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Satellite Radar Altimetry Over Ice

Volume 1—Processing and Corrections of Seasat Data Over Greenland

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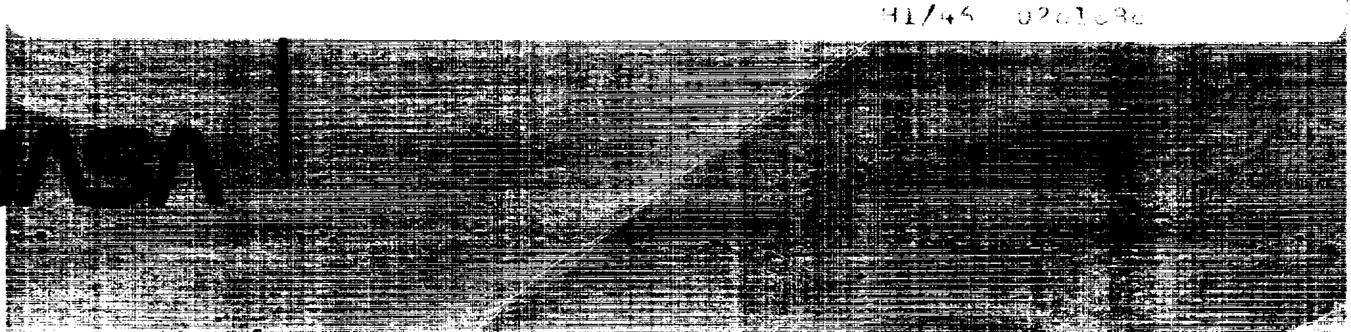

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PREFACE

The data-processing methods and ice data products derived from Seasat radar altimeter measurements over the Greenland ice sheet and surrounding sea ice are documented in this first volume of a series. The corrections derived and applied to the Seasat radar altimeter data over ice are described in detail, including the editing and retracking algorithm to correct for height errors caused by lags in the automatic range tracking circuit. The methods for radial adjustment of the orbits and estimation of the slope-induced errors are given. The various levels of ice data sets are described in this report, but the user is referred to Volumes 2 (Greenland) and 4 (Antarctica) for more detailed descriptions of the gridded elevation data sets and the geo-referenced data bases.

SECTION 1.0
INTRODUCTION

This volume is the first in a series documenting the data-processing methods and ice data products derived from satellite radar altimeter measurements over the ice sheets of Greenland and Antarctica and surrounding sea ice. The data-processing procedures and corrections derived and applied to the Seasat radar altimeter data are described in detail in this report. A flowchart depicting the procedures involved in obtaining the various data products is given in Figure 1. A detailed description of the editing and retracking algorithm is given in Section 2, along with descriptions of the other corrections. The methods for radial adjustment of the orbits and estimation of the slope-induced errors are described. The various levels of ice data sets produced are described in this report, but the user is referred to Volumes 2 and 4 for more detailed descriptions of the gridded elevation data set and the geo-referenced data base.

The input Seasat radar altimeter data, in the form of Geophysical Data Records (GDR's) and Sensor Data Records (SDR's) produced by NASA's Seasat project at the Jet Propulsion Laboratory, were obtained from the NOAA Environmental Satellite Data and Information Service (EDIS) archive on about 1000 magnetic tapes. Development of the data processing methods, the production of higher-level geophysical data products, and analysis and evaluation of the data have been supported at the Goddard Space Flight Center by funding for research and data analysis, provided primarily by NASA's Ocean Processes Program and by the Climate program. Computer programming and technical assistance has been provided by the EG&G Washington Analytical Services Center, Inc. until January 1989 and by ST Systems Corporation since then. Numerous other individuals have provided valuable assistance.

Results have been reported in refereed scientific literature (e.g., Brenner et al., 1983; Martin et al., 1983; Zwally et al., 1983; Thomas et al., 1983; and Gundestrup et al., 1986). In addition, elevation data in various forms have been provided to other scientists and placed in the National Snow and Ice Data Center (NSIDC) and the National Space Science Data Center (NSSDC). The purpose of this series of reports is to document technical details and provide guidance to users of the ice data products.

While all reasonable quality-control efforts have been made to eliminate erroneous data, some data of questionable quality is likely to have persisted, particularly in the lower-level data products. Users should apply normal standards of scientific caution in their use of the data.

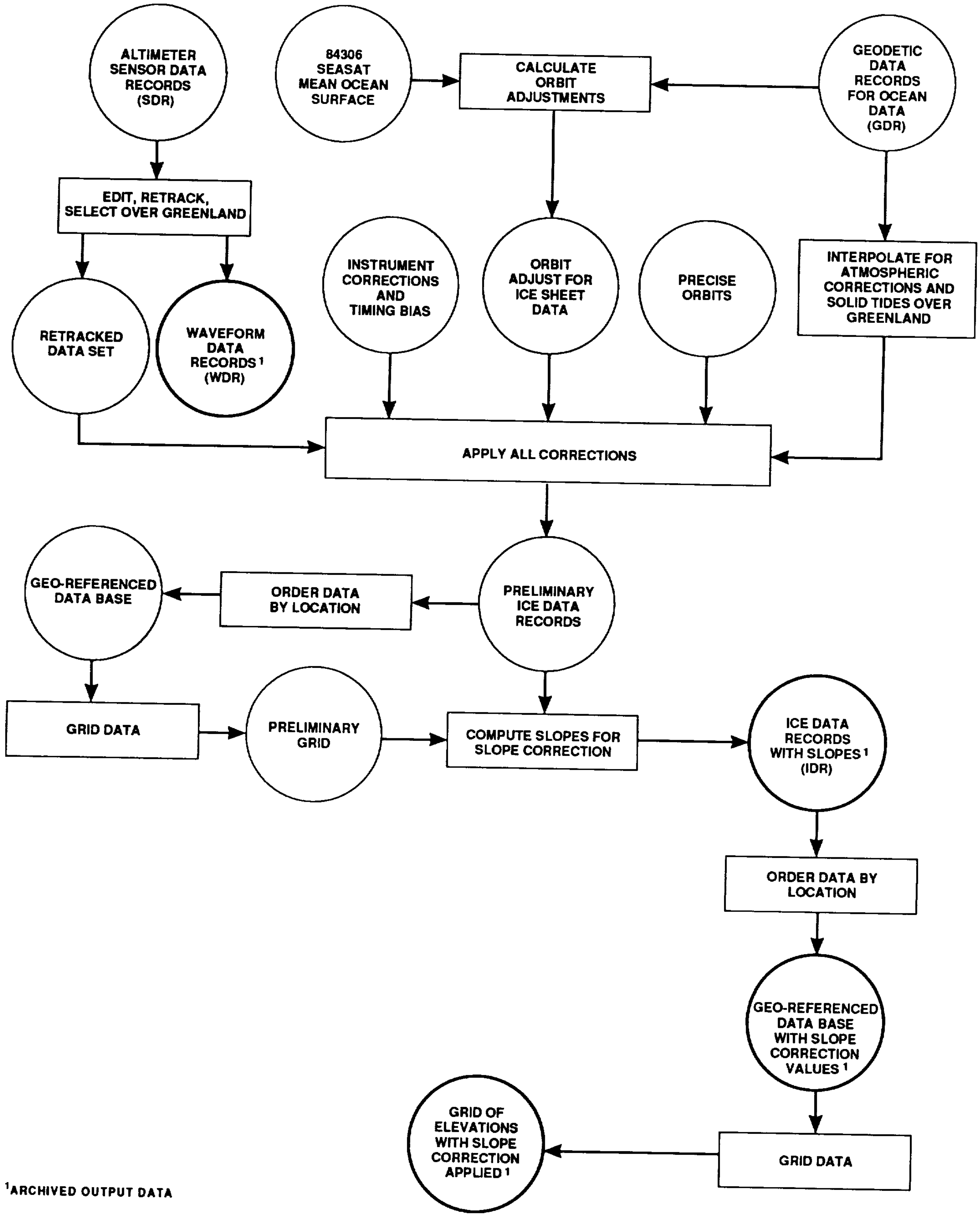


Figure 1. Processes Involved in Obtaining Data Products

The current list of reports is:

Satellite Radar Altimetry over Ice, Volume 1: Processing and Corrections of Seasat Data over Greenland, July 1989. This volume.

Satellite Radar Altimetry over Ice, Volume 2: User's Guide for Greenland Elevation Data from Seasat, July 1989. NASA Reference Publication. ________.

Satellite Radar Altimetry over Ice, Volume 4: User's Guide for Antarctic Elevation Data from Seasat, July 1989. NASA Reference Publication. ________.

Volume 3 will be the Antarctic equivalent of Volume 1. Additional volumes will include descriptions of the data sets being produced by NASA from the radar altimeter data acquired by the U.S. Navy's GEOSAT, using methods similar to those for the Seasat data.

The Seasat spacecraft (e.g., Lame and Born, 1982 and Lame et al., 1980) was launched in late June 1978, and during its brief 110-day lifetime, collected 90 days of nearly continuous radar altimeter data from July 9 through October 10 between the latitudes of 72°S and 72°N. Although designed only for measurements over water, the Seasat radar altimeter (MacArthur, 1978; Tapley et al., 1982; and Townsend, 1980), acquired more than 600,000 useful altimeter range measurements over the continental ice sheets of Greenland and Antarctica.

Over sloping and undulating surfaces, such as ice covered land, or surfaces with highly-variable reflecting characteristics, such as in regions of sea ice, the range to the surface and the characteristics of the received radar pulse changed faster than the response capability of the altimeter electronics. Consequently, it has been necessary to correct each range value for lags of the altimeter range servo-tracking circuitry by a procedure called retracking (Martin et al., 1983). The retracking correction typically had a mean value of + 1.4 m as applied to the surface elevation, a standard deviation of 2.9 m, and maximum and minimum values of ± 15 m. In addition, the pulse-limited footprint (1.6 km minimum diameter), which was located near the satellite nadir point over the relatively flat ocean, was in general located anywhere within the beam-limited footprint (22 km in diameter) over sloping surfaces. The resulting slope-induced error, which was nearly 80 m over slopes of 0.8 degree, can be partially corrected using the procedures described in Brenner et al., 1983. Corrections are also made for errors in orbit determination, atmospheric propagation path-length variations, and earth and ocean tides.

Elevation measurements were obtained at 0.1-second intervals, corresponding to 662-m intervals along the subsatellite ground track. The precision of the corrected range measurements is about 1.6 m overall with a minimum of about 0.25 m in the smoothest regions of the ice sheets

(Zwally et al., 1983). The 5- to 10- cm precision over the ocean is for 1-sec data averages.) The absolute accuracy of the elevations is primarily determined by the limitations on the correction methods for the slope-induced errors and uncertainties in the geoid reference level.

The principal ice data sets produced and/or retained are:

Level 4: Contour maps and gridded elevations with respect to earth ellipsoid and sea level (e.g., this Volume and Volume 2).

Level 3: Geo-referenced data base including all individual elevation measurements (including time, latitude/longitude positions, and slope-correction estimates) accessible by geographic cells (e.g., this Volume and Volume 2).

Level 2: Ice Data Records (IDR's). Orbital-format data records including altimeter parameters, corrected elevations, latitude/longitude positions, AGC, applied corrections, retracking beta parameters, and estimates of along-track and cross-track slope corrections. (this Volume)

Level 1: Waveform Data Records (WDR's). Orbital-format data records including waveform amplitudes by gate, ranges, AGC, and latitude/longitude positions. (this Volume)

Sensor Data Records (SDR's)
Geodetic Data Records (GDR's)

SECTION 2.0
ICE DATA RECORDS

The Seasat altimeter data were released in two forms: the Altimeter Sensor Data Record (hereafter referred to as SDR), and the Geophysical Data Record, GDR. The SDR's were obtained from the NOAA/EDIS archives and contain, among other quantities, the telemetered range measurements between the spacecraft and earth's surface, averaged radar return pulses, the altimeter status flags and the satellite latitude, longitude, and elevation. The data are output in 0.098-sec intervals. The GDR's contain processed SDR data averaged over 1-sec intervals, and the sensor, atmospheric, and surface dynamic corrections necessary to utilize the data in detailed geodetic work. Data over the ice sheets are not available from the GDR's.

To obtain the ice sheet elevation measurements, data from the SDR's are used and the appropriate corrections and adjustments applied. This subset of ice sheet data obtained from the SDR's is referred to as ice data records or IDR's. A detailed description of these records may be found in Table 1. The surface heights, located in bytes 73-76 of the IDR, are referenced to the IUGG 1980 Geodetic Reference Ellipsoid (Moritz, 1980), which is defined with a 6378.137-km semi-major axis of the earth and a flattening ratio of 1/298.257. Heights relative to sea level can be calculated by subtracting the geoid value from the surface height. Geoid values, linearly interpolated from a one-by-one degree GEM10-B geoid grid, are located in bytes 61-64 of the IDR.

Figure 2 is a map of Greenland which depicts the coverage obtained from the IDR's after data were edited and retracked (see Section 2.1). The gaps in the data are a result of the altimeter not being able to maintain valid height measurements over the rougher surfaces of the ice sheets. Table 2 gives a concise catalog of the available Seasat Greenland IDR data. Included in this table are the start and stop locations of each rev, the number of points in each rev, and the data base bins (see Section 4.0) through which each rev traverses. The rev numbers are ordered such that all ascending passes are listed first, ordered by increasing latitude as they cross 315 degrees East Longitude. Then the descending passes are listed using the same ordering criterion as for the ascending passes.

2.1 EDITING AND RETRACKING

As explained in Section 1.0, Seasat altimetry returns over non-ocean surfaces required special processing in order to calculate meaningful height measurements. To understand this processing one must first have an understanding of the return itself.

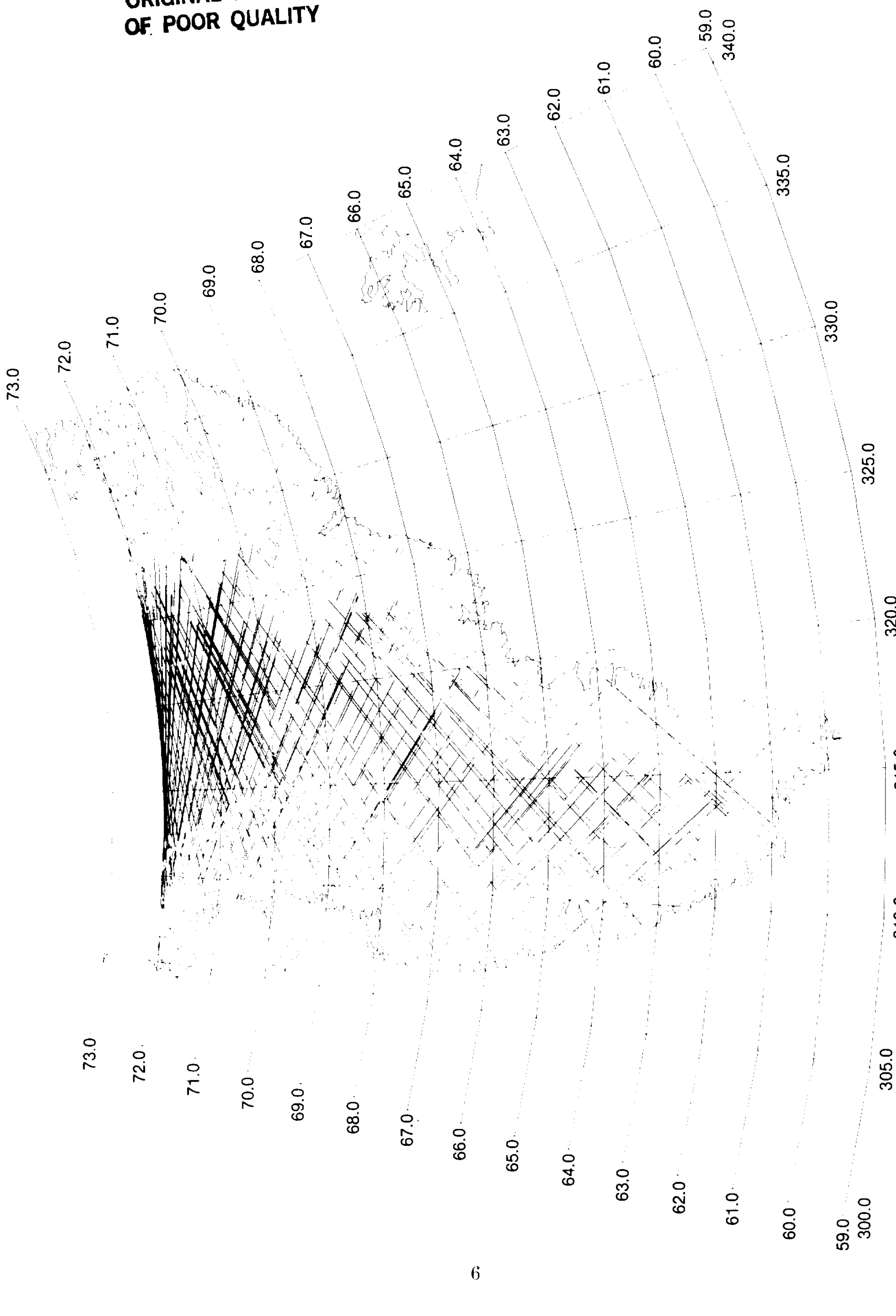


Figure 2. Seasat Greenland Groundtracks

Each altimeter return, referred to as a waveform, consists of the output of a set of 63 gates that span a height window of approximately 30 m. Each gate has a level of return associated with it measured in counts. A typical ocean return from Seasat is presented in Figure 3. The level of return in the first 22 gates is at the noise or pre-pulse level of 4 or 5 counts. The level quickly increases to a relative maximum and then slowly decreases over the latter portion of the window. There are three half-gates at the center that have a spacing of 23 cm instead of 46 cm. The tracking gate is the center of these. The on-board tracker attempts to keep the center of the return leading edge positioned at the tracking gate by predicting the travel time of each pulse based on previous returns. The measurement telemetered from the altimeter is equivalent to the travel time to the tracking gate.

Altimeter returns over non-ocean surfaces vary greatly from this ocean return. Figure 4 shows representative returns over ice sheet surfaces for a Seasat pass over Antarctica (Martin et al., 1983). The Figure 3 sea ice returns are represented by one or more sharp spikes that may or may not be at the tracking gate. As the altimeter travels onto the ice shelf, acquisition is lost, represented as a flat return. On the ice shelf the returns are shaped similar to the oceans, but again are not always centered at the tracking gate. As the satellite moves over the ice sheet, acquisition is again lost temporarily. Over the ice sheets the returns are noisy, have multiple leading edges, and the mid-point of the first leading edge is not always aligned with the tracking gate.

The measurement telemetered from the on-board tracker needs to be corrected for the variation of the mid-point of the leading edge from the tracking gate. This retracking correction, ΔH_{ret} is calculated as

$$\Delta H_{ret} = (Gm-Gt)*g2m \tag{2.1}$$

where

Gm = gate of the mid-point of the leading edge (see Sections 2.1.3–2.1.4),

Gt = the tracking gate (29.5 where the whole gates are numbered from 0 to 59; see Figure 3), and

g2m = the conversion from gates to meters = .4684375 m/gate.

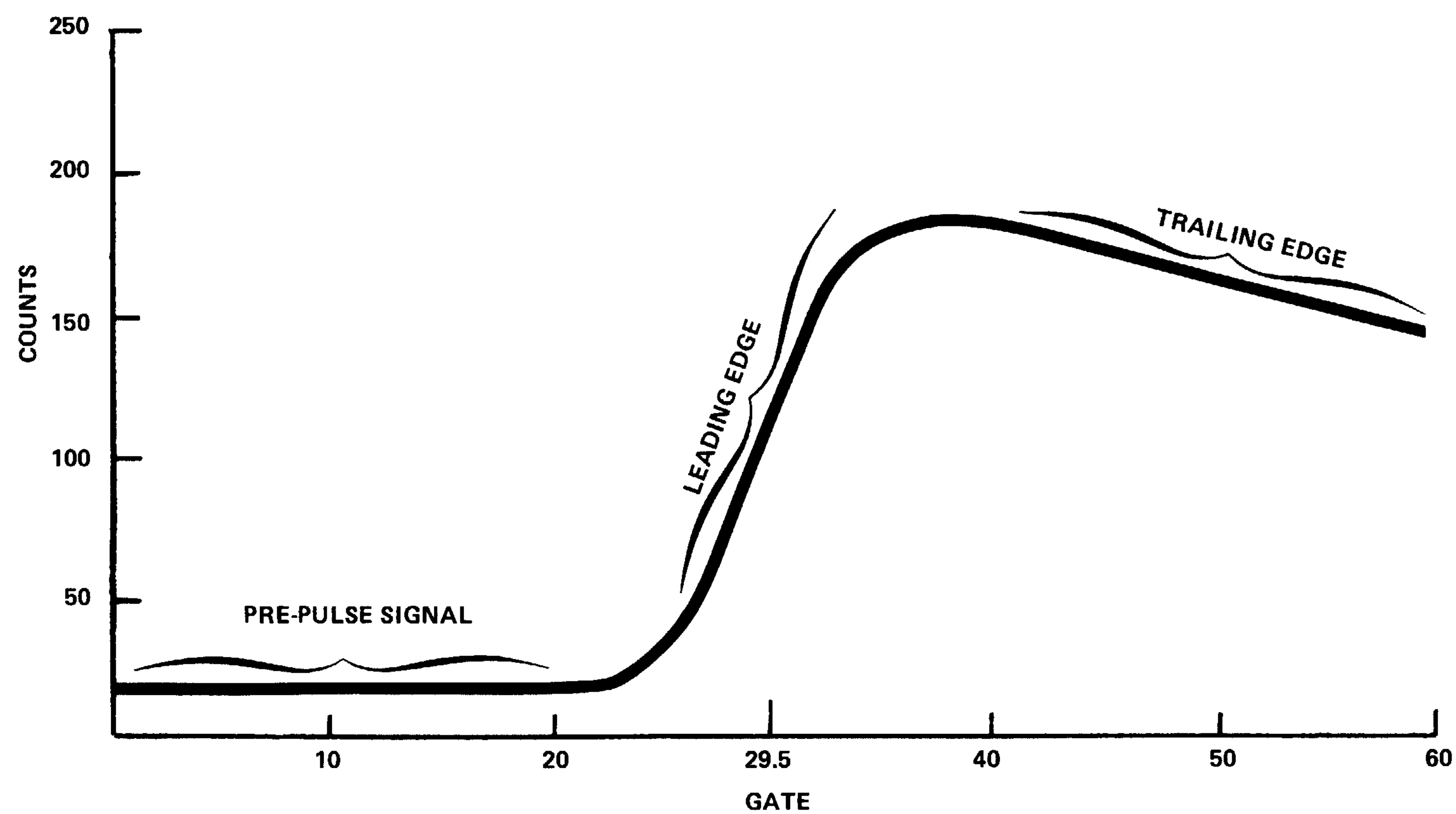


Figure 3. Ideal Ocean Altimetry Return Pulse

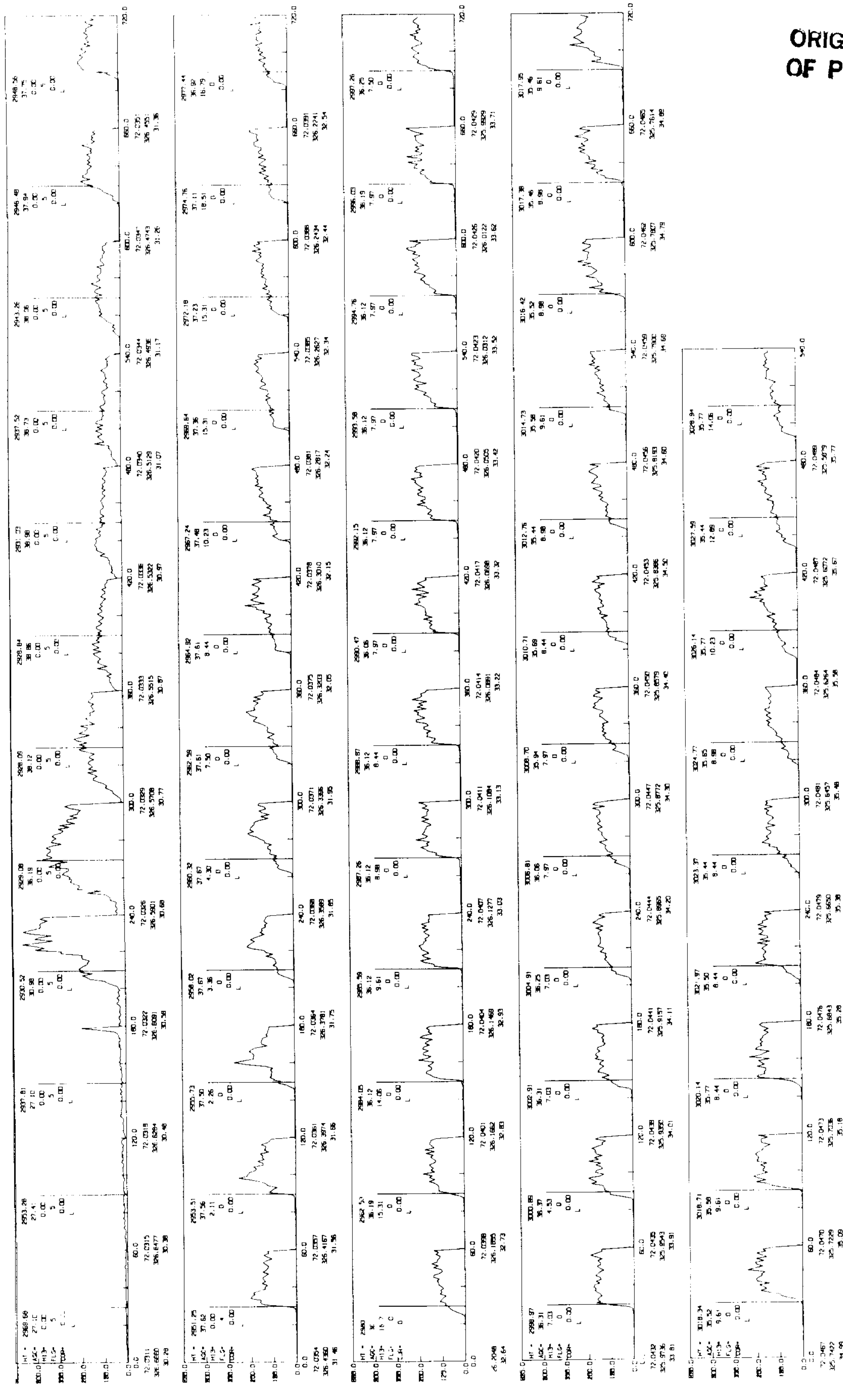


Figure 4. Seasat Ice Sheet Altimeter Waveforms

It then follows that

$$H_{ret_t} = H_{meas_t} + \Delta H_{ret_{t+1}} \tag{2.2}$$

where

H_{ret_t} = the retracked altimeter measurement at time t,

H_{meas_t} = the measurement calculated by the on-board tracker at time t, and

$\Delta H_{ret_{t+1}}$ = the retracking correction calculated from waveform at time t+.098 sec.

Due to the return being telemetered one time step later, the retracking correction for the measurement at time t is calculated from the return at time t+.098 sec. Methods have been developed at NASA/GSFC to calculate the ΔH_{ret} for returns over the ice sheet, ice shelf, and sea ice which can yield valid height measurements. A detailed description of these procedures may be found in Sections 2.1.3 and 2.1.4. Parameters resulting from these retracking techniques may be found in bytes 109-144 of the IDR. The criteria used to automatically select and discriminate between different types of returns are described in the next two sections.

2.1.1 Selecting Retrackable Non-Ocean Altimetry Returns

The SDR for Seasat includes all telemetered altimeter data even when the instrument was in calibration or standby mode. Since valid measurements could be acquired when the tracker was in acquisition mode, all data that are not in acquisition or track modes are discarded.

All tracking and acquisition returns have to meet two initial tests to determine if the waveform actually represents the initial return, or if the return is outside the tracking window.

1) The counts in the first gate must be less than 100:
2) There must be at least one gate with a count value greater than 25.

2.1.2 Categorizing the Returns

The remaining returns are then categorized into two groups. Group one will be referred to as specular and consists of those returns that display a sharp spike. Returns in this category are usually found in regions of sea ice or over flat, desert-type surfaces. The second group, consisting of the remaining returns, is called diffuse and resembles ocean returns. These returns are found over continental ice and the ice shelves. Different methods are used to retrack each group.

Returns are automatically categorized as either diffuse or specular depending on the existence of a significant spike in the return. To determine this the following algorithm is used. The noise level, Yn, is calculated as the average number of counts in the first five gates. The maximum, Ymax, is calculated as the maximum number of counts in any gate. The value Ymed is then calculated using the equation

$$Ymed = \frac{(Ymax - Yn)}{2.0} + Yn \ . \tag{2.3}$$

The gate number, Gmid, is then found as the first gate where the number of counts exceeds Ymed. Two sums of consecutive counts from the signal are then formed, Ylow and Yhigh, where

$$Ylow = \sum_{i=Gmid}^{i=Gmid+9} Y_i \tag{2.4}$$

$$Yhigh = \sum_{i=Gmid+10}^{i=Gmid+20} Y_i \ . \tag{2.5}$$

If Gmid is so large that there are less than 20 remaining gates, then the number of gates used to form the sums is adjusted. When the ratio of Yhigh/Ylow is $\leq$ 0.7, the return is considered specular.

2.1.3 Retracking Specular Type Returns

Specular waveforms are not found in the Seasat altimeter data over Greenland. This is probably due to the absence of sea ice near Greenland during Seasat's lifetime. As a result, all of the Greenland returns are retracked using the diffuse method. However, for the sake of completeness, the method used to retrack specularly shaped returns, which is employed in the region of the Antarctic, will be discussed.

Specular-type returns are defined for this procedure as being characterized by one or more extremely sharp spikes and are retracked by attempting to locate the mid-point or half-power point of the first significant spike. In addition, since the shape of the return essentially records topographic characteristics, parameters are also calculated which define the shape of a single-or double-peak return. Figure 5a shows the five-parameters required to define a single-peak return, while Figure 5b shows the nine-parameters required for a double-peak return.

2.1.3.1 Half-power Point of First Significant Peak

In determining the mid-point of the first significant spike, the location of this spike must first be found. The value of Ymed, which is calulated to determine whether or not the return is specularly shaped (Equation 2.3), is used. Starting with the gate number prior to Gmid, where Gmid is define to be the gate number whose counts exceed Ymed, a gate is sought whose counts exceed or equal 25% of the difference between Ymax and Yn. Upon finding this gate, Grise, it is determined to be the first significant spike if the following conditions are met:

$$Y_{Grise+1} - Y_{Grise} < 0. \quad \text{for } Y_{Grise} > Ymax * .3 \qquad (2.6)$$

where

Y_{Grise} is the counts for gate Grise, and

$Y_{Grise+1}$ is the counts for gate Grise+1 .

Smaller, more rounded waveforms, which might be encountered in the vicinity of an ice shelf, require that the following condition be met:

$$Y_{Grise+1} - Y_{Grise} < (Ymax-Yn) * .05 \quad \text{for } Y_{Grise} \leq Ymax * .3 \ . \qquad (2.7)$$

Grise is incremented by one, up to the maximum number of gates, until one of the above conditions is met, after which the gate of the first significant spike, G1st, and its corresponding counts, Y1st, are used to determine the half-power point of the peak. The count value at the half-power point, Ymid1, is determined as follows:

$$Ymid1 = \frac{(Y1st-Yn)}{2.0} + Yn \ . \qquad (2.8)$$

The exact gate location of the half-power point, Gtmid1, is then determined by performing a linear interpolation for the count value Ymid1 located between gates X1 and X2, with corresponding count value Y1, Y2.

2.1.3.2 Remaining Parameters to Define Shape

In order to define the exact shape of the specular returns depicted in Figures 5a and 5b, it is necessary to calculate several other parameters in addition to the noise level, the maximum counts of the first significant peak, and the gate location of the half-power point. For the single- and double-peak return, additional quantities which define the width of the significant peak and slope at the half-power point are defined. A double-peak return has four additional quantities calculated: the maximum counts for the second significant peak, the gate location of the half-power point for the second peak, the slope at the second half-power point, and the minimum counts found between the two significant peaks.

The slopes at the half-power point for both the first and second significant peaks, Slp1st and Slp2nd, are determined by the following algorithm:

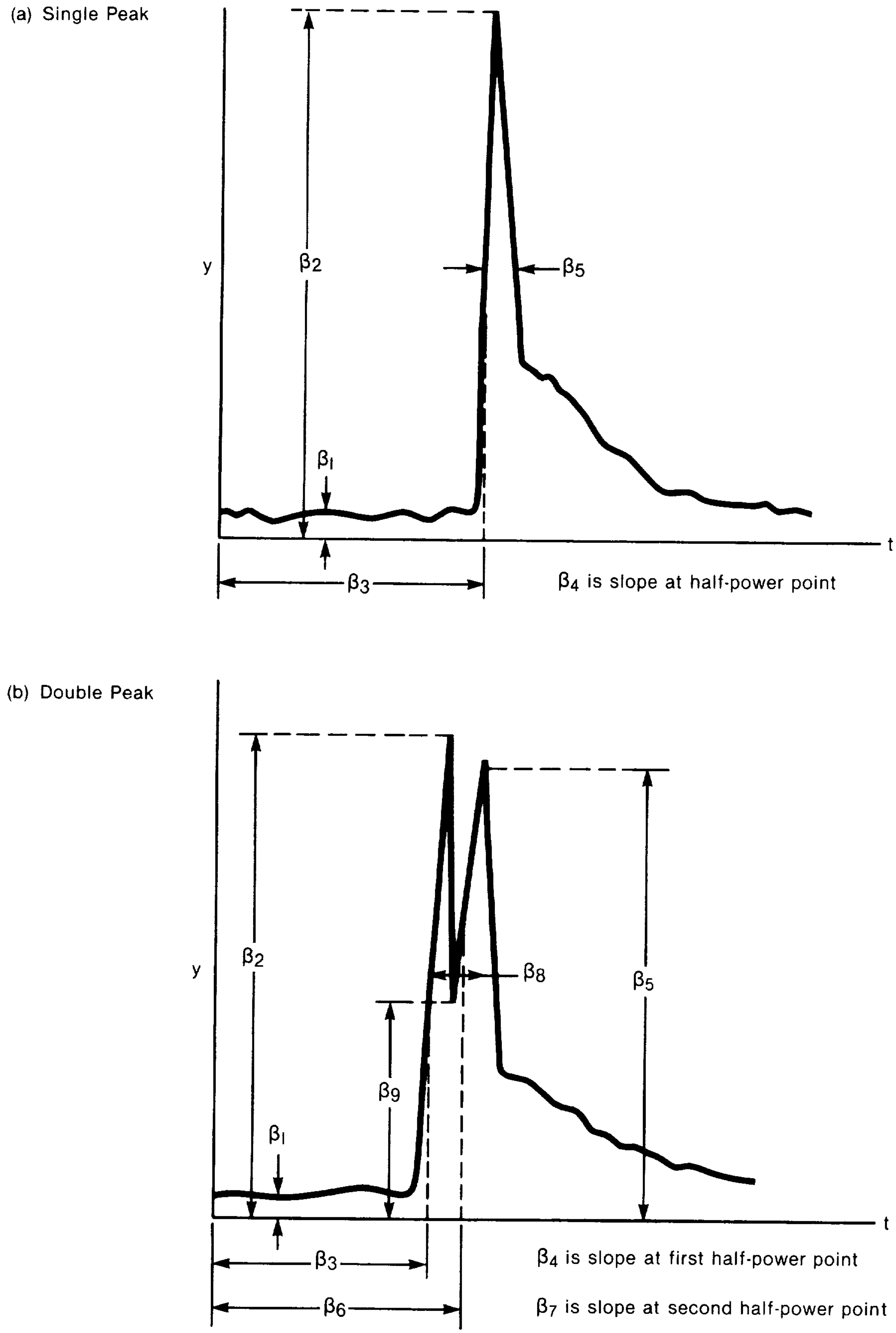
$$\text{Slp1st} = \frac{\text{Y2} - \text{Y1}}{\text{X2} - \text{X1}} \quad . \tag{2.9}$$

Slp2nd uses the gate locations and corresponding counts determined to surround the half-power point of the second significant peak. These values are found in a manner similar to that of the first peak.

The actual existence of a second significant peak is determined in the following manner. Starting with the gate location of the first significant peak, the difference between counts of consecutive gates is monitored. As soon as the change in successive gates becomes negative, at gate location Gcntmin, it is assumed that another peak has been encountered. At this point, a sum if formed, Totup, which totals the counts in all gates following the Gcntmin. When Totup equals or exceeds 9% of Y1st then the second peak is considered significant. The gate at which the second peak occurs, X2nd, is determined to occur when the difference in the counts of consecutive gates becomes positive.

The counts at the second significant peak, Y2nd, are then used in the following manner to calculate the counts at the half-power point of the second peak, Ymid2:

$$\text{Ymid2} = \frac{(\text{Y2nd}-\text{Cntmin})}{2} + \text{Cntmin} \quad . \tag{2.10}$$



Figures 5a and 5b. Specularly Shaped Waveforms

Again, a linear interpolation is performed in a manner identical with the first significant peak to determine the exact gate location of the second significant peak half-power point, Gtmid2.

The final parameter to be determined is the total width of the peak or peaks at the first half-power point. The width is defined as the number of gates between Gtmid1 (Section 2.1.3.1) and the location, Gtrail, where the trailing edge passes through Ymid1 (Equation 28). The width is computed as follows:

$$\text{Width} = \text{Gtrail} - \text{Gtmid1} \quad . \tag{2.11}$$

In summary, the parameters for a specular return with a single significant peak are as follows:

$$\begin{aligned} \beta_1 &= \text{Yn} \\ \beta_2 &= \text{Y1st} \\ \beta_3 &= \text{Gtmid1} \\ \beta_4 &= \text{Slp1st} \\ \beta_5 &= \text{Width} \ . \end{aligned} \tag{2.12}$$

The parameters for a specular return with double significant peaks are as follows:

$$\begin{aligned} \beta_1 &= \text{Yn} \\ \beta_2 &= \text{Y1st} \\ \beta_3 &= \text{Gtmid1} \\ \beta_4 &= \text{Slp1st} \\ \beta_5 &= \text{Y2nd} \\ \beta_6 &= \text{Gtmid2} \\ \beta_7 &= \text{Slp2nd} \\ \beta_8 &= \text{Width} \\ \beta_9 &= \text{Cntmin} \ . \end{aligned} \tag{2.13}$$

2.1.4 Retracking Diffuse-Type Returns

The method used to retrack the diffuse return is to model the return with a function that has the retracking position (the mid-point of the leading edge) as a parameter. The Bayesian least-squares method (Ref. 8) is used to solve for the parameters of the function that best fit the return. For this method, initial estimates of the parameters must be provided. Weights are given to these initial estimates that designate how well each parameter is known relative to the others.

Residuals are then calculated between the return value and the function value at each gate. These residuals are weighted based on their proximity to the mid-point of the leading edge position. A minimum to the sum of these squared weighted residuals is sought by an iterative method which simultaneously adjusts all of the function parameters. The process is repeated until convergence or until the maximum number of iterations is reached. Because linear methods are used to solve a non-linear problem the procedure can be numerically unstable. Checks are done to assure the reasonableness of the results. The key to making this method function correctly is in the choice of the initial estimates and weighting functions.

The theory of solving for the function parameters using Bayesian least-squares can be found in Ref. 8. The actual equations used will be presented here without justification.

Given an overdetermined set of equations MX=R where

$$M = \text{the matrix of partials} \begin{bmatrix} \frac{\partial c_1}{\partial \beta_1} & \cdots & \frac{\partial c_1}{\partial \beta_n} \\ \vdots & & \\ \frac{\partial c_m}{\partial \beta_1} & \cdots & \frac{\partial c_m}{\partial \beta_n} \end{bmatrix} \qquad m > n \tag{2.14}$$

$$x = \text{column vector} = \begin{bmatrix} \beta_{c1} - \beta_1 \\ \vdots \\ \beta_{cn} - \beta_n \end{bmatrix} \tag{2.15}$$

$$R = \begin{bmatrix} m_1 - c_1 \\ \vdots \\ m_m - c_m \end{bmatrix} \tag{2.16}$$

and

m_i = observed value (counts at t=gate i),

c_i = calculated values of m_i based upon a given set of parameters β,

β_j = current best estimate of the model parameters β,

β_{cj} = corrected best estimate of the model parameters β,

i = gate number (0 – 59), and

n = number of parameters in the function.

We can then define a weight matrix, W

$$W = \begin{bmatrix} wt_i & & & 0 \\ & \cdot & & \\ & & \cdot & \\ & & & \cdot \\ 0 & & & wt_m \end{bmatrix} \tag{2.17}$$

where wt_i is the weight associated with each observation i.

If we multiply both sides of the equation by W we get

$$WMX = WR \ .$$

Multiplying through by M^T gives

$$M^TWMX = M^TWR \ . \tag{2.18}$$

The solution of X is solved for as

$$X = [M^TWM]^{-1} \ M^TWR \tag{2.19}$$

where M^TWM is referred to as the normal matrix. To add information as to the validity of the current best estimate of the model parameters the a priori covariance matrix V_o is included

$$V_o = \begin{bmatrix} wt_{\beta 1} & & & 0 \\ & \cdot & & \\ & & \cdot & \\ & & & \cdot \\ 0 & & & wt_{\beta n} \end{bmatrix} \tag{2.20}$$

where $wt_{\beta j}$ = weight associated with the a priori value of parameter j. This matrix is then added to the normal matrix before it is inverted so the equation becomes

$$X = [M^T WM + V_o]^{-1} \; M^T WR \, . \qquad (2.21)$$

X then is the vector giving the new best estimate of the β parameters.

2.1.4.1 The Function Representing the Altimeter Return

It has been shown (Miller and Brown, 1974) that the mean return waveform over a Gaussian surface can be mathematically described using the function

$$c(t) = \beta_1 + \beta_2 * P \; (W) \qquad (2.22)$$

where

$$P(W) = \int_{-\infty}^{W} Z(q) \; dq \qquad (2.23)$$

$$Z(q) = \frac{1}{\sqrt{2\pi}} \exp\left(\frac{-q^2}{2}\right) \qquad (2.24)$$

$$W = \frac{t-\beta_3}{\beta_4} \, . \qquad (2.25)$$

This assumes that the pointing angle errors have negligible effects on the waveform shape. This also represents the ice sheet waveforms very well if it is modified to include a slope to the trailing edge. The modified function used to represent the diffuse-type waveforms is chosen as

$$c(t) = \beta_1 + \beta_2 (1 + \beta_5 Q(x)) \; P \; (W) \qquad (2.26)$$

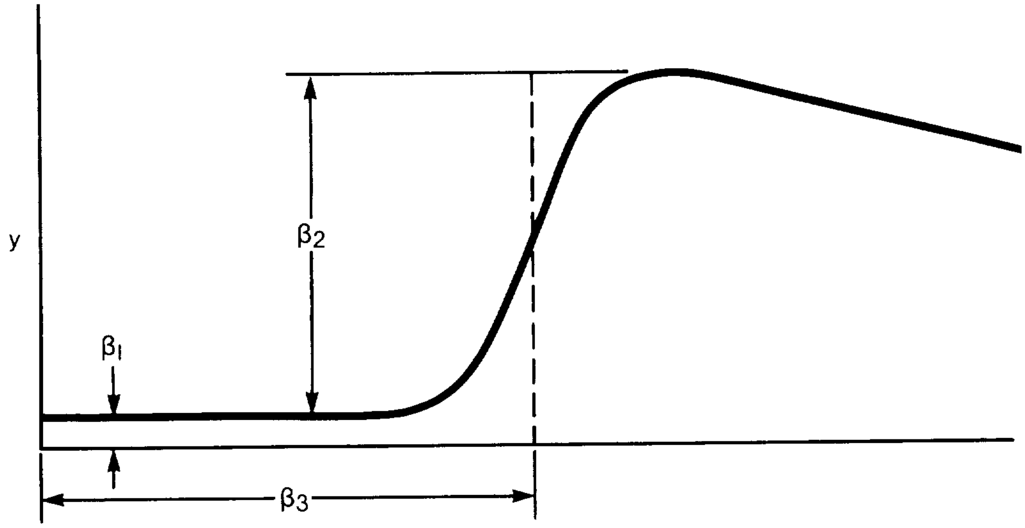
where

$$Q(x) = 0 \text{ for } t < \beta_3 + 0.5 \, \beta_4$$

$$= t-x \text{ for } t > \beta_3 + 0.5 \, \beta_4 \, .$$

This is plotted in Figure 6a where

(a) Single-Ramp Function



β_4 Is the waveform risetime parameter

$$y = \beta_1 + \beta_2 (1 + \beta_5 Q) P \frac{(t - \beta_3)}{\beta_4}$$

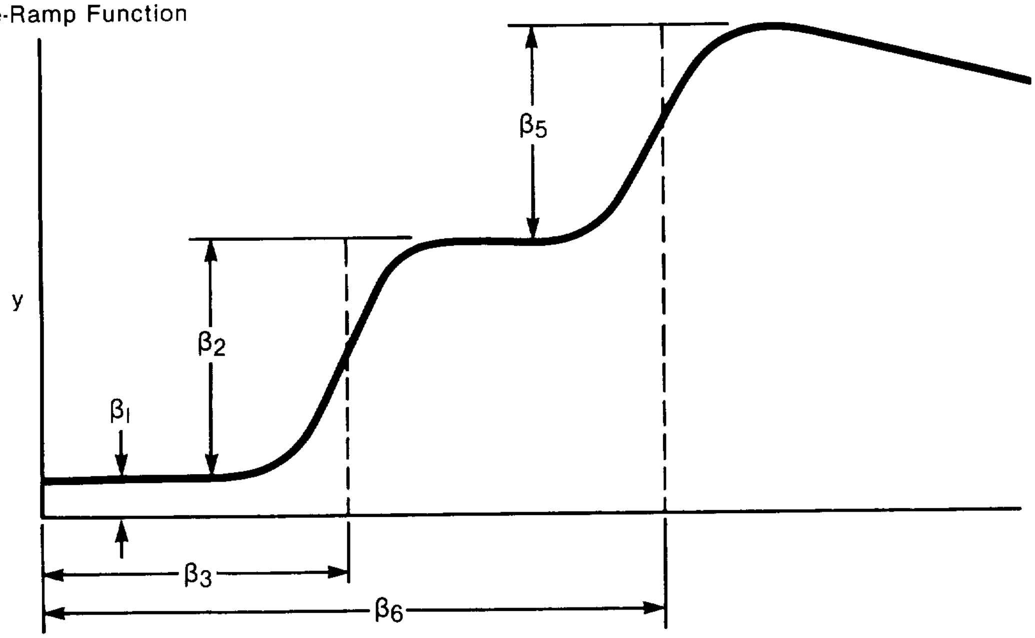
where $Q = 0$ for $X < \beta_3 + 0.5\ \beta_4$

$= 1$ for $X \geq \beta_3 + 0.5\ \beta_4$

$X = t - (\beta_3 + 0.5\ \beta_4)$

$$P(z) = \int_{\infty}^{z} \frac{1}{\sqrt{2\pi}} \exp(-q^2/2)\, dq$$

(b) Double-Ramp Function



β_4 and β_7 are risetime parameters for the 1st and 2nd ramp respectively

$$\text{Where } y = \beta_1 + \beta_2{}'P \frac{(t - \beta_3)}{\beta_4} (1 + \beta_9 Q(x_1)) + (\beta_5 P \frac{(t - \beta_6)}{\beta_7} (1 + \beta_3(Q(X_2))$$

$X_1 = t - \beta_3 - 0.5\ \beta_4$

$X_2 = t - \beta_6 - 0.5\ \beta_7$

$Q(x) = 0$ for $x < 0$

$= 1$ for $x \geq 0$

$$P(z) = \int_{-\infty}^{z} \frac{1}{\sqrt{2\pi}} \exp(-q^2/2)\, dq$$

Figures 6a and 6b. Diffusely Shaped Waveforms

$x = \beta_3 + 0.5\,\beta_4$.

The partials of this function with respect to each parameter are

$$\frac{\partial c}{\partial \beta_1} = 1.0 \tag{2.27}$$

$$\frac{\partial c}{\partial \beta_2} = P[W] + \beta_5\, Q\, P[W] \tag{2.28}$$

$$\frac{\partial c}{\partial \beta_3} = -\beta_2 \left\{\frac{(1+\beta_5 Q)}{\beta_4} \frac{\partial P}{\partial W} + P(W)\,\beta_5\right\} \tag{2.29}$$

$$\frac{\partial c}{\partial \beta_4} = \beta_2 \left\{\frac{(1+\beta_5 Q)}{\beta_4} \frac{\partial P}{\partial W}\, W + \beta_5 \frac{P(W)}{2}\right\} \tag{2.30}$$

$$\frac{\partial c}{\partial \beta_5} = \beta_2 Q\, P[W] \tag{2.31}$$

where

$$\frac{\partial P}{\partial W} = \frac{1}{\sqrt{2\pi}} \exp\left(\frac{-W^2}{2}\right) .$$

The value of β_3 is the mid-point of the leading edge, Gm. As previously noted, some of the returns display multiple leading edges. A nine-parameter function is used to represent these returns, where the mid-point of the first leading edge is still β_3. The mid-point of the second leading edge, $\beta 6$, probably represents a return from another surface in the footprint and is being stored for future use. The nine-parameter function is

$$c(t) = \beta_1 + \beta_2\, P(W_1)\, (1+\beta_9 Q(x_1)) + \beta_5\, P(W)\, (1+\beta_8\, (Q(x_2)) \tag{2.32}$$

This is plotted in Figure 6b where

$$x_1 = t-\beta_3-.5\ \beta_4$$

$$x_2 = t-\beta_6-0.5\ \beta_7$$

$$W_1 = \frac{t-\beta_3}{\beta_4}$$

$$W_2 = \frac{t-\beta_6}{\beta_7}$$

The partials of this nine-parameter function are

$$\frac{\partial c}{\partial \beta_1} = 1.0 \tag{2.33}$$

$$\frac{\partial c}{\partial \beta_2} = P(W_1) \ [1+\beta_9] \ Q_1 \tag{2.34}$$

$$\frac{\partial c}{\partial \beta_3} = -\beta_2 \ [\frac{(1+\beta_9 Q_1)}{\beta_4} \frac{\partial P}{\partial W_1} + P(W_1)\,\beta_9] \tag{2.35}$$

$$\frac{\partial c}{\partial \beta_4} = -\beta_2 \ [\frac{(P(W_1)\beta_9}{2} + \frac{(1+\beta_9 Q_1)}{\beta_4} \frac{\partial P}{\partial W_1} W_1 \ ] \tag{2.36}$$

$$\frac{\partial c}{\partial \beta_5} = 1 + \beta_8 \ Q_2 \ P(W_2) \tag{2.37}$$

$$\frac{\partial c}{\partial \beta_6} = -\beta_5 \ [P(W_2)\,\beta_8 + \frac{(1+\beta_8 Q_2)}{\beta_7} \frac{\partial P}{\partial W_2}] \tag{2.38}$$

$$\frac{\partial c}{\partial \beta_7} = -\beta_5 \left[\frac{(1+\beta_8 Q_2)}{\beta_7} W_2 \frac{\partial P}{\partial W_2} + \frac{P(W_2)}{2} \beta_8 \right] \tag{2.39}$$

$$\frac{\partial c}{\partial \beta_8} = \beta_5 \; Q_2 \; P(W_2) \tag{2.40}$$

$$\frac{\partial c}{\partial \beta_9} = \beta_2 \; Q_2 \; P(W_1) \; . \tag{2.41}$$

2.1.4.2 Setting the Initial Estimates for the Parameters

Initial estimates of each parameter are calculated from each individual return. To calculate these the general shape of the waveform is mathematically described by defining a mean slope and average value (bias) for every whole gate. For gates 4 through 56, the mean slopes and biases correspond to a straight line that is fit using least-squares minimization through the gate in question and the six surrounding gates. The biases for gates 1 through 4 are taken as the gate values and the slopes are defined as zero. For gates 57 through 60 the biases are the gate values and the slopes are defined as the slope calculated for gate 56. This set of slopes and biases is then interrogated to determine the locations of the leading edges and how many occur in the waveform.

The conditions required for a leading edge at gate Ir are:

1) The Slope(Ir) must be greater than a given value, Thsl. A value of Thsl=0.5 count/gate is used to find the first leading edge, for succeeding leading edges Thsl is set to 1.0 count/gate. These numbers were chosen by visually and mathematically evaluating many typical ice sheet waveforms to determine when a leading edge designating a valid return could be perceived.

2) The Slope(Ir) must be a relative maximum, ie:

   Slope(Ir) > Slope (Ir−1)
   Slope(Ir) > Slope (Ir+1) .

3) There must be a significant increase in counts after the leading edge compared with that before the leading edge, i.e.:

Bias(Ir+3)-Bias(Ir-3) > Thbs

where

Thbs = 13.5 counts for first leading edge
 = 20.0 counts for succeeding leading edge.

4) If there was a leading edge already detected within 3 gates of Ir then the location is taken as that with the larger slope.

The initial estimates of the function parameters are then calculated from the position of the leading edge(s) and the Slopes and Biases. The five-parameter function (2.26) is used when only one leading edge is found, the nine-parameter function (2.32) is used when two or more leading edges are found.

Initial estimates, β_i^o, and the corresponding standard deviations of these estimates, Sig(1) through Sig(5), for the five-parameter function are defined as:

β_1^o	=	Bias(4) (counts)	Sig(1)	=	0.01 (count)
β_2^o	=	Bias(Ir+3)–Bias(4) (counts)	Sig(2)	=	10.0 (counts)
β_3^o	=	Ir (gate)	Sig(3)	=	.1 $\beta_o(4)$ (gates)
β_4^o	=	{[Bias(Ir+3)–Bias(Ir–3)]/ Slope(Ir)}*0.5 (gate)	Sig(4)	=	.01 $\beta_o(4)$ (gates)
β_5^o	=	0.0 (count/gate)	Sig(5)	=	.01 (count/gate).

(2.42)

Initial estimates and the corresponding standard deviations for the nine-parameter function are defined as:

β_1^o	=	Bias(4) (counts)	Sig(1)	=	.01 (count)
β_2^o	=	Bias(Ir1+3)–Bias(4) (counts)	Sig(2)	=	0.1 (count)
β_3^o	=	Ir1 (gates)	Sig(3)	=	.05 $\beta_o(4)$ (gates)
β_4^o	=	{[Bias(Ir1+3)–Bias(Ir1–3)]/ Slope(Ir1)}*0.5 (gates)	Sig(4)	=	.005 $\beta_o(4)$ (gates)
β_5^o	=	Bias(Ir2+3)–Bias(Ir1+3) (counts)	Sig(5)	=	0.1 (count)
β_6^o	=	Ir2 (gates)	Sig(6)	=	.05 $\beta_o(7)$ (gates)
β_7^o	=	{[Bias(Ir2+3)–Bias(Ir2–3)] Slope(Ir2)} (gates)	Sig(7)	=	.005 $\beta_o(7)$ (gates)
β_8^o	=	0.0 (count/gate)	Sig(8)	=	.01 (count/gate)
β_9^o	=	0.0 (count/gate)	Sig(9)	=	.01 (count/gate)

(2.43)

where

Ir1 is the predicted gate corresponding to the mid-point of the first leading edge

Ir2 is the predicted gate corresponding to the mid-point of the second leading edge.

2.1.4.3 Calculating the Weight Matrix, W

The weight associated with each observation, wt_l, is selected to optimize the fit in the vicinity of the leading edge.

$$wt_l = 1 + K_1 * [\exp(K_2) + K_3] \tag{2.44}$$

where

$K_1 = (I_{ter}-1) * 0.5$

I_{ter} = iteration number

$K_2 = T_c + 0.5$

$= \mathrm{Min}(K_2, 60)$

$= \mathrm{Max}(K_2, 1)$

$T_c = X_l - \beta_3 - \mathrm{Max}(5.0, \beta_4)$ for 5-parameter function

$= X_i - \beta_6 - \text{Max}\,(5.0, \beta_7)$ for 9-parameter function

X_i = gate number of the ith observation

for the five-parameter function

$K_3 = 0$ for $|T_c| \geq 2.0$

$= 1$ for $|T_c| < 2.0$

for the nine-parameter function

$K_3 = 0$ for $|T_c| \geq 5.0$

$= 1$ for $|T_c| < 5.0$.

2.1.4.4 Calculating the Covariance Matrix, V_o

A priori values of V_0 are calculated from the sigmas in equations (2.42) and (2.43) as follows:

$$w_{t_{\beta_j}} = w\text{scale}/\text{Sig}(j)^2 \tag{2.45}$$

$$w\text{scale} = 1 + .6 * K * H1/3/(120*g2m) \tag{2.46}$$

$$H1/3 = 1.875 * \beta_4$$

$$K = 4$$

Using the function, $w$scale, causes the initial estimate information to have a greater effect on the solution when the rise time is large.

After each iteration, n, the values of Sig(3), Sig(4) and K are altered as follows:

$$\text{Sig}(3) = \text{Sig}(3)_{n-1} * 0.1$$

$$\text{Sig}(4) = \text{Sig}(4)_{n-1} * 10.0$$

$$K = K_{n-1} + .5 \ .$$

This has the effect of weighting the current best estimate of the leading edge position more and the rise time of the leading edge less. This has proven to speed up convergence.

2.1.4.5 Method of Iteration

An interative scheme is used starting out with the initial estimate of the β parameters. The Bayesian least-squares method is then used to solve for another set of β parameters that better fits the data. Iterations are performed always using the current set for the best estimate until ΔH_{ret}, as calculated from β_3 (2.1), converges to within 10 cm or the number of iterations exceeds 7.

Each succeeding set of β parameters is checked for reasonableness using these criteria:

$$0.0 < \beta_2$$
$$0.0 < \beta_3 < 60.0$$
$$0.0 < \beta_4$$
$$\beta_3 < \beta_6 < 60.0$$
$$0.0 < \beta_7 \ .$$

If any of the criteria fail, then the fit is considered unsuccessful and the waveform is discarded.

After convergence or the maximum number of iterations is reached, tests are then made to assure that the values reasonably represent the return. The rms of the residuals between the waveform and the function for the portion of the waveform from gate zero to just past the top of the leading edge is calculated.

$$RMS_E = \frac{\sum_{i=1}^{Iedit} (C_i - m_i)^2}{Iedit}$$

where

$$Iedit = \beta_3 + 0.5\,\beta_4 \text{ for the five-parameter function}$$
$$= \beta_6 + 0.5\,\beta_7 \text{ for the nine-parameter function.}$$

If RMS_E is greather than 20.0 counts then the fit is unacceptable. If the nine-parameter function is being fit and the process is unsuccessful, then the initial estimates are reset to coincide with the initial estimates for the first leading edge and a five-parameter fit is tried. If problems occur during the five-parameter fit, the initial estimates are altered so that the leading edge position is taken as the gate, I_r, where Slope (I_r) (as defined in Section 2.1.4.2) is a maximum for the waveform. If the fit is still unsuccessful, then the waveform is discarded.

The procedures explained here and the numerical values given yield the best results to date. Wherever possible values were chosen based on theory, but many times trial and error was necessary. At the time the Seasat Greenland data were processed, the procedures and numerical values differed slightly. There was no RMS_E check as explained in the last part of Section 2.1.4.5, nor were the initial parameter values altered if an unsuccessful fit was made. The variables that were different and their values for the Greenland processing were:

Thbs = 5.0 counts for the first leading edge
= 10.0 counts for the second leading edge

Sig(3) = $\beta_0(4)$ (for the five-parameter function)

Sig(4) = 0.1 $\beta_0(4)$.

A direct consequence of these differences was that the entire Greenland data set had to be visually reviewed to assure that the fit adequately represented the data. This resulted in approximately 1% of the data being discarded which would not have been rejected using newer methods. The newer methods described here identify these problems automatically.

2.2 SENSOR-RELATED CORRECTIONS

After the ice altimeter data are edited and retracked, the precise orbits from NASA/GSFC (PGS-S4) are used to calculate the measured ice sheet elevation above the ellipsoid (Lerch et al., 1982). Corrections are then applied to correct for sensor-related biases.

Both the time tag and center of gravity corrections are calculated using the algorithms released by JPL (Lorell, 1979). These are summarized below.

2.2.1 Time Tag Correction

The SDR time tag, t_{SDR}, is corrected for a track mode correction and a signal travel time correction so that the resultant data time, t, refers to the time of signal reflection from the ice sheet.

$$t = t_{SDR} - 0.0794 + H/c \tag{2.47}$$

where

c = 2.99792458×10^8 m/sec,

H = spacecraft altitude in meters, and

0.0794 is the track mode correction in seconds.

2.2.2 Center of Gravity Correction

The correction applied to make the spacecraft center of gravity the height reference point is

$$\Delta H_{cg} = Z_{cg} - Z_{cone} \tag{2.48}$$

where

Z_{cg} = the distance from the altimeter base plate to the spacecraft center of gravity. This varied during the flight due to maneuvers. Table S-07 of Lorell (1979) is used to obtain Z_{cg}

Z_{cone} = −1.238 m which is the sum of the distance from the feed flange on the antenna to the base plate and a distance corresponding to a time bias in the electronic circuitry.

This correction is located in bytes 49-52 of the IDR.

2.3 ATMOSPHERIC CORRECTIONS

The measurements are corrected for ionospheric and tropospheric refraction using parameters supplied by JPL on the GDR's (Lorell et al., 1980).

2.3.1 Ionosphere Correction

The ionosphere correction for the ice data, ΔH_{ION}, is calculated by linearly interpolating from the ionosphere corrections on the GDR's. Bytes 57-60 on the IDR contain the value of this correction. A detailed description of the algorithm used is given in Lorell et al., (1980).

2.3.2 Troposphere Correction

The wet tropospheric correction is calculated using the following equations explained in Lorell et al., (1980).

$$\Delta H_{TROP_{WET}} = 2.277 * 10^{-3} * E_o(1.25503/T_K + 0.5) \tag{2.49}$$

where

$E_o = 6.11 * H_R * 10^{(7.5*T_K - 273.16)/(T_K - 35.86)}$.

T_K is the surface temperature calculated by assuming a linear temperature profile with boundary conditions:

at sea level T_K = 2.73.0K

at 3200m above sea level T_K = 243.0K, and

H_R is the relative humidity (assumed to be 100% over the ice sheet).

The dry tropospheric correction is calculated from the equation

$$\Delta H_{TROP_{DRY}} = 2.277 * 10^{-3} * \{P * [1.0 + 0.0026 * \cos(\phi)]\} \tag{2.50}$$

where

ϕ = subsatellite latitude,

$P = P_o * (1.0 - 1.1138 * 10^{-4} * Ht)$,

P_o - is the atmospheric pressure interpolated from the GDR's, and

Ht - is the ice sheet elevation above sea level in meters.

The total height correction due to the troposphere is

$$\Delta H_{TROP} = \Delta H_{TROP_{WET}} + \Delta H_{TROP_{DRY}}. \tag{2.51}$$

The troposphere correction may be found in bytes 53-56 of the IDR.

2.4 SURFACE DYNAMIC CORRECTIONS

The solid earth tides are computed by linearly interpolating their values from the GDR's. The resultant interpolated value may be found in bytes 83-84 of the IDR.

2.5. ORBITAL CORRECTIONS

The NASA/GSFC PGS-S4 orbits which are used to improve the height measurements, have rms radial errors of 1.5 m. In an effort to reduce the radial error of these orbits, a technique was devised to further improve the orbit accuracy by referencing the orbits to a common ocean surface. Previous attempts to adjust the orbits using crossover minimization techniques with the ice sheet crossovers proved unsuccessful due to extreme segmentation of the data (see Figure 2). The new technique is not dependent upon the ice data but upon ocean altimetry, and utilizes the smoothed Seasat 84306 global ocean surface (Marsh et al., 1986). Through crossover minimization techniques the radial orbit error for the 84306 ocean surface has been reduced to 11 cm in the open ocean areas.

The method involves obtaining the residuals between the Seasat ocean data for passes which traverse Greenland, and the smoothed 84306 ocean surface. Using least-squares minimization, these residuals are then fit to a linear or quadratic function depending on the proximity of the data to Greenland. The function is, in turn, interpolated or extrapolated to determine the value of the orbit adjustment over Greenland which is to be subtracted from the surface height. This function is of the following form:

$$f(t) = C_0 + C_1 \Delta t + C_2 \Delta t^2 \tag{2.52}$$

where

C_0, C_1, C_2 are the coefficients of the fit where the units are meters, meters/fractions of a day and meters/(fractions of a day)^2, respectively, and

Δt is the time from the start of the pass in fractions of a day.

Since this method attempts to adjust for orbit error only, the ocean data which are used must have all sensor, atmospheric, and surface dynamic corrections applied. The ocean data used in the adjustment are obtained from the Seasat Geophysical Data Records (GDR's), as corrected by JPL (Lorell et al., 1980).

Since the orbit error is strongly periodic, with a dominant frequency of two cycles per one revolution, only data from the northern hemisphere need to be used in computing the orbit adjustment over Greenland.

The distribution of the data affects the way in which the residuals are fit. To aid in categorizing the distributions of data, the northern hemisphere is subdivided into five ocean regions: 1) the area to the east of Greenland and within 1000 km. of the coast; 2) the area to the east of Greenland from 1000 km. from the coast to the Greenwich meridian; 3) the Indian Ocean; 4) the area to the west of Greenland between Greenland and North America; and 5) the Pacific Ocean (see Figure 7). The type of fit performed depends upon particular regions containing a minimum amount of data. If the criteria are not met, then no fit is performed.

Figure 7 summarizes the type of fit which is performed depending upon the region(s) in which data are found. An 'X' in regions 1, 2, 3 or 5 represents a minimum of 10 points, while region 4, due to its limited open ocean area, requires a minimum of 19 points. Linear fits are performed when data are found either very close to Greenland or are widely separated from Greenland. Quadratic fits are performed when the data are more evenly distributed over several regions.

After the coefficients for the fit are initially determined, outlying data which satisfy the following criterion are removed:

$$|H(t)-f(t)| \geq m * RMS \tag{2.53}$$

where

m is an integer editing multiplier,

RMS is the rms between the residual heights and the function f(t), and

H(t) is the surface elevation of the datum point.

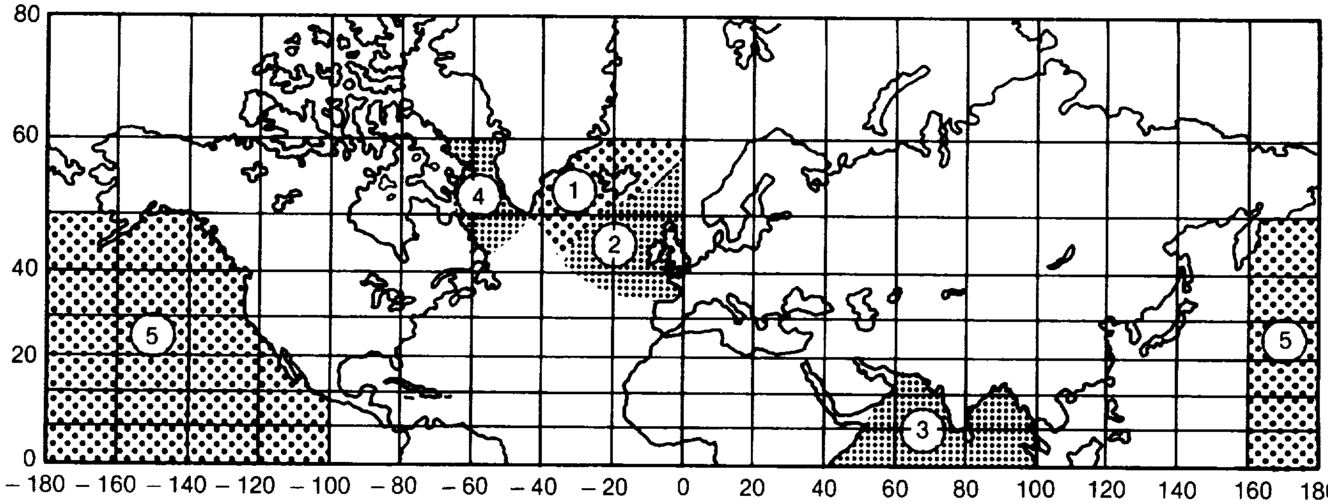


Figure 7. Orbit Adjustment Regions and Effects of Data Distribution on the Orbit Adjustment Fit

REGIONS (MINIMUM NUMBER OF POINTS					TYPE OF FIT L = LINEAR Q = QUADRATIC
1 (10)	2 (10)	3 (10)	4 (19)	5 (10)	
X			X		L
X					L
			X		L
		X		X	L
	X			X	L
X				X	Q
	X	X		X	Q
		X	X		Q
	X		X		Q

'X' INDICATES A REGION CONTAINING THE MINIMUM NUMBER OF POINTS

The remaining data are then used to solve for the function. This process is repeated until either the latest computed rms does not change by more than .02 m from the previous iteration, or 15 iterations are completed. In the case of the Seasat Greenland data, an editing multiplier of 4.0 is used with an initial rms of 20.0 m.

After solving for the coefficients and removing outliers, the function must satisfy a final test. For a linear function, the orbit adjustments are computed at the endpoints of the pass. If the absolute value of the orbit adjustment at either endpoint exceeds 3.0 m, then the function is not used. In the case of a quadratic function, the extremum of the function is first located. If the extremum is outside the endpoints of the data just fit, then the endpoints of the pass are checked as in the linear case. If the extremum lies between the endpoints, its value is checked. Again, a 3.0 m adjustment is deemed too large and if exceeded, an attempt is made to refit the data with a linear function. Of the 331 GDR passes for which an orbit adjustment was computed, 181 resulted in quadratic fits and 150 in linear fits. Of the 194 quadratic fits initially attempted, 12 failed the extremum test and were refit using a linear function. Of these, only one failed the endpoint test.

Two examples of results from the orbit adjustment procedure are shown in Figures 8 and 9. In the first case (Figure 8), data which are found in close proximity to Greenland are fit by a linear function. The latitude and east longitude of the points along the pass closest to the west and east coasts of Greenland are indicated. A linear function is fit to the smoothed ocean surface residuals. The orbit adjustment in the region traversing Greenland is indicated by dashes. Figure 9 shows the orbit adjustment results when a quadratic fit is necessary due to data being available just off Greenland's east coast and in the Pacific Ocean. The final rms between the data and function are 27 cm in the linear case and 14 cm the quadratic case.

Table 3 summarizes the orbit adjustments computed for each GDR rev at 310, 320, and 330 East Longitudes, representing the west coast, central region, and east coast of Greenland. Also included are the coefficients for the function (Equation 2.52) and the elapsed time in fractions of a day from the start point of the pass used to compute the adjustment for the longitude in question.

Utilizing Equation (2.52), the orbit adjustment is then computed for each Seasat IDR, and subtracted from the surface height. The orbit adjustment and its corresponding rms are located in bytes 93-96 and 97-100, respectively, of the IDR.

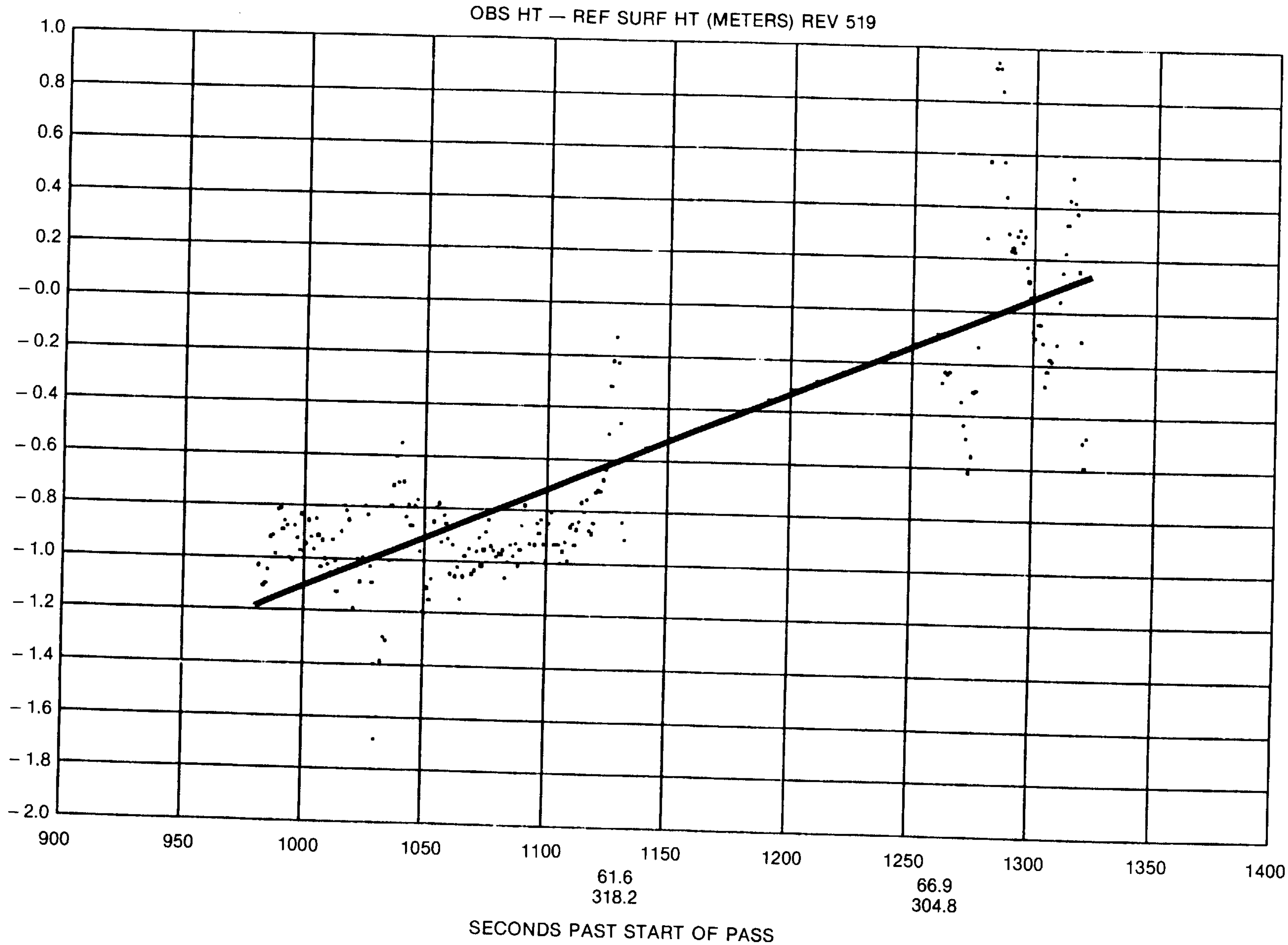


Figure 8. Orbit Adjustment Computed From Data in Close Proximity to Greenland's Coast

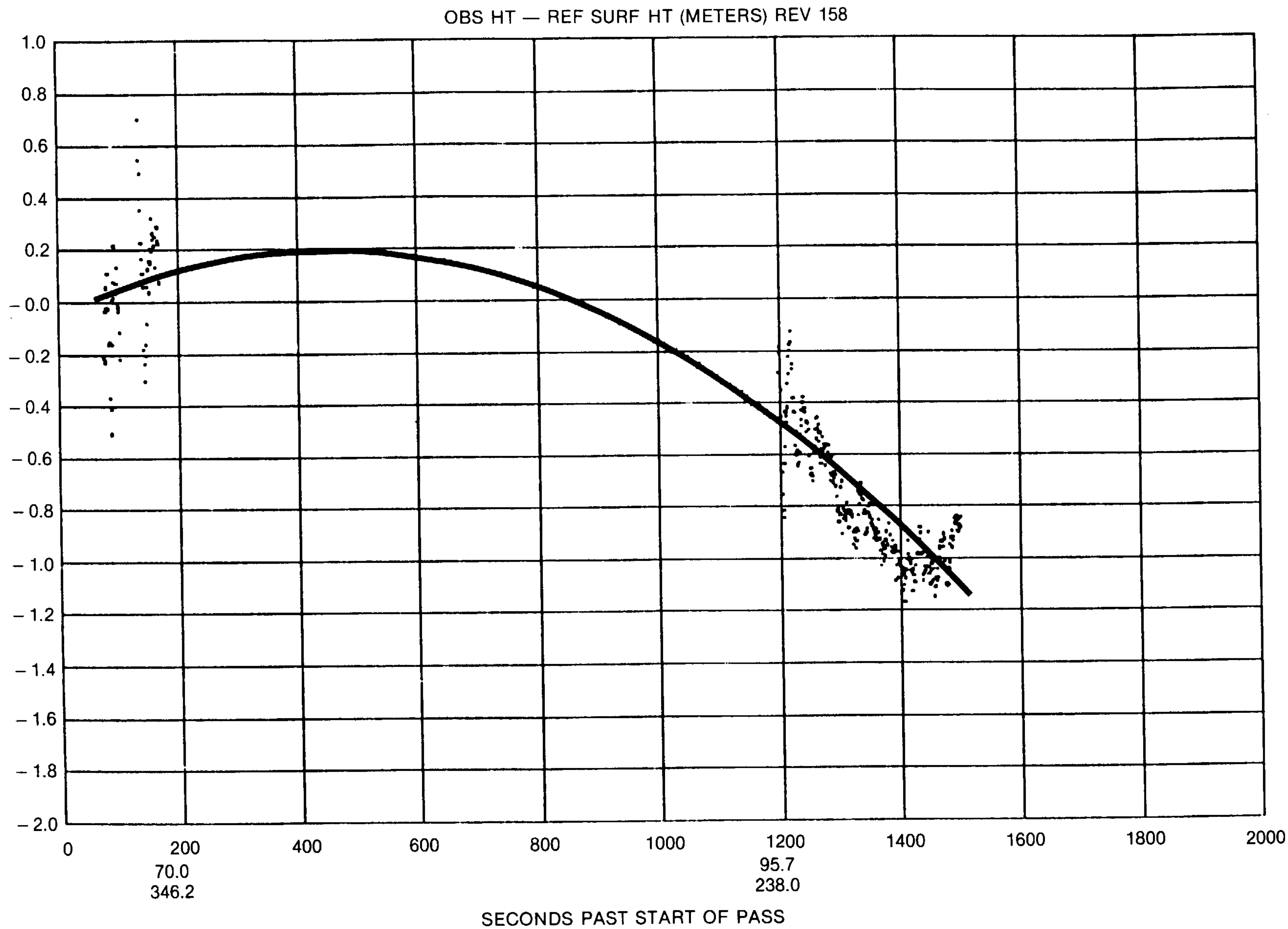


Figure 9. Orbit Adjustment Computed From Widely Distributed Data

Application of the orbit adjustment to the data yields improved crossover results. When the differences in heights are computed at 1235 crossover locations for ascending and descending passes over Greenland, the resultant crossover residual mean of the data without the orbit adjustment is 33 cm with an rms of 1.15 m. After application of the orbit adjustment, the data give a crossover residual mean of 7 cm and an rms of 0.99 m.

2.6 SLOPE CORRECTION

The altimeter height is measured to the closest point within its footprint, which does not correspond to the subsatellite location for sloping surfaces. This effect introduces an error into the height measurement which can be corrected by adjusting either the value of the measurement or its location (Brenner et al., 1983). Upon examination of both techniques, the method which was chosen for the Seasat data is to adjust the measurement. The magnitude of the slope-induced error may be represented by:

$$\Delta H_{SLOPE} = H(1-\cos\alpha) \tag{2.54}$$

where

H is the satellite altitude in meters

α is the maximum regional surface slope in radians

or

$$\Delta H_{SLOPE} = \frac{H\alpha^2}{2}, \text{ for small } \alpha. \tag{2.55}$$

The surface slope in Equation (2.55) for any one point is calculated using the following equation:

$$\alpha = \sqrt{\alpha^2_{\text{along-track}} + \alpha^2_{\text{cross-track}}} \tag{2.56}$$

where

$\alpha_{along\text{-}track}$	is the slope of the surface in the along-track direction of the data, and
$\alpha_{cross\text{-}track}$	is the slope of the surface in the cross-track direction of the data, perpendicular to the along-track direction.

The cross-track slope is obtained by using a reference surface of Greenland, generated from the Seasat data. This surface consists of a two-dimensional grid of heights. The spacing between grid points is 20 km. Bilinear interpolation between these grid values is used to determine the heights at the points where the cross-track intersects the closest grid lines. From these heights, the cross-track slope is then determined.

The along-track slope is obtained using the available along-track data. Since the height profile is initially unknown, an iterative procedure is used to attempt a reconstruction of the true height profile. The initial along-track slope at a data point location is calculated by performing a linear fit to the five elevations of the along-track data points nearest the data point in question. A slope correction is then calculated for that point and each point in the pass using Equation (2.55), but applying only 25% of the correction to the elevations. This entire procedure is repeated using the revised elevations three more times, each time applying 25% of the current elevation correction. After the final iteration, the total along-track height correction and Equation (2.55) are used to calculate an "effective" along-track slope. This slope may then be used in Equation (2.56) along with the cross-track slope to calculate the total slope. In the case of both the along and cross-track slopes, a maximum of .8 degree is allowed. This is a limitation set by the physical characteristics of the altimeter.

If two points cannot be found on both sides of the point being adjusted, after having searched 10 km in both directions, then the reference grid which is used to calculate the cross-track slope is also used to determine the along-track slope in a manner equivalent to the cross-track slope calculation described above.

Slope corrections are not applied to the surface heights on the IDR's. However, the along-track and cross-track slopes, from which the slope correction may be computed, are stored in bytes 85-86 and 87-88, respectively. Bytes 89-90 contain the size of the window required to find the five points to perform the along-track linear fit. Bytes 91-92 give information pertaining to how the along-track and cross-track slopes were determined.

2.7 SUMMARY OF CORRECTIONS

In order to obtain a corrected surface elevation relative to sea level with the solid tide effects removed, the following algorithm is used.

$$H_{COR} = H_{SC} - H_{ALT} - \Delta H_{RET} - \Delta H_{CG} + \Delta H_{ION} + \Delta H_{TROP} - \Delta H_{TIDE}$$

$$- \Delta H_{ORB} - \Delta H_{SLOPE} - H_{GEOID} \qquad (2.57)$$

where

H_{SC}	is the height of the spacecraft above the ellipsoid,
H_{ALT}	is the original altimeter measurement,
ΔH_{RET}	is the retracking correction,
ΔH_{CG}	is the center of gravity correction,
ΔH_{ION}	is the ionospheric correction,
ΔH_{TROP}	is the tropospheric correction,
ΔH_{TIDE}	is the value of solid tide,
ΔH_{ORB}	is the orbit adjustment,
ΔH_{SLOPE}	is the slope correction, and
H_{GEOID}	is the value of the geoid.

The surface elevation on the IDR is relative to the ellipsoid and is corrected for tropospheric and ionospheric effects, the center of gravity offset, the retracking correction, and the orbit adjustment when available. However, the elevation still contains solid tide effects, and the application of the slope correction or removal of the solid tides have been left to the discretion of the user. The surface elevation status word located in bytes 77-78 of the IDR should be checked to verify whether or not corrections have been applied.

Corrections which are applied to the altimeter measurement are done in the opposite sense from the surface elevation corrections and may be verified using the altimeter measurement status word in bytes 13-16 of the IDR.

An outline of the adjustments and corrections required to the Seasat data and their values or range of values is given in Table 4.

SECTION 3.0

WAVEFORM DATA RECORDS

The averaged radar return pulses contained in the SDR's are stored on a separate file called the Waveform Data Records (WDRs) to facilitate their use. Table 5 outlines in detail the format of this record.

The time, geographical position, and altimeter measurement on the WDRs are not identical to the corresponding records on the IDRs. This is due to the fact that the WDRs information is obtained directly from the SDR's without the application of any correction or adjustment of any kind. The time differs by the time tag correction described in Section 2.2.1. Positions on the WDR are from the orbits on the SDR's and not PGS-S4 orbits. The altimeter measurement represents the raw observation on the SDR without any of the corrections described in Section 2.7 applied.

SECTION 4.0
GEO-REFERENCED DATA BASE

Ordering the Seasat data merely by time presents certain limitations when only data in a particular locale are desired. This situation arises when data are used to generate a grid of smoothed surface heights. To circumvent this problem, a data base was developed which orders the Seasat data by geographical areas or "bins". Figure 10 shows the configuration of the 4,300 bins in the vicinity of Greenland. Bin sizes vary in order to compensate for the higher data density near Seasat's maximum latitude. Each bin is assigned a number starting with "1" in the southwestern-most corner. Bin numbers increment first from west to east and then from south to north. The ending bin number for each row is indicated in the right-most margin of the map in Figure 10, while the number of data points is printed within the appropriate bin. Bins which contain no data have no number entered. Table 6 summarizes the number of points and the rev numbers found in each bin, along with the geographical coordinates of the southwestern-most corner of the bin. The bin number in which a particular data point is located may be found in bytes 153-156 of the IDR.

The geo-referenced data base is a subset of the IDR's, containing only information relating to the position, rev number, surface height, slope correction and orbit adjustment for each data point. Slope correction and orbit adjustment values are flagged with a -9999, if unavailable. In addition, the data are ordered first by bin number and then by time within each bin. The surface elevations on this data set have the orbit adjustment applied where it was available. If the orbit adjustment was not available, (indicated by the orbit adjustment value for that record being set to -9999) then the surface elevation contains the value calculated from the unadjusted orbit. The slope correction has not been applied to any of the surface elevations.

The data base is designed to be used on a direct-access device, so that data from one or several bins may be accessed without the need to read all the records prior to the location desired. This is achieved by dividing the data base into three sections.

The first section of the data base, a header, consists of one logical record and gives a summary of its configuration: the locations of the corners of the data base, the number of latitudinal rows, the width in degrees of each of these rows, and the number of longitudinal divisions in each row. These pieces of information give the layout of the data base, as depicted in Figure 10. Information pertaining to the size of the data base, the starting record of the bin directory, and the corrections applied to the data are also contained in this header.

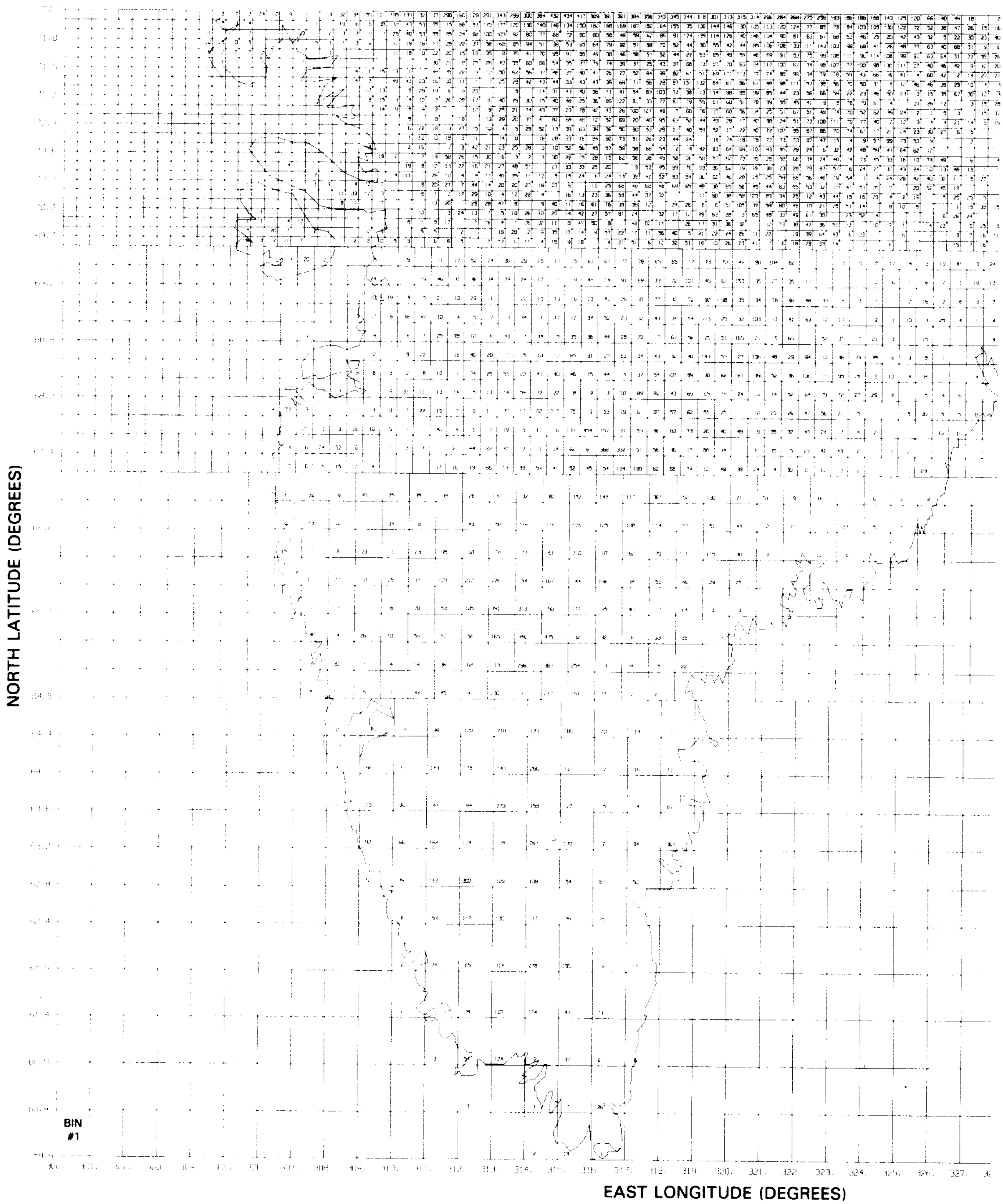


Figure 10. Seasat Greenland Geo-referenced Data Base Configuration


BIN #4300
BIN NUMBER
EAST LONGITUDE (DEGREES)

Following the header are the altimetry data ordered by bin number and, within each bin, by time. The altimetry data are subdivided into two groups for each bin which contains data. The first subgroup consists of one logical record which indicates the number of data points contained in the bin. The second subgroup consists of the actual altimetry data (position, rev number, surface height, orbit adjustment and slope correction), with each record corresponding to a data point.

The final section is a bin directory which follows the altimetry data. The bin directory starts at the logical record indicated in the data base header. The directory contains an entry for each bin, and starting with the first bin, indicates the record number in the data base (not including the header record) at which the start of the data for a particular bin may be found. Bins which contain no data have a zero entered in the directory. Table 7 summarizes the structure of the data base in greater detail.

One use of the data base is to assist the gridding program (Section 5.0) in locating and accessing all data contained within a specified radius of a grid location. In addition, the data base may be used to locate data within any desired area. The following example demonstrates how this may be done. The limits of a desired area are used in conjunction with the header information to determine exactly which bin numbers contain the data. Using the southernmost latitude of the desired area, along with the width of the latitude rows, establishes the southernmost row which contains the data. Longitudinal limits of the desired area are then checked in conjunction with the size and location of the longitudinal divisions in that row. When the longitude limit of the desired area for that latitudinal group is exceeded, the process starts again with the next latitude row to the north. These steps are repeated until the northernmost boundary limit of the desired area is reached.

Equipped with the bin numbers which contain the data, the directory, which gives the logical record on the direct-access disk at which each bin begins, is read. If the directory value for the bin is non-zero, this logical record is then read to determine the number of records which follow and are contained in the same bin. The subsequent data is then read for each bin.

SECTION 5.0

GRIDS

The uneven distribution of Seasat data presents problems when attempting to create computer generated contours. An intermediate step is useful which fits the data to nodes of a regular grid. Data local to each grid point are fit with a biquadratic or bilinear surface to determine the surface height at the grid point. This procedure is referred to as gridding the data. Grids are generated using the corrected and adjusted data in the geographical data base.

5.1 POLAR STEREOGRAPHIC PROJECTION

Grids of the Greenland data are generated in a tangent polar stereographic projection where the plane of projection is located at the geographic North Pole (the projection latitude) and is normal to the earth's axis. This projection is conformal which results in equality of scale about a point. Figure 11a depicts the concept behind this type of projection. A straight line is drawn from the South Pole (pole of projection), through a point on the earth's surface, Q, to the projection plane which is tangent to the North Pole. The projection plane is in turn divided into square grids from the pole to the Equator with the North Pole at the center. Three projection parameters define the size and the orientation of the plane and the grid size:

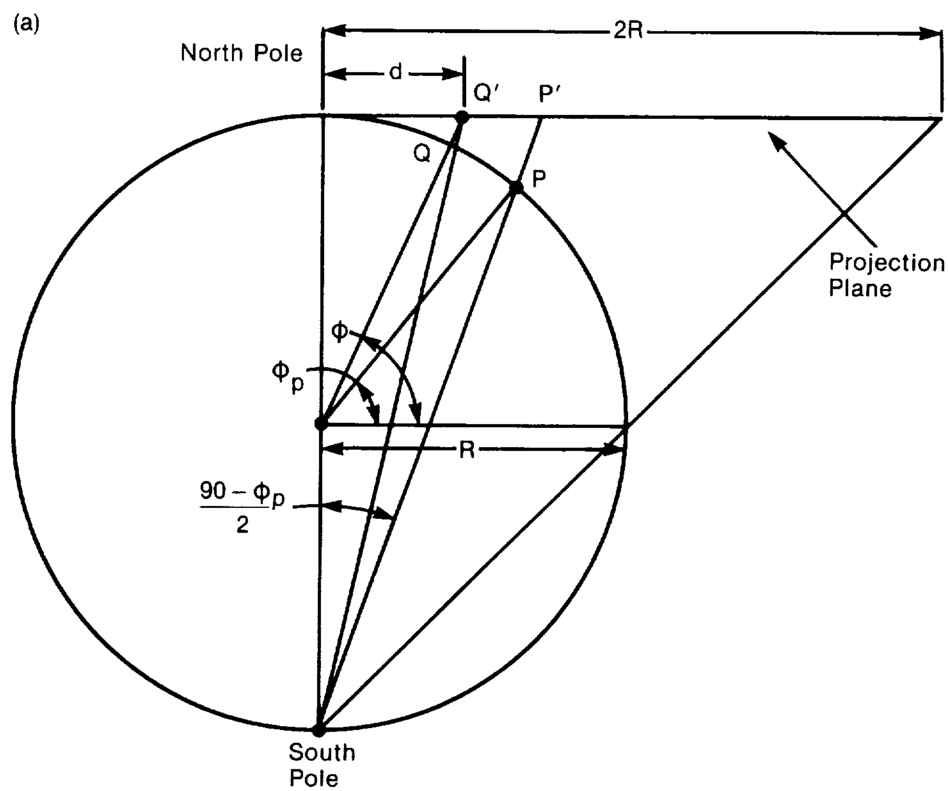
S – a conversion factor from half-inch grids at the projection latitude to the desired grid size;

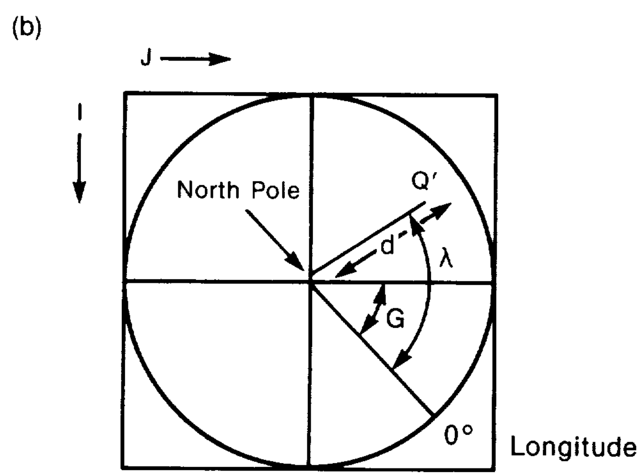
ϕ_p – the minimum latitude extent of the map perimeter for the projection latitude located at the North Pole; maximum latitude extent for the projection latitude located at the South Pole;

G - the Greenwich orientation in degrees

In the case of Greenland, where 20 kilometer grid cells were decided as being optimum for the data distribution, values of $S=1.65$, $\phi_p = 50°$, and $G=45°$ were chosen.

These three parameters are sufficient to define a grid of the northern hemisphere, from the North Pole to 50° north latitude where the number of cells of desired size from the pole to the equator may be represented by:





Figures 11a and 11b. Polar Stereographic Projection of Point Q with Latitude ϕ and Longitude λ onto Plane with Map Perimeter 50°

$$D = \frac{2R}{S \times 10^6} . \qquad (5.1)$$

where R is the radius of the earth measured in one half-inch grid cells and was chosen to be consistent with polar stereographic projections described in other documentation.

The integer number of grids of desired size from the pole to the map perimeter is:

$$N = D \times \tan \frac{90 - |\phi_p|}{2} . \qquad (5.2)$$

The grid, defined by I and J axes, with the origin in the upper left corner (see Figure 11b), represents the coordinate of the North Pole as:

$$\begin{aligned} Ip &= N + 1 \\ Jp &= N + 1 . \end{aligned} \qquad (5.3)$$

Any point with latitude ϕ and longitude λ, which is located in the northern hemisphere north of ϕ_p is positioned at the following I, J coordinate:

$$\begin{aligned} I &= \text{INT} [d \times A \times \cos(X) + Ip + 0.5] \\ J &= \text{INT} [d \times \sin(X) + Jp + 0.5] \end{aligned} \qquad (5.4)$$

where

d is $D \times \tan \frac{90 - |\phi_p|}{2}$

X is $\lambda + G$

A is +1 if $\phi_p \geq 0$

A is −1 if $\phi_p < 0$.

5.2 GRIDDING PROCEDURE

The surface height at each grid point location is calculated by fitting the surrounding data to the following biquadratic surface modeling function:

$$h_{ij}(\lambda,\phi) = C_{1_{ij}} + C_{2_{ij}} \frac{(\lambda - \lambda_i)}{\text{capmin}} + C_{3_{ij}} \frac{(\phi - \phi_j)}{(\text{capmin})(\cos\phi_j)}$$

$$+ C_{4_{ij}} \frac{(\lambda - \lambda_i)}{(\text{capmin})} \frac{(\phi - \phi_j)}{(\text{capmin})(\cos\phi_j)} + C_{5_{ij}} \frac{(\lambda - \lambda_i)^2}{\text{capmin}^2} \tag{5.5}$$

$$+ C_{6_{ij}} \frac{(\phi - \phi_j)^2}{(\cos^2\phi_j)(\text{capmin}^2)}$$

where

h_{ij} = value of the surface elevation function for the ij grid point as evaluated at the location (λ, ϕ);

$C_{1_{ij}} - C_{6_{ij}}$ = numerically determined coefficients of the biquadratic function for grid point ij; and

$\lambda_i \ \phi_j$ = longitude and latitude of the ij grid point in deg.

capmin = minimum cap size in deg longitude.

A weighted least-squares method is used to solve for the coefficients $C_{1_{ij}} - C_{6_{ij}}$ at each grid point ij. The weighting is invoked to prevent the obliteration of the local surface details by the smoothing process, and to lend greater importance to the data closest to the grid point location. The form of the weighting function is

$$W_{k_{ij}} = \frac{1}{\sigma_{o_k}^2 \, D_{k_{ij}}^N} \tag{5.6}$$

where

$W_{k_{ij}}$ = weight of the k^{th} data point used in determining the coefficients of the surface function for the ij grid location;

σ_{o_k} = observation standard deviation of the k^{th} data point;

N = power of inverse distance weighting; and

$D_{k_{ij}}$ = the distance from the k^{th} data point to location ij, where $D_{kij} = \{[(\lambda_k - \lambda_i) \cos \phi_k]^2 + (\phi_k - \phi_j)^2\}^{1/2}$

The observation standard deviation was assigned a value of 1.0 m. The power of inverse distance weighting was assigned a value of 2.0 m. The formula used for the least-squares minimization in matrix notation is

$$P^T_{ij} W_{ij} P_{ij} C_{ij} = P^T_{ij} W_{ij} H_{ij} \tag{5.7}$$

or

$$C_{ij} = [P^T_{ij} W_{ij} P_{ij}]^{-1} P^T_{ij} W_{ij} H_{ij} \tag{5.8}$$

where

$$H_{ij} = \begin{bmatrix} h_1 \\ \vdots \\ h_k \\ \vdots \\ h_m \end{bmatrix}$$

is the observational data set used in determination of grid point ij;

$$P_{ij} = \begin{bmatrix} \frac{\partial h_1}{\partial C_{1_{ij}}} & \frac{\partial h_1}{\partial C_{2_{ij}}} & \cdots & \frac{\partial h_1}{\partial C_{6_{ij}}} \\ \vdots & & & \vdots \\ \frac{2h_m}{\partial C_{1_{ij}}} & \cdots & & \frac{2h_m}{\partial C_{6_{ij}}} \end{bmatrix}$$

is the matrix of observational partial derivatives;

$$C_{ij} = \begin{bmatrix} C_{1_{ij}} \\ \vdots \\ C_{6_{ij}} \end{bmatrix}$$

is the set of coefficients for grid point;

$$W_{ij} = \begin{bmatrix} W_{1_{ij}} & & & 0 \\ & \cdot & & \\ & & \cdot & \\ & & & \cdot \\ 0 & & & W_{m_{ij}} \end{bmatrix}$$

is the observation weighting matrix.

A solution exists for Equation (5.8) if the determinant of the normal matrix $B_{ij}=P^T_{ij}\, W_{ij}C_{ij}$ is positive. However, poor data distribution can cause ill-conditioned matrices yielding solutions that vary considerably from the expected results. One needs to be able to recognize when numerical problems occur to assure reasonable solutions. To this end the singular value decomposition (SVD) method is used to solve the matrix equation. The results of the SVD process give an indication of the stability of the equations and therefore whether a unique stable solution exists (Forsythe, Malcolm, and Moler, 1977). When the normal matrix B_{ij} is used as input to SVD, three output matrices are calculated: Σ, U, and V. Σ is a diagonal matrix, such that

$$\Sigma = \begin{bmatrix} \sigma_1 & & & 0 \\ & \cdot & & \\ & & \cdot & \\ & & & \cdot \\ 0 & & & \sigma_6 \end{bmatrix}$$

where the σ's are referred to as the singular values of B. The matrices U and V are used to transform the equations

$$Bc=y$$

into an equivalent diagonal set of equations

$$\Sigma\ \bar{c}=\bar{y}\ .$$

In principle, if none of the σ's are zero the transformed equations could be solved using

$$\bar{c}_i = \frac{\bar{y}_i}{\sigma_i}\ .$$

In practice, when any of the σ's are small, numerical instability can result, giving unreasonable answers. The key to using SVD is to set a tolerance τ which reflects the accuracy of the data and the arithmetic used. If any σ's are less than τ times the largest σ then those corresponding

$\overline{c}$'s are not uniquely defined and unreasonable results can occur. When problems occur, steps must be taken to provide more information to evaluate the surface function.

Once τ is chosen, then Σ, U, and V are used in the following manner to calculate each coefficient C_i.

$$S = \sum_{j=1}^{m} U(j,i)\, Y_j$$

for all j where $\sigma_j > \tau$

$$C_i = \sum_{k=1}^{n} \frac{S}{\sigma_k} V(i,k) \ .$$

In this study the value of τ used was .001 m. SVD is then used to determine when there are sufficient data to provide a unique solution to the surface modeling function. When a unique solution cannot be found more data are added and the function is reevaluated. At each grid location ij, data within the circular area defined by radius R from the grid location are used in the solution. Four different values for R are used: 33 km, 55 km, 88 km, and 132 km. Initially the smallest value of R is used and if a solution cannot be found then R is increased. If the biquadratic solution at the maximum value of R is unsatisfactory according to the SVD criterion, then the function (Equation 5.5) is reduced to a bilinear function by setting coefficients C4 through C6 to zero. If a valid solution still cannot be found, then the grid value is considered undefined and set to -1000.0.

Individual data point removal is also invoked during the gridding process. After finding a valid solution at location ij, the weighted rms of the residuals of the data with respect to the surface is calculated using

$$RMS_{WT_{ij}} = \frac{\sum_{k=1}^{M} \dfrac{Res_{kij}^{\,2}}{\sigma_{O_k}^2 D_{k_{ij}}^N}}{\sum_{k=1}^{M} \dfrac{1}{\sigma_{O_k}^2 D_{k_{ij}}^N}}^{\,2} \qquad (5.9)$$

where

$$Res_{kij} = h_k - h_{kij}$$

h_{kij} = height at location of measurement k evaluated using the surface function for grid location ij.

The following inequality is then evaluated for each data point used in the solution.

$$\frac{Res_{kij}}{\sigma_{o_k} D^N} \leq E_{mult} * RMS_{WT_{ij}} \qquad (5.10)$$

A value of the editing multiplier (E_{mult}) equal to 3.5 is used and all data points that do not satisfy the inequality are deleted. When any data points are deleted the surface function is reevaluated using the remaining data. A minimum of 10 data points are required to solve for the function.

The standard deviation associated with the grid height, σ_{Gij}, is then calculated to determine how well the grid represents the data.

$$\sigma_{Gij} = RMS_{WT_{ij}} * (V_{11}ij)^{1/2} .$$

where

$$V_{ij} = B_{ij}^{-1} P_{ij} W_{ij} \begin{bmatrix} \sigma_{o_1}^2 & & & 0 \\ & \ddots & & \\ & & \ddots & \\ 0 & & & \sigma_{o_m}^2 \end{bmatrix} [B_{ij}^{-1} P_{ij}^T W_{ij}] .$$

Grid points that have a large value of σ_G do not represent the data as well as those that have smaller σ_G's.

The format of the grid record is described in Table 8. The location, coefficients, σ_G, number of points used and other pertinent parameters are output for each grid point location. The user can utilize these parameters to decide the accuracy of the individual grid values.

TABLES

Table 1. Ice Data Record Description

General Characteristics:

Record Format	-	variable
Record Size (bytes)	-	164 + 4 for IBM record control word
Blocksize (bytes)	-	31920 + 4 for IBM block control word

The first seven records of the IDR data set are 80 bytes long and contain a brief description of the contents of the file. The remaining records follow the 164-byte format.

HEADER RECORDS

Bytes	FORTRAN Variable Type	Description
1-80	A1	Brief description of file contents. (Comprises first seven records only)

DATA RECORDS

Bytes	FORTRAN Variable Type	Description
1-4	I*4	Satellite ID - This is the international satellite designation nnpppqq where: nn - last two digits of the year of launch (e.g., 1974 74, 1969 69). ppp - order of launch. Example: The 25th vehicle launch in a given year is designated with ppp = 025. qq - component identifier (e.g., component a → 01, component ℓ → 12, etc.).
5-6	I*2	Measurement type 40-44 Altimeter height 40 = Long pulse (GEOS data) 41 = Short pulse (GEOS data) 43 = Seasat altimetry

Table 1. Ice Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	Description
7-8	I*2	Time system indicator (nm)

n-value	Description Tracking data times
0	Ground received time
1	Satellite transponder/reflector time
2	Ground transmitted time
	Altimeter data times
1	Transmitter time
2	Ground bounce time
3	Receiver time

m-value	Description
0	UT-0
1	UT-1
2	UT-2
3	UTC
4	A.1
5	A.3 (A.T. B.I.H.)
6	A-S (Smithsonian)

Bytes	FORTRAN Variable Type	Description
9-12	I*4	Station Number (0 indicates altimeter)
13-16	I*4	Altimeter measurement status word

The status word consists of bit switches packed into a single 32-bit word. The rightmost bit (bit 31) is of lowest order and the leftmost bit (bit 0) is of highest order.

|——————————————|
0 31

The status bits are configured as follows:

Bits	Value	Description
0		Unused
1-2		Format indicator for measurement types 40-41
	1	20 obs/frame
	2	32 obs/frame
	3	320 obs/frame

Table 1. Ice Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	Description		
(13-16 Cont.)		Bits	Value	Description
		3		Net instrument corrections indicator
			0	Instrument corrections applied to observation
			1	Instrument corrections not applied
		4		Unused
		5-6		Speed of light indicator
			0	2.997925×10^8 meters/sec
			3	2.99792458×10^8 meters/sec
		7		Unused
		8		Solid tide indicator
			0	Solid tide not on data record
			1	Solid tide on data record
		9		Ocean tide indicator
			0	Ocean tides not included in total tides
			1	Ocean tides included in total tides
		10-11		Tropospheric correction indicator
			0	Total tropospheric correction not on data record
			1	Total tropospheric correction on data record
		12		Ionospheric correction indicator
			0	Ionospheric correction not on data record
			1	Ionospheric correction on data record
		13		Atmospheric corrections indicator
			0	Ionospheric and tropospheric corrections applied to observation if found on data record
			1	Ionospheric and tropospheric corrections not applied to observation if found on data record

Table 1. Ice Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	Description		
(13-16 Cont.)		Bits	Value	Description
		14		Total tide indicator
			0	Solid and ocean tides removed from observation if found on data record
			1	Observation includes solid and ocean tides
		15		Center of gravity indicator
			0	Center of gravity correction applied to observation
			1	Center of gravity correction not applied to observation
		16-20		Unused
		21		Altimeter mode (GEOS only)
			0	Global track mode
			1	Intensive track mode
		22-27		Unused
		28		Location indicator
			0	Over water
			1	Over land
		29		Orbit adjustment indicator
			0	Orbit adjustment has been applied to observation
			1	Orbit adjustment has not been applied to observation
		30		Slope correction indicator
			0	Slope correction has been applied to observation
			1	Slope correction has not been applied to observation
		31		Retracking correction indicator
			0	Retracking correction has been applied to observation
			1	Retracking correction has not been applied to observation

Table 1. Ice Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	Description
17-20	I*4	Modified Julian Date (MJD) of observation Julian Date = MJD + 2400000.5
21-28	R*8	Fraction of day past midnight (GMT)
29-36	R*8	Altimeter range measurement in meters
37-40	R*4	Satellite latitude in degrees
41-44	R*4	Satellite east longitude in degrees
45-48	R*4	Measurement standard deviation in meters
49-52	R*4	Center of gravity correction in meters
53-56	R*4	Tropospheric refraction correction in meters
57-60	R*4	Ionospheric refraction correction in meters
61-64	R*4	GEM10-B geoid height above reference ellipsoid in meters
65-68	R*4	Total tide height above reference ellipsoid in cm.
69-72	I*4	Rev number
73-76	I*4	Surface height with respect to ellipsoid in cm.
77-78	I*2	Surface height status word

|————————|
0 15

Bits	Value	Description
0-8	0	Unused
9	1 0	Slope correction applied Slope correction not applied
10	1 0	Orbit adjustment applied Orbit adjustment not applied
11	1 0	Solid tides removed Solid tides not removed
12	1 0	Retracking correction applied Retracking correction not applied
13	1 0	Center of gravity bias applied Center of gravity bias not applied

Table 1. Ice Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	Description
(77-78 Cont.)		

Bits	Value	Description
14	1	Tropospheric correction applied
	0	Tropospheric correction not applied
15	1	Ionospheric correction applied
	0	Ionospheric correction not applied

Bytes	FORTRAN Variable Type	Description
79-80	I*2	Significant wave height (H 1/3) in cm.
81-82	I*2	Automatic Gain Control (AGC) in dB
83-84	I*2	Solid tides in cm.
85-86	I*2	Tangent of along-track slope (x 10^5)
87-88	I*2	Tangent of cross-track slope (x 10^5)
89-90	I*2	Size of window used in obtaining along-track slope in meters
91-92	I*2	Along-track and cross-track slope correction word. If all bits are zero, then slopes for slope correction were not able to be computed.

|————————|
0 15

Bits	Value	Description
0-9		Unused
10	1	Along-track slope set to the maximum value of .8 degree during iterative procedure.
11	1	Cross-track slope set to the maximum value of .8 degree.
12	1	Along-track slope set to .8 degree after final iteration.
13	1	Window was extended to 20 km with no point found; reference grid used to calculate along-track slope.
14	1	Window had to be extended in both directions to determine along-track slope, but it is less than 20 km.
15	1	Two adjacent points were found and used to determine along-track slope.

Bytes	FORTRAN Variable Type	Description
93-96	R*4	Orbit adjustment to 84,306 ocean surface in meters
97-100	R*4	RMS of orbit adjustment fit in meters

Table 1. Ice Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	
101-104	R*4	RMS of filtered fit in counts
105-108	R*4	Timing bias in seconds
109-144	R*4	Retracking parameters $\beta(1)$ - $\beta(9)$
145-148	R*4	Attitude information from SDR
149-152	R*4	Correction to surface height if using leading edge of leading edge in meters
153-156	I*4	Geographical data base bin number
157-158	I*2	Standard deviation of 1st leading edge position in gates
159-160	I*2	Standard deviation of 2nd leading edge position in gates
161-162	I*2	Retracking status word

|———————|
0 15

Bits	Value	Description
0		Unused
1	0	Gains and offsets were not applied to waveform counts in plots and in determining β parameters
	1	Gains and offsets were applied to waveform counts in plots and in determining β parameters
2	0	Specular test not performed or waveform not specularly shaped
	1	Waveform determined to be specularly shaped
3	0	Status flag from SDR less than or equal to one
	1	Status flag from SDR greater than one
4	0	Waveform not specularly retracked
	1	Waveform specularly retracked
5	0	Gains and offsets not applied to waveform count values on WDR's
	1	Gains and offsets applied to waveform count values on WDR's

Table 1. Ice Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	Description		
(161-162 Cont.)		Bits	Value	Description
		6	0	For double waveforms the retracking correction is not calculated from a weighted average of the two leading edges.
			1	For double waveforms the retracking correction is calculated from a weighted average of the two leading edges.
		7	0	No problem with leading edge definition of waveform
			1	Waveform not defined well enough to filter, no leading edges or too many leading edges
		8	0	No problem retracking
			1	Problem retracking
		9	0	Timing bias was not applied to time tag
			1	Timing bias applied to time tag
		10	0	Waveform not retracked
			1	Waveform retracked
		11	0	Whole edge retracked
			1	Leading edge retracked
		12	0	Ht correction not applied due to $\ddot{h}$
	applies to water data		1	Ht correction applied due to $\ddot{h}$
		13	0	Attitude seastate correction not applied to h
			1	Attitude seastate correction applied to h
		14-15	0	Tracking mode 1
			1	Tracking mode 2
			2	Tracking mode 3
			3	Tracking mode 4
163-164	I*2	Version number of retracking program that converted the data from SDR to IDR format		

$n_1n_2n_3n_4n_5$

n_1n_2 = year of version

n_3n_4 = month of version

n_5 = point no. of version

Table 2. Seasat IDR Greenland Catalog

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
792	59.56	A	61.039	312.420	61.321	311.908	6	93	92							
591	60.07	A	61.334	312.627	62.621	310.127	26	93	133	171	211					
835	60.74	A	60.759	314.881	63.610	309.222	19	55	173	172	212	330				
634	60.92	A	61.109	314.481	63.428	309.850	49	95	173	212	251	291	290			
146	61.04	A	60.894	315.238	64.293	308.216	81	56	96	134	174	173	213	212	252	251
								369								
878	61.38	A	61.149	315.428	64.318	308.803	159	96	135	174	213	253	252	292	291	331
								369								
1437	61.58	A	61.131	315.859	64.741	308.155	99	96	135	175	214	253	252	331	370	409
1394	61.58	A	60.738	316.552	64.772	308.071	162	57	96	136	135	174	214	253	252	331
								330	370	409						
1351	61.58	A	60.754	316.523	64.438	308.905	102	57	96	136	135	174	213	253	252	331
								330	370	409						
1308	61.58	A	60.726	316.576	64.298	309.251	130	57	97	96	174	214	213	253	252	331
								370								
1265	61.58	A	60.909	316.260	64.488	308.792	123	97	136	135	175	174	214	213	253	252
								292	291	331	409					
1222	61.58	A	61.490	315.209	64.847	307.891	129	136	174	214	213	253	252	292	291	331
								409	450							
1179	61.58	A	61.572	315.059	64.861	307.858	164	136	174	214	213	253	252	292	370	409
								450								
677	61.72	A	61.449	315.305	63.756	310.555	71	136	135	175	214	213	253	252	292	331
189	61.83	A	61.250	316.033	64.853	308.251	100	97	96	136	135	175	214	254	253	292
								331	371	409	451					
720	62.43	A	61.729	316.316	65.540	307.586	214	137	176	215	255	254	294	293	333	332
								372	371	501	500	550				
476	62.51	A	61.567	316.698	64.534	310.310	59	137	176	215	255	254	294	293	333	332
								411								
232	62.56	A	61.706	316.621	65.296	308.516	172	137	176	216	215	255	254	294	293	333
								332	372	371	411	501				
519	63.21	A	62.157	317.010	66.307	306.861	180	178	256	255	295	294	334	374	373	412
								454	552	601	600	699				
275	63.25	A	62.102	317.299	66.349	306.908	207	178	177	217	216	256	296	295	335	334
								374	373	412	454	503	552	601	699	
763	63.31	A	62.294	317.040	66.390	306.907	307	178	177	256	296	295	335	334	374	373
								413	412	454	504	503	601	699		
562	63.86	A	63.352	315.969	66.789	306.775	428	296	336	335	375	374	414	413	456	505
								504	554	553	652	651	701	700	749	
806	64.20	A	63.779	315.911	66.818	307.582	408	336	376	375	415	414	457	456	506	555
								554	604	653	652	702	750			
605	64.46	A	63.778	316.457	67.114	307.126	321	337	376	375	415	458	457	507	506	556
								555	604	654	653	799				
849	64.96	A	64.133	316.968	67.531	306.986	309	377	416	460	459	509	508	558	557	606
								656	655	704	703	753	856	935	934	
648	65.04	A	63.899	317.624	67.562	306.971	403	338	377	417	416	460	459	509	508	558
								557	607	606	656	655	704	801	934	
160	65.12	A	64.524	316.488	67.708	306.793	330	417	416	460	459	509	508	558	557	607
								606	656	655	705	704	1015	1014		
1021	65.28	A	64.589	316.824	67.652	307.507	230	417	460	510	509	559	558	608	607	656
								706	705	803	802	937	936	1016		

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES
1494	65.30	A	63.966	318.426	67.806	307.023	293	339 379 418 417 510 509 559 558 608 607 657 656 802 859 937 1095
1365	65.31	A	64.428	317.304	66.108	312.752	239	418 417 461 510 509 559 558 608 607 657 656
1322	65.31	A	64.443	317.268	67.913	306.593	54	418 417 461 858 938 937 936 1094
1279	65.31	A	64.156	317.968	67.950	306.455	342	378 461 460 510 509 559 558 608 607 657 656 706 705 753 803 858 936 1015 1095 1094 1093
1236	65.31	A	63.924	318.521	67.415	308.475	314	339 379 378 417 461 460 510 509 559 558 608 607 657 656 706 705 803 802 938 937
1193	65.31	A	64.839	316.285	67.130	309.482	334	461 460 510 509 559 558 608 607 657 656 705 803 802
1150	65.31	A	64.137	318.026	67.877	306.749	325	379 417 461 460 510 509 559 558 608 607 657 656 706 705 754 803 802 858 937 1016 1015 1094
691	65.57	A	64.197	318.365	66.927	310.655	195	379 378 417 462 461 511 510 559 609 608 607 657 656 706 705 754 804
490	66.11	A	65.153	317.558	68.035	308.209	218	512 562 561 610 609 659 658 708 757 756 806 805 863 1020 1098 1097 1177
289	66.62	A	65.394	318.532	68.103	309.560	357	514 564 563 612 661 710 709 759 758 808 807 866 865 945 944 1023 1102 1180
777	66.71	A	65.273	319.184	68.765	307.033	388	514 564 563 613 612 661 711 710 759 758 808 807 867 866 946 945 1024 1023 1102 1181 1180 1259 1258 1416 1415
576	67.02	A	65.798	318.666	68.257	310.201	310	614 663 662 712 711 761 760 810 809 808 869 868 948 947 946 1026 1025 1104 1103 1183 1182 1181 1261
820	67.31	A	65.930	319.381	68.278	311.211	130	615 614 664 761 811 810 871 870 950 949 1107 1106 1105 1263
619	67.44	A	66.173	319.004	68.769	309.407	293	664 714 713 763 762 811 810 872 871 870 950 1029 1028 1027 1107 1106 1186 1185 1342 1421 1419
662	67.83	A	66.462	319.559	69.844	305.255	383	715 764 763 813 812 875 874 873 953 952 1032 1031 1030 1110 1109 1188 1187 1267 1266 1424 1422 1501 1500 1579 1735 1734 1816 1914 2014
418	67.86	A	66.138	320.720	69.179	309.041	313	666 716 715 764 763 813 812 875 874 954 953 952 1032 1031 1111 1110 1109 1189 1188 1187 1267 1266 1346 1345 1344 1423 1502 1579
174	67.88	A	66.471	319.893	69.756	306.135	386	715 765 764 813 812 875 874 954 953 1033 1032 1031 1111 1110 1189 1268 1267 1266 1346 1345 1344 1424 1423 1502 1736 1916
1035	67.88	A	65.752	322.115	69.118	309.620	213	618 812 876 875 874 954 953 1033 1032 1111 1110 1189 1188 1268 1267 1345 1424 1423 1502 1580
1465	67.89	A	66.637	319.493	69.824	305.889	210	765 764 813 876 875 874 954 953 1033 1032 1031 1111 1110 1735 1818 1817 1916 2015
1422	67.89	A	66.298	320.552	67.962	314.775	199	666 716 765 813 876 875 874 954 953 1033 1032 1031 1111 1110

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REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES
1379	67.89	A	66.303	320.531	69.921	305.291	290	716 715 765 764 814 813 876 875 874 954 953 1033 1032 1031 1111 1110 1735 1818 1817 2015 2114
1336	67.89	A	66.571	319.694	69.857	305.678	174	715 764 875 874 954 953 1033 1032 1031 1111 1818 1817 1917 1916 2016 2015
1293	67.89	A	66.630	319.510	67.968	314.754	207	765 813 876 875 874 954 953 1033 1032 1031 1111 1110
1250	67.89	A	66.467	320.033	68.876	310.856	286	716 715 765 813 876 875 874 954 953 1033 1032 1031 1111 1110 1189 1188 1268 1267 1346 1425 1502
1207	67.89	A	66.610	319.585	69.156	309.501	148	765 813 876 954 953 1033 1032 1111 1110 1189 1188 1268 1267 1346 1424 1423 1580
1164	67.89	A	66.286	320.600	69.797	306.043	298	666 715 765 813 875 874 954 953 1033 1032 1031 1111 1110 1189 1188 1267 1266 1346 1345 1424 1423 1502 1580 1659 1735 1916
461	68.22	A	67.038	319.283	69.852	306.813	294	815 878 877 957 956 955 1035 1034 1114 1113 1112 1192 1191 1190 1270 1269 1349 1348 1426 1659 1919 2018
504	68.56	A	67.116	320.465	69.756	308.832	217	816 959 958 1038 1037 1116 1115 1195 1194 1193 1272 1352 1351 1350 1508 1585 1584 1663 1824 1823 1923
260	68.59	A	66.962	321.170	69.710	309.271	430	817 816 881 880 960 959 1038 1037 1117 1116 1115 1195 1194 1274 1273 1272 1352 1351 1350 1429 1428 1508 1507 1586 1585 1664 1663 1741 1825 1824 1924
547	68.88	A	66.575	323.708	69.651	310.884	403	720 818 883 882 962 1040 1039 1119 1118 1198 1197 1196 1276 1275 1274 1354 1353 1433 1432 1431 1510 1589 1588 1667 1666 1745 1744 1743 1828
791	69.01	A	66.728	323.910	70.440	306.589	340	770 885 884 964 963 1041 1120 1198 1278 1277 1276 1356 1355 1434 1433 1432 1512 1511 1510 1590 1589 1588 1668 1746 1745 1830 1829 1928 1927 2027 2224 2322 2321 2420 2419 2519 2617
590	69.18	A	66.663	324.872	70.198	309.000	404	772 819 887 886 965 964 1044 1043 1201 1200 1199 1279 1278 1277 1357 1356 1436 1435 1434 1514 1513 1512 1591 1669 1748 1832 1930 2029 2323
834	69.40	A	67.415	323.523	70.105	310.825	322	968 967 1046 1045 1124 1203 1202 1281 1280 1360 1359 1358 1438 1437 1516 1515 1514 1594 1593 1592 1672 1750 1749 1748 1835 2032 2031 2130 2228 2328
633	69.46	A	67.486	323.492	70.196	310.456	330	967 1047 1046 1045 1125 1124 1281 1360 1359 1439 1438 1437 1517 1516 1515 1595 1594 1673 1672 1671 1750 1836 1835 1934 1933 2033 2032 2131 2229 2327
877	69.62	A	67.126	325.822	70.388	310.200	233	823 1048 1127 1126 1206 1205 1204 1283 1362 1440 1439 1519 1518 1597 1596 1595 1675 1674 1673 1752 1837 1936 1935 2034 2134 2232 2231 2329 2429 2526

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REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES
1264	69.68	A	67.216	325.925	70.600	309.083	172	892 1049 1127 1206 1285 1284 1675 1674 1754 1753 1752 1839 1838 1937 2035 2135 2134 2233 2331 2429 2529 2528 2626 2725 2724 2823
1221	69.68	A	67.233	325.869	70.582	309.222	269	892 970 1048 1206 1205 1285 1284 1362 1361 1441 1440 1520 1519 1518 1598 1597 1596 1674 1754 1753 1839 1937 2036 2135 2134 2233 2331 2724
676	69.72	A	67.995	322.998	70.340	310.924	449	1126 1206 1205 1284 1363 1362 1361 1441 1440 1520 1519 1518 1598 1597 1596 1676 1675 1674 1753 1752 1838 1938 1937 1936 2036 2035 2135 2134 2233 2331 2330 2430 2429 2528
432	69.74	A	67.260	325.913	70.637	308.907	437	892 1128 1207 1206 1205 1285 1284 1363 1442 1441 1440 1520 1519 1518 1598 1597 1596 1676 1675 1674 1754 1753 1752 1839 1838 1937 2037 2036 2135 2234 2233 2332 2331 2430 2429 2529 2528 2627 2626 2725 2724 2823
719	69.96	A	68.113	324.057	70.608	310.514	532	1209 1208 1287 1286 1366 1365 1444 1523 1522 1521 1601 1600 1599 1679 1678 1677 1757 1756 1755 1843 1842 1942 1941 1940 2040 2039 2138 2137 2237 2236 2335 2434 2433 2531 2630 2629 2728 2727 2827
475	69.99	A	68.116	324.121	70.586	310.746	335	1209 1208 1288 1287 1286 1366 1365 1444 1523 1522 1600 1599 1678 1677 1757 1756 1755 1843 1842 1942 1941 1940 2040 2039 2139 2138 2237 2335 2434 2433 2532 2630 2729 2728 2727
231	70.00	A	67.650	326.124	70.598	310.836	560	1053 1131 1209 1208 1288 1287 1367 1366 1365 1444 1443 1523 1522 1521 1601 1600 1599 1679 1678 1677 1757 1756 1755 1844 1843 1942 1941 2040 2238 2237 2236 2336 2335 2435 2434 2533 2532 2631 2630 2729 2728
518	70.21	A	67.880	326.512	70.854	310.046	529	1134 1133 1290 1289 1447 1446 1526 1525 1524 1604 1603 1602 1682 1681 1680 1759 1758 1847 1846 1945 1944 2044 2043 2143 2142 2141 2241 2240 2339 2338 2437 2436 2536 2535 2534 2634 2633 2731 2829 2927 3026
274	70.23	A	67.850	326.804	70.870	310.086	482	1134 1290 1370 1369 1368 1525 1524 1604 1603 1602 1682 1681 1680 1760 1759 1847 1846 1946 1945 2044 2043 2143 2142 2141 2241 2240 2340 2339 2338 2438 2437 2535 2635 2634 2633 2733 2731 2831 2829 2929 2928 2927 3026
762	70.25	A	68.057	326.103	70.607	312.344	328	1213 1369 1447 1525 1524 1604 1603 1602 1682 1681 1680 1760 1759 1848 1847 1846 1946 1945 2045 2044 2043 2143 2142 2242 2241 2339 2438 2536 2831
561	70.43	A	68.368	325.978	71.097	309.298	561	1292 1372 1371 1449 1527 1607 1606 1605 1685 1684 1683 1763 1762 1761 1851 1850 1849 1949 1948 2048 2047 2145 2244 2243 2343 2342 2341 2441 2440 2540 2539 2538 2638 2637 2736 2735 2834 2833 2931 2930 3030 3029 3128 3126 3225 3224

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDINC LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
805	70.53	A	68.310	327.112	71.604	304.313	447	1295	1452	1608	1685	1684	1764	1763	1762	1853
								1852	1851	1951	1950	2050	2049	2148	2147	2247
								2246	2344	2444	2443	2442	2542	2541	2540	2640
								2639	2738	2737	2835	2934	3032	3130	3128	3228
								3227	3226	3326	3324	3712	3811			
604	70.62	A	69.792	320.366	70.650	314.611	103	1951	2051	2050	2445	2444	2443	2641	2740	2739
								2738	2838	2837						
848	70.78	A	68.879	326.476	71.336	309.603	536	1533	1612	1611	1689	1767	1857	1955	2055	2054
								2053	2153	2152	2252	2251	2250	2350	2349	2348
								2448	2447	2547	2546	2545	2645	2644	2643	2743
								2742	2741	2841	2840	2939	2938	2937	3037	3036
								3035	3135	3134	3133	3233	3231	3331	3330	3329
								3328	3428	3427	3426	3525				
647	70.80	A	69.386	324.062	71.393	309.039	574	1689	1768	1857	1856	1956	1955	2055	2054	2053
								2153	2152	2252	2251	2250	2350	2349	2449	2448
								2447	2547	2546	2545	2645	2644	2643	2743	2742
								2842	2841	2840	2939	2938	3038	3036	3035	3135
								3134	3133	3233	3231	3331	3330	3329	3328	3428
								3427	3426	3526	3525	3523				
891	70.85	A	68.446	329.146	71.715	305.207	575	1379	1535	1534	1690	1769	1858	1958	1957	2056
								2055	2155	2154	2153	2253	2252	2352	2351	2350
								2450	2449	2549	2548	2547	2647	2646	2645	2745
								2744	2743	2843	2842	2841	2941	2940	2939	3039
								3038	3037	3137	3136	3135	3235	3234	3332	3331
								3429	3428	3427	3525	3524	3624	3914		
1020	70.89	A	68.603	328.751	71.498	308.684	507	1458	1614	1692	1770	1768	1958	1957	2057	2056
								2156	2155	2154	2254	2253	2353	2352	2351	2451
								2450	2449	2549	2548	2647	2646	2746	2745	2744
								2844	2843	2842	2942	2941	2940	3040	3038	3138
								3136	3236	3235	3234	3233	3332	3430	3428	3528
								3526	3623	3622						
1493	70.89	A	68.484	329.376	68.503	329.293	5	1379								
1321	70.89	A	68.445	329.532	71.794	304.255	12	1380	1379	3911						
1278	70.89	A	71.326	310.857	71.440	309.528	21	3528	3526	3625	3624					
1235	70.89	A	71.392	310.110	71.441	309.515	13	3526	3626	3625	3624					
690	70.97	A	68.590	329.348	71.790	304.691	527	1379	1536	1769	1959	2057	2157	2156	2255	2254
								2354	2353	2352	2452	2451	2551	2550	2549	2649
								2648	2647	2747	2746	2745	2845	2844	2843	2943
								2942	2941	3041	3039	3139	3138	3137	3237	3334
								3333	3431	3529	3528	3625	3912			
446	70.98	A	69.127	326.991	71.388	310.684	651	1614	1771	1770	1860	1960	1959	2059	2058	2057
								2157	2156	2256	2255	2254	2354	2353	2453	2452
								2451	2551	2550	2549	2649	2648	2647	2747	2746
								2846	2845	2844	2944	2943	2942	3042	3041	3040
								3139	3137	3237	3236	3235	3335	3334	3333	3431
								3430	3529	3527						

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REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	STARTING LAT & LONG DEG E	ENDING LAT & LONG DEG N	ENDING LAT & LONG DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
489	71.14	A	68.763	330.180	71.722	307.495	720	1461	1617	1695	1775	1774	1773	1963	2062	2061
								2161	2160	2260	2259	2258	2358	2357	2356	2456
								2455	2555	2554	2553	2653	2652	2651	2751	2750
								2749	2849	2848	2847	2947	2946	2945	3045	3044
								3043	3143	3142	3141	3241	3240	3239	3338	3337
								3336	3436	3434	3533	3531	3631	3630	3629	3628
								3820	3920	3919						
245	71.15	A	69.067	328.919	70.450	320.785	229	1618	1697	1696	1774	2063	2160	2260	2259	2258
								2358	2357	2457	2456	2455	2555	2554	2553	2653
								2652								
532	71.28	A	69.400	328.495	71.623	310.516	708	1777	1775	1967	2263	2262	2362	2361	2360	2460
								2459	2458	2558	2557	2657	2656	2655	2755	2754
								2753	2853	2852	2851	2951	2950	2949	3049	3048
								3047	3147	3146	3145	3245	3244	3243	3242	3342
								3341	3340	3439	3438	3437	3537	3536	3535	3534
								3634	3633	3631	3731	3730	3729	3728	3828	3827
288	71.29	A	69.283	329.279	71.658	310.165	543	1699	1778	1777	1968	2066	2362	2459	2559	2558
								2557	2657	2656	2655	2755	2754	2753	2853	2852
								2851	2951	2950	2949	3049	3048	3047	3147	3146
								3145	3245	3244	3243	3343	3342	3341	3340	3439
								3537	3536	3535	3635	3634	3633	3729	3728	3826
776	71.31	A	68.722	332.305	71.946	304.707	747	1465	1543	1622	1621	1700	1699	1778	1777	1869
								1969	1968	2264	2263	2363	2460	2560	2559	2558
								2658	2657	2656	2756	2755	2754	2854	2853	2852
								2952	2951	2950	3050	3049	3048	3148	3147	3146
								3246	3245	3244	3243	3343	3342	3341	3441	3440
								3538	3537	3536	3535	3635	3634	3633	3731	3729
								3829	3828	3826	3825	3925	3923	3922	4018	4114
								4113	4112							
575	71.41	A	69.772	327.881	71.809	308.847	717	1970	2070	2069	2068	2168	2167	2267	2462	2561
								2659	2658	2758	2757	2856	2855	2955	2954	2953
								3052	3051	3050	3150	3149	3148	3248	3247	3346
								3345	3344	3343	3443	3442	3441	3541	3540	3539
								3538	3638	3637	3636	3635	3735	3734	3733	3732
								3830	3829	3828	3927	3926	3925	4023		
819	71.49	A	69.323	331.433	71.793	310.261	829	1703	1782	1781	1875	1974	2072	2071	2269	2367
								2366	2466	2465	2565	2564	2563	2663	2662	2661
								2761	2760	2759	2859	2858	2857	2957	2956	2955
								3055	3054	3053	3153	3152	3151	3251	3250	3249
								3349	3348	3347	3346	3446	3445	3444	3443	3543
								3542	3541	3641	3640	3639	3638	3637	3737	3736
								3735	3734	3834	3832	3831	3830	3930	3929	3926
618	71.52	A	69.877	328.709	71.779	310.852	884	2072	2270	2269	2369	2368	2367	2467	2466	2565
								2564	2664	2663	2662	2762	2761	2760	2860	2859
								2858	2958	2957	2956	3056	3055	3054	3154	3153
								3152	3252	3251	3250	3249	3349	3348	3347	3447
								3446	3445	3444	3544	3543	3542	3541	3641	3640
								3639	3638	3738	3737	3736	3735	3835	3834	3832
								3831	3931	3930	3929	3928				

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
417	71.63	A	69.747	331.077	71.963	308.100	928	1978	2077	2371	2569	2568	2668	2667	2666	2766
								2765	2764	2864	2863	2862	2962	2961	2960	3060
								3059	3058	3158	3157	3156	3256	3255	3254	3253
								3353	3352	3351	3451	3450	3449	3448	3548	3547
								3546	3545	3645	3644	3643	3642	3742	3741	3740
								3739	3839	3838	3837	3836	3835	3935	3934	3933
								3932	3931	4029	4028	4027	4025	4124	4121	
173	71.64	A	69.810	330.911	71.949	308.763	824	2078	2471	2569	2668	2667	2766	2765	2865	2864
								2863	2963	2962	2961	3061	3060	3059	3158	3157
								3156	3256	3255	3254	3354	3353	3352	3351	3451
								3450	3449	3549	3548	3547	3546	3646	3645	3644
								3741	3740	3739	3839	3838	3837	3836	3936	3935
								3934	3933	3932	3931	4031	4029	4028	4027	4125
								4124	4122							
1034	71.64	A	69.581	332.324	71.961	308.657	803	1785	2078	2176	2472	2569	2668	2766	2765	2865
								2864	2863	2963	2962	2961	3061	3060	3059	3159
								3158	3157	3257	3256	3255	3254	3354	3353	3352
								3452	3451	3450	3449	3549	3548	3547	3546	3646
								3645	3644	3643	3743	3742	3741	3740	3840	3839
								3838	3837	3836	3936	3935	3934	3933	3932	4032
								4031	4029	4028	4026	4126	4122			
1464	71.64	A	69.260	334.100	69.277	334.012	7	1709								
1421	71.64	A	69.244	334.174	69.272	334.028	11	1709								
1378	71.64	A	72.051	304.949	72.055	304.680	9	4213	4212							
1249	71.65	A	71.800	312.531	71.861	311.290	20	4032	4031	4029						
1206	71.65	A	71.833	311.866	72.035	305.906	19	4030	4216	4215						
1163	71.65	A	71.849	311.512	71.896	310.473	11	4029	4027							
460	71.73	A	69.388	334.501	71.994	308.470	790	1710	1709	1789	1788	1884	1982	1981	2080	2376
								2572	2671	2670	2768	2965	2964	3064	3063	3062
								3162	3161	3160	3159	3259	3258	3257	3357	3356
								3355	3454	3453	3452	3552	3551	3550	3549	3649
								3648	3647	3646	3746	3745	3744	3743	3842	3841
								3840	3839	3939	3938	3937	3936	3935	3934	4034
								4033	4032	4031	4029	4129	4128	4126	4124	4122
503	71.81	A	69.687	334.318	72.033	308.179	618	1886	1986	2478	2576	2773	3165	3164	3262	3261
								3360	3359	3358	3458	3457	3456	3555	3554	3553
								3653	3652	3651	3650	3750	3749	3748	3747	3746
								3846	3845	3844	3843	3842	3942	3941	3940	3939
								3938	4038	4037	4036	4035	4034	4033	4032	4132
								4128	4126	4125	4223	4222	4221			
259	71.81	A	69.865	333.460	72.027	308.669	684	2084	2675	2871	2968	3066	3164	3163	3261	3361
								3360	3359	3459	3458	3457	3456	3556	3555	3554
								3553	3653	3652	3651	3650	3750	3749	3748	3747
								3847	3846	3845	3844	3843	3943	3942	3941	3940
								3939	3938	4038	4037	4036	4035	4034	4033	4133
								4132	4131	4130	4125	4225	4224	4223	4222	
546	71.87	A	70.772	328.430	72.053	308.300	603	2972	3167	3264	3364	3362	3462	3461	3460	3459
								3559	3558	3557	3656	3655	3654	3653	3753	3752
								3751	3750	3850	3849	3848	3847	3846	3946	3945
								3944	3943	3942	4042	4041	4040	4039	4038	4037
								4036	4136	4135	4133	4132	4228	4227	4221	

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES
790	71.90	A	69.964	334.822	72.057	308.825	816	2188 2187 2777 3071 3171 3170 3169 3168 3267 3365 3364 3464 3463 3462 3461 3561 3560 3559 3558 3658 3657 3656 3655 3755 3754 3753 3752 3852 3851 3850 3849 3848 3948 3947 3946 3945 3944 3943 4043 4042 4041 4040 4039 4038 4138 4137 4136 4135 4134 4133 4132 4230 4229 4228 4227 4226 4225 4224 4223
833	71.97	A	70.953	329.553	72.068	308.879	823	3174 3272 3271 3369 3468 3467 3466 3566 3565 3564 3563 3663 3662 3661 3660 3760 3759 3758 3757 3756 3856 3855 3854 3853 3953 3952 3951 3950 3949 3948 4048 4047 4046 4045 4044 4043 4143 4142 4141 4140 4139 4138 4137 4136 4135 4235 4234 4233 4232 4231 4229 4228 4226 4225 4223
632	71.98	A	70.462	333.710	72.066	308.696	920	2685 3077 3371 3370 3369 3469 3468 3467 3466 3566 3565 3564 3664 3663 3662 3661 3660 3760 3759 3758 3757 3857 3856 3855 3854 3853 3953 3952 3951 3950 3949 4049 4048 4047 4046 4045 4044 4043 4143 4142 4141 4140 4139 4138 4137 4136 4236 4235 4234 4233 4232 4231 4230 4229 4228 4226 4225 4224 4223 4222
876	72.00	A	70.937	331.007	72.064	308.925	767	3178 3372 3472 3471 3470 3568 3567 3566 3666 3665 3664 3763 3762 3761 3760 3860 3859 3858 3857 3856 3956 3955 3954 3953 3952 4051 4050 4049 4048 4047 4046 4146 4145 4144 4143 4142 4141 4140 4139 4239 4238 4237 4236 4235 4233 4232 4231 4229 4228 4226 4224 4223
1478	72.01	A	72.074	310.096	72.021	305.764	21	4226 4225 4215
1435	72.01	A	72.073	309.956	72.013	305.452	20	4225 4222 4220 4214
1392	72.01	A	72.072	309.894	72.021	305.851	11	4225 4217 4215
1349	72.01	A	72.070	309.528	72.035	306.505	27	4224 4223 4217
1306	72.01	A	72.069	309.203	72.020	305.778	29	4224 4223 4217 4216 4215
1220	72.01	A	72.065	312.211	72.013	305.508	90	4231 4230 4229 4228 4226 4225 4222 4215 4214
675	72.02	A	71.225	328.601	72.052	308.057	667	3472 3763 3858 3857 3957 3956 3955 3954 3953 3952 4052 4051 4050 4049 4048 4047 4147 4146 4145 4144 4143 4142 4141 4140 4139 4239 4238 4237 4236 4235 4234 4233 4232 4231 4230 4229 4228 4226 4225 4224 4223 4221
431	72.02	A	70.988	331.061	72.058	308.991	785	3178 3471 3569 3666 3665 3763 3762 3761 3861 3860 3859 3858 3857 3957 3956 3955 3954 3953 4053 4052 4051 4050 4049 4048 4047 4147 4146 4145 4144 4143 4142 4141 4140 4240 4239 4238 4237 4236 4235 4234 4233 4232 4231 4229 4228 4226 4225 4224 4223
187	72.02	A	70.710	333.624	72.049	308.229	823	2985 2984 3278 3571 3569 3666 3665 3765 3764 3763 3762 3761 3861 3860 3859 3858 3958 3957 3956 3955 3954 3953 4053 4052 4051 4050 4049 4048 4148 4147 4146 4145 4144 4143 4142 4141 4140 4240 4239 4238 4237 4236 4235 4234 4233 4232 4231 4230 4229 4228 4226 4225 4224 4223 4222 4221

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
718	72.04	A	70.789	334.161	72.046	309.008	920	2986	3086	3085	3378	3571	3671	3670	3669	3668
								3768	3767	3766	3765	3764	3864	3863	3862	3861
								3961	3960	3959	3958	3957	3956	4056	4055	4054
								4053	4052	4051	4151	4150	4149	4148	4147	4146
								4145	4144	4143	4243	4242	4241	4240	4239	4238
								4237	4236	4235	4234	4233	4232	4231	4230	4229
								4228	4226	4225	4224	4223				
474	72.05	A	71.147	330.993	72.042	308.969	740	3378	3571	3671	3669	3766	3864	3863	3862	3861
								3961	3960	3959	3958	3957	3956	4056	4055	4054
								4053	4052	4051	4151	4150	4149	4148	4147	4146
								4145	4144	4143	4243	4242	4241	4240	4239	4238
								4237	4236	4235	4234	4233	4232	4231	4230	4229
								4228	4227	4226	4225	4223				
230	72.05	A	71.310	329.468	71.936	304.995	868	3574	3670	3768	3767	3766	3765	3865	3864	3863
								3862	3861	3961	3960	3959	3958	3957	4057	4056
								4055	4054	4053	4052	4051	4151	4150	4149	4148
								4147	4146	4145	4144	4244	4243	4242	4241	4240
								4239	4238	4237	4236	4235	4234	4233	4232	4231
								4230	4229	4228	4226	4225	4113			
517	72.06	A	71.108	332.832	71.997	308.170	677	3383	3382	3674	3964	4059	4058	4057	4056	4055
								4155	4154	4153	4152	4151	4150	4149	4148	4147
								4247	4246	4245	4244	4243	4242	4241	4240	4239
								4238	4237	4236	4235	4234	4233	4232	4231	4230
								4229	4228	4226	4225	4223	4222	4221	4121	
273	72.06	A	72.026	317.604	71.849	304.291	340	4245	4244	4243	4242	4241	4240	4239	4238	4237
								4236	4235	4234	4233	4232	4231	4230	4229	4227
								4226	4225	4224	4223	4222	4121	4119	4115	4114
								4011								
761	72.06	A	71.338	330.727	72.011	308.893	867	3577	3771	3770	3769	3869	3868	3867	3866	3865
								3965	3964	3963	3962	3961	4061	4060	4059	4058
								4057	4056	4055	4155	4154	4153	4152	4151	4150
								4149	4148	4248	4247	4246	4245	4244	4243	4242
								4241	4240	4239	4238	4237	4236	4235	4234	4233
								4232	4231	4230	4229	4228	4226	4225	4223	
560	72.07	A	71.353	331.708	71.985	309.128	817	3580	3772	3872	3871	3870	3869	3868	3968	3967
								3966	3965	3964	4064	4063	4062	4061	4059	4058
								4158	4157	4156	4155	4154	4153	4152	4151	4251
								4250	4249	4248	4247	4246	4245	4244	4243	4242
								4241	4240	4239	4238	4237	4236	4235	4234	4233
								4232	4231	4230	4229	4228	4227	4124	4123	
572	59.09	D	59.901	316.127	59.901	316.127	1	17								
773	59.78	D	60.348	315.859	60.206	315.619	3	16								
285	59.94	D	60.247	315.436	60.096	315.183	12	16								
529	60.00	D	61.280	317.068	60.079	314.975	21	98	97	57	56	16	15			
443	61.65	D	62.073	315.680	60.943	313.572	19	176	136	135	94					
687	61.71	D	62.754	316.882	60.902	313.329	48	217	176	136	94					
1189	62.02	D	63.842	318.874	60.967	313.056	139	339	299	298	258	257	217	216	176	135
								134	94							
1232	62.02	D	63.272	317.584	60.965	313.043	145	298	258	257	217	216	176	175	135	134
								94								
1275	62.02	D	63.861	318.903	60.970	313.046	125	339	299	298	257	217	176	175	135	94

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
1318	62.02	D	63.712	318.557	61.938	314.837	88	339	299	298	258	257	217	176	175	
1361	62.02	D	63.622	318.353	60.830	312.793	83	339	299	298	258	217	176	94	53	
1447	62.02	D	63.682	318.489	62.161	315.272	36	339	299	298	258	257	217	216	176	
1490	62.02	D	63.685	318.500	61.940	314.846	70	339	299	298	258	257	216	176	175	
1017	62.06	D	63.589	318.201	61.689	314.283	46	299	258	257	217	176	175	135		
888	62.20	D	63.112	316.886	61.048	312.837	89	257	216	176	175	135	134	94	93	
156	62.35	D	63.563	317.551	61.641	313.600	73	298	257	256	175	135	134			
400	62.40	D	63.344	316.870	60.991	312.213	152	297	257	216	175	174	134	93		
644	62.45	D	64.026	318.249	61.465	312.904	166	379	339	338	298	297	256	216	215	175
								174	134	133						
845	62.57	D	64.370	318.926	61.461	312.749	120	379	256	216	215	175	174	134	133	
601	63.15	D	66.907	324.845	61.474	311.473	191	822	771	668	419	337	336	296	295	255
								215	214	174	173	132				
802	63.47	D	69.738	336.460	61.918	311.703	242	1992	1891	1890	1708	1463	822	770	719	566
								463	419	418	336	296	295	255	254	214
								213	173	172						
558	63.80	D	69.565	334.653	61.751	310.546	448	1790	1707	1625	1379	1135	1134	971	821	666
								616	564	514	513	463	462	417	377	376
								336	335	295	294	254	253	213	212	172
								131								
759	64.35	D	69.198	331.511	62.591	310.996	381	1624	1132	888	819	768	767	717	716	665
								614	563	513	512	461	416	376	375	335
								334	294	293	253	252	212	211		
271	64.37	D	69.984	335.841	62.745	311.259	313	2190	2189	2089	1885	1541	1458	1214	1213	1132
								1131	819	666	665	614	416	415	375	335
								334	294	293	253	252	212			
515	64.42	D	68.898	329.819	62.874	311.347	315	1540	1459	1212	1132	887	818	716	666	665
								664	614	563	562	416	415	375	334	293
								253	252							
228	64.95	D	70.084	335.038	62.949	310.251	363	2288	2085	1703	1702	1701	1620	1619	1538	1537
								1047	966	885	884	817	816	766	765	715
								664	663	612	562	561	511	459	415	414
								374	373	333	332	292	291	251		
472	64.99	D	69.999	334.310	62.821	309.793	507	2186	2085	2084	1982	1701	1292	1291	1210	1047
								1046	966	885	884	817	816	766	715	714
								664	663	612	561	560	510	509	459	415
								414	374	373	333	332	292	291	250	
716	65.06	D	69.983	334.099	62.840	309.727	468	2186	2084	2083	1700	1620	1456	1373	1292	1291
								1210	1128	1047	966	965	885	884	817	816
								766	765	715	714	664	663	612	611	561
								560	510	459	458	415	414	374	373	333
								332	292	291	251	250				
429	65.53	D	70.139	333.759	63.133	309.013	817	2385	2182	1979	1878	1877	1781	1780	1697	1617
								1370	1289	1207	1127	1126	1125	1045	1044	963
								962	882	881	815	764	763	713	712	662
								661	611	610	560	559	509	508	458	457
								413	412	372	331	291	290	250		

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REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
673	65.57	D	69.737	331.124	63.265	309.126	689	1978	1877	1698	1697	1616	1534	1533	1371	1289
								1207	1206	1126	1125	1045	1044	1043	963	962
								881	880	815	814	764	763	713	712	662
								661	611	610	609	559	558	508	507	457
								413	412	372	331	290				
1175	65.61	D	64.162	311.256	63.381	309.465	29	372	331	290						
1218	65.61	D	64.387	311.790	63.528	309.782	40	372	331	290						
1261	65.61	D	64.592	312.288	63.432	309.560	32	413	372	371	331	290				
1390	65.61	D	63.383	309.445	63.285	309.231	13	290								
1476	65.61	D	70.511	336.162	63.169	308.982	17	2791	290	249						
874	65.75	D	69.264	328.245	63.499	309.333	739	1697	1696	1616	1615	1534	1533	1532	1452	1287
								1207	1206	1126	1125	1124	1043	962	881	880
								815	814	763	762	712	711	661	660	610
								609	559	558	508	507	457	456	413	412
								372	330	290						
630	66.07	D	70.827	337.172	63.687	308.620	816	3093	1873	1778	1696	1613	1531	1450	1449	1448
								1368	1367	1286	1285	1205	1204	1123	1122	1042
								1041	1040	960	959	879	878	877	814	813
								812	762	761	711	710	660	659	609	608
								557	506	456	455	412	371	370	330	329
831	66.19	D	69.477	327.958	64.275	309.734	814	1776	1696	1695	1694	1612	1532	1531	1530	1448
								1366	1286	1285	1284	1204	1203	1123	1122	1041
								960	959	958	878	877	813	812	762	761
								711	710	660	659	658	608	607	557	556
								506	505	455	411	370				
587	66.55	D	70.986	337.118	64.639	309.448	863	3193	2479	2275	2175	1870	1869	1775	1774	1693
								1692	1529	1447	1446	1365	1364	1284	1283	1282
								1202	1201	1200	1120	1119	1039	1038	1037	957
								956	876	875	812	811	810	760	759	709
								708	658	657	607	606	556	555	505	504
								454	453	410						
788	66.82	D	71.121	337.569	65.203	310.106	844	3394	3294	3293	3292	2985	2883	2782	2578	2477
								2172	2071	1969	1868	1867	1774	1773	1772	1692
								1691	1609	1608	1526	1444	1364	1363	1362	1282
								1281	1280	1200	1199	1119	1118	1117	1037	1036
								956	955	954	874	873	811	810	809	759
								758	708	707	657	656	606	605	555	554
								504	503							
544	66.99	D	70.669	332.999	64.669	308.079	771	2883	2781	1968	1867	1772	1771	1526	1444	1443
								1363	1362	1361	1281	1280	1279	1199	1198	1118
								1117	1116	1036	1035	954	953	873	872	810
								809	759	758	757	707	706	656	655	605
								604	554	553	503	502	452	451	409	
257	67.38	D	71.128	335.768	65.327	308.544	699	3390	2371	2269	2066	1965	1862	1770	1605	1524
								1523	1522	1442	1441	1440	1360	1359	1358	1278
								1277	1197	1196	1195	1115	1114	1033	1032	952
								951	871	870	869	808	807	757	756	706
								705	655	654	604	603	552	551	501	

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	STARTING LAT & LONG DEG E	ENDING LAT & LONG DEG N	ENDING LAT & LONG DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
501	67.41	D	70.502	330.295	65.479	308.775	837	2776	2676	2269	2268	2168	2167	2166	2066	2065
								1965	1862	1768	1605	1604	1603	1523	1522	1442
								1441	1440	1360	1359	1358	1278	1277	1276	1196
								1195	1115	1114	1113	1033	1032	952	951	950
								870	869	808	807	757	756	706	705	654
								653	552	551						
1161	68.10	D	71.460	336.674	66.215	308.406	16	3692	864	805	651					
1204	68.11	D	67.081	311.186	65.948	307.596	61	804	754	753	702	651	650	600		
1333	68.11	D	66.601	309.579	66.386	308.903	5	752	702							
1376	68.11	D	71.442	336.417	66.507	309.282	14	3692	3691	702						
1419	68.11	D	66.574	309.493	65.867	307.345	10	702	650	600						
1032	68.11	D	71.094	332.637	66.128	308.073	571	3282	2974	2873	2771	2669	2567	2566	2466	2465
								2364	2263	1958	1957	1857	1856	1855	1764	1763
								1762	1682	1681	1680	1600	1599	1598	1517	1436
								1435	1355	1354	1273	1272	1271	1191	1109	1028
								1027	1026	946	945	865	864	805	804	754
								702	651							
659	68.19	D	71.155	332.783	66.965	310.253	678	3382	3381	3281	2974	2872	2770	2667	2567	2566
								2565	2465	2464	2260	2160	2159	2059	2058	2057
								1957	1956	1856	1855	1854	1764	1763	1762	1761
								1681	1680	1679	1599	1598	1597	1517	1516	1435
								1434	1352	1272	1271	1270	1190	1189	1108	1107
								1027	1026	944	864	863	804	803		
616	68.53	D	71.567	336.124	66.730	3C8.023	691	3791	3277	2766	2765	2665	2664	2663	2563	2562
								2561	2461	2460	2360	2359	2358	2258	2257	2156
								2155	2055	2054	2053	1953	1952	1852	1851	1761
								1760	1759	1758	1678	1677	1676	1596	1595	1594
								1514	1513	1432	1431	1351	1350	1349	1269	1268
								1267	1187	1186	1105	1104	1024	1023	942	941
								802	801	751						
573	68.86	D	71.683	336.383	66.737	306.600	803	3891	3890	3581	3580	3579	3479	3478	3477	3375
								3374	3273	3272	3170	3068	2965	2863	2763	2762
								2761	2661	2660	2559	2558	2458	2457	2456	2356
								2355	2354	2254	2253	2153	2152	2151	2051	2050
								1950	1949	1848	1847	1758	1757	1756	1676	1675
								1674	1593	1592	1511	1510	1430	1429	1428	1348
								1347	1346	1266	1265	1184	1183	1103	1102	1101
								1021	1020	940	857	800	799	749		
774	69.08	D	71.746	336.405	67.515	308.285	610	3992	3991	3271	3270	3269	3168	3167	3067	3066
								3065	2965	2964	2963	2863	2862	2861	2761	2760
								2759	2659	2658	2657	2557	2556	2555	2455	2454
								2354	2353	2352	2252	2251	2250	2150	2149	2049
								2048	1947	1946	1845	1755	1754	1672	1591	1509
								1428	1427	1182	1181	1100	1099	1019	1018	938
								937								
286	69.14	D	71.771	336.642	67.496	307.959	610	3992	3371	3271	3270	3269	3167	3065	3064	2964
								2963	2962	2862	2861	2860	2760	2759	2758	2658
								2657	2656	2556	2555	2455	2454	2453	2353	2352
								2351	2251	2250	2150	2149	2148	2048	2047	1845
								1754	1753	1673	1672	1671	1591	1590	1589	1427
								1425	1345	1344	1264	1263	1262	1182	936	

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
530	69.16	D	71.783	336.667	67.258	306.921	540	3992	3991	3990	3578	3577	3371	3370	3270	3166
								3064	2964	2963	2962	2862	2861	2860	2760	2759
								2758	2658	2657	2656	2556	2555	2554	2454	2453
								2352	2351	2251	2250	2249	2149	2148	1755	1754
								1753	1672	1590	1427	1426	1425	1344	1263	1262
								1181	1099	1018	1017	937	936	935	855	854
243	69.42	D	71.233	328.002	67.725	307.375	453	3471	3470	3368	3266	3265	3163	3061	2959	2756
								2755	2655	2654	2653	2553	2552	2551	2451	2450
								2449	2349	2348	2248	2247	2246	2146	2145	2045
								2044	2043	1943	1942	1841	1752	1751	1750	1670
								1669	1588	1586	1506	1505	1504	1423	1342	1341
								1260	1015							
200	69.68	D	71.761	333.607	68.148	307.601	622	3985	3984	3777	3675	3570	3468	3467	3466	3366
								3365	3364	3264	3263	3262	3261	3161	3160	3159
								3059	3058	3057	2957	2956	2955	2855	2854	2853
								2753	2752	2751	2651	2650	2649	2549	2548	2547
								2447	2446	2345	2344	2243	2143	2142	2141	2041
								2040	1940	1939	1938	1838	1837	1749	1748	1667
								1666	1665	1585	1584	1583	1503	1502	1501	1421
								1339	1176							
444	69.70	D	71.878	335.777	68.822	310.346	494	4090	3672	3570	3365	3263	3160	3159	3058	3057
								3056	2956	2955	2954	2854	2751	2650	2649	2549
								2548	2547	2447	2446	2445	2345	2344	2244	2243
								2242	2142	2141	2041	2040	2039	1939	1938	1838
								1837	1748	1747	1666	1665	1584	1583	1502	1501
688	69.72	D	71.441	328.535	68.585	309.091	549	3672	3262	3261	3260	3160	3159	3158	3058	3057
								3056	2956	2955	2954	2854	2853	2852	2752	2751
								2750	2650	2649	2648	2548	2547	2446	2445	2345
								2344	2242	2142	2141	2140	2040	2039	1938	1837
								1749	1747	1667	1666	1665	1584	1583	1502	1501
								1421	1339							
1147	69.83	D	68.745	309.391	68.715	309.251	7	1419								
1190	69.83	D	69.286	311.992	68.940	310.282	12	1664	1583	1501						
1276	69.83	D	69.477	312.978	69.005	310.574	24	1746	1665	1664	1582					
1405	69.83	D	71.876	334.953	68.154	306.807	2	4088	1174							
1491	69.83	D	71.879	334.999	68.874	309.950	14	4088	1501	1500						
1018	69.84	D	71.597	330.040	69.251	311.723	548	3776	3775	3671	3568	3261	3260	3259	3159	3158
								3157	3057	3056	3055	2955	2954	2953	2853	2852
								2851	2751	2750	2749	2649	2648	2647	2547	2546
								2545	2445	2444	2343	2342	2242	2241	2240	2140
								2139	2038	2037	1937	1835	1746	1665	1664	
889	69.89	D	71.657	330.687	68.840	309.463	640	3877	3875	3671	3568	3566	3466	3465	3464	3361
								3261	3260	3259	3258	3158	3157	3156	3056	3055
								3054	2954	2953	2952	2852	2851	2850	2750	2749
								2748	2648	2647	2646	2546	2545	2445	2444	2443
								2343	2342	2341	2241	2240	2140	2139	2037	1937
								1936	1834	1747	1746	1745	1665	1664	1663	1583
								1499								

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	STARTING LAT & LONG DEG E	ENDING LAT & LONG DEG N	ENDING LAT & LONG DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES
401	69.95	D	71.680	330.606	68.899	309.260	264	3877 3772 3670 3565 3462 3360 3155 3055 3054
								3053 2953 2952 2951 2851 2850 2849 2749 2748
								2646 2645 2442 2342 2341 2239 2138 1746 1745
								1664 1663 1580 1500 1499
645	69.97	D	71.920	335.139	68.859	308.895	635	4188 4086 4084 4083 4082 3978 3877 3876 3874
								3669 3567 3566 3564 3462 3361 3360 3359 3259
								3258 3257 3157 3156 3155 3154 3054 3053 3052
								2952 2951 2950 2850 2849 2848 2748 2747 2746
								2646 2645 2545 2544 2543 2443 2442 2441 2341
								2340 2240 2239 2238 2138 2137 2036 1934 1833
								1832 1746 1745 1744 1663 1581 1580 1499 1498
846	70.00	D	71.672	330.105	68.958	309.216	638	3876 3875 3772 3669 3667 3564 3462 3461 3361
								3360 3359 3259 3258 3257 3256 3156 3155 3154
								3054 3053 3052 2952 2951 2950 2850 2849 2848
								2748 2747 2746 2646 2645 2644 2544 2543 2443
								2442 2441 2341 2340 2239 2238 2137 2136 2036
								2035 1935 1933 1833 1745 1744 1743 1663 1662
								1499
803	70.30	D	71.960	334.170	69.319	309.108	474	4186 4184 4183 3975 3974 3972 3870 3869 3767
								3665 3662 3562 3561 3560 3559 3459 3458 3457
								3456 3356 3355 3354 3254 3253 3252 3151 3150
								2947 2946 2945 2845 2844 2843 2743 2742 2641
								2640 2539 2538 2437 2436 2335 2234 2233 2133
								2132 1659
559	70.41	D	71.929	332.481	69.499	309.216	749	4182 4181 4076 3971 3766 3764 3763 3663 3662
								3661 3660 3560 3559 3558 3557 3457 3456 3455
								3454 3354 3353 3352 3252 3251 3250 3249 3149
								3148 3147 3047 3046 3045 2945 2944 2943 2843
								2842 2841 2741 2740 2739 2639 2638 2637 2537
								2536 2436 2435 2434 2334 2333 2232 2231 2131
								2130 2129 2029 2028 1928 1826 1739
760	70.58	D	71.895	330.394	70.041	311.170	617	4076 4075 3968 3866 3763 3762 3761 3760 3660
								3659 3658 3657 3557 3556 3555 3554 3454 3453
								3452 3451 3351 3350 3349 3249 3248 3247 3145
								3144 3044 3043 3042 2942 2941 2940 2840 2839
								2838 2737 2635 2634 2534 2533 2432 2431 2331
								2330 2229 2228
272	70.59	D	72.051	336.279	69.867	310.053	810	4291 4290 4288 4287 4285 4183 4181 4075 4072
								3970 3969 3968 3967 3867 3866 3865 3864 3863
								3763 3762 3761 3760 3660 3659 3658 3657 3557
								3556 3555 3554 3454 3453 3452 3451 3351 3350
								3349 3249 3248 3247 3246 3145 3144 3044 3043
								3042 2942 2941 2940 2840 2839 2838 2737 2736
								2635 2634 2534 2533 2432 2431 2331 2330 2229
								2228 2127 2026
516	70.61	D	72.019	334.122	69.643	308.571	731	4286 4285 4183 4075 3968 3967 3866 3865 3864
								3863 3763 3762 3761 3760 3759 3659 3658 3657
								3656 3556 3555 3554 3553 3453 3452 3451 3351
								3350 3349 3348 3248 3247 3145 3144 3044 3043
								3042 3041 2941 2940 2939 2839 2838 2737 2635
								2634 2534 2533 2432 2431 2228 2127 1822

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
229	70.78	D	71.862	328.222	70.198	310.700	490	4071	4070	4069	3967	3759	3758	3757	3756	3656
								3655	3654	3653	3553	3552	3551	3550	3450	3449
								3448	3348	3347	3346	3345	3245	3244	3243	3143
								3142	3141	3040	3039	2937	2936	2836	2835	2734
								2733	2632	2631	2531	2530	2429	2327		
473	70.79	D	72.062	335.966	69.723	307.589	667	4290	4289	4288	4287	4283	4282	4180	4178	4177
								4176	4175	4070	4068	4067	3965	3964	3963	3863
								3862	3861	3860	3859	3759	3758	3757	3756	3656
								3655	3654	3653	3553	3552	3551	3550	3450	3449
								3448	3447	3347	3346	3345	3245	3244	3243	3242
								3142	3141	3140	3040	3039	3038	2936	2835	2834
								2732	2632	2631	2428	2427	2327	1920	1919	
717	70.81	D	72.045	333.944	70.013	309.212	700	4285	4284	4179	4175	4070	4067	3967	3966	3965
								3964	3963	3863	3862	3861	3860	3859	3759	3758
								3757	3756	3755	3655	3654	3653	3652	3552	3551
								3550	3549	3449	3448	3447	3347	3346	3345	3344
								3244	3243	3242	3142	3141	3040	3039	3038	2937
								2936	2835	2834	2733	2732	2632	2631	2529	2528
								2428	2427	2224						
186	70.95	D	72.065	336.063	69.641	305.868	680	4291	4290	4288	4287	4283	4282	4280	4279	4278
								4173	4170	4067	4065	3962	3860	3859	3858	3857
								3856	3756	3755	3754	3753	3653	3652	3651	3650
								3649	3549	3548	3547	3447	3446	3445	3444	3344
								3343	3342	3341	3241	3240	3239	3139	3138	3137
								3037	3036	3035	2934	2933	2833	2832	2831	2731
								2730	2729	2628	2627	2424	2324	2323	2322	2222
								2221	1816	1815						
430	70.96	D	72.065	335.969	70.210	309.147	602	4290	4280	4176	4175	4172	4171	4069	4066	3961
								3859	3856	3756	3755	3754	3753	3752	3652	3651
								3650	3649	3549	3548	3547	3546	3446	3445	3444
								3343	3342	3341	3241	3240	3239	3139	3138	3137
								3136	3036	3035	3034	2934	2933	2832	2831	2830
								2730	2729	2728	2628	2525	2425	2423		
674	70.97	D	71.787	324.853	71.022	315.271	275	3963	3960	3855	3755	3754	3753	3752	3652	3651
								3650	3649	3549	3548	3547	3546	3445	3443	3343
								3342	3341	3241	3240	3239				
1176	70.99	D	70.217	309.036	69.672	305.706	16	2423	2322	2321	2221	1815				
1219	70.99	D	70.564	311.469	70.220	309.040	18	2729	2628	2627	2526	2424	2423			
1305	70.99	D	72.074	335.822	72.074	335.725	4	4290								
1391	70.99	D	72.072	336.306	69.615	305.362	21	4291	4290	4288	4287	1814				
1434	70.99	D	72.074	335.714	69.657	305.594	2	4290	1814							
1477	70.99	D	72.074	336.011	70.064	308.019	23	4291	4290	2423	2322	2321	2221			
875	71.03	D	72.062	333.541	69.867	306.464	596	4284	4170	4067	4065	3962	3960	3959	3958	3858
								3857	3856	3855	3854	3754	3753	3752	3751	3651
								3650	3649	3648	3548	3547	3546	3545	3445	3444
								3443	3442	3342	3341	3340	3240	3239	3238	3237
								3137	3136	3135	3033	2933	2931	2830	2829	2729
								2728	2525	2423	2422	2322	2321	2017		

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
631	71.13	D	72.056	336.124	69.971	305.989	600	4291	4282	4281	4277	4274	4273	4172	4167	4064
								4062	3959	3958	3957	3956	3955	3855	3854	3853
								3852	3851	3751	3750	3749	3748	3648	3647	3646
								3645	3545	3544	3543	3542	3442	3441	3440	3439
								3339	3338	3337	3237	3236	3235	3135	3134	3133
								3132	3032	3031	3030	2929	2928	2827	2826	2116
								2115								
832	71.16	D	72.069	333.945	70.693	310.739	564	4285	4275	4273	4063	4060	3958	3957	3956	3955
								3854	3853	3852	3851	3751	3750	3749	3748	3747
								3647	3646	3645	3644	3544	3543	3542	3541	3441
								3440	3439	3339	3338	3337	3336	3236	3235	3234
								3134	3133	3132	3032	3031	3030	2930	2929	2928
								2827								
588	71.27	D	72.062	331.181	70.796	310.395	735	4278	4273	4167	4166	4165	4163	4162	4161	4061
								4060	4059	4058	4057	4056	3956	3955	3954	3953
								3952	3852	3851	3850	3849	3848	3748	3747	3746
								3745	3744	3644	3643	3642	3641	3541	3540	3539
								3538	3438	3437	3436	3335	3334	3233	3232	3130
								3028	3027	2927	2926					
258	71.51	D	72.062	328.753	70.994	309.425	754	4272	4270	4267	4266	4265	4264	4263	4262	4162
								4161	4160	4159	4158	4157	4156	4155	4055	4054
								4053	4052	4051	4050	4049	3949	3948	3947	3946
								3945	3845	3844	3843	3842	3841	3741	3740	3739
								3738	3638	3637	3636	3635	3535	3534	3533	3532
								3431	3329	3327	3226	3225	3124			
502	71.51	D	71.922	322.051	71.279	312.062	35	4156	4155	4154	4054	3532	3431			
459	71.62	D	72.061	327.099	71.118	308.974	777	4268	4267	4265	4264	4263	4262	4261	4260	4259
								4258	4158	4157	4156	4155	4154	4153	4152	4151
								4051	4050	4049	4048	4047	4046	4045	3945	3944
								3943	3942	3941	3841	3840	3839	3838	3837	3737
								3736	3735	3734	3634	3633	3632	3631	3530	3529
								3528	3426	3325	3324	3323				
1162	71.70	D	71.432	311.229	71.270	309.385	26	3629	3628	3527	3526	3424				
1205	71.70	D	71.435	311.242	71.240	309.042	34	3629	3628	3528	3527	3526	3525	3423		
1248	71.70	D	71.526	312.374	71.247	309.102	47	3731	3630	3527	3526	3424	3423			
1291	71.70	D	71.881	335.984	71.885	335.908	3	4090								
1377	71.70	D	71.881	335.975	71.882	335.938	3	4090								
172	71.71	D	71.995	332.362	71.255	309.116	609	4181	4273	4272	4270	4267	4263	4260	4257	4256
								4255	4155	4154	4153	4152	4151	4150	4149	4148
								4048	4047	4046	4045	4044	4043	4042	3942	3941
								3940	3939	3938	3838	3837	3836	3835	3834	3734
								3733	3732	3630	3629	3628	3526	3424	3423	
617	71.80	D	71.753	336.435	70.990	304.690	612	3992	4182	4181	4274	4273	4272	4264	4263	4262
								4261	4260	4259	4258	4257	4256	4255	4254	4253
								4252	4251	4250	4150	4149	4148	4147	4146	4145
								4144	4143	4043	4042	4041	4040	4039	4038	3938
								3937	3936	3935	3934	3933	3833	3832	3729	3728
								3522	3213	3112						
574	71.87	D	72.064	324.774	71.898	315.464	33	4262	4258	4140	4139	4039				

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES								
775	71.91	D	71.690	335.084	71.638	309.627	745	3888	3988	3985	4267	4266	4265	4264	4263	4262
								4261	4260	4259	4258	4257	4256	4255	4254	4253
								4252	4251	4250	4249	4248	4247	4246	4245	4244
								4144	4143	4142	4141	4140	4139	4138	4137	4037
								4036	4035	4034	4033	4032	4031	3931	3929	3928
								3825								
287	71.92	D	71.991	327.967	71.678	310.001	723	4170	4268	4265	4264	4263	4262	4261	4260	4259
								4258	4257	4256	4255	4254	4253	4252	4251	4250
								4249	4248	4247	4246	4245	4244	4144	4143	4142
								4141	4140	4139	4138	4137	4136	4036	4035	4034
								4033	4032	4031	3929	3927	3826			
244	71.97	D	71.428	336.944	71.560	306.846	695	3693	3790	3885	4074	4170	4167	4264	4262	4261
								4260	4259	4258	4257	4256	4255	4254	4253	4252
								4251	4250	4249	4248	4247	4246	4245	4244	4243
								4242	4241	4240	4140	4139	4138	4137	4136	4135
								4134	4133	4033	4032	4031	4030	4029	4028	3927
								3925	3718							
488	71.98	D	71.968	327.139	71.823	310.967	748	4168	4166	4265	4264	4263	4262	4261	4260	4259
								4258	4257	4256	4255	4254	4253	4252	4251	4250
								4249	4248	4247	4246	4245	4244	4243	4242	4241
								4240	4140	4139	4138	4137	4136	4135	4134	4133
								4132	4032	4031	4030	4029	4028			
201	72.01	D	71.455	335.175	71.563	305.442	728	3688	3880	4169	4164	4163	4162	4262	4261	4260
								4259	4258	4257	4256	4255	4254	4253	4252	4251
								4250	4249	4248	4247	4246	4245	4244	4243	4242
								4241	4240	4239	4238	4237	4137	4136	4135	4134
								4133	4132	4130	4028	4027	4026	3923	3714	
445	72.01	D	71.677	331.884	71.848	310.050	718	3880	3978	3976	4071	4070	4169	4167	4164	4163
								4162	4262	4261	4260	4259	4258	4257	4256	4255
								4254	4253	4252	4251	4250	4249	4248	4247	4246
								4245	4244	4243	4242	4241	4240	4239	4238	4237
								4236	4136	4135	4134	4133	4132	4130	4028	4027
								4026								
689	72.02	D	71.737	330.754	71.807	309.007	636	3977	4072	4070	4069	4169	4168	4167	4166	4165
								4164	4163	4261	4258	4257	4256	4255	4254	4253
								4252	4251	4250	4249	4248	4247	4246	4245	4244
								4243	4242	4241	4240	4239	4238	4237	4236	4135
								4134	4133	4132	4130	4026	4023			
1148	72.03	D	71.176	337.573	71.860	309.568	38	3394	4129	4128	4127	4027	4026	4024		
1191	72.03	D	71.956	311.924	71.800	308.311	59	4130	4129	4128	4127	4027	4026	4025	4023	4021
								3921								
1234	72.03	D	71.185	337.489	71.605	305.097	32	3394	4132	4130	4129	4128	4025	3813		
1320	72.03	D	71.256	336.741	71.317	336.083	4	3492	3591							
1406	72.03	D	71.591	304.897	71.591	304.897	1	3713								
1449	72.03	D	71.308	336.191	71.319	336.066	8	3591								
1492	72.03	D	71.253	336.791	71.619	305.287	18	3492	3590	3589	3688	3814				
1019	72.03	D	71.869	327.741	71.764	307.594	640	4070	4167	4164	4163	4162	4161	4261	4260	4259
								4258	4257	4256	4255	4254	4253	4252	4251	4250
								4249	4248	4247	4246	4245	4244	4243	4242	4241
								4240	4239	4238	4237	4236	4235	4134	4133	4132
								4130	4129	4128	4127	4025	4024	4023	3919	

Table 2. Seasat IDR Greenland Catalog (Cont.)

REV NUMBER	APPROXIMATE LATITUDE AND DIRECTION AT 315.0 E LONG A = ASCENDING D = DESCENDING		STARTING LAT & LONG DEG N	DEG E	ENDING LAT & LONG DEG N	DEG E	NUMBER OF PTS	BINS THROUGH WHICH REV TRAVERSES
890	72.04	D	71.627	331.720	71.877	309.651	690	3880 3975 4071 4070 4069 4068 4067 4167 4165 4164 4163 4162 4161 4160 4260 4259 4258 4257 4256 4255 4254 4253 4252 4251 4250 4249 4248 4247 4246 4245 4244 4243 4242 4241 4240 4239 4238 4237 4236 4235 4234 4233 4133 4132 4130 4128 4127 4025
158	72.04	D	71.286	335.709	71.894	309.835	561	3490 3973 4071 4068 4165 4163 4162 4160 4257 4256 4255 4254 4253 4252 4251 4250 4249 4248 4247 4246 4245 4244 4243 4242 4241 4240 4239 4238 4237 4236 4235 4234 4233 4133 4132 4130 4128 4127 4126 4125 4025
646	72.04	D	71.074	337.507	71.606	304.224	799	3294 3394 3393 3392 3491 3490 3684 3878 3877 3875 3975 3974 3972 4070 4067 4165 4164 4163 4162 4161 4160 4159 4158 4257 4256 4255 4254 4253 4252 4251 4250 4249 4248 4247 4246 4245 4244 4243 4242 4241 4240 4239 4238 4237 4236 4235 4234 4233 4232 4132 4131 4130 4129 4128 4127 4126 4125 4022 4020 3812 3811
847	72.05	D	71.119	336.964	71.625	304.340	643	3393 4070 4069 4068 4066 4163 4160 4159 4158 4257 4256 4255 4254 4253 4252 4251 4250 4249 4248 4247 4246 4245 4244 4243 4242 4241 4240 4239 4238 4237 4236 4235 4234 4233 4232 4231 4131 4130 4128 4127 4126 4124 3811
603	72.06	D	70.896	337.678	71.737	304.836	743	3095 3195 3194 3291 3290 3390 3582 3682 3778 3777 3873 3968 4065 4064 4063 4062 4162 4161 4160 4159 4158 4157 4156 4155 4154 4254 4253 4252 4251 4250 4249 4248 4247 4246 4245 4244 4243 4242 4241 4240 4239 4238 4237 4236 4235 4234 4233 4232 4231 4230 4125 4124 3914 3913
804	72.06	D	71.504	330.770	71.735	304.182	634	3777 3873 3968 4065 4064 4063 4062 4159 4157 4154 4153 4253 4252 4251 4250 4249 4248 4247 4246 4245 4244 4243 4242 4241 4240 4239 4238 4237 4236 4235 4234 4233 4232 4231 4230 4229 4228 4126 4125 4124 4123 4014 3914 3913 3912 3911

Table 3. Summary of Seasat Greenland Orbit Adjustment

REV	NUM PTS	COEFFICIENTS (1)	COEFFICIENTS (2)	COEFFICIENTS (3)	TIME (FRAC OF DAY) AT 310.E	TIME (FRAC OF DAY) AT 320.E	TIME (FRAC OF DAY) AT 330.E	ORB ADJ (M) AT 310.E	ORB ADJ (M) AT 320.E	ORB ADJ (M) AT 330.E	START LAT	START LON	END LAT	END LON
146	81	-0.12210D 01	0.14418D 03	0.0	.0136293	.0122073	.0101568	0.744	0.539	0.243	60.89	315.24	64.29	308.22
156	73	-0.64367D 02	0.59160D 04	-0.13509D 06	.0210071	.0196986	.0187124	0.297	-0.249	-0.966	63.56	317.55	61.64	313.60
158	561	-0.51920D-01	0.93662D 02	-0.89803D 04	.0042160	.0036242	.0030267	0.183	0.170	0.149	71.29	335.71	71.89	309.84
160	330	0.63429D 00	-0.59256D 02	-0.41959D 01	.0145630	.0134766	.0119976	-0.230	-0.165	-0.077	64.52	316.49	67.71	306.79
172	609	-0.58924D 01	0.61031D 03	-0.12899D 05	.0185198	.0179070	.0173161	0.986	0.900	0.808	71.99	332.36	71.25	309.12
173	824	-0.28782D 01	0.57241D 03	-0.19329D 05	.0103854	.0097681	.0090887	0.982	0.869	0.728	69.81	330.91	71.95	308.76
174	386	-0.44679D 01	0.82876D 03	-0.33454D 05	.0080864	.0072107	.0060886	0.046	-0.231	-0.662	66.47	319.89	69.76	306.14
186	680	-0.25743D 01	0.68048D 02	0.40014D 04	.0191070	.0184454	.0178369	0.187	0.042	-0.087	72.07	336.06	69.64	305.87
187	823	0.44943D 01	-0.48294D 03	0.10888D 05	.0175368	.0169438	.0163213	-0.626	-0.563	-0.488	70.71	333.62	72.05	308.23
189	100	-0.39230D 01	0.23892D 03	0.0	.0137990	.0124429	.0105042	-0.626	-0.950	-1.413	61.25	316.03	64.85	308.25
200	622	-0.14266D 01	0.27565D 02	0.0	.0197759	.0190297	.0183764	-0.881	-0.902	-0.920	71.76	333.61	68.15	307.60
201	728	-0.21048D 01	0.20605D 03	-0.51261D 04	.0180666	.0174732	.0168784	-0.055	-0.069	-0.087	71.45	335.18	71.56	305.44
228	363	-0.19108D 00	-0.81355D 02	0.0	.0210172	.0199209	.0190606	-1.901	-1.812	-1.742	70.08	335.04	62.95	310.25
229	490	-0.17429D 01	0.26477D 02	0.0	.0192046	.0185320	.0179181	-1.234	-1.252	-1.269	71.86	328.22	70.20	310.70
230	868	0.10406D 01	-0.15646D 03	0.19027D 04	.0176171	.0170256	.0164095	-1.125	-1.072	-1.014	71.31	329.47	71.94	305.00
231	560	0.27936D 00	-0.21042D 03	0.52791D 04	.0084486	.0077227	.0068522	-1.122	-1.031	-0.915	67.65	326.12	70.60	310.84
232	172	-0.22104D 01	0.66001D 02	0.0	.0139619	.0126669	.0108320	-1.289	-1.374	-1.495	61.71	316.62	65.30	308.52
243	453	-0.54545D 00	-0.11053D 03	0.19396D 04	.0198904	.0191262	.0184626	-1.977	-1.950	-1.925	71.23	328.00	67.72	307.37
244	695	-0.28232D 01	0.18069D 03	-0.48117D 04	.0181430	.0175471	.0169545	-1.129	-1.134	-1.143	71.43	336.94	71.56	306.85
245	229	-0.34997D 01	0.23700D 03	0.0	.0104402	.0097909	.0090519	-1.025	-1.179	-1.354	69.07	328.92	70.45	320.78
257	699	-0.53465D 01	0.13637D 04	0.0	.0035649	.0026540	.0019042	-0.485	-1.727	-2.750	71.13	335.77	65.33	308.54
258	754	0.20606D 01	-0.10706D 02	-0.13418D 04	.0187016	.0180763	.0174824	1.391	1.429	1.463	72.06	328.75	70.99	309.42
259	684	-0.32150D 01	0.74437D 03	-0.27138D 05	.0107200	.0101135	.0094563	1.646	1.537	1.397	69.86	333.46	72.03	308.67
260	430	-0.60361D 00	0.10232D 03	-0.36284D 04	.0080551	.0072297	.0061920	-0.015	-0.054	-0.109	66.96	321.17	69.71	309.27
271	313	-0.44043D 00	-0.17967D 03	0.10582D 05	.0207976	.0196561	.0187688	0.400	0.117	-0.085	69.98	335.84	62.74	311.26
272	810	-0.16634D 01	0.12205D 03	-0.50886D 03	.0193172	.0186326	.0180127	0.504	0.434	0.370	72.05	336.28	69.87	310.05
273	340	-0.98281D 00	0.24124D 02	0.0	.0177036	.0171131	.0165025	-0.556	-0.570	-0.585	72.03	317.60	71.85	304.29
274	482	0.41345D 00	0.18943D 02	-0.23432D 04	.0085316	.0078210	.0069762	0.405	0.418	0.432	67.85	326.80	70.87	310.09
275	207	-0.43804D 01	0.32773D 03	0.0	.0141176	.0128791	.0111407	0.246	-0.160	-0.729	62.10	317.30	66.35	306.91
285	12	-0.66857D 00	0.25260D 02	0.0	.0230697	.0215595	.0204546	-0.086	-0.124	-0.152	60.25	315.44	60.10	315.18
286	610	-0.20879D 01	0.22029D 03	-0.66123D 04	.0200137	.0192300	.0185551	-0.328	-0.297	-0.277	71.77	336.64	67.50	307.96
287	723	-0.91502D 01	0.86317D 03	-0.18735D 05	.0182321	.0176332	.0170419	0.359	0.245	0.119	71.99	327.97	71.68	310.00
288	543	-0.43283D 01	0.43045D 03	-0.11261D 05	.0167354	.0160951	.0153724	-0.278	-0.317	-0.372	69.28	329.28	71.66	310.17
289	357	-0.50051D 01	0.31640D 03	0.0	.0149612	.0139897	.0127060	-0.271	-0.579	-0.985	65.39	318.53	68.10	309.56
400	152	-0.23481D 01	0.12516D 03	0.0	.0223424	.0210421	.0200607	0.448	0.285	0.163	63.34	316.87	60.99	312.21
401	264	-0.17572D 01	0.26857D 02	0.27048D 04	.0196448	.0189176	.0182748	-0.186	-0.281	-0.363	71.68	330.61	68.90	309.26
417	928	-0.46350D 01	0.80768D 03	-0.27221D 05	.0104255	.0098073	.0091262	0.827	0.668	0.469	69.75	331.08	71.96	308.10
418	313	-0.30628D 01	0.40334D 03	-0.12698D 05	.0080285	.0071490	.0060206	-0.643	-0.828	-1.095	66.14	320.72	69.18	309.04
429	817	-0.15870D 01	0.60917D 02	0.0	.0213475	.0202986	.0194665	-0.287	-0.350	-0.401	70.14	333.76	63.13	309.01
430	602	-0.13742D 01	0.34040D 02	0.0	.0190901	.0184300	.0178221	-0.724	-0.747	-0.768	72.06	335.97	70.21	309.15
431	785	-0.23153D 01	0.29412D 03	-0.86364D 04	.0175274	.0169341	.0163107	0.187	0.189	0.184	70.99	331.06	72.06	308.99
432	437	0.34115D 00	-0.18487D 02	-0.17554D 04	.0083462	.0076016	.0066995	0.065	0.099	0.139	67.26	325.91	70.64	308.91
443	19	-0.61101D 01	0.26376D 03	0.0	.0225649	.0212029	.0201852	-0.158	-0.518	-0.786	62.07	315.68	60.94	313.57
444	494	-0.37914D 01	0.65066D 03	0.0	.0042859	.0035421	.0028900	-1.003	-1.487	-1.911	71.88	335.78	68.82	310.35
445	718	-0.33461D 00	-0.15481D 02	0.0	.0180477	.0174545	.0168594	-0.614	-0.605	-0.596	71.68	331.88	71.85	310.05
446	651	-0.46508D 00	0.10909D 03	-0.78595D 04	.0101422	.0094816	.0087227	-0.167	-0.137	-0.111	69.13	326.99	71.39	310.68
459	777	-0.11154D 01	0.19972D 03	-0.60502D 04	.0186035	.0179856	.0173938	0.506	0.520	0.528	72.06	327.10	71.12	308.97
460	790	-0.54749D 00	0.17605D 03	-0.83006D 04	.0105549	.0099426	.0092733	0.386	0.382	0.371	69.39	334.50	71.99	308.47
461	294	-0.12631D 01	0.13393D 03	-0.66816D 04	.0081365	.0072835	.0061995	-0.616	-0.642	-0.690	67.04	319.28	69.85	306.81
472	507	0.22462D 00	-0.28432D 03	0.11458D 05	.0215009	.0204102	.0195532	-0.592	-0.805	-0.954	70.00	334.31	62.82	309.79
473	667	-0.12911D 01	0.10344D 02	0.24800D 04	.0191956	.0185245	.0179114	-0.179	-0.248	-0.310	72.06	335.97	69.72	307.59
474	740	-0.29567D 01	0.33546D 03	-0.95676D 04	.0176147	.0170230	.0164062	-0.016	-0.019	-0.028	71.15	330.99	72.04	308.97
475	335	0.26823D 01	-0.48233D 03	0.12484D 05	.0083867	.0076587	.0067847	-0.485	-0.279	-0.015	68.12	324.12	70.59	310.75
476	59	-0.45254D 01	0.31046D 03	0.0	.0139308	.0126281	.0107802	-0.200	-0.605	-1.179	61.57	316.70	64.53	310.31
488	748	-0.44672D 01	0.48252D 03	-0.11995D 05	.0181377	.0175422	.0169492	0.339	0.306	0.265	71.97	327.14	71.82	310.97

Table 3. Summary of Seasat Greenland Orbit Adjustment (Cont.)

REV	NUM PTS	COEFFICIENTS (1)	COEFFICIENTS (2)	COEFFICIENTS (3)	TIME (FRAC OF DAY) AT 310.E	TIME (FRAC OF DAY) AT 320.E	TIME (FRAC OF DAY) AT 330.E	ORB ADJ (M) AT 310.E	ORB ADJ (M) AT 320.E	ORB ADJ (M) AT 330.E	START LAT	START LON	END LAT	END LON
489	720	-0.52949D 00	0.81687D 02	-0.71534D 04	.0103946	.0097440	.0090029	-0.453	-0.413	-0.374	68.76	330.18	71.72	307.49
490	218	-0.34525D 01	0.24106D 03	0.0	.0148157	.0138039	.0124519	0.119	-0.125	-0.451	65.15	317.56	68.03	308.21
501	837	-0.10927D 00	-0.85274D 02	0.38448D 04	.0206891	.0197825	.0190351	-0.228	-0.292	-0.339	70.50	330.30	65.48	308.78
502	35	0.23097D 01	-0.87159D 02	-0.42202D 03	.0186966	.0180721	.0174785	0.533	0.597	0.657	71.92	322.05	71.28	312.06
503	618	-0.27769D 01	0.63743D 03	-0.25960D 05	.0107065	.0100993	.0094408	1.072	1.013	0.927	69.69	334.32	72.03	308.18
504	217	-0.48000D 00	0.43498D 02	-0.43646D 04	.0081448	.0073164	.0062737	-0.415	-0.395	-0.379	67.12	320.46	69.76	308.83
515	315	0.52025D 00	-0.38474D 03	0.14660D 05	.0206696	.0195340	.0186503	-1.169	-1.401	-1.556	68.90	329.82	62.87	311.35
516	731	-0.93547D 00	0.72897D 02	-0.31993D 04	.0193017	.0186187	.0179996	-0.720	-0.687	-0.660	72.02	334.12	69.64	308.57
517	677	-0.27168D 00	0.39870D 02	-0.32302D 04	.0176994	.0171088	.0164976	-0.578	-0.535	-0.493	71.11	332.83	72.00	308.17
518	529	0.68385D 00	-0.14402D 03	0.92952D 03	.0085196	.0078071	.0069592	-0.476	-0.384	-0.273	67.88	326.51	70.85	310.05
519	180	-0.49439D 01	0.33202D 03	0.0	.0140940	.0128486	.0110984	-0.264	-0.678	-1.259	62.16	317.01	66.31	306.86
529	21	-0.15878D 01	0.16970D 02	0.0	.0230598	.0215591	.0204598	-1.197	-1.222	-1.241	61.28	317.07	60.08	314.98
530	540	-0.66315D 00	-0.31434D 03	0.14557D 05	.0200015	.0192203	.0185469	-1.127	-1.327	-1.486	71.78	336.67	67.26	306.92
532	708	-0.12580D 01	0.87780D 02	-0.43381D 04	.0167259	.0160845	.0153598	-1.003	-0.968	-0.933	69.40	328.49	71.62	310.52
544	771	0.21890D 00	0.53618D 00	-0.17006D 04	.0208381	.0199008	.0191352	-0.508	-0.444	-0.394	70.67	333.00	64.67	308.08
546	603	-0.31803D 01	0.53292D 03	-0.21168D 05	.0108928	.0102900	.0096414	0.113	0.062	-0.010	70.77	328.43	72.05	308.30
547	403	-0.18077D 00	-0.77359D 02	0.29603D 01	.0080378	.0072322	.0062277	-0.802	-0.740	-0.662	66.58	323.71	69.65	310.88
558	448	-0.12711D 02	0.58796D 03	0.0	.0213264	.0201423	.0192297	-0.172	-0.869	-1.405	69.56	334.65	61.75	310.55
559	749	-0.66647D 00	0.13232D 03	-0.54660D 04	.0194110	.0187150	.0180892	-0.157	-0.105	-0.061	71.93	332.48	69.50	309.22
560	817	-0.71416D 00	0.15878D 03	-0.60579D 04	.0177830	.0171927	.0165865	0.194	0.225	0.253	71.35	331.71	71.98	309.13
561	561	0.10414D 01	-0.14038D 03	0.17318D 04	.0093084	.0086102	.0077864	-0.115	-0.039	0.053	68.37	325.98	71.10	309.30
562	428	-0.31942D 01	0.27050D 03	0.0	.0142508	.0130584	.0113988	0.661	0.338	-0.111	63.35	315.97	66.79	306.78
572	1	-0.20105D 01	0.66440D 02	0.0	.0228817	.0213031	.0201582	-0.490	-0.595	-0.671	59.90	316.13	59.90	316.13
573	803	-0.10919D 01	-0.35027D 03	0.18449D 05	.0201206	.0193186	.0186330	-0.671	-0.973	-1.213	71.68	336.38	66.74	306.60
574	33	-0.28538D 01	0.16073D 03	0.0	.0183177	.0177156	.0171251	0.090	-0.006	-0.101	72.06	324.77	71.90	315.46
575	717	-0.72747D 00	0.11471D 03	-0.55055D 04	.0100480	.0094149	.0087054	-0.131	-0.135	-0.146	69.77	327.88	71.81	308.85
576	310	-0.41394D 01	0.27561D 03	0.0	.0148800	.0139376	.0127031	-0.038	-0.298	-0.638	65.80	318.67	68.26	310.20
587	863	-0.52252D 00	-0.22782D 02	0.22444D 04	.0209959	.0200256	.0192404	-0.011	-0.079	-0.130	70.99	337.12	64.64	309.45
588	735	0.22530D 00	0.21295D 02	0.0	.0188834	.0182434	.0176443	0.627	0.614	0.601	72.06	331.18	70.80	310.40
590	404	-0.93650D 00	0.72956D 02	-0.25987D 04	.0082158	.0074313	.0064623	-0.513	-0.538	-0.574	66.66	324.87	70.20	309.00
591	26	-0.28336D 01	0.21549D 03	0.0	.0134026	.0118896	.0096857	0.054	-0.272	-0.746	61.33	312.63	62.62	310.13
601	191	0.54194D 00	-0.44979D 02	0.0	.0217531	.0205165	.0195729	-0.436	-0.381	-0.338	66.91	324.85	61.47	311.47
603	743	0.31197D 01	-0.14956D 03	-0.13235D 04	.0178686	.0172780	.0166761	0.025	0.141	0.258	70.90	337.68	71.74	304.84
604	103	0.38382D 01	-0.44963D 03	0.72183D 04	.0095801	.0088950	.0080937	0.193	0.410	0.672	69.79	320.37	70.65	314.61
605	321	0.42887D 00	0.53125D 02	0.0	.0143912	.0132480	.0116724	1.193	1.133	1.049	63.78	316.46	67.11	307.13
616	691	-0.23613D 00	0.35799D 01	0.0	.0202547	.0194301	.0187314	-0.164	-0.167	-0.169	71.57	336.12	66.73	308.02
617	612	0.72541D 00	-0.44007D 02	0.0	.0183802	.0177738	.0171835	-0.083	-0.057	-0.031	71.75	336.44	70.99	304.69
618	884	-0.36542D 00	0.18952D 03	-0.12268D 05	.0091437	.0085181	.0078226	0.342	0.359	0.366	69.88	328.71	71.78	310.85
619	293	-0.13439D 01	0.18757D 03	0.0	.0078671	.0069556	.0057732	0.132	-0.039	-0.261	66.17	319.00	68.77	309.41
630	816	0.22449D 00	0.55557D 02	-0.50544D 04	.0175724	.0165666	.0157602	-0.360	-0.242	-0.155	70.83	337.17	63.69	308.62
631	600	-0.70344D 00	0.63554D 01	0.0	.0189820	.0183330	.0177301	-0.583	-0.587	-0.591	72.06	336.12	69.97	305.99
632	920	-0.45207D 01	0.49139D 03	-0.13490D 05	.0174279	.0168320	.0162065	-0.054	-0.072	-0.100	70.46	333.71	72.07	308.70
633	330	-0.76020D 00	0.10985D 03	-0.76577D 04	.0082565	.0074916	.0065555	-0.375	-0.367	-0.369	67.49	323.49	70.20	310.46
634	49	-0.26214D 01	0.21664D 03	0.0	.0135752	.0121352	.0100543	0.320	0.008	-0.443	61.11	314.48	63.43	309.85
644	166	-0.17481D 01	0.91526D 02	0.0	.0223023	.0210091	.0200320	0.293	0.175	0.085	64.03	318.25	61.47	312.90
645	635	-0.60559D 00	-0.16892D 03	0.91320D 04	.0196156	.0188903	.0182486	-0.405	-0.538	-0.647	71.92	335.14	68.86	308.89
646	799	-0.16482D 01	0.26442D 03	-0.79217D 04	.0179570	.0173655	.0167672	0.546	0.555	0.558	71.07	337.51	71.61	304.22
647	574	0.16889D 01	-0.24719D 03	0.55761D 04	.0097466	.0090737	.0082932	-0.191	-0.095	0.022	69.39	324.06	71.39	309.04
648	403	-0.27481D 01	0.25990D 03	0.0	.0145317	.0134341	.0119362	1.029	0.743	0.354	63.90	317.62	67.56	306.97
659	678	-0.16135D 01	-0.77134D 02	0.64237D 04	.0203903	.0195414	.0188284	-0.516	-0.668	-0.789	71.16	332.78	66.97	310.25
662	383	-0.15501D 01	0.24377D 03	0.0	.0053660	.0044833	.0033494	-0.242	-0.457	-0.734	66.46	319.56	69.84	305.26
673	689	-0.34334D 01	0.15890D 03	0.0	.0213266	.0202824	.0194531	-0.045	-0.211	-0.342	69.74	331.12	63.26	309.13
674	275	-0.29892D 01	0.73931D 03	-0.28355D 05	.0190846	.0184257	.0178184	0.793	1.007	1.182	71.79	324.85	71.02	315.27
675	667	-0.38616D 01	0.33064D 03	-0.71485D 04	.0175169	.0169233	.0162992	-0.263	-0.313	-0.372	71.22	328.60	72.05	308.06
676	449	-0.13111D 01	0.94868D 02	-0.24068D 04	.0083505	.0076038	.0066983	-0.687	-0.729	-0.784	68.00	323.00	70.34	310.92
677	71	-0.42031D 01	0.24114D 03	0.0	.0137527	.0123803	.0104139	-0.887	-1.218	-1.692	61.45	315.31	63.76	310.56

Table 3. Summary of Seasat Greenland Orbit Adjustment (Cont.)

REV	NUM PTS	COEFFICIENTS (1)	COEFFICIENTS (2)	COEFFICIENTS (3)	TIME (FRAC OF DAY) AT 310.E	TIME (FRAC OF DAY) AT 320.E	TIME (FRAC OF DAY) AT 330.E	ORB ADJ (M) AT 310.E	ORB ADJ (M) AT 320.E	ORB ADJ (M) AT 330.E	START LAT	START LON	END LAT	END LON
687	48	-0.53585D 01	0.24916D 03	0.0	.0223233	.0209689	.0199557	0.204	-0.134	-0.386	62.75	316.88	60.90	313.33
688	549	-0.26259D 01	0.12075D 03	0.0	.0184121	.0176703	.0170194	-0.403	-0.492	-0.571	71.44	328.54	68.58	309.09
689	636	-0.52961D 01	0.47423D 03	-0.92901D 04	.0175776	.0169846	.0163892	0.169	0.078	-0.019	71.74	330.75	71.81	309.01
690	527	-0.90309D 00	-0.67295D 02	0.44393D 04	.0098189	.0091571	.0083960	-1.136	-1.147	-1.155	68.59	329.35	71.79	304.69
691	195	-0.61915D 01	0.42190D 03	0.0	.0146720	.0136167	.0121906	-0.001	-0.447	-1.048	64.20	318.36	66.93	310.66
716	468	0.65697D 00	-0.29347D 03	0.10743D 05	.0214093	.0203219	.0194669	-0.702	-0.870	-0.985	69.98	334.10	62.84	309.73
717	700	-0.89886D 00	0.47368D 02	0.50560D 03	.0191887	.0185184	.0179056	0.196	0.152	0.111	72.04	333.94	70.01	309.21
718	920	0.22140D 01	-0.16038D 03	0.10412D 04	.0176033	.0170115	.0163942	-0.287	-0.213	-0.135	70.79	334.16	72.05	309.01
719	532	0.53492D 00	-0.73005D 02	-0.12410D 04	.0084287	.0076998	.0068241	-0.169	-0.101	-0.021	68.11	324.06	70.61	310.51
720	214	-0.41349D 01	0.27965D 03	0.0	.0139312	.0126249	.0107710	-0.239	-0.604	-1.123	61.73	316.32	65.54	307.59
759	381	0.14275D 01	-0.24034D 03	0.73522D 04	.0205251	.0193820	.0184938	-0.408	-0.469	-0.503	69.20	331.51	62.59	311.00
760	617	0.18052D 00	0.86819D 02	-0.52664D 04	.0193131	.0186280	.0180078	-0.107	-0.030	0.036	71.89	330.39	70.04	311.17
761	867	-0.14566D 01	0.25129D 03	-0.89824D 04	.0177084	.0171179	.0165076	0.177	0.213	0.244	71.34	330.73	72.01	308.89
762	328	0.11821D 01	-0.90656D 02	-0.26688D 04	.0085572	.0078476	.0070044	0.211	0.306	0.416	68.06	326.10	70.61	312.34
763	307	-0.39935D 01	0.31157D 03	0.0	.0141185	.0128839	.0111521	0.405	0.021	-0.519	62.29	317.04	66.39	306.91
773	3	-0.17659D 01	0.32815D 02	0.0	.0215639	.0200408	.0189285	-1.058	-1.108	-1.145	60.35	315.86	60.21	315.62
774	610	-0.36163D 00	-0.40271D 03	0.18071D 05	.0200376	.0192502	.0185732	-1.175	-1.417	-1.607	71.75	336.40	67.51	308.28
775	745	-0.70769D 01	0.66800D 03	-0.15515D 05	.0182548	.0176553	.0170642	-0.053	-0.119	-0.196	71.69	335.08	71.64	309.63
776	747	0.16223D 01	-0.19174D 03	0.24897D 04	.0167520	.0161134	.0153938	-0.891	-0.821	-0.739	68.72	332.31	71.95	304.71
777	388	-0.16154D 01	0.14213D 03	-0.61157D 04	.0149790	.0140146	.0127429	-0.859	-0.825	-0.797	65.27	319.18	68.77	307.03
788	844	0.73024D 00	-0.42147D 03	0.18465D 05	.0187574	.0178059	.0170319	-0.679	-0.920	-1.092	71.12	337.57	65.20	310.11
790	816	-0.33120D 01	0.48584D 03	-0.18149D 05	.0109272	.0103263	.0096819	-0.170	-0.230	-0.309	69.96	334.82	72.06	308.82
791	340	-0.33810D 00	-0.89363D 02	0.17145D 04	.0081660	.0073706	.0063832	-0.954	-0.904	-0.839	66.73	323.91	70.44	306.59
792	6	-0.14459D 01	0.97731D 02	0.0	.0133005	.0117471	.0094755	-0.146	-0.298	-0.520	61.04	312.42	61.32	311.91
802	242	-0.46850D 01	0.26695D 03	0.0	.0193296	.0181158	.0171857	0.475	0.151	-0.097	69.74	336.46	61.92	311.70
803	474	-0.10734D 01	0.61533D 02	-0.13632D 04	.0194725	.0187685	.0181383	-0.392	-0.399	-0.406	71.96	334.17	69.32	309.11
804	634	-0.49028D 01	0.51190D 03	-0.12490D 05	.0178309	.0172406	.0166370	0.254	0.210	0.157	71.50	330.77	71.74	304.18
805	447	0.12674D 01	-0.18267D 03	0.41057D 04	.0095387	.0088486	.0080387	-0.101	-0.028	0.064	68.31	327.11	71.60	304.31
806	408	-0.40167D 01	0.32366D 03	0.0	.0143346	.0131728	.0115654	0.623	0.247	-0.273	63.78	315.91	66.82	307.58
819	829	-0.28015D 01	0.36694D 03	-0.11223D 05	.0101118	.0094843	.0087853	-0.239	-0.331	-0.444	69.32	331.43	71.79	310.26
820	130	-0.74229D 01	0.43143D 03	0.0	.0145491	.0136301	.0124350	-1.146	-1.542	-2.058	65.93	319.38	68.28	311.21
831	814	0.11451D-03	-0.15942D 02	0.0	.0174795	.0164804	.0156780	-0.279	-0.263	-0.250	69.48	327.96	64.27	309.73
832	564	-0.45924D 00	-0.14868D 02	0.0	.0189626	.0183153	.0177131	-0.741	-0.732	-0.723	72.07	333.94	70.69	310.74
833	823	-0.16865D 01	0.20281D 03	-0.72448D 04	.0174114	.0168150	.0161822	-0.351	-0.325	-0.302	70.95	329.55	72.07	308.88
834	322	-0.18338D 01	0.24702D 03	-0.10251D 05	.0131745	.0124065	.0114651	-0.359	-0.347	-0.349	67.42	323.52	70.11	310.83
835	19	-0.87046D 01	0.11219D 04	-0.32334D 05	.0135493	.0120979	.0099976	0.561	0.136	-0.720	60.76	314.88	63.61	309.22
845	120	0.14323D 00	-0.57291D 01	0.0	.0074941	.0062059	.0052317	0.100	0.108	0.113	64.37	318.93	61.46	312.75
846	638	-0.75023D 00	-0.56796D 02	0.30750D 04	.0196115	.0188878	.0182469	-0.681	-0.726	-0.763	71.67	330.10	68.96	309.22
847	643	-0.56285D 01	0.61003D 03	-0.15323D 05	.0179464	.0173551	.0167565	0.384	0.343	0.291	71.12	336.96	71.63	304.34
848	536	0.18534D 01	-0.28852D 03	0.67876D 04	.0097448	.0090708	.0082887	-0.314	-0.205	-0.072	68.88	326.48	71.34	309.60
849	309	-0.43821D 01	0.36532D 03	0.0	.0145252	.0134239	.0119198	0.924	0.522	-0.028	64.13	316.97	67.53	306.99
874	739	0.85554D 00	-0.12967D 03	0.0	.0177537	.0167180	.0158937	-1.447	-1.312	-1.205	69.26	328.25	63.50	309.33
875	596	0.33245D 00	-0.34944D 02	-0.57408D 03	.0190573	.0184008	.0177946	-0.542	-0.505	-0.471	72.06	333.54	69.87	306.46
876	767	0.38034D-01	0.86909D 02	-0.64796D 04	.0174939	.0168998	.0162738	-0.425	-0.344	-0.264	70.94	331.01	72.06	308.93
877	233	0.82450D 00	-0.15340D 03	-0.76047D 03	.0082827	.0075312	.0066174	-0.498	-0.374	-0.224	67.13	325.82	70.39	310.20
878	159	-0.90700D-01	0.15173D 02	0.0	.0137045	.0123123	.0103122	0.117	0.096	0.066	61.15	315.43	64.32	308.80
888	89	-0.20436D 00	-0.25159D 02	0.0	.0200931	.0187710	.0177768	-0.710	-0.677	-0.652	63.11	316.89	61.05	312.84
889	640	0.60774D 00	-0.39645D 03	0.16286D 05	.0178367	.0171040	.0164581	-1.282	-1.409	-1.506	71.66	330.69	68.84	309.46
890	690	0.41535D 00	0.53450D 01	0.0	.0179916	.0173995	.0168026	0.512	0.508	0.505	71.63	331.72	71.88	309.65
891	575	0.25421D 01	-0.36084D 03	0.62137D 04	.0100338	.0093656	.0085934	-0.453	-0.292	-0.100	68.45	329.15	71.71	305.21
1017	46	-0.11841D 01	0.26312D 02	0.0	.0224385	.0211048	.0201037	-0.594	-0.629	-0.655	63.59	318.20	61.69	314.28
1018	548	0.17562D 01	-0.75891D 03	0.30819D 05	.0196764	.0189405	.0182930	-1.245	-1.562	-1.814	71.60	330.04	69.25	311.72
1019	640	0.38735D 00	0.22805D 02	0.0	.0152476	.0146552	.0140588	0.735	0.722	0.708	71.87	327.74	71.76	307.59
1020	507	0.22007D 01	-0.23625D 03	0.15080D 04	.0100498	.0093837	.0086153	-0.021	0.117	0.277	68.60	328.75	71.50	308.68
1021	230	-0.32882D 01	0.31872D 03	0.0	.0145482	.0134756	.0120203	1.349	1.007	0.543	64.59	316.82	67.65	307.51
1032	571	0.10054D 00	-0.12070D 03	0.51847D 04	.0204348	.0195772	.0188589	-0.201	-0.275	-0.332	71.09	332.64	66.13	308.07

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REV	NUM PTS	COEFFICIENTS (1)	COEFFICIENTS (2)	COEFFICIENTS (3)	TIME (FRAC OF DAY) AT 310.E	TIME (FRAC OF DAY) AT 320.E	TIME (FRAC OF DAY) AT 330.E	ORB ADJ (M) AT 310.E	ORB ADJ (M) AT 320.E	ORB ADJ (M) AT 330.E	START LAT	START LON	END LAT	END LON
1034	803	-0.19847D 01	0.51875D 03	-0.22040D 05	.0103806	.0097636	.0090848	1.025	0.979	0.909	69.58	332.32	71.96	308.66
1035	213	-0.22013D 01	0.33454D 03	0.0	.0080260	.0071511	.0060303	0.484	0.191	-0.184	65.75	322.12	69.12	309.62
1147	7	-0.78021D 00	0.75421D 02	-0.25156D 04	.0195886	.0188514	.0182032	-0.268	-0.252	-0.241	68.75	309.39	68.71	309.25
1148	38	-0.14433D 01	0.12170D 03	0.0	.0180136	.0174211	.0168249	0.749	0.677	0.604	71.18	337.57	71.86	309.57
1150	325	-0.45994D 01	0.37032D 03	0.0	.0146276	.0135579	.0121075	0.818	0.421	-0.116	64.14	318.03	67.88	306.75
1161	16	-0.13713D 01	0.12293D 02	0.19309D 04	.0203419	.0194829	.0187639	-0.322	-0.399	-0.461	71.46	336.67	66.21	308.41
1162	26	-0.50784D 00	0.61332D 02	0.0	.0185274	.0179139	.0173230	0.628	0.591	0.555	71.43	311.23	71.27	309.38
1163	11	-0.16474D 01	0.39184D 03	-0.15221D 05	.0104461	.0098294	.0091512	0.785	0.734	0.664	71.85	311.51	71.90	310.47
1164	298	-0.21405D 01	0.32913D 03	0.0	.0062657	.0053920	.0042734	-0.078	-0.366	-0.734	66.29	320.60	69.80	306.04
1175	29	-0.14364D 00	-0.57560D 01	0.0	.0212425	.0201957	.0193647	-0.266	-0.260	-0.255	64.16	311.26	63.38	309.46
1176	16	-0.48657D-01	0.20645D 03	-0.92352D 04	.0190905	.0184311	.0178236	0.527	0.619	0.697	70.22	309.04	69.67	305.71
1179	164	-0.60069D 00	0.83758D 02	0.0	.0137512	.0123772	.0104080	0.551	0.436	0.271	61.57	315.06	64.86	307.86
1189	139	-0.32708D 00	0.51668D 01	0.0	.0224876	.0211495	.0201458	-0.211	-0.218	-0.223	63.84	318.87	60.97	313.06
1190	12	0.43210D 00	0.30539D 03	-0.17039D 05	.0196409	.0189039	.0182557	-0.143	0.116	0.329	69.29	311.99	68.94	310.28
1191	59	0.88475D-02	0.53161D 02	0.0	.0177201	.0171276	.0165314	0.951	0.919	0.888	71.96	311.92	71.80	308.31
1193	334	-0.21994D 01	0.23217D 03	0.0	.0146253	.0135554	.0121046	1.196	0.948	0.611	64.84	316.28	67.13	309.48
1204	61	0.20508D 00	-0.13846D 03	0.56283D 04	.0203790	.0195201	.0188012	-0.279	-0.353	-0.409	67.08	311.19	65.95	307.60
1205	34	0.10328D 00	0.22410D 02	0.0	.0185328	.0179194	.0173285	0.519	0.505	0.492	71.43	311.24	71.24	309.04
1206	19	-0.64518D 00	0.28115D 03	-0.14540D 05	.0103584	.0097417	.0090634	0.707	0.714	0.709	71.83	311.87	72.04	305.91
1207	148	-0.11394D 01	0.19044D 03	0.0	.0062596	.0053859	.0042671	0.053	-0.114	-0.327	66.61	319.59	69.16	309.50
1218	40	-0.14210D 01	0.61006D 02	0.0	.0212926	.0202459	.0194151	-0.122	-0.186	-0.237	64.39	311.79	63.53	309.78
1219	18	-0.10675D 01	0.17309D 03	-0.51956D 04	.0190818	.0184225	.0178150	0.344	0.358	0.367	70.56	311.47	70.22	309.04
1220	90	-0.51395D 01	0.55034D 03	-0.14600D 05	.0175168	.0169233	.0162992	0.021	-0.007	-0.048	72.06	312.21	72.01	305.51
1221	269	0.35746D 00	-0.80086D 02	-0.63032D 03	.0081367	.0073900	.0064845	-0.336	-0.269	-0.188	67.23	325.87	70.58	309.22
1222	129	-0.18889D 01	0.11445D 03	0.0	.0137512	.0123769	.0104072	-0.315	-0.472	-0.698	61.49	315.21	64.85	307.89
1232	145	-0.51324D 01	0.22342D 03	0.0	.0224790	.0211412	.0201377	-0.110	-0.409	-0.633	63.27	317.58	60.96	313.04
1234	32	-0.32172D 01	0.21193D 03	0.0	.0180161	.0174237	.0168274	0.601	0.475	0.349	71.19	337.49	71.60	305.10
1235	13	0.75488D-01	-0.24421D 03	0.11576D 05	.0020146	.0013494	.0005824	-0.370	-0.233	-0.063	71.39	310.11	71.44	309.52
1236	314	-0.44195D 01	0.34476D 03	0.0	.0146159	.0135458	.0120947	0.619	0.251	-0.250	63.92	318.52	67.41	308.47
1248	47	-0.24657D 01	0.15284D 03	0.0	.0185311	.0179177	.0173267	0.367	0.273	0.183	71.53	312.37	71.25	309.10
1249	20	-0.39966D 01	0.65229D 03	-0.22336D 05	.0103975	.0097808	.0091024	0.371	0.247	0.090	71.80	312.53	71.86	311.29
1250	286	-0.26185D 01	0.37666D 03	0.0	.0062554	.0053815	.0042626	-0.262	-0.592	-1.013	66.47	320.03	68.88	310.86
1261	32	0.44326D 00	-0.80609D 02	0.0	.0213306	.0202841	.0194533	-1.276	-1.192	-1.125	64.59	312.29	63.43	309.56
1264	172	0.12262D 01	-0.19451D 03	-0.30894D 03	.0083339	.0075872	.0066815	-0.416	-0.267	-0.087	67.22	325.93	70.60	309.08
1265	123	0.75420D 00	-0.56911D 02	0.0	.0137402	.0123656	.0103955	-0.028	0.050	0.163	60.91	316.26	64.49	308.79
1275	125	-0.29864D 01	0.97989D 02	0.0	.0224852	.0211477	.0201443	-0.783	-0.914	-1.012	63.86	318.90	60.97	313.05
1276	24	0.48442D 00	-0.32024D 03	0.12547D 05	.0197086	.0189717	.0183236	-0.953	-1.075	-1.171	69.48	312.98	69.00	310.57
1278	21	0.14925D 01	-0.24132D 03	0.39042D 04	.0100460	.0093806	.0086132	-0.538	-0.428	-0.296	71.33	310.86	71.44	309.53
1279	342	-0.42703D 01	0.35410D 03	0.0	.0146153	.0135451	.0120937	0.905	0.526	0.012	64.16	317.97	67.95	306.45
1291	3	-0.10606D 01	0.67751D 02	0.0	.0185308	.0179174	.0173265	0.195	0.153	0.113	71.88	335.98	71.88	335.91
1293	207	-0.21656D 01	0.33297D 03	0.0	.0062230	.0053491	.0042300	-0.094	-0.385	-0.757	66.63	319.51	67.97	314.75
1305	4	-0.19944D 01	0.15582D 03	-0.27563D 04	.0190810	.0184217	.0178162	-0.025	-0.059	-0.093	72.07	335.82	72.07	335.73
1306	29	-0.60975D 01	0.60452D 03	-0.15038D 05	.0175182	.0169246	.0163005	-0.123	-0.174	-0.239	72.07	309.20	72.02	305.78
1308	130	-0.33106D 01	0.23309D 03	0.0	.0137437	.0123689	.0103983	-0.107	-0.428	-0.887	60.73	316.58	64.30	309.25
1318	88	-0.39372D 01	0.19557D 03	0.0	.0224794	.0211420	.0201388	0.459	0.198	0.001	63.71	318.56	61.94	314.84
1320	4	-0.21060D 01	0.17210D 03	0.0	.0180136	.0174212	.0168249	0.994	0.892	0.790	71.26	336.74	71.32	336.08
1321	12	0.95465D 00	-0.14361D 03	0.27568D 04	.0099629	.0092975	.0085300	-0.202	-0.142	-0.070	68.44	329.53	71.79	304.25
1322	54	-0.54835D 01	0.44448D 03	0.0	.0146240	.0135536	.0121021	1.017	0.541	-0.104	64.44	317.27	67.91	306.59
1333	5	-0.15761D 01	-0.13343D 03	0.99328D 04	.0204348	.0195762	.0188574	-0.155	-0.382	-0.560	66.60	309.58	66.39	308.90
1336	174	-0.24794D 01	0.44092D 03	0.0	.0061807	.0053067	.0041875	0.246	-0.140	-0.633	66.57	319.69	69.86	305.68
1349	27	-0.82139D 00	0.89878D 02	-0.46636D 04	.0175147	.0169212	.0162970	-0.678	-0.636	-0.595	72.07	309.53	72.03	306.50
1351	102	-0.24755D 01	0.17128D 03	0.0	.0137396	.0123647	.0103940	-0.122	-0.358	-0.695	60.75	316.52	64.44	308.91
1361	83	-0.60358D 00	-0.36230D-01	0.0	.0224811	.0211437	.0201406	-0.604	-0.604	-0.604	63.62	318.35	60.83	312.79
1365	239	-0.32736D 01	0.28650D 03	0.0	.0146226	.0135522	.0121005	0.916	0.609	0.193	64.43	317.30	66.11	312.75
1376	14	-0.57034D 00	-0.10668D 03	0.38766D 04	.0204367	.0195781	.0188594	-1.131	-1.173	-1.203	71.44	336.42	66.51	309.28
1377	3	0.14361D 01	-0.70541D 02	0.0	.0185271	.0179137	.0173228	0.129	0.172	0.214	71.88	335.98	71.88	335.94

Table 3. Summary of Seasat Greenland Orbit Adjustment (Cont.)

REV	NUM PTS	COEFFICIENTS (1)	COEFFICIENTS (2)	COEFFICIENTS (3)	TIME (FRAC OF DAY) AT 310.E	TIME (FRAC OF DAY) AT 320.E	TIME (FRAC OF DAY) AT 330.E	ORB ADJ (M) AT 310.E	ORB ADJ (M) AT 320.E	ORB ADJ (M) AT 330.E	START LAT	START LON	END LAT	END LON
1378	9	-0.11427D 01	0.34356D 03	-0.16952D 05	.0094309	.0088142	.0081358	0.590	0.568	0.530	72.05	304.95	72.05	304.68
1379	290	-0.17168D 01	0.21410D 03	0.0	.0061957	.0053217	.0042024	-0.390	-0.577	-0.817	66.30	320.53	69.92	305.29
1390	13	-0.37144D 01	0.94408D 03	-0.35734D 05	.0213304	.0202841	.0194535	0.165	0.733	1.128	63.38	309.44	63.29	309.23
1391	21	-0.15918D 01	0.13203D 03	-0.26130D 04	.0190881	.0184288	.0178214	-0.024	-0.046	-0.069	72.07	336.31	69.62	305.36
1392	11	-0.16143D 01	0.19102D 03	-0.62624D 04	.0175182	.0169246	.0163005	-0.190	-0.175	-0.165	72.07	309.89	72.02	305.85
1394	162	-0.32089D 01	0.20203D 03	0.0	.0137462	.0123713	.0104006	-0.432	-0.709	-1.108	60.74	316.55	64.77	308.07
1405	2	-0.77553D 00	-0.17995D 02	0.25240D 04	.0197086	.0189718	.0183237	-0.150	-0.208	-0.258	71.88	334.95	68.15	306.81
1406	1	-0.23411D 01	0.18187D 03	0.0	.0180110	.0174185	.0168223	0.935	0.827	0.718	71.59	304.90	71.59	304.90
1419	10	-0.14899D 01	-0.10068D 02	0.32367D 04	.0204437	.0195851	.0188663	-0.343	-0.446	-0.528	66.57	309.49	65.87	307.35
1421	11	-0.22741D 01	0.48265D 03	-0.17976D 05	.0103906	.0097738	.0090954	0.800	0.726	0.629	69.24	334.17	69.27	334.03
1422	199	-0.16660D 01	0.27504D 03	0.0	.0062124	.0053385	.0042193	0.043	-0.198	-0.505	66.30	320.55	67.96	314.77
1434	2	-0.10974D 00	0.10322D 03	-0.46384D 04	.0190829	.0184236	.0178161	0.171	0.218	0.257	72.07	335.71	69.66	305.59
1435	20	-0.22110D 00	0.14817D 03	-0.76433D 04	.0175116	.0169181	.0162940	0.030	0.098	0.164	72.07	309.96	72.01	305.45
1437	99	-0.94844D 00	0.76918D 02	0.0	.0137407	.0123660	.0103955	0.108	0.003	-0.149	61.13	315.86	64.74	308.15
1447	36	-0.13355D 01	0.40242D 02	0.0	.0224820	.0211445	.0201413	-0.431	-0.485	-0.525	63.68	318.49	62.16	315.27
1449	8	-0.14213D 01	0.11850D 03	0.0	.0180139	.0174215	.0168253	0.713	0.643	0.572	71.31	336.19	71.32	336.07
1464	7	-0.22649D 01	0.43998D 03	-0.18174D 05	.0102700	.0096533	.0089749	0.337	0.289	0.220	69.26	334.10	69.28	334.01
1465	210	-0.20475D 01	0.27582D 03	0.0	.0062213	.0053475	.0042284	-0.332	-0.573	-0.881	66.64	319.49	69.82	305.89
1476	17	-0.38678D 01	0.10511D 04	-0.40450D 05	.0213366	.0202901	.0194594	0.145	0.807	1.269	70.51	336.16	63.17	308.98
1477	23	-0.16337D 01	0.85370D 02	0.12195D 03	.0190812	.0184219	.0178144	0.040	-0.020	-0.074	72.07	336.01	70.06	308.02
1478	21	-0.18544D 01	0.12093D 03	-0.29277D 04	.0175200	.0169265	.0163024	-0.634	-0.646	-0.661	72.07	310.10	72.02	305.76
1490	70	-0.20399D 01	0.91879D 02	0.0	.0224781	.0211403	.0201369	0.025	-0.098	-0.190	63.69	318.50	61.94	314.85
1491	14	-0.16715D 01	0.44959D 02	0.92859D 02	.0197039	.0189669	.0183188	-0.750	-0.785	-0.817	71.88	335.00	68.87	309.95
1492	18	-0.36589D 01	0.24738D 03	0.0	.0159736	.0153811	.0147849	0.293	0.146	-0.001	71.25	336.79	71.62	305.29
1493	5	-0.98603D 00	0.39922D 02	-0.13840D 04	.0099385	.0092731	.0085058	-0.726	-0.735	-0.747	68.48	329.38	68.50	329.29

Table 4. Corrections To Seasat Ice Data Records

CORRECTION ADJUSTMENT	VALUE OR RANGE	MANNER IN WHICH APPLIED		SECTION IN WHICH DOCUMENTED
		TIME	SURFACE HEIGHT	
RETRACKING CORRECTION accounts for lag in tracker response	$-15m < \Delta H_{RET} < 15m$	N/A	(–)	2.1
TIME BIAS accounts for track mode correction	-7.9451×10^{-2} s	(+)	N/A	2.2.1
SIGNAL TRAVEL TIME CORRECTION	-2.67×10^{-3} s	(+)	N/A	2.2.1
CENTER OF GRAVITY OFFSET adjusts measurement to s/c center of mass	~ 6.04 m	N/A	(–)	2.2.2
IONOSPHERIC REFRACTION CORRECTION accounts for signal delay	~ 2–3 cm	N/A	(+)	2.3.1
TROPOSPHERIC REFRACTION CORRECTION accounts for signal delay	~ 1.5–2.5 m	N/A	(+)	2.3.2
SOLID TIDE removal	~ 2–10 cm.	N/A	(–)	2.4
ORBIT ADJUSTMENT reduces orbit error and references the data to a mean ocean surface	$3m \le \Delta H_{ORB} \le 3m$	N/A	(–)	2.5
SLOPE CORRECTION accounts for signal being returned from closest point within satellite footprint	$0m \le \Delta H_{SLOPE} < 80m$	N/A	(–)	2.6

Table 5. Waveform Data Record Description

General Characteristics:

Record Format	-	variable
Record Size (bytes)	-	170 + 4 for IBM record control word
Blocksize (bytes)	-	31842 + 4 for IBM block control word

Bytes	FORTRAN Variable Type	Description
1-8	R*8	Fraction of day past midnight from sensor data record
9-16	R*8	Altimeter range measurement in meters from sensor data record
17-20	R*4	Satellite latitude in degrees from sensor data record
21-24	R*4	Satellite east longitude in degrees from sensor data record
25-28	R*4	Altitude error Δh in meters
29-32	R*4	Altitude rate error $\Delta \dot{h}$ in meters/sec
33-36	I*4	Modified Julian Date of observation from sensor data record
37-38	I*2	Significant wave height (H 1/3) in cm.
39-40	I*2	Automatic Gain Control (AGC) in dB
41-166	I*2	Waveform counts
167-168	I*2	Word indicating original data flags

|————————|
0 15

Bits	Value	Description
0-10		Unused
11	1	Not in track mode
12	1	Chirp/cw
13	1	Altimeter error status
14	1	Reacquisition
15	1	Acq/Trk

Table 5. Waveform Data Record Description (Cont.)

Bytes	FORTRAN Variable Type	Description
169-170	I*2	Retracking status word

|—————| (bits 0 to 15)

Bits	Value	Description
0		Unused
1	0	Gains and offsets were not applied to waveform counts in plots and in determining β parameters
	1	Gains and offsets were applied to waveform counts in plots and in determining β parameters
2	0	Specular test not performed or waveform not specularly shaped
	1	Waveform determined to be specularly shaped
3	0	Status flag from SDR less than or equal to one
	1	Status flag from SDR greater than one
4	0	Waveform not specularly retracked
	1	Waveform specularly retracked
5	0	Gains and offsets not applied to waveform count values on WDR's
	1	Gains and offsets applied to waveform count values on WDR's
6	0	For double waveforms the retracking correction is not calculated from a weighted average of the two leading edges
	1	For double waveforms the retracking correction is calculated from a weighted average of the two leading edges

Table 5. Waveform Data Record Description

Bytes	FORTRAN Variable Type	Description: Bits	Value	Description
169-170 (cont.)		7	0	No problem with leading edge definition of m
			1	Waveform not defined well enough to filter, no leading edges or too many leading edges
		8	0	No problem retracking
			1	Problem retracking
		9	0	Timing bias was not applied to time tag
			1	Timing bias applied to time tag
		10	0	Waveform not retracked
			1	Waveform retracked
		11	0	Whole edge retracked
			1	Leading edge retracked
		12	0	Ht correction not applied due to $\ddot{h}$
	applies to water data		1	Ht correction applied due to $\ddot{h}$
		13	0	Attitude seastate correction not applied to h
			1	Attitude seastate correction applied to h
		14-15	0	Tracking mode 1
			1	Tracking mode 2
			2	Tracking mode 3
			3	Tracking mode 4

Table 6. Seasat Greenland Geographical Data Base

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
15	2	59.90	314.00	529(2)					
16	19	59.90	315.00	285(12)	529(4)	773(3)			
17	1	59.90	316.00	572(1)					
53	3	60.40	312.00	1361(3)					
55	1	60.40	314.00	835(1)					
56	7	60.40	315.00	146(2)	529(5)				
57	26	60.40	316.00	529(2)	1308(9)	1351(6)	1394(9)		
92	3	60.90	311.00	792(3)					
93	54	60.90	312.00	400(39)	591(5)	792(3)	888(7)		
94	124	60.90	313.00	443(7)	687(6)	888(17)	1189(40)	1232(28)	1275(16)
				1361(10)					
95	2	60.90	314.00	634(2)					
96	37	60.90	315.00	146(3)	189(5)	878(4)	1308(10)	1351(10)	1394(1)
				1437(4)					
97	21	60.90	316.00	189(2)	529(2)	1265(16)	1308(1)		
98	6	60.90	317.00	529(6)					
131	2	61.40	310.00	558(2)					
132	1	61.40	311.00	601(1)					
133	28	61.40	312.00	591(14)	644(2)	845(12)			
134	107	61.40	313.00	146(23)	156(9)	400(21)	644(15)	845(22)	888(10)
				1189(6)	1232(1)				
135	174	61.40	314.00	156(7)	189(4)	443(1)	677(1)	878(2)	888(15)
				1017(8)	1189(39)	1232(41)	1265(1)	1275(26)	1351(12)
				1394(11)	1437(6)				
136	41	61.40	315.00	189(13)	443(10)	677(2)	687(7)	1179(1)	1222(3)
				1265(1)	1351(2)	1394(2)			
137	11	61.40	316.00	232(8)	476(1)	720(2)			
171	2	61.90	310.00	591(2)					
172	24	61.90	311.00	558(15)	802(6)	835(3)			
173	65	61.90	312.00	146(8)	601(7)	634(13)	802(32)	835(5)	
174	314	61.90	313.00	146(5)	400(12)	601(16)	644(29)	845(41)	878(53)
				1179(24)	1222(19)	1265(22)	1308(55)	1351(6)	1394(32)
175	278	61.90	314.00	156(48)	189(25)	400(67)	644(46)	677(5)	845(14)
				888(14)	1017(6)	1232(6)	1265(1)	1275(8)	1318(20)
				1437(2)	1490(16)				
176	185	61.90	315.00	232(19)	443(1)	476(4)	687(28)	720(2)	888(9)
				1017(6)	1189(6)	1232(9)	1275(22)	1318(37)	1361(23)
				1447(13)	1490(6)				
177	6	61.90	316.00	275(1)	763(5)				
178	17	61.90	317.00	275(12)	519(1)	763(4)			
211	6	62.40	310.00	591(5)	759(1)				
212	59	62.40	311.00	146(6)	271(1)	558(15)	634(20)	759(8)	835(9)
213	117	62.40	312.00	146(11)	558(3)	677(6)	802(10)	878(52)	1179(6)
				1222(4)	1265(11)	1308(13)	1351(1)		
214	130	62.40	313.00	189(20)	601(10)	677(13)	802(4)	1179(25)	1222(21)
				1265(24)	1308(6)	1394(6)	1437(1)		
215	117	62.40	314.00	232(29)	476(10)	601(2)	644(30)	720(27)	845(19)
216	39	62.40	315.00	232(5)	275(5)	400(6)	644(3)	845(2)	888(3)
				1189(3)	1232(9)	1447(1)	1490(2)		
217	75	62.40	316.00	275(22)	687(7)	1017(10)	1189(12)	1232(3)	1275(2)
				1318(9)	1361(8)	1447(2)			
249	1	62.80	308.00	1476(1)					
250	12	62.80	309.00	429(2)	472(7)	716(3)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
251	39	62.80	310.00	146(7)	228(20)	634(11)	716(1)		
252	113	62.80	311.00	146(13)	271(19)	515(25)	677(5)	759(9)	878(19)
				1179(4)	1222(4)	1265(6)	1308(3)	1351(2)	1394(3)
				1437(1)					
253	302	62.80	312.00	189(5)	271(17)	515(5)	558(12)	677(11)	759(1)
				878(9)	1179(44)	1222(20)	1265(6)	1308(21)	1351(47)
				1394(46)	1437(58)				
254	129	62.80	313.00	189(1)	232(33)	476(16)	558(33)	720(33)	802(13)
255	109	62.80	314.00	232(3)	476(2)	519(13)	601(67)	720(3)	802(21)
256	54	62.80	315.00	156(5)	275(17)	519(2)	644(16)	763(6)	845(8)
257	87	62.80	316.00	156(2)	400(6)	888(14)	1017(10)	1189(13)	1232(26)
				1275(2)	1318(5)	1447(7)	1490(2)		
258	50	62.80	317.00	1017(1)	1189(4)	1232(10)	1318(4)	1361(13)	1447(1)
				1490(17)					
290	92	63.20	309.00	429(30)	634(1)	673(7)	874(3)	1175(10)	1218(4)
				1261(10)	1390(13)	1476(14)			
291	66	63.20	310.00	228(18)	429(2)	472(14)	634(2)	716(14)	878(10)
				1222(2)	1265(4)				
292	168	63.20	311.00	189(9)	228(13)	472(14)	677(19)	716(9)	878(6)
				1179(35)	1222(41)	1265(22)			
293	124	63.20	312.00	232(1)	271(45)	476(7)	515(20)	720(4)	759(47)
294	128	63.20	313.00	232(25)	271(7)	476(5)	519(1)	558(46)	720(36)
				759(8)					
295	267	63.20	314.00	275(38)	519(55)	558(39)	601(5)	763(75)	802(55)
296	138	63.20	315.00	275(1)	562(52)	601(55)	763(11)	802(19)	
297	2	63.20	316.00	400(1)	644(1)				
298	84	63.20	317.00	156(2)	644(11)	1189(3)	1232(12)	1275(15)	1318(11)
				1361(12)	1447(4)	1490(14)			
299	36	63.20	318.00	1017(5)	1189(1)	1275(14)	1318(1)	1361(8)	1447(5)
				1490(2)					
329	2	63.60	308.00	630(2)					
330	18	63.60	309.00	630(5)	835(1)	874(5)	1351(2)	1394(5)	
331	80	63.60	310.00	189(13)	429(13)	673(7)	677(9)	878(3)	1175(3)
				1218(4)	1222(6)	1261(3)	1265(1)	1308(5)	1351(2)
				1394(7)	1437(4)				
332	47	63.60	311.00	228(9)	232(6)	472(12)	476(6)	716(3)	720(11)
333	84	63.60	312.00	228(5)	232(9)	472(24)	476(6)	716(1)	720(39)
334	279	63.60	313.00	271(71)	275(26)	515(51)	519(28)	759(65)	763(38)
335	158	63.60	314.00	271(2)	275(16)	558(66)	562(38)	759(7)	763(29)
336	127	63.60	315.00	558(25)	562(27)	601(14)	802(37)	806(24)	
337	5	63.60	316.00	601(3)	605(2)				
338	4	63.60	317.00	644(2)	648(2)				
339	67	63.60	318.00	644(4)	1189(12)	1236(1)	1275(20)	1318(1)	1361(6)
				1447(3)	1490(11)	1494(9)			
369	4	64.00	308.00	146(3)	878(1)				
370	68	64.00	309.00	630(10)	831(3)	1179(19)	1308(7)	1351(10)	1394(11)
				1437(8)					
371	32	64.00	310.00	189(1)	232(2)	630(14)	720(11)	1261(4)	
372	149	64.00	311.00	232(15)	429(16)	673(6)	720(34)	874(18)	1175(16)
				1218(32)	1261(12)				
373	178	64.00	312.00	228(15)	275(22)	472(20)	519(38)	716(41)	763(42)
374	143	64.00	313.00	228(20)	275(12)	472(2)	519(4)	562(47)	716(22)
				763(36)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
375	266	64.00	314.00	271(58)	515(54)	562(45)	605(2)	759(50)	806(57)
376	131	64.00	315.00	558(43)	605(44)	759(4)	806(40)		
377	12	64.00	316.00	558(3)	648(8)	849(1)			
378	16	64.00	317.00	691(3)	1236(6)	1279(7)			
379	17	64.00	318.00	644(7)	691(1)	845(2)	1150(1)	1236(4)	1494(2)
409	70	64.40	308.00	189(1)	544(5)	1179(3)	1222(7)	1265(8)	1351(2)
				1394(29)	1437(15)				
410	3	64.40	309.00	587(3)					
411	13	64.40	310.00	232(2)	476(2)	831(9)			
412	99	64.40	311.00	275(10)	429(6)	519(17)	630(17)	673(11)	763(23)
				874(15)					
413	120	64.40	312.00	429(52)	562(35)	673(10)	763(17)	874(3)	1261(3)
414	210	64.40	313.00	228(23)	472(8)	562(53)	716(71)	806(55)	
415	183	64.40	314.00	228(30)	271(1)	472(10)	515(17)	605(62)	716(20)
				806(43)					
416	189	64.40	315.00	160(20)	271(35)	515(11)	648(44)	759(31)	849(48)
417	120	64.40	316.00	160(44)	558(19)	648(39)	691(1)	1021(2)	1150(2)
				1236(2)	1322(4)	1365(5)	1494(2)		
418	13	64.40	317.00	802(1)	1322(3)	1365(1)	1494(8)		
419	7	64.40	318.00	601(2)	802(5)				
450	5	64.80	307.20	1179(3)	1222(2)				
451	11	64.80	308.00	189(1)	544(10)				
452	5	64.80	308.80	544(5)					
453	3	64.80	309.60	587(3)					
454	33	64.80	310.40	275(1)	519(10)	587(13)	763(9)		
455	45	64.80	311.20	630(15)	831(30)				
456	91	64.80	312.00	562(39)	630(3)	806(14)	874(35)		
457	230	64.80	312.80	429(58)	605(31)	673(51)	806(61)	874(29)	
458	31	64.80	313.60	429(10)	605(10)	716(11)			
459	217	64.80	314.40	160(18)	228(38)	472(41)	648(53)	716(15)	849(52)
460	151	64.80	315.20	160(57)	648(20)	849(12)	1021(2)	1150(8)	1193(24)
				1236(17)	1279(11)				
461	77	64.80	316.00	691(12)	759(4)	1150(28)	1193(4)	1236(3)	1279(4)
				1322(8)	1365(14)				
462	12	64.80	316.80	558(11)	691(1)				
463	21	64.80	317.60	558(12)	802(9)				
500	3	65.10	307.20	720(3)					
501	30	65.10	308.00	232(15)	257(10)	720(5)			
502	1	65.10	308.80	544(1)					
503	14	65.10	309.60	275(3)	544(4)	763(2)	788(5)		
504	19	65.10	310.40	562(1)	587(4)	763(3)	788(11)		
505	36	65.10	311.20	562(24)	587(7)	831(5)			
506	68	65.10	312.00	605(11)	630(4)	806(30)	831(23)		
507	73	65.10	312.80	605(35)	673(6)	874(32)			
508	296	65.10	313.60	160(18)	429(64)	648(53)	673(64)	849(58)	874(39)
509	367	65.10	314.40	160(58)	429(11)	472(5)	648(23)	849(13)	1021(44)
				1150(35)	1193(35)	1236(38)	1279(37)	1365(34)	1494(34)
510	254	65.10	315.20	472(59)	691(3)	716(22)	1021(12)	1150(17)	1193(26)
				1236(31)	1279(32)	1365(23)	1494(29)		
511	9	65.10	316.00	228(1)	691(8)				
512	34	65.10	316.80	490(17)	759(17)				
513	5	65.10	317.60	558(2)	759(3)				
514	22	65.10	318.40	289(2)	558(10)	777(10)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
550	4	65.40	307.20	720(4)					
551	4	65.40	308.00	257(3)	501(1)				
552	26	65.40	308.80	257(9)	275(9)	501(2)	519(6)		
553	10	65.40	309.60	544(2)	562(8)				
554	59	65.40	310.40	544(10)	562(36)	788(12)	806(1)		
555	51	65.40	311.20	587(1)	605(24)	788(8)	806(18)		
556	56	65.40	312.00	587(12)	605(34)	831(10)			
557	165	65.40	312.80	160(22)	630(12)	648(51)	831(56)	849(24)	
558	346	65.40	313.60	160(16)	648(22)	673(5)	849(11)	874(34)	1021(26)
				1150(39)	1193(38)	1236(38)	1279(39)	1365(40)	1494(38)
559	475	65.40	314.40	429(59)	673(72)	691(62)	874(39)	1021(28)	1150(34)
				1193(37)	1236(36)	1279(36)	1365(35)	1494(37)	
560	32	65.40	315.20	429(14)	472(4)	716(14)			
561	92	65.40	316.00	228(37)	472(26)	490(12)	716(17)		
562	16	65.40	316.80	228(8)	490(7)	515(1)			
563	33	65.40	317.60	289(5)	515(6)	759(15)	777(7)		
564	38	65.40	318.40	289(10)	558(20)	777(8)			
566	3	65.40	320.00	802(3)					
600	12	65.70	307.20	519(2)	1204(7)	1419(3)			
601	7	65.70	308.00	275(3)	519(1)	763(3)			
603	16	65.70	309.60	257(16)					
604	70	65.70	310.40	257(5)	544(6)	605(26)	806(33)		
605	53	65.70	311.20	544(15)	788(38)				
606	105	65.70	312.00	160(7)	587(43)	648(12)	788(28)	849(15)	
607	391	65.70	312.80	160(39)	587(32)	648(14)	691(2)	831(12)	1021(21)
				1150(42)	1193(46)	1236(46)	1279(46)	1365(45)	1494(46)
608	313	65.70	313.60	630(8)	691(39)	831(65)	1021(22)	1150(30)	1193(32)
				1236(30)	1279(30)	1365(25)	1494(32)		
609	50	65.70	314.40	490(2)	630(18)	673(2)	691(4)	874(24)	
610	173	65.70	315.20	429(42)	490(33)	673(50)	874(48)		
611	25	65.70	316.00	429(17)	673(4)	716(4)			
612	40	65.70	316.80	228(5)	289(4)	472(4)	716(13)	777(14)	
613	7	65.70	317.60	777(7)					
614	64	65.70	318.40	271(2)	515(13)	576(1)	759(46)	820(2)	
615	3	65.70	319.20	820(3)					
616	8	65.70	320.00	558(8)					
618	2	65.70	321.59	1035(2)					
650	11	66.00	307.20	1204(7)	1419(4)				
651	27	66.00	308.00	562(6)	1032(4)	1161(9)	1204(8)		
652	10	66.00	308.80	562(3)	806(7)				
653	25	66.00	309.60	501(2)	605(17)	806(6)			
654	37	66.00	310.40	257(13)	501(4)	605(20)			
655	103	66.00	311.20	160(3)	257(5)	544(7)	648(46)	849(42)	
656	212	66.00	312.00	160(9)	544(24)	648(11)	691(5)	788(34)	849(2)
				1021(29)	1150(18)	1193(46)	1236(14)	1279(12)	1365(1)
				1494(7)					
657	226	66.00	312.80	587(35)	691(22)	788(25)	1150(26)	1193(26)	1236(26)
				1279(24)	1365(16)	1494(26)			
658	54	66.00	313.60	490(10)	587(38)	831(6)			
659	167	66.00	314.40	490(47)	630(50)	831(70)			
660	44	66.00	315.20	630(25)	831(4)	874(15)			
661	196	66.00	316.00	289(38)	429(45)	673(63)	777(4)	874(46)	
662	34	66.00	316.80	429(25)	576(8)	673(1)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
663	58	66.00	317.60	228(3)	472(26)	576(2)	716(27)		
664	46	66.00	318.40	228(5)	472(1)	515(6)	619(25)	716(5)	820(4)
665	109	66.00	319.20	271(4)	515(69)	759(36)			
666	28	66.00	320.00	271(1)	418(9)	515(1)	558(15)	1164(1)	1422(1)
668	2	66.00	321.59	601(2)					
699	15	66.30	306.40	275(9)	519(2)	763(4)			
700	7	66.30	307.20	562(7)					
701	6	66.30	308.00	562(6)					
702	29	66.30	308.80	806(6)	1032(2)	1204(13)	1333(4)	1376(1)	1419(3)
703	1	66.30	309.60	849(1)					
704	23	66.30	310.40	160(9)	648(1)	849(13)			
705	95	66.30	311.20	160(4)	257(3)	501(47)	691(3)	1021(4)	1150(4)
				1193(11)	1236(1)	1279(18)			
706	80	66.30	312.00	257(1)	501(8)	544(12)	691(21)	1021(7)	1150(13)
				1236(9)	1279(9)				
707	74	66.30	312.80	544(64)	788(10)				
708	77	66.30	313.60	490(20)	587(30)	788(27)			
709	61	66.30	314.40	289(14)	587(47)				
710	210	66.30	315.20	289(56)	630(40)	777(49)	831(65)		
711	97	66.30	316.00	576(19)	630(36)	777(16)	831(15)	874(11)	
712	162	66.30	316.80	429(38)	576(17)	673(40)	874(67)		
713	70	66.30	317.60	429(38)	619(12)	673(20)			
714	111	66.30	318.40	472(46)	619(3)	716(62)			
715	115	66.30	319.20	174(35)	228(8)	418(14)	472(26)	662(6)	• 716(17)
				1164(1)	1250(5)	1336(2)	1379(1)		
716	30	66.30	320.00	418(1)	515(15)	759(4)	1250(3)	1379(6)	1422(1)
717	3	66.30	320.79	759(3)					
719	12	66.30	322.39	802(12)					
720	6	66.30	323.19	547(6)					
749	6	66.60	306.40	562(1)	573(5)				
750	13	66.60	307.20	806(13)					
751	10	66.60	308.00	616(10)					
752	1	66.60	308.80	1333(1)					
753	34	66.60	309.60	849(6)	1204(20)	1279(8)			
754	16	66.60	310.40	691(3)	1032(5)	1150(3)	1204(5)		
756	43	66.60	312.00	257(7)	490(12)	501(24)			
757	58	66.60	312.80	257(28)	490(7)	501(19)	544(4)		
758	116	66.60	313.60	289(35)	544(66)	777(3)	788(12)		
759	176	66.60	314.40	289(41)	544(8)	587(17)	777(47)	788(63)	
760	126	66.60	315.20	576(63)	587(63)				
761	125	66.60	316.00	576(16)	630(30)	820(27)	831(52)		
762	108	66.60	316.80	619(33)	630(50)	831(23)	874(2)		
763	114	66.60	317.60	418(2)	429(26)	619(1)	662(9)	673(40)	874(36)
764	57	66.60	318.40	174(6)	418(4)	429(1)	662(8)	673(31)	1336(3)
				1379(2)	1465(2)				
765	51	66.60	319.20	174(25)	228(8)	716(2)	1164(4)	1207(2)	1250(1)
				1293(3)	1379(1)	1422(4)	1465(1)		
766	44	66.60	320.00	228(31)	472(11)	716(2)			
767	2	66.60	320.79	759(2)					
768	11	66.60	321.59	759(11)					
770	11	66.60	323.19	791(4)	802(7)				
771	5	66.60	323.99	601(5)					
772	1	66.60	324.79	590(1)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
799	6	66.90	306.40	573(3)	605(3)				
800	32	66.90	307.20	573(32)					
801	6	66.90	308.00	616(4)	648(2)				
802	43	66.90	308.80	616(1)	1021(10)	1150(7)	1193(7)	1236(7)	1494(11)
803	25	66.90	309.60	659(6)	1021(7)	1150(4)	1193(2)	1236(1)	1279(5)
804	35	66.90	310.40	659(9)	691(5)	1032(20)	1204(1)		
805	38	66.90	311.20	490(16)	1032(18)	1161(4)			
806	26	66.90	312.00	490(26)					
807	137	66.90	312.80	257(24)	289(48)	501(38)	777(27)		
808	132	66.90	313.60	257(58)	289(29)	501(9)	576(10)	777(26)	
809	82	66.90	314.40	544(55)	576(25)	788(2)			
810	152	66.90	315.20	544(29)	576(4)	587(2)	619(27)	788(62)	820(28)
811	148	66.90	316.00	587(62)	619(53)	788(13)	820(20)		
812	117	66.90	316.80	174(10)	418(17)	587(17)	630(14)	662(19)	831(36)
				1035(4)					
813	361	66.90	317.60	174(49)	418(5)	630(65)	662(45)	831(47)	1164(3)
				1207(2)	1250(55)	1293(13)	1379(66)	1422(9)	1465(2)
814	52	66.90	318.40	630(5)	673(12)	874(17)	1379(18)		
815	130	66.90	319.20	429(45)	461(2)	673(51)	874(32)		
816	21	66.90	320.00	228(2)	260(6)	472(9)	504(1)	716(3)	
817	51	66.90	320.79	228(12)	260(2)	472(28)	716(9)		
818	9	66.90	321.59	515(4)	547(5)				
819	16	66.90	322.39	271(10)	590(2)	759(4)			
821	6	66.90	323.99	558(6)					
822	3	66.90	324.79	601(2)	802(1)				
823	8	66.90	325.59	877(8)					
854	7	67.20	306.50	530(7)					
855	6	67.20	307.00	530(6)					
856	5	67.20	307.50	849(5)					
857	15	67.20	308.00	573(15)					
858	12	67.20	308.50	1150(1)	1279(1)	1322(10)			
859	4	67.20	309.00	1494(4)					
863	17	67.20	311.00	490(5)	659(12)				
864	16	67.20	311.50	659(7)	1032(8)	1161(1)			
865	19	67.20	312.00	289(7)	1032(12)				
866	66	67.20	312.50	289(31)	777(35)				
867	19	67.20	313.00	777(19)					
868	38	67.20	313.50	576(38)					
869	59	67.20	314.00	257(15)	501(31)	576(13)			
870	45	67.20	314.50	257(15)	501(25)	619(1)	820(4)		
871	52	67.20	315.00	257(1)	619(34)	820(17)			
872	45	67.20	315.50	544(32)	619(13)				
873	54	67.20	316.00	544(22)	662(7)	788(25)			
874	184	67.20	316.50	174(18)	418(29)	662(38)	788(29)	1035(13)	1164(8)
				1250(8)	1293(9)	1336(7)	1379(9)	1422(8)	1465(8)
875	199	67.20	317.00	174(18)	418(2)	587(25)	662(6)	1035(17)	1164(24)
				1250(15)	1293(25)	1336(5)	1379(18)	1422(23)	1465(21)
876	62	67.20	317.50	587(17)	1035(4)	1207(3)	1250(9)	1293(8)	1379(8)
				1422(9)	1465(4)				
877	68	67.20	318.00	461(39)	630(3)	831(26)			
878	74	67.20	318.50	461(2)	630(41)	831(31)			
879	12	67.20	319.00	630(12)					
880	49	67.20	319.50	260(10)	673(8)	874(31)			

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Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
881	38	67.20	320.00	260(3)	429(12)	673(10)	874(13)		
882	24	67.20	320.50	429(19)	547(5)				
883	4	67.20	321.00	547(4)					
884	30	67.20	321.50	228(6)	472(10)	716(7)	791(7)		
885	31	67.20	322.00	228(13)	472(3)	716(3)	791(12)		
886	12	67.20	322.50	590(12)					
887	3	67.20	323.00	515(1)	590(2)				
888	2	67.20	323.50	759(2)					
892	23	67.20	325.50	432(5)	1221(3)	1264(15)			
934	4	67.40	306.50	648(2)	849(2)				
935	6	67.40	307.00	530(2)	849(4)				
936	24	67.40	307.50	286(2)	530(8)	1021(10)	1279(1)	1322(3)	
937	52	67.40	308.00	530(6)	774(16)	1021(4)	1150(1)	1236(2)	1322(17)
				1494(6)					
938	10	67.40	308.50	774(6)	1236(2)	1322(2)			
940	1	67.40	309.50	573(1)					
941	3	67.40	310.00	616(3)					
942	4	67.40	310.50	616(4)					
944	21	67.40	311.50	289(16)	659(5)				
945	44	67.40	312.00	289(5)	777(24)	1032(15)			
946	22	67.40	312.50	576(11)	777(5)	1032(6)			
947	37	67.40	313.00	576(37)					
948	2	67.40	313.50	576(2)					
949	1	67.40	314.00	820(1)					
950	34	67.40	314.50	501(2)	619(23)	820(9)			
951	62	67.40	315.00	257(39)	501(23)				
952	61	67.40	315.50	257(19)	418(13)	501(4)	662(25)		
953	368	67.40	316.00	174(36)	418(40)	544(18)	662(33)	1035(31)	1164(25)
				1207(26)	1250(26)	1293(27)	1336(27)	1379(27)	1422(26)
				1465(26)					
954	332	67.40	316.50	174(22)	418(5)	544(40)	788(8)	1035(25)	1164(30)
				1207(26)	1250(30)	1293(29)	1336(29)	1379(29)	1422(29)
				1465(30)					
955	51	67.40	317.00	461(12)	788(39)				
956	56	67.40	317.50	461(22)	587(23)	788(11)			
957	36	67.40	318.00	461(1)	587(35)				
958	17	67.40	318.50	504(8)	831(9)				
959	88	67.40	319.00	260(22)	504(3)	630(26)	831(37)		
960	34	67.40	319.50	260(2)	630(31)	831(1)			
962	33	67.40	320.50	429(6)	547(4)	673(7)	874(16)		
963	35	67.40	321.00	429(14)	673(10)	791(11)			
964	5	67.40	321.50	590(3)	791(2)				
965	23	67.40	322.00	590(19)	716(4)				
966	42	67.40	322.50	228(9)	472(24)	716(9)			
967	43	67.40	323.00	633(28)	834(15)				
968	2	67.40	323.50	834(2)					
970	2	67.40	324.50	1221(2)					
971	2	67.40	325.00	558(2)					
1014	1	67.60	306.50	160(1)					
1015	21	67.60	307.00	160(5)	243(3)	1150(10)	1279(3)		
1016	3	67.60	307.50	1021(2)	1150(1)				
1017	9	67.60	308.00	530(9)					
1018	16	67.60	308.50	530(6)	774(10)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1019	10	67.60	309.00	774(10)					
1020	5	67.60	309.50	490(1)	573(4)				
1021	7	67.60	310.00	573(7)					
1023	40	67.60	311.00	289(2)	616(18)	777(20)			
1024	18	67.60	311.50	616(1)	777(17)				
1025	5	67.60	312.00	576(5)					
1026	7	67.60	312.50	576(2)	659(3)	1032(2)			
1027	19	67.60	313.00	619(1)	659(12)	1032(6)			
1028	5	67.60	313.50	619(3)	1032(2)				
1029	17	67.60	314.00	619(17)					
1030	6	67.60	314.50	662(6)					
1031	137	67.60	315.00	174(17)	418(32)	662(39)	1164(6)	1250(7)	1293(7)
				1336(8)	1379(8)	1422(7)	1465(6)		
1032	454	67.60	315.50	174(39)	257(18)	418(26)	501(35)	662(14)	1035(31)
				1164(39)	1207(20)	1250(39)	1293(39)	1336(39)	1379(39)
				1422(39)	1465(37)				
1033	157	67.60	316.00	174(3)	257(39)	501(22)	1035(8)	1164(14)	1207(2)
				1250(13)	1293(12)	1336(12)	1379(9)	1422(10)	1465(13)
1034	37	67.60	316.50	461(37)					
1035	59	67.60	317.00	461(20)	544(39)				
1036	46	67.60	317.50	544(19)	788(27)				
1037	80	67.60	318.00	260(21)	504(25)	587(4)	788(30)		
1038	73	67.60	318.50	260(32)	504(2)	587(39)			
1039	20	67.60	319.00	547(6)	587(14)				
1040	40	67.60	319.50	547(31)	630(9)				
1041	49	67.60	320.00	630(39)	791(5)	831(5)			
1042	9	67.60	320.50	630(9)					
1043	35	67.60	321.00	590(24)	673(6)	874(5)			
1044	32	67.60	321.50	429(14)	590(10)	673(8)			
1045	43	67.60	322.00	429(21)	633(9)	673(4)	834(9)		
1046	24	67.60	322.50	472(4)	633(12)	834(8)			
1047	17	67.60	323.00	228(4)	472(7)	633(5)	716(1)		
1048	4	67.60	323.50	877(1)	1221(3)				
1049	2	67.60	324.00	1264(2)					
1053	10	67.60	326.00	231(10)					
1093	4	67.80	306.00	1279(4)					
1094	22	67.80	306.50	1150(1)	1279(14)	1322(7)			
1095	3	67.80	307.00	1279(1)	1494(2)				
1097	1	67.80	308.00	490(1)					
1098	1	67.80	308.50	490(1)					
1099	3	67.80	309.00	530(1)	774(2)				
1100	10	67.80	309.50	774(10)					
1101	7	67.80	310.00	573(7)					
1102	22	67.80	310.50	289(10)	573(4)	777(8)			
1103	15	67.80	311.00	573(5)	576(10)				
1104	7	67.80	311.50	576(4)	616(3)				
1105	9	67.80	312.00	616(6)	820(3)				
1106	11	67.80	312.50	619(6)	820(5)				
1107	37	67.80	313.00	619(15)	659(19)	820(3)			
1108	17	67.80	313.50	659(17)					
1109	62	67.80	314.00	418(15)	662(25)	1032(22)			
1110	217	67.80	314.50	174(24)	418(29)	662(32)	1035(16)	1164(19)	1207(9)
				1250(17)	1293(17)	1379(19)	1422(18)	1465(17)	

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1111	175	67.80	315.00	174(16)	418(7)	1035(1)	1164(23)	1207(18)	1250(19)
				1293(18)	1336(15)	1379(21)	1422(15)	1465(22)	
1112	19	67.80	315.50	461(19)					
1113	53	67.80	316.00	461(39)	501(14)				
1114	79	67.80	316.50	257(38)	461(2)	501(39)			
1115	61	67.80	317.00	257(22)	260(10)	501(7)	504(22)		
1116	87	67.80	317.50	260(39)	504(29)	544(19)			
1117	57	67.80	318.00	260(11)	544(38)	788(8)			
1118	62	67.80	318.50	544(3)	547(28)	788(31)			
1119	55	67.80	319.00	547(32)	587(10)	788(13)			
1120	25	67.80	319.50	587(23)	791(2)				
1122	10	67.80	320.50	630(7)	831(3)				
1123	23	67.80	321.00	630(11)	831(12)				
1124	26	67.80	321.50	633(2)	834(8)	874(16)			
1125	47	67.80	322.00	429(16)	633(12)	673(7)	874(12)		
1126	56	67.80	322.50	429(35)	673(6)	676(2)	874(5)	877(8)	
1127	21	67.80	323.00	429(4)	877(2)	1264(15)			
1128	5	67.80	323.50	432(3)	716(2)				
1131	5	67.80	325.00	231(4)	271(1)				
1132	30	67.80	325.50	271(19)	515(9)	759(2)			
1133	5	67.80	326.00	518(5)					
1134	5	67.80	326.50	274(1)	518(1)	558(3)			
1135	8	67.80	327.00	558(8)					
1174	1	68.00	306.50	1405(1)					
1176	1	68.00	307.50	200(1)					
1177	1	68.00	308.00	490(1)					
1180	9	68.00	309.50	289(4)	777(5)				
1181	31	68.00	310.00	530(4)	576(5)	774(5)	777(17)		
1182	11	68.00	310.50	286(2)	576(5)	774(4)			
1183	13	68.00	311.00	573(2)	576(11)				
1184	14	68.00	311.50	573(14)					
1185	5	68.00	312.00	619(5)					
1186	13	68.00	312.50	616(9)	619(4)				
1187	14	68.00	313.00	418(1)	616(2)	662(11)			
1188	59	68.00	313.50	418(9)	662(10)	1035(18)	1164(13)	1207(1)	1250(8)
1189	72	68.00	314.00	174(3)	418(15)	659(10)	1035(7)	1164(11)	1207(14)
				1250(12)					
1190	22	68.00	314.50	461(4)	659(18)				
1191	8	68.00	315.00	461(6)	1032(2)				
1192	9	68.00	315.50	461(9)					
1193	3	68.00	316.00	504(3)					
1194	70	68.00	316.50	260(33)	504(37)				
1195	89	68.00	317.00	257(16)	260(28)	501(30)	504(15)		
1196	82	68.00	317.50	257(38)	501(31)	547(13)			
1197	43	68.00	318.00	257(7)	547(36)				
1198	69	68.00	318.50	544(32)	547(8)	791(29)			
1199	65	68.00	319.00	544(26)	590(16)	788(23)			
1200	74	68.00	319.50	587(2)	590(38)	788(34)			
1201	24	68.00	320.00	587(23)	590(1)				
1202	16	68.00	320.50	587(8)	834(8)				
1203	14	68.00	321.00	831(11)	834(3)				
1204	52	68.00	321.50	630(31)	831(19)	877(2)			
1205	64	68.00	322.00	432(13)	630(18)	676(1)	877(9)	1221(23)	

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)							
1206	79	68.00	322.50	432(7)	673(6)	676(13)	874(32)	877(2)	1221(9)	1264(10)	
1207	72	68.00	323.00	429(17)	432(7)	673(20)	874(28)				
1208	27	68.00	323.50	231(3)	475(11)	719(13)					
1209	29	68.00	324.00	231(20)	475(6)	719(3)					
1210	8	68.00	324.50	472(2)	716(6)						
1212	5	68.00	325.50	515(5)							
1213	9	68.00	326.00	271(3)	762(6)						
1214	6	68.00	326.50	271(6)							
1258	9	68.20	308.50	777(9)							
1259	8	68.20	309.00	777(8)							
1260	8	68.20	309.50	243(8)							
1261	2	68.20	310.00	576(2)							
1262	8	68.20	310.50	286(3)	530(5)						
1263	10	68.20	311.00	286(4)	530(2)	820(4)					
1264	1	68.20	311.50	286(1)							
1265	24	68.20	312.00	573(24)							
1266	25	68.20	312.50	174(7)	418(9)	573(2)	662(6)	1164(1)			
1267	55	68.20	313.00	174(5)	418(11)	616(1)	662(1)	1035(4)	1164(21)	1207(1)	1250(11)
1268	23	68.20	313.50	174(1)	616(6)	1035(11)	1207(4)	1250(1)			
1269	41	68.20	314.00	461(29)	616(12)						
1270	40	68.20	314.50	461(28)	659(12)						
1271	46	68.20	315.00	659(33)	1032(13)						
1272	75	68.20	315.50	260(21)	504(18)	659(6)	1032(30)				
1273	44	68.20	316.00	260(35)	1032(9)						
1274	5	68.20	316.50	260(4)	547(1)						
1275	37	68.20	317.00	547(37)							
1276	54	68.20	317.50	501(7)	547(24)	791(23)					
1277	107	68.20	318.00	257(30)	501(35)	590(5)	791(37)				
1278	89	68.20	318.50	257(32)	501(18)	590(37)	791(2)				
1279	30	68.20	319.00	544(11)	590(19)						
1280	62	68.20	319.50	544(37)	788(2)	834(23)					
1281	61	68.20	320.00	544(14)	633(7)	788(33)	834(7)				
1282	39	68.20	320.50	587(16)	788(23)						
1283	52	68.20	321.00	587(32)	877(20)						
1284	36	68.20	321.50	432(16)	587(9)	676(2)	831(2)	1221(6)	1264(1)		
1285	106	68.20	322.00	432(24)	630(19)	831(37)	1221(14)	1264(12)			
1286	71	68.20	322.50	475(4)	630(34)	719(10)	831(23)				
1287	85	68.20	323.00	231(28)	475(33)	719(23)	874(1)				
1288	28	68.20	323.50	231(23)	475(5)						
1289	8	68.20	324.00	429(5)	518(1)	673(2)					
1290	10	68.20	324.50	274(1)	518(9)						
1291	4	68.20	325.00	472(3)	716(1)						
1292	34	68.20	325.50	472(22)	561(10)	716(2)					
1295	4	68.20	327.00	805(4)							
1339	2	68.40	309.00	200(1)	688(1)						
1341	8	68.40	310.00	243(8)							
1342	22	68.40	310.50	243(9)	619(13)						
1344	16	68.40	311.50	174(2)	286(8)	418(2)	530(4)				
1345	40	68.40	312.00	174(16)	286(9)	418(3)	1035(6)	1164(6)			
1346	20	68.40	312.50	174(3)	418(3)	573(3)	1164(7)	1207(2)	1250(2)		
1347	7	68.40	313.00	573(7)							

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1348	5	68.40	313.50	461(1)	573(4)				
1349	10	68.40	314.00	461(1)	616(9)				
1350	12	68.40	314.50	260(2)	504(3)	616(7)			
1351	65	68.40	315.00	260(37)	504(22)	616(6)			
1352	31	68.40	315.50	260(16)	504(3)	659(12)			
1353	27	68.40	316.00	547(27)					
1354	63	68.40	316.50	547(36)	1032(27)				
1355	34	68.40	317.00	791(32)	1032(2)				
1356	43	68.40	317.50	590(29)	791(14)				
1357	32	68.40	318.00	590(32)					
1358	40	68.40	318.50	257(5)	501(19)	834(16)			
1359	143	68.40	319.00	257(36)	501(36)	633(35)	834(36)		
1360	53	68.40	319.50	257(22)	501(8)	633(11)	834(12)		
1361	27	68.40	320.00	544(23)	676(3)	1221(1)			
1362	106	68.40	320.50	544(32)	676(36)	788(13)	877(3)	1221(22)	
1363	48	68.40	321.00	432(3)	544(2)	676(8)	788(35)		
1364	29	68.40	321.50	587(27)	788(2)				
1365	94	68.40	322.00	231(9)	475(19)	587(30)	719(36)		
1366	110	68.40	322.50	231(37)	475(32)	719(27)	831(14)		
1367	36	68.40	323.00	231(9)	630(27)				
1368	33	68.40	323.50	274(1)	630(32)				
1369	35	68.40	324.00	274(34)	762(1)				
1370	6	68.40	324.50	274(5)	429(1)				
1371	9	68.40	325.00	561(6)	673(3)				
1372	5	68.40	325.50	561(5)					
1373	1	68.40	326.00	716(1)					
1379	23	68.40	329.00	558(5)	690(1)	891(4)	1321(8)	1493(5)	
1380	3	68.40	329.50	1321(3)					
1415	2	68.60	307.00	777(2)					
1416	1	68.60	307.50	777(1)					
1419	9	68.60	309.00	619(2)	1147(7)				
1421	6	68.60	310.00	200(2)	619(2)	688(2)			
1422	1	68.60	310.50	662(1)					
1423	25	68.60	311.00	174(3)	243(9)	418(2)	1035(1)	1164(4)	1207(6)
1424	38	68.60	311.50	174(19)	662(5)	1035(3)	1164(5)	1207(6)	
1425	10	68.60	312.00	286(5)	530(3)	1250(2)			
1426	6	68.60	312.50	461(4)	530(2)				
1427	33	68.60	313.00	286(20)	530(5)	774(8)			
1428	7	68.60	313.50	260(4)	573(1)	774(2)			
1429	34	68.60	314.00	260(4)	573(30)				
1430	5	68.60	314.50	573(5)					
1431	35	68.60	315.00	547(9)	616(26)				
1432	36	68.60	315.50	547(4)	616(26)	791(6)			
1433	44	68.60	316.00	547(8)	791(36)				
1434	28	68.60	316.50	590(22)	659(2)	791(4)			
1435	70	68.60	317.00	590(36)	659(2)	1032(32)			
1436	7	68.60	317.50	590(5)	1032(2)				
1437	63	68.60	318.00	633(27)	834(36)				
1438	56	68.60	318.50	633(36)	834(20)				
1439	25	68.60	319.00	633(1)	877(24)				
1440	151	68.60	319.50	257(15)	432(20)	501(28)	676(27)	877(31)	1221(30)
1441	165	68.60	320.00	257(35)	432(36)	501(35)	676(33)	1221(26)	
1442	21	68.60	320.50	257(15)	432(5)	501(1)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1443	15	68.60	321.00	231(11)	544(4)				
1444	69	68.60	321.50	231(27)	475(9)	544(2)	719(28)	788(3)	
1446	52	68.60	322.50	518(28)	587(24)				
1447	31	68.60	323.00	518(5)	587(25)	762(1)			
1448	7	68.60	323.50	630(4)	831(3)				
1449	21	68.60	324.00	561(6)	630(15)				
1450	3	68.60	324.50	630(3)					
1452	15	68.60	325.50	805(10)	874(5)				
1456	4	68.60	327.50	716(4)					
1458	5	68.60	328.50	271(1)	1020(4)				
1459	1	68.60	329.00	515(1)					
1461	7	68.60	330.00	489(7)					
1463	2	68.60	331.00	802(2)					
1465	8	68.60	332.00	776(8)					
1498	3	68.80	308.50	645(3)					
1499	17	68.80	309.00	401(13)	645(1)	846(1)	889(2)		
1500	9	68.80	309.50	401(3)	662(2)	1491(4)			
1501	38	68.80	310.00	200(5)	444(3)	662(16)	688(3)	1190(5)	1491(6)
1502	47	68.80	310.50	174(5)	200(12)	418(3)	444(3)	688(5)	1035(9)
				1164(7)	1250(3)				
1503	10	68.80	311.00	200(10)					
1504	4	68.80	311.50	243(4)					
1505	5	68.80	312.00	243(5)					
1506	2	68.80	312.50	243(2)					
1507	13	68.80	313.00	260(13)					
1508	34	68.80	313.50	260(30)	504(4)				
1509	1	68.80	314.00	774(1)					
1510	17	68.80	314.50	547(13)	573(2)	791(2)			
1511	12	68.80	315.00	573(9)	791(3)				
1512	34	68.80	315.50	590(12)	791(22)				
1513	52	68.80	316.00	590(32)	616(20)				
1514	23	68.80	316.50	590(11)	616(7)	834(5)			
1515	32	68.80	317.00	633(1)	834(31)				
1516	43	68.80	317.50	633(27)	659(15)	834(1)			
1517	34	68.80	318.00	633(7)	659(24)	1032(3)			
1518	54	68.80	318.50	432(17)	676(23)	877(2)	1221(12)		
1519	113	68.80	319.00	432(35)	676(35)	877(8)	1221(35)		
1520	25	68.80	319.50	432(15)	676(4)	1221(6)			
1521	32	68.80	320.00	231(7)	719(25)				
1522	103	68.80	320.50	231(35)	257(21)	475(3)	501(32)	719(12)	
1523	73	68.80	321.00	231(23)	257(13)	475(3)	501(32)	719(2)	
1524	41	68.80	321.50	257(4)	274(11)	518(23)	762(3)		
1525	63	68.80	322.00	274(4)	518(35)	762(24)			
1526	12	68.80	322.50	518(8)	544(3)	788(1)			
1527	17	68.80	323.00	561(17)					
1529	2	68.80	324.00	587(2)					
1530	1	68.80	324.50	831(1)					
1531	10	68.80	325.00	630(5)	831(5)				
1532	3	68.80	325.50	831(2)	874(1)				
1533	25	68.80	326.00	673(4)	848(13)	874(8)			
1534	4	68.80	326.50	673(2)	874(1)	891(1)			
1535	1	68.80	327.00	891(1)					
1536	4	68.80	327.50	690(4)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1537	3	68.80	328.00	228(3)					
1538	1	68.80	328.50	228(1)					
1540	1	68.80	329.50	515(1)					
1541	1	68.80	330.00	271(1)					
1543	20	68.80	331.00	776(20)					
1579	10	69.00	309.00	418(5)	662(5)				
1580	19	69.00	309.50	401(2)	645(6)	1035(2)	1164(3)	1207(6)	
1581	3	69.00	310.00	645(3)					
1582	5	69.00	310.50	1276(5)					
1583	21	69.00	311.00	260(9)	444(3)	688(2)	889(3)	1190(6)	
1584	10	69.00	311.50	200(2)	444(5)	504(1)	688(2)		
1585	29	69.00	312.00	200(11)	260(7)	504(11)			
1586	11	69.00	312.50	243(4)	260(7)				
1588	20	69.00	313.50	243(5)	547(14)	791(1)			
1589	15	69.00	314.00	286(8)	547(5)	791(2)			
1590	13	69.00	314.50	286(1)	530(9)	791(3)			
1591	16	69.00	315.00	286(6)	590(9)	774(1)			
1592	23	69.00	315.50	573(19)	834(4)				
1593	41	69.00	316.00	573(34)	834(7)				
1594	26	69.00	316.50	616(3)	633(4)	834(19)			
1595	39	69.00	317.00	616(25)	633(7)	877(7)			
1596	77	69.00	317.50	432(15)	616(27)	676(23)	877(7)	1221(5)	
1597	92	69.00	318.00	432(33)	659(6)	676(33)	877(8)	1221(12)	
1598	72	69.00	318.50	432(18)	659(35)	676(6)	1032(6)	1221(7)	
1599	92	69.00	319.00	231(6)	475(6)	659(27)	719(21)	1032(32)	
1600	98	69.00	319.50	231(32)	475(7)	719(35)	1032(24)		
1601	35	69.00	320.00	231(26)	719(9)				
1602	34	69.00	320.50	274(10)	518(22)	762(2)			
1603	78	69.00	321.00	274(34)	501(3)	518(35)	762(6)		
1604	96	69.00	321.50	274(24)	501(31)	518(12)	762(29)		
1605	48	69.00	322.00	257(3)	501(20)	561(25)			
1606	33	69.00	322.50	561(33)					
1607	8	69.00	323.00	561(8)					
1608	3	69.00	323.50	788(1)	805(2)				
1609	1	69.00	324.00	788(1)					
1611	2	69.00	325.00	848(2)					
1612	16	69.00	325.50	831(7)	848(9)				
1613	2	69.00	326.00	630(2)					
1614	6	69.00	326.50	446(4)	1020(2)				
1615	3	69.00	327.00	874(3)					
1616	7	69.00	327.50	673(4)	874(3)				
1617	10	69.00	328.00	429(7)	489(3)				
1618	11	69.00	328.50	245(11)					
1619	4	69.00	329.00	228(4)					
1620	5	69.00	329.50	228(2)	716(3)				
1621	13	69.00	330.00	776(13)					
1622	5	69.00	330.50	776(5)					
1624	1	69.00	331.50	759(1)					
1625	16	69.00	332.00	558(16)					
1659	24	69.20	309.00	461(4)	803(13)	1164(7)			
1662	19	69.20	310.50	846(19)					
1663	46	69.20	311.00	260(4)	401(3)	504(1)	645(10)	846(17)	889(11)
1664	31	69.20	311.50	260(9)	401(3)	889(6)	1018(7)	1190(3)	1276(3)

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1665	36	69.20	312.00	200(4)	444(1)	688(4)	889(7)	1018(11)	1276(9)
1666	34	69.20	312.50	200(2)	444(14)	547(16)	688(2)		
1667	23	69.20	313.00	200(13)	547(8)	688(2)			
1668	24	69.20	313.50	791(24)					
1669	12	69.20	314.00	243(10)	590(2)				
1670	1	69.20	314.50	243(1)					
1671	9	69.20	315.00	286(2)	633(7)				
1672	48	69.20	315.50	286(16)	530(19)	633(8)	774(1)	834(4)	
1673	24	69.20	316.00	286(14)	633(2)	877(8)			
1674	91	69.20	316.50	432(9)	573(31)	676(27)	877(1)	1221(21)	1264(2)
1675	69	69.20	317.00	432(6)	573(7)	676(34)	877(14)	1264(8)	
1676	33	69.20	317.50	432(19)	573(2)	616(4)	676(8)		
1677	72	69.20	318.00	231(8)	475(16)	616(32)	719(16)		
1678	101	69.20	318.50	231(34)	475(7)	616(26)	719(34)		
1679	45	69.20	319.00	231(28)	659(7)	719(10)			
1680	61	69.20	319.50	274(12)	518(3)	659(34)	762(3)	1032(9)	
1681	153	69.20	320.00	274(34)	518(33)	659(24)	762(28)	1032(34)	
1682	95	69.20	320.50	274(24)	518(12)	762(32)	1032(27)		
1683	27	69.20	321.00	561(27)					
1684	35	69.20	321.50	561(34)	805(1)				
1685	11	69.20	322.00	561(9)	805(2)				
1689	2	69.20	324.00	647(1)	848(1)				
1690	6	69.20	324.50	891(6)					
1691	1	69.20	325.00	788(1)					
1692	6	69.20	325.50	587(2)	788(3)	1020(1)			
1693	7	69.20	326.00	587(7)					
1694	1	69.20	326.50	831(1)					
1695	19	69.20	327.00	489(10)	831(9)				
1696	18	69.20	327.50	245(9)	630(5)	831(1)	874(3)		
1697	18	69.20	328.00	245(5)	429(2)	673(5)	874(6)		
1698	13	69.20	328.50	673(13)					
1699	5	69.20	329.00	288(1)	776(4)				
1700	14	69.20	329.50	716(2)	776(12)				
1701	12	69.20	330.00	228(2)	472(10)				
1702	1	69.20	330.50	228(1)					
1703	6	69.20	331.00	228(2)	819(4)				
1707	7	69.20	333.00	558(7)					
1708	2	69.20	333.50	802(2)					
1709	19	69.20	334.00	460(1)	1421(11)	1464(7)			
1710	1	69.20	334.50	460(1)					
1734	4	69.40	306.50	662(4)					
1735	20	69.40	307.00	662(3)	1164(7)	1379(5)	1465(5)		
1736	2	69.40	307.50	174(2)					
1739	5	69.40	309.00	559(5)					
1741	5	69.40	310.00	260(5)					
1743	11	69.40	311.00	547(7)	846(4)				
1744	17	69.40	311.50	547(3)	645(3)	846(11)			
1745	52	69.40	312.00	401(9)	547(7)	645(10)	791(3)	846(13)	889(10)
1746	24	69.40	312.50	401(2)	645(3)	791(3)	889(7)	1018(2)	1276(7)
1747	30	69.40	313.00	444(6)	688(13)	889(11)			
1748	29	69.40	313.50	200(4)	444(4)	590(10)	834(11)		
1749	15	69.40	314.00	200(6)	688(1)	834(8)			
1750	17	69.40	314.50	243(4)	633(12)	834(1)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1751	15	69.40	315.00	243(15)					
1752	63	69.40	315.50	243(13)	432(7)	676(24)	877(1)	1264(18)	
1753	61	69.40	316.00	286(15)	432(7)	530(3)	676(4)	1221(2)	1264(30)
1754	77	69.40	316.50	286(26)	432(10)	530(27)	774(9)	1221(2)	1264(3)
1755	78	69.40	317.00	231(9)	475(26)	530(5)	719(31)	774(7)	
1756	65	69.40	317.50	231(6)	475(4)	573(29)	719(26)		
1757	65	69.40	318.00	231(26)	475(4)	573(33)	719(2)		
1758	17	69.40	318.50	518(9)	573(7)	616(1)			
1759	73	69.40	319.00	274(15)	518(17)	616(28)	762(13)		
1760	70	69.40	319.50	274(22)	616(18)	762(30)			
1761	42	69.40	320.00	561(32)	616(4)	659(6)			
1762	80	69.40	320.50	561(34)	659(33)	805(6)	1032(7)		
1763	104	69.40	321.00	561(7)	659(33)	805(33)	1032(31)		
1764	62	69.40	321.50	659(1)	805(33)	1032(28)			
1767	3	69.40	323.00	848(3)					
1768	9	69.40	323.50	501(2)	647(6)	1020(1)			
1769	8	69.40	324.00	690(1)	891(7)				
1770	12	69.40	324.50	257(5)	446(2)	1020(5)			
1771	14	69.40	325.00	446(8)	544(6)				
1772	8	69.40	325.50	544(7)	788(1)				
1773	19	69.40	326.00	489(9)	788(10)				
1774	41	69.40	326.50	245(2)	489(18)	587(12)	788(9)		
1775	3	69.40	327.00	489(1)	532(1)	587(1)			
1776	24	69.40	327.50	831(24)					
1777	28	69.40	328.00	288(11)	532(13)	776(4)			
1778	6	69.40	328.50	288(1)	630(4)	776(1)			
1780	2	69.40	329.50	429(2)					
1781	17	69.40	330.00	429(13)	819(4)				
1782	7	69.40	330.50	819(7)					
1785	2	69.40	332.00	1034(2)					
1788	4	69.40	333.50	460(4)					
1789	2	69.40	334.00	460(2)					
1790	2	69.40	334.50	558(2)					
1814	6	69.60	305.20	1391(5)	1434(1)				
1815	3	69.60	305.60	186(1)	1176(2)				
1816	2	69.60	306.00	186(1)	662(1)				
1817	11	69.60	306.40	1336(7)	1379(1)	1465(3)			
1818	7	69.60	306.80	1336(3)	1379(1)	1465(3)			
1822	2	69.60	308.40	516(2)					
1823	2	69.60	308.80	504(2)					
1824	10	69.60	309.20	260(5)	504(5)				
1825	5	69.60	309.60	260(5)					
1826	8	69.60	310.00	559(8)					
1828	6	69.60	310.80	547(6)					
1829	6	69.60	311.20	791(6)					
1830	5	69.60	311.60	791(5)					
1832	7	69.60	312.40	590(1)	645(6)				
1833	13	69.60	312.80	645(8)	846(5)				
1834	6	69.60	313.20	889(6)					
1835	11	69.60	313.60	633(3)	834(7)	1018(1)			
1836	4	69.60	314.00	633(4)					
1837	18	69.60	314.40	200(4)	444(2)	688(1)	877(11)		
1838	9	69.60	314.80	200(1)	432(3)	444(2)	676(1)	1264(2)	

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1839	18	69.60	315.20	432(12)	1221(3)	1264(3)			
1841	4	69.60	316.00	243(4)					
1842	37	69.60	316.40	475(17)	719(20)				
1843	51	69.60	316.80	231(16)	475(20)	719(15)			
1844	6	69.60	317.20	231(6)					
1845	12	69.60	317.60	286(3)	774(9)				
1846	32	69.60	318.00	274(1)	518(26)	762(5)			
1847	51	69.60	318.40	274(1)	518(11)	573(12)	762(27)		
1848	16	69.60	318.80	573(14)	762(2)				
1849	10	69.60	319.20	561(10)					
1850	26	69.60	319.60	561(26)					
1851	23	69.60	320.00	561(1)	616(18)	805(4)			
1852	41	69.60	320.40	616(15)	805(26)				
1853	7	69.60	320.79	805(7)					
1854	6	69.60	321.19	659(6)					
1855	18	69.60	321.59	659(17)	1032(1)				
1856	28	69.60	321.99	647(4)	659(5)	1032(19)			
1857	33	69.60	322.39	647(21)	848(2)	1032(10)			
1858	14	69.60	322.79	891(14)					
1860	3	69.60	323.59	446(3)					
1862	6	69.60	324.39	257(3)	501(3)				
1867	15	69.60	326.39	544(5)	788(10)				
1868	7	69.60	326.79	788(7)					
1869	16	69.60	327.19	587(7)	776(9)				
1870	1	69.60	327.59	587(1)					
1873	5	69.60	328.79	630(5)					
1875	7	69.60	329.59	819(7)					
1877	11	69.60	330.39	429(2)	673(9)				
1878	1	69.60	330.79	429(1)					
1884	2	69.60	333.19	460(2)					
1885	1	69.60	333.59	271(1)					
1886	4	69.60	333.99	503(4)					
1890	1	69.60	335.59	802(1)					
1891	1	69.60	335.99	802(1)					
1914	5	69.70	305.20	662(5)					
1916	20	69.70	306.00	174(2)	1164(9)	1336(4)	1465(5)		
1917	7	69.70	306.40	1336(7)					
1919	2	69.70	307.20	461(1)	473(1)				
1920	1	69.70	307.60	473(1)					
1923	2	69.70	308.80	504(2)					
1924	3	69.70	309.20	260(3)					
1927	5	69.70	310.40	791(5)					
1928	5	69.70	310.80	559(3)	791(2)				
1930	2	69.70	311.60	590(2)					
1933	19	69.70	312.80	633(18)	846(1)				
1934	28	69.70	313.20	633(18)	645(10)				
1935	2	69.70	313.60	846(1)	877(1)				
1936	19	69.70	314.00	676(2)	877(4)	889(13)			
1937	35	69.70	314.40	432(3)	676(16)	889(2)	1018(9)	1221(2)	1264(3)
1938	17	69.70	314.80	200(1)	444(2)	676(5)	688(9)		
1939	14	69.70	315.20	200(5)	444(9)				
1940	9	69.70	315.60	200(1)	475(2)	719(6)			
1941	57	69.70	316.00	231(14)	475(17)	719(26)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
1942	22	69.70	316.40	231(5)	243(3)	475(9)	719(5)		
1943	17	69.70	316.80	243(17)					
1944	11	69.70	317.20	518(11)					
1945	56	69.70	317.60	274(26)	518(24)	762(6)			
1946	40	69.70	318.00	274(11)	762(17)	774(12)			
1947	5	69.70	318.40	774(5)					
1948	21	69.70	318.80	561(21)					
1949	22	69.70	319.20	561(16)	573(6)				
1950	24	69.70	319.60	573(9)	805(15)				
1951	26	69.70	320.00	604(4)	805(22)				
1952	11	69.70	320.40	616(11)					
1953	22	69.70	320.79	616(22)					
1955	19	69.70	321.59	647(15)	848(4)				
1956	39	69.70	321.99	647(18)	659(21)				
1957	64	69.70	322.39	659(16)	891(22)	1020(9)	1032(17)		
1958	43	69.70	322.79	891(10)	1020(19)	1032(14)			
1959	16	69.70	323.19	446(15)	690(1)				
1960	23	69.70	323.59	446(23)					
1963	6	69.70	324.79	489(6)					
1965	7	69.70	325.59	257(3)	501(4)				
1967	3	69.70	326.39	532(3)					
1968	7	69.70	326.79	288(1)	544(2)	776(4)			
1969	16	69.70	327.19	776(1)	788(15)				
1970	11	69.70	327.59	575(11)					
1974	8	69.70	329.19	819(8)					
1978	15	69.70	330.79	417(13)	673(2)				
1979	4	69.70	331.19	429(4)					
1981	2	69.70	331.99	460(2)					
1982	7	69.70	332.39	460(2)	472(5)				
1986	1	69.70	333.99	503(1)					
1992	1	69.70	336.39	802(1)					
2014	1	69.80	305.20	662(1)					
2015	11	69.80	305.60	1336(5)	1379(1)	1465(5)			
2016	1	69.80	306.00	1336(1)					
2017	4	69.80	306.40	875(4)					
2018	12	69.80	306.80	461(12)					
2026	6	69.80	310.00	272(6)					
2027	1	69.80	310.40	791(1)					
2028	8	69.80	310.80	559(8)					
2029	17	69.80	311.20	559(12)	590(5)				
2031	7	69.80	312.00	834(7)					
2032	16	69.80	312.40	633(8)	834(8)				
2033	4	69.80	312.80	633(4)					
2034	1	69.80	313.20	877(1)					
2035	26	69.80	313.60	676(13)	846(3)	1264(10)			
2036	32	69.80	314.00	432(2)	645(6)	676(13)	846(6)	1221(5)	
2037	11	69.80	314.40	432(3)	889(3)	1018(5)			
2038	8	69.80	314.80	1018(8)					
2039	47	69.80	315.20	444(9)	475(11)	688(19)	719(8)		
2040	50	69.80	315.60	200(5)	231(3)	444(26)	475(6)	688(6)	719(4)
2041	8	69.80	316.00	200(6)	444(2)				
2043	48	69.80	316.80	243(9)	274(13)	518(24)	762(2)		
2044	82	69.80	317.20	243(17)	274(26)	518(14)	762(25)		

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
2045	11	69.80	317.60	243(3)	762(8)				
2047	26	69.80	318.40	286(4)	561(22)				
2048	17	69.80	318.80	286(2)	561(5)	774(10)			
2049	31	69.80	319.20	774(7)	805(24)				
2050	36	69.80	319.60	573(17)	604(8)	805(11)			
2051	32	69.80	320.00	573(22)	604(10)				
2053	12	69.80	320.79	616(1)	647(2)	848(9)			
2054	73	69.80	321.19	616(21)	647(26)	848(26)			
2055	38	69.80	321.59	616(9)	647(11)	848(4)	891(14)		
2056	42	69.80	321.99	891(21)	1020(21)				
2057	36	69.80	322.39	446(2)	659(10)	690(7)	1020(17)		
2058	51	69.80	322.79	446(25)	659(26)				
2059	13	69.80	323.19	446(11)	659(2)				
2061	10	69.80	323.99	489(10)					
2062	17	69.80	324.39	489(17)					
2063	1	69.80	324.79	245(1)					
2065	4	69.80	325.59	501(4)					
2066	22	69.80	325.99	257(2)	288(2)	501(18)			
2068	5	69.80	326.79	575(5)					
2069	25	69.80	327.19	575(25)					
2070	8	69.80	327.59	575(8)					
2071	5	69.80	327.99	788(3)	819(2)				
2072	9	69.80	328.39	618(2)	819(7)				
2077	15	69.80	330.39	417(15)					
2078	3	69.80	330.79	173(2)	1034(1)				
2080	4	69.80	331.59	460(4)					
2083	1	69.80	332.79	716(1)					
2084	14	69.80	333.19	259(3)	472(1)	716(10)			
2085	2	69.80	333.59	228(1)	472(1)				
2089	3	69.80	335.19	271(3)					
2114	1	69.90	305.20	1379(1)					
2115	1	69.90	305.60	631(1)					
2116	1	69.90	306.00	631(1)					
2127	10	69.90	310.40	272(6)	516(4)				
2129	3	69.90	311.20	559(3)					
2130	24	69.90	311.60	559(23)	834(1)				
2131	13	69.90	312.00	559(7)	633(6)				
2132	7	69.90	312.40	803(7)					
2133	5	69.90	312.80	803(5)					
2134	18	69.90	313.20	676(8)	877(5)	1221(1)	1264(4)		
2135	26	69.90	313.60	432(9)	676(6)	1221(3)	1264(8)		
2136	10	69.90	314.00	846(10)					
2137	20	69.90	314.40	645(3)	719(4)	846(13)			
2138	14	69.90	314.80	401(1)	475(6)	645(5)	719(2)		
2139	42	69.90	315.20	475(11)	889(22)	1018(9)			
2140	27	69.90	315.60	688(7)	889(4)	1018(16)			
2141	57	69.90	316.00	200(1)	274(1)	444(21)	518(12)	688(22)	
2142	81	69.90	316.40	200(6)	274(25)	444(15)	518(25)	688(3)	762(7)
2143	24	69.90	316.80	200(1)	274(13)	518(2)	762(8)		
2145	32	69.90	317.60	243(23)	561(9)				
2146	17	69.90	318.00	243(17)					
2147	12	69.90	318.40	805(12)					
2148	28	69.90	318.80	286(7)	530(8)	805(13)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)				
2149	63	69.90	319.20	286(26)	530(20)	774(17)		
2150	28	69.90	319.60	286(6)	774(22)			
2151	3	69.90	320.00	573(3)				
2152	65	69.90	320.40	573(26)	647(16)	848(23)		
2153	48	69.90	320.79	573(10)	647(20)	848(16)	891(2)	
2154	33	69.90	321.19	891(25)	1020(8)			
2155	49	69.90	321.59	616(11)	891(12)	1020(26)		
2156	61	69.90	321.99	446(10)	616(21)	690(25)	1020(5)	
2157	38	69.90	322.39	446(24)	690(14)			
2159	23	69.90	323.19	659(23)				
2160	52	69.90	323.59	245(13)	489(23)	659(16)		
2161	14	69.90	323.99	489(14)				
2166	6	69.90	325.99	501(6)				
2167	26	69.90	326.39	501(25)	575(1)			
2168	24	69.90	326.79	501(8)	575(16)			
2172	2	69.90	328.39	788(2)				
2175	2	69.90	329.59	587(2)				
2176	7	69.90	329.99	1034(7)				
2182	2	69.90	332.39	429(2)				
2186	22	69.90	333.99	472(18)	716(4)			
2187	5	69.90	334.39	790(5)				
2188	2	69.90	334.79	790(2)				
2189	1	69.90	335.19	271(1)				
2190	4	69.90	335.59	271(4)				
2221	8	70.00	308.00	186(2)	1176(2)	1477(4)		
2222	1	70.00	308.40	186(1)				
2224	7	70.00	309.20	717(1)	791(6)			
2228	13	70.00	310.80	272(3)	516(4)	760(2)	834(4)	
2229	20	70.00	311.20	272(7)	633(6)	760(7)		
2231	28	70.00	312.00	559(18)	877(10)			
2232	28	70.00	312.40	559(15)	877(13)			
2233	47	70.00	312.80	432(13)	676(13)	803(15)	1221(4)	1264(2)
2234	8	70.00	313.20	432(5)	803(3)			
2236	9	70.00	314.00	231(5)	719(4)			
2237	40	70.00	314.40	231(22)	475(4)	719(14)		
2238	11	70.00	314.80	231(3)	645(5)	846(3)		
2239	16	70.00	315.20	401(4)	645(1)	846(11)		
2240	61	70.00	315.60	274(15)	518(23)	645(1)	889(18)	1018(4)
2241	76	70.00	316.00	274(17)	518(14)	762(12)	889(8)	1018(25)
2242	39	70.00	316.40	444(8)	688(22)	762(7)	1018(2)	
2243	39	70.00	316.80	200(2)	444(26)	561(11)		
2244	12	70.00	317.20	444(4)	561(8)			
2246	24	70.00	318.00	243(8)	805(16)			
2247	26	70.00	318.40	243(25)	805(1)			
2248	6	70.00	318.80	243(6)				
2249	6	70.00	319.20	530(6)				
2250	51	70.00	319.60	286(19)	530(13)	647(5)	774(3)	848(11)
2251	105	70.00	320.00	286(21)	530(9)	647(25)	774(25)	848(25)
2252	37	70.00	320.40	647(10)	774(10)	848(3)	891(14)	
2253	59	70.00	320.79	573(15)	891(21)	1020(23)		
2254	60	70.00	321.19	446(4)	573(25)	690(14)	1020(17)	
2255	48	70.00	321.59	446(22)	690(26)			
2256	10	70.00	321.99	446(10)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
2257	21	70.00	322.39	616(21)					
2258	25	70.00	322.79	245(2)	489(12)	616(11)			
2259	51	70.00	323.19	245(26)	489(25)				
2260	14	70.00	323.59	245(12)	489(1)	659(1)			
2262	8	70.00	324.39	532(8)					
2263	10	70.00	324.79	532(7)	776(1)	1032(2)			
2264	8	70.00	325.19	776(8)					
2267	1	70.00	326.39	575(1)					
2268	18	70.00	326.79	501(18)					
2269	38	70.00	327.19	257(2)	501(21)	618(14)	819(1)		
2270	15	70.00	327.59	618(15)					
2275	4	70.00	329.59	587(4)					
2288	4	70.00	334.79	228(4)					
2321	11	70.10	308.00	791(3)	875(1)	1176(5)	1477(2)		
2322	33	70.10	308.40	186(9)	791(7)	875(3)	1176(6)	1477(8)	
2323	12	70.10	308.80	186(5)	590(7)				
2324	3	70.10	309.20	186(3)					
2327	8	70.10	310.40	229(1)	473(4)	633(3)			
2328	1	70.10	310.80	834(1)					
2329	2	70.10	311.20	877(2)					
2330	17	70.10	311.60	272(10)	676(1)	760(6)			
2331	29	70.10	312.00	272(5)	432(4)	676(1)	760(12)	1221(4)	1264(3)
2332	10	70.10	312.40	432(10)					
2333	4	70.10	312.80	559(4)					
2334	12	70.10	313.20	559(12)					
2335	22	70.10	313.60	231(3)	475(4)	719(12)	803(3)		
2336	4	70.10	314.00	231(4)					
2338	16	70.10	314.80	274(4)	518(12)				
2339	13	70.10	315.20	274(1)	518(5)	762(7)			
2340	23	70.10	315.60	274(4)	645(17)	846(2)			
2341	36	70.10	316.00	401(11)	561(1)	645(12)	846(6)	889(6)	
2342	58	70.10	316.40	401(3)	561(18)	889(26)	1018(11)		
2343	44	70.10	316.80	561(15)	889(9)	1018(20)			
2344	37	70.10	317.20	200(1)	444(21)	688(4)	805(11)		
2345	32	70.10	317.60	200(3)	444(20)	688(9)			
2348	17	70.10	318.80	243(15)	848(2)				
2349	60	70.10	319.20	243(15)	647(20)	848(25)			
2350	38	70.10	319.60	647(20)	848(14)	891(4)			
2351	58	70.10	320.00	286(4)	530(16)	891(25)	1020(13)		
2352	103	70.10	320.40	286(26)	530(23)	690(5)	774(14)	891(9)	1020(26)
2353	83	70.10	320.79	286(11)	446(20)	690(25)	774(25)	1020(2)	
2354	34	70.10	321.19	446(21)	573(1)	690(11)	774(1)		
2355	25	70.10	321.59	573(25)					
2356	12	70.10	321.99	489(1)	573(11)				
2357	43	70.10	322.39	245(18)	489(25)				
2358	44	70.10	322.79	245(23)	489(11)	616(10)			
2359	15	70.10	323.19	616(15)					
2360	16	70.10	323.59	532(11)	616(5)				
2361	23	70.10	323.99	532(23)					
2362	4	70.10	324.39	288(2)	532(2)				
2363	2	70.10	324.79	776(2)					
2364	19	70.10	325.19	1032(19)					
2366	5	70.10	325.99	819(5)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)				
2367	25	70.10	326.39	618(7)	819(18)			
2368	25	70.10	326.79	618(25)				
2369	5	70.10	327.19	618(5)				
2371	2	70.10	327.99	257(1)	417(1)			
2376	4	70.10	329.99	460(4)				
2385	6	70.10	333.59	429(6)				
2419	1	70.20	307.20	791(1)				
2420	9	70.20	307.60	791(9)				
2422	4	70.20	308.40	875(4)				
2423	12	70.20	308.80	430(2)	875(3)	1176(1)	1219(4)	1477(2)
2424	7	70.20	309.20	186(6)	1219(1)			
2425	1	70.20	309.60	430(1)				
2427	8	70.20	310.40	473(3)	717(5)			
2428	20	70.20	310.80	473(4)	717(16)			
2429	27	70.20	311.20	229(3)	432(5)	676(4)	877(12)	1264(3)
2430	7	70.20	311.60	432(5)	676(2)			
2431	44	70.20	312.00	272(16)	516(15)	760(13)		
2432	14	70.20	312.40	272(4)	516(4)	760(6)		
2433	20	70.20	312.80	475(8)	719(12)			
2434	20	70.20	313.20	231(9)	475(4)	559(6)	719(1)	
2435	27	70.20	313.60	231(4)	559(23)			
2436	18	70.20	314.00	518(9)	559(4)	803(5)		
2437	27	70.20	314.40	274(6)	518(6)	803(15)		
2438	8	70.20	314.80	274(3)	762(5)			
2440	10	70.20	315.60	561(10)				
2441	25	70.20	316.00	561(1)	645(7)	846(17)		
2442	68	70.20	316.40	401(8)	645(24)	805(12)	846(24)	
2443	48	70.20	316.80	604(3)	645(11)	805(17)	846(1)	889(16)
2444	68	70.20	317.20	604(15)	805(5)	889(24)	1018(24)	
2445	48	70.20	317.60	444(5)	604(8)	688(16)	889(2)	1018(17)
2446	69	70.20	318.00	200(19)	444(25)	688(25)		
2447	65	70.20	318.40	200(23)	444(11)	647(12)	848(19)	
2448	48	70.20	318.80	647(25)	848(23)			
2449	38	70.20	319.20	243(4)	647(5)	891(24)	1020(5)	
2450	65	70.20	319.60	243(23)	891(18)	1020(24)		
2451	56	70.20	320.00	243(11)	446(12)	690(21)	1020(12)	
2452	45	70.20	320.40	446(25)	690(20)			
2453	44	70.20	320.79	286(14)	446(5)	530(25)		
2454	63	70.20	321.19	286(24)	530(16)	774(23)		
2455	55	70.20	321.59	245(10)	286(4)	489(22)	774(19)	
2456	53	70.20	321.99	245(25)	489(17)	573(11)		
2457	32	70.20	322.39	245(7)	573(25)			
2458	11	70.20	322.79	532(5)	573(6)			
2459	41	70.20	323.19	288(16)	532(25)			
2460	51	70.20	323.59	532(11)	616(16)	776(24)		
2461	20	70.20	323.99	616(20)				
2462	7	70.20	324.39	575(7)				
2464	20	70.20	325.19	659(20)				
2465	52	70.20	325.59	659(11)	819(22)	1032(19)		
2466	45	70.20	325.99	618(24)	819(20)	1032(1)		
2467	18	70.20	326.39	618(18)				
2471	1	70.20	327.99	173(1)				
2472	1	70.20	328.39	1034(1)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
2477	6	70.20	330.39	788(6)					
2478	4	70.20	330.79	503(4)					
2479	7	70.20	331.19	587(7)					
2519	2	70.30	307.20	791(2)					
2525	4	70.30	309.60	430(2)	875(2)				
2526	11	70.30	310.00	877(8)	1219(3)				
2528	26	70.30	310.80	432(4)	676(18)	717(2)	1264(2)		
2529	10	70.30	311.20	432(6)	717(2)	1264(2)			
2530	4	70.30	311.60	229(4)					
2531	8	70.30	312.00	229(5)	719(3)				
2532	17	70.30	312.40	231(16)	475(1)				
2533	40	70.30	312.80	231(7)	272(13)	516(12)	760(8)		
2534	35	70.30	313.20	272(17)	516(5)	518(2)	760(11)		
2535	11	70.30	313.60	274(7)	518(4)				
2536	12	70.30	314.00	518(1)	559(1)	762(10)			
2537	5	70.30	314.40	559(5)					
2538	15	70.30	314.80	561(11)	803(4)				
2539	24	70.30	315.20	561(2)	803(22)				
2540	6.	70.30	315.60	561(1)	805(5)				
2541	24	70.30	316.00	805(24)					
2542	13	70.30	316.40	805(13)					
2543	38	70.30	316.80	645(14)	846(24)				
2544	42	70.30	317.20	645(23)	846(19)				
2545	52	70.30	317.60	645(3)	647(6)	848(12)	889(23)	1018(8)	
2546	83	70.30	318.00	647(24)	848(25)	889(19)	1018(15)		
2547	84	70.30	318.40	200(1)	444(13)	647(13)	688(25)	848(6)	891(16)
				1018(10)					
2548	96	70.30	318.80	200(25)	444(10)	688(18)	891(22)	1020(21)	
2549	62	70.30	319.20	200(15)	444(5)	446(6)	690(15)	891(1)	1020(20)
2550	46	70.30	319.60	446(22)	690(24)				
2551	28	70.30	320.00	243(11)	446(13)	690(4)			
2552	25	70.30	320.40	243(25)					
2553	25	70.30	320.79	243(7)	245(4)	489(14)			
2554	59	70.30	321.19	245(25)	489(25)	530(9)			
2555	68	70.30	321.59	245(14)	286(21)	489(3)	530(24)	774(6)	
2556	56	70.30	321.99	286(21)	530(10)	774(25)			
2557	46	70.30	322.39	288(13)	532(21)	774(12)			
2558	79	70.30	322.79	288(25)	532(20)	573(16)	776(18)		
2559	54	70.30	323.19	288(5)	573(25)	776(24)			
2560	1	70.30	323.59	776(1)					
2561	4	70.30	323.99	575(1)	616(3)				
2562	24	70.30	324.39	616(24)					
2563	28	70.30	324.79	616(13)	819(15)				
2564	42	70.30	325.19	618(18)	819(24)				
2565	40	70.30	325.59	618(25)	659(12)	819(3)			
2566	32	70.30	325.99	659(24)	1032(8)				
2567	11	70.30	326.39	659(6)	1032(5)				
2568	18	70.30	326.79	417(18)					
2569	27	70.30	327.19	173(8)	417(13)	1034(6)			
2572	10	70.30	328.39	460(10)					
2576	1	70.30	329.99	503(1)					
2578	5	70.30	330.79	788(5)					
2617	4	70.40	306.40	791(4)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
2626	19	70.40	310.00	432(11)	1264(8)				
2627	8	70.40	310.40	186(5)	432(1)	1219(2)			
2628	12	70.40	310.80	186(3)	430(8)	1219(1)			
2629	13	70.40	311.20	719(13)					
2630	22	70.40	311.60	231(1)	475(10)	719(11)			
2631	16	70.40	312.00	229(6)	231(6)	473(2)	717(2)		
2632	21	70.40	312.40	229(5)	473(11)	717(5)			
2633	27	70.40	312.80	274(12)	518(15)				
2634	48	70.40	313.20	272(5)	274(24)	516(2)	518(14)	760(3)	
2635	51	70.40	313.60	272(19)	274(7)	516(13)	760(12)		
2637	21	70.40	314.40	559(3)	561(18)				
2638	33	70.40	314.80	559(21)	561(12)				
2639	33	70.40	315.20	559(14)	805(19)				
2640	25	70.40	315.60	803(5)	805(20)				
2641	20	70.40	316.00	604(10)	803(10)				
2643	8	70.40	316.80	647(1)	848(7)				
2644	53	70.40	317.20	647(24)	846(5)	848(24)			
2645	95	70.40	317.60	401(7)	645(21)	647(19)	846(25)	848(12)	891(11)
2646	89	70.40	318.00	401(5)	645(23)	846(14)	889(6)	891(23)	1020(18)
2647	76	70.40	318.40	446(1)	690(10)	889(24)	891(8)	1018(14)	1020(19)
2648	93	70.40	318.80	446(24)	688(6)	690(24)	889(14)	1018(25)	
2649	86	70.40	319.20	200(8)	444(20)	446(19)	688(24)	690(10)	1018(5)
2650	62	70.40	319.60	200(24)	444(24)	688(14)			
2651	19	70.40	320.00	200(12)	489(7)				
2652	26	70.40	320.40	245(1)	489(25)				
2653	38	70.40	320.79	243(11)	245(21)	489(6)			
2654	23	70.40	321.19	243(23)					
2655	28	70.40	321.59	243(2)	288(8)	532(18)			
2656	78	70.40	321.99	286(4)	288(24)	530(15)	532(22)	776(13)	
2657	97	70.40	322.39	286(24)	288(12)	530(24)	532(1)	774(12)	776(24)
2658	57	70.40	322.79	286(16)	530(5)	575(4)	774(25)	776(7)	
2659	16	70.40	323.19	575(10)	774(6)				
2660	24	70.40	323.59	573(24)					
2661	27	70.40	323.99	573(20)	819(7)				
2662	37	70.40	324.39	618(13)	819(24)				
2663	43	70.40	324.79	616(9)	618(24)	819(10)			
2664	24	70.40	325.19	616(17)	618(7)				
2665	10	70.40	325.59	616(10)					
2666	13	70.40	325.99	417(13)					
2667	48	70.40	326.39	173(8)	417(24)	659(16)			
2668	13	70.40	326.79	173(1)	417(7)	1034(5)			
2669	1	70.40	327.19	1032(1)					
2670	1	70.40	327.59	460(1)					
2671	2	70.40	327.99	460(2)					
2675	2	70.40	329.59	259(2)					
2676	5	70.40	329.99	501(5)					
2685	1	70.40	333.59	632(1)					
2724	18	70.50	309.20	432(8)	1221(6)	1264(4)			
2725	2	70.50	309.60	432(1)	1264(1)				
2727	7	70.50	310.40	475(4)	719(3)				
2728	19	70.50	310.80	231(10)	430(2)	475(3)	719(2)	875(2)	
2729	58	70.50	311.20	186(9)	231(5)	430(24)	475(3)	875(10)	1219(7)
2730	26	70.50	311.60	186(7)	430(19)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)				
2731	15	70.50	312.00	186(3)	274(8)	518(4)		
2732	30	70.50	312.40	473(12)	717(18)			
2733	16	70.50	312.80	229(3)	274(4)	717(9)		
2734	3	70.50	313.20	229(3)				
2735	2	70.50	313.60	561(2)				
2736	3	70.50	314.00	272(2)	561(1)			
2737	30	70.50	314.40	272(3)	516(7)	760(4)	805(16)	
2738	22	70.50	314.80	604(8)	805(14)			
2739	15	70.50	315.20	559(7)	604(8)			
2740	28	70.50	315.60	559(20)	604(8)			
2741	15	70.50	316.00	559(12)	848(3)			
2742	62	70.50	316.40	647(22)	803(16)	848(24)		
2743	56	70.50	316.80	647(23)	803(6)	848(18)	891(9)	
2744	38	70.50	317.20	891(24)	1020(14)			
2745	45	70.50	317.60	690(7)	891(13)	1020(25)		
2746	58	70.50	318.00	446(17)	645(1)	690(24)	846(10)	1020(6)
2747	86	70.50	318.40	446(23)	645(25)	690(14)	846(24)	
2748	58	70.50	318.80	401(23)	645(14)	846(11)	889(10)	
2749	57	70.50	319.20	401(6)	489(7)	889(25)	1018(19)	
2750	62	70.50	319.60	489(16)	688(11)	889(11)	1018(24)	
2751	73	70.50	320.00	200(12)	444(23)	489(15)	688(21)	1018(2)
2752	35	70.50	320.40	200(25)	688(10)			
2753	28	70.50	320.79	200(8)	288(5)	532(15)		
2754	58	70.50	321.19	288(24)	532(24)	776(10)		
2755	68	70.50	321.59	243(22)	288(16)	532(6)	776(24)	
2756	34	70.50	321.99	243(23)	776(11)			
2757	24	70.50	322.39	575(24)				
2758	48	70.50	322.79	286(8)	530(19)	575(21)		
2759	74	70.50	323.19	286(25)	530(25)	774(18)	819(6)	
2760	73	70.50	323.59	286(13)	530(1)	618(10)	774(24)	819(25)
2761	45	70.50	323.99	573(5)	618(24)	774(2)	819(14)	
2762	33	70.50	324.39	573(22)	618(11)			
2763	16	70.50	324.79	573(16)				
2764	10	70.50	325.19	417(10)				
2765	74	70.50	325.59	173(21)	417(24)	616(14)	1034(15)	
2766	49	70.50	325.99	173(17)	417(11)	616(19)	1034(2)	
2768	6	70.50	326.79	460(6)				
2770	4	70.50	327.59	659(4)				
2771	1	70.50	327.99	1032(1)				
2773	3	70.50	328.79	503(3)				
2776	1	70.50	329.99	501(1)				
2777	4	70.50	330.39	790(4)				
2781	3	70.50	331.99	544(3)				
2782	1	70.50	332.39	788(1)				
2791	2	70.50	335.99	1476(2)				
2823	3	70.60	308.80	432(2)	1264(1)			
2826	2	70.60	310.00	631(2)				
2827	16	70.60	310.40	631(8)	719(4)	832(4)		
2829	7	70.60	311.20	274(3)	518(2)	875(2)		
2830	8	70.60	311.60	430(5)	875(3)			
2831	42	70.60	312.00	186(13)	274(6)	430(21)	762(2)	
2832	21	70.60	312.40	186(20)	430(1)			
2833	23	70.60	312.80	186(5)	561(18)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
2834	25	70.60	313.20	473(8)	561(11)	717(6)			
2835	28	70.60	313.60	229(10)	473(4)	717(13)	805(1)		
2836	3	70.60	314.00	229(3)					
2837	10	70.60	314.40	604(10)					
2838	52	70.60	314.80	272(9)	516(24)	604(11)	760(8)		
2839	56	70.60	315.20	272(24)	516(10)	760(22)			
2840	45	70.60	315.60	272(10)	647(9)	760(12)	848(14)		
2841	57	70.60	316.00	559(10)	647(24)	848(21)	891(2)		
2842	59	70.60	316.40	559(24)	647(2)	891(20)	1020(13)		
2843	58	70.60	316.80	559(13)	690(6)	803(8)	891(15)	1020(16)	
2844	68	70.60	317.20	446(21)	690(24)	803(13)	1020(10)		
2845	54	70.60	317.60	446(24)	690(17)	803(13)			
2846	2	70.60	318.00	446(2)					
2847	4	70.60	318.40	489(4)					
2848	42	70.60	318.80	489(24)	645(5)	846(13)			
2849	83	70.60	319.20	401(18)	489(17)	645(24)	846(24)		
2850	64	70.60	319.60	401(24)	645(18)	846(9)	889(13)		
2851	69	70.60	320.00	288(4)	401(5)	532(14)	889(24)	1018(22)	
2852	103	70.60	320.40	288(24)	532(24)	688(14)	776(8)	889(9)	1018(24)
2853	93	70.60	320.79	200(16)	288(19)	532(9)	688(24)	776(24)	1018(1)
2854	55	70.60	321.19	200(24)	444(8)	688(9)	776(14)		
2855	29	70.60	321.59	200(7)	575(22)				
2856	24	70.60	321.99	575(24)					
2857	6	70.60	322.39	819(6)					
2858	32	70.60	322.79	618(9)	819(23)				
2859	42	70.60	323.19	618(24)	819(18)				
2860	48	70.60	323.59	286(11)	530(23)	618(14)			
2861	59	70.60	323.99	286(24)	530(23)	774(12)			
2862	43	70.60	324.39	286(11)	417(7)	530(1)	774(24)		
2863	64	70.60	324.79	173(20)	417(24)	573(5)	774(2)	1034(13)	
2864	62	70.60	325.19	173(24)	417(14)	1034(24)			
2865	12	70.60	325.59	173(3)	1034(9)				
2871	1	70.60	327.99	259(1)					
2872	2	70.60	328.39	659(2)					
2873	6	70.60	328.79	1032(6)					
2883	9	70.60	332.79	544(5)	788(4)				
2926	1	70.70	310.00	588(1)					
2927	12	70.70	310.40	274(4)	518(7)	588(1)			
2928	10	70.70	310.80	274(4)	631(4)	832(2)			
2929	18	70.70	311.20	274(2)	631(12)	832(4)			
2930	3	70.70	311.60	561(2)	832(1)				
2931	11	70.70	312.00	561(9)	875(2)				
2933	14	70.70	312.80	186(4)	430(1)	875(9)			
2934	8	70.70	313.20	186(3)	430(3)	805(2)			
2936	16	70.70	314.00	229(2)	473(6)	717(8)			
2937	28	70.70	314.40	229(23)	717(3)	848(2)			
2938	33	70.70	314.80	647(16)	848(17)				
2939	16	70.70	315.20	516(1)	647(6)	848(1)	891(8)		
2940	84	70.70	315.60	272(14)	516(24)	760(12)	891(23)	1020(11)	
2941	92	70.70	316.00	272(24)	516(22)	690(6)	760(20)	891(17)	1020(3)
2942	73	70.70	316.40	272(10)	446(21)	690(24)	760(12)	1020(6)	
2943	51	70.70	316.80	446(24)	559(9)	690(18)			
2944	26	70.70	317.20	446(3)	559(23)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
2945	23	70.70	317.60	489(6)	559(13)	803(4)			
2946	44	70.70	318.00	489(23)	803(21)				
2947	24	70.70	318.40	489(17)	803(7)				
2949	18	70.70	319.20	288(4)	532(14)				
2950	74	70.70	319.60	288(22)	532(24)	645(5)	776(8)	846(15)	
2951	118	70.70	320.00	288(20)	401(18)	532(10)	645(23)	776(24)	846(23)
2952	79	70.70	320.40	401(20)	645(19)	776(16)	846(10)	889(14)	
2953	77	70.70	320.79	401(6)	575(24)	889(24)	1018(23)		
2954	73	70.70	321.19	444(2)	575(24)	688(14)	889(10)	1018(23)	
2955	73	70.70	321.59	200(16)	444(24)	575(1)	688(24)	819(6)	1018(2)
2956	87	70.70	321.99	200(24)	444(20)	618(9)	688(10)	819(24)	
2957	47	70.70	322.39	200(7)	618(22)	819(18)			
2958	15	70.70	322.79	618(15)					
2959	4	70.70	323.19	243(4)					
2960	9	70.70	323.59	417(9)					
2961	57	70.70	323.99	173(20)	417(24)	1034(13)			
2962	99	70.70	324.39	173(24)	286(13)	417(15)	530(23)	1034(24)	
2963	73	70.70	324.79	173(4)	286(23)	530(24)	774(11)	1034(11)	
2964	53	70.70	325.19	286(10)	460(18)	530(1)	774(24)		
2965	9	70.70	325.59	460(3)	573(3)	774(3)			
2968	2	70.70	326.79	259(2)					
2972	1	70.70	328.39	546(1)					
2974	6	70.70	329.19	659(3)	1032(3)				
2984	3	70.70	333.19	187(3)					
2985	3	70.70	333.59	187(2)	788(1)				
2986	6	70.70	333.99	718(6)					
3026	6	70.80	310.00	274(2)	518(4)				
3027	22	70.80	310.40	588(22)					
3028	18	70.80	310.80	588(18)					
3029	3	70.80	311.20	561(3)					
3030	27	70.80	311.60	561(14)	631(3)	832(10)			
3031	15	70.80	312.00	631(13)	832(2)				
3032	10	70.80	312.40	631(1)	805(5)	832(4)			
3033	4	70.80	312.80	875(4)					
3034	5	70.80	313.20	430(5)					
3035	29	70.80	313.60	186(4)	430(20)	647(1)	848(4)		
3036	52	70.80	314.00	186(20)	430(16)	647(13)	848(3)		
3037	13	70.80	314.40	186(8)	848(3)	891(2)			
3038	39	70.80	314.80	473(6)	647(2)	717(8)	891(7)	1020(16)	
3039	63	70.80	315.20	229(2)	473(23)	690(8)	717(24)	891(6)	
3040	39	70.80	315.60	229(4)	446(19)	473(11)	717(3)	1020(2)	
3041	36	70.80	316.00	446(23)	516(1)	690(12)			
3042	50	70.80	316.40	272(13)	446(3)	516(23)	760(11)		
3043	80	70.80	316.80	272(24)	489(9)	516(23)	760(24)		
3044	53	70.80	317.20	272(13)	489(23)	516(2)	760(15)		
3045	28	70.80	317.60	489(18)	559(10)				
3046	21	70.80	318.00	559(21)					
3047	40	70.80	318.40	288(7)	532(17)	559(16)			
3048	59	70.80	318.80	288(24)	532(24)	776(11)			
3049	52	70.80	319.20	288(19)	532(9)	776(24)			
3050	17	70.80	319.60	575(2)	776(15)				
3051	22	70.80	320.00	575(22)					
3052	40	70.80	320.40	575(21)	645(5)	846(14)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3053	72	70.80	320.79	401(18)	645(23)	819(8)	846(23)		
3054	107	70.80	321.19	401(23)	618(12)	645(21)	819(24)	846(13)	889(14)
3055	95	70.80	321.59	401(9)	618(24)	819(17)	889(23)	1018(22)	
3056	67	70.80	321.99	444(3)	618(14)	688(14)	889(13)	1018(23)	
3057	66	70.80	322.39	200(15)	444(24)	688(23)	1018(4)		
3058	70	70.80	322.79	200(23)	417(12)	444(23)	688(12)		
3059	74	70.80	323.19	173(23)	200(11)	417(24)	1034(16)		
3060	61	70.80	323.59	173(24)	417(14)	1034(23)			
3061	17	70.80	323.99	173(3)	243(3)	1034(11)			
3062	21	70.80	324.39	460(21)					
3063	24	70.80	324.79	460(24)					
3064	23	70.80	325.19	286(12)	460(5)	530(6)			
3065	30	70.80	325.59	286(10)	774(20)				
3066	27	70.80	325.99	259(3)	774(24)				
3067	6	70.80	326.39	774(6)					
3068	5	70.80	326.79	573(5)					
3071	10	70.80	327.99	790(10)					
3077	12	70.80	330.39	632(12)					
3085	1	70.80	333.59	718(1)					
3086	2	70.80	333.99	718(2)					
3093	1	70.80	336.79	630(1)					
3095	2	70.80	337.59	603(2)					
3112	1	70.90	304.40	617(1)					
3124	1	70.90	309.20	258(1)					
3126	8	70.90	310.00	561(8)					
3128	8	70.90	310.80	561(7)	805(1)				
3130	18	70.90	311.60	588(17)	805(1)				
3132	13	70.90	312.40	631(1)	832(12)				
3133	29	70.90	312.80	631(10)	647(6)	832(1)	848(12)		
3134	20	70.90	313.20	631(8)	647(5)	832(1)	848(6)		
3135	37	70.90	313.60	631(1)	647(13)	848(8)	875(9)	891(6)	
3136	41	70.90	314.00	430(2)	875(24)	891(4)	1020(11)		
3137	82	70.90	314.40	186(15)	430(21)	446(1)	690(15)	875(17)	891(13)
3138	68	70.90	314.80	186(20)	430(24)	690(21)	1020(3)		
3139	48	70.90	315.20	186(14)	430(3)	446(17)	690(14)		
3140	12	70.90	315.60	473(12)					
3141	52	70.90	316.00	229(24)	473(11)	489(14)	717(3)		
3142	69	70.90	316.40	229(23)	473(17)	489(19)	717(10)		
3143	20	70.90	316.80	229(5)	489(15)				
3144	40	70.90	317.20	272(10)	516(22)	760(8)			
3145	95	70.90	317.60	272(19)	288(13)	516(17)	532(23)	760(23)	
3146	63	70.90	318.00	288(23)	532(23)	776(17)			
3147	52	70.90	318.40	288(16)	532(6)	559(7)	776(23)		
3148	44	70.90	318.80	559(24)	575(8)	776(12)			
3149	43	70.90	319.20	559(20)	575(23)				
3150	28	70.90	319.60	575(21)	803(7)				
3151	17	70.90	320.00	803(3)	819(14)				
3152	40	70.90	320.40	618(17)	819(23)				
3153	38	70.90	320.79	618(23)	819(15)				
3154	24	70.90	321.19	618(11)	645(2)	846(11)			
3155	51	70.90	321.59	401(5)	645(23)	846(23)			
3156	72	70.90	321.99	173(5)	417(17)	645(23)	846(17)	889(10)	
3157	108	70.90	322.39	173(23)	417(24)	645(3)	889(20)	1018(17)	1034(21)

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3158	111	70.90	322.79	173(24)	417(11)	688(11)	889(18)	1018(23)	1034(24)
3159	79	70.90	323.19	200(12)	444(24)	460(3)	688(24)	1018(9)	1034(7)
3160	77	70.90	323.59	200(24)	444(15)	460(21)	688(17)		
3161	40	70.90	323.99	200(16)	460(24)				
3162	2	70.90	324.39	460(2)					
3163	12	70.90	324.79	243(11)	259(1)				
3164	3	70.90	325.19	259(2)	503(1)				
3165	4	70.90	325.59	503(4)					
3166	4	70.90	325.99	530(4)					
3167	21	70.90	326.39	286(2)	546(2)	774(17)			
3168	14	70.90	326.79	774(13)	790(1)				
3169	8	70.90	327.19	790(8)					
3170	19	70.90	327.59	573(8)	790(11)				
3171	2	70.90	327.99	790(2)					
3174	1	70.90	329.19	833(1)					
3178	7	70.90	330.79	431(5)	876(2)				
3193	3	70.90	336.79	587(3)					
3194	8	70.90	337.19	603(8)					
3195	3	70.90	337.59	603(3)					
3213	1	71.00	304.80	617(1)					
3224	14	71.00	309.20	561(14)					
3225	8	71.00	309.60	258(7)	561(1)				
3226	15	71.00	310.00	258(3)	805(12)				
3227	9	71.00	310.40	805(9)					
3228	2	71.00	310.80	805(2)					
3231	12	71.00	312.00	647(3)	848(9)				
3232	9	71.00	312.40	588(9)					
3233	25	71.00	312.80	588(13)	647(10)	848(1)	1020(1)		
3234	21	71.00	313.20	832(4)	891(4)	1020(13)			
3235	74	71.00	313.60	446(12)	631(17)	832(23)	891(7)	1020(15)	
3236	43	71.00	314.00	446(20)	631(17)	832(4)	1020(2)		
3237	37	71.00	314.40	446(17)	631(9)	690(7)	875(4)		
3238	23	71.00	314.80	875(23)					
3239	78	71.00	315.20	186(10)	430(19)	489(23)	674(9)	875(17)	
3240	92	71.00	315.60	186(21)	430(23)	489(23)	674(22)	875(3)	
3241	43	71.00	316.00	186(22)	430(11)	489(9)	674(1)		
3242	26	71.00	316.40	473(6)	532(7)	717(13)			
3243	100	71.00	316.80	229(18)	288(17)	473(19)	532(23)	717(21)	776(2)
3244	127	71.00	317.20	229(23)	288(19)	473(23)	532(23)	717(18)	776(21)
3245	49	71.00	317.60	229(13)	288(10)	473(2)	532(1)	776(23)	
3246	7	71.00	318.00	272(1)	776(6)				
3247	68	71.00	318.40	272(19)	516(14)	575(16)	760(19)		
3248	76	71.00	318.80	272(23)	516(15)	575(15)	760(23)		
3249	37	71.00	319.20	272(3)	559(3)	618(3)	760(6)	819(22)	
3250	68	71.00	319.60	559(23)	618(22)	819(23)			
3251	56	71.00	320.00	559(23)	618(24)	819(9)			
3252	34	71.00	320.40	559(6)	618(6)	803(22)			
3253	25	71.00	320.79	417(2)	803(23)				
3254	51	71.00	321.19	173(14)	417(23)	803(8)	1034(6)		
3255	67	71.00	321.59	173(23)	417(23)	1034(21)			
3256	51	71.00	321.99	173(18)	417(6)	846(6)	1034(21)		
3257	48	71.00	322.39	460(4)	645(20)	846(23)	1034(1)		
3258	74	71.00	322.79	460(23)	645(23)	846(23)	889(5)		

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3259	70	71.00	323.19	460(20)	645(11)	846(2)	889(23)	1018(14)	
3260	52	71.00	323.59	688(6)	889(23)	1018(23)			
3261	62	71.00	323.99	200(7)	259(4)	503(9)	688(23)	889(3)	1018(16)
3262	39	71.00	324.39	200(23)	5Ø3(2)	688(14)			
3263	24	71.00	324.79	200(23)	444(1)				
3264	2	71.00	325.19	200(1)	546(1)				
3265	1	71.00	325.59	243(1)					
3266	5	71.00	325.99	243(5)					
3267	3	71.00	326.39	790(3)					
3269	15	71.00	327.19	286(9)	774(6)				
3270	37	71.00	327.59	286(18)	530(4)	774(15)			
3271	13	71.00	327.99	286(5)	774(6)	833(2)			
3272	4	71.00	328.39	573(1)	833(3)				
3273	4	71.00	328.79	573(4)					
3277	3	71.00	330.39	616(3)					
3278	2	71.00	330.79	187(2)					
3281	2	71.00	331.99	659(2)					
3282	5	71.00	332.39	1032(5)					
3290	4	71.00	335.59	603(4)					
3291	8	71.00	335.99	603(8)					
3292	1	71.00	336.39	788(1)					
3293	15	71.00	336.79	788(15)					
3294	7	71.00	337.19	646(5)	788(2)				
3323	8	71.10	308.80	459(8)					
3324	15	71.10	309.20	459(6)	805(9)				
3325	3	71.10	309.60	459(3)					
3326	4	71.10	310.00	805(4)					
3327	10	71.10	310.40	258(10)					
3328	2	71.10	310.80	647(1)	848(1)				
3329	26	71.10	311.20	258(4)	647(7)	848(15)			
3330	28	71.10	311.60	647(5)	848(23)				
3331	17	71.10	312.00	647(4)	848(3)	891(10)			
3332	16	71.10	312.40	891(13)	1020(3)				
3333	40	71.10	312.80	446(21)	690(19)				
3334	29	71.10	313.20	446(20)	588(6)	690(3)			
3335	30	71.10	313.60	446(9)	588(21)				
3336	15	71.10	314.00	489(10)	832(5)				
3337	40	71.10	314.40	489(21)	631(3)	832(16)			
3338	48	71.10	314.80	489(23)	631(4)	832(21)			
3339	25	71.10	315.20	631(20)	832(5)				
3340	36	71.10	315.60	288(2)	532(14)	875(20)			
3341	89	71.10	316.00	186(1) 875(22)	288(18)	430(12)	532(18)	674(5)	776(13)
3342	122	71.10	316.40	186(22) 875(13)	288(23)	430(22)	532(15)	674(4)	776(23)
3343	81	71.10	316.80	186(23)	288(3)	430(23)	575(4)	674(9)	776(19)
3344	33	71.10	317.20	186(10)	575(18)	717(5)			
3345	77	71.10	317.60	229(10)	473(21)	575(23)	717(23)		
3346	81	71.10	318.00	229(23)	473(23)	575(3)	717(22)	819(10)	
3347	79	71.10	318.40	229(23)	473(13)	618(13)	717(7)	819(23)	
3348	55	71.10	318.80	229(1)	516(8)	618(23)	819(23)		
3349	81	71.10	319.20	272(20)	516(23)	618(20)	760(17)	819(1)	
3350	68	71.10	319.60	272(22)	516(23)	760(23)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3351	51	71.10	320.00	173(3)	272(15)	417(14)	516(3)	760(16)	
3352	78	71.10	320.40	173(22)	417(22)	559(17)	1034(17)		
3353	89	71.10	320.79	173(23)	417(21)	559(22)	1034(23)		
3354	55	71.10	321.19	173(9)	559(17)	803(12)	1034(17)		
3355	45	71.10	321.59	460(22)	803(23)				
3356	41	71.10	321.99	460(23)	803(18)				
3357	9	71.10	322.39	460(9)					
3358	8	71.10	322.79	503(8)					
3359	76	71.10	323.19	259(20)	503(23)	645(12)	846(21)		
3360	79	71.10	323.59	259(21)	401(2)	503(15)	645(19)	846(22)	
3361	61	71.10	323.99	259(13)	645(22)	846(14)	889(12)		
3362	4	71.10	324.39	546(4)					
3364	33	71.10	325.19	200(10)	546(1)	790(22)			
3365	26	71.10	325.59	200(16)	444(2)	790(8)			
3366	12	71.10	325.99	200(12)					
3368	3	71.10	326.79	243(3)					
3369	15	71.10	327.19	632(11)	833(4)				
3370	28	71.10	327.59	530(5)	632(23)				
3371	23	71.10	327.99	286(9)	530(4)	632(10)			
3372	7	71.10	328.39	876(7)					
3374	6	71.10	329.19	573(6)					
3375	7	71.10	329.59	573(7)					
3378	7	71.10	330.79	474(6)	718(1)				
3381	1	71.10	331.99	659(1)					
3382	7	71.10	332.39	517(3)	659(4)				
3383	2	71.10	332.79	517(2)					
3390	10	71.10	335.59	257(3)	603(7)				
3392	5	71.10	336.39	646(5)					
3393	2	71.10	336.79	646(1)	847(1)				
3394	12	71.10	337.19	646(2)	788(6)	1148(1)	1234(3)		
3423	17	71.20	308.80	172(5)	1205(6)	1248(6)			
3424	13	71.20	309.20	172(7)	1162(1)	1248(5)			
3426	15	71.20	310.00	459(4)	647(4)	848(7)			
3427	29	71.20	310.40	647(21)	848(6)	891(2)			
3428	19	71.20	310.80	647(10)	848(1)	891(3)	1020(5)		
3429	6	71.20	311.20	891(6)					
3430	9	71.20	311.60	446(5)	1020(4)				
3431	20	71.20	312.00	258(3)	446(7)	502(5)	690(5)		
3434	8	71.20	313.20	489(8)					
3436	14	71.20	314.00	489(5)	588(9)				
3437	31	71.20	314.40	532(8)	588(23)				
3438	43	71.20	314.80	532(22)	588(21)				
3439	40	71.20	315.20	288(6)	532(13)	631(3)	832(18)		
3440	56	71.20	315.60	631(20)	776(14)	832(22)			
3441	71	71.20	316.00	575(19)	631(23)	776(9)	832(20)		
3442	41	71.20	316.40	575(22)	631(11)	875(8)			
3443	54	71.20	316.80	575(19)	674(10)	819(2)	875(23)		
3444	83	71.20	317.20	186(12)	430(23)	618(4)	819(22)	875(22)	
3445	103	71.20	317.60	186(20)	430(22)	618(22)	674(9)	819(23)	875(7)
3446	72	71.20	318.00	186(23)	430(15)	618(22)	819(12)		
3447	38	71.20	318.40	186(3)	473(9)	618(10)	717(16)		
3448	73	71.20	318.80	229(21)	417(6)	473(23)	717(23)		
3449	114	71.20	319.20	173(17)	229(23)	417(22)	473(22)	717(21)	1034(9)

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3450	88	71.20	319.60	173(21)	229(16)	417(23)	473(6)	1034(22)	
3451	85	71.20	320.00	173(20)	272(8)	417(9)	516(19)	760(6)	1034(23)
3452	89	71.20	320.40	272(23)	460(15)	516(23)	760(23)	1034(5)	
3453	85	71.20	320.79	272(22)	460(22)	516(18)	760(23)		
3454	44	71.20	321.19	272(7)	460(23)	559(6)	760(8)		
3455	23	71.20	321.59	559(23)					
3456	56	71.20	321.99	259(13)	503(23)	559(16)	803(4)		
3457	66	71.20	322.39	259(23)	503(18)	559(2)	803(23)		
3458	59	71.20	322.79	259(22)	503(15)	803(22)			
3459	22	71.20	323.19	259(3)	546(8)	803(17)			
3460	23	71.20	323.59	546(23)					
3461	46	71.20	323.99	546(23)	790(14)	846(9)			
3462	50	71.20	324.39	401(6)	546(6)	645(7)	790(22)	846(9)	
3463	23	71.20	324.79	790(23)					
3464	3	71.20	325.19	790(1)	889(2)				
3465	15	71.20	325.59	889(15)					
3466	35	71.20	325.99	200(10)	632(3)	833(15)	889(7)		
3467	67	71.20	326.39	200(23)	632(22)	833(22)			
3468	30	71.20	326.79	200(1)	632(22)	833(7)			
3469	12	71.20	327.19	632(12)					
3470	3	71.20	327.59	243(1)	876(2)				
3471	8	71.20	327.99	243(1)	431(4)	876(3)			
3472	11	71.20	328.39	675(8)	876(3)				
3477	3	71.20	330.39	573(3)					
3478	7	71.20	330.79	573(7)					
3479	2	71.20	331.19	573(2)					
3490	17	71.20	335.59	158(5)	646(12)				
3491	7	71.20	335.99	646(7)					
3492	4	71.20	336.39	1320(1)	1492(3)				
3522	4	71.30	308.40	617(4)					
3523	2	71.30	308.80	647(2)					
3524	1	71.30	309.20	891(1)					
3525	49	71.30	309.60	647(12)	848(14)	891(15)	1205(8)		
3526	43	71.30	310.00	172(3)	647(4)	1020(4)	1162(5)	1205(4)	1235(3)
				1248(11)	1278(9)				
3527	23	71.30	310.40	446(2)	1162(1)	1205(2)	1248(18)		
3528	16	71.30	310.80	459(6)	690(5)	1020(1)	1205(1)	1278(3)	
3529	38	71.30	311.20	446(9)	459(17)	690(12)			
3530	11	71.30	311.60	459(11)					
3531	1	71.30	312.00	489(1)					
3532	7	71.30	312.40	258(5)	502(2)				
3533	25	71.30	312.80	258(16)	489(9)				
3534	28	71.30	313.20	258(22)	532(6)				
3535	42	71.30	313.60	258(2)	288(20)	532(18)	776(2)		
3536	43	71.30	314.00	288(1)	532(20)	776(22)			
3537	44	71.30	314.40	288(10)	532(12)	776(22)			
3538	33	71.30	314.80	575(16)	588(1)	776(16)			
3539	43	71.30	315.20	575(20)	588(23)				
3540	43	71.30	315.60	575(21)	588(22)				
3541	39	71.30	316.00	575(4)	588(17)	618(2)	819(13)	832(3)	
3542	69	71.30	316.40	618(20)	631(9)	819(20)	832(20)		
3543	71	71.30	316.80	618(21)	631(22)	819(8)	832(20)		
3544	56	71.30	317.20	618(17)	631(23)	832(16)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3545	28	71.30	317.60	417(3)	631(9)	875(16)			
3546	87	71.30	318.00	173(14)	417(22)	430(8)	674(15)	875(22)	1034(6)
3547	151	71.30	318.40	173(22)	186(19)	417(22)	430(22)	674(22)	875(22)
				1034(22)					
3548	132	71.30	318.80	173(23)	186(23)	417(17)	430(22)	674(22)	875(3)
				1034(22)					
3549	64	71.30	319.20	173(5)	186(21)	430(11)	460(11)	674(1)	717(1)
				1034(14)					
3550	67	71.30	319.60	229(6)	460(23)	473(16)	717(22)		
3551	86	71.30	320.00	229(23)	460(22)	473(21)	717(20)		
3552	67	71.30	320.40	229(20)	460(8)	473(22)	717(17)		
3553	48	71.30	320.79	229(13)	259(10)	473(2)	503(19)	516(4)	
3554	98	71.30	321.19	259(22)	272(16)	503(23)	516(23)	760(14)	
3555	111	71.30	321.59	259(23)	272(22)	503(22)	516(22)	760(22)	
3556	57	71.30	321.99	259(9)	272(22)	516(15)	760(11)		
3557	38	71.30	322.39	272(4)	546(18)	559(13)	760(3)		
3558	56	71.30	322.79	546(22)	559(23)	790(11)			
3559	70	71.30	323.19	546(14)	559(22)	790(22)	803(12)		
3560	50	71.30	323.59	559(6)	790(22)	803(22)			
3561	31	71.30	323.99	790(9)	803(22)				
3562	8	71.30	324.39	803(8)					
3563	12	71.30	324.79	833(12)					
3564	46	71.30	325.19	632(21)	645(1)	833(22)	846(2)		
3565	46	71.30	325.59	401(1)	632(23)	833(22)			
3566	39	71.30	325.99	632(19)	645(4)	833(8)	876(6)	889(2)	
3567	25	71.30	326.39	645(3)	876(22)				
3568	10	71.30	326.79	876(6)	889(2)	1018(2)			
3569	4	71.30	327.19	187(1)	431(3)				
3570	3	71.30	327.59	200(2)	444(1)				
3571	5	71.30	327.99	187(3)	474(1)	718(1)			
3574	10	71.30	329.19	230(10)					
3577	6	71.30	330.39	530(4)	761(2)				
3578	5	71.30	330.79	530(5)					
3579	7	71.30	331.19	573(7)					
3580	6	71.30	331.59	560(1)	573(5)				
3581	7	71.30	331.99	573(7)					
3582	7	71.30	332.39	603(7)					
3589	5	71.30	335.19	1492(5)					
3590	4	71.30	335.59	1492(4)					
3591	11	71.30	335.99	1320(3)	1449(8)				
3622	4	71.40	308.40	1020(4)					
3623	1	71.40	308.80	1020(1)					
3624	15	71.40	309.20	891(7)	1235(4)	1278(4)			
3625	13	71.40	309.60	690(3)	1235(5)	1278(5)			
3626	1	71.40	310.00	1235(1)					
3628	48	71.40	310.80	172(13)	489(8)	1162(17)	1205(10)		
3629	35	71.40	311.20	172(13)	489(17)	1162(2)	1205(3)		
3630	22	71.40	311.60	172(1)	489(17)	1248(4)			
3631	9	71.40	312.00	459(1)	489(1)	532(7)			
3632	12	71.40	312.40	459(12)					
3633	50	71.40	312.80	288(8)	459(20)	532(10)	776(12)		
3634	62	71.40	313.20	288(22)	459(3)	532(14)	776(23)		
3635	56	71.40	313.60	258(20)	288(2)	575(14)	776(20)		

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3636	37	71.40	314.00	258(21)	575(16)				
3637	46	71.40	314.40	258(22)	575(23)	819(1)			
3638	37	71.40	314.80	258(4)	575(6)	618(5)	819(22)		
3639	40	71.40	315.20	618(20)	819(20)				
3640	41	71.40	315.60	618(20)	819(21)				
3641	26	71.40	316.00	588(5)	618(20)	819(1)			
3642	27	71.40	316.40	417(5)	588(22)				
3643	52	71.40	316.80	417(22)	588(23)	1034(7)			
3644	84	71.40	317.20	173(14)	417(23)	588(19)	832(6)	1034(22)	
3645	99	71.40	317.60	173(22)	417(19)	631(13)	832(23)	1034(22)	
3646	82	71.40	318.00	173(8)	460(13)	631(22)	832(22)	1034(17)	
3647	61	71.40	318.40	460(22)	631(22)	832(17)			
3648	51	71.40	318.80	460(22)	631(10)	875(19)			
3649	69	71.40	319.20	186(1)	430(12)	460(11)	674(22)	875(23)	
3650	121	71.40	319.60	186(22)	259(12)	430(22)	503(21)	674(22)	875(22)
3651	113	71.40	320.00	186(22)	259(22)	430(22)	503(20)	674(22)	875(5)
3652	77	71.40	320.40	186(22)	259(22)	430(13)	503(14)	674(1)	717(5)
3653	74	71.40	320.79	186(2)	229(7)	259(12)	473(21)	503(3)	546(7)
				717(22)					
3654	88	71.40	321.19	229(22)	473(22)	546(22)	717(22)		
3655	99	71.40	321.59	229(23)	473(22)	546(22)	717(20)	790(12)	
3656	34	71.40	321.99	229(4)	473(2)	516(7)	546(8)	790(13)	
3657	79	71.40	322.39	272(18)	516(22)	760(17)	790(22)		
3658	78	71.40	322.79	272(23)	516(22)	760(22)	790(11)		
3659	59	71.40	323.19	272(22)	516(16)	760(21)			
3660	43	71.40	323.59	272(5)	559(16)	632(2)	760(7)	833(13)	
3661	66	71.40	323.99	559(22)	632(22)	833(22)			
3662	76	71.40	324.39	559(22)	632(22)	803(10)	833(22)		
3663	41	71.40	324.79	559(8)	632(22)	833(11)			
3664	4	71.40	325.19	632(1)	876(3)				
3665	60	71.40	325.59	187(14)	431(21)	803(3)	876(22)		
3666	42	71.40	325.99	187(13)	431(12)	876(17)			
3667	2	71.40	326.39	846(2)					
3668	14	71.40	326.79	718(14)					
3669	27	71.40	327.19	474(4)	645(2)	718(20)	846(1)		
3670	27	71.40	327.59	230(3)	401(2)	718(22)			
3671	13	71.40	327.99	474(1)	718(8)	889(3)	1018(1)		
3672	2	71.40	328.39	444(1)	688(1)				
3674	5	71.40	329.19	517(5)					
3675	2	71.40	329.59	200(2)					
3682	1	71.40	332.39	603(1)					
3684	1	71.40	333.19	646(1)					
3688	7	71.40	334.79	201(3)	1492(4)				
3691	12	71.40	335.99	1376(12)					
3692	3	71.40	336.39	1161(2)	1376(1)				
3693	3	71.40	336.79	244(3)					
3712	1	71.50	304.40	805(1)					
3713	1	71.50	304.80	1406(1)					
3714	1	71.50	305.20	201(1)					
3718	1	71.50	306.80	244(1)					
3728	30	71.50	310.80	288(9)	532(16)	617(5)			
3729	21	71.50	311.20	288(8)	532(3)	617(9)	776(1)		
3730	8	71.50	311.60	532(8)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3731	25	71.50	312.00	532(6)	776(16)	1248(3)			
3732	26	71.50	312.40	172(8)	575(18)				
3733	43	71.50	312.80	172(22)	575(21)				
3734	55	71.50	313.20	172(8)	459(17)	575(20)	819(10)		
3735	60	71.50	313.60	459(22)	575(3)	618(13)	819(22)		
3736	66	71.50	314.00	459(22)	618(22)	819(22)			
3737	54	71.50	314.40	459(11)	618(22)	819(21)			
3738	35	71.50	314.80	258(18)	618(17)				
3739	37	71.50	315.20	173(3)	258(19)	417(15)			
3740	79	71.50	315.60	173(22)	258(21)	417(21)	1034(15)		
3741	74	71.50	316.00	173(21)	258(11)	417(22)	1034(20)		
3742	39	71.50	316.40	417(17)	1034(22)				
3743	37	71.50	316.80	460(22)	1034(15)				
3744	25	71.50	317.20	460(22)	588(3)				
3745	43	71.50	317.60	460(22)	588(.21)				
3746	37	71.50	318.00	460(9)	503(6)	588(22)			
3747	68	71.50	318.40	259(21)	503(20)	588(22)	832(5)		
3748	73	71.50	318.80	259(22)	503(14)	588(6)	631(10)	832(21)	
3749	87	71.50	319.20	259(22)	503(21)	631(22)	832(22)		
3750	70	71.50	319.60	259(10)	503(1)	546(15)	631(22)	832(22)	
3751	63	71.50	320.00	546(22)	631(19)	832(5)	875(17)		
3752	84	71.50	320.40	430(9)	546(14)	674(19)	790(21)	875(21)	
3753	117	71.50	320.79	186(15)	430(22)	546(14)	674(22)	790(22)	875(22)
3754	100	71.50	321.19	186(22)	430(22)	674(21)	790(21)	875(14)	
3755	67	71.50	321.59	186(22)	430(21)	674(12)	717(2)	790(10)	
3756	34	71.50	321.99	186(8)	229(1)	430(1)	473(13)	717(10)	833(1)
3757	98	71.50	322.39	229(22)	473(22)	632(10)	717(22)	833(22)	
3758	107	71.50	322.79	229(21)	473(21)	632(22)	717(22)	833(21)	
3759	77	71.50	323.19	229(11)	473(11)	516(5)	632(22)	717(6)	833(22)
3760	100	71.50	323.59	272(17)	516(22)	632(20)	760(15)	833(9)	876(17)
3761	98	71.50	323.99	187(1)	272(22)	431(10)	516(22)	760(22)	876(21)
3762	130	71.50	324.39	187(22)	272(21)	431(22)	516(22)	760(21)	876(22)
3763	111	71.50	324.79	187(22)	272(15)	431(19)	516(4)	559(14)	675(7)
				760(15)	876(15)				
3764	27	71.50	325.19	187(22)	559(4)	718(1)			
3765	40	71.50	325.59	187(8)	230(10)	718(22)			
3766	46	71.50	325.99	230(22)	474(1)	559(1)	718(22)		
3767	42	71.50	326.39	230(21)	718(19)	803(2)			
3768	9	71.50	326.79	230(1)	718(8)				
3769	10	71.50	327.19	761(10)					
3770	20	71.50	327.59	761(20)					
3771	11	71.50	327.99	761(11)					
3772	9	71.50	328.39	401(1)	560(7)	846(1)			
3775	3	71.50	329.59	1018(3)					
3776	3	71.50	329.99	1018(3)					
3777	16	71.50	330.39	200(3)	603(5)	804(8)			
3778	1	71.50	330.79	603(1)					
3790	3	71.50	335.59	244(3)					
3791	3	71.50	335.99	616(3)					
3811	16	71.60	304.00	646(10)	805(2)	847(4)			
3812	2	71.60	304.40	646(2)					
3813	2	71.60	304.80	1234(2)					
3814	2	71.60	305.20	1492(2)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3820	1	71.60	307.60	489(1)					
3825	11	71.60	309.60	775(7)	776(4)				
3826	18	71.60	310.00	287(8)	288(4)	776(6)			
3827	8	71.60	310.40	532(8)					
3828	22	71.60	310.80	532(3)	575(18)	776(1)			
3829	20	71.60	311.20	575(12)	776(8)				
3830	15	71.60	311.60	575(10)	819(5)				
3831	18	71.60	312.00	618(10)	819(8)				
3832	35	71.60	312.40	617(14)	618(15)	819(6)			
3833	8	71.60	312.80	617(8)					
3834	35	71.60	313.20	172(14)	618(14)	819(7)			
3835	41	71.60	313.60	172(21)	417(11)	618(9)			
3836	70	71.60	314.00	172(22)	173(21)	417(21)	1034(6)		
3837	95	71.60	314.40	172(22)	173(21)	417(20)	459(11)	1034(21)	
3838	91	71.60	314.80	172(4)	173(22)	417(22)	459(21)	1034(22)	
3839	88	71.60	315.20	173(19)	417(7)	459(22)	460(18)	1034(22)	
3840	49	71.60	315.60	459(22)	460(22)	1034(5)			
3841	38	71.60	316.00	258(9)	459(7)	460(22)			
3842	46	71.60	316.40	258(20)	460(21)	503(5)			
3843	58	71.60	316.80	258(20)	259(17)	503(21)			
3844	57	71.60	317.20	258(19)	259(21)	503(17)			
3845	52	71.60	317.60	258(9)	259(22)	503(21)			
3846	44	71.60	318.00	259(22)	503(10)	546(12)			
3847	22	71.60	318.40	259(1)	546(21)				
3848	53	71.60	318.80	546(20)	588(16)	790(17)			
3849	65	71.60	319.20	546(21)	588(22)	790(22)			
3850	49	71.60	319.60	546(7)	588(21)	790(21)			
3851	59	71.60	320.00	588(20)	631(2)	790(22)	832(15)		
3852	46	71.60	320.40	588(2)	631(22)	790(1)	832(21)		
3853	69	71.60	320.79	631(22)	632(7)	832(22)	833(18)		
3854	91	71.60	321.19	631(21)	632(21)	832(22)	833(19)	875(8)	
3855	83	71.60	321.59	631(16)	632(22)	674(1)	833(22)	875(22)	
3856	75	71.60	321.99	186(7)	430(12)	632(11)	833(15)	875(21)	876(9)
3857	99	71.60	322.39	186(22)	431(8)	632(11)	675(15)	875(22)	876(21)
3858	108	71.60	322.79	186(21)	187(19)	431(22)	675(14)	875(10)	876(22)
3859	111	71.60	323.19	186(22)	187(21)	430(4)	431(21)	473(8)	717(13)
				876(22)					
3860	96	71.60	323.59	186(3)	187(22)	431(22)	473(22)	717(22)	876(5)
3861	114	71.60	323.99	187(21)	230(6)	431(10)	473(22)	474(15)	717(22)
				718(18)					
3862	108	71.60	324.39	230(22)	473(21)	474(22)	717(21)	718(22)	
3863	99	71.60	324.79	230(21)	272(7)	473(9)	474(20)	516(18)	717(2)
				718(22)					
3864	91	71.60	325.19	230(22)	272(22)	474(6)	516(21)	718(20)	
3865	63	71.60	325.59	230(12)	272(22)	516(22)	761(7)		
3866	64	71.60	325.99	272(21)	516(21)	760(3)	761(19)		
3867	31	71.60	326.39	272(11)	761(20)				
3868	27	71.60	326.79	560(8)	761(19)				
3869	35	71.60	327.19	560(22)	761(11)	803(2)			
3870	26	71.60	327.59	560(22)	803(4)				
3871	19	71.60	327.99	560(19)					
3872	9	71.60	328.39	560(9)					
3873	11	71.60	328.79	603(4)	804(7)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3874	7	71.60	329.19	645(7)					
3875	5	71.60	329.59	646(1)	846(2)	889(2)			
3876	7	71.60	329.99	645(1)	846(6)				
3877	13	71.60	330.39	401(3)	645(3)	646(6)	889(1)		
3878	7	71.60	330.79	646(7)					
3880	18	71.60	331.59	201(6)	445(8)	890(4)			
3885	2	71.60	333.59	244(2)					
3888	9	71.60	334.79	775(9)					
3890	2	71.60	335.59	573(2)					
3891	17	71.60	335.99	573(17)					
3911	10	71.70	304.00	804(9)	1321(1)				
3912	3	71.70	304.40	690(1)	804(2)				
3913	8	71.70	304.80	603(1)	804(7)				
3914	5	71.70	305.20	603(1)	804(1)	891(3)			
3919	5	71.70	307.20	489(4)	1019(1)				
3920	1	71.70	307.60	489(1)					
3921	1	71.70	308.00	1191(1)					
3922	3	71.70	308.40	776(3)					
3923	2	71.70	308.80	201(1)	776(1)				
3925	12	71.70	309.60	244(2)	575(6)	776(4)			
3926	19	71.70	310.00	575(11)	819(8)				
3927	16	71.70	310.40	244(6)	287(1)	575(9)			
3928	11	71.70	310.80	618(8)	775(3)				
3929	25	71.70	311.20	287(2)	618(2)	775(11)	819(10)		
3930	22	71.70	311.60	618(17)	819(5)				
3931	37	71.70	312.00	173(8)	417(17)	618(5)	775(7)		
3932	58	71.70	312.40	173(22)	417(21)	1034(15)			
3933	68	71.70	312.80	173(21)	417(22)	617(4)	1034(21)		
3934	85	71.70	313.20	173(21)	417(21)	460(6)	617(15)	1034(22)	
3935	94	71.70	313.60	173(22)	417(11)	460(21)	617(19)	1034(21)	
3936	51	71.70	314.00	173(1)	460(22)	617(18)	1034(10)		
3937	39	71.70	314.40	460(21)	617(18)				
3938	53	71.70	314.80	172(17)	259(2)	460(19)	503(14)	617(1)	
3939	65	71.70	315.20	172(22)	259(22)	460(3)	503(18)		
3940	64	71.70	315.60	172(21)	259(21)	503(22)			
3941	79	71.70	316.00	172(22)	259(22)	459(14)	503(21)		
3942	92	71.70	316.40	172(13)	259(21)	459(22)	503(15)	546(21)	
3943	51	71.70	316.80	259(5)	459(21)	546(21)	790(4)		
3944	58	71.70	317.20	459(21)	546(16)	790(21)			
3945	70	71.70	317.60	258(13)	459(17)	546(18)	790(22)		
3946	52	71.70	318.00	258(21)	546(10)	790(21)			
3947	44	71.70	318.40	258(22)	790(22)				
3948	30	71.70	318.80	258(21)	790(4)	833(5)			
3949	55	71.70	319.20	258(18)	632(16)	833(21)			
3950	42	71.70	319.60	632(21)	833(21)				
3951	44	71.70	320.00	632(22)	833(22)				
3952	85	71.70	320.40	588(19)	632(21)	675(3)	833(21)	876(21)	
3953	106	71.70	320.79	187(6)	431(17)	588(22)	632(15)	675(21)	833(4)
				876(21)					
3954	108	71.70	321.19	187(22)	431(22)	588(21)	675(21)	876(22)	
3955	133	71.70	321.59	187(21)	431(21)	588(21)	631(6)	675(22)	832(21)
				876(21)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
3956	111	71.70	321.99	187(22)	431(22)	474(3)	588(7)	631(11)	675(11)
				718(6)	832(19)	876(10)			
3957	143	71.70	322.39	187(21)	230(15)	431(13)	474(22)	631(22)	675(7)
				718(22)	832(21)				
3958	103	71.70	322.79	187(3)	230(21)	474(21)	631(21)	718(21)	832(4)
				875(12)					
3959	99	71.70	323.19	230(22)	474(21)	631(14)	718(21)	875(21)	
3960	68	71.70	323.59	230(21)	474(20)	674(3)	718(22)	875(2)	
3961	41	71.70	323.99	230(16)	430(3)	474(6)	718(1)	761(15)	
3962	26	71.70	324.39	186(2)	761(21)	875(3)			
3963	48	71.70	324.79	473(10)	674(1)	717(17)	761(20)		
3964	77	71.70	325.19	473(13)	517(4)	560(18)	717(21)	761(21)	
3965	63	71.70	325.59	473(10)	560(21)	717(21)	761(11)		
3966	40	71.70	325.99	560(21)	717(19)				
3967	68	71.70	326.39	229(2)	272(11)	516(22)	560(22)	717(11)	
3968	31	71.70	326.79	272(4)	516(9)	560(13)	603(3)	760(1)	804(1)
3969	9	71.70	327.19	272(9)					
3970	6	71.70	327.59	272(6)					
3971	3	71.70	327.99	559(3)					
3972	3	71.70	328.39	646(2)	803(1)				
3973	2	71.70	328.79	158(2)					
3974	2	71.70	329.19	646(1)	803(1)				
3975	8	71.70	329.59	646(5)	803(1)	890(2)			
3976	2	71.70	329.99	445(2)					
3977	5	71.70	330.39	689(5)					
3978	7	71.70	330.79	445(4)	645(3)				
3984	2	71.70	333.19	200(2)					
3985	7	71.70	333.59	200(1)	775(6)				
3988	1	71.70	334.79	775(1)					
3990	1	71.70	335.59	530(1)					
3991	7	71.70	335.99	530(5)	774(2)				
3992	16	71.70	336.39	286(8)	530(6)	617(1)	774(1)		
4011	1	71.80	304.00	273(1)					
4014	2	71.80	305.20	804(2)					
4018	3	71.80	306.80	776(3)					
4020	2	71.80	307.60	646(2)					
4021	3	71.80	308.00	1191(3)					
4022	3	71.80	308.40	646(3)					
4023	8	71.80	308.80	575(4)	689(1)	1019(1)	1191(2)		
4024	3	71.80	309.20	1019(1)	1148(2)				
4025	25	71.80	309.60	158(8)	417(2)	890(4)	1019(4)	1191(6)	1234(1)
4026	40	71.80	310.00	201(15)	445(4)	689(4)	1034(3)	1148(3)	1191(11)
4027	53	71.80	310.40	173(14)	201(22)	417(10)	445(2)	1148(3)	1163(1)
				1191(1)					
4028	55	71.80	310.80	173(21)	201(3)	244(5)	417(10)	445(6)	488(7)
				1034(3)					
4029	85	71.80	311.20	173(12)	244(14)	417(3)	460(13)	488(13)	1034(5)
				1163(10)	1249(15)				
4030	24	71.80	311.60	244(10)	488(7)	1206(7)			
4031	68	71.80	312.00	173(8)	244(16)	287(8)	460(1)	488(21)	775(2)
				1034(10)	1249(2)				
4032	100	71.80	312.40	244(21)	287(19)	460(20)	488(15)	503(1)	775(19)
				1034(2)	1249(3)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
4033	103	71.80	312.80	244(4)	259(14)	287(22)	460(22)	503(19)	775(22)
4034	92	71.80	313.20	259(19)	287(21)	460(13)	503(20)	775(19)	
4035	80	71.80	313.60	259(22)	287(21)	503(16)	775(21)		
4036	77	71.80	314.00	259(21)	287(10)	503(21)	546(8)	775(17)	
4037	68	71.80	314.40	259(21)	503(21)	546(21)	775(5)		
4038	72	71.80	314.80	259(17)	503(8)	546(22)	617(14)	790(11)	
4039	60	71.80	315.20	546(21)	574(3)	617(15)	790(21)		
4040	60	71.80	315.60	546(21)	617(18)	790(21)			
4041	58	71.80	316.00	546(20)	617(16)	790(22)			
4042	49	71.80	316.40	172(8)	546(1)	617(19)	790(21)		
4043	59	71.80	316.80	172(21)	617(7)	632(3)	790(17)	833(11)	
4044	62	71.80	317.20	172(22)	632(19)	833(21)			
4045	66	71.80	317.60	172(19)	459(5)	632(21)	833(21)		
4046	91	71.80	318.00	172(21)	459(21)	632(21)	833(21)	876(7)	
4047	124	71.80	318.40	172(21)	431(5)	459(21)	632(21)	675(12)	833(22)
				876(22)					
4048	139	71.80	318.80	172(1)	187(15)	431(21)	459(22)	632(22)	675(21)
				833(16)	876(21)				
4049	114	71.80	319.20	187(21)	258(4)	431(21)	459(21)	632(5)	675(21)
				876(21)					
4050	126	71.80	319.60	187(21)	258(21)	431(21)	459(21)	675(21)	876(21)
4051	140	71.80	320.00	187(22)	230(2)	258(21)	431(22)	459(4)	474(12)
				675(21)	718(14)	876(22)			
4052	146	71.80	320.40	187(21)	230(22)	258(21)	431(21)	474(21)	675(19)
				718(21)					
4053	104	71.80	320.79	187(15)	230(21)	258(22)	431(4)	474(21)	718(21)
4054	90	71.80	321.19	230(21)	258(21)	474(22)	502(4)	718(22)	
4055	81	71.80	321.59	230(21)	258(5)	474(14)	517(19)	718(21)	761(1)
4056	63	71.80	321.99	230(22)	474(4)	517(17)	588(11)	718(3)	761(6)
4057	67	71.80	322.39	230(6)	517(21)	588(21)	761(19)		
4058	68	71.80	322.79	517(22)	560(4)	588(21)	761(21)		
4059	53	71.80	323.19	517(10)	560(10)	588(12)	761(21)		
4060	46	71.80	323.59	588(22)	761(20)	832(4)			
4061	25	71.80	323.99	560(1)	588(18)	761(6)			
4062	20	71.80	324.39	560(2)	603(13)	631(3)	804(2)		
4063	42	71.80	324.79	560(10)	603(19)	804(10)	832(3)		
4064	43	71.80	325.19	560(4)	603(21)	631(1)	804(17)		
4065	32	71.80	325.59	186(2)	603(19)	804(9)	875(2)		
4066	5	71.80	325.99	430(3)	847(2)				
4067	22	71.80	326.39	186(2)	473(1)	646(4)	717(6)	875(2)	890(7)
4068	30	71.80	326.79	158(3)	473(3)	847(2)	890(22)		
4069	23	71.80	327.19	229(1)	430(2)	689(8)	847(2)	890(10)	
4070	40	71.80	327.59	229(7)	445(4)	473(1)	646(4)	689(9)	717(1)
				847(5)	890(7)	1019(2)			
4071	28	71.80	327.99	158(1)	229(10)	445(10)	890(7)		
4072	6	71.80	328.39	272(3)	689(3)				
4074	3	71.80	329.19	244(3)					
4075	15	71.80	329.59	272(8)	516(5)	760(2)			
4076	8	71.80	329.99	559(2)	760(6)				
4082	3	71.80	332.39	645(3)					
4083	7	71.80	332.79	645(7)					
4084	7	71.80	333.19	645(7)					
4086	4	71.80	333.99	645(4)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
4088	5	71.80	334.79	1405(1)	1491(4)				
4090	10	71.80	335.59	444(4)	1291(3)	1377(3)			
4112	5	71.90	304.40	776(5)					
4113	3	71.90	304.80	230(2)	776(1)				
4114	4	71.90	305.20	273(1)	776(3)				
4115	1	71.90	305.60	273(1)					
4119	1	71.90	307.20	273(1)					
4121	19	71.90	308.00	273(8)	417(4)	517(7)			
4122	6	71.90	308.40	173(2)	460(2)	1034(2)			
4123	16	71.90	308.80	560(4)	804(12)				
4124	38	71.90	309.20	173(7)	417(3)	460(3)	560(7)	603(4)	804(9)
				847(5)					
4125	38	71.90	309.60	158(1)	173(3)	259(1)	503(1)	603(6)	646(5)
				804(21)					
4126	43	71.90	310.00	158(4)	460(1)	503(1)	646(9)	804(17)	847(2)
				1034(9)					
4127	53	71.90	310.40	158(11)	646(3)	847(3)	890(6)	1019(4)	1148(8)
				1191(18)					
4128	85	71.90	310.80	158(15)	460(4)	503(2)	646(11)	847(5)	890(4)
				1019(3)	1148(18)	1191(6)	1234(17)		
4129	15	71.90	311.20	460(6)	646(1)	1019(1)	1148(3)	1191(1)	1234(3)
4130	66	71.90	311.60	158(6)	201(1)	259(1)	445(1)	646(9)	689(6)
				847(20)	890(4)	1019(6)	1191(10)	1234(2)	
4131	51	71.90	312.00	259(10)	646(21)	847(20)			
4132	170	71.90	312.40	158(18)	201(21)	259(21)	445(20)	488(7)	503(8)
				546(9)	646(10)	689(11)	790(17)	890(17)	1019(7)
				1234(4)					
4133	177	71.90	312.80	158(9)	201(19)	244(17)	259(7)	445(20)	488(19)
				546(17)	689(18)	790(18)	890(17)	1019(16)	
4134	120	71.90	313.20	201(18)	244(21)	445(21)	488(19)	689(19)	790(21)
				1019(1)					
4135	136	71.90	313.60	201(21)	244(21)	445(21)	488(21)	546(18)	689(11)
				790(21)	833(2)				
4136	140	71.90	314.00	201(21)	244(17)	287(6)	445(16)	488(18)	546(9)
				632(15)	790(17)	833(21)			
4137	146	71.90	314.40	201(4)	244(21)	287(21)	488(21)	632(21)	775(16)
				790(21)	833(21)				
4138	134	71.90	314.80	244(21)	287(21)	488(21)	632(21)	775(19)	790(10)
				833(21)					
4139	150	71.90	315.20	244(21)	287(21)	488(20)	574(5)	632(21)	675(2)
				775(21)	833(21)	876(18)			
4140	182	71.90	315.60	187(7)	244(17)	287(21)	431(18)	488(6)	574(9)
				632(20)	675(21)	775(21)	833(21)	876(21)	
4141	168	71.90	316.00	187(21)	287(21)	431(21)	632(21)	675(21)	775(21)
				833(21)	876(21)				
4142	169	71.90	316.40	187(21)	287(21)	431(21)	632(22)	675(21)	775(21)
				833(21)	876(21)				
4143	167	71.90	316.80	187(21)	287(21)	431(21)	474(4)	617(8)	632(18)
				675(21)	718(4)	775(21)	833(7)	876(21)	
4144	182	71.90	317.20	187(21)	230(16)	287(7)	431(21)	474(21)	617(19)
				675(21)	718(21)	775(14)	876(21)		
4145	164	71.90	317.60	187(21)	230(21)	431(21)	474(19)	617(19)	675(21)
				718(21)	876(21)				

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
4146	155	71.90	318.00	187(21)	230(21)	431(21)	474(21)	617(15)	675(21)
				718(21)	876(14)				
4147	135	71.90	318.40	187(21)	230(21)	431(16)	474(21)	517(9)	617(17)
				675(9)	718(21)				
4148	136	71.90	318.80	172(20)	187(6)	230(21)	474(21)	517(21)	617(15)
				718(21)	761(11)				
4149	144	71.90	319.20	172(21)	230(21)	474(21)	517(21)	617(18)	718(21)
				761(21)					
4150	146	71.90	319.60	172(21)	230(21)	474(21)	517(21)	617(20)	718(21)
				761(21)					
4151	130	71.90	320.00	172(21)	230(19)	459(17)	474(9)	517(21)	560(15)
				718(7)	761(21)				
4152	105	71.90	320.40	172(21)	459(21)	517(21)	560(21)	761(21)	
4153	113	71.90	320.79	172(21)	459(21)	517(21)	560(21)	761(21)	804(8)
4154	120	71.90	321.19	172(21)	459(21)	502(4)	517(21)	560(21)	603(3)
				761(21)	804(8)				
4155	124	71.90	321.59	172(13)	258(16)	459(21)	502(17)	517(2)	560(17)
				603(19)	761(19)				
4156	77	71.90	321.99	258(21)	459(21)	502(3)	560(15)	603(17)	
4157	85	71.90	322.39	258(21)	459(21)	560(21)	603(19)	804(3)	
4158	78	71.90	322.79	258(21)	459(16)	560(17)	603(20)	646(1)	847(3)
4159	84	71.90	323.19	258(21)	603(17)	646(21)	804(4)	847(21)	
4160	103	71.90	323.59	158(3)	258(21)	603(21)	646(21)	847(20)	890(17)
4161	105	71.90	323.99	258(21)	588(3)	603(21)	646(21)	890(21)	1019(18)
4162	130	71.90	324.39	158(2)	201(4)	258(18)	445(15)	588(21)	603(9)
				646(21)	890(21)	1019(19)			
4163	122	71.90	324.79	158(3)	201(21)	445(21)	588(15)	646(21)	689(1)
				847(3)	890(16)	1019(21)			
4164	72	71.90	325.19	201(17)	445(12)	646(21)	689(4)	890(1)	1019(17)
4165	52	71.90	325.59	158(6)	588(15)	646(5)	689(19)	890(7)	
4166	38	71.90	325.99	488(6)	588(21)	689(11)			
4167	47	71.90	326.39	244(1)	445(1)	588(13)	631(4)	689(13)	890(10)
				1019(5)					
4168	26	71.90	326.79	488(5)	689(21)				
4169	15	71.90	327.19	201(1)	445(1)	689(13)			
4170	16	71.90	327.59	186(3)	244(2)	287(9)	875(2)		
4171	7	71.90	327.99	430(7)					
4172	5	71.90	328.39	430(4)	631(1)				
4173	2	71.90	328.79	186(2)					
4175	21	71.90	329.59	430(3)	473(13)	717(5)			
4176	6	71.90	329.99	430(5)	473(1)				
4177	4	71.90	330.39	473(4)					
4178	7	71.90	330.79	473(7)					
4179	1	71.90	331.19	717(1)					
4180	1	71.90	331.59	473(1)					
4181	11	71.90	331.99	172(3)	272(1)	559(6)	617(1)		
4182	6	71.90	332.39	559(5)	617(1)				
4183	26	71.90	332.79	272(12)	516(13)	803(1)			
4184	10	71.90	333.19	803(10)					
4186	4	71.90	333.99	803(4)					
4188	3	71.90	334.79	645(3)					
4212	2	72.00	304.40	1378(2)					
4213	7	72.00	304.80	1378(7)					

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
4214	2	72.00	305.20	1220(1)	1435(1)				
4215	24	72.00	305.60	1206(3)	1220(2)	1306(10)	1392(5)	1478(4)	
4216	10	72.00	306.00	1206(9)	1306(1)				
4217	9	72.00	306.40	1306(3)	1349(3)	1392(3)			
4220	3	72.00	307.60	1435(3)					
4221	32	72.00	308.00	187(9)	503(11)	517(5)	546(5)	675(2)	
4222	34	72.00	308.40	187(2)	259(2)	273(3)	503(7)	517(2)	632(1)
				1220(10)	1435(7)				
4223	155	72.00	308.80	187(14)	259(3)	273(7)	431(11)	474(9)	503(3)
				517(7)	632(12)	675(11)	718(9)	761(11)	790(11)
				833(12)	876(13)	1306(14)	1349(8)		
4224	101	72.00	309.20	187(7)	259(4)	273(7)	431(19)	632(2)	675(20)
				718(1)	790(9)	876(15)	1306(1)	1349(16)	
4225	195	72.00	309.60	187(18)	230(14)	259(5)	273(9)	431(21)	474(2)
				517(19)	632(11)	675(21)	718(17)	761(20)	790(8)
				833(3)	1220(3)	1392(3)	1435(9)	1478(12)	
4226	139	72.00	310.00	187(13)	230(14)	273(9)	431(15)	474(6)	517(13)
				632(12)	675(14)	718(10)	761(13)	790(2)	833(3)
				876(2)	1220(8)	1478(5)			
4227	32	72.00	310.40	273(6)	474(6)	546(13)	560(2)	790(5)	
4228	137	72.00	310.80	187(9)	230(10)	431(11)	474(14)	517(12)	546(4)
				560(9)	632(7)	675(12)	718(4)	761(4)	790(9)
				804(7)	833(5)	876(7)	1220(13)		
4229	290	72.00	311.20	187(21)	230(19)	273(6)	431(17)	474(18)	517(21)
				560(18)	632(21)	675(21)	718(18)	761(21)	790(14)
				804(19)	833(19)	876(16)	1220(21)		
4230	160	72.00	311.60	187(6)	230(21)	273(4)	474(21)	517(21)	560(3)
				603(3)	632(4)	675(1)	718(21)	761(21)	790(11)
				804(2)	1220(21)				
4231	129	72.00	312.00	187(8)	230(18)	273(12)	431(5)	474(4)	517(3)
				560(14)	603(2)	632(6)	675(6)	718(20)	761(3)
				804(5)	833(5)	847(1)	876(6)	1220(11)	
4232	291	72.00	312.40	187(21)	230(15)	273(20)	431(21)	474(14)	517(6)
				560(21)	603(21)	632(18)	646(10)	675(18)	718(20)
				761(6)	804(21)	833(21)	847(20)	876(18)	
4233	343	72.00	312.80	158(10)	187(21)	230(21)	273(18)	431(21)	474(21)
				517(18)	560(20)	603(21)	632(18)	646(21)	675(21)
				718(19)	761(21)	804(21)	833(19)	847(21)	876(10)
				890(1)					
4234	299	72.00	313.20	158(3)	187(2)	230(21)	273(18)	431(8)	474(21)
				517(21)	560(21)	603(18)	632(21)	646(21)	675(21)
				718(20)	761(19)	804(21)	833(20)	847(21)	890(2)
4235	300	72.00	313.60	158(2)	187(8)	230(21)	273(21)	431(2)	474(21)
				517(20)	560(21)	603(19)	632(21)	646(20)	675(18)
				718(19)	761(20)	804(17)	833(19)	847(20)	876(1)
				890(8)	1019(2)				
4236	384	72.00	314.00	158(19)	187(21)	230(21)	273(21)	431(19)	445(5)
				474(20)	517(21)	560(19)	603(21)	632(6)	646(19)
				675(18)	689(9)	718(21)	761(21)	804(21)	847(19)
				876(21)	890(21)	1019(21)			

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
4237	432	72.00	314.40	158(21)	187(21)	201(17)	230(20)	273(21)	431(21)
				445(21)	474(21)	517(21)	560(20)	603(21)	646(20)
				675(21)	689(21)	718(21)	761(21)	804(21)	847(20)
				876(21)	890(20)	1019(21)			
4238	434	72.00	314.80	158(21)	187(21)	201(21)	230(21)	273(20)	431(21)
				445(21)	474(21)	517(21)	560(21)	603(20)	646(21)
				675(21)	689(21)	718(20)	761(20)	804(19)	847(21)
				876(20)	890(21)	1019(21)			
4239	417	72.00	315.20	158(20)	187(21)	201(20)	230(21)	273(21)	431(21)
				445(21)	474(21)	517(20)	560(21)	603(21)	646(21)
				675(19)	689(21)	718(21)	761(21)	804(20)	847(21)
				876(3)	890(21)	1019(21)			
4240	389	72.00	315.60	158(21)	187(14)	201(21)	230(21)	244(4)	273(21)
				431(3)	445(21)	474(20)	488(15)	517(21)	560(21)
				603(21)	646(21)	689(20)	718(21)	761(21)	804(21)
				847(20)	890(21)	1019(20)			
4241	391	72.00	316.00	158(21)	201(21)	230(21)	244(21)	273(21)	445(20)
				474(21)	488(19)	517(21)	560(20)	603(21)	646(20)
				689(21)	718(21)	761(21)	804(21)	847(19)	890(20)
				1019(21)					
4242	391	72.00	316.40	158(21)	201(21)	230(20)	244(21)	273(21)	445(21)
				474(21)	488(21)	517(21)	560(21)	603(18)	646(21)
				689(21)	718(21)	761(18)	804(20)	847(21)	890(21)
				1019(21)					
4243	384	72.00	316.80	158(20)	201(21)	230(21)	244(21)	273(20)	445(21)
				474(17)	488(21)	517(21)	560(21)	603(21)	646(21)
				689(21)	718(14)	761(19)	804(21)	847(21)	890(21)
				1019(21)					
4244	358	72.00	317.20	158(21)	201(21)	230(5)	244(21)	273(21)	287(14)
				445(21)	488(21)	517(20)	560(21)	603(21)	646(21)
				689(20)	761(21)	775(7)	804(21)	847(20)	890(21)
				1019(20)					
4245	343	72.00	317.60	158(21)	201(20)	244(20)	273(1)	287(21)	445(20)
				488(20)	517(21)	560(20)	603(17)	646(20)	689(21)
				761(19)	775(20)	804(20)	847(21)	890(20)	1019(21)
4246	345	72.00	318.00	158(21)	201(21)	244(21)	287(21)	445(19)	488(21)
				517(21)	560(21)	603(18)	646(21)	689(17)	761(18)
				775(21)	804(21)	847(21)	890(21)	1019(21)	
4247	344	72.00	318.40	158(21)	201(21)	244(21)	287(21)	445(21)	488(21)
				517(12)	560(21)	603(19)	646(21)	689(20)	761(21)
				775(21)	804(21)	847(20)	890(21)	1019(21)	
4248	318	72.00	318.80	158(20)	201(21)	244(21)	287(21)	445(21)	488(21)
				560(21)	603(19)	646(21)	689(21)	761(10)	775(18)
				804(21)	847(21)	890(21)	1019(20)		
4249	301	72.00	319.20	158(21)	201(20)	244(19)	287(20)	445(20)	488(20)
				560(21)	603(20)	646(20)	689(21)	775(17)	804(20)
				847(21)	890(20)	1019(21)			
4250	313	72.00	319.60	158(21)	201(21)	244(20)	287(21)	445(21)	488(21)
				560(20)	603(21)	617(1)	646(21)	689(21)	775(20)
				804(21)	847(21)	890(21)	1019(21)		
4251	315	72.00	320.00	158(21)	201(21)	244(21)	287(21)	445(21)	488(21)
				560(6)	603(21)	617(17)	646(21)	689(20)	775(21)
				804(21)	847(20)	890(21)	1019(21)		

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
4252	314	72.00	320.40	158(21)	201(21)	244(21)	287(21)	445(21)	488(21)
				603(21)	617(21)	646(21)	689(21)	775(21)	804(21)
				847(21)	890(21)	1019(20)			
4253	296	72.00	320.79	158(20)	201(21)	244(19)	287(21)	445(21)	488(20)
				603(19)	617(18)	646(20)	689(21)	775(21)	804(13)
				847(21)	890(20)	1019(21)			
4254	284	72.00	321.19	158(21)	201(20)	244(20)	287(20)	445(20)	488(21)
				603(16)	617(21)	646(21)	689(21)	775(20)	847(21)
				890(21)	1019(21)				
4255	268	72.00	321.59	158(21)	172(8)	201(21)	244(21)	287(21)	445(21)
				488(19)	617(16)	646(21)	689(20)	775(20)	847(20)
				890(21)	1019(18)				
4256	275	72.00	321.99	158(21)	172(21)	201(19)	244(21)	287(21)	445(21)
				488(12)	617(19)	646(21)	689(21)	775(20)	847(21)
				890(21)	1019(16)				
4257	258	72.00	322.39	158(14)	172(21)	201(21)	244(21)	287(21)	445(21)
				488(20)	617(21)	646(12)	689(21)	775(20)	847(11)
				890(13)	1019(21)				
4258	193	72.00	322.79	201(21)	244(21)	287(20)	445(20)	459(5)	488(21)
				574(6)	617(18)	689(17)	775(21)	890(2)	1019(21)
4259	186	72.00	323.19	201(18)	244(20)	287(21)	445(21)	459(8)	488(21)
				617(17)	775(21)	890(20)	1019(19)		
4260	186	72.00	323.59	172(2)	201(21)	244(21)	287(21)	445(21)	459(20)
				488(21)	617(17)	775(20)	890(4)	1019(18)	
4261	168	72.00	323.99	201(21)	244(21)	287(21)	445(21)	459(21)	488(21)
				617(17)	689(1)	775(21)	1019(3)		
4262	143	72.00	324.39	201(17)	244(6)	258(3)	287(20)	445(6)	459(21)
				488(20)	574(10)	617(19)	775(21)		
4263	125	72.00	324.79	172(2)	258(21)	287(21)	459(21)	488(21)	617(18)
				775(21)					
4264	120	72.00	325.19	244(3)	258(21)	287(21)	459(21)	488(21)	617(16)
				775(17)					
4265	66	72.00	325.59	258(20)	287(10)	459(10)	488(21)	775(5)	
4266	40	72.00	325.99	258(21)	775(19)				
4267	49	72.00	326.39	172(11)	258(10)	459(19)	775(9)		
4268	18	72.00	326.79	287(2)	459(16)				
4270	2	72.00	327.59	172(1)	258(1)				
4272	13	72.00	328.39	172(9)	258(1)	617(3)			
4273	18	72.00	328.79	172(1)	588(2)	617(3)	631(4)	832(8)	
4274	24	72.00	329.19	617(10)	631(14)				
4275	7	72.00	329.59	832(7)					
4277	7	72.00	330.39	631(7)					
4278	5	72.00	330.79	186(3)	588(2)				
4279	13	72.00	331.19	186(13)					
4280	6	72.00	331.59	186(5)	430(1)				
4281	5	72.00	331.99	631(5)					
4282	15	72.00	332.39	186(5)	473(3)	631(7)			
4283	8	72.00	332.79	186(3)	473(5)				
4284	9	72.00	333.19	717(7)	875(2)				
4285	40	72.00	333.59	272(2)	516(9)	717(13)	832(16)		
4286	2	72.00	333.99	516(2)					
4287	20	72.00	334.39	186(7)	272(1)	473(7)	1391(5)		
4288	21	72.00	334.79	186(6)	272(10)	473(2)	1391(3)		

Table 6. Seasat Greenland Geographical Data Base (Cont.)

BIN NUMBER	NUMBER PTS	LAT-LONG SW CORNER		REV (NUMBER PTS)					
4289	1	72.00	335.19	473(1)					
4290	25	72.00	335.59	186(1)	272(2)	430(1)	473(5)	1305(4)	1391(5)
				1434(1)	1477(6)				
4291	12	72.00	335.99	186(4)	272(2)	631(2)	1391(3)	1477(1)	

Table 7. Seasat Geo-referenced Data Base Header Description

FILE 1: GEO-REFERENCED DATA BASE HEADER RECORD

Record Format: One logical record corresponds to one physical record

Blocksize: 480 Bytes

Bytes	FORTRAN Variable Type	Description
1–4	I*4	Number of latitude rows in the data base (56)
5–8	I*4	Northwestern-most latitude of data base in degrees North (x 10^5) (7210000)
9–12	I*4	Northwestern-most longitude of data base in degrees East (x 10^5) (30000000)
13–16	I*4	Southeastern-most latitude of data base in degrees North (x 10^5) (5990000)
17–20	I*4	Southeastern-most longitude of data base in degrees East (x 10^5) (34000000)
21–244	I*4	Width of each latitude row in degrees (x 10^5), starting with the southernmost row. This is dimensioned by the number of latitude rows in the data base.
245-468	I*4	The number of longitude divisions in each latitude row, starting with the southernmost row. This is dimensioned by the number of latitude rows in the data base.
469-472	I*4	Logical record in data base at which directory starts.
473-476	I*4	Size of the data base, including the directory, in blocks.
477-480	I*4	Status word for altimetry data.

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Bits	value	Description
0–23	0	Unused
24	1	Slope correction applied
	0	Slope correction not applied
25	1	Orbit adjustment applied
	0	Orbit adjustment not applied
26	1	Solid tides removed
	0	Solid tides not removed

Table 7. Seasat Geo-referenced Data Base Header Description (Cont.)

(477-480 Cont.)	Bits	Value	Description
	27	1	Retracking correction applied
		0	Retracking correction not applied
	28	1	Center of gravity bias applied
		0	Center of gravity bias not applied
	29	1	Tropospheric correction applied
		0	Tropospheric correction not applied
	30	1	Ionospheric correction applied
		0	Ionospheric correction not applied
	31	1	Time bias applied
		0	Time bias not applied

Table 8. Seasat Geo-referenced Data Base Description

FILE 2: GEO-REFERENCED DATA BASE
Record Format: 595 logical records correspond to one physical record
Blocksize: 19040 Bytes

Subgroup 1: One logical record for each bin containing data

Bytes	FORTRAN Variable Type	Description
1–4	I*4	Indicates the number of logical records which follow which are located in the bin
5–32		Unused

Subgroup 2: One logical record for each data point in the bin

Bytes	FORTRAN Variable Type	Description
1–4	I*4	North latitude of datum point in degrees (x 10^6)
5–8	I*4	East longitude of datum point in degrees (x 10^6)
9–12	I*4	Surface height relative to the ellipsoid in cm.
13–16	I*4	Height sigma, arbitrary value of 1.0 m used (x 10^5)
17–18	I*2	Rev number
19–20	I*2	Used for temporary flags when gridding the data
21–24	I*4	Orbit adjustment in meters (x 10^5) (–999999999 if unavailable)
25–28	I*4	RMS of orbit adjustment in meters (x 10^5) (–999999999 if unavailable)
29–32	I*4	Slope correction in meters (x 10^5) (–999999999 if unavailable)

NOTE: Subgroups 1 and 2 are repeated for as many bins with data.

Table 8. Seasat Geo-referenced Data Base Description (Cont.)

Subgroup 3: Directory

Bytes	FORTRAN Variable Type	Description
1–4	I*4	Record number at which data for bin 1 starts
5–8	I*4	Record number at which data for bin 2 starts
9–12	I*4	Record number at which data for bin 3 starts
13–16	I*4	Record number at which data for bin 4 starts
17–20	I*4	Record number at which data for bin 5 starts
21–24	I*4	Record number at which data for bin 6 starts
25–28	I*4	Record number at which data for bin 7 starts
29–32	I*4	Record number at which data for bin 8 starts

NOTE: The directory contains as many 32-byte logical records as necessary to designate the record locations of all bins.

Table 9. Elevation Grid Header Description

FILE 4: ELEVATION GRID HEADER RECORD

Record Format: One logical record corresponds to one physical record
Blocksize: 80 Bytes

Bytes	FORTRAN Variable Type	Description
1–4	I*4	Number of latitude increments in the grid for a non-polar stereographic grid (140)
5–8	I*4	Number of longitude increments in the grid for a non-polar stereographic grid (152)
9–12	I*4	Starting north latitude of grid in degrees North (x 10^6) (this will be approximate for a polar stereographic grid) (50000000)
13–16	I*4	Starting east longitude of grid in degrees East (x 10^6) (this will be approximate for a polar stereographic grid) (300000000)
17–20	I*4	Ending north latitude of grid in degrees North (x 10^6) (this will be approximate for a polar stereographic grid) (73000000)
21–24	I*4	Ending east longitude of grid in degrees East (x 10^6) (this will be approximate for a polar stereographic grid) (340000000)
25–28	I*4	Status word for data used to generate grid. A zero in any bit position indicates that the correction is not applied.

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Bits	Value	Description
0-23		Unused
24	1	Slope correction applied
	0	Slope correction not applied
25	1	Orbit adjustment applied
	0	Orbit adjustment not applied
26	1	Solid tides removed
	0	Solid tides not removed
27	1	Retracking correction applied
	0	Retracking correction not applied
28	1	Center of gravity bias applied
	0	Center of gravity bias not applied
29	1	Tropospheric correction applied
	0	Tropospheric correction not applied
30	1	Ionospheric correction applied
	0	Ionospheric correction not applied
31	1	Time bias applied
	0	Time bias not applied

Table 9. Elevation Grid Header Description (Cont.)

Bytes	FORTRAN Variable Type	Description
29–32	I*4	Polar stereographic grid size conversion and scaling factor from half-inch grids on projection plane to the desired grid size (x 10^6) (1650000)
33–36	I*4	The number of grids of desired size from the pole to the equator based on the grid size conversion and scaling factor (x 10^6) (608754894)
37–40	I*4	Latitude of the map perimeter in degrees North (x 10^6) (500000000)
41–44	I*4	Greenwich orientation in degrees (x 10^6) (450000000)
45–48	I*4	Polar stereographic switch (1) =0, grid has constant increment in latitude and longitude =1, grid is in polar stereographic projection
49–52	I*4	Number of I-axis divisions to the extent of the map perimeter (445)
53–56	I*4	Number of J-axis divisions to the extent of the map perimeter (445)
57–60	I*4	J coordinate of the projected pole (223)
61–64	I*4	I coordinate of the projected pole (223)
65–68	I*4	Minimum J index of the grid (166)
69–72	I*4	Maximum J index of the grid (317)
73–76	I*4	Minimum I index of the grid (305)
77–80	I*4	Maximum I index of the grid (444)

Table 10. Elevation Grid Description

FILE 5: ELEVATION GRID DATA RECORD
Record Format: 10 logical records correspond to one physical record
Blocksize: 1800 Bytes

Bytes	FORTRAN Variable Type	Description
1-4	I*4	Condition number of the matrix used in the least-squares solution to the function (x 10^6)
5-8	I*4	Capsize in degrees latitude - radius from grid location defining area from which data was used to define grid (x 10^6)
9-12	I*4	North latitude of grid point in degrees (x 10^6)
13-16	I*4	East longitude of grid point in degrees (x 10^6)
17-20	I*4	Height values of the grid at location relative to sea level in meters (x 10^5)
21-24	I*4	Number of data values that were used to calculate grid value
25-28	I*4	Number of parameters used to define function, NPT, (equals 0, 3, or 6)
29-52	I*4	Six gridding function coefficients. If NPT is $\leq$ 6 then the rest of the coefficients are initialized to zero. (x 10^5)
53-76	I*4	Set of null coefficients associated with any negligible singular values (see SVD reference). If NPT is < 6 then rest of coefficients are initialized to zero (x 10^6)
77-80	I*4	Distance in km from grid locations to closest data point (x 10^6)
81-84	I*4	North latitude of closest data point to grid location in degrees (x 10^6)
85-88	I*4	East longitude of closest data point to grid location in degrees (x 10^6)
89-92	I*4	Height associated with closest data point to grid location in meters (x 10^5)
93-96	I*4	Standard deviation of the data with respect to the gridding function in meters (x 10^6)
97-180	I*4	Correlation matrix from solution. This is a symmetrical 6 X 6 matrix so only the upper triangular portion is stored. The order of storage is elements 1–6 are the first row elements, 7–11 columns 2–6 of second row etc. (x 10^5)

NOTE: Ten of the above-mentioned 180-byte logical records make up one block of data.

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16. Abstract

The data processing methods and ice data products derived from Seasat radar altimeter measurements over the Greenland ice sheet and surrounding sea ice are documented in this first volume of a series. The corrections derived and applied to the Seasat radar altimeter data over ice are described in detail, including the editing and retracking algorithm to correct for height errors caused by lags in the automatic range tracking circuit. The methods for radial adjustment of the orbits and estimation of the slope-induced errors are given. The various levels of ice data sets are described in this report, but the user is referred to Volumes 2 (Greenland) and 4 (Antarctica) for more detailed descriptions of the gridded elevation data sets and the geo-referenced data bases.

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