277 -280					-280 21 -338 31 -246 -280 -300 -328	30
40								-276 12 -299 23 -249 -280 -280 -296	40
40 S	-300 1							-278 4 -280 9 -270 -280 -280 -280	40S
				-335 35 -370 2 -301 -335 -359 -369				-288 15 -320 6 -280 -280 -296 -317	
								-278 7 -290 11 -262 -280 -280 -288	
								-275 7 -290 8 -270 -270 -280 -289	
								-285 11 -300 4 -271 -285 -295 -299	
								-300 -300 2 -300 -300 -300 -300	
								-335 30 -370 4 -301 -335 -365 -369	
								-365 15 -380 2 -351 -365 -375 -379	
								-396 34 -460 16 -346 -395 -426 -457	
								-406 23 -440 16 -370 -410 -430 -440	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-580 1	
50							
40	-500 24 -540 4 -480 -490 -521 -538						
30	-491 26 -548 21 -448 -490 -520 -538			-416 56 -509 20 -318 -415 -489 -506	-410 1		
20	-453 16 -489 20 -430 -450 -470 -486			-380 1			
10	-412 29 -469 21 -360 -410 -440 -466	-393 15 -420 16 -359 -390 -406 -417					
0	-368 13 -390 4 -360 -360 -376 -388	-351 18 -389 15 -323 -350 -370 -384	-344 14 -360 5 -330 -340 -360 -360			-380 35 -450 24 -330 -380 -410 -450	
10		-334 11 -359 19 -314 -340 -340 -353	-326 10 -340 5 -311 -330 -334 -339	-330 1		-366 15 -390 5 -350 -370 -377 -388	
20		-330 10 -340 8 -311 -330 -340 -340	-323 10 -340 7 -310 -320 -330 -339	-317 21 -340 3 -291 -320 -334 -339		-343 10 -360 7 -330 -340 -350 -359	
30		-325 5 -330 4 -320 -325 -330 -330	-325 5 -330 6 -320 -325 -330 -330			-338 17 -370 6 -321 -330 -354 -368	
40 S			-313 5 -320 3 -310 -310 -317 -320			-340 10 -350 2 -330 -340 -347 -350	
LAT.		-330 1	-328 16 -360 6 -311 -325 -336 -357				
70 N			-316 15 -330 5 -292 -320 -330 -330				
60			-330 19 -369 6 -311 -325 -338 -366	-330 6 -340 5 -321 -330 -334 -339	-330 1	-355 5 -360 2 -350 -355 -358 -360	
50			-360 -360 2 -360 -360 -360 -360	-328 4 -330 5 -321 -330 -330 -330	-355 15 -370 2 -341 -355 -365 -369	-330 -330 2 -330 -330 -330 -330	
40			-357 5 -360 3 -350 -360 -360 -360	-356 29 -400 5 -321 -360 -381 -398	-370 14 -390 3 -360 -360 -380 -389	-340 1	
30			-393 16 -420 7 -380 -380 -410 -419	-410 25 -440 4 -372 -415 -430 -439	-420 10 -430 2 -410 -420 -427 -430		
20			-415 24 -460 6 -391 -405 -436 -457	-443 29 -470 15 -370 -450 -460 -470	-437 28 -480 15 -393 -440 -468 -477		
10				-448 21 -470 9 -403 -460 -460 -468	-480 19 -500 6 -444 -485 -492 -499		
0							
10							
20							
30							
40 S							

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 310

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-470 1			-530 20 -550 2 -511 -530 -544 -549	-505 55 -560 2 -452 -505 -542 -558			-520 48 -580 6 -452 -530 -564 -578	60
				-505 30 -540 12 -444 -510 -532 -540	-468 64 -540 11 -372 -490 -534 -540			-487 53 -540 23 -374 -510 -535 -540	
50	-430 1		-540 1	-517 47 -580 10 -450 -520 -566 -578	-485 30 -539 23 -423 -490 -515 -531	-491 49 -549 9 -402 -510 -520 -545		-493 42 -579 44 -409 -500 -531 -571	50
	-410 31 -469 5 -382 -400 -425 -464		-500 37 -540 3 -452 -510 -530 -539	-473 19 -500 6 -443 -470 -492 -499	-509 14 -520 7 -482 -510 -520 -520	-524 25 -598 17 -500 -520 -544 -584		-496 45 -594 38 -395 -510 -530 -563	
40	-430 1	-469 30 -520 11 -440 -460 -504 -518	-466 44 -550 42 -390 -460 -510 -550			-510 43 -618 20 -438 -500 -540 -605		-479 46 -611 78 -390 -480 -527 -564	40
	-426 37 -499 12 -370 -425 -455 -493	-457 38 -490 6 -386 -475 -482 -489	-437 12 -450 3 -421 -440 -447 -450			-459 16 -480 7 -440 -460 -480 -480		-449 50 -544 70 -338 -455 -500 -520	
30	-409 32 -469 17 -350 -420 -439 -464	-413 37 -460 7 -347 -410 -450 -459				-420 1		-428 34 -489 46 -340 -430 -460 -481	30
	-380 -380 2 -380 -380 -380 -380							-403 25 -469 39 -358 -400 -420 -462	
20	-340 1							-366 31 -450 49 -330 -380 -400 -450	20
								-338 17 -388 30 -310 -340 -350 -378	
10		-340 1						-330 15 -359 26 -300 -330 -340 -355	10
								-330 13 -369 16 -320 -330 -330 -364	
0								-324 15 -350 5 -310 -320 -337 -348	0
								-329 15 -359 7 -311 -330 -331 -356	
10								-316 15 -330 5 -292 -320 -330 -330	10
								-334 16 -370 14 -313 -330 -349 -367	
20				-360 10 -370 2 -350 -360 -367 -370				-339 16 -370 11 -322 -330 -360 -368	20
								-359 20 -400 14 -323 -360 -370 -397	
30				-480 1				-402 22 -440 13 -372 -410 -421 -438	30
								-437 30 -480 37 -379 -450 -462 -480	
40 S								-461 26 -500 15 -406 -460 -488 -497	40S

LONGITUDE

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER

FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-500 10 -510 2 -490 -500 -507 -510	
50					-575 5 -580 2 -570 -575 -578 -580	-440 1	
40	-525 19 -550 6 -500 -530 -542 -549			-425 5 -430 2 -420 -425 -428 -430	-528 26 -560 4 -492 -530 -550 -559 -476 31 -510 7 -424 -490 -500 -509		
30	-519 29 -569 35 -454 -520 -550 -563			-448 48 -548 21 -370 -460 -488 -534	-427 40 -480 6 -381 -415 -480 -480		
20	-492 23 -529 30 -446 -500 -514 -524	-470 1		-418 40 -470 5 -362 -420 -457 -468	-370 1		
10	-444 21 -480 12 -410 -450 -462 -478	-430 23 -469 21 -388 -430 -458 -466		-430 10 -440 2 -420 -430 -437 -440		-443 38 -490 4 -401 -440 -480 -489	
0		-391 14 -420 9 -372 -390 -400 -417	-393 14 -420 6 -380 -390 -404 -418	-400 1		-432 38 -490 31 -372 -430 -482 -490	
10		-379 3 -380 7 -371 -380 -380 -380	-383 7 -390 7 -371 -380 -390 -390	-365 5 -390 2 -360 -385 -388 -390	-358 7 -370 5 -350 -360 -364 -369	-410 1	
20		-377 16 -419 10 -360 -375 -380 -413	-376 5 -380 5 -370 -380 -380 -380	-360 14 -380 5 -341 -360 -374 -379			
30		-378 7 -390 6 -370 -380 -382 -389	-375 8 -390 11 -362 -370 -380 -388	-375 5 -380 2 -370 -375 -378 -380			
40 S		-385 5 -390 4 -380 -385 -390 -390	-375 15 -419 12 -360 -370 -380 -411	-380 1		-388 15 -410 4 -371 -385 -400 -409	
		-393 12 -410 3 -360 -390 -404 -409	-373 7 -380 6 -361 -375 -380 -380	-380 -380 2 -380 -380 -380 -380		-380 12 -390 6 -361 -385 -390 -390	
			-386 13 -410 10 -364 -385 -396 -408	-378 4 -380 4 -371 -380 -380 -380		-379 11 -400 8 -361 -380 -380 -397	
			-381 15 -410 14 -360 -380 -399 -407	-375 13 -400 6 -361 -370 -384 -398	-393 9 -400 3 -381 -400 -400 -400	-399 15 -420 7 -380 -400 -410 -419	
			-376 24 -419 7 -350 -370 -391 -416	-381 10 -400 10 -362 -380 -390 -398	-403 17 -420 3 -381 -410 -417 -420	-410 -410 3 -410 -410 -410 -410	
			-387 28 -420 9 -352 -390 -420 -420	-401 14 -420 9 -382 -400 -420 -420	-406 30 -459 8 -370 -400 -430 -456		
			-415 26 -450 6 -381 -415 -442 -449	-442 29 -490 9 -395 -440 -470 -487	-463 30 -509 8 -407 -465 -480 -506		
			-480 13 -500 6 -461 -480 -492 -499	-480 31 -520 22 -420 -480 -510 -520	-484 25 -530 17 -443 -480 -514 -527	-490 1	
				-494 17 -520 11 -462 -500 -510 -518	-507 24 -540 13 -462 -510 -530 -538		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N				-580 22 -610 3 -560 -570 -597 -608	-577 5 -580 3 -570 -580 -580 -580			-578 16 -610 6 -561 -575 -586 -607	70 N
				-540 57 -580 7 -428 -570 -580 -580	-496 32 -559 7 -461 -490 -512 -554			-518 51 -580 14 -430 -510 -570 -580	
60			-523 31 -550 3 -482 -540 -547 -550	-493 35 -549 4 -461 -480 -521 -546	-496 48 -560 9 -422 -500 -544 -558			-500 41 -559 18 -423 -500 -550 -557	60
	-480 -480 -480 2 -480 -480 -480 -480	-520 1	-543 37 -580 7 -481 -560 -570 -579	-504 46 -579 13 -412 -520 -532 -575	-523 50 -599 29 -422 -540 -565 -594	-513 56 -609 8 -434 -500 -568 -604		-519 50 -608 63 -407 -530 -570 -598	
50	-417 12 -430 3 -401 -420 -427 -430	-506 28 -559 5 -481 -500 -522 -555	-528 32 -580 16 -473 -535 -556 -577	-514 47 -580 25 -414 -520 -560 -580	-556 17 -580 11 -532 -560 -574 -580	-525 28 -579 15 -483 -530 -550 -572		-521 43 -580 79 -411 -530 -560 -580	50
	-481 16 -510 7 -460 -480 -491 -508	-518 32 -579 15 -463 -510 -548 -574	-517 36 -580 52 -450 -520 -560 -580	-520 1		-526 25 -560 21 -484 -530 -550 -560		-513 36 -580 111 -430 -510 -550 -580	
40	-470 25 -529 16 -440 -460 -490 -521	-485 43 -540 17 -389 -480 -530 -540	-433 24 -460 4 -401 -435 -455 -459			-506 10 -520 8 -491 -505 -519 -520		-483 47 -567 107 -371 -490 -530 -550	40
	-454 27 -500 26 -410 -460 -480 -500	-466 49 -520 9 -371 -470 -510 -518				-510 10 -520 2 -500 -510 -517 -520		-469 39 -528 74 -365 -470 -510 -520	
30	-463 29 -510 21 -420 -470 -488 -510	-450 10 -460 2 -440 -450 -457 -460						-445 29 -510 62 -400 -440 -480 -510	30
	-438 45 -509 6 -381 -440 -478 -506	-420 1						-421 38 -507 54 -371 -410 -470 -490	
20		-370 1	-440 1					-380 18 -438 24 -350 -380 -390 -426	20
			-440 1	-440 1				-379 24 -440 22 -344 -375 -380 -440	
10				-410 1				-378 10 -409 20 -364 -380 -380 -402	10
								-380 14 -419 21 -360 -380 -390 -416	
0								-380 12 -409 17 -360 -380 -390 -404	0
				-400 1				-383 12 -409 23 -360 -380 -395 -406	
10	-390 1			-395 5 -400 2 -390 -395 -398 -400				-386 16 -419 33 -360 -380 -400 -414	10
				-430 1				-388 22 -429 24 -350 -385 -410 -425	
20				-460 1				-400 28 -460 27 -355 -400 -420 -460	20
				-510 1				-445 36 -510 24 -385 -445 -480 -510	
30				-520 -520 2 -520 -520 -520 -520				-484 27 -529 48 -420 -480 -510 -521	30
								-501 22 -539 24 -460 -505 -520 -535	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-520 1	
					-640 1	-520 29 -560 3 -491 -510 -544 -558	
50					-526 49 -629 9 -480 -510 -573 -624	-516 33 -560 7 -462 -520 -550 -559	
					-497 49 -608 12 -432 -480 -550 -597	-565 15 -580 2 -551 -565 -575 -579	
40	-579 13 -600 8 -561 -575 -590 -599			-470 46 -530 4 -404 -475 -506 -527	-504 48 -570 12 -417 -505 -555 -570	-457 44 -539 6 -395 -455 -476 -532	
	-568 25 -619 27 -515 -570 -590 -615			-484 40 -577 16 -405 -495 -500 -562	-452 45 -548 6 -421 -435 -462 -539	-495 35 -530 2 -461 -495 -519 -529	
30	-523 29 -560 24 -452 -525 -550 -560			-425 5 -430 2 -420 -425 -428 -430	-423 5 -430 3 -420 -420 -427 -430	-470 23 -510 4 -451 -460 -486 -507	
	-491 28 -540 13 -452 -480 -530 -538	-490 1			-426 5 -430 9 -420 -430 -430 -430	-485 22 -539 11 -460 -480 -500 -532	
20	-457 15 -480 6 -440 -455 -472 -479	-447 12 -470 12 -430 -445 -460 -468	-457 12 -470 3 -441 -460 -467 -470		-443 17 -460 6 -420 -450 -460 -460	-465 21 -510 58 -430 -470 -480 -510	
		-440 18 -489 13 -420 -440 -451 -483		-390 1	-415 14 -440 11 -400 -420 -430 -438	-467 5 -470 3 -460 -470 -470 -470	
10		-425 5 -430 2 -420 -425 -428 -430	-428 4 -430 6 -421 -430 -430 -430	-410 8 -420 10 -400 -410 -420 -420		-440 10 -450 2 -430 -440 -447 -450	
		-432 10 -440 5 -420 -440 -440 -440	-431 7 -440 11 -420 -430 -440 -440			-428 12 -440 5 -411 -430 -440 -440	
0		-435 5 -440 6 -430 -435 -440 -440	-430 9 -440 9 -412 -430 -440 -440	-425 5 -430 2 -420 -425 -428 -430		-434 7 -440 8 -421 -435 -440 -440	
		-427 18 -450 6 -410 -420 -450 -450	-426 13 -459 17 -403 -430 -434 -454	-420 -420 2 -420 -420 -420 -420		-434 11 -450 10 -420 -435 -446 -450	
10			-426 17 -460 18 -403 -420 -440 -460	-430 9 -440 5 -420 -430 -440 -440		-438 14 -460 8 -420 -435 -450 -459	
			-425 14 -440 21 -400 -420 -440 -440	-430 11 -450 10 -420 -425 -440 -448	-435 5 -440 2 -430 -435 -438 -440	-444 14 -470 8 -430 -440 -459 -469	
20			-425 12 -440 10 -410 -425 -440 -440	-437 16 -470 16 -413 -430 -456 -467	-440 10 -450 2 -430 -440 -447 -450	-465 5 -470 2 -460 -465 -468 -470	
			-426 19 -460 7 -410 -420 -450 -459	-464 24 -509 22 -428 -460 -490 -506	-443 39 -480 4 -384 -455 -475 -479	-497 5 -500 3 -490 -500 -500 -500	
30			-467 12 -480 3 -451 -470 -477 -480	-494 29 -530 18 -437 -510 -520 -530	-482 31 -539 11 -420 -490 -500 -532	-515 5 -520 4 -510 -515 -520 -520	
			-497 21 -520 3 -471 -500 -514 -519	-531 23 -588 22 -484 -535 -546 -577	-517 25 -560 12 -480 -520 -535 -558	-520 1	
40 S				-531 32 -569 18 -454 -540 -560 -567	-528 12 -540 10 -504 -530 -540 -540		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 350

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-560 -560 2 -560 -560 -560 -560	-615 45 -660 2 -572 -615 -646 -658	-620 1	-620 1				-598 38 -659 6 -560 -595 -628 -656	70 N
	-519 43 -609 10 -462 -515 -551 -601	-554 46 -649 10 -500 -540 -597 -643		-480 -480 2 -480 -480 -480 -480	-460 10 -470 2 -450 -460 -467 -470			-525 49 -647 25 -455 -520 -572 -631	
60	-495 75 -570 2 -423 -495 -546 -567	-551 55 -657 18 -467 -550 -600 -643	-545 45 -590 2 -502 -545 -576 -588	-593 45 -650 7 -517 -590 -640 -649	-578 41 -620 11 -492 -590 -620 -620			-561 56 -659 44 -454 -575 -620 -651	60
	-400 8 -410 3 -390 -400 -407 -410	-559 44 -610 12 -469 -570 -600 -608	-533 45 -609 12 -464 -535 -580 -603	-551 62 -650 30 -446 -560 -634 -650	-566 67 -659 35 -414 -590 -616 -653	-550 43 -610 4 -493 -550 -586 -607		-546 63 -657 112 -402 -560 -610 -650	
50	-543 46 -600 6 -459 -550 -576 -597	-560 29 -590 3 -522 -570 -584 -589	-550 53 -630 29 -446 -540 -610 -630	-550 56 -649 22 -434 -550 -596 -646	-570 16 -590 3 -551 -570 -584 -589	-553 34 -590 14 -478 -565 -580 -590		-544 52 -647 91 -438 -550 -590 -632	50
	-530 42 -598 10 -480 -540 -570 -595	-537 35 -599 14 -485 -535 -579 -595	-532 53 -640 45 -418 -530 -590 -640	-540 1	-640 10 -650 2 -830 -640 -647 -650	-563 33 -599 20 -471 -570 -590 -596		-534 54 -646 122 -410 -540 -580 -636	
40	-526 33 -607 37 -467 -530 -552 -588	-532 24 -588 25 -480 -530 -560 -576	-528 24 -560 13 -480 -530 -550 -558			-556 31 -590 10 -497 -565 -590 -590		-529 43 -616 136 -430 -530 -570 -603	40
	-510 26 -566 64 -460 -510 -530 -550	-505 34 -559 8 -463 -490 -538 -566				-540 -540 2 -540 -540 -540 -540		-508 34 -570 107 -420 -510 -540 -560	
30	-489 23 -538 61 -450 -490 -514 -530							-483 29 -540 95 -420 -480 -510 -540	30
	-466 19 -509 14 -433 -465 -480 -502	-437 5 -440 3 -430 -440 -440 -440						-460 20 -510 102 -420 -460 -480 -510	
20	-450 1	-427 5 -430 3 -420 -430 -430 -430						-432 22 -488 32 -396 -430 -450 -478	20
	-430 1		-413 9 -420 3 -401 -420 -420 -420					-420 12 -449 24 -400 -420 -430 -441	
10			-470 1					-432 12 -468 22 -414 -430 -440 -457	10
			-460 -460 2 -460 -460 -460 -460					-434 11 -460 27 -415 -430 -440 -460	
0			-450 1	-450 1				-429 14 -459 37 -407 -430 -450 -453	0
				-460 1				-430 16 -460 32 -406 -430 -450 -460	
10	-470 1							-431 18 -470 42 -400 -430 -440 -470	10
								-435 17 -470 30 -410 -430 -454 -470	
20				-490 1				-458 31 -509 37 -402 -460 -490 -503	20
								-491 29 -539 36 -424 -495 -520 -533	
30								-523 25 -587 38 -477 -530 -541 -568	30
								-530 26 -569 28 -468 -530 -550 -565	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-510 1	
						-485 35 -520 2 -451 -485 -509 -519	
60					-570 1	-549 62 -640 15 -448 -550 -635 -640	
					-547 50 -659 12 -482 -545 -582 -651	-527 63 -640 10 -460 -500 -600 -640	
50					-543 54 -630 16 -459 -530 -610 -627	-542 52 -620 9 -458 -540 -602 -618	
	-590 1			-519 27 -569 7 -481 -520 -532 -565	-538 54 -629 16 -459 -520 -606 -624	-512 60 -570 5 -423 -550 -564 -569	
40	-581 23 -620 10 -552 -580 -606 -618			-517 41 -627 20 -451 -515 -550 -611	-514 44 -617 25 -445 -510 -552 -601	-430 1	
	-544 39 -570 9 -456 -560 -570 -570			-463 5 -470 3 -460 -460 -467 -470	-510 10 -520 2 -500 -510 -517 -520	-490 1	
30	-548 10 -560 5 -540 -540 -560 -560	-530 40 -580 8 -473 -530 -570 -579		-495 5 -500 2 -490 -495 -498 -500		-527 25 -570 16 -490 -530 -556 -567	
		-500 19 -540 8 -480 -495 -518 -537	-483 22 -510 6 -444 -485 -502 -509	-500 1		-500 35 -570 50 -440 -495 -540 -570	
20			-480 12 -490 8 -454 -480 -490 -490	-465 15 -480 2 -451 -465 -475 -479	-450 7 -460 4 -441 -450 -455 -459	-488 24 -530 8 -460 -490 -509 -527	
			-480 8 -490 3 -470 -480 -487 -490	-468 8 -480 4 -460 -465 -475 -479		-495 16 -520 8 -471 -500 -509 -519	
10		-450 1	-480 1	-460 1		-491 13 -510 8 -471 -490 -508 -510	
		-470 1	-480 1			-489 8 -500 7 -480 -490 -500 -500	
0		-460 7 -470 4 -451 -460 -465 -469	-460 10 -470 2 -450 -460 -467 -470			-485 9 -500 4 -480 -480 -490 -499	
			-465 5 -470 4 -460 -465 -470 -470			-485 5 -490 2 -480 -485 -488 -490	
10			-460 -460 3 -460 -460 -460 -460			-485 5 -490 2 -480 -485 -488 -490	
			-470 14 -490 3 -460 -460 -480 -489			-493 5 -500 3 -490 -490 -497 -500	
20			-473 18 -490 4 -451 -475 -490 -490	-500 14 -520 3 -490 -490 -510 -519	-485 5 -490 2 -480 -485 -488 -490	-505 15 -520 2 -491 -505 -515 -519	
			-480 14 -490 3 -461 -490 -490 -490	-534 30 -580 8 -490 -535 -559 -577	-505 27 -530 4 -463 -515 -525 -529		
30			-515 25 -540 2 -491 -515 -532 -539	-556 32 -610 16 -510 -560 -582 -610	-555 25 -580 2 -531 -555 -572 -579		
40 S				-556 34 -609 22 -500 -570 -590 -602	-520 10 -530 2 -510 -520 -527 -530		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-510 14 -520 3 -491 -520 -520 -520	-465 5 -470 2 -460 -465 -468 -470						-495 24 -520 6 -461 -500 -520 -520	70 N
	-520 67 -640 12 -462 -485 -625 -640	-523 68 -630 7 -461 -480 -620 -629		-470 1				-515 65 -640 22 -454 -480 -620 -640	
60	-559 71 -650 10 -416 -575 -622 -648	-532 54 -619 11 -460 -540 -594 -616	-480 1	-520 28 -540 3 -482 -540 -540 -540	-581 46 -630 7 -530 -590 -630 -630			-549 61 -649 48 -438 -545 -625 -641	60
	-507 73 -638 7 -398 -500 -563 -630	-525 44 -599 6 -463 -530 -552 -594	-507 35 -569 6 -470 -500 -538 -566	-576 64 -688 20 -461 -570 -650 -679	-599 52 -660 34 -470 -610 -640 -660	-598 49 -640 5 -516 -630 -634 -639		-565 66 -681 100 -450 -570 -640 -660	
50	-544 53 -608 18 -417 -560 -590 -603	-590 1	-531 58 -600 10 -427 -540 -586 -598	-596 52 -670 16 -510 -590 -662 -670	-616 17 -640 7 -592 -610 -640 -640	-609 32 -640 15 -536 -620 -638 -640		-568 58 -670 92 -445 -580 -620 -670	50
	-555 40 -619 19 -474 -570 -581 -613	-565 34 -639 47 -480 -570 -596 -631	-563 57 -648 29 -437 -560 -620 -639	-590 99 -670 3 -458 -650 -664 -669	-623 40 -680 3 -590 -600 -654 -677	-594 28 -639 18 -537 -595 -620 -637		-562 50 -676 148 -450 -570 -610 -650	
40	-559 31 -619 25 -495 -560 -582 -610	-564 44 -639 48 -429 -570 -600 -631	-522 26 -570 14 -473 -520 -540 -567			-583 29 -620 3 -551 -580 -607 -618		-545 48 -636 146 -439 -550 -590 -621	40
	-553 30 -610 77 -495 -550 -580 -610	-544 36 -599 11 -466 -550 -564 -594	-541 18 -570 9 -520 -540 -564 -570					-547 34 -610 112 -460 -550 -580 -608	
30	-535 36 -610 73 -470 -540 -570 -606		-534 15 -560 5 -520 -530 -547 -558					-533 34 -610 109 -470 -540 -570 -600	30
	-497 38 -560 17 -446 -490 -540 -557		-534 20 -570 7 -520 -520 -560 -569					-501 34 -570 89 -440 -500 -540 -570	
20	-520 -520 2 -520 -520 -520 -520	-485 5 -490 2 -480 -485 -488 -490	-528 17 -560 5 -511 -520 -541 -558					-488 29 -557 31 -446 -490 -520 -542	20
	-503 15 -520 4 -481 -505 -515 -519		-487 21 -520 7 -461 -480 -510 -519	-510 10 -520 2 -500 -510 -517 -520				-490 20 -520 28 -460 -485 -510 -520	
10	-508 13 -520 4 -491 -510 -520 -520		-525 5 -530 2 -520 -525 -528 -530	-500 7 -510 4 -491 -500 -505 -509				-495 20 -529 21 -454 -490 -518 -526	10
	-510 -510 2 -510 -510 -510 -510		-520 10 -530 2 -510 -520 -527 -530	-507 9 -520 3 -500 -500 -514 -519				-497 16 -530 16 -473 -500 -510 -527	
0	-500 10 -510 2 -490 -500 -507 -510		-510 1	-510 1				-480 21 -510 14 -450 -480 -509 -510	0
	-510 -510 2 -510 -510 -510 -510			-510 1				-484 20 -510 9 -460 -480 -510 -510	
10	-520 1							-478 22 -520 6 -460 -470 -496 -517	10
								-482 16 -500 6 -460 -490 -492 -499	
20				-503 13 -520 4 -490 -500 -515 -519				-492 19 -520 15 -453 -490 -518 -520	20
								-515 34 -579 15 -460 -520 -548 -574	
30								-552 33 -610 20 -498 -560 -580 -610	30
								-553 34 -609 24 -500 -565 -590 -601	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER

FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-510 22 -530 3 -482 -520 -527 -530	
60						-517 62 -668 26 -445 -495 -580 -655	
					-531 61 -667 8 -461 -525 -549 -653	-524 64 -670 29 -450 -510 -570 -670	
50					-519 46 -637 22 -460 -515 -560 -619	-540 69 -678 18 -453 -530 -628 -670	
					-540 26 -579 10 -487 -545 -560 -576	-519 27 -560 11 -482 -520 -544 -558	
40	-590 10 -600 2 -580 -590 -597 -600			-540 1	-557 53 -660 10 -502 -535 -619 -658	-548 70 -650 11 -460 -530 -638 -650	
				-575 35 -610 2 -541 -575 -599 -609	-567 53 -649 6 -486 -565 -610 -645	-455 15 -470 2 -441 -455 -465 -469	
30	-570 29 -600 3 -532 -580 -594 -599			-500 -500 2 -500 -500 -500 -500	-510 10 -520 2 -500 -510 -517 -520	-523 12 -540 3 -510 -520 -534 -539	
	-597 12 -610 3 -581 -600 -607 -610	-600 10 -610 2 -590 -600 -607 -610			-520 -520 4 -520 -520 -520 -520	-543 18 -579 10 -520 -540 -560 -576	
20	-610 -610 2 -610 -610 -610 -610	-598 4 -600 4 -591 -600 -600 -600	-520 24 -550 3 -491 -520 -540 -549			-558 31 -619 19 -510 -560 -590 -613	
		-573 20 -590 4 -542 -580 -590 -590	-528 19 -550 4 -501 -530 -545 -549			-565 5 -570 2 -560 -565 -568 -570	
10		-535 5 -540 2 -530 -535 -538 -540	-540 1			-550 1	
		-540 1		-540 1		-550 1	
0						-540 7 -550 4 -531 -540 -545 -549	
			-535 5 -540 2 -530 -535 -538 -540			-538 4 -540 4 -531 -540 -540 -540	
10			-530 1			-540 12 -550 4 -521 -545 -550 -550	
						-543 5 -550 3 -540 -540 -547 -550	
20						-540 -540 2 -540 -540 -540 -540	
					-540 1		
30			-540 20 -560 2 -521 -540 -554 -559	-553 15 -570 4 -531 -555 -565 -569	-583 41 -630 6 -531 -585 -630 -630		
40 S				-574 22 -600 5 -542 -580 -594 -599	-495 35 -530 2 -461 -495 -519 -529		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-543 31 -589 7 -500 -550 -561 -586							-533 32 -589 10 -484 -535 -560 -585	70 N
	-537 70 -668 15 -443 -510 -615 -659	-520 20 -540 2 -501 -520 -534 -539						-524 64 -670 43 -440 -500 -593 -670	
60	-554 72 -670 10 -462 -545 -642 -668	-520 22 -540 3 -492 -530 -537 -540						-531 64 -670 50 -450 -525 -586 -670	60
	-525 33 -560 6 -482 -525 -560 -560	-488 36 -550 11 -434 -480 -528 -548	-630 1	-596 61 -679 7 -504 -620 -642 -675	-591 61 -669 8 -471 -610 -629 -664	-520 1		-536 64 -680 74 -450 -530 -620 -675	
50	-557 49 -639 10 -471 -545 -801 -635	-630 14 -640 3 -611 -640 -640 -640	-558 81 -660 4 -462 -555 -636 -657	-637 12 -650 3 -621 -640 -647 -650	-660 10 -670 2 -650 -660 -667 -670	-583 31 -610 4 -534 -595 -605 -609		-561 56 -669 47 -460 -550 -633 -661	50
	-635 17 -650 4 -611 -640 -650 -650	-578 55 -650 34 -443 -595 -630 -650	-575 61 -660 24 -459 -570 -650 -660		-700 1	-565 21 -590 4 -541 -565 -585 -589		-574 60 -689 91 -458 -580 -640 -660	
40	-616 31 -640 7 -570 -640 -640 -640	-603 35 -659 49 -528 -610 -640 -650	-572 40 -630 5 -531 -550 -617 -628					-594 46 -658 71 -474 -610 -640 -650	40
	-579 37 -629 31 -496 -590 -610 -624	-572 48 -639 11 -474 -590 -604 -634	-577 17 -600 3 -560 -570 -590 -599					-569 42 -638 55 -490 -580 -610 -629	
30	-558 33 -610 29 -510 -570 -590 -610	-535 5 -540 2 -530 -535 -538 -540	-590 10 -600 2 -580 -590 -597 -600					-556 33 -610 52 -510 -555 -590 -610	30
	-552 32 -600 12 -494 -550 -585 -600	-530 1	-583 9 -590 3 -571 -590 -590 -590					-561 34 -619 44 -490 -560 -600 -611	
20	-570 1		-570 9 -580 5 -560 -570 -580 -580					-559 24 -590 16 -506 -565 -580 -590	20
	-570 -570 2 -570 -570 -570 -570		-560 10 -570 4 -550 -560 -570 -570	-568 4 -570 4 -561 -570 -570 -570				-558 14 -570 14 -533 -565 -570 -570	
10	-540 1		-570 1	-556 5 -560 8 -550 -560 -560 -560				-553 9 -570 13 -540 -550 -560 -568	10
				-550 6 -560 6 -541 -550 -552 -559				-546 8 -560 10 -532 -550 -550 -558	
0				-552 7 -560 6 -541 -550 -560 -560				-544 10 -560 12 -530 -540 -552 -560	0
				-554 7 -560 7 -541 -560 -560 -560				-548 12 -560 12 -522 -550 -560 -560	
10				-558 8 -570 9 -550 -560 -567 -570				-554 10 -570 12 -540 -550 -562 -570	10
				-561 12 -580 9 -542 -560 -570 -578				-557 14 -580 11 -540 -560 -570 -578	
20				-557 20 -580 6 -523 -560 -572 -579				-557 20 -580 6 -523 -560 -572 -579	20
				-555 5 -560 2 -550 -555 -558 -560				-550 8 -560 3 -540 -550 -557 -560	
30				-580 1				-567 35 -630 13 -522 -560 -612 -630	30
								-551 44 -600 7 -468 -560 -590 -599	
40 S									40S

LONGITUDE

APPENDIX C.

STATIC AIR TEMPERATURE CLIMATOLOGY

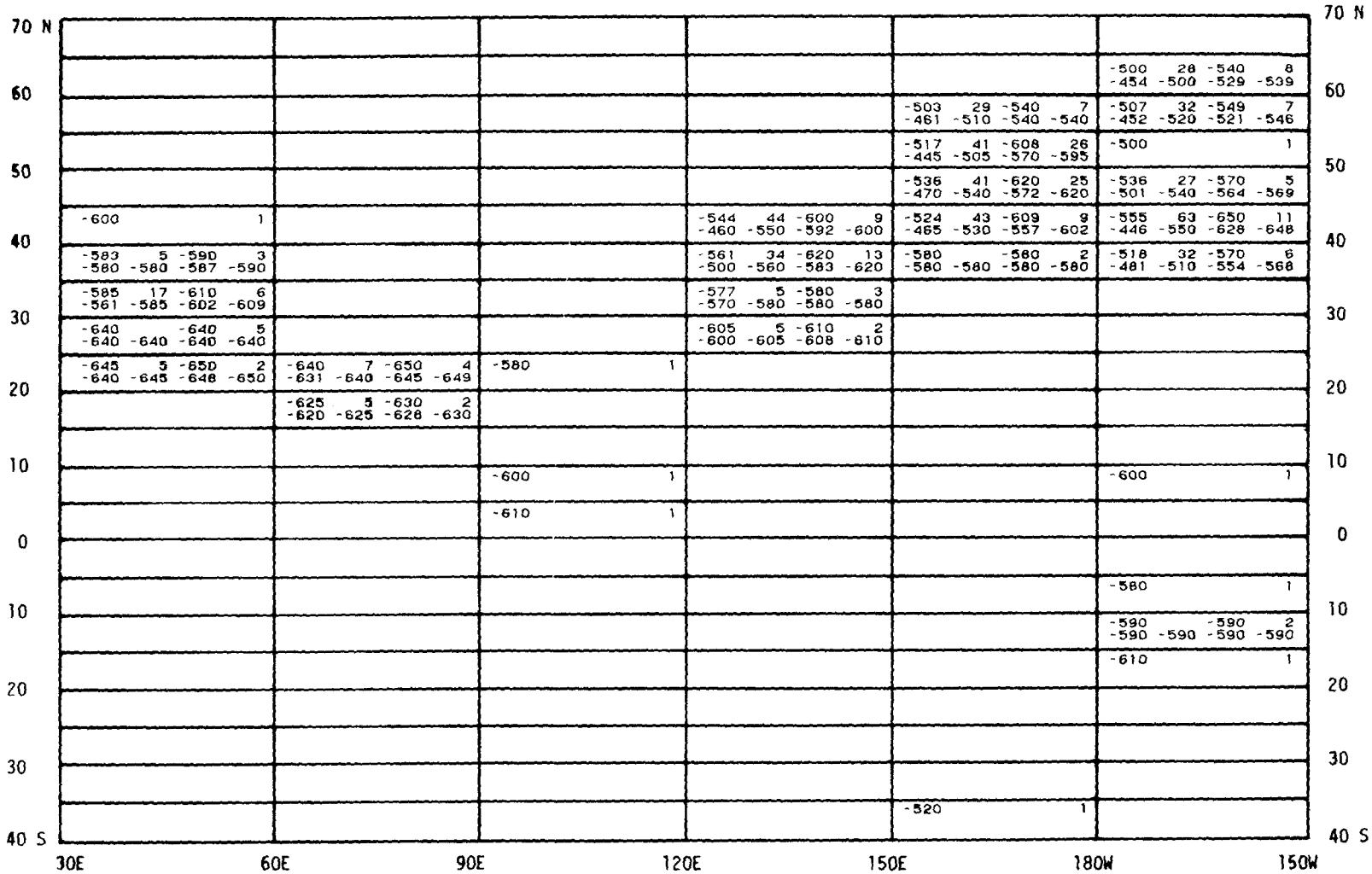
NOVEMBER

FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 410

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-599 87 -690 7 -456 -620 -680 -689	-552 54 -600 5 -465 -590 -594 -599						-548 74 -689 20 -450 -525 -619 -686	60
50	-600 71 -660 3 -506 -640 -654 -659	-574 65 -669 8 -476 -580 -638 -666	-485 15 -500 2 -471 -485 -495 -499					-534 62 -669 27 -455 -520 -614 -665	50
40	-500 1	-501 34 -569 9 -462 -490 -527 -564	-500 20 -520 2 -481 -500 -514 -519	-593 12 -610 3 -580 -590 -604 -609	-640 50 -690 2 -592 -640 -674 -688			-523 50 -680 44 -449 -510 -571 -621	40
30	-572 36 -610 12 -512 -595 -602 -610	-546 58 -640 14 -470 -540 -618 -640	-533 51 -629 9 -462 -520 -570 -620	-700 22 -720 3 -672 -710 -717 -720				-551 56 -718 68 -463 -540 -603 -696	30
20	-634 39 -690 15 -554 -640 -678 -687	-573 57 -640 12 -482 -580 -632 -640	-586 83 -689 23 -434 -620 -665 -686	-710 -710 2 -710 -710 -710 -710	-730 -730 2 -730 -730 -730 -730	-600 1		-584 74 -730 85 -440 -590 -650 -716	20
10	-628 41 -690 19 -554 -620 -681 -690	-623 34 -670 3 -591 -610 -651 -668				-580 1		-589 52 -690 47 -489 -580 -636 -690	10
0	-635 5 -640 2 -630 -635 -638 -640	-630 1						-595 26 -640 12 -562 -585 -630 -638	0
10	-610 29 -650 3 -581 -600 -634 -648		-620 1					-624 22 -650 11 -584 -640 -640 -648	10
20	-580 -580 2 -580 -580 -580 -580		-627 9 -640 3 -620 -620 -634 -639					-623 26 -650 12 -580 -635 -642 -650	20
30	-600 -600 2 -600 -600 -600 -600		-607 5 -610 3 -600 -610 -610 -610					-610 11 -630 7 -600 -610 -620 -629	30
40	-590 -590 2 -590 -590 -590 -590		-600 1	-610 1				-598 8 -610 4 -590 -595 -605 -609	40
40 S	-590 1			-590 1				-595 5 -600 4 -590 -595 -600 -600	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

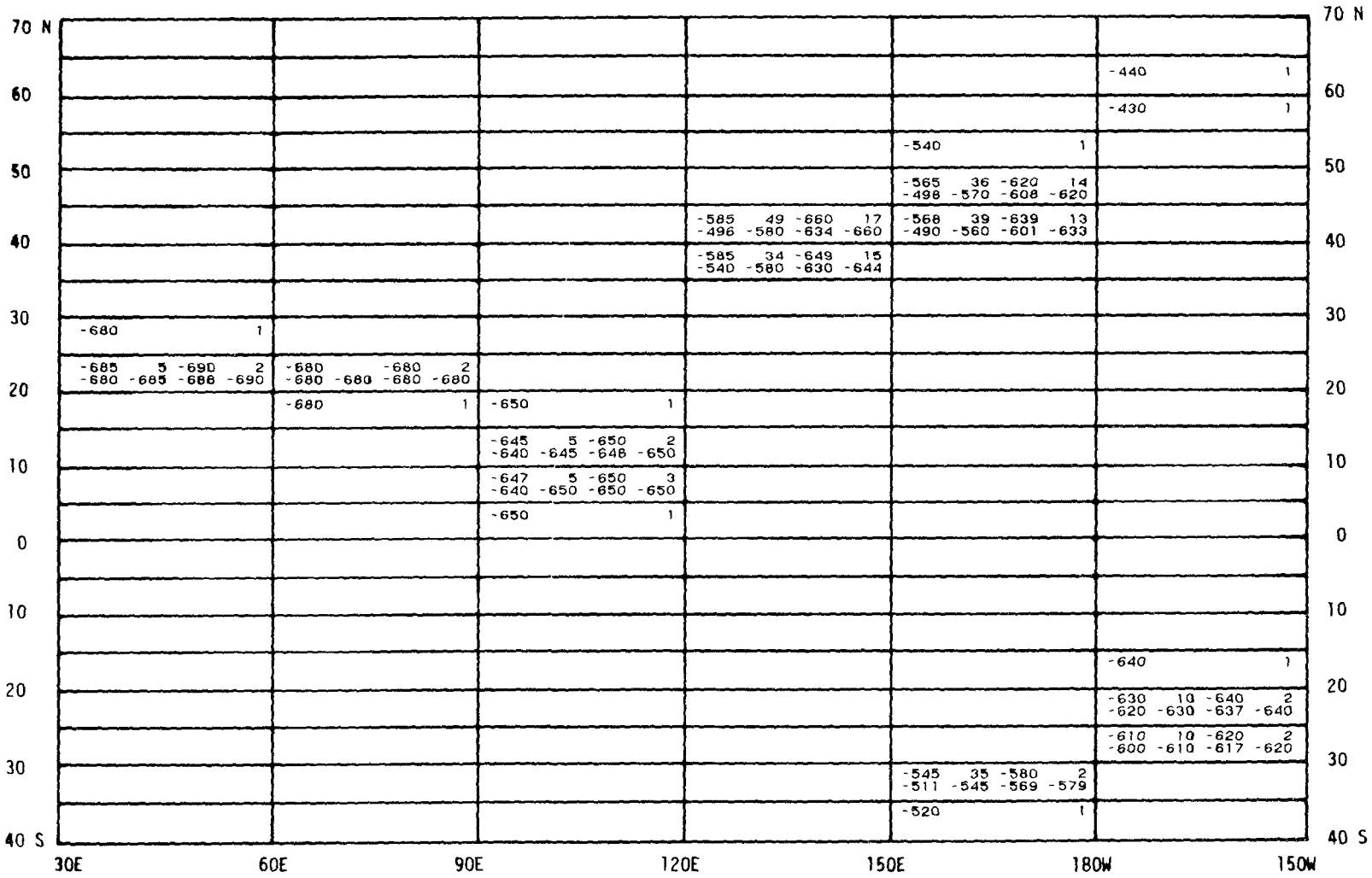
NOVEMBER

FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

NOVEMBER
FL 430

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60								-440 1	60
								-430 1	
50		-523 11 -540 4 -511 -520 -530 -539		-600 1				-538 30 -599 6 -511 -530 -552 -594	50
		-536 18 -570 7 -520 -530 -551 -568	-563 43 -640 9 -520 -560 -616 -638	-628 33 -680 4 -800 -615 -656 -677				-566 43 -676 34 -510 -560 -617 -654	
40	-670 1	-600 1	-566 36 -630 11 -520 -560 -600 -630					-577 45 -669 43 -488 -570 -630 -662	40
	-663 21 -690 3 -641 -660 -680 -689		-625 32 -670 4 -591 -620 -656 -668					-603 43 -689 22 -540 -590 -646 -682	
30			-657 11 -670 6 -641 -655 -670 -670					-657 11 -670 6 -641 -655 -670 -670	30
			-673 7 -680 7 -661 -670 -680 -680					-674 7 -680 8 -661 -675 -680 -680	
20			-665 9 -670 4 -651 -670 -670 -670					-674 11 -690 8 -653 -675 -680 -689	20
			-655 5 -660 2 -650 -655 -658 -660					-660 12 -680 4 -650 -655 -670 -679	
10								-645 5 -650 2 -640 -645 -648 -650	10
								-647 5 -650 3 -640 -650 -650 -650	
0								-650 1	0
10									10
20								-640 1	20
								-630 10 -640 2 -620 -630 -637 -640	
30								-610 10 -620 2 -600 -610 -617 -620	30
								-545 35 -580 2 -511 -545 -569 -579	
40 S								-520 1	40S

LONGITUDE

APPENDIX C

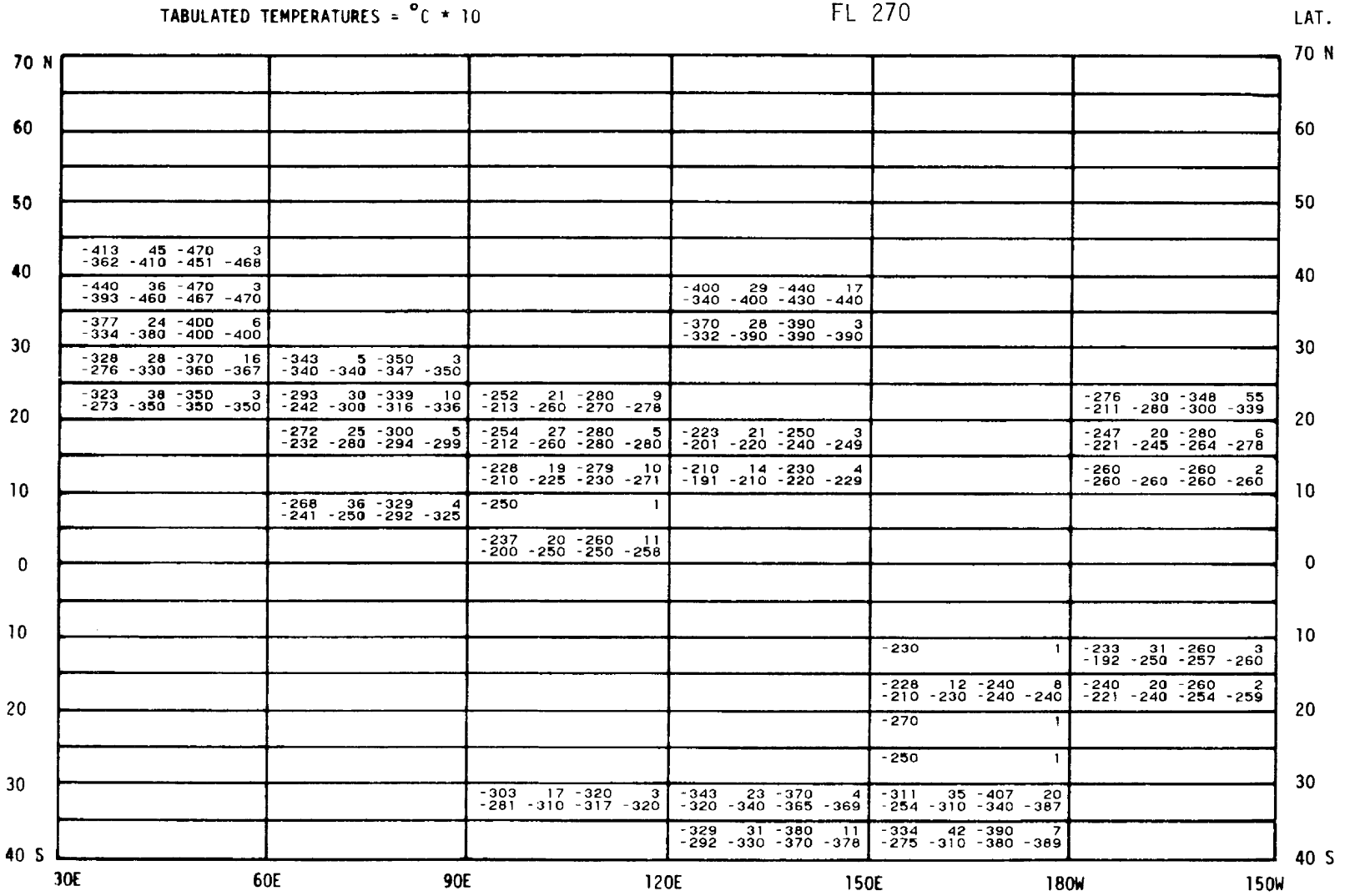
STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 270

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-490 30 -520 2 -461 -490 -510 -519							-490 30 -520 2 -461 -490 -510 -519	60
50	-403 21 -430 3 -381 -400 -420 -429	-370 1	-435 5 -440 2 -430 -435 -438 -440		-463 49 -539 7 -385 -460 -502 -535	-433 59 -539 9 -353 -420 -496 -535		-446 57 -540 16 -356 -445 -506 -540	50
40		-408 38 -480 12 -362 -395 -447 -478	-413 52 -524 50 -290 -420 -460 -491			-451 31 -500 7 -411 -450 -481 -498		-432 36 -499 13 -372 -430 -471 -495	40
30	-380 36 -467 38 -305 -380 -420 -448	-359 33 -429 17 -300 -350 -394 -420	-360 1			-418 33 -460 11 -356 -420 -454 -460		-413 48 -521 76 -300 -420 -460 -485	30
20	-354 42 -439 17 -269 -360 -380 -430	-348 45 -439 30 -266 -350 -390 -434				-414 48 -470 5 -352 -420 -464 -469		-384 40 -470 81 -300 -380 -422 -470	20
10	-358 8 -370 4 -350 -355 -365 -369							-354 43 -440 56 -261 -360 -390 -439	10
0								-335 26 -370 23 -279 -340 -360 -370	0
10								-277 33 -350 77 -210 -280 -300 -350	10
20								-252 28 -299 19 -204 -250 -280 -296	20
30								-228 22 -279 16 -196 -225 -248 -274	30
40 S								-264 33 -329 5 -241 -250 -279 -324	40S
								-237 20 -260 11 -200 -250 -250 -258	
								-233 27 -260 4 -192 -240 -255 -259	
								-230 15 -259 10 -210 -230 -240 -256	
								-270 1	
								-250 1	
								-315 34 -407 27 -255 -310 -340 -389	
								-331 36 -389 18 -277 -320 -373 -387	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50							
40	-455 33 -500 8 -403 -465 -488 -499						
	-454 35 -500 18 -384 -470 -483 -500			-441 31 -480 10 -384 -455 -466 -478	-490 -490 2 -490 -490 -490 -490		
30	-435 39 -500 15 -373 -430 -488 -497			-420 1			
	-360 25 -400 4 -331 -355 -381 -398	-390 12 -400 6 -371 -395 -400 -400				-333 26 -370 3 -310 -320 -354 -368	
20	-350 11 -370 9 -340 -350 -360 -368	-326 22 -360 11 -300 -320 -354 -360	-306 17 -330 9 -282 -300 -327 -330			-324 30 -380 41 -278 -320 -356 -380	
		-310 26 -369 9 -282 -300 -332 -365	-289 16 -320 7 -271 -280 -301 -318	-273 19 -300 4 -251 -270 -290 -299		-301 27 -350 8 -271 -290 -329 -347	
10		-296 10 -310 5 -281 -300 -304 -309	-280 14 -310 9 -260 -280 -287 -307	-280 21 -319 7 -252 -270 -291 -316		-280 18 -310 6 -261 -270 -302 -309	
		-279 30 -329 7 -241 -290 -301 -326	-278 4 -280 5 -271 -280 -280 -280			-263 23 -300 6 -241 -250 -292 -299	
0			-266 20 -319 12 -242 -260 -280 -311			-264 22 -290 5 -241 -250 -290 -290	
			-281 25 -349 12 -254 -270 -287 -341			-265 17 -280 4 -241 -270 -280 -280	
10			-284 8 -300 5 -280 -280 -287 -298			-270 10 -280 4 -260 -270 -280 -280	
			-280 1		-275 5 -280 2 -270 -275 -278 -280	-278 11 -290 6 -261 -280 -290 -290	
20					-280 18 -310 11 -244 -280 -294 -308	-285 35 -320 2 -251 -285 -309 -319	
			-300 1		-307 5 -310 3 -300 -310 -310 -310		
30			-333 8 -340 4 -321 -335 -340 -340		-325 5 -330 2 -320 -325 -328 -330		
			-320 1	-370 32 -419 7 -315 -380 -391 -416	-357 37 -446 18 -320 -340 -396 -440		
40 S				-380 23 -420 17 -340 -380 -400 -420	-383 30 -440 9 -343 -380 -414 -437		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 290

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-505 15 -520 2 -491 -505 -515 -519				-500 1			-503 12 -520 3 -490 -500 -514 -519	60
					-510 10 -520 2 -500 -510 -517 -520			-510 10 -520 2 -500 -510 -517 -520	
50		-510 1			-510 39 -570 9 -446 -510 -547 -567	-477 25 -510 9 -435 -470 -507 -510		-494 36 -569 19 -434 -490 -531 -563	50
	-456 22 -490 5 -431 -450 -477 -488	-455 29 -509 6 -421 -455 -470 -505	-450 1	-456 37 -520 7 -420 -440 -501 -518	-486 46 -530 5 -422 -520 -524 -529	-491 38 -540 20 -408 -490 -530 -540		-475 40 -540 44 -417 -475 -521 -540	
40		-461 40 -529 10 -400 -470 -490 -523	-439 49 -518 64 -330 -460 -480 -510	-423 38 -460 4 -381 -425 -460 -460		-486 38 -540 31 -406 -490 -522 -540		-454 49 -540 117 -333 -460 -500 -530	40
	-419 40 -525 26 -355 -420 -450 -500	-409 46 -490 12 -350 -405 -452 -490	-450 -450 2 -450 -450 -450 -450			-455 29 -490 10 -410 -470 -481 -490		-435 41 -523 80 -350 -435 -480 -500	
30	-384 22 -419 11 -338 -390 -400 -416	-394 33 -478 27 -335 -390 -420 -470						-404 38 -498 54 -331 -400 -435 -490	30
	-367 24 -419 9 -332 -370 -377 -414				-360 1			-367 28 -419 23 -314 -370 -400 -411	
20								-326 28 -380 70 -280 -330 -360 -376	20
								-297 26 -368 28 -255 -290 -320 -359	
10								-283 18 -319 27 -255 -280 -300 -315	10
								-273 24 -328 18 -240 -280 -293 -320	
0								-265 21 -319 17 -240 -260 -284 -310	0
								-277 24 -348 16 -243 -270 -280 -338	
10								-278 11 -300 9 -260 -280 -280 -297	10
								-278 9 -290 9 -262 -280 -287 -290	
20	-290 1							-281 21 -320 14 -243 -280 -299 -317	20
								-305 5 -310 4 -300 -305 -310 -310	
30								-330 8 -340 6 -320 -330 -340 -340	30
								-359 37 -448 26 -315 -345 -390 -435	
40 S								-381 25 -438 26 -340 -380 -400 -430	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50					-543 17 -560 3 -521 -550 -557 -560	-520 1	
40	-503 29 -530 4 -462 -510 -530 -530			-525 25 -550 2 -501 -525 -542 -549	-528 26 -570 5 -492 -520 -551 -568 -523 39 -570 7 -471 -540 -570 -570		
30	-507 26 -549 18 -463 -505 -533 -547 -488 24 -539 16 -443 -490 -510 -531			-494 48 -550 12 -414 -505 -542 -550 -430 1	-495 25 -520 2 -471 -495 -512 -519		
20	-443 22 -479 19 -400 -440 -461 -476 -416 8 -430 5 -410 -410 -424 -429	-430 16 -450 10 -400 -435 -440 -448 -389 25 -430 14 -353 -385 -419 -427		-390 1 -377 12 -390 3 -361 -380 -387 -390	-340 1	-410 1 -367 33 -430 63 -302 -370 -401 -428	
10		-364 18 -400 16 -340 -360 -380 -397 -337 13 -350 7 -320 -340 -350 -350	-349 9 -370 8 -340 -350 -350 -367 -343 24 -360 3 -312 -360 -360 -360	-340 17 -360 8 -313 -340 -359 -360 -332 18 -380 10 -302 -330 -350 -358	-330 1	-334 17 -360 8 -311 -330 -350 -359 -323 16 -350 7 -301 -320 -340 -349	
0		-331 3 -340 8 -330 -330 -330 -339 -340 1	-332 4 -340 5 -330 -330 -334 -339 -326 12 -350 7 -311 -320 -331 -348			-315 17 -350 8 -291 -310 -329 -347 -317 14 -340 6 -301 -310 -332 -339	
10			-333 12 -350 3 -320 -330 -344 -349 -330 25 -350 5 -292 -350 -350 -350			-310 12 -320 6 -291 -315 -320 -320 -312 7 -320 6 -301 -310 -320 -320	
20			-338 16 -350 8 -311 -350 -350 -350 -348 16 -370 9 -315 -350 -360 -368	-320 1 -340 8 -350 3 -330 -340 -347 -350	-310 7 -320 4 -301 -310 -315 -319 -326 14 -350 12 -300 -330 -332 -348	-319 12 -340 10 -300 -320 -330 -338 -310 1	
30			-373 12 -390 8 -351 -375 -380 -389 -390 18 -410 5 -362 -400 -404 -409	-346 27 -380 5 -303 -350 -367 -378 -370 22 -400 9 -332 -380 -387 -398	-365 17 -400 8 -350 -360 -379 -397 -393 22 -430 8 -361 -390 -410 -427		
40 S			-403 16 -430 4 -390 -395 -416 -428	-408 25 -459 20 -355 -405 -430 -456 -419 27 -469 18 -380 -420 -443 -467	-419 23 -469 27 -375 -420 -438 -465 -422 35 -489 18 -373 -410 -463 -487		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 310

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
					-540 1			-540 1	
60		-550 1		-508 16 -520 4 -482 -515 -520 -520	-493 21 -530 8 -461 -495 -509 -527			-502 24 -549 13 -462 -500 -521 -545	60
		-513 12 -530 3 -500 -510 -524 -529	-540 1	-530 20 -569 7 -502 -530 -541 -566	-535 41 -618 24 -459 -545 -563 -606	-546 29 -590 5 -520 -530 -577 -588		-534 34 -616 44 -467 -535 -561 -594	
50	-494 8 -500 5 -481 -500 -500 -500	-460 20 -480 2 -441 -460 -474 -479	-495 15 -520 4 -481 -490 -506 -518	-525 25 -550 2 -501 -525 -542 -549	-480 40 -520 2 -442 -480 -507 -518	-549 32 -580 8 -487 -560 -579 -580		-515 38 -580 28 -440 -510 -560 -580	50
	-480 1	-501 40 -568 18 -417 -505 -540 -560	-472 49 -550 57 -362 -480 -520 -550	-473 66 -520 3 -386 -520 -520 -520		-522 28 -569 18 -470 -530 -540 -563		-490 48 -570 110 -380 -500 -540 -570	
40	-484 36 -577 38 -420 -480 -520 -558	-466 42 -529 19 -374 -480 -501 -526	-508 18 -530 4 -490 -505 -525 -529	-430 -430 3 -430 -430 -430 -430		-490 35 -550 11 -444 -480 -540 -548		-486 39 -570 107 -401 -480 -530 -550	40
	-446 34 -519 38 -372 -445 -480 -513	-443 34 -500 27 -395 -440 -480 -500		-420 -420 2 -420 -420 -420 -420	-415 5 -420 2 -410 -415 -418 -420			-451 37 -535 86 -387 -450 -490 -513	
30	-418 16 -450 14 -393 -420 -430 -447				-410 10 -420 2 -400 -410 -417 -420			-430 22 -479 47 -390 -430 -450 -471	30
	-390 31 -420 4 -351 -395 -420 -420							-372 33 -430 101 -310 -370 -410 -430	
20								-350 20 -399 41 -310 -350 -370 -392	20
								-332 18 -360 27 -300 -330 -350 -360	
10								-325 14 -349 21 -294 -330 -330 -346	10
								-323 14 -350 14 -303 -320 -339 -347	
0								-318 16 -350 9 -292 -320 -327 -347	0
								-320 20 -350 11 -292 -310 -350 -350	
10	-330 1							-324 16 -350 24 -300 -320 -350 -350	10
								-335 18 -369 25 -300 -330 -350 -365	
20								-363 21 -399 21 -316 -360 -380 -396	20
								-383 24 -429 22 -334 -380 -406 -422	
30								-413 24 -468 51 -370 -410 -430 -460	30
								-420 31 -489 36 -377 -415 -454 -483	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 330

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							
50					-570 1		
40	-538 13 -550 4 -521 -540 -550 -550				-603 24 -620 3 -572 -620 -620 -620		
30	-533 35 -589 20 -480 -535 -570 -586			-501 44 -599 20 -450 -485 -549 -596	-573 36 -600 4 -515 -590 -595 -599	-527 46 -599 15 -460 -540 -578 -594	-500 27 -549 8 -454 -500 -519 -546
20	-509 27 -560 33 -463 -500 -549 -560	-480 1		-520 45 -560 5 -461 -550 -560 -560			
10	-473 28 -510 12 -440 -480 -502 -510	-463 21 -500 25 -430 -460 -482 -500		-440 42 -499 4 -384 -440 -471 -496			-429 30 -480 7 -391 -420 -461 -478
0	-435 28 -480 10 -392 -435 -466 -478	-416 24 -459 22 -374 -420 -440 -456	-396 17 -420 14 -363 -400 -410 -417	-407 25 -440 3 -381 -400 -427 -438	-403 4 -410 4 -400 -400 -405 -409	-415 37 -488 59 -352 -410 -460 -480	
10		-413 20 -440 11 -380 -420 -430 -438	-390 13 -410 11 -370 -390 -404 -410	-388 18 -410 4 -370 -385 -405 -409	-376 14 -400 8 -360 -370 -390 -399	-416 27 -460 9 -380 -420 -444 -458	
20		-383 9 -400 10 -370 -380 -390 -398	-386 19 -410 10 -345 -390 -400 -408	-376 5 -380 9 -370 -380 -380 -380		-363 12 -380 3 -350 -360 -374 -379	
30		-389 12 -410 7 -371 -390 -400 -409	-378 7 -390 6 -370 -380 -382 -389			-365 14 -380 6 -342 -365 -380 -380	
40 S		-388 7 -400 5 -380 -390 -394 -399	-371 6 -380 7 -361 -370 -380 -380			-373 9 -390 7 -361 -370 -380 -389	
		-397 13 -410 7 -380 -400 -410 -410	-375 12 -409 10 -370 -370 -376 -405			-368 8 -380 9 -352 -370 -370 -378	
			-381 18 -410 21 -354 -380 -400 -410			-363 9 -380 10 -350 -360 -370 -378	
			-375 5 -380 13 -370 -370 -380 -380	-367 5 -370 3 -360 -370 -370 -370	-370 7 -380 4 -361 -370 -375 -379	-373 13 -390 9 -345 -380 -380 -388	
			-377 11 -390 9 -353 -380 -380 -388	-368 4 -370 4 -361 -370 -370 -370	-388 14 -419 8 -371 -385 -390 -416	-367 28 -410 6 -340 -355 -402 -409	
			-392 16 -410 5 -371 -390 -410 -410	-390 32 -449 11 -342 -390 -424 -446	-402 12 -429 13 -382 -400 -410 -425	-440 1	
				-428 18 -450 11 -400 -420 -450 -450	-429 19 -479 22 -400 -430 -440 -472	-427 26 -450 3 -392 -440 -447 -450	
			-450 10 -460 2 -440 -450 -457 -460	-456 23 -499 21 -408 -460 -470 -496	-457 31 -527 44 -406 -450 -490 -513		
				-472 20 -509 18 -440 -470 -493 -507	-482 36 -529 35 -408 -490 -516 -523		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 330

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N				-610 20 -630 2 -591 -610 -624 -629	-590 20 -610 2 -571 -590 -604 -609			-600 22 -630 4 -571 -600 -620 -629	70 N
60	-525 35 -580 2 -491 -525 -549 -559		-550 23 -570 6 -505 -560 -562 -569	-538 45 -590 5 -481 -550 -584 -589	-585 5 -590 2 -580 -585 -588 -590			-547 37 -590 15 -483 -560 -580 -590	60
50		-550 24 -580 7 -520 -560 -570 -579	-547 29 -580 3 -512 -550 -570 -579	-561 38 -600 8 -501 -570 -599 -600	-555 42 -619 13 -470 -560 -581 -613			-555 37 -618 31 -484 -560 -590 -608	50
40		-563 26 -600 4 -531 -560 -586 -598	-475 15 -490 2 -461 -475 -485 -489	-532 39 -590 13 -480 -540 -562 -590	-546 44 -619 25 -460 -550 -590 -615	-562 34 -619 5 -522 -560 -588 -616		-543 43 -620 50 -460 -550 -590 -620	40
30	-533 22 -550 6 -493 -545 -550 -550	-553 54 -600 6 -451 -565 -600 -600	-517 56 -570 7 -411 -520 -570 -570	-490 40 -570 15 -426 -490 -628 -567	-560 34 -600 9 -490 -560 -587 -598	-561 31 -629 8 -523 -560 -570 -622		-534 52 -628 54 -421 -550 -575 -620	30
20	-550 12 -560 4 -531 -555 -560 -560	-514 51 -580 31 -386 -530 -562 -580	-516 47 -580 60 -400 -525 -570 -580	-524 46 -609 9 -463 -520 -564 -604	-518 16 -540 5 -500 -520 -534 -539	-556 35 -620 18 -507 -540 -596 -620		-525 47 -620 135 -397 -530 -570 -610	20
10	-507 42 -589 43 -390 -510 -540 -582	-494 62 -589 27 -370 -510 -557 -585	-520 12 -540 4 -510 -515 -530 -539			-521 24 -569 10 -490 -520 -541 -566		-510 46 -600 147 -390 -510 -550 -590	10
0	-483 32 -549 49 -420 -480 -513 -540	-482 31 -539 19 -417 -480 -511 -533						-493 34 -560 107 -421 -490 -520 -560	0
10	-481 42 -550 33 -406 -470 -539 -550							-468 37 -550 81 -386 -470 -500 -550	10
20	-440 10 -450 2 -430 -440 -447 -450							-414 32 -487 114 -360 -410 -450 -480	20
30								-398 24 -459 43 -360 -400 -423 -452	30
40 S								-380 14 -409 32 -346 -380 -390 -404	40S
								-378 15 -409 19 -347 -380 -390 -406	
								-376 10 -399 19 -360 -370 -390 -396	
								-378 16 -410 26 -355 -370 -400 -410	
								-375 18 -410 31 -350 -370 -400 -410	
								-373 9 -389 29 -351 -370 -380 -384	
	-400 1							-377 19 -419 28 -340 -380 -390 -415	
								-397 24 -449 30 -346 -400 -414 -444	
								-428 19 -478 36 -397 -430 -450 -466	
								-456 28 -526 67 -403 -460 -484 -510	
								-479 32 -528 53 -430 -480 -510 -520	

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 350

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60							-573 53 -640 6 -487 -570 -632 -639
50					-623 5 -630 3 -620 -620 -627 -630		-573 15 -590 4 -551 -575 -585 -589
40	-570 42 -639 7 -512 -570 -611 -636			-495 5 -500 2 -490 -495 -498 -500	-557 57 -668 7 -470 -560 -564 -657 -509 36 -579 8 -461 -510 -529 -573	-580 11 -590 5 -562 -580 -590 -590	
30	-571 33 -629 27 -506 -570 -600 -625			-487 40 -530 15 -413 -510 -528 -530	-533 61 -600 10 -442 -555 -590 -598	-570 8 -580 3 -560 -570 -577 -580	
20	-539 27 -580 36 -484 -540 -570 -580			-462 29 -510 6 -431 -450 -494 -508	-450 1		
10	-499 27 -549 16 -453 -505 -520 -541	-501 39 -578 18 -427 -500 -533 -570		-459 39 -529 7 -404 -450 -492 -525	-458 7 -470 6 -450 -460 -462 -469	-489 37 -559 35 -430 -480 -536 -553	
0	-474 32 -510 8 -423 -475 -509 -510	-445 21 -470 6 -413 -440 -470 -470	-454 8 -460 5 -441 -460 -460 -460	-440 16 -460 3 -421 -440 -454 -459	-437 28 -470 11 -372 -440 -454 -468	-472 37 -550 95 -410 -470 -520 -541	
10	-420 1	-450 28 -500 11 -420 -440 -484 -498	-453 12 -470 3 -440 -450 -464 -469	-420 10 -430 2 -410 -420 -427 -430	-427 18 -460 10 -410 -420 -451 -460	-468 17 -500 5 -451 -460 -481 -498	
20		-443 13 -460 10 -422 -440 -460 -460	-434 10 -450 7 -420 -440 -440 -449	-426 14 -440 9 -395 -430 -437 -440		-440 14 -460 8 -420 -445 -450 -459	
30		-443 5 -450 10 -440 -440 -450 -450	-436 10 -450 8 -421 -435 -449 -450			-425 15 -450 10 -395 -425 -436 -448	
40 S		-432 7 -440 5 -421 -430 -440 -440	-423 14 -440 11 -394 -430 -434 -440			-420 20 -450 11 -390 -420 -444 -450	
		-420 12 -440 8 -401 -420 -430 -439	-425 8 -440 20 -410 -430 -430 -440			-422 15 -450 11 -400 -420 -434 -448	
			-423 7 -430 24 -410 -420 -430 -430			-420 18 -440 10 -384 -420 -440 -440	
			-418 9 -430 19 -400 -420 -430 -430	-417 5 -420 7 -410 -420 -420 -420	-423 11 -440 4 -411 -420 -430 -439	-420 15 -440 6 -393 -420 -432 -439	
			-417 8 -430 10 -410 -415 -426 -430	-430 21 -479 14 -403 -425 -449 -475	-427 17 -460 13 -402 -420 -450 -458	-450 7 -460 4 -441 -450 -455 -459	
			-427 10 -440 7 -411 -430 -440 -440	-442 24 -489 18 -403 -445 -463 -487	-454 20 -490 19 -424 -460 -471 -490	-446 23 -480 7 -420 -440 -470 -479	
			-455 21 -480 4 -431 -455 -475 -479	-477 18 -510 13 -452 -480 -492 -510	-474 29 -510 16 -423 -470 -506 -510	-444 34 -509 5 -420 -430 -465 -504	
			-473 19 -490 4 -442 -480 -485 -489	-491 14 -510 21 -464 -490 -508 -510	-497 29 -539 22 -440 -510 -520 -536	-447 17 -470 3 -430 -440 -460 -469	
				-508 17 -540 27 -480 -510 -528 -540	-517 24 -560 33 -473 -520 -540 -560		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 350

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N			-570 10 -580 2 -560 -570 -577 -580	-568 45 -639 4 -521 -555 -606 -636				-568 38 -639 6 -522 -565 -592 -634	70 N
60	-580 24 -610 6 -535 -585 -594 -608	-604 27 -630 5 -562 -610 -630 -630	-620 1	-550 1	-570 40 -610 2 -532 -570 -597 -608			-587 32 -630 15 -530 -590 -618 -630	60
	-574 20 -610 5 -552 -570 -584 -607	-563 56 -650 13 -472 -560 -622 -650	-580 1	-568 44 -620 8 -510 -580 -610 -619	-593 35 -649 11 -530 -580 -630 -646			-574 46 -650 44 -479 -570 -621 -650	
50	-537 46 -610 11 -462 -540 -580 -610	-543 61 -649 7 -455 -540 -592 -643	-514 67 -648 12 -420 -505 -570 -639	-519 44 -598 19 -444 -520 -570 -589	-559 31 -619 14 -498 -560 -589 -612	-564 76 -649 7 -435 -600 -612 -645		-541 56 -650 77 -425 -550 -600 -650	50
	-547 53 -619 23 -460 -550 -605 -616	-555 15 -570 2 -541 -555 -565 -569	-510 44 -599 18 -460 -495 -573 -593	-543 53 -629 18 -444 -535 -603 -623	-537 55 -620 13 -462 -530 -601 -616	-561 53 -640 17 -480 -560 -624 -640		-541 54 -661 98 -460 -540 -600 -640	
40	-556 37 -619 21 -486 -550 -590 -616	-544 60 -618 58 -386 -565 -599 -610	-526 56 -630 86 -420 -535 -580 -616	-516 67 -639 11 -404 -510 -568 -634	-420 16 -440 3 -401 -420 -434 -439	-581 40 -629 25 -489 -590 -612 -625		-539 58 -640 226 -415 -550 -590 -625	40
	-550 40 -620 101 -440 -560 -580 -610	-548 54 -635 53 -400 -570 -590 -610	-552 37 -599 10 -468 -555 -570 -595			-541 34 -590 8 -486 -535 -579 -589		-547 47 -633 227 -415 -560 -590 -620	
30	-525 42 -615 162 -430 -530 -560 -600	-495 28 -550 17 -450 -490 -529 -547				-493 38 -520 3 -443 -520 -520 -520		-522 42 -613 225 -430 -530 -560 -600	30
	-511 52 -620 148 -410 -520 -560 -620							-503 48 -620 230 -416 -505 -550 -610	
20	-479 41 -570 42 -420 -470 -524 -570							-469 38 -570 170 -410 -460 -510 -550	20
	-459 35 -539 17 -410 -450 -500 -530							-449 31 -536 49 -410 -450 -480 -511	
10	-448 20 -499 9 -430 -440 -450 -492							-436 17 -495 43 -415 -440 -450 -466	10
	-445 5 -450 2 -440 -445 -448 -450							-435 13 -450 30 -407 -440 -450 -450	
0								-423 16 -450 27 -390 -420 -440 -450	0
								-423 11 -449 39 -400 -420 -430 -442	
10								-422 11 -440 34 -393 -420 -430 -440	10
	-420 1							-419 10 -440 37 -397 -420 -430 -440	
20								-428 18 -478 41 -400 -420 -450 -464	20
								-445 23 -490 51 -410 -440 -470 -490	
30								-469 28 -510 38 -420 -470 -501 -510	30
								-490 26 -539 50 -440 -490 -520 -530	
40 S								-513 22 -560 60 -480 -510 -536 -558	40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 370

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-580 45 -659 5 -532 -570 -615 -654	
50					-605 65 -670 2 -543 -605 -649 -667	-595 70 -680 18 -507 -595 -670 -680	
40					-507 71 -667 10 -422 -495 -561 -652	-532 67 -697 15 -443 -520 -570 -680	
30	-587 29 -620 3 -552 -590 -610 -619				-539 62 -639 14 -485 -535 -600 -632	-552 66 -640 10 -426 -550 -617 -638	
20	-624 17 -650 8 -593 -625 -639 -649			-524 49 -600 14 -440 -525 -588 -600	-556 74 -670 17 -466 -550 -654 -670	-577 34 -610 3 -532 -590 -604 -609	
10	-556 49 -649 11 -484 -560 -596 -644			-536 38 -580 13 -452 -550 -570 -578	-513 39 -608 16 -463 -510 -546 -598	-503 42 -560 9 -440 -510 -552 -560	
0	-510 46 -580 8 -453 -490 -588 -579	-533 52 -639 15 -466 -520 -578 -634		-507 31 -560 15 -470 -490 -548 -557	-491 33 -550 8 -460 -485 -534 -549	-537 38 -590 3 -510 -510 -564 -587	
10	-580 1	-509 35 -570 14 -473 -500 -558 -570	-499 15 -530 8 -481 -495 -509 -527	-501 29 -540 8 -461 -510 -536 -540	-485 26 -529 4 -470 -470 -501 -526	-524 41 -588 63 -450 -540 -560 -580	
20		-504 25 -550 5 -481 -490 -524 -547	-496 14 -530 14 -475 -490 -509 -527	-493 11 -510 4 -481 -490 -500 -509	-482 15 -500 16 -460 -480 -500 -500	-505 40 -580 84 -437 -500 -550 -580	
30		-483 5 -490 3 -480 -480 -487 -490	-489 17 -520 7 -471 -480 -510 -519	-481 8 -500 7 -471 -480 -481 -498	-484 8 -500 14 -473 -480 -490 -500	-502 32 -550 13 -460 -490 -541 -550	
40 S		-480 1	-479 6 -490 8 -470 -480 -480 -489	-488 17 -510 14 -460 -480 -510 -510		-486 16 -519 24 -455 -480 -500 -515	
			-479 11 -500 8 -470 -475 -489 -499	-484 12 -509 28 -460 -490 -490 -505		-484 12 -509 28 -460 -490 -490 -505	
			-470 -470 3 -470 -470 -470 -470	-486 11 -500 23 -454 -490 -490 -500		-486 11 -500 23 -454 -490 -490 -500	
			-475 5 -480 4 -470 -475 -480 -480	-491 10 -510 28 -475 -490 -500 -510		-491 10 -510 28 -475 -490 -500 -510	
			-473 5 -480 3 -470 -470 -477 -480	-460 1	-485 9 -490 4 -471 -490 -490 -490	-488 12 -519 30 -470 -490 -500 -514	
			-465 5 -470 2 -460 -465 -468 -470	-455 5 -460 2 -450 -455 -458 -460	-483 15 -500 6 -461 -485 -500 -500	-493 14 -520 18 -473 -495 -503 -520	
			-450 1	-495 11 -510 4 -481 -495 -505 -509	-493 18 -510 8 -461 -495 -510 -510	-497 12 -510 9 -480 -500 -510 -510	
				-504 17 -530 9 -480 -510 -520 -528	-510 19 -540 10 -474 -510 -526 -538	-498 20 -530 4 -480 -490 -516 -528	
			-540 1	-528 17 -559 18 -493 -530 -543 -557	-519 47 -570 8 -460 -540 -568 -570		
				-543 23 -570 12 -510 -540 -570 -570	-535 51 -600 10 -441 -535 -591 -600		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 370

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-557 33 -580 3 -513 -580 -580 -580	-570 -570 2 -570 -570 -570 -570	-610 45 -660 4 -561 -610 -655 -659	-657 5 -660 3 -650 -660 -660 -660				-602 49 -660 12 -521 -580 -660 -660	70 N
	-536 32 -580 12 -484 -530 -580 -580	-562 44 -620 11 -484 -570 -614 -620	-628 15 -650 4 -611 -625 -640 -649	-638 16 -650 4 -612 -645 -650 -650	-627 5 -630 3 -620 -630 -630 -630			-576 51 -659 39 -480 -580 -630 -652	
60	-590 66 -680 7 -520 -550 -680 -680	-579 58 -660 9 -480 -570 -634 -657	-500 1	-550 43 -610 4 -501 -545 -591 -608	-572 46 -640 9 -522 -550 -634 -640			-582 63 -680 50 -499 -555 -662 -680	60
	-560 52 -649 4 -521 -535 -597 -643	-567 69 -650 3 -484 -570 -624 -647	-513 40 -570 3 -480 -490 -544 -567	-544 58 -630 12 -462 -530 -620 -628	-560 36 -648 13 -520 -550 -591 -638	-600 10 -610 2 -590 -600 -607 -610		-541 62 -695 62 -432 -535 -602 -666	
50	-605 46 -650 12 -501 -610 -650 -650	-614 40 -660 7 -545 -640 -641 -658	-543 41 -590 8 -460 -555 -578 -589	-572 54 -640 11 -482 -580 -630 -638	-595 51 -640 11 -504 -620 -640 -640	-586 43 -640 5 -516 -590 -621 -638		-574 59 -658 78 -450 -590 -640 -650	50
	-607 24 -639 18 -550 -610 -630 -637	-552 67 -660 90 -406 -570 -610 -652	-534 53 -628 54 -440 -545 -585 -620	-570 1	-564 47 -630 9 -512 -550 -627 -630	-593 37 -640 10 -524 -600 -626 -638		-556 62 -670 205 -431 -570 -620 -659	
40	-555 49 -660 96 -460 -560 -610 -642	-566 50 -630 100 -430 -580 -610 -630				-584 22 -620 5 -561 -570 -607 -618		-556 52 -660 248 -440 -560 -610 -631	40
	-546 46 -634 200 -440 -540 -600 -620	-541 45 -590 15 -428 -550 -570 -587						-544 46 -643 250 -440 -540 -590 -620	
30	-534 50 -625 159 -432 -540 -590 -620							-529 47 -632 268 -440 -540 -580 -620	30
	-506 38 -560 29 -429 -500 -545 -560							-505 38 -580 144 -439 -500 -550 -580	
20	-513 22 -559 13 -482 -510 -540 -555							-496 24 -558 68 -460 -490 -520 -550	20
	-498 13 -520 13 -480 -490 -511 -520							-489 15 -520 51 -460 -480 -510 -520	
10	-493 12 -510 12 -480 -490 -510 -510							-486 14 -519 45 -459 -480 -500 -511	10
	-470 -470 2 -470 -470 -470 -470							-482 12 -509 38 -460 -480 -490 -503	
0	-470 -470 2 -470 -470 -470 -470							-483 12 -500 28 -455 -490 -490 -500	0
	-475 5 -480 2 -470 -475 -478 -480							-488 11 -510 34 -470 -490 -500 -510	
10	-500 10 -510 2 -490 -500 -507 -510							-487 13 -519 40 -468 -490 -498 -512	10
	-510 1							-487 18 -520 29 -456 -490 -500 -520	
20								-493 17 -510 22 -454 -500 -510 -510	20
								-508 19 -539 23 -474 -510 -525 -536	
30								-528 29 -570 27 -460 -530 -550 -570	30
								-539 38 -600 22 -455 -540 -570 -600	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 390

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N						-580 1	
60						-534 63 -629 17 -413 -550 -600 -624	
50					-548 31 -600 6 -504 -540 -576 -597	-552 46 -639 24 -453 -540 -593 -635	
40					-562 63 -727 22 -474 -550 -600 -713	-549 59 -706 17 -476 -520 -604 -681	
30	-570 -570 2 -570 -570 -570 -570			-526 15 -550 5 -510 -530 -537 -548	-541 55 -669 21 -480 -530 -596 -662	-575 63 -680 26 -470 -560 -650 -680	
20	-590 10 -600 2 -580 -590 -597 -600			-541 48 -629 12 -464 -540 -590 -621	-574 76 -700 17 -483 -550 -668 -700	-568 52 -649 5 -495 -570 -605 -644	
10	-570 10 -580 2 -560 -570 -577 -580			-528 15 -550 4 -511 -525 -540 -549	-620 85 -700 4 -505 -640 -700 -700	-526 23 -560 8 -493 -520 -550 -559	
0	-596 39 -630 5 -526 -610 -624 -629			-530 8 -540 3 -520 -530 -537 -540	-483 21 -510 3 -461 -480 -500 -509	-505 5 -510 2 -500 -505 -508 -510	
10	-610 -610 2 -610 -610 -610 -610	-615 5 -620 2 -610 -615 -618 -620	-547 9 -560 3 -540 -540 -554 -559	-543 13 -550 4 -522 -550 -550 -550		-549 14 -569 28 -505 -550 -560 -565	
20		-590 1	-540 14 -560 4 -521 -540 -550 -559	-530 1		-529 33 -599 34 -470 -530 -557 -593	
30			-553 9 -560 3 -541 -560 -560 -560	-520 1		-553 13 -570 7 -540 -550 -570 -570	
40			-553 9 -560 3 -541 -560 -560 -560			-543 10 -550 10 -522 -550 -550 -550	
50			-540 18 -570 6 -512 -540 -554 -568			-546 9 -560 17 -530 -550 -554 -560	
60						-547 5 -559 29 -540 -550 -550 -554	
70 N						-548 8 -560 32 -530 -550 -560 -560	
60						-546 9 -560 24 -530 -550 -550 -560	
50						-544 16 -579 23 -510 -540 -560 -576	
40						-544 12 -570 13 -530 -540 -552 -570	
30				-490 -490 2 -490 -490 -490 -490		-563 29 -610 6 -531 -560 -586 -607	
20				-530 29 -570 3 -501 -520 -554 -568	-554 10 -570 5 -541 -550 -564 -569	-560 22 -580 3 -532 -570 -577 -580	
10			-570 1	-552 12 -570 5 -540 -550 -564 -569	-564 37 -657 20 -495 -565 -590 -637		
40 S				-547 12 -560 3 -531 -550 -557 -560	-573 47 -649 19 -487 -580 -620 -646		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 390

CODE:

MEAN	ST. DEV.	.3%	N
98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N	-565 11 -580 4 -551 -565 -575 -579			-590 1				-572 13 -590 6 -551 -575 -582 -589	70 N
	-518 49 -580 9 -435 -520 -567 -578	-600 57 -640 3 -525 -640 -640 -640		-580 1	-605 5 -610 2 -600 -605 -608 -610			-541 63 -640 32 -416 -555 -600 -640	
60	-581 41 -649 13 -522 -580 -621 -645	-556 34 -609 7 -504 -550 -581 -606		-581 64 -710 10 -522 -560 -643 -708	-545 46 -630 16 -489 -525 -616 -627			-559 48 -708 76 -480 -540 -610 -675	60
	-590 50 -630 3 -524 -620 -627 -630	-540 16 -560 4 -521 -540 -555 -559	-515 25 -540 2 -491 -515 -532 -539	-515 5 -520 6 -510 -515 -520 -520	-540 70 -649 4 -463 -525 -597 -643	-577 69 -679 7 -485 -570 -651 -676		-553 60 -726 65 -470 -540 -618 -704	
50	-569 80 -709 14 -480 -560 -658 -702	-509 22 -550 7 -481 -500 -531 -548	-513 35 -570 6 -463 -510 -546 -567			-543 38 -580 4 -501 -545 -580 -580		-553 64 -703 78 -470 -535 -634 -680	50
	-584 70 -689 18 -480 -595 -663 -687	-564 60 -670 75 -445 -580 -630 -665	-538 53 -629 33 -443 -540 -600 -624		-545 25 -570 2 -521 -545 -562 -569	-575 42 -620 11 -502 -580 -614 -620		-561 61 -700 168 -450 -560 -620 -687	
40	-543 48 -659 39 -493 -520 -590 -652	-574 56 -670 95 -469 -580 -630 -670	-600 48 -660 6 -541 -595 -660 -660		-630 1	-583 39 -620 3 -533 -600 -614 -619		-565 57 -700 170 -470 -570 -620 -670	40
	-550 40 -627 90 -478 -540 -600 -620	-548 36 -600 13 -482 -560 -581 -598			-615 5 -620 2 -610 -615 -618 -620	-590 1		-548 40 -627 117 -473 -540 -600 -620	
30	-543 50 -630 88 -430 -550 -601 -630							-546 44 -630 128 -430 -550 -590 -630	30
	-533 34 -609 23 -472 -530 -565 -601							-537 37 -618 65 -470 -530 -578 -610	
20	-553 24 -600 8 -523 -545 -576 -597							-550 21 -599 21 -520 -540 -570 -596	20
	-552 12 -570 12 -532 -550 -562 -570							-548 12 -570 25 -525 -550 -560 -570	
10	-547 7 -560 13 -532 -550 -550 -558							-547 9 -560 33 -530 -550 -559 -560	10
	-545 5 -550 4 -540 -545 -550 -550							-545 9 -569 39 -525 -550 -550 -562	
0	-547 9 -560 3 -540 -540 -554 -559							-548 8 -560 35 -530 -550 -560 -560	0
	-550 10 -560 4 -540 -550 -560 -560							-546 9 -560 28 -530 -550 -557 -560	
10	-550 18 -570 4 -531 -550 -565 -569							-545 16 -579 27 -510 -540 -560 -575	10
	-540 1							-544 12 -570 14 -530 -540 -549 -570	
20								-545 40 -609 8 -490 -540 -580 -606	20
								-549 24 -580 11 -504 -550 -570 -578	
30								-562 33 -655 26 -500 -560 -590 -630	30
								-570 45 -649 22 -488 -570 -620 -646	
40 S									40S

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	30E	60E	90E	120E	150E	180W	150W
70 N							
60						-510 50 -560 2 -462 -510 -544 -558	
					-548 13 -570 5 -531 -550 -557 -568	-540 19 -560 4 -512 -545 -555 -559	
50					-539 67 -679 21 -424 -540 -614 -672	-581 54 -659 7 -488 -590 -622 -655	
					-544 66 -679 23 -464 -520 -615 -671	-575 39 -639 6 -515 -575 -600 -635	
40	-560 1			-543 54 -620 12 -467 -520 -612 -620	-525 63 -639 11 -454 -500 -594 -632	-625 45 -670 2 -582 -625 -656 -668	
	-560 1			-543 42 -629 15 -468 -540 -585 -622		-498 18 -520 4 -472 -500 -510 -519	
30	-598 62 -680 12 -512 -595 -672 -680			-565 15 -580 2 -551 -565 -575 -579			
	-589 69 -670 10 -502 -585 -666 -670			-585 5 -590 2 -580 -585 -588 -590	-590 1	-557 5 -560 3 -550 -560 -560 -560	
20	-577 45 -639 3 -540 -550 -611 -636	-593 38 -650 6 -560 -575 -642 -649	-598 9 -610 6 -590 -595 -610 -610		-597 5 -600 3 -590 -600 -600 -600	-590 59 -670 7 -488 -590 -651 -668	
		-593 29 -630 4 -561 -590 -620 -629	-600 8 -610 6 -590 -600 -610 -610		-600 -600 4 -600 -600 -600 -600	-617 12 -630 3 -601 -620 -627 -630	
10			-605 9 -620 8 -591 -605 -610 -619	-610 1		-603 7 -610 9 -592 -600 -610 -610	
			-609 9 -620 8 -600 -605 -620 -620			-591 10 -610 11 -572 -590 -600 -608	
0			-605 17 -620 4 -581 -610 -620 -620			-586 9 -600 11 -570 -590 -590 -598	
						-597 7 -610 9 -590 -600 -600 -608	
10						-597 9 -610 15 -583 -600 -608 -610	
						-603 13 -639 18 -583 -600 -610 -633	
20						-598 19 -640 30 -566 -590 -620 -640	
						-588 27 -640 19 -541 -580 -611 -640	
30					-582 32 -649 9 -542 -570 -607 -644	-580 28 -648 14 -540 -575 -608 -640	
					-582 40 -649 24 -494 -585 -616 -645		
40 S					-578 50 -659 36 -480 -575 -630 -653		

LONGITUDE

APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 410

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60	-613 46 -690 9 -542 -620 -659 -687	-527 53 -639 7 -480 -510 -563 -630						-510 50 -560 2 -462 -510 -544 -558	60
50	-615 25 -640 2 -591 -615 -632 -639	-532 49 -610 19 -454 -530 -592 -610	-533 21 -560 3 -511 -530 -550 -559	-510 10 -520 2 -500 -510 -517 -520				-564 55 -689 25 -480 -550 -622 -680	50
40	-629 38 -689 11 -566 -640 -658 -686	-550 57 -648 14 -473 -560 -609 -640	-543 53 -650 13 -475 -540 -594 -648		-510 1	-570 1		-544 59 -677 54 -431 -540 -610 -660	40
30	-626 43 -679 13 -530 -640 -660 -675	-554 70 -690 20 -464 -540 -630 -690	-536 39 -654 33 -476 -540 -569 -622			-588 41 -620 4 -524 -605 -620 -620		-561 63 -688 69 -470 -560 -640 -676	30
20	-598 61 -690 16 -510 -600 -656 -690	-588 52 -679 23 -489 -600 -640 -671	-550 31 -580 4 -503 -560 -575 -579			-581 39 -640 10 -522 -585 -621 -638		-556 62 -690 96 -460 -540 -630 -681	20
10	-587 32 -658 27 -530 -590 -618 -650	-578 22 -610 4 -551 -575 -596 -608				-590 24 -620 3 -561 -590 -610 -619		-573 55 -690 73 -474 -570 -630 -686	10
0	-583 51 -650 32 -472 -590 -630 -650							-588 41 -680 48 -519 -585 -620 -680	0
10	-579 47 -649 24 -474 -575 -620 -645							-583 53 -670 48 -479 -585 -640 -670	10
20	-585 21 -620 17 -550 -590 -604 -620							-586 44 -667 49 -479 -590 -626 -651	20
30	-602 11 -620 11 -582 -600 -610 -618							-593 21 -630 34 -550 -600 -610 -630	30
40 S	-602 4 -610 5 -600 -600 -604 -609							-603 9 -620 29 -586 -600 -610 -620	40S

LONGITUDE

APPENDIX C

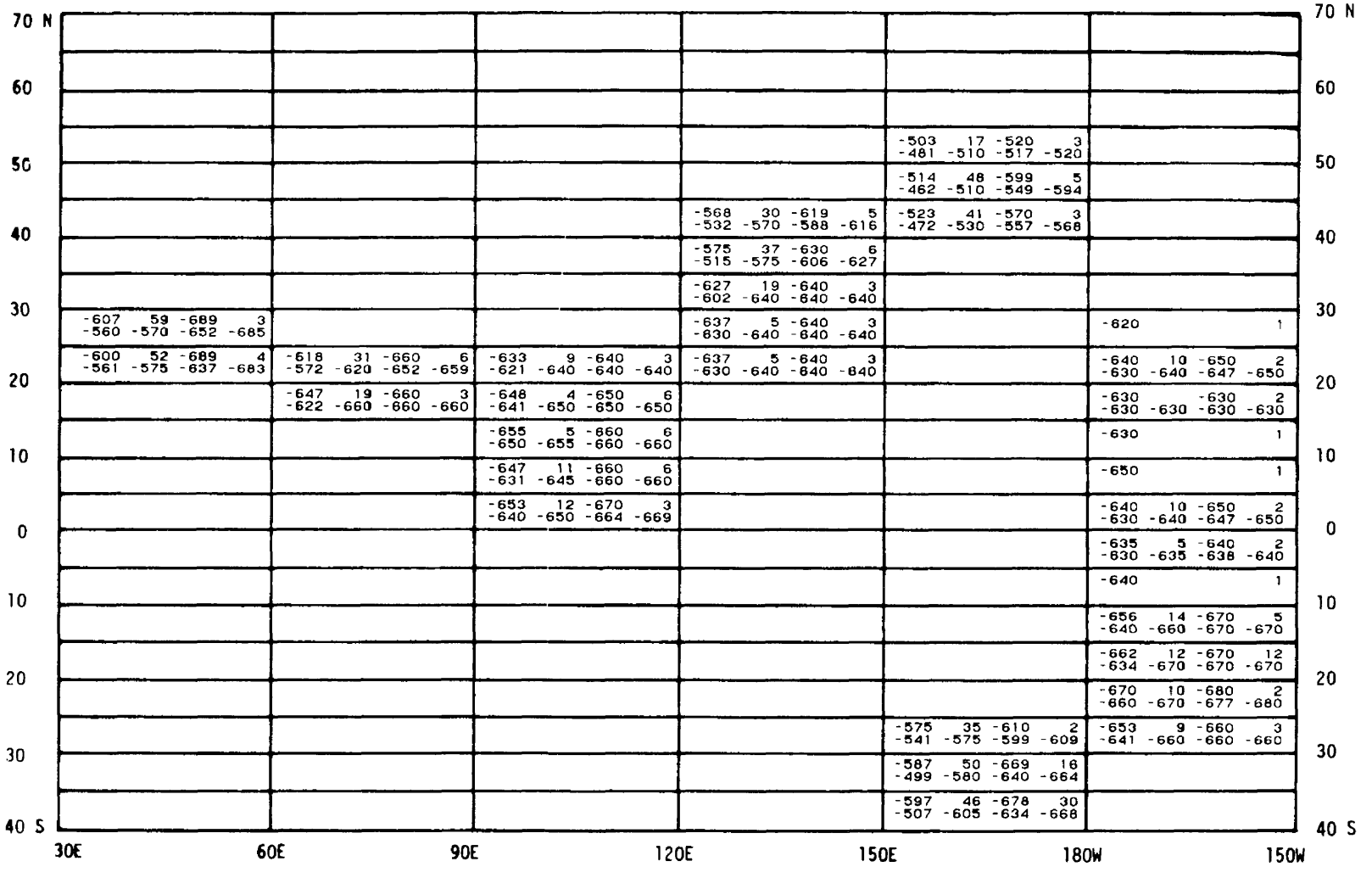
STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER

FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10



APPENDIX C

STATIC AIR TEMPERATURE CLIMATOLOGY

DECEMBER
FL 430

CODE:	MEAN	ST. DEV.	.3%	N
	98%	50%	16%	2%

TABULATED TEMPERATURES = °C * 10

LAT.	150W	120W	90W	60W	30W	0	30E	MEAN	LAT
70 N									70 N
60				-575 5 -580 2 -570 -575 -578 -580	-500 -500 2 -500 -500 -500 -500			-538 38 -580 4 -500 -535 -575 -579	60
50			-560 10 -570 2 -550 -560 -567 -570	-555 5 -560 2 -550 -555 -558 -560				-534 30 -570 7 -484 -550 -560 -569	50
40		-590 50 -630 3 -524 -620 -627 -630	-571 60 -640 9 -468 -570 -630 -638	-560 1				-551 60 -640 15 -460 -550 -628 -637	40
30	-535 25 -560 2 -511 -535 -552 -559	-580 25 -610 5 -551 -570 -610 -610	-559 51 -650 9 -486 -550 -618 -648					-560 49 -649 20 -474 -550 -620 -646	30
20	-586 32 -630 7 -534 -590 -620 -629	-615 30 -650 6 -563 -630 -634 -648	-603 59 -650 3 -525 -640 -647 -650					-577 42 -650 16 -510 -570 -622 -647	20
10	-597 33 -620 3 -553 -620 -620 -620							-604 34 -650 16 -539 -610 -636 -647	10
0								-614 41 -689 10 -552 -620 -640 -681	0
10								-622 34 -688 18 -583 -630 -650 -680	10
20								-645 12 -660 11 -622 -650 -654 -660	20
30								-651 10 -660 7 -632 -650 -660 -660	30
40 S								-647 10 -660 7 -631 -650 -660 -660	40S
								-648 13 -670 5 -631 -650 -657 -668	
								-635 5 -640 2 -630 -635 -638 -640	
								-640 1	
								-656 14 -670 5 -640 -660 -670 -670	
								-662 12 -670 12 -634 -670 -670 -670	
								-670 10 -680 2 -660 -670 -677 -680	
								-622 45 -660 5 -546 -640 -660 -660	
								-587 50 -669 16 -499 -580 -640 -664	
								-597 46 -678 30 -507 -605 -634 -668	

LONGITUDE

☆U.S. GOVERNMENT PRINTING OFFICE: 1985/559-109/10429

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
NASA CR-168106		

4. Title and Subtitle	5. Report Date
Flight Summaries and Temperature Climatology at Airliner Cruise Altitudes from GASP Data	February 1985
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
G.D. Nastrom and W.H. Jasperson	None
	10. Work Unit No.
9. Performing Organization Name and Address	11. Contract or Grant No.
Control Data Corporation P.O. Box 1249 Minneapolis, Minnesota 55440	NAS 3-21249
	13. Type of Report and Period Covered
12. Sponsoring Agency Name and Address	Contractor Report
National Aeronautics and Space Administration Washington, D.C. 20546	14. Sponsoring Agency Code
	505-40-22

15. Supplementary Notes

Final report. Project Manager, J.D. Holdeman, Internal Fluid Mechanics Division, NASA Lewis Research Center, Cleveland, Ohio 44135. Corrected copy.

16. Abstract

Temperature data obtained by the Global Atmospheric Sampling Program (GASP) during the period March 1975 to July 1979 have been compiled to form flight summaries of static air temperature and a geographic temperature climatology. The flight summaries include the height and location of the coldest observed temperature and the mean flight level, temperature and the standard deviation of temperature for each flight as well as for flight segments. These summaries are ordered by route and month. The temperature climatology was computed for all statistically independent temperature data for each flight. The grid used consists of 5° latitude, 30° longitude and 2000 feet vertical resolution from FL270 to FL430 for each month of the year. The number of statistically independent observations, their mean, standard deviation and the empirical 98, 50, 16, 2, and 0.3 probability percentiles are presented.

17. Key Words (Suggested by Author(s))	18. Distribution Statement
Atmospheric temperature; Aircraft fuels; Temperature climatology; Aircraft measurements; Global Atmospheric Sampling Program (GASP); Meteorological parameters	Unclassified - unlimited STAR Category 47

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of pages	22. Price*
Unclassified	Unclassified	368	A16

*For sale by the National Technical Information Service, Springfield, Virginia 22161