Bureau of Engineering Research
The University of Texas

ATLAS OF THE CLIMATES OF TEXAS
(Based on the 50 year period 1910 - 1959)

by

Wilfried H. Portig
Visiting Lecturer in Meteorology

JUNE 1962

Price $2.00

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FINAL REPORT

THE STUDY OF WEATHER MODIFICATION

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INTRODUCTION. Originally the climatological information in this atlas was gathered and condensed into tables and charts in order to give a reasonable physical climate basis for weather modification studies. It was found that many people not directly involved in those studies, are just as well interested in the climatic conditions, especially at the present time of economic boom. New industries look for new sites; new agricultural techniques are to be applied under appropriate conditions of weather and climate; the growing population and increasing industry require more water whose resources depend on climate; and also tourism becomes more and more important.

A region such as Texas, severely struck by climatic hazards in the past, has more to gain from climatological investigations than regions under less extreme conditions.

A few attempts have been made in the past to divide Texas into climatic regions, and names such as semiarid, subhumid and others have been used. However, classifications tend to be artificial and they are sometimes misleading. The considerable changes of climate across Texas are gradual; no natural boundary separates the moist East from the dry West, or the cool North from the warm South. Therefore, charts representing temperature distribution by lines of equal temperature (isotherms), and rainfall distribution by lines of equal precipitation (isohyets) are an adequate means of representing the climatic conditions.

DATA. The longer a series of climatological observations, the more representative are the results derived from it. However, the longer the chosen period, the smaller is the number of stations with complete records. After careful inspection of the available data, it was decided to choose the 50 year period 1910 - 1959 as the interval on which the charts are based.

Series of less than 50 years out of the mentioned period should be "reduced" (adjusted) to the standard period. A reduction of a deficient series is based on the assumption that the difference of the temperatures of neighboring stations is markedly less variable than the temperatures themselves. For practical computation the difference has to be considered as constant. The mean temperature difference of all available years is computed between a defective and a complete series. This difference is added to the mean temperature of the complete series as it is computed from all 50 years. The result of this procedure represents the mean temperature of the station with a defective series, reduced to 50 years. This is an old way of adjusting deficient climatological observations by means of a complete series of a nearby station. For precipitation, the ratio instead of the difference is used (1).

The difference between reduced and non-reduced means is negligibly small when only a few of the 50 basic years are missing. Therefore the reduction was not made when the data of at least 46 years out of the period are available.

In the tables, the original and, in parentheses, the reduced data can be found. For drawing the isotherms and isohyets only the reduced values of stations with records of less than 46 years were considered.

It can be seen in the tables that, especially in rainfall series of West Texas, a considerable difference between the original and the reduced means can be found when the number of available years is much smaller than 50. This has its reason in a climatic fluctuation that took place during those fifty years, which can be easily demonstrated by means of the following example.

During all months of July 1910 through 1934, El Paso received 42.53 inches of rain. During the next period of 25 years, 1953 through 1959, only 31.16 inches were recorded in July. The sum of both periods is 73.69 inches, and the divided by 50 gives us the July precipitation 1.47 inches which can be found in the tables and in the charts. Suppose we had only the last 25 years of the period at our disposal, we would calculate 31.16 divided by 25, equal to 1.25 inches. The average based on 25 years differs considerably from the mean based on 50 years, and therefore non-reduced values simply computed by averaging the available data, cannot be compared with the averages of stations with other years of record.

All means have been computed anew, and the calculation was checked in several ways, such as by adding the lists horizontally and vertically, by numerical comparison of the data with those of the neighborhood, and by graphical comparison with other stations of the same area. It cannot be assumed that the presented data are absolutely exact; however, it can be hoped that the remaining errors are less numerous than in some other publications of this kind.

CHARTS AND TABLES. The big charts and the tables contain average values of the temperature and of the precipitation for every month and for the year. Additional maps of the same size inform of the extreme monthly means of temperature recorded between 1910 and 1959. The charts will be supplemented by a series of maps to be published by the U.S. Weather Bureau (2). Those maps will represent the mean daily maximum and minimum temperatures of January and of July.

The difference between "maximum of a monthly mean" and "mean daily maximum of a month" deserves some explanation. In the first case the mean temperature of every day is computed by several measurements made every day at scheduled times. These daily means are combined to monthly means, and out of the latter the greatest is selected. In the second case, one value, the highest temperature, is measured daily. These data of a certain month of each year are averaged. The two values cannot be simply compared. The effect of a high mean daily maximum can be compensated by a low daily minimum, as is usually the case in arid regions; or it can be augmented by high daily minimums such as on the tropical waters. The extreme monthly mean, however, designates an outstandingly hot or cold "spell" which occurred but once in many years.

USE OF THE CHARTS. When using the charts it must be kept in mind that the data are averages of 50 individual values. It cannot be seen whether the individual values cluster close to the mean, or whether they spread out over a wide range. Further, fifty years are not enough to compute means that are as stable as to be considered unchangeable throughout the ages. And even if we possessed stable means, there would be fluctuations of climate, dry spells would alternate with moist ones, and cold periods with warm ones.

In the mountainous Trans-Pecos area of West Texas, the observations are not frequent enough and the station network is not dense enough to allow a correct and complete analysis of the climatic conditions. The maps of this atlas give the best guess possible at this time. It must be expected that future measurements will change the isohyets of the Trans-Pecos area to a greater extent than its isotherms.

Finally, although the U.S. Weather Bureau did its best to install the instruments at the most representative location of a community, it cannot be denied that the measurements reflect only the conditions at the site of the instruments, and that the conditions of the environs can be different. (Compare e.g. the precipitation data of Fort Worth with those of Dallas). The actual conditions of the environment as opposed to the specific measurement site are not known and cannot be considered in the maps. In particular, allowance cannot be made for all differences in elevation of measuring sites.

In order to make the maps more useful, some additional information is offered.

(a) The diagrams on page 29 shows the different types of rainfall distribution throughout the year. There are portions of Texas which do not have a pronounced variation of rainfall (type G), other parts have one rainfall maximum in late spring and one in early fall (types B,C,E), and one district has its rainfall minimum when the majority of the state has a maximum (H vs. A,B,C, and E). The horizontal line at the value 8.3% of each diagram represents an evenly distributed rainfall. (100% in a year, 100/12 = 8.33% per month). The steps indicate the percentage of the total precipitation that fell in a month during the fifty years in question. The chart on page 30 shows the geographical distribution of the annual rainfall types.

It is likely that the limits from type to type will change when more data accumulate. However, future corrections will not be great enough to erase the basic difference between the A and B types in the western part of the state.

The information described in paragraph (a) has been taken directly from the charts and tables of this atlas. It is nothing new but only another form of representation which may be more useful for answering specific questions.

(b) The diagram on page 31 shows how the actual values of the annual precipitation are distributed around the mean (taken from the tables or the chart "annual precipitation". Although the climates of Texas are very different, the data from different portions of the state yielded almost the same results as far as not absolute extremes are concerned.

The following example shows the use of the diagram. The vertical line coming up from 40 inches meets the horizontal line 30 inches at the intersection with the skew line 15%. That means: A station with the 50 year mean of 30 inches has fifteen out of 100 consecutive years with more than 40 inches (which, of course, are compensated by other years of the same period, with less than 30 inches). It can be seen further, that a station with a 50 year mean of 30 inches is not likely to have more than one year with less than 10 inches, nor more than one year with more than 56 inches, out of 100 consecutive years. This diagram is of special importance for the construction of dams and drainage works.

(c) The diagram of page 32 is similar to that of the frequency distribution of annual rainfall (see paragraph (b)). It gives the frequency distribution for monthly rainfall and is used like the diagram described in the previous paragraph. Also with monthly rainfall neither the region of the location of interest, or the season have to be taken into consideration, as far as frequencies between 5 and 85% are concerned. This diagram is of special importance for irrigation projects and for the estimate of the current water supply of industrial plants.

(d) The diagram on page 32 described in paragraph (c) does not inform of extreme monthly rainfall. The minimum rainfall of every month and of almost every region is nil. The maximum rainfall as it has been measured up to now is presented on chart 33 in such a way that the maximum monthly rainfall that may fall twice in a hundred years, can be learned. This is good enough for normal planning. However, there were some individual rainfalls so severe that they cannot be represented in the map. On September 9, 1921, 37 inches of rain fell in Thrall, 65 miles north-east of the state capital; on June 27 through July 1, 1899, 33 inches fell at Turnersville, west of Waco. On June 26 through 28, 1954, 27 inches of rain were recorded in Pandale, half way between Del Rio and Fort Stockton. These rare catastrophic downpours are more than the values of the maximum rainfall map (page 33). Besides that, the map shows monthly rainfall extremes, and the itemized storms occurred in little more than a day. That means that the map on page 33 has to be used with much care.

(e) It was said above that 50 years do not yield stable means. The following table gives an indication as to the variation of the mean precipitation when the period is shifted.

	STATION			
Dates	Brownsville	Austin	El Paso	
1855 - 1903	-	33.52	-	inches
1862 - 1910	-	33.58	-	
1869 - 1917	26.29	33.10	9.12	
1876 - 1924	27.05	34.07	9.12	
1883 - 1931	26.84	34.35	8.83	
1890 - 1938	25.06	33.92	8.41	
1897 - 1945	26.17	34.62	8.66	
1904 - 1952	26.92	33.97	8.38	
1911 - 1959	27.01	34.09	8.15	

With the exception of El Paso, no trend can be found in the variations of the long term mean. The standard error of El Paso's mean 9.12 is $\pm$ 0.52. It is just so high that the laws of theoretical statistics do not decide whether the decrease from 9.12 to 8.15 inches has to be considered as statistically significant or as accidental.

(f) A table for the annual temperature similar to the previous table for precipitation looks like this:

	STATION				
Dates	Brownsville	Houston	Abilene	El Paso	
1870 - 1918	72.88	-	-	-	^{o}F
1876 - 1924	73.12	-	-	-	
1883 - 1931	73.16	-	-	63.62	
1890 - 1938	73.40	69.20	64.44	63.71	
1897 - 1945	73.42	69.39	64.49	63.80	
1904 - 1952	73.65	69.64	64.64	63.88	
1911 - 1959	73.65	69.73	64.72	64.02	

The standard error for 73.65^{o}F (Brownsville) is only $\pm$ 0.15^{o}F, so it is quite obvious that the climate of Texas has become warmer in this century, and the average rate of warming was 0.018^{o}F per annum at all four stations with long temperature records. It may be of interest that the increase of annual temperature at Brownsville was first of all due to temperature rises in January and February with 1.5^{o}F each, and in September and October with 1.0^{o}F increase between the first and the last date of the table above. The other months contribute on the order of $\frac{1}{2}^{o}$ or less; March is the only month with a decrease of temperature (-$\frac{1}{2}^{o}$F) in the mentioned period. An explanation for these temperature changes cannot be offered, however, they occurred in similar form in other parts of the northern hemisphere.

(g) A frequency distribution of the temperatures is not so useful as that for precipitation because the seasonal march overshadows most of its fluctuations. Not overshadowed by the seasonal march are the temperatures of the coldest and warmest months. Therefore two big charts show isotherms of the coldest and of the warmest month respectively. They are based on the monthly temperature means observed form 1910 through 1959.

(h) All data used for the construction of this atlas, including the locations of the stations, stem from publications or from the files of the U.S. Weather Bureau, State Climatologist for Texas, Austin, Texas. They were supplemented by corresponding data from the adjacent states. Requests for further information should be directed to those agencies. Questions referring to the tables and charts presented in this atlas should be directed to the Department of Meteorology, University of Texas, Austin, Texas.

REFERENCES

(1) e.g. V. Conrad and L. W. Pollak, Methods in Climatology 1950, pp. 232 - 237.

(2) U. S. Weather Bureau, Climatography of the United States, Climates of the States, Texas, under press.

<u>Texas Counties and their Climatological Stations</u>
(as far as used for this atlas)

COUNTY	STATION
Anderson	Palestine
Andrews	
Angelina	Lufkin
Aransas	
Archer	
Armstrong	
Atascosa	
Austin	
Bailey	Muleshoe No. 1
Bandera	
Bastrop	
Baylor	Seymour
Bee	Beeville S NE
Bell	Temple
Bexar	San Antonio WB AP
Blanco	Blanco
Borden	
Bosque	
Bowie	
Brazoria	Angleton 4 NE
Brazos	College Station FAA AP
Brewster	Alpine and Marathon
Briscoe	
Brooks	Falfurrias
Brown	Brownwood
Burleson	
Burnet	
Caldwell	Luling 1 SE
Calhoun	
Callahan	
Cameron	Brownsville WB AP Harlingen San Benito
Champ	
Carson	
Cass	
Castro	
Chambers	
Cherokee	
Childress	Childress
Clay	Henrietta
Cochran	
Coke	
Coleman	Coleman
Collin	
Collingsworth	
Colorado	

COUNTY	STATION
Comal	New Braunfels
Comanche	
Concho	
Cooke	Gainesville
Coryell	
Cottle	
Crane	
Crockett	
Crosby	Crosbyton
Culberson	
Dallam	
Dallas	Dallas WB AP
Dawson	Lamesa 1 SSE
Deaf Smith	
Delta	
Denton	Denton Exp. Sta.
De Witt	Cuero 3 NW
Dickens	Spur 1 WNW
Dimmit	Carrizo Springs
Donley	Clarendon
Duval	
Eastland	Eastland
Ector	
Edwards	
Ellis	
El Paso	El Paso WB AP
Erath	Dublin
Falls	
Fannin	Bonham
Fayette	Flatonia
Fisher	
Floyd	
Foard	
Fort Bend	Sugar Land
Franklin	
Freestone	
Frio	Dilley
Gaines	Seminole
Galveston	Galveston WB CITY
Garza	
Gillespie	
Glasscock	
Goliad	
Gonzales	
Gray	Pampa

COUNTY	STATION
Grayson	Sherman No. 2
Gregg	Longview
Grimes	
Guadalupe	
Hale	Plainview
Hall	Memphis
Hamilton	
Hansford	
Hardeman	Quanah 5 SE
Hardin	
Harris	Houston WB CITY
Harrison	Marshall
Hartley	Dalhart FAA AP
Haskell	Haskell
Hays	San Marcos
Hemphill	Canadian
Henderson	
Hidalgo	Mission
Hill	Hillsboro
Hockley	
Hood	
Hopkins	
Houston	
Howard	Big Spring
Hudspeth	
Hunt	Greenville 2 SW
Hutchinson	
Irion	
Jack	
Jackson	
Jesper	
Jeff Davis	Fort Davis
Jefferson	Beaumont Exp. Farm
Jim Hogg	
Jim Wells	
Johnson	Cleburne
Jones	
Karnes	
Kaufman	
Kendall	Boerne
Kenedy	
Kent	
Kerr	Kerrville
Kimble	Junction CAA AP
King	

Texas Counties and their Climatological Stations Cont.

COUNTY	STATION
Kinney	
Kleberg	
Knox	
Lamar	Paris
Lamb	
Lampasas	Lampasas
La Salle	Encinal
Lavaca	
Lee	
Leon	
Liberty	Liberty
Limestone	Mexia
Lipscomb	
Live Oak	
Llano	Llano
Loving	
Lubbock	Lubbock WB AP
Lynn	
McCulloch	
McLennan	Waco WB AP
McMullen	
Madison	
Marion	
Martin	
Mason	
Matagorda	
Maverick	Eagle Pass
Medina	Hondo
Menard	
Midland	Midland WB AP
Milam	Cameron
Mills	
Mitchell	
Montague	
Montgomery	
Moore	
Morris	
Motley	
Nacogdoches	Nacogdoches
Navarro	Corsicana
Newton	
Nolan	
Nueces	Corpus Christi
Ochiltree	
Oldham	Vega

Texas Counties and their Climatological Stations Cont.

COUNTY	STATION
Orange	
Palo Pinto	
Panola	
Parker	
Parmer	
Pecos	Fort Stockton
Polk	
Potter	Amarillo WB AP
Presidio	Presidio
Rains	
Randall	
Reagan	
Real	
Red River	
Reeves	Balmorhea Exp. Pan.
Refugio	
Roberts	Miami
Robertson	
Rockwall	
Runnels	Ballinger 2 N
Rusk	
Sabine	
San Augustine	
San Jacinto	
San Patricio	
San Saba	
Schieicher	
Scurry	Snyder
Shackleford	Albany
Shelby	
Sherman	
Smith	
Sumerveil	
Starr	Rio Grande City
Stephens	
Sterling	
Stonewall	
Sutton	
Swisher	
Tarrant	Fort Worth WB AP
Taylor	Abilene WB AP
Terrell	Sanderson
Terry	
Throckmorton	
Titus	Mount Pleasant

Texas Counties and their Climatological Stations Cont.

COUNTY	STATION
Tom Green	San Angelo WB AP
Travis	Austin WB AP
Trinity	
Tyler	
Upshur	
Upton	McCamey
Uvalde	Uvalde
Val Verde	Del Rio WB CITY
Van Zandt	Wills Point
Victoria	Victoria WB AP
Walker	Huntsville
Waller	
Ward	Grandfalls 3 SSE
Washington	Brenham
Webb	Laredo WB AP
Wharton	Danevang
Wheeler	Pierce
Wichita	Wichita Falls WB AP
Wilbarger	
Willaco	
Williamson	
Wilson	
Winkler	
Wise	Bridgeport
Wood	
Yoakum	
Young	Graham
Zapata	
Zavala	

STATION INDEX

Name	County	Latitude N	Longitude W	Elevation feet
Abilene WB AP	Taylor	32 26	99 41	1759
Albany	Shackelford	32 44	99 18	1429
Alpine	Brewster	30 23	103 40	4433
Amarillo WB AP	Potter	35 14	101 42	3590
Angleton 4 NE	Brazoria	29 12	95 23	27
Austin	Travis	30 18	97 42	615
Ballinger 2 N	Runnels	31 46	99 57	1637
Balmorhea Exp. Pan.	Reeves	31 00	103 41	3225
Beaumont Exp. Farm	Jefferson	30 04	94 17	30
Beeville 5 NE	Bee	28 27	97 42	225
Big Spring	Howard	32 15	101 27	2528
Blanco	Blance	30 05	98 25	1350
Boerne	Kendall	29 49	98 45	1412
Bonham	Fannin	33 36	96 11	566
Brenham	Washington	30 10	96 23	350
Bridgeport	Wise	33 12	97 46	754
Brownsville WB AP	Cameron	25 54	97 26	16
Brownwood	Brown	31 43	98 59	1345
Cameron	Milam	30 51	96 59	393
Canadian	Hemphill	35 55	100 22	2324
Carrizo Springs	Dimmit	28 31	99 52	600
Childress	Childress	34 26	100 12	1880
Clarendon	Donley	34 56	100 53	2720
Cleburne	Johnson	32 21	97 23	758
Coleman	Coleman	31 50	99 26	1710
College Station FAA AP	Brazos	30 35	96 21	314
Corpus Christi WB AP	Nueces	27 46	97 26	41
Corsicana	Navarro	32 05	96 28	445
Crosbyton	Crosby	33 39	101 15	3105
Cuero 3 NW	Dewitt	29 08	97 19	180
Dalhart FAA AP	Hartley	36 01	102 33	3989
Dallas WB AP	Dallas	32 51	96 51	487
Danevang	Wharton	29 02	96 12	70
Del Rio WB CITY	Val Verde	29 20	100 53	957
Denton Exp. Sta.	Denton	33 15	97 11	621
Dilley	Frio	28 40	99 10	569
Dublin	Erath	32 05	98 20	1466
Eagle Pass	Maverick	28 43	100 30	743
Eastland	Eastland	32 24	98 49	1435
El Paso	El Paso	31 48	106 24	3920

Name	County	Latitude N	Longitude W	Elevation feet
Encinal 3 NW	La Salle	28 04	99 22	569
Falfurrias	Brooks	27 13	98 08	110
Flatonia	Fayette	29 41	97 06	465
Fort Davis	Jeff Davis	30 36	103 53	4800
Fort Stockton	Pecos	30 54	102 52	2925
Fort Worth WB AP	Tarrant	32 50	97 03	544
Gainsville	Cooke	33 38	97 08	745
Galveston WBCITY	Galveston	29 18	94 50	7
Graham	Young	33 05	98 35	1040
Grandfalls 3 SSE	Ward	31 18	102 50	2440
Greenville 2 SW	Hunt	33 07	96 08	550
Harlingen	Cameron	26 12	97 42	37
Haskell	Haskell	33 10	99 44	1605
Henrietta	Clay	33 49	98 12	915
Hillsboro	Hill	32 01	97 08	625
Hondo	Medina	29 21	99 08	901
Houston WB CITY	Harris	29 46	95 22	41
Huntsville	Walker	30 44	95 34	400
Junction CAA AP	Kimble	30 30	99 46	1705
Kerrville	Kerr	30 02	99 08	1650
Lamesa 1 SSE	Dawson	32 42	101 56	2965
Lampasas	Lampasas	31 03	98 11	1016
Laredo WB AP	Webb	27 32	99 28	500
Liberty	Liberty	30 03	94 49	38
Llano	Llano	30 45	98 41	1040
Longview	Gregg	32 29	94 43	345
Lubbock WB AP	Lubbock	33 39	101 50	3243
Lufkin	Angelina	31 14	94 45	286
Luling 1 SE	Caldwell	29 40	97 38	400
Marathon	Brewster	30 13	103 15	4050
Marshall	Harrison	32 33	94 22	375
McCamey	Upton	31 08	102 12	2454
Memphis	Hall	34 43	100 32	2067
Mexia	Limestone	31 41	96 29	537
Miami	Roberts	35 42	100 38	2744
Midland WB AP	Midland	31 56	102 12	2854
Mission	Hidalgo	26 13	98 19	140
Mount Pleasant	Titus	33 10	95 00	416
Muleshoe 1	Bailey	34 13	102 43	3790
Nacogdoches	Nacogdoches	31 37	94 39	360

Name	County	Latitude N	Longitude W	Elevation feet
New Braunfels	Comal	29 42	98 07	720
Palestine	Anderson	31 47	95 37	580
Pampa	Gray	35 32	10 58	3225
Paris	Lamar	33 40	95 34	542
Pierce	Wharton	29 15	96 11	102
Plainview	Hale	34 12	101 43	3400
Presidio	Presidio	29 33	101 24	2582
Quanah 5 SE	Hardeman	34 15	99 41	1495
Rio Grande City 2 ESE	Starr	26 22	98 47	160
San Angelo WB AP	Tom Green	31 22	100 30	1903
San Antonio WB AP	Bexar	29 32	98 28	792
San Benito	Cameron	26 08	97 38	37
Sanderson	Terrell	30 08	102 22	3000
San Marcos	Hays	29 53	97 57	600
Seminole	Gaines	32 42	102 40	3318
Seymour	Baylor	33 35	99 16	1291
Sherman No. 2	Grayson	33 38	96 36	745
Snyder	Scurry	32 44	100 55	2450
Spur 1 WNW	Dickens	33 29	100 53	2274
Sugar Land	Fort Bend	29 37	95 38	79
Temple	Bell	31 06	97 21	675
Uvalde	Uvalde	29 12	99 48	937
Vega	Oldham	33 15	102 26	4000
Victoria WB AP	Victoria	28 47	97 05	110
Waco WB AP	McLennan	31 37	97 13	500
Wichita Falls WB AP	Wichita	33 59	98 31	1020
Wills Point	Van Zandt	32 42	96 01	532

TEXAS TEMPERATURE

Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Abilene	50	50	44.6	48.8	55.9	64.8	72.2	80.5	83.8	83.6	76.6	66.3	53.8	45.9	64.7
Albany	42	41	44.3	48.6	55.1	64.7	72.4	80.9	84.6	84.9	77.2	66.8	53.6	46.8	65.0
			(44.7)	(48.4)	(55.1)	(64.5)	(72.2)	(81.0)	(84.7)	(84.9)	(77.3)	(66.6)	(54.0)	(46.4)	(65.0)
Alpine	31	28	46.7	51.2	55.8	63.4	70.8	77.6	77.4	77.0	72.1	65.0	53.6	48.7	63.3
			(47.4)	(51.4)	(56.0)	(63.2)	(70.7)	(77.2)	(77.4)	(77.1)	(72.1)	(65.2)	(54.3)	(48.3)	(63.3)
Amarillo	50	50	36.9	40.4	46.9	56.2	64.8	74.7	78.6	77.5	70.4	59.5	46.4	38.4	57.6
Angleton	47	45	54.9	57.7	61.8	68.4	74.7	80.2	82.0	82.2	78.5	71.0	61.7	56.6	69.1
Austin	50	49	50.4	54.2	60.2	67.7	74.8	81.7	84.5	84.7	79.3	70.3	59.0	52.1	68.2
Ballinger	50	47	44.2	49.2	55.7	65.1	72.6	80.8	83.8	83.7	76.7	66.6	53.9	46.6	64.9
Balmorhea	36	35	47.0	51.8	57.4	65.6	72.8	80.7	80.8	80.0	74.7	66.0	54.2	47.9	64.9
			(47.5)	(51.7)	(57.5)	(65.4)	(72.7)	(80.2)	(80.8)	(80.1)	(74.7)	(66.8)	(54.7)	(47.8)	(64.9)
Beaumont	50	48	54.5	57.4	62.3	69.4	76.3	82.4	84.1	84.1	80.1	71.8	61.6	55.5	70.0
Beeville	50	48	55.3	58.6	64.4	71.1	76.9	81.9	84.2	84.8	80.7	73.0	63.0	56.6	70.9
Big Spring	50	49	43.9	48.1	55.0	64.2	72.3	80.6	83.0	82.4	75.7	65.4	52.5	44.8	64.0
Blanco	50	46	48.2	51.5	56.5	63.7	73.2	80.3	83.3	83.3	77.6	67.8	56.2	49.9	66.0
Boerne	50	48	49.7	53.1	58.9	65.2	72.2	78.4	81.0	81.3	76.4	67.6	57.0	50.8	66.0
Bonham	48	44	42.8	46.8	54.2	63.3	71.4	79.9	83.8	83.9	77.2	65.7	53.4	45.2	64.0
Brenham	50	48	51.6	54.4	60.3	67.8	74.9	81.3	84.1	84.5	79.4	70.6	59.6	52.5	68.4
Bridgeport	25	24	42.8	47.1	54.5	63.6	71.8	80.6	84.6	85.0	76.9	66.1	52.6	46.0	64.3
			(42.7)	(47.1)	(53.8)	(63.4)	(71.1)	(80.5)	(84.5)	(84.3)	(76.7)	(65.6)	(53.0)	(45.1)	(64.0)
Brownsville	50	50	61.0	64.1	68.0	74.0	78.8	82.5	83.8	84.3	81.4	75.7	67.6	61.2	73.5
Brownwood	50	49	45.8	49.5	56.4	65.0	72.5	80.5	84.4	84.2	77.2	67.0	55.0	47.5	65.4
Cameron	48	39	49.6	53.4	60.0	67.7	75.1	81.6	85.1	85.6	80.0	70.5	58.9	51.4	68.2
			(49.5)	(53.5)	(60.1)	(67.7)	(75.1)	(81.6)	(85.2)	(85.6)	(80.0)	(70.5)	(58.8)	(51.4)	(68.3)
Carrizo Springs	38	35	54.2	58.5	64.7	72.1	78.7	84.5	86.5	86.6	81.5	73.0	61.6	55.3	71.4
			(54.3)	(58.8)	(65.0)	(72.5)	(78.9)	(84.4)	(86.7)	(86.9)	(81.8)	(73.3)	(62.3)	(55.4)	(71.7)

NOTE: Numbers in (parenthesis) are reduced to 50 years.

TEXAS TEMPERATURE (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Childress	32	31	39.8	44.3	51.2	61.7	70.0	80.0	84.1	83.6	75.5	64.3	50.2	42.9	62.3
			(40.1)	(44.7)	(52.0)	(61.5)	(70.1)	(79.6)	(83.4)	(82.4)	(75.3)	(63.8)	(50.2)	(42.1)	(62.1)
Clarendon	49	47	38.3	42.2	49.3	58.7	67.3	77.2	81.3	80.2	72.3	60.8	48.2	39.5	59.6
Cleburne	46	43	46.8	50.7	57.5	65.8	72.9	81.1	84.7	85.0	78.0	68.1	55.9	48.8	66.3
			(46.9)	(50.6)	(57.7)	(65.9)	(72.9)	(81.2)	(84.8)	(85.1)	(78.2)	(68.0)	(55.8)	(48.6)	(66.3)
Coleman	50	49	47.5	51.4	57.7	66.3	73.0	80.4	83.9	83.9	77.4	67.2	55.7	47.6	66.0
College Sta.	50	49	51.2	54.8	60.8	68.1	75.1	81.6	84.4	84.8	79.5	70.6	59.4	53.2	68.6
Corpus Christi	50	50	56.9	60.1	64.9	71.3	77.0	81.9	83.6	83.9	81.0	74.4	64.9	58.7	71.6
Corsicana	50	48	47.0	50.3	56.9	65.3	73.0	81.5	85.1	85.2	78.6	68.5	56.4	48.7	66.4
Crosbyton	50	47	39.9	44.6	50.4	59.5	67.8	77.1	80.2	79.4	72.3	61.5	48.8	41.4	60.2
Cuero	50	46	53.3	57.1	62.8	69.9	76.7	82.5	85.0	85.4	80.7	68.5	63.0	55.3	70.0
Dalhart	50	49	32.8	36.5	43.2	53.2	62.8	72.8	77.4	75.7	68.1	56.2	42.6	34.4	54.6
Dallas	47	46	45.8	49.8	56.7	65.2	72.8	81.2	84.8	84.8	78.0	67.9	55.7	47.9	65.9
Danevang	50	48	55.0	57.9	63.1	69.6	76.2	81.4	83.5	83.6	79.6	72.2	62.3	56.5	70.1
Del Rio	50	49	51.6	56.4	63.0	70.6	77.2	83.0	85.2	85.4	80.1	71.1	59.4	52.3	69.6
Denton	47	44	44.7	49.0	55.8	64.1	71.6	80.3	84.2	84.4	75.8	67.0	54.6	46.7	64.8
Dilley	44	42	53.2	57.4	63.7	71.3	77.8	83.5	85.6	86.0	81.2	72.8	61.3	54.9	70.7
			(53.5)	(57.3)	(63.5)	(70.9)	(77.8)	(83.3)	(85.6)	(86.1)	(81.2)	(72.8)	(61.2)	(54.6)	(70.6)
Dublin	48	45	45.2	48.5	55.3	63.9	71.4	78.2	83.8	84.2	77.0	67.0	54.5	46.6	64.6
Eagle Pass	50	48	52.5	57.7	63.4	72.8	79.5	85.5	87.6	87.5	80.6	72.7	60.4	53.2	71.1
Eastland	49	43	43.6	47.6	54.3	63.6	71.0	79.8	83.2	83.4	76.0	65.6	53.1	46.1	63.9
			(43.6)	(47.7)	(54.3)	(63.6)	(71.0)	(79.8)	(83.2)	(83.4)	(76.0)	(65.6)	(53.1)	(46.1)	(63.9)
El Paso	50	50	45.0	49.8	55.4	63.6	72.4	81.2	82.2	80.5	75.4	65.4	52.4	45.4	64.0
Encinal	49	45	54.8	58.7	65.1	72.9	79.4	84.6	86.8	86.8	81.9	73.5	62.5	55.8	71.9

NOTE: Numbers in (parenthesis) are reduced to 50 years.

TEXAS TEMPERATURE (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Falfurrias	50	48	57.2	61.8	67.5	74.1	79.7	84.2	86.1	86.5	82.2	74.8	65.3	59.2	73.2
Flatonia	50	48	52.9	56.5	62.2	69.1	75.7	81.9	82.9	85.0	79.8	72.0	61.0	54.6	69.5
Fort Stockton	50	48	48.2	52.3	57.9	66.0	73.9	81.2	82.3	81.7	76.0	67.0	55.4	48.8	65.9
Fort Worth	50	50	46.0	49.9	56.8	65.2	72.8	81.2	84.9	85.0	78.2	68.0	55.7	48.0	66.0
Gainesville	50	49	43.7	48.3	55.7	64.4	72.1	80.7	84.7	84.6	77.7	66.6	53.8	45.7	64.8
Galveston	50	50	54.7	57.1	61.7	68.6	75.5	81.3	83.0	83.4	80.3	73.2	63.1	56.7	69.9
Graham	40	36	44.3	47.8	55.3	64.3	71.9	80.9	84.9	85.0	77.6	66.8	53.6	45.8	64.8
			(44.3)	(47.8)	(55.3)	(64.3)	(71.9)	(80.8)	(85.0)	(85.0)	(77.6)	(66.8)	(53.6)	(45.8)	(64.9
Greenville	39	38	43.4	47.4	54.4	63.9	71.8	80.3	84.0	84.6	77.9	66.8	53.7	45.9	64.5
			(43.2)	(47.0)	(54.5)	(63.6)	(71.7)	(80.3)	(84.0)	(84.2)	(77.9)	(66.8)	(54.0)	(45.4)	(64.4)
Harlingen	46	44	61.0	64.3	68.5	74.8	79.7	83.1	84.6	85.3	81.9	75.8	67.4	61.9	74.0
			(60.9)	(64.2)	(68.7)	(74.9)	(79.6)	(83.2)	(84.6)	(85.3)	(81.9)	(75.7)	(67.3)	(62.0)	(74.0)
Haskell	50	46	42.5	46.5	54.3	63.8	71.6	80.5	84.0	83.7	76.4	65.4	52.5	44.3	63.8
Henrietta	50	49	41.8	46.2	53.4	63.3	71.7	81.3	85.9	85.8	78.1	66.2	52.8	44.3	64.2
Hillsboro	49	47	45.9	49.8	56.7	65.5	73.4	81.6	85.3	85.5	79.1	68.4	55.5	48.0	66.2
Hondo	50	48	52.4	56.4	62.5	69.3	75.9	82.4	85.0	85.2	80.1	71.2	60.2	53.4	69.5
Houston	50	50	54.3	57.2	62.4	69.0	75.7	81.6	83.6	83.9	79.7	72.0	61.7	55.8	69.7
Huntsville	50	48	50.3	53.2	59.2	65.7	74.0	81.0	83.4	83.4	78.1	69.3	58.0	52.6	67.4
Junction	50	47	47.7	51.9	57.8	65.4	72.3	79.4	80.5	82.2	75.9	66.8	54.8	48.6	65.3
Kerrville	50	49	47.2	50.7	56.9	64.1	71.4	78.2	80.8	81.0	75.5	66.1	54.7	48.2	64.6
Lamesa	33	31	41.4	45.5	52.4	61.6	70.1	78.9	80.6	80.0	73.3	63.1	50.2	43.4	61.7
			(41.7)	(45.7)	(52.3)	(61.1)	(69.8)	(78.9)	(80.7)	(79.9)	(73.1)	(62.6)	(50.2)	(42.6)	(61.6)
Lampasas	50	47	47.1	50.6	57.3	65.0	72.3	80.1	83.7	83.9	77.4	67.4	55.6	48.6	65.8
Laredo	50	47	56.8	61.4	67.6	75.3	80.7	85.9	87.6	87.8	83.1	75.3	64.2	57.4	73.6

NOTE: Numbers in (parenthesis) are reduced to 50 years.

TEXAS TEMPERATURE (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	YEARS OF RECORD Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Liberty	48	47	53.8	57.2	62.0	68.5	75.0	79.2	83.1	83.2	79.1	70.8	60.3	55.0	68.9
Llano	50	47	47.2	51.3	58.3	66.5	74.0	82.1	85.3	85.3	78.8	68.4	56.1	48.6	66.8
Longview	50	46	47.4	50.6	57.1	65.4	73.4	81.1	83.9	83.7	78.0	67.7	55.7	48.6	66.0
Lubbock	47	46	39.8	44.3	50.6	59.7	67.8	77.3	79.3	78.3	71.3	61.1	48.0	41.3	60.0
Luling	50	49	51.3	54.8	61.2	68.7	76.0	82.6	85.1	85.3	79.8	70.8	59.6	52.7	69.0
Marathon	24	20	48.9	49.7	54.4	61.8	69.3	74.9	76.4	75.5	70.2	62.4	52.1	46.3	61.8
			(48.5)	(50.5)	(55.2)	(62.2)	(69.3)	(75.2)	(76.4)	(75.4)	(70.4)	(62.9)	(52.6)	(46.7)	(62.1)
Marshall	50	48	47.4	51.2	57.5	65.6	73.1	80.7	83.7	83.7	78.2	68.0	55.8	49.2	66.2
McCamey	28	27	47.0	51.8	58.8	67.8	75.9	83.2	85.1	84.6	78.0	68.5	55.0	48.7	67.0
			(47.6)	(52.2)	(58.8)	(67.6)	(75.6)	(82.9)	(85.1)	(84.5)	(78.3)	(68.5)	(55.8)	(48.2)	(67.1
Memphis	47	44	39.0	43.2	50.7	59.9	68.8	78.7	82.9	82.0	74.3	62.3	48.6	40.7	60.9
			(38.9)	(43.1)	(50.5)	(60.1)	(68.8)	(78.5)	(82.8)	(81.8)	(74.0)	(62.2)	(48.9)	(40.5)	(60.8)
Mexia	50	49	46.6	50.3	56.6	65.2	72.7	80.2	83.9	84.5	78.8	68.6	56.5	48.8	66.0
Miami	50	46	35.7	39.7	47.1	56.8	65.6	75.4	80.2	79.0	71.1	59.8	46.2	37.2	57.8
Midland	34	32	44.0	48.6	54.8	63.8	72.0	79.8	81.4	81.3	74.8	65.0	52.1	45.5	63.6
			(45.6)	(48.8)	(54.9)	(63.6)	(72.0)	(79.8)	(81.6)	(81.5)	(75.0)	(64.6)	(52.1)	(44.8)	(63.7)
Mission	44	42	59.9	63.6	69.0	75.6	80.5	83.9	85.3	85.9	82.5	75.6	66.5	60.8	74.1
			(59.8)	(63.6)	(69.1)	(75.6)	(80.4)	(83.9)	(85.3)	(86.0)	(82.4)	(75.5)	(66.6)	(60.8)	(74.1)
Mount Pleasant	41	38	45.2	48.5	54.9	63.3	71.2	79.5	82.7	82.9	76.6	66.1	53.4	46.7	64.2
			(45.5)	(48.4)	(54.7)	(63.2)	(71.0)	(79.6)	(82.8)	(82.6)	(76.5)	(65.8)	(53.6)	(46.3)	(64.2)
Muleshoe	33	31	36.6	40.2	46.7	56.5	65.4	75.4	78.0	76.7	69.4	58.7	44.9	38.6	57.2
			(38.2)	(40.4)	(47.1)	(56.3)	(65.4)	(74.8)	(77.6)	(76.4)	(69.3)	(58.5)	(45.3)	(37.7)	(57.2)
Nacogdoches	50	49	48.3	51.7	57.5	64.9	72.0	79.1	82.2	82.2	77.1	67.5	55.8	49.5	65.6
New Braunfels	50	48	52.2	56.1	62.2	69.2	75.7	81.9	84.4	84.6	79.6	69.7	60.5	53.9	69.2
Palestine	40	40	47.3	52.0	58.2	65.9	73.0	80.1	82.9	83.4	77.9	68.7	57.3	50.4	66.5
			(47.1)	(51.9)	(58.1)	(65.7)	(73.3)	(80.2)	(83.0)	(83.3)	(77.7)	(68.5)	(57.4)	(50.0)	(65.5)
Paris	50	49	42.8	46.5	53.6	62.9	71.0	79.7	83.5	83.4	77.2	66.1	53.2	45.2	63.8
Pierce	50	48	53.3	56.1	61.2	68.1	74.9	80.7	82.8	83.0	79.0	71.2	61.1	54.8	68.8

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TEXAS TEMPERATURE (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	YEARS OF RECORD Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	Dec.	ANNUAL
Plainview	50	48	39.6	43.5	49.8	58.7	67.1	76.5	79.2	78.2	71.5	61.1	48.6	41.0	59.6
Presidio	32	29	49.6	55.8	61.9	70.1	78.8	86.4	86.4	85.4	80.0	70.6	57.0	50.0	69.3
			(50.3)	(56.0)	(62.1)	(69.9)	(78.7)	(86.0)	(86.4)	(85.5)	(80.0)	(70.8)	(57.7)	(49.6)	(69.3)
Quanah	50	48	40.5	44.6	52.4	62.3	71.0	80.8	84.8	84.3	76.3	64.8	51.7	42.5	63.0
Rio Grande City	31	27	59.2	63.0	68.9	76.0	81.4	85.3	86.8	87.1	82.6	75.8	65.4	60.3	74.3
			(59.0)	(63.2)	(68.8)	(76.2)	(81.4)	(85.3)	(86.7)	(87.0)	(82.9)	(75.7)	(65.8)	(60.1)	(74.3)
San Angelo	50	43	45.7	49.6	56.7	65.3	73.1	80.9	83.6	83.3	76.2	66.2	53.8	47.6	65.2
			(45.7)	(50.0)	(56.7)	(65.3)	(73.1)	(80.9)	(83.6)	(83.3)	(76.2)	(66.2)	(53.8)	(47.6)	(65.2)
San Antonio	50	50	52.4	56.1	62.1	69.1	75.7	81.8	84.2	84.6	79.7	71.4	60.4	53.9	69.3
San Benito	35	32	60.9	63.8	68.5	75.1	79.7	83.1	84.4	85.0	81.9	75.8	66.8	62.2	73.9
			(60.6)	(63.7)	(68.3)	(74.8)	(79.9)	(83.0)	(84.3)	(85.0)	(81.8)	(75.9)	(67.1)	(62.3)	(73.9)
San Marcos	49	45	50.7	53.6	59.9	67.4	74.8	81.6	83.9	84.2	79.0	68.6	58.5	51.8	67.8
Seminole	34	31	42.4	46.5	52.5	61.2	69.3	78.0	79.7	78.8	72.6	62.5	50.3	44.1	61.5
			(44.0)	(46.6)	(52.9)	(61.2)	(69.4)	(77.7)	(79.8)	(78.9)	(72.6)	(62.6)	(50.3)	(43.4)	(61.6)
Seymour	41	35	41.0	45.4	53.2	63.5	71.9	80.7	84.9	84.9	76.6	65.6	51.2	42.9	63.5
			(41.0)	(45.4)	(53.2)	(63.5)	(72.0)	(80.8)	(84.9)	(85.0)	(76.7)	(65.5)	(51.4)	(42.9)	(63.5)
Sherman	50	47	42.9	46.5	53.8	63.6	71.4	80.6	84.4	84.2	77.3	66.4	53.5	45.2	64.2
Snyder	49	44	41.5	45.2	52.4	62.1	70.6	79.6	82.3	81.7	74.3	63.7	50.8	44.1	62.4
			(41.6)	(45.2)	(52.4)	(62.1)	(70.6)	(79.6)	(82.3)	(81.7)	(74.3)	(63.7)	(50.8)	(44.1)	(62.4)
Spur	49	48	40.6	44.8	51.2	60.8	68.7	77.3	80.2	79.4	72.2	62.0	49.9	42.4	60.8
Sugar Land	47	42	53.6	56.2	61.6	68.8	72.4	81.4	83.6	83.8	79.7	71.9	60.6	54.9	69.0
			(53.5)	(56.3)	(61.9)	(68.8)	(72.5)	(81.4)	(83.5)	(83.9)	(79.8)	(71.9)	(61.0)	(54.8)	(69.1)
Temple	50	47	48.0	51.7	58.4	66.6	74.0	80.0	84.9	85.2	79.3	69.5	57.5	49.9	67.1
Uvalde	50	47	52.8	56.9	63.4	70.6	77.0	82.9	85.0	85.4	80.5	72.0	60.4	53.4	70.0
Vega	37	36	35.4	39.7	45.4	55.2	63.9	73.9	77.9	76.6	68.9	57.9	44.6	37.4	56.4
			(35.0)	(39.3)	(45.9)	(54.9)	(63.8)	(73.4)	(77.2)	(76.0)	(69.0)	(57.6)	(44.8)	(36.8)	(56.1)
Victoria	50	48	55.3	58.6	63.8	70.4	78.4	82.4	84.7	85.1	80.8	73.0	62.7	56.5	71.0
Waco	50	50	47.8	51.6	58.4	66.9	74.7	82.5	85.8	85.8	79.3	69.0	57.0	49.7	67.4
Wichita Falls	36	36	42.4	47.4	54.5	64.4	72.2	81.7	85.4	85.7	77.7	67.0	53.0	44.9	64.7
			(41.5)	(47.2)	(54.1)	(63.9)	(71.8)	(81.5)	(85.2)	(85.1)	(77.6)	(66.5)	(53.4)	(44.7)	(64.4)
Wills Point	34	31	45.6	49.2	55.9	64.4	72.3	80.4	84.7	85.0	78.2	68.2	55.6	47.8	65.6
			(45.7)	(49.6)	(56.3)	(64.8)	(72.6)	(81.0)	(85.1)	(85.6)	(78.9)	(68.6)	(55.6)	(48.2)	(66.0)

NOTE: Numbers in (parenthesis) are reduced to 50 years.

TEXAS PRECIPITATION
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	YEARS OF RECORD Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Abilene	50	50	0.88	1.01	1.14	2.64	4.26	2.50	1.82	1.96	2.18	2.77	1.16	1.32	23.64
Albany	50	49	1.05	1.34	1.36	2.63	4.12	2.55	2.12	2.36	2.46	2.75	1.44	1.45	25.63
Alpine	38	37	0.63	0.44	0.33	0.52	1.34	2.24	2.59	2.22	2.31	1.26	0.48	0.66	15.02
			(0.59)	(0.48)	(0.31)	(0.55)	(1.30)	(2.14)	(2.66)	(2.59)	(2.63)	(1.35)	(0.49)	(0.58)	(15.25)
Amarillo	50	50	0.55	0.66	0.92	1.47	3.04	2.66	2.39	2.93	2.10	1.75	0.77	0.76	20.00
Angleton	47	46	3.46	3.39	3.25	3.23	4.01	3.83	5.10	4.73	5.12	4.23	3.63	4.44	48.42
Austin	50	50	2.16	2.45	2.25	4.15	4.31	2.93	2.06	1.80	3.53	3.20	2.26	2.79	33.89
Ballinger	50	49	1.06	1.09	1.12	2.52	3.81	2.10	1.34	1.74	2.78	2.66	1.34	1.20	22.76
Balmorhea	37	35	0.65	0.56	0.40	0.76	1.35	1.34	1.60	1.47	2.07	1.46	0.53	0.62	12.81
			(0.58)	(0.58)	(0.38)	(0.94)	(1.25)	(1.37)	(1.48)	(1.59)	(2.32)	(1.36)	(0.61)	(0.62)	(13.05)
Beaumont	50	50	4.49	4.06	3.54	4.51	5.42	4.35	5.65	5.42	4.61	3.45	3.99	5.59	55.08
Beeville	50	50	1.86	1.69	2.02	2.26	3.58	2.88	2.49	2.06	3.88	2.54	2.00	2.23	29.49
Big Spring	50	50	0.55	0.65	0.81	1.57	2.50	1.82	1.68	1.86	1.78	1.98	0.76	0.84	16.80
Blanco	50	49	1.97	2.16	2.01	3.72	3.95	2.71	2.38	2.00	3.58	3.14	2.19	2.40	32.21
Boerne	50	50	1.93	2.21	2.01	3.34	4.24	2.82	2.26	2.12	4.10	3.29	1.98	2.25	32.55
Bonham	49	48	2.88	2.73	3.07	4.86	5.07	4.01	3.04	2.32	27.4	33.9	27.5	3.00	39.86
Brenham	50	50	3.02	2.84	2.92	3.70	4.54	2.96	2.33	2.86	2.83	3.35	3.61	3.97	38.93
Bridgeport	50	49	1.68	1.68	2.05	3.72	4.40	3.01	2.24	1.88	2.02	3.15	1.97	2.05	29.85
Brownsville	50	50	1.36	1.34	1.01	1.47	2.72	3.13	1.78	2.24	5.25	3.49	1.58	1.70	27.07
Brownwood	50	49	1.54	1.53	1.66	3.03	4.17	2.76	1.69	1.78	2.82	2.65	1.83	1.60	27.06
Cameron	50	48	2.54	2.62	2.56	4.14	4.08	2.54	1.51	1.93	2.94	2.86	2.84	3.20	33.76
Canadian	48	43	0.52	0.84	1.01	2.00	3.68	2.98	2.00	2.25	2.06	1.96	0.84	0.30	20.46
			(0.54)	(0.83)	(1.02)	(2.03)	(3.58)	(3.00)	(2.00)	(2.23)	(2.00)	(1.91)	(0.81)	(0.84)	(20.79)

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TEXAS PRECIPITATION (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	YEARS OF RECORD Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Carrizo Springs	38	38	0.96	0.95	0.90	1.71	3.28	2.54	1.64	2.15	2.85	2.31	0.91	1.03	21.23
			(0.92)	(1.00)	(1.10)	(1.65)	(3.14)	(2.46)	(1.71)	(1.95)	(3.00)	(2.62)	(0.96)	(1.02)	(21.53)
Childress	47	46	0.66	0.95	1.18	2.39	3.64	2.81	1.82	2.00	2.53	2.26	0.70	1.07	22.01
Clarendon	49	46	0.61	0.70	1.03	2.03	3.99	2.88	2.28	2.50	2.65	2.30	0.76	0.95	22.68
Cleburne	47	46	2.20	2.35	2.49	4.01	4.70	3.07	1.87	2.16	2.70	3.14	2.67	2.39	33.75
Coleman	50	50	1.41	1.29	1.34	2.97	4.35	2.69	2.00	2.11	2.88	2.73	1.61	1.44	26.82
College Sta.	49	48	3.02	3.14	2.96	3.86	4.94	3.04	2.44	2.50	2.45	2.90	3.10	3.98	38.33
Corpus Chr.	50	50	1.37	1.34	1.40	1.91	3.25	2.62	1.88	2.03	4.71	2.73	1.64	1.83	26.71
Corsicana	50	50	2.62	2.73	3.03	4.53	4.70	2.86	1.97	2.31	2.65	2.95	2.94	3.37	36.66
Crosbyton	50	50	0.71	0.71	0.78	1.73	3.09	2.49	2.18	2.37	2.43	2.63	0.83	0.86	20.81
Cuero	50	50	2.16	2.34	2.15	2.78	4.34	3.15	2.80	2.48	2.88	3.04	2.55	2.69	33.36
Dalhart	50	50	0.36	0.39	0.77	1.58	2.92	2.46	2.44	2.68	1.40	1.58	0.51	0.49	17.58
Dallas	47	46	2.31	2.22	2.82	4.20	5.01	3.26	1.71	2.21	2.56	2.96	2.70	2.43	34.39
Danevang	50	50	2.60	2.61	2.77	3.08	3.75	3.21	3.67	3.77	4.08	3.86	2.69	3.56	39.65
Del Rio	50	49	0.72	0.82	0.87	1.49	2.54	2.16	1.40	1.49	2.43	2.22	0.90	0.75	17.79
Denton	47	46	1.95	2.17	2.29	3.96	4.89	3.14	1.92	2.24	2.39	3.06	2.16	2.30	32.47
Dilley	50	49	1.09	1.31	1.33	2.00	3.20	2.51	1.82	1.53	2.68	1.96	1.24	1.38	22.05
Dublin	49	46	1.78	1.99	2.01	3.75	5.07	2.80	1.93	1.88	2.90	2.63	2.31	2.10	31.15
Eagle Pass	50	50	0.87	0.87	0.83	1.80	3.26	2.54	1.88	2.10	2.65	1.84	0.89	0.90	20.43
Eastland	49	44	1.40	1.41	1.70	2.92	4.19	2.70	1.84	1.86	2.24	2.85	1.71	1.62	26.44
			(1.36)	(1.41)	(1.56)	(2.92)	(4.19)	(2.70)	(1.84)	(1.86)	(2.24)	(2.85)	(1.71)	(1.62)	(26.26)
El Paso	50	50	0.41	0.40	0.34	0.28	0.36	0.68	1.47	1.45	1.08	0.75	0.38	0.48	8.08
Encinal	49	47	1.16	1.22	1.21	1.52	3.03	2.23	1.52	1.64	3.05	2.36	1.08	1.17	21.19

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TEXAS PRECIPITATION (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Falfurrias	50	49	1.30	1.08	1.02	1.78	2.89	2.80	1.69	2.10	4.25	2.14	1.26	1.39	23.70
Flatonia	50	49	2.43	2.66	2.45	3.80	4.48	3.18	2.48	2.46	3.23	3.00	2.75	2.96	35.88
Fort Davis	47	45	0.54	0.46	0.30	0.58	1.38	1.73	2.62	2.79	2.12	1.35	0.50	0.54	14.91
Fort Stockton	50	49	0.64	0.61	0.46	0.94	1.78	1.47	1.42	1.61	2.07	1.33	0.64	0.68	13.65
Fort Worth	50	50	1.98	2.08	2.35	4.02	4.71	3.09	1.82	2.25	2.54	2.70	2.18	2.11	31.83
Galveston	50	50	3.50	2.58	2.68	3.02	3.38	3.29	4.16	4.02	5.22	3.70	3.38	4.04	43.02
Graham	50	49	1.37	1.46	1.69	2.91	4.01	3.22	1.91	1.95	2.66	2.73	1.61	1.52	27.04
Grandfalls	40	35	0.48	0.59	0.51	0.87	1.73	1.20	1.05	1.30	1.88	1.44	0.56	0.64	12.25
			(0.51)	(0.52)	(0.46)	(0.75)	(1.61)	(1.13)	(1.01)	(1.26)	(1.56)	(1.26)	(0.52)	(0.55)	(11.14)
Greenville	50	50	2.82	2.81	3.24	4.83	5.10	3.59	3.05	2.41	2.74	3.09	3.06	3.11	39.85
Harlingen	43	41	1.46	1.27	1.15	1.35	3.11	2.66	2.09	2.56	4.92	2.68	1.53	1.38	26.16
			(1.46)	(1.20)	(1.15)	(1.35)	(3.17)	(2.65)	(1.96)	(2.41)	(4.85)	(2.70)	(1.65)	(1.38)	(25.93)
Haskell	50	48	0.86	1.10	1.03	2.40	3.67	2.98	1.94	2.02	2.29	2.54	1.25	1.15	23.23
Henrietta	50	49	1.21	1.50	1.77	2.96	4.09	3.27	2.19	2.07	2.52	3.08	1.74	1.64	28.04
Hillsboro	49	47	2.47	2.54	2.76	4.84	4.58	3.26	1.94	1.95	2.99	2.78	2.79	2.96	35.86
Hondo	50	49	1.60	1.70	1.79	3.03	4.06	2.97	2.00	2.08	3.18	2.62	1.59	1.74	28.38
Houston	50	50	3.52	2.80	2.72	3.59	4.63	3.71	4.59	3.55	3.71	3.52	3.66	4.82	44.82
Huntsville	50	49	3.60	3.71	3.54	4.88	4.88	3.92	3.39	2.68	2.79	3.33	4.19	4.37	45.28
Junction	50	49	1.20	1.18	1.53	2.48	3.51	2.83	2.05	1.97	3.12	2.53	1.42	1.22	25.04
Kerrville	50	49	1.59	1.77	1.97	3.05	4.02	3.03	2.06	2.00	3.86	3.05	1.77	2.05	30.22
Lamesa	50	49	0.57	0.66	0.70	1.33	2.16	2.08	2.01	1.82	2.26	2.20	0.75	0.75	17.29
Lampasas	50	49	1.68	1.99	1.95	3.49	4.06	2.68	1.70	1.86	3.16	2.63	2.33	2.23	29.76

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TEXAS PRECIPITATION (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Laredo	50	50	1.05	0.89	0.75	1.38	3.03	1.95	1.31	1.50	2.94	2.06	1.15	1.06	19.07
Liberty	50	49	4.41	3.63	3.41	4.24	5.06	4.40	4.58	4.21	3.78	3.96	4.16	5.47	51.31
Llano	50	49	1.45	1.70	1.61	2.99	3.90	2.46	1.61	1.82	3.12	2.64	1.90	1.66	26.86
Longview	50	48	3.92	3.55	3.94	4.96	4.94	3.04	3.34	2.84	2.21	3.16	3.80	4.25	43.95
Lubbock	49	49	0.55	0.64	0.81	1.36	2.80	2.49	2.01	1.84	2.52	2.21	0.57	0.66	18.46
Lufkin	48	46	4.33	3.73	3.81	4.39	4.98	3.22	3.62	2.95	2.79	2.82	4.52	4.66	45.82
Luling	50	50	2.13	2.34	2.22	3.72	4.20	2.94	2.47	1.93	3.11	2.87	2.46	2.62	33.01
Marathon	23	20	0.45	0.55	0.52	1 07	1.82	1.68	2.26	1.92	2.16	1.29	0.54	0.57	14.83
			(0.56)	(0.58)	(0.48)	(1.03)	(1.80)	(1.53)	(3.13)	(2.25)	(2.82)	(1.23)	(0.63)	(0.56)	(16.60)
Marshall	50	50	4.38	3.73	4.36	5.13	4.63	3.19	3.29	2.88	2.45	3.00	4.10	4.76	45.90
McCamey	28	27	0.72	0.52	0.53	0.71	2.10	1.61	1.40	1.72	1.39	1.36	0.53	0.69	13.28
			(0.55)	(0.59)	(0.54)	(1.09)	(1.88)	(1.54)	(1.33)	(2.02)	(1.68)	(1.38)	(0.57)	(0.82)	(14.00)
Memphis	50	45	0.62	0.69	0.98	1.90	3.83	2.69	2.10	2.05	2.43	2.32	0.60	0.76	20.97
Mexia	50	50	2.78	2.76	3.00	4.31	4.75	2.98	2.00	2.02	2.92	2.99	3.13	3.30	36.94
Miami	50	49	0.60	0.74	1.08	1.82	3.61	3.03	2.43	2.71	2.46	2.06	0.92	0.88	22.34
Midland	30	29	0.79	0.60	0.37	0.85	2.10	1.70	1.77	1.48	1.79	1.64	0.52	0.62	14.13
			(0.71)	(0.63)	(0.42)	(1.22)	(1.95)	(1.95)	(1.61)	(1.48)	(2.15)	(1.73)	(0.53)	(0.59)	(14.97)
Mission	45	43	1.27	0.98	1.01	1.43	2.32	2.11	1.55	1.34	3.37	2.08	1.11	1.11	19.68
			(1.17)	(0.94)	(0.97)	(1.41)	(2.24)	(2.06)	(1.56)	(1.28)	(3.21)	(2.01)	(1.10)	(1.14)	(19.09)
Mount Pleasant	41.	39	4.04	3.13	4.03	4.82	5.15	2.97	3.12	2.73	2.64	3.47	3.89	3.81	43.80
			(3.84)	(3.01)	(3.85)	(5.00)	(4.79)	(2.87)	(3.20)	(3.28)	(2.97)	(3.35)	(3.56)	(3.81)	(43.53)
Muleshoe	39	38	0.77	0.42	0.67	1.16	2.72	2.57	2.33	2.08	2.33	1.58	0.60	0.54	17.77
			(0.46)	(0.51)	(0.67)	(1.28)	(2.47)	(2.72)	(2.55)	(2.22)	(2.45)	(1.68)	(0.61)	(0.57)	(18.19)
Nacogdoches	50	50	4.15	3.88	3.99	4.91	5.42	3.25	3.48	2.54	2.83	3.01	4.36	5.00	46.82
New Braunfels	50	49	2.11	2.21	2.29	3.32	3.88	3.14	2.00	1.91	3.19	3.37	1.97	2.37	31.76
Palestine	50	50	3.17	2.93	3.47	4.03	4.55	2.86	2.47	2.35	2.76	3.02	3.71	3.99	39.31

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TEXAS PRECIPITATION (continued)
Monthly and Annual Means (1910-1959)

STATION	YEARS OF RECORD Max.	Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Pampa	34	31	0.52	0.78	0.85	1.46	3.77	2.87	2.48	2.45	1.73	1.81	0.66	0.64	20.02
			(0.45)	(0.79)	(0.91)	(1.61)	(3.43)	(3.03)	(2.41)	(2.55)	(2.11)	(1.95)	(0.65)	(0.83)	(20.72)
Paris	50	50	3.10	3.00	3.61	5.56	5.27	4.01	3.34	3.03	3.20	3.20	3.44	3.34	44.10
Pierce	50	50	2.94	2.73	2.76	2.86	4.24	3.38	3.68	3.30	3.95	3.63	3.32	3.71	40.50
Plainview	50	50	0.65	0.68	0.82	1.74	3.04	2.75	2.58	2.39	2.28	1.95	0.69	0.80	20.37
Presidio	32	31	0.42	0.21	0.14	0.34	0.77	0.93	1.30	1.19	1.40	0.96	0.35	0.44	8.45
			(0.37)	(0.22)	(0.15)	(0.38)	(0.69)	(0.87)	(1.46)	(1.25)	(1.39)	(0.92)	(0.41)	(0.45)	(8.56)
Quanah	50	49	0.69	0.91	1.33	2.78	3.62	3.18	1.94	2.20	2.75	2.76	1.06	1.18	24.40
Rio Grande City	48	44	0.92	0.81	0.82	1.11	2.32	1.98	1.34	1.30	2.92	1.70	0.97	0.75	16.94
			(0.88)	(0.78)	(0.82)	(1.15)	(2.20)	(2.18)	(1.27)	(1.29)	(2.79)	(1.75)	(0.95)	(0.74)	(16.80)
San Angelo	50	48	0.90	0.90	0.85	2.05	2.87	1.90	1.57	1.76	2.85	2.18	1.14	1.07	20.04
San Antonio	50	50	1.54	1.61	1.79	3.03	3.31	2.84	1.89	1.97	3.24	2.61	1.62	1.75	27.20
San Benito	40	36	1.30	1.37	1.02	1.35	3.02	3.28	1.74	2.67	5.19	3.06	1.39	1.61	27.00
			(1.24)	(1.26)	(1.05)	(1.24)	(2.92)	(3.10)	(1.73)	(2.55)	(5.00)	(2.86)	(1.32)	(1.60)	(25.87)
Sanderson	32	28	0.57	0.40	0.26	0.70	1.87	1.14	0.95	1.17	2.01	1.26	0.39	0.47	11.19
			(0.78)	(0.36)	(0.25)	(0.80)	(1.75)	(1.31)	(0.90)	(1.33)	(2.21)	(1.30)	(0.48)	(0.49)	(11.96)
San Marcos	50	48	2.09	2.58	2.50	3.60	3.84	3.05	2.14	1.89	3.45	3.42	2.08	2.59	33.23
Seminole	35	33	0.55	0.60	0.61	1.09	2.45	1.63	1.82	1.93	2.08	1.90	0.56	0.59	15.81
			(0.46)	(0.63)	(0.59)	(1.37)	(2.22)	(1.72)	(1.66)	(2.14)	(1.98)	(1.98)	(0.59)	(0.55)	(15.89)
Seymour	43	39	0.99	1.28	1.39	2.40	3.81	2.96	2.16	1.98	2.64	2.54	1.33	1.40	24.88
			(1.00)	(1.17)	(1.37)	(2.59)	(3.74)	(3.06)	(2.09)	(1.93)	(2.59)	(2.52)	(1.27)	(1.25)	(24.58)
Sherman	50	49	2.38	2.79	2.82	4.62	5.04	3.64	2.88	2.90	2.78	3.48	2.51	2.72	38.56
Snyder	50	46	0.60	0.71	0.88	1.99	3.26	2.26	2.00	2.08	2.17	2.30	0.93	0.86	20.04
Spur	48	47	0.56	0.70	0.82	1.86	3.04	2.47	2.04	2.39	2.61	2.42	0.87	0.89	20.67
Sugar Land	50	48	3.50	3.01	2.75	3.53	4.47	3.15	3.72	3.43	3.56	3.74	3.81	4.34	43.01
Temple	50	48	2.17	2.41	2.38	4.21	4.66	2.80	1.73	2.09	2.96	3.03	2.84	2.83	34.11
Uvalde	50	49	1.18	1.24	1.31	2.22	3.26	2.98	2.13	2.01	2.82	2.44	1.06	1.24	23.89

NOTE: Numbers in (parenthesis) are reduced to 50 years.

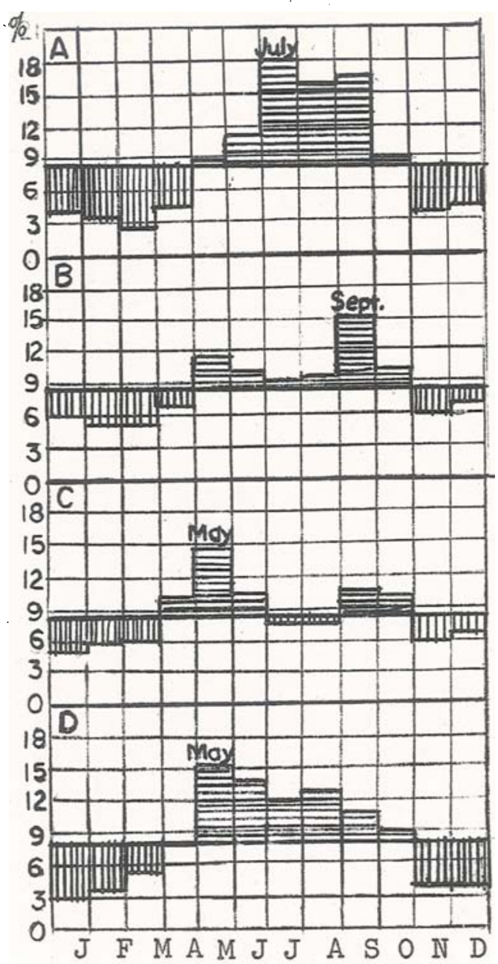
TEXAS PRECIPITATION (continued)
Monthly and Annual Means (1910-1959)

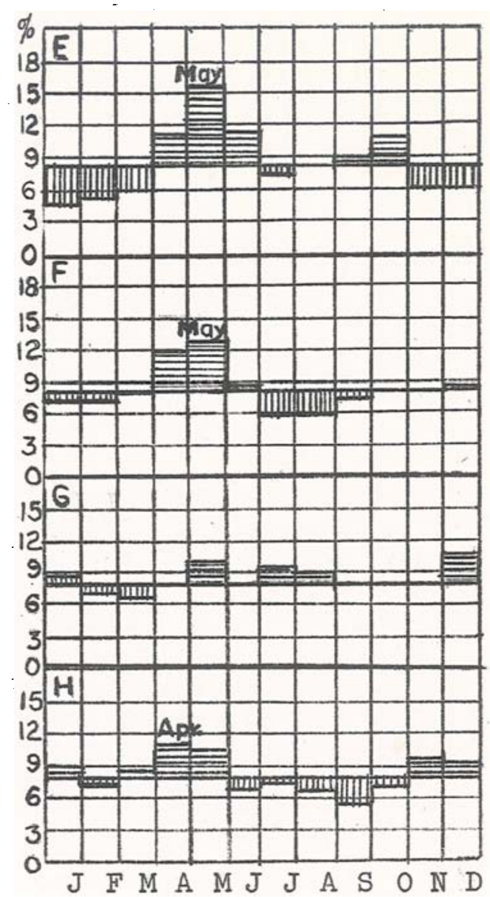
STATION	YEARS OF RECORD Max.	YEARS OF RECORD Min.	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.	ANNUAL
Vega	42	41	0.53	0.46	0.90	1.25	2.54	2.24	2.16	2.58	1.66	1.49	0.74	0.74	17.29
			(0.49)	(0.49)	(0.82)	(1.30)	(2.49)	(2.03)	(2.22)	(2.66)	(1.66)	(1.44)	(0.70)	(0.76)	(17.06)
Victoria	50	50	2.20	2.05	2.34	2.63	4.03	2.96	3.23	2.76	4.06	3.15	2.25	2.68	34.34
Waco	50	50	2.04	2.35	2.74	3.94	4.34	2.82	1.76	1.88	2.82	2.58	2.49	2.68	32.44
Wichita Falls	36	36	1.17	1.32	1.58	2.51	4.36	3.34	2.13	1.84	2.37	2.82	1.40	1.40	26.24
			(1.03)	(1.27)	(1.42)	(2.85)	(3.96)	(3.22)	(2.10)	(2.38)	(2.21)	(2.74)	(1.43)	(1.36)	(25.97)
Wills Point	34	32	2.79	2.82	3.21	5.46	4.76	3.28	2.48	2.79	2.48	3.50	3.64	3.23	40.44
			(3.32)	(2.87)	(3.15)	(4.88)	(4.55)	(3.05)	(2.35)	(2.55)	(2.86)	(3.46)	(3.42)	(3.42)	(39.88)

NOTE: Numbers in (parenthesis) are reduced to 50 years.

Types of annual rainfall

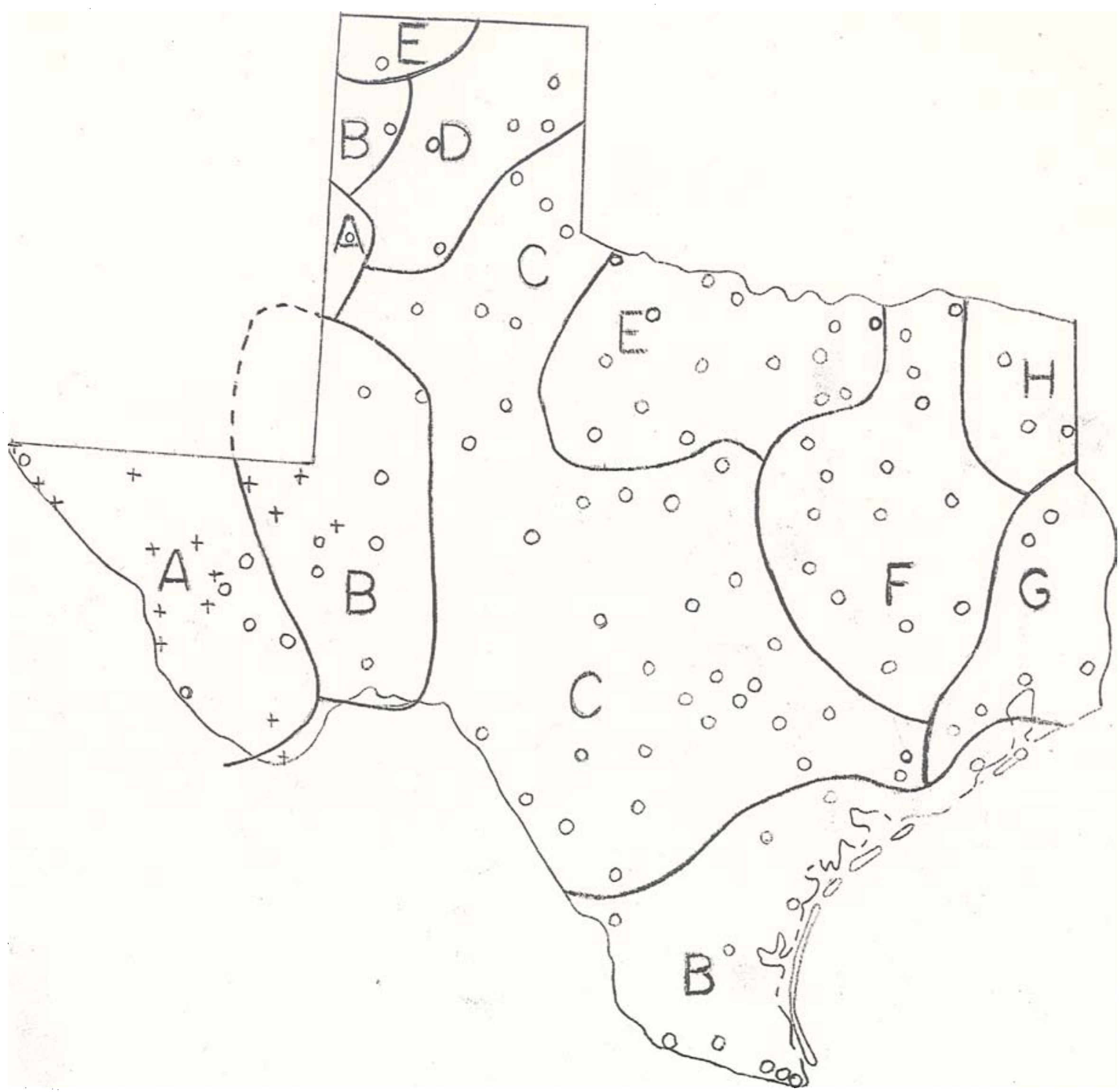
(For their geographical distribution see the following map)





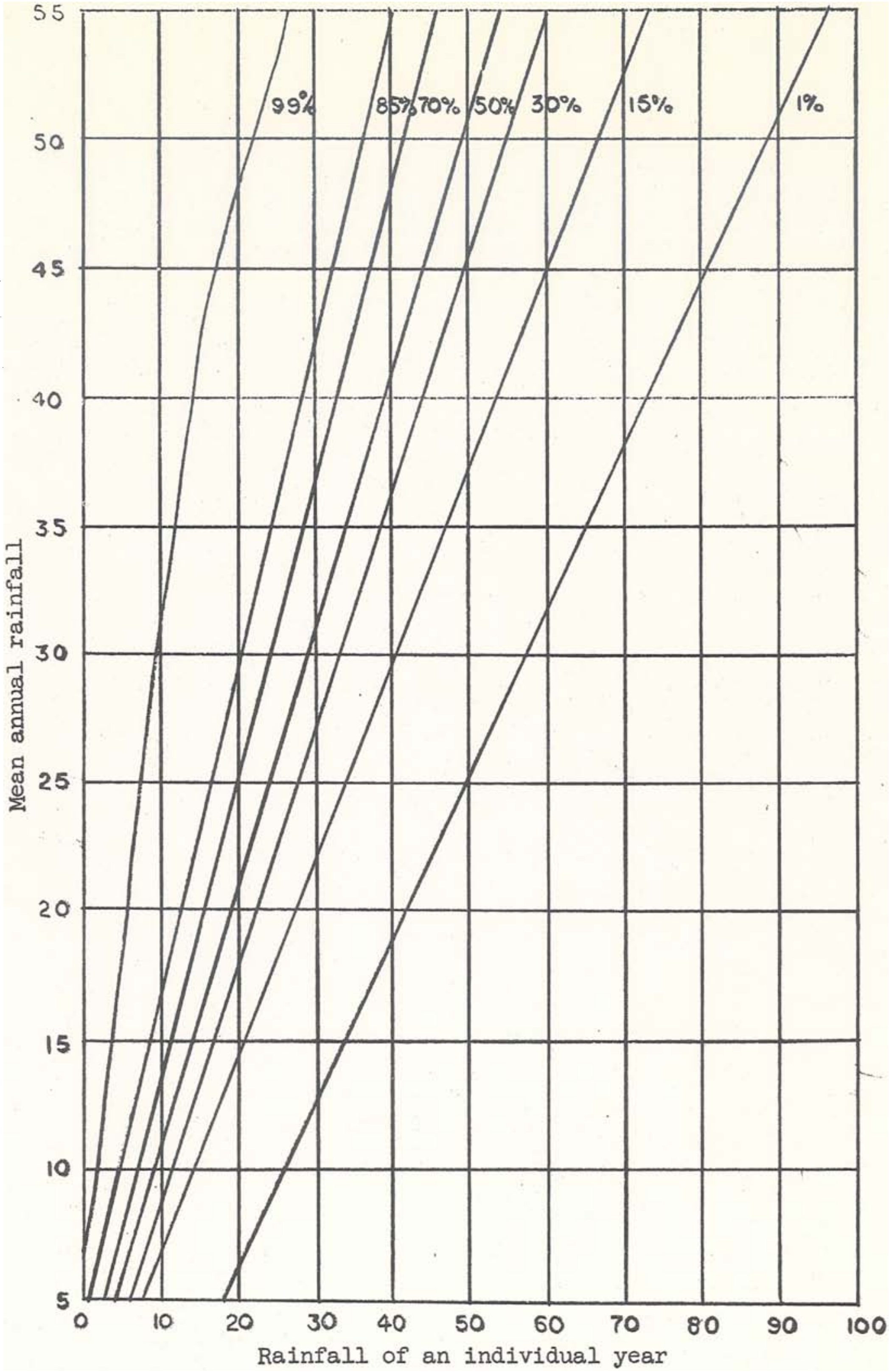
Geographical distribution of rainfall types

(For the meaning of the letters see the diagram of the previous page)

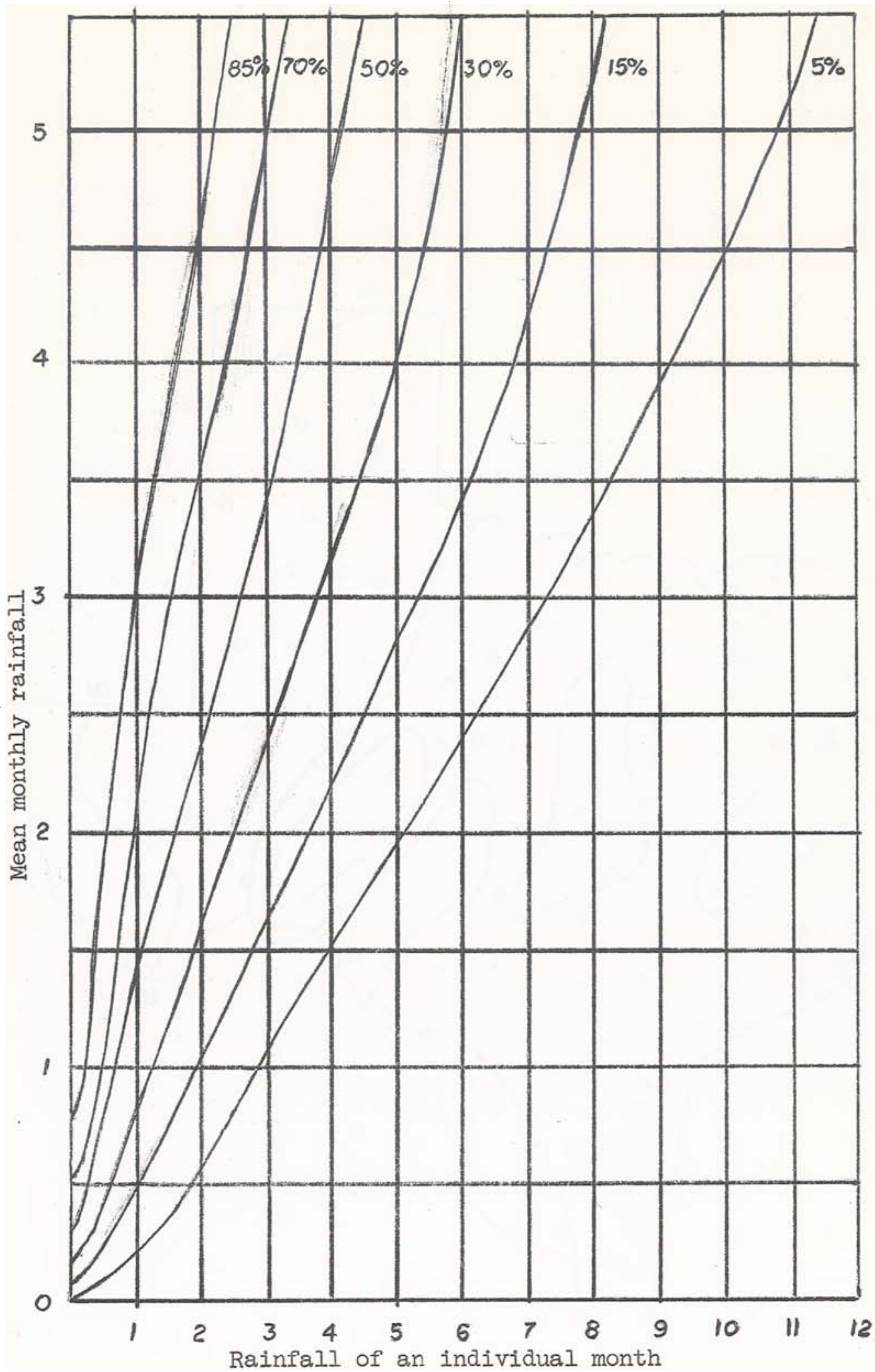


Circles denote the positions of the stations whose data can be found in the tables, pp. 18 - 28.

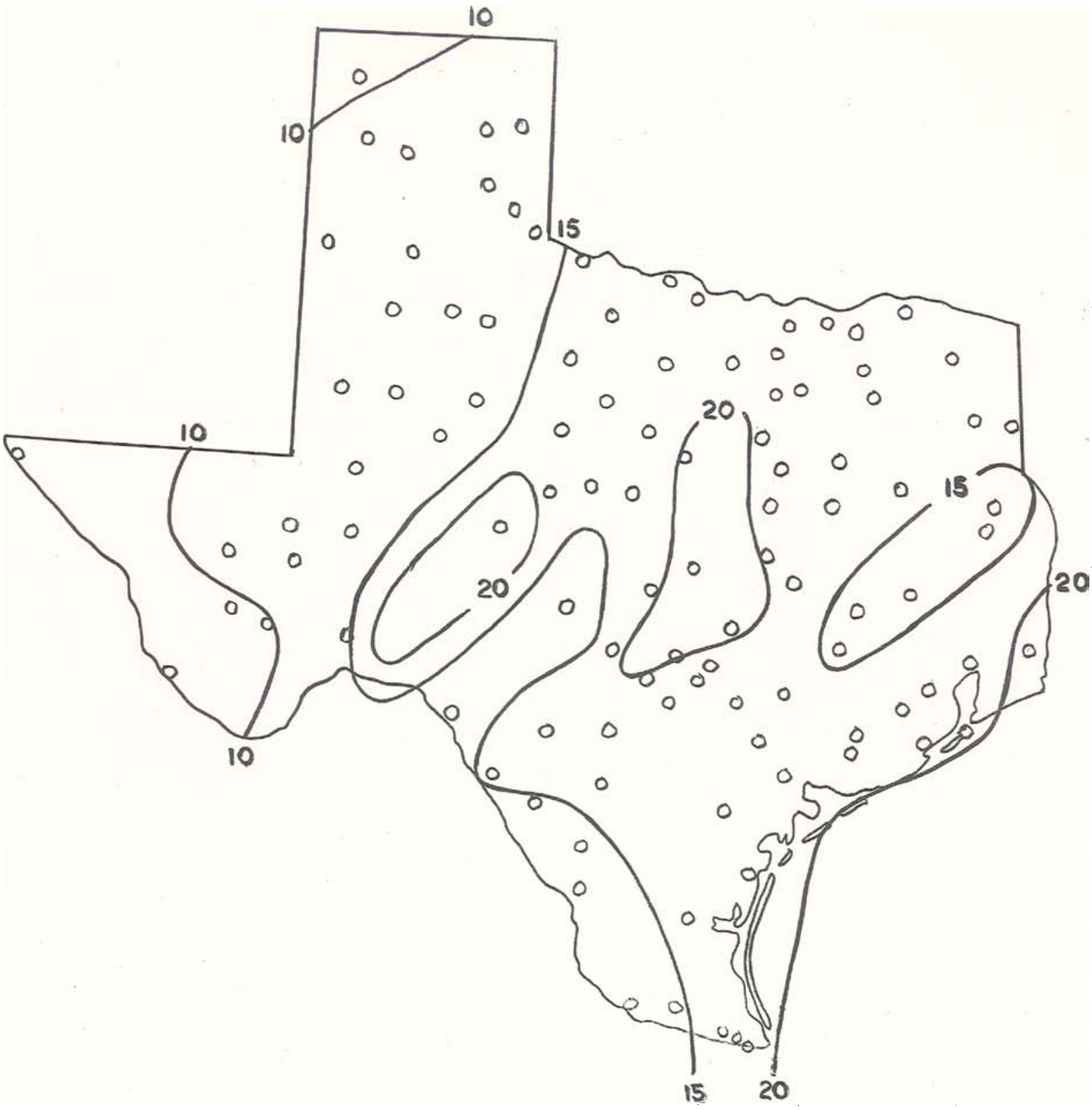
Crosses denote the positions of stations whose series of observations are not long enough to be included in the tables. They were consulted in the production of the charts.



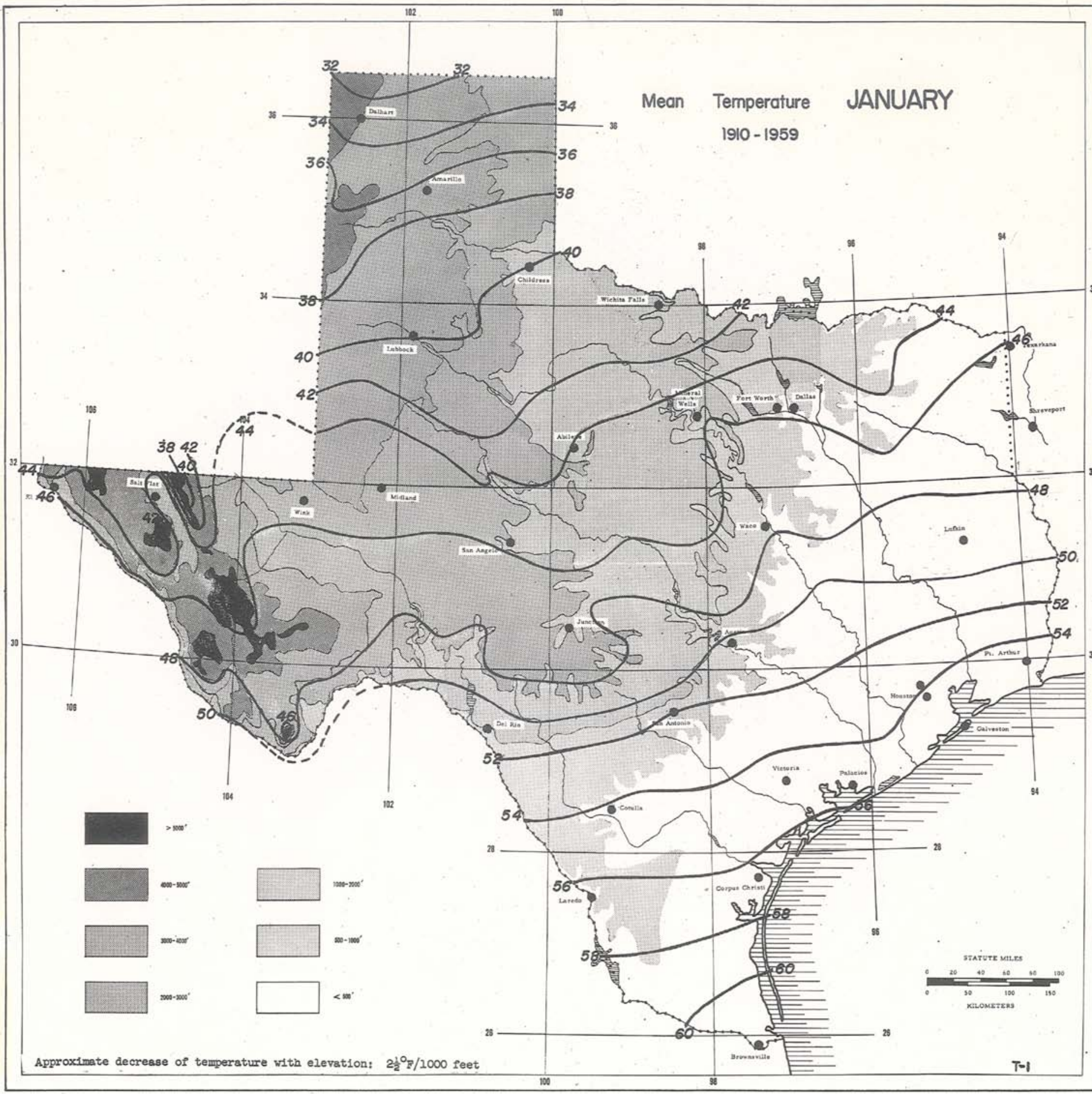
Probability that for a station with the mean monthly rainfall of the vertical scale the rainfall of an individual year will exceed the amount given by the horizontal scale.
Unit: inches

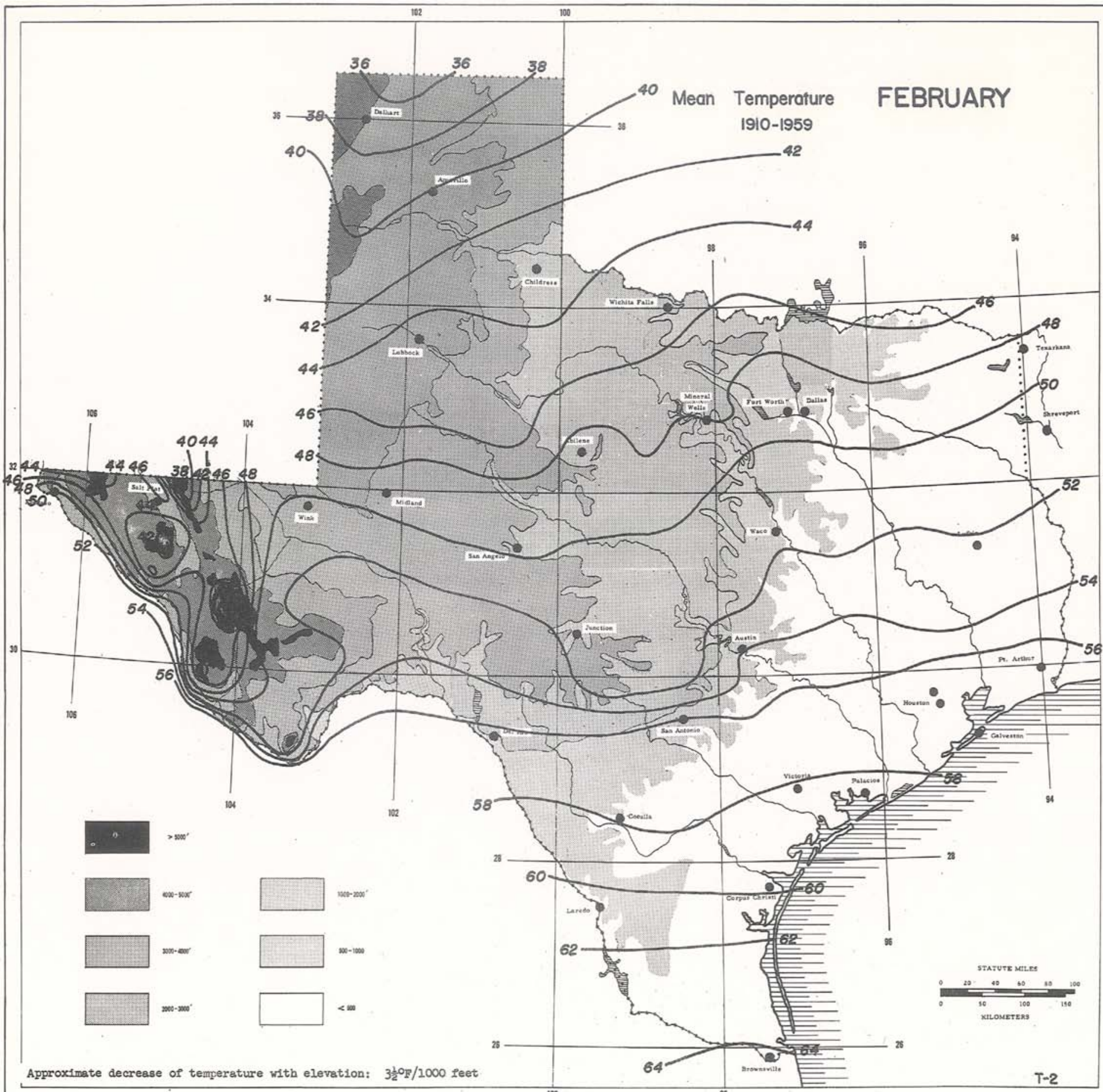


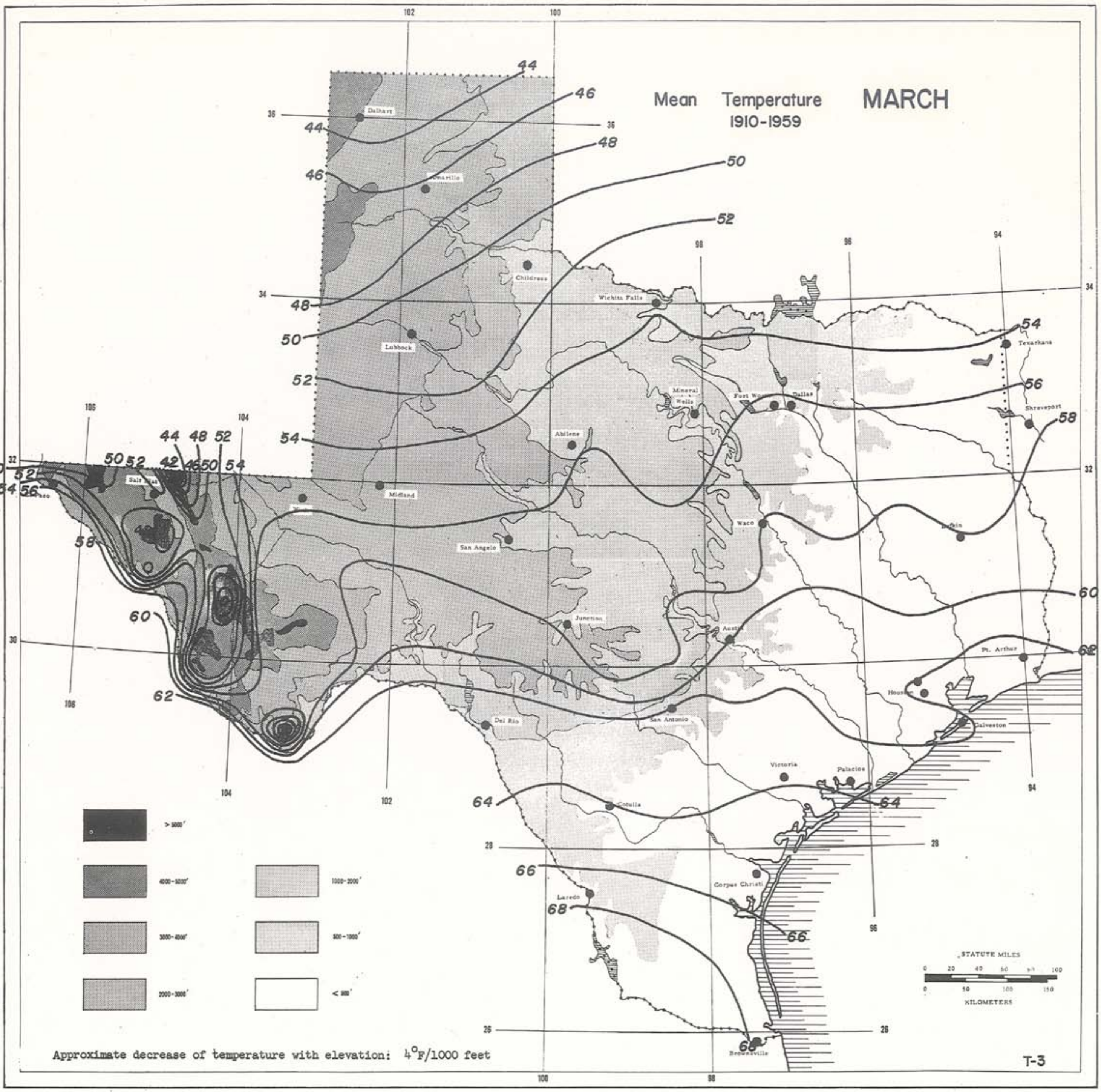
Probability that for a station with the mean monthly rainfall of the vertical scale, the rainfall of an individual month will exceed the amount given by the horizontal scale.
Unit: inches.

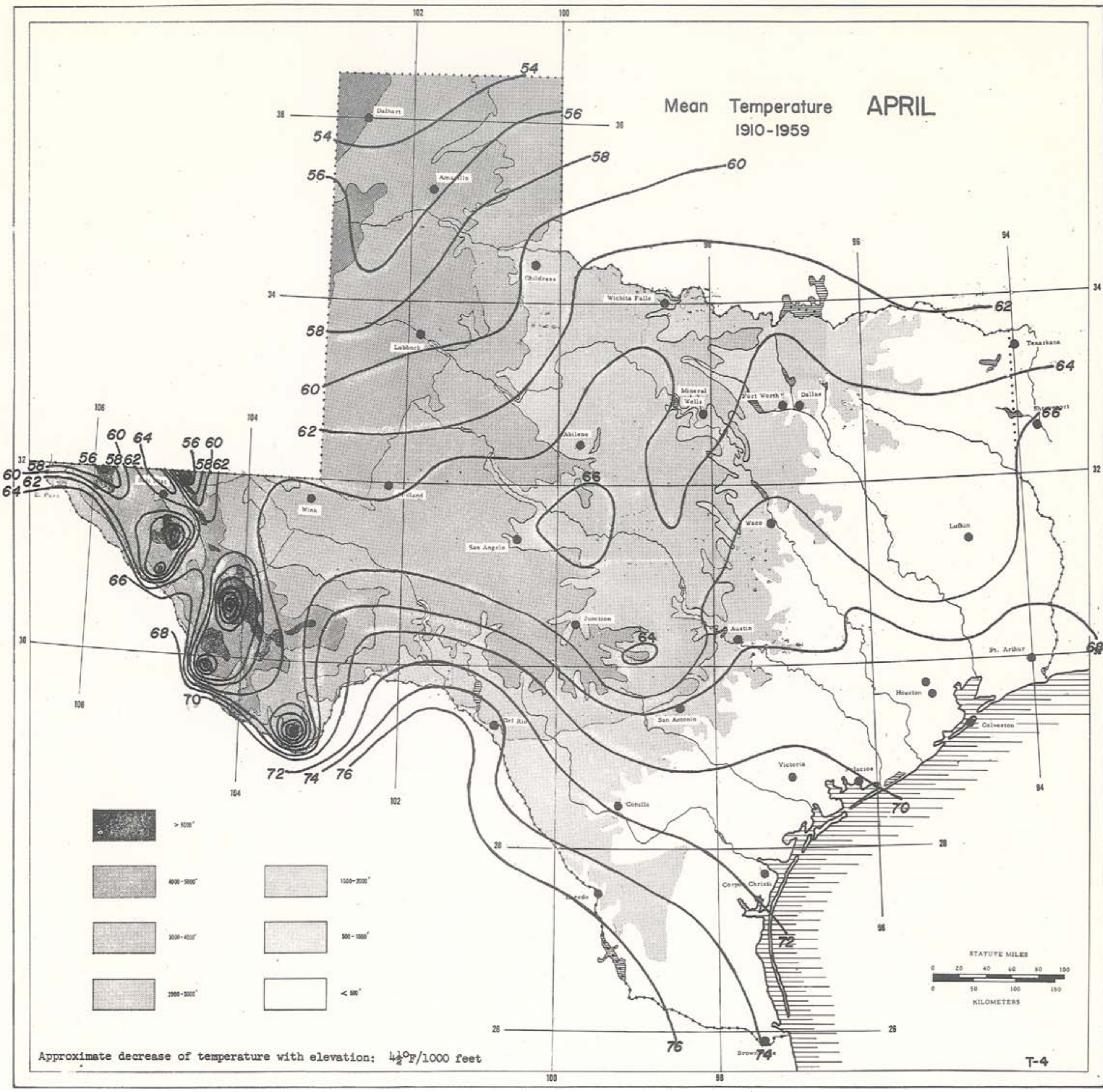


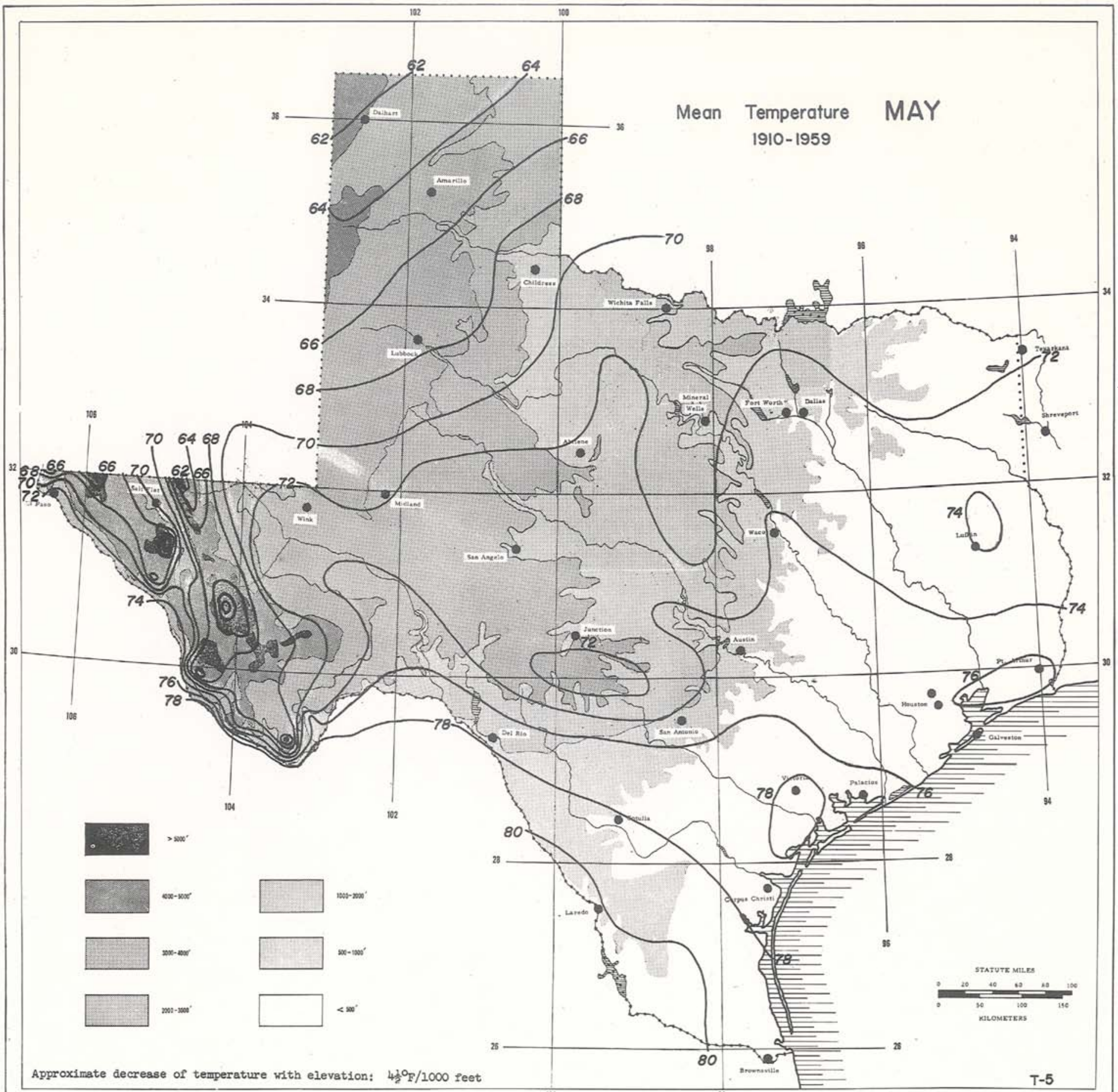
Lines of greatest observed amount of precipitation fallen in one individual month. (Extreme monthly rainfall is mostly the result of one severe rainstorm during only a few days of the month.) Unit: inches


Mean Temperature JANUARY
1910 - 1959
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Salt Flat
Midland
Wink
San Angelo
Waco
Lufkin
Junction
Pt. Arthur
Houston
Galveston
Del Rio
San Antonio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
El
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
0 20 40 60 80 100
0 50 100 150
KILOMETERS
Approximate decrease of temperature with elevation: 2½°F/1000 feet
T-1

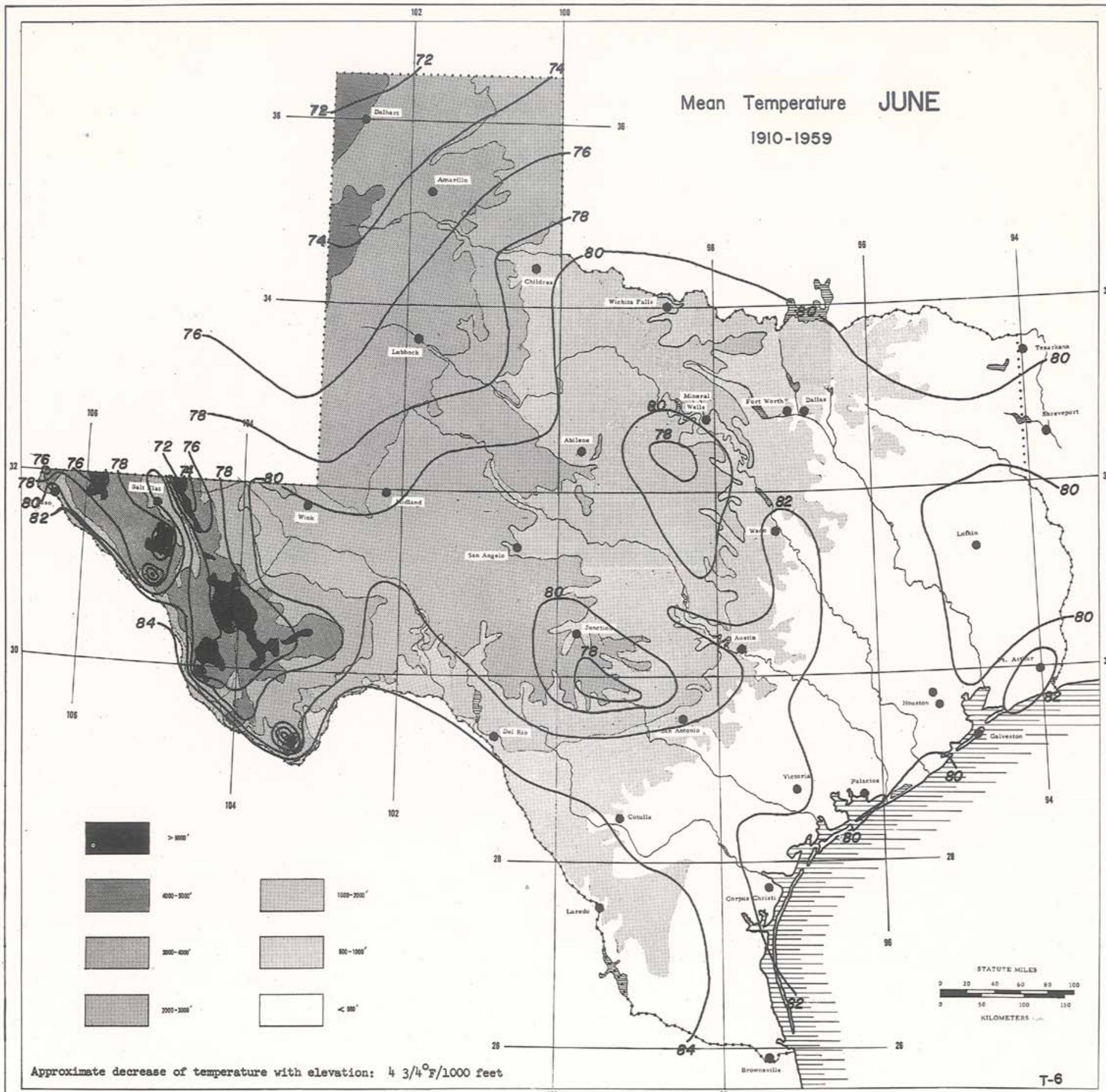

Mean Temperature
1910-1959
FEBRUARY
Dalhart
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Midland
Wink
San Angelo
Waco
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 3½°F/1000 feet
T-2

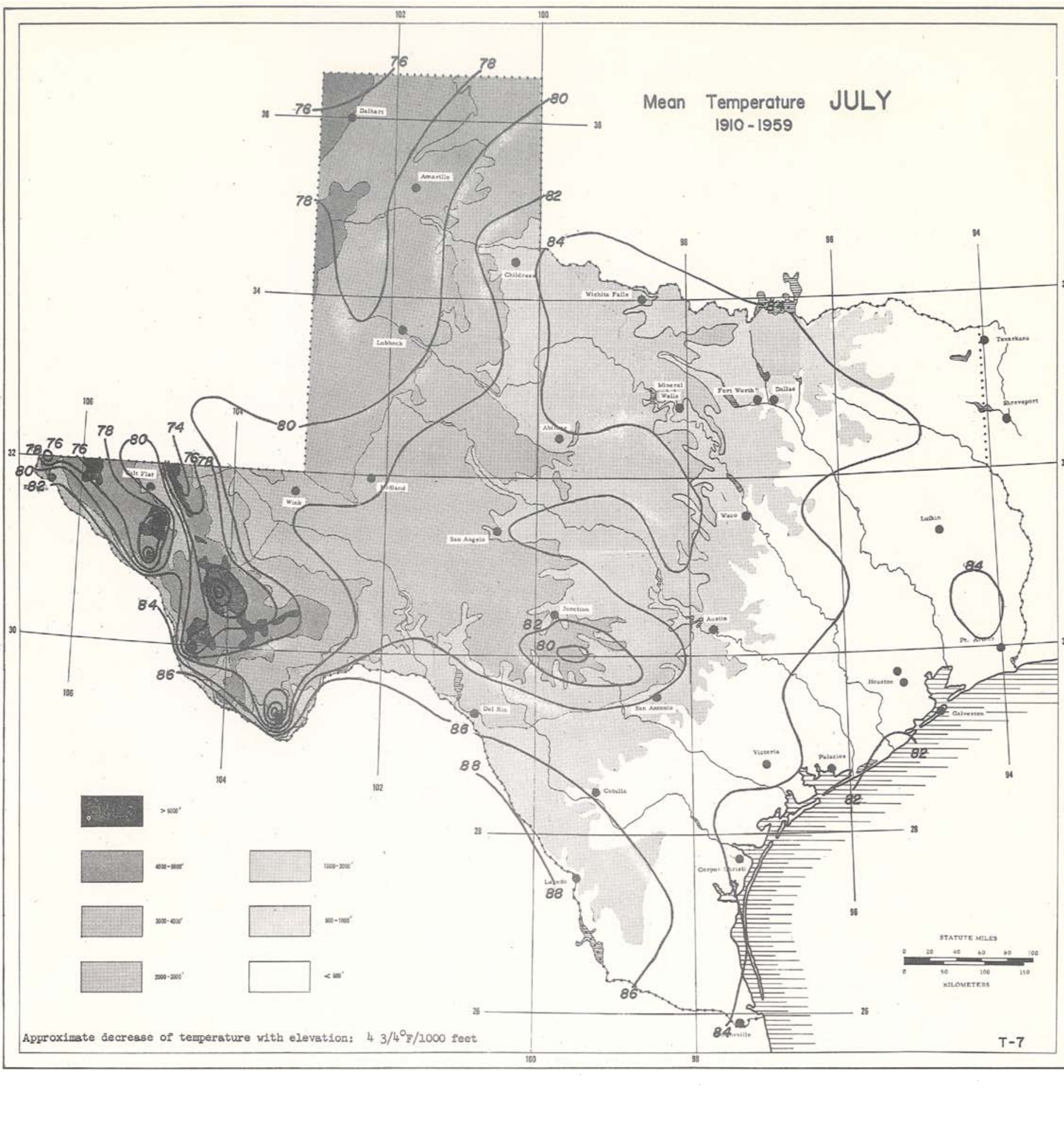

Mean Temperature
1910-1959
MARCH
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Dallas
Texarkana
Shreveport
Abilene
Midland
Salt Flat
San Angelo
Waco
Junction
Pt. Arthur
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 4°F/1000 feet
T-3

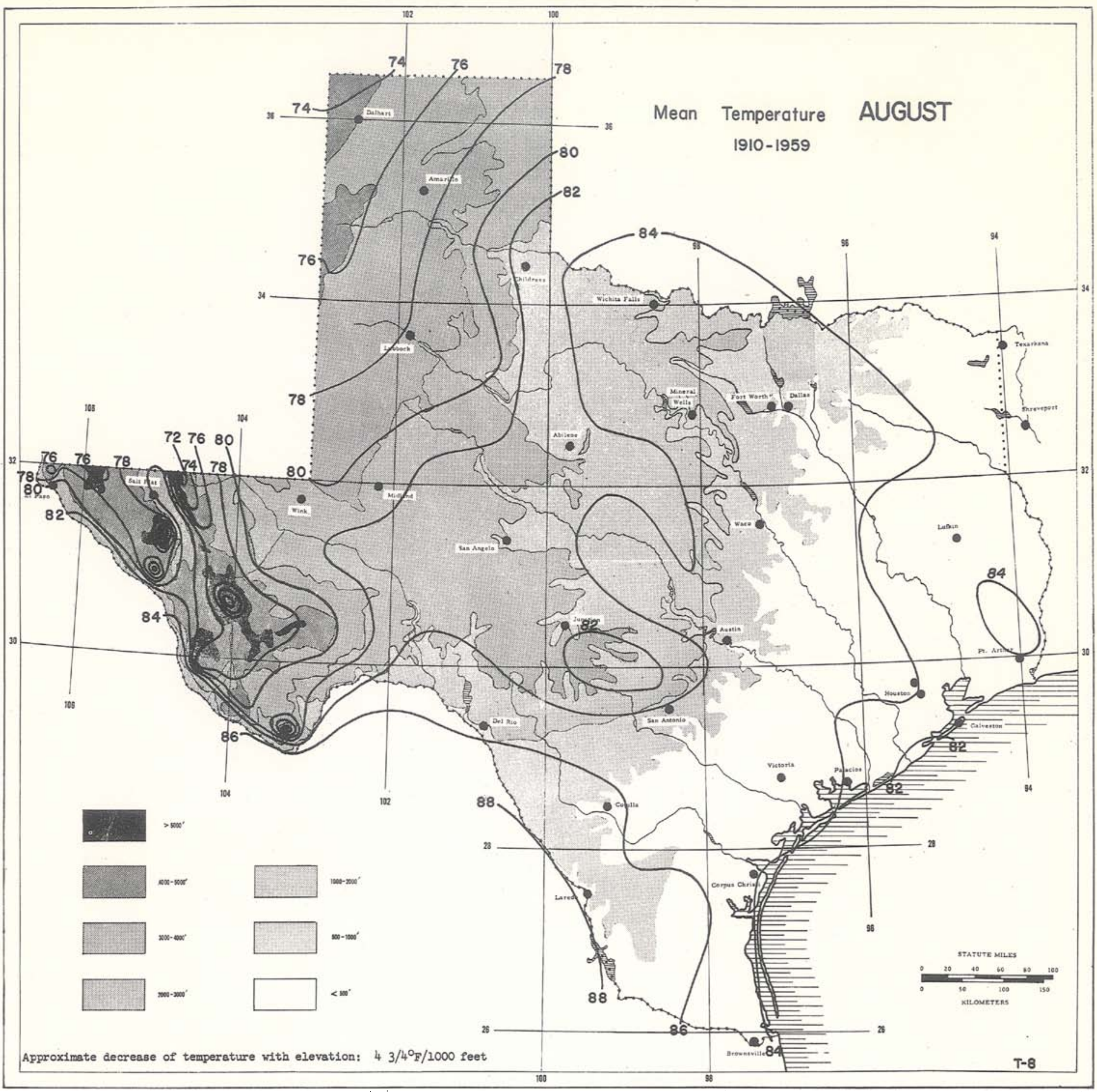

Mean Temperature APRIL
1910-1959
Dalhart
Amarillo
Childress
Lubbock
Wichita Falls
Texarkana
Mineral Wells
Fort Worth
Dallas
Abilene
Wink
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Victoria
Cotulla
Corpus Christi
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 4½°F/1000 feet
T-4

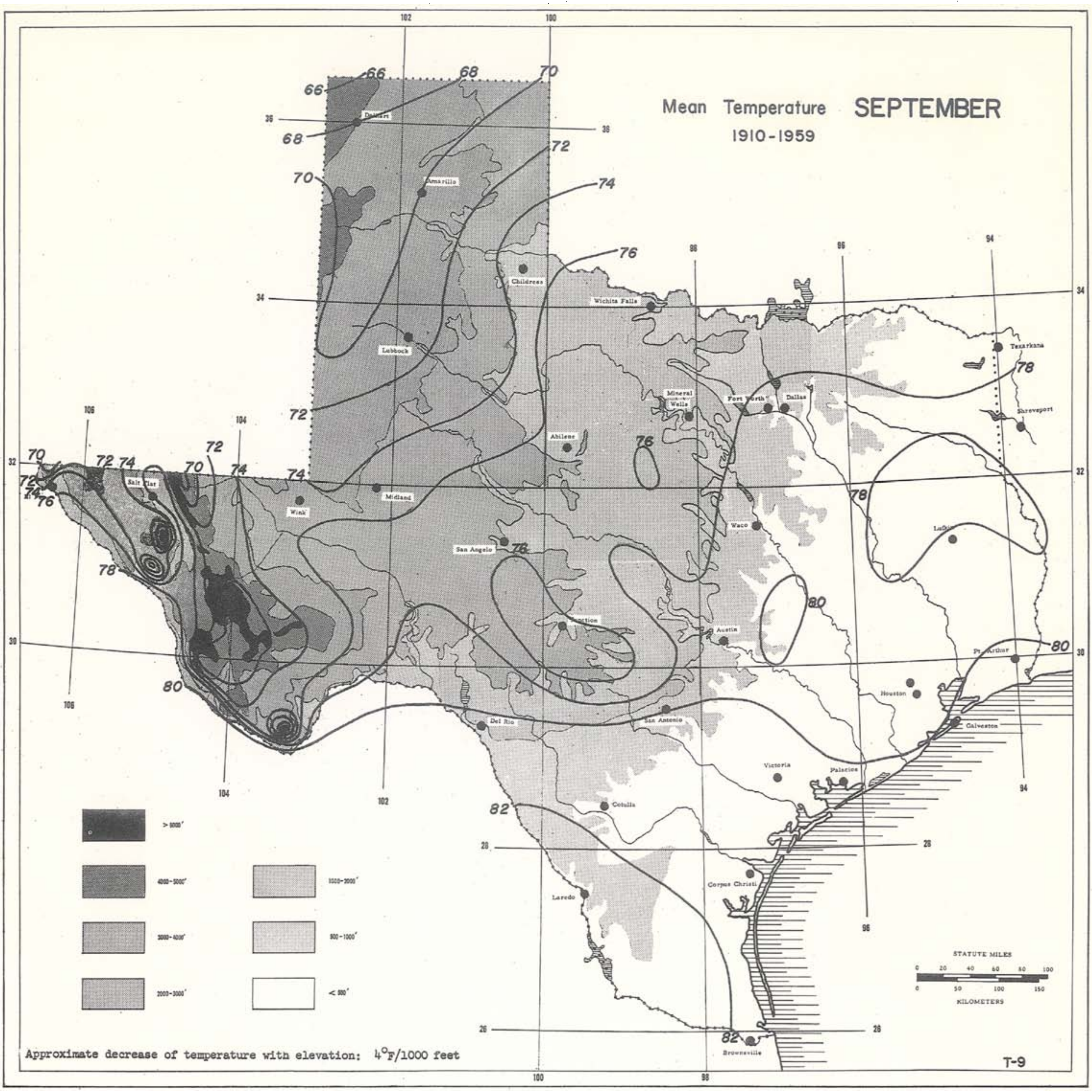


Mean Temperature MAY
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Midland
Wink
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: $4\frac{1}{2}$°F/1000 feet
T-5

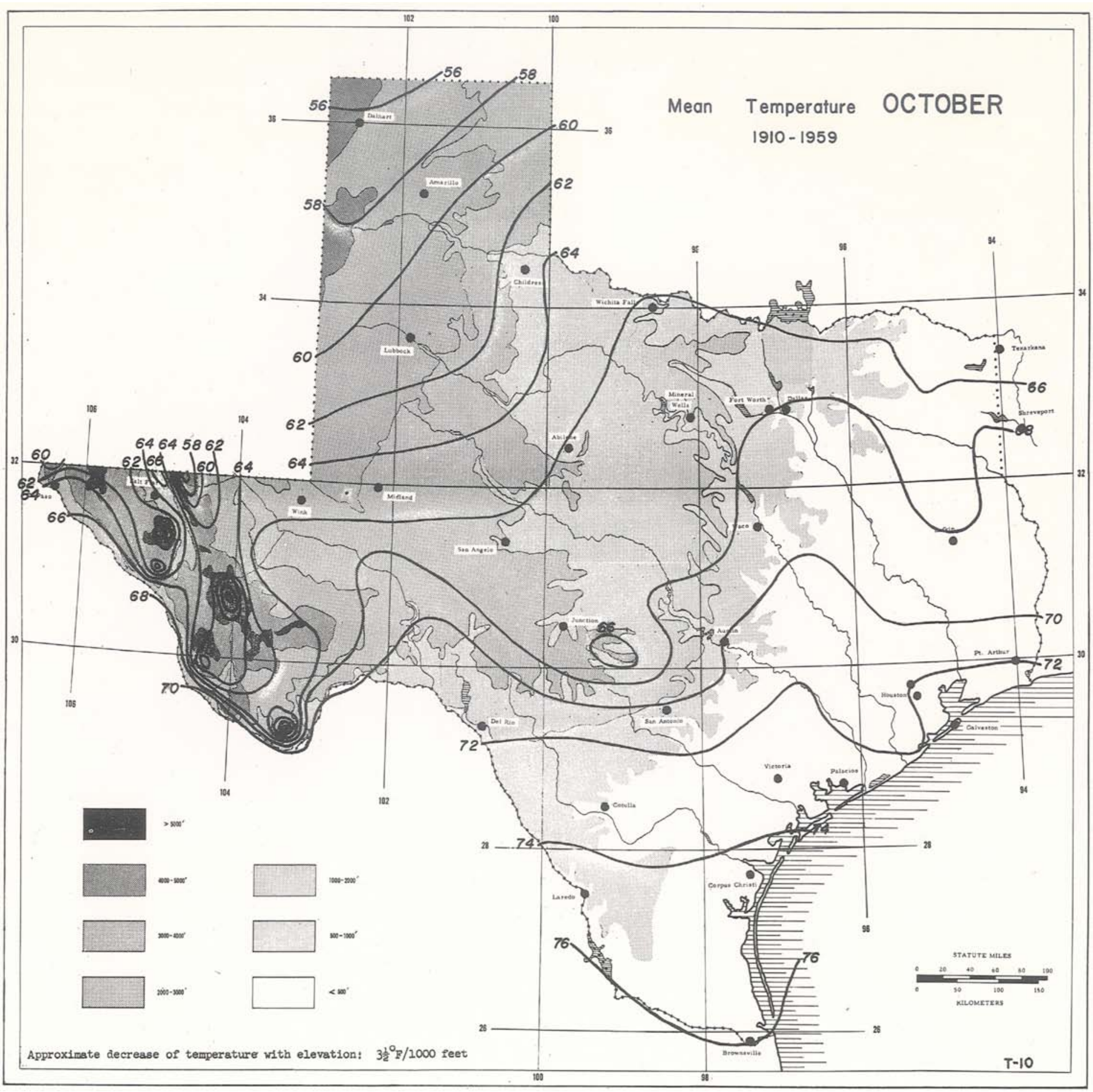

Mean Temperature JUNE
1910-1959
Dalhart
Amarillo
Childress
Lubbock
Wichita Falls
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Midland
Wink
Salt Flat
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 4 3/4°F/1000 feet
T-6

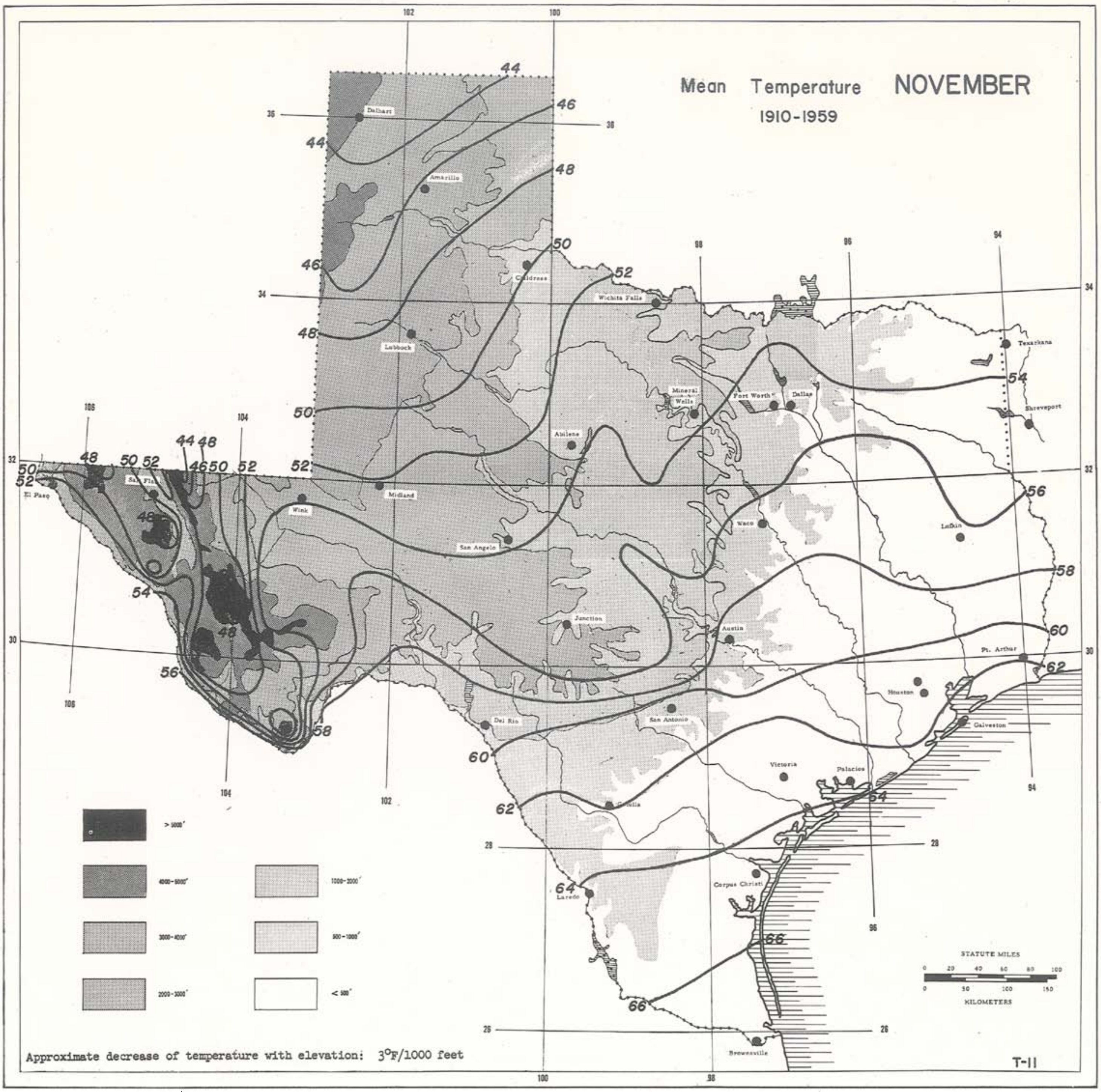

Mean Temperature JULY
1910 - 1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Texarkana
Mineral Wells
Fort Worth
Dallas
Shreveport
Abilene
Salt Flat
Wink
Midland
Waco
San Angelo
Lufkin
Junction
Austin
Pt. Arthur
Houston
San Antonio
Del Rio
Galveston
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 4 3/4°F/1000 feet
T-7

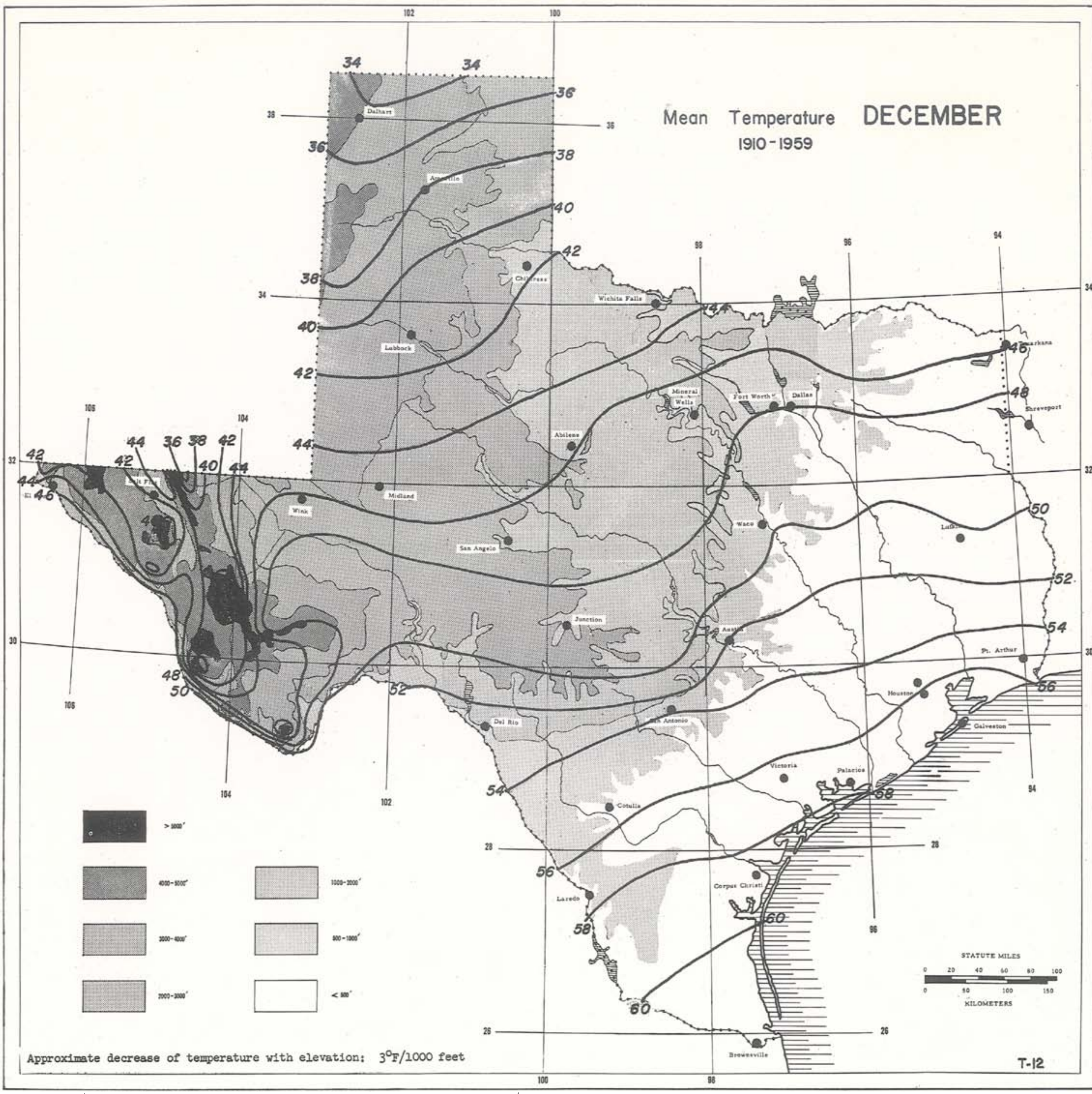

Mean Temperature AUGUST
1910-1959
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
Approximate decrease of temperature with elevation: 4 3/4°F/1000 feet
STATUTE MILES
KILOMETERS
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Midland
Wink
Salt Flat
El Paso
San Angelo
Waco
Lufkin
Junction
Austin
Houston
Pt. Arthur
San Antonio
Del Rio
Galveston
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
T-8



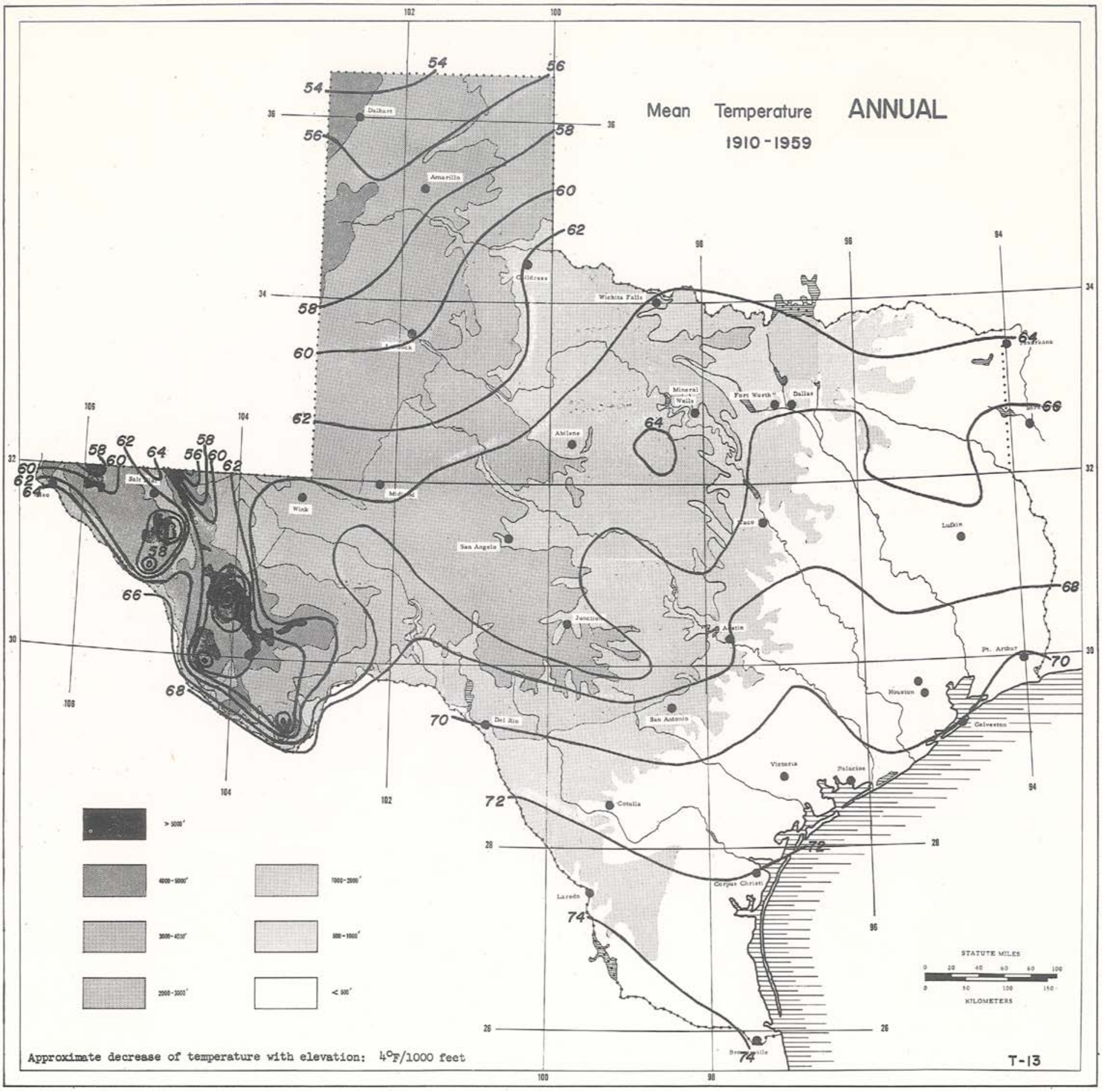
Mean Temperature SEPTEMBER
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Texarkana
Shreveport
Mineral Wells
Fort Worth
Dallas
Abilene
Wink
Midland
Salt Flat
Waco
San Angelo
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 4°F/1000 feet
T-9

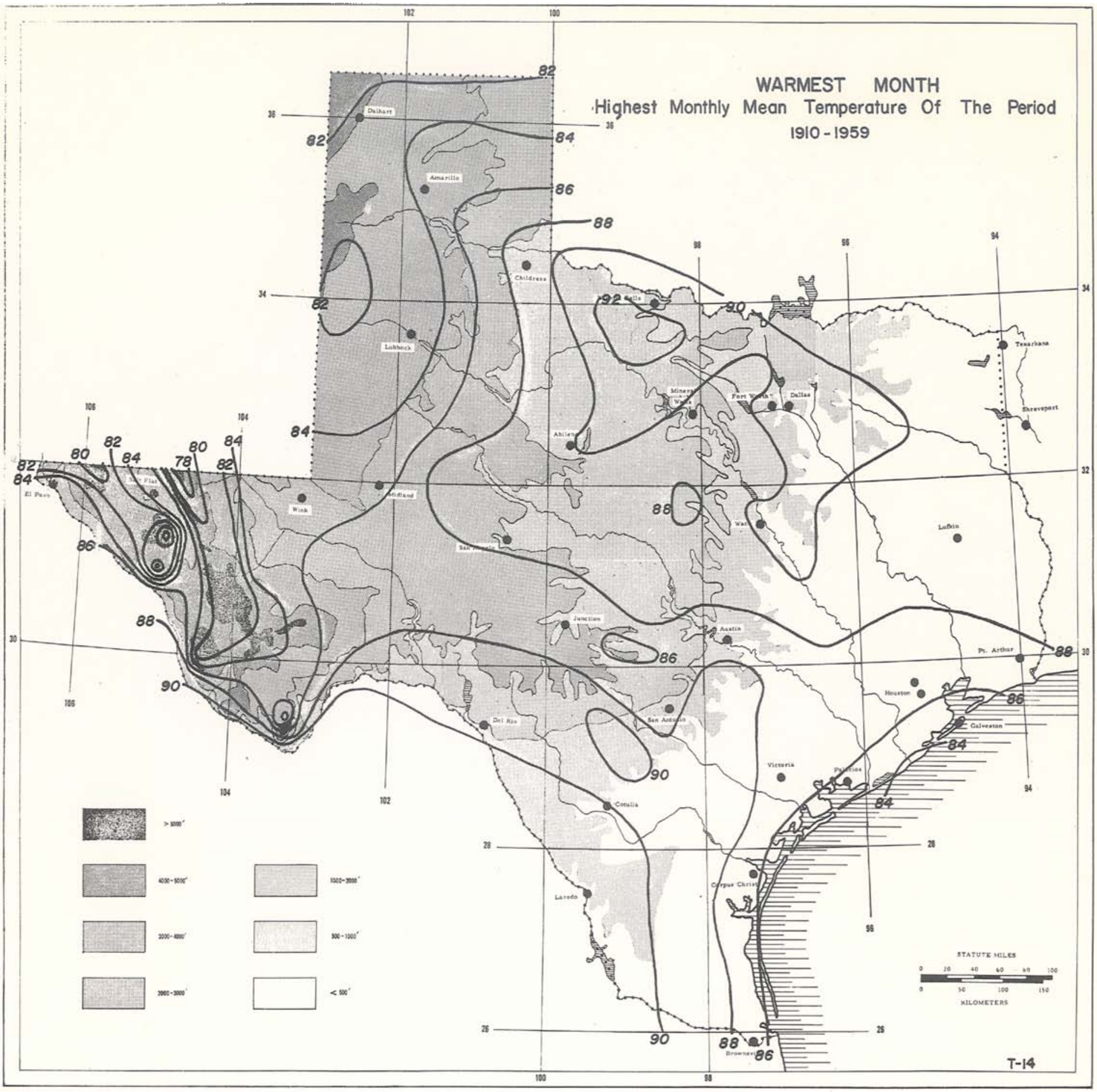

Mean Temperature OCTOBER
1910 - 1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Abilene
Midland
Wink
San Angelo
Junction
Mineral Wells
Fort Worth
Dallas
Waco
Austin
Texarkana
Shreveport
Houston
Pt. Arthur
Galveston
Palacios
Victoria
San Antonio
Del Rio
Cotulla
Laredo
Corpus Christi
Brownsville
56
58
60
62
64
66
68
70
72
74
76
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
0 20 40 60 80 100
0 50 100 150
KILOMETERS
Approximate decrease of temperature with elevation: 3½°F/1000 feet
T-10

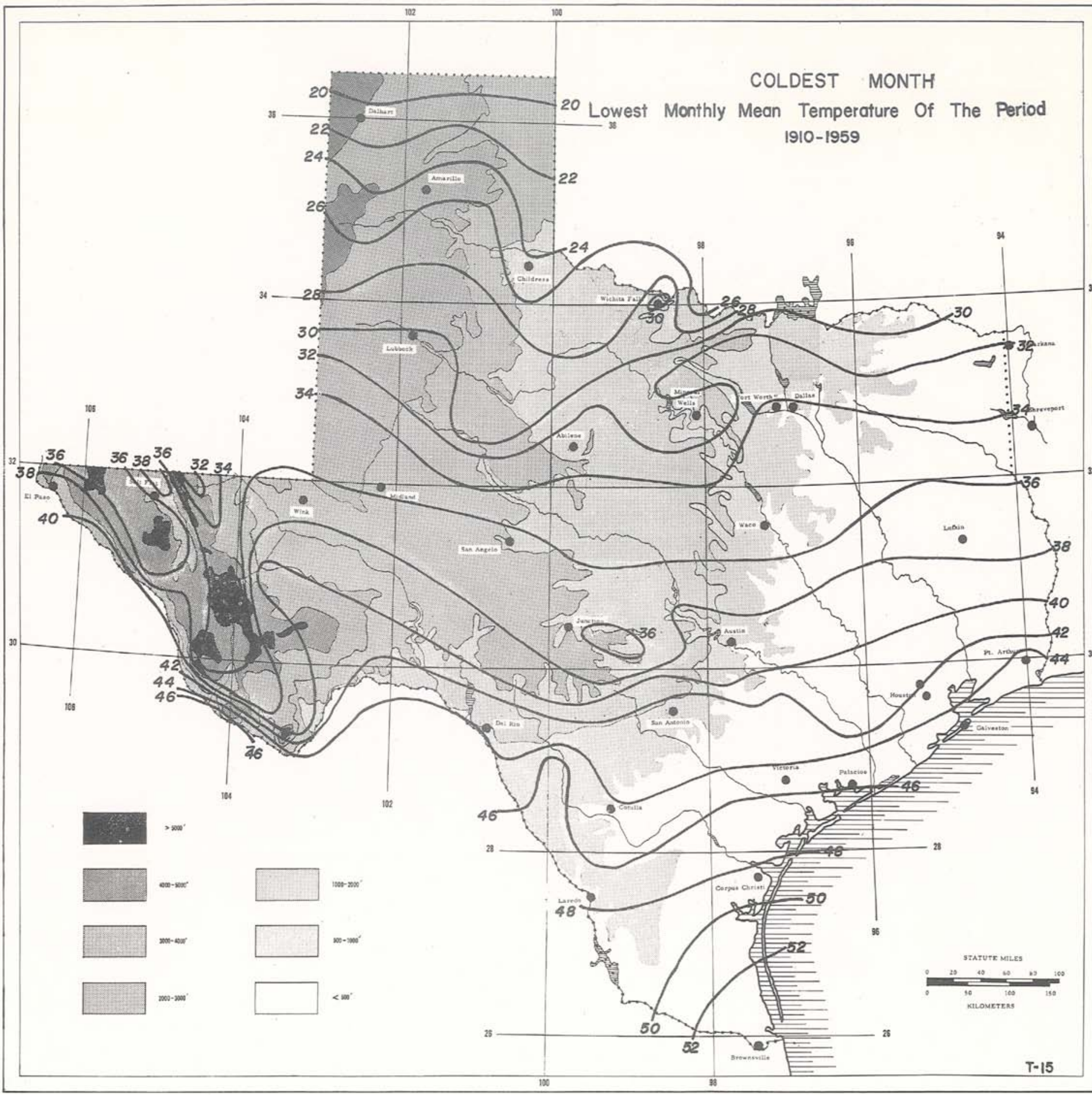

Mean Temperature NOVEMBER
1910-1959
Dalhart
Amarillo
Childress
Lubbock
Wichita Falls
Texarkana
Mineral Wells
Fort Worth
Dallas
Shreveport
Abilene
El Paso
Midland
Wink
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Del Rio
San Antonio
Galveston
Victoria
Palacios
Laredo
Corpus Christi
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 3°F/1000 feet
T-11



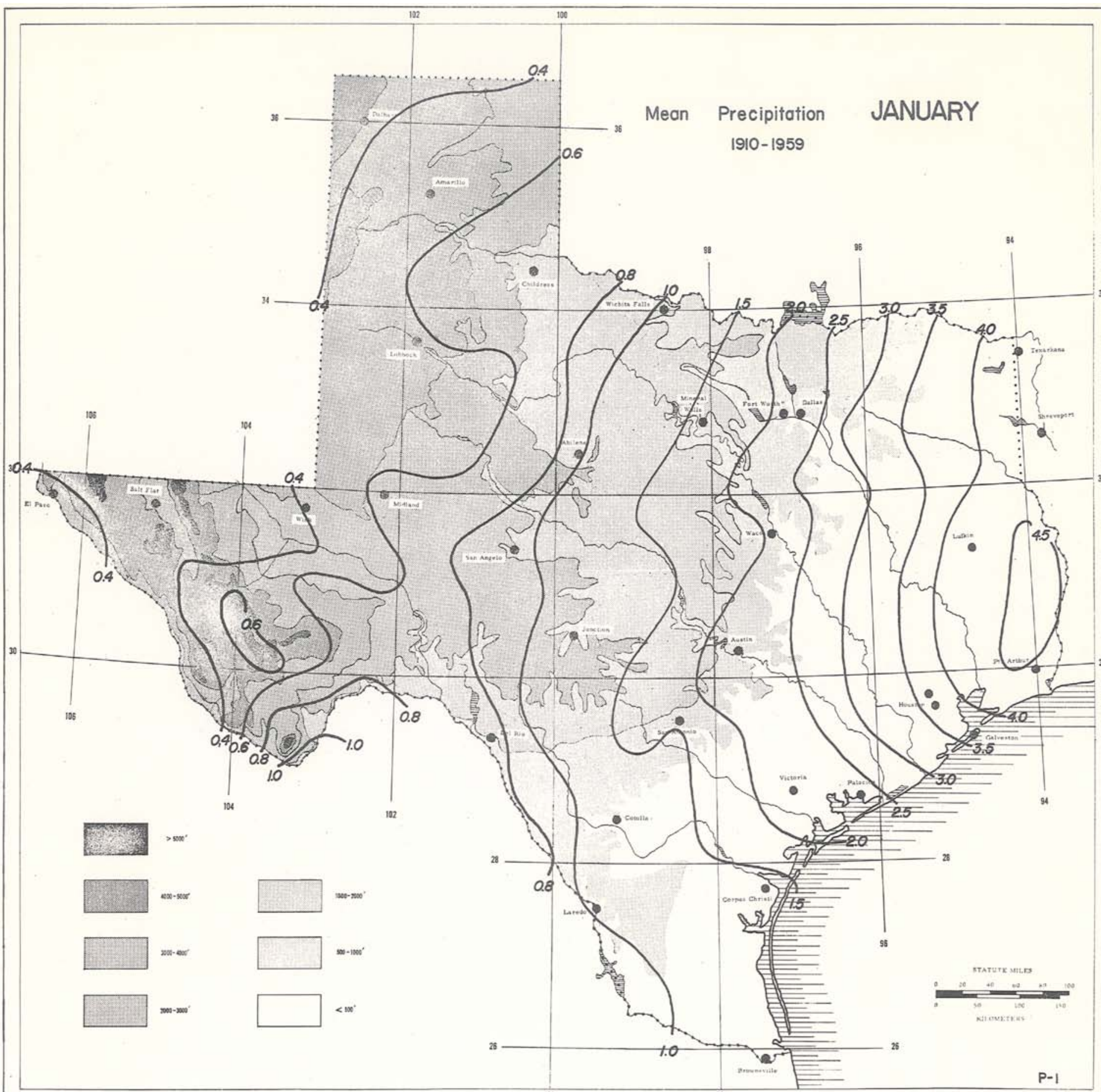
Mean Temperature DECEMBER
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Midland
Wink
Waco
Lufkin
San Angelo
Junction
Austin
Pt. Arthur
Houston
Galveston
Del Rio
San Antonio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
34
36
38
40
42
44
46
48
50
52
54
56
58
60
STATUTE MILES
KILOMETERS
Approximate decrease of temperature with elevation: 3°F/1000 feet
T-12

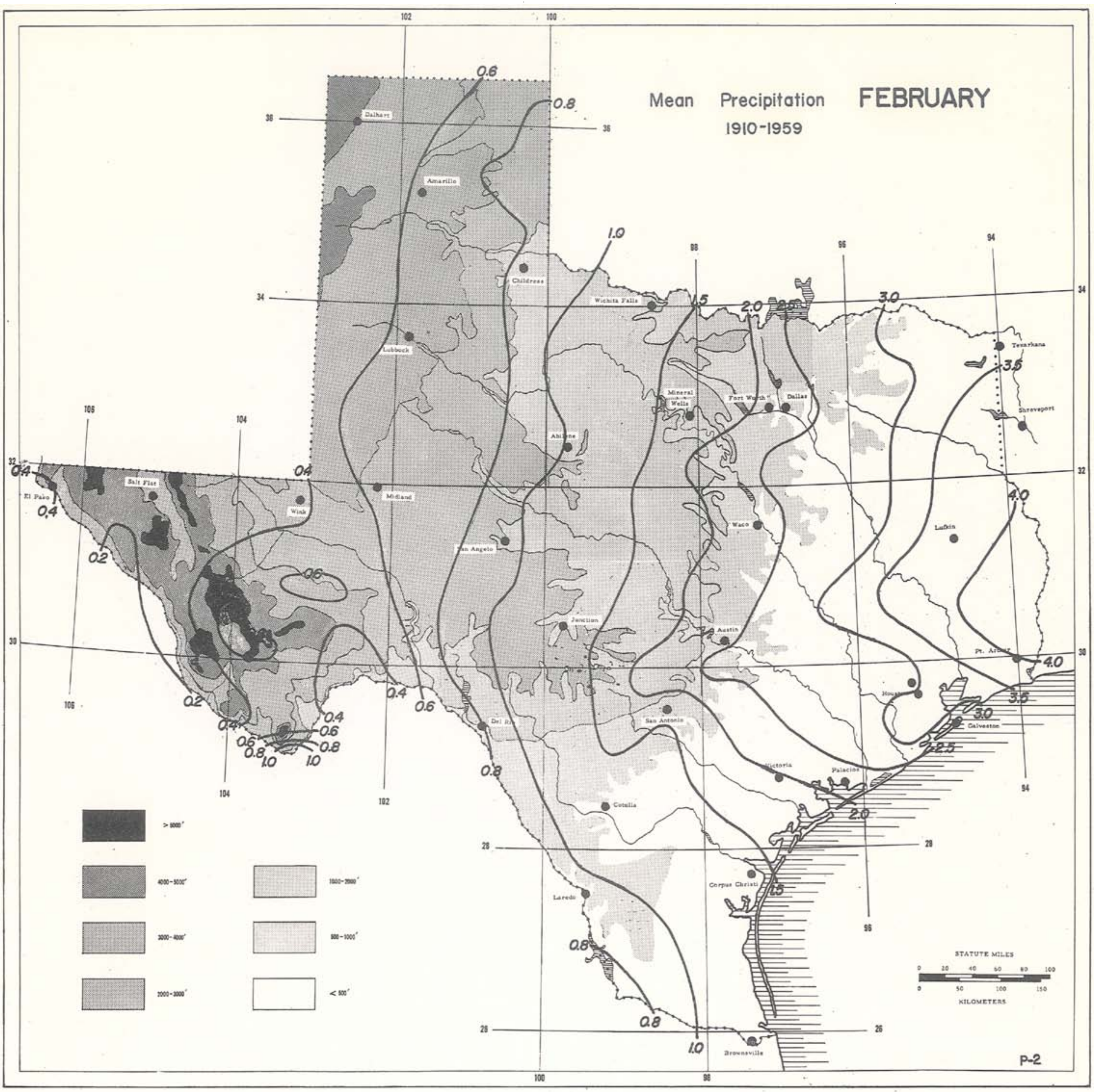

Mean Temperature ANNUAL
1910-1959
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
Dalhart
Amarillo
Childress
Wichita Falls
Texarkana
Mineral Wells
Fort Worth
Dallas
Abilene
Wink
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Approximate decrease of temperature with elevation: 4°F/1000 feet
T-13

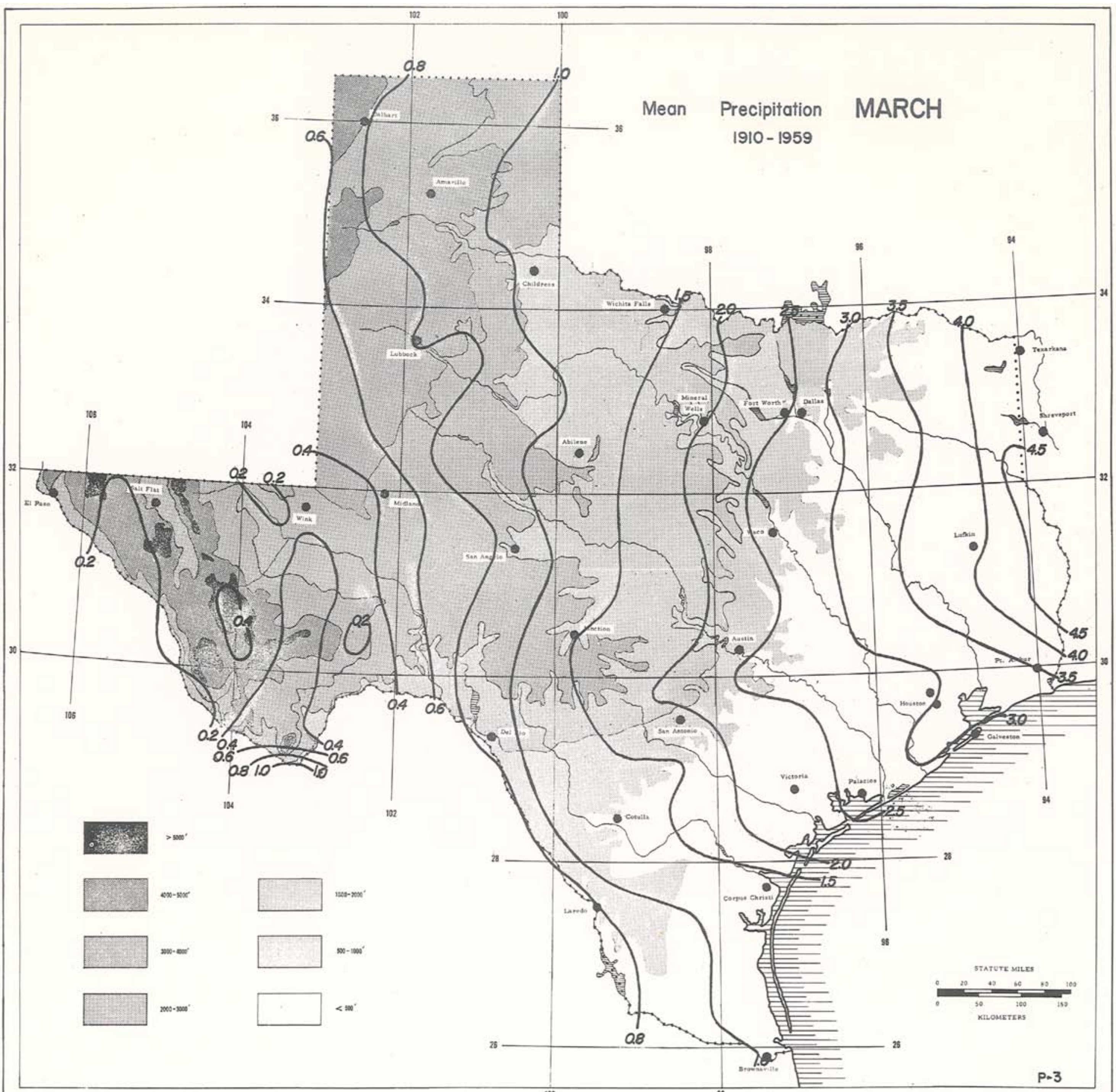

WARMEST MONTH
Highest Monthly Mean Temperature Of The Period
1910-1959
Dalhart
Amarillo
Childress
Lubbock
Abilene
Fort Worth
Dallas
Texarkana
Shreveport
El Paso
Wink
Midland
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Cotulla
Corpus Christi
Laredo
STATUTE MILES
KILOMETERS
T-14

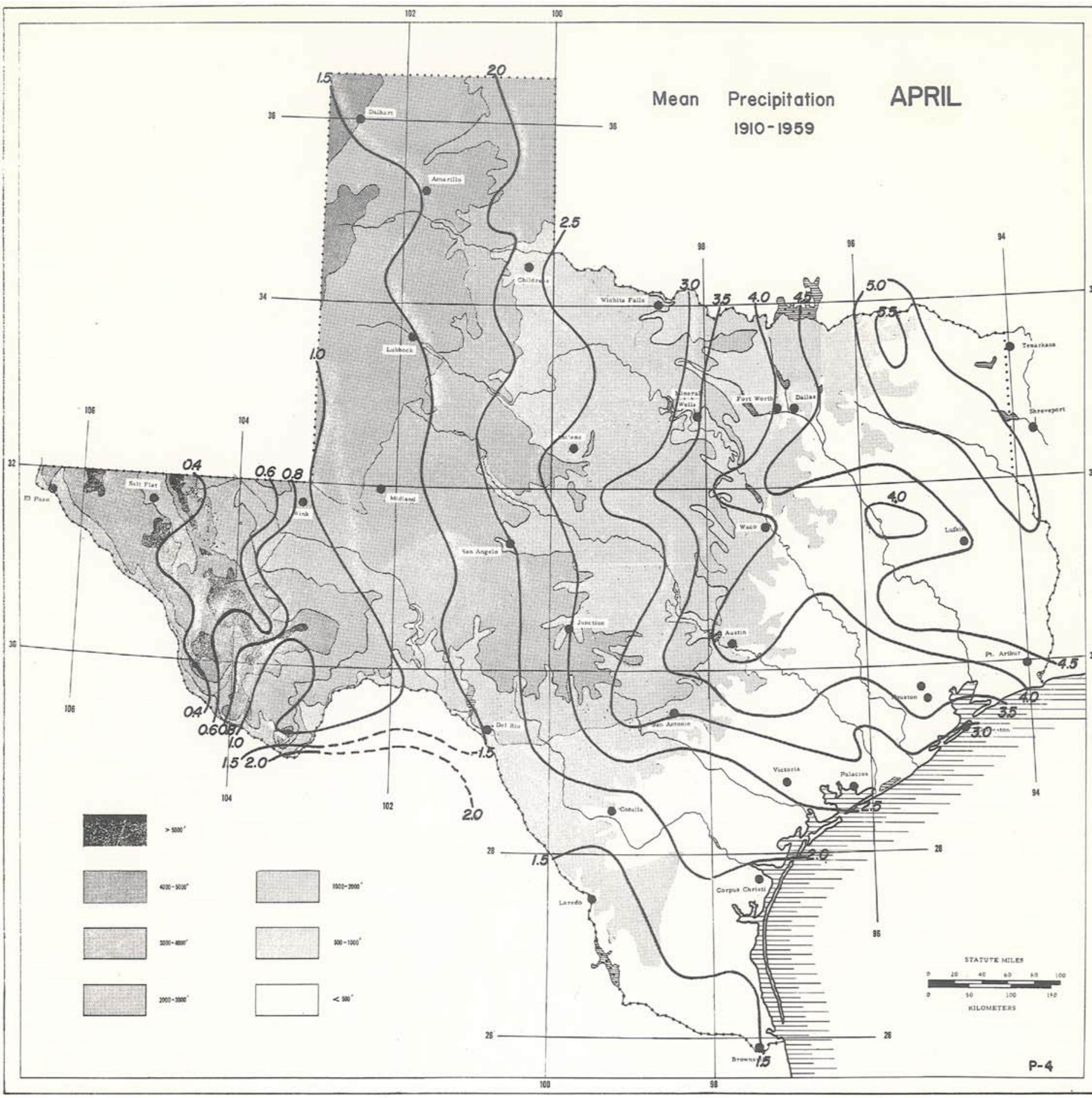


COLDEST MONTH
Lowest Monthly Mean Temperature Of The Period
1910-1959

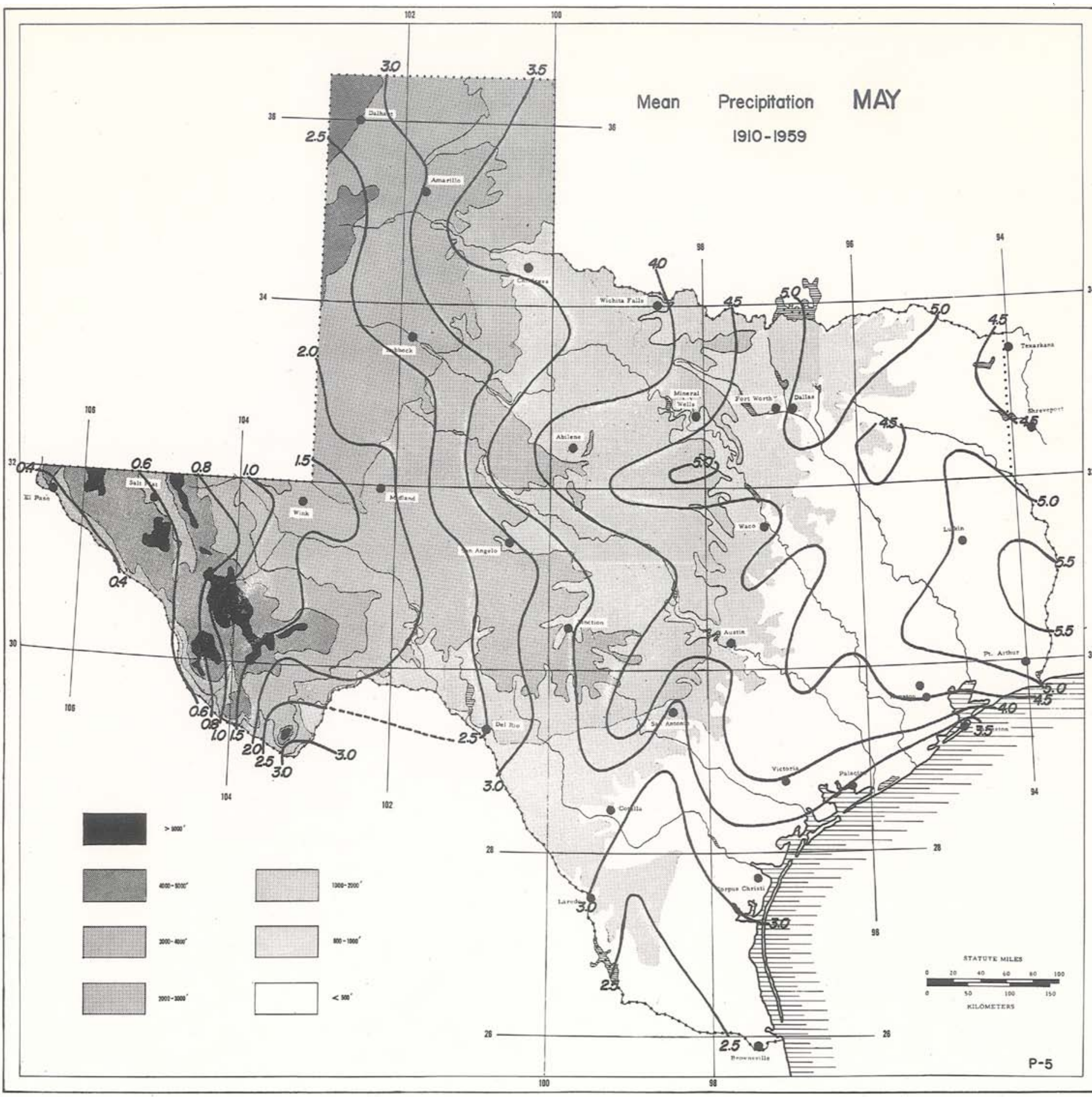

Mean Precipitation JANUARY
1910-1959
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Midland
Salt Flat
El Paso
San Angelo
Waco
Lufkin
Junction
Austin
Houston
Galveston
Victoria
Cotulla
Corpus Christi
Laredo
Brownsville
0.4
0.6
0.8
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
STATUTE MILES
KILOMETERS
P-1


Mean Precipitation FEBRUARY
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Salt Flat
El Paso
Wink
Midland
Waco
Lufkin
San Angelo
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-2

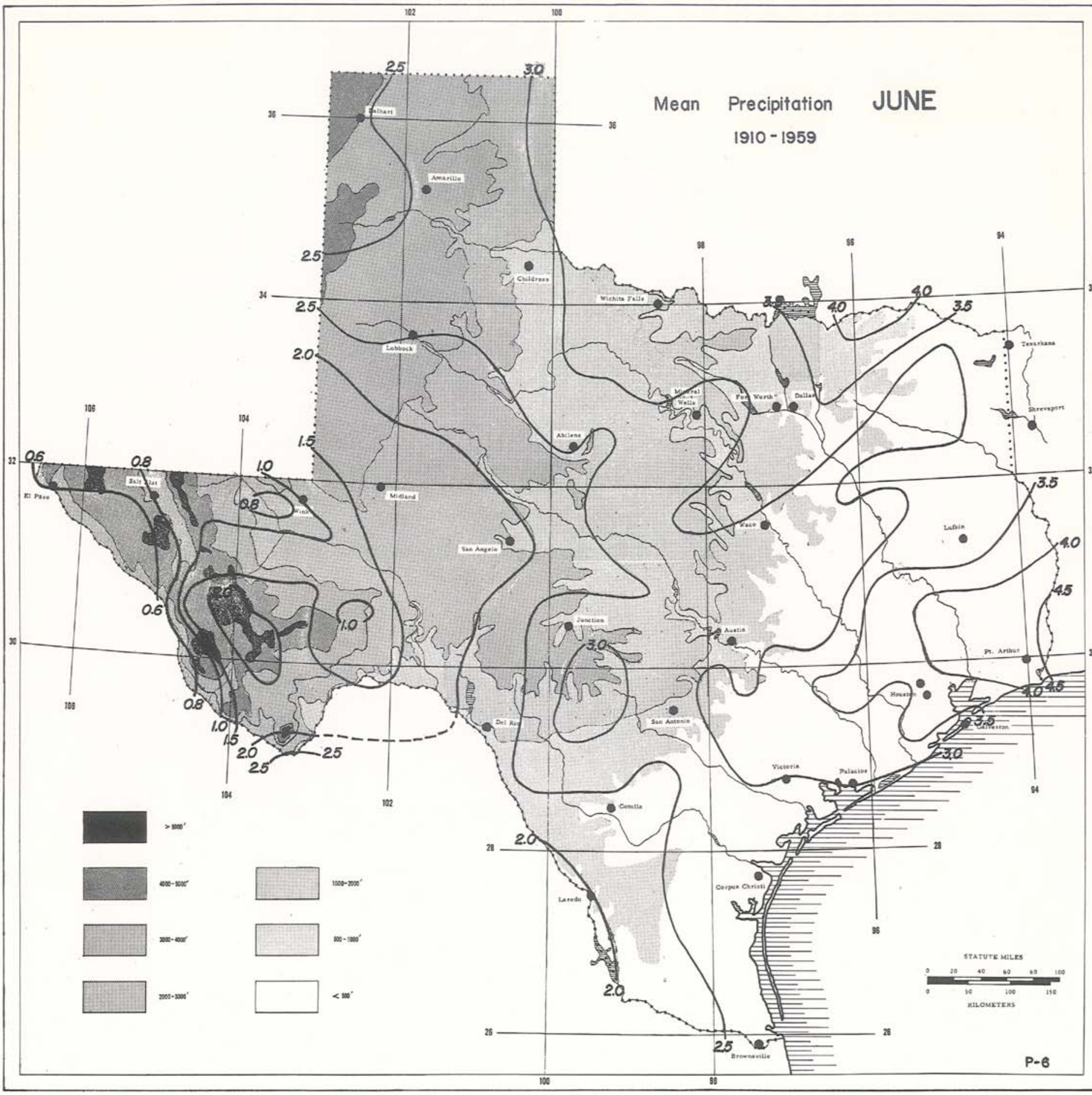

Mean Precipitation MARCH
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
El Paso
Salt Flat
Wink
Midland
San Angelo
Waco
Lufkin
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Laredo
Corpus Christi
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-3

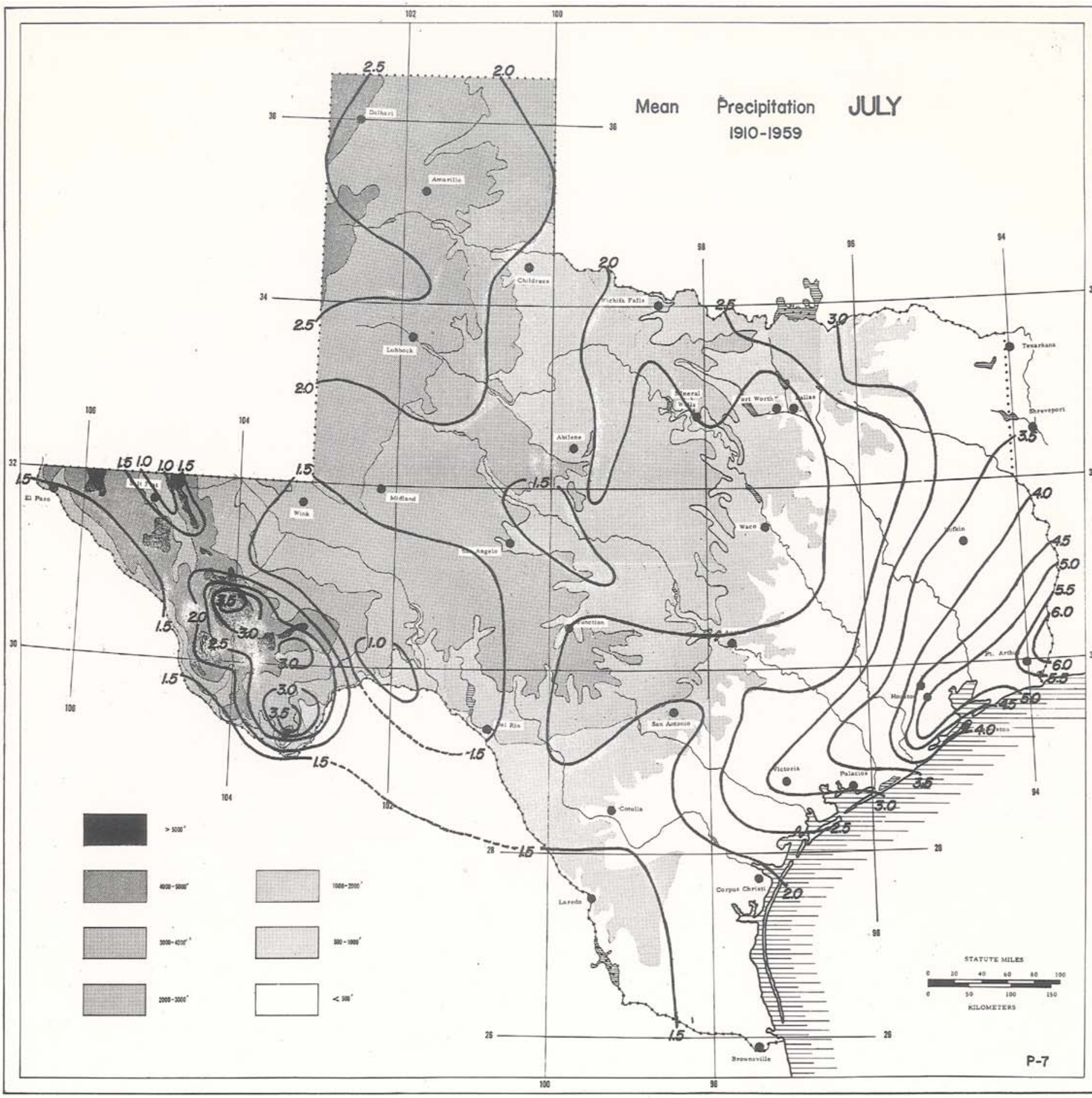


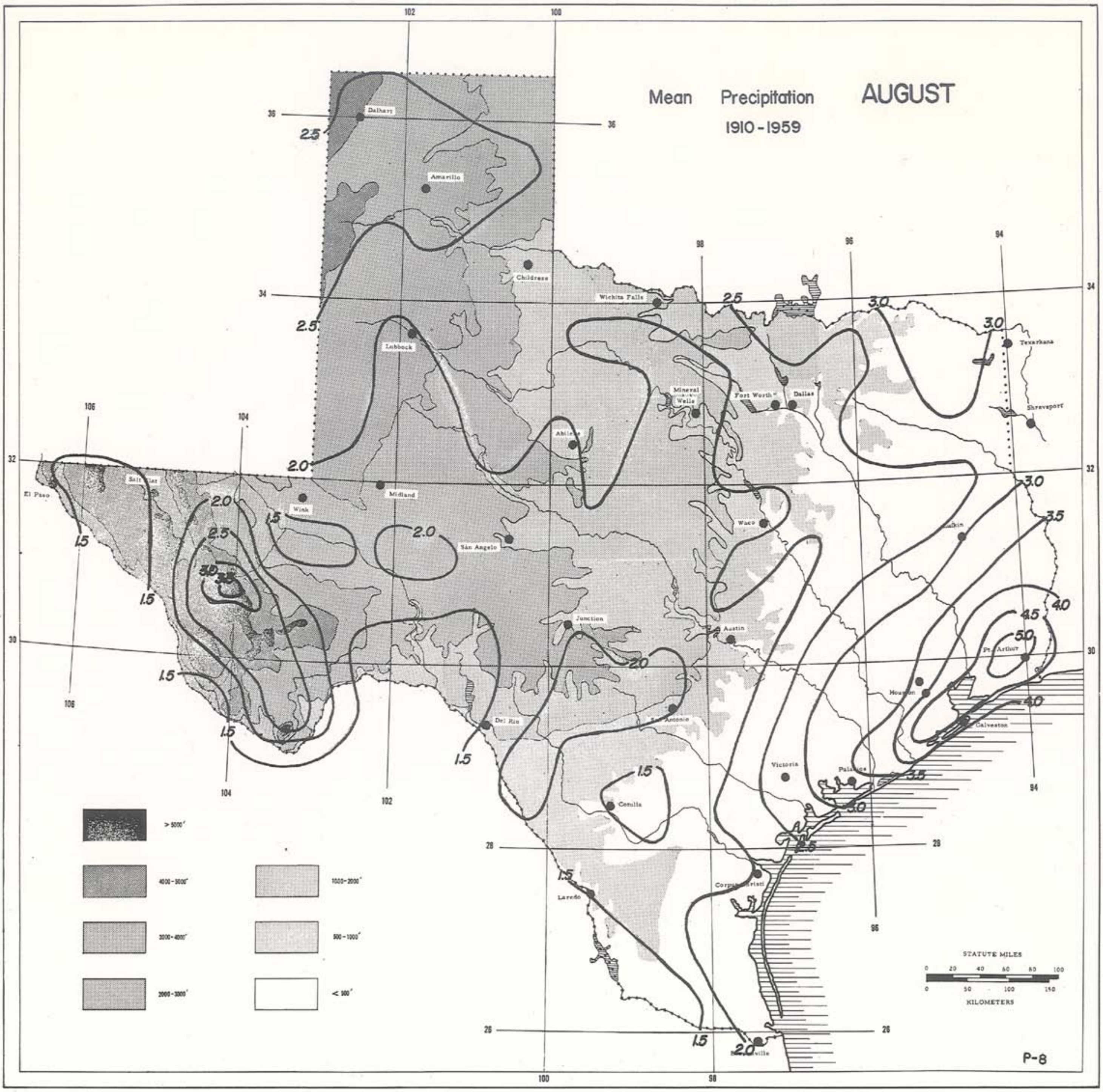
Mean Precipitation APRIL
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
El Paso
Salt Flat
Wink
Midland
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-4

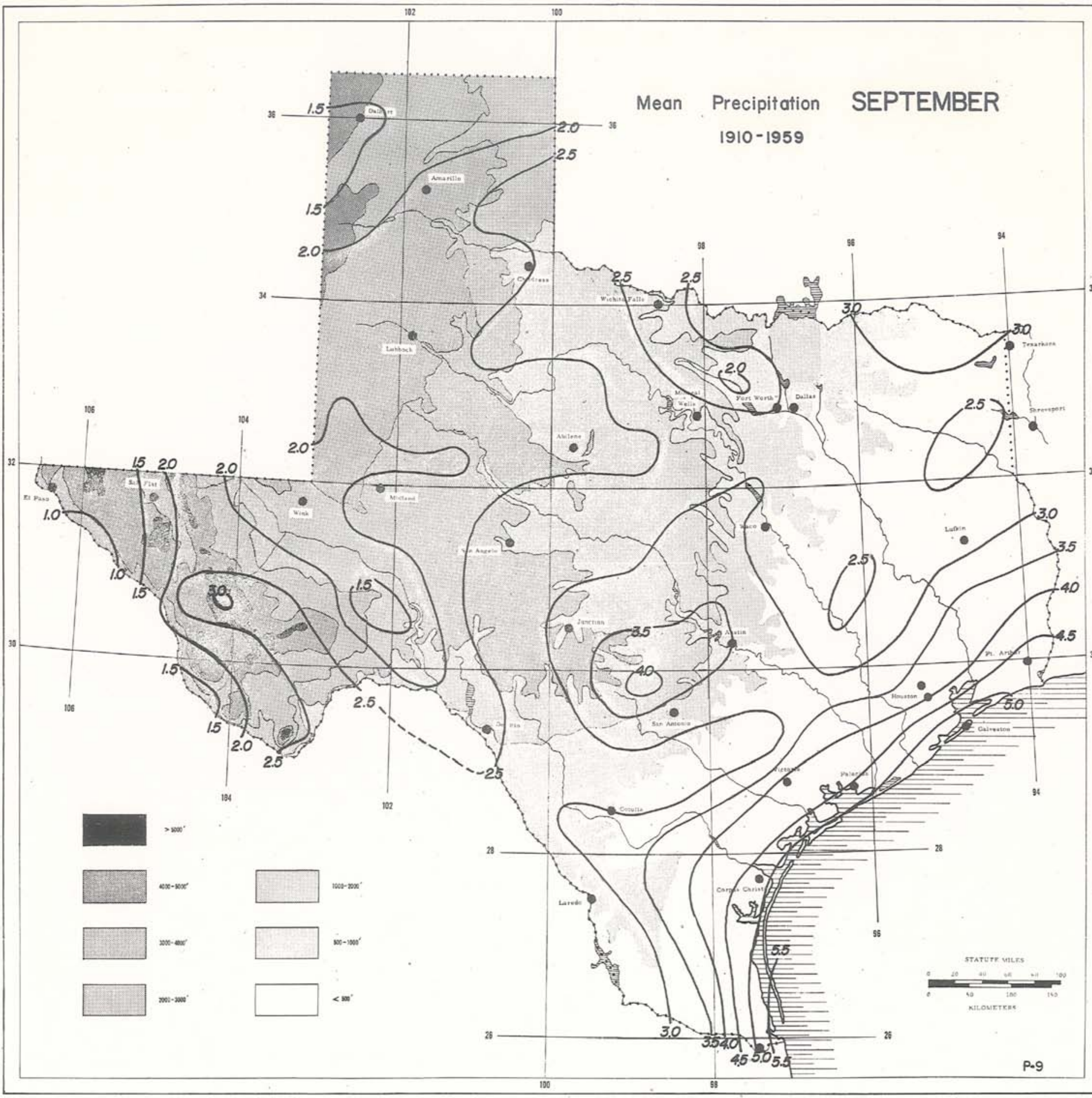


Mean Precipitation MAY
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
El Paso
Salt Flat
Wink
Midland
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Del Rio
San Antonio
Galveston
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-5

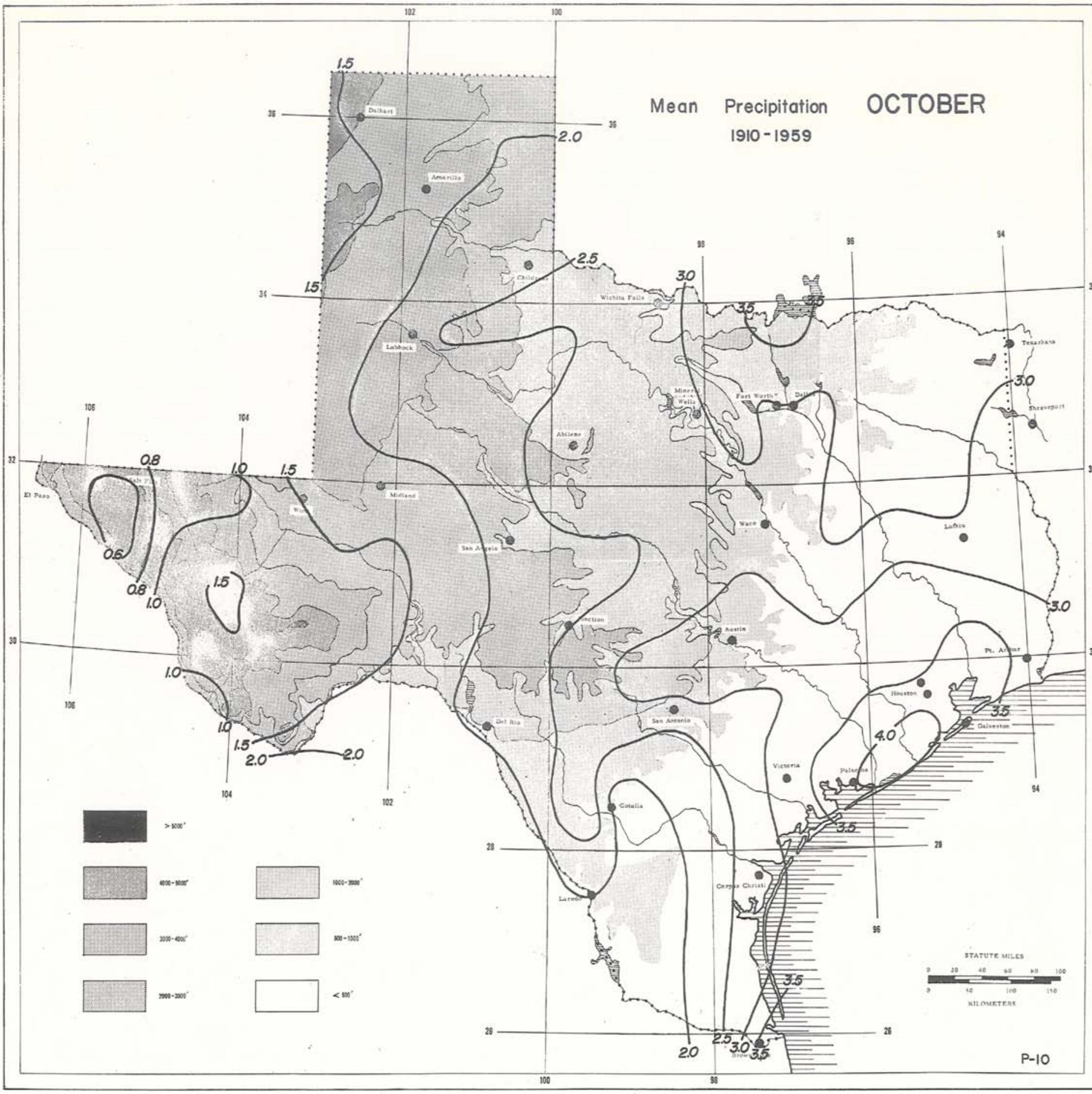

Mean Precipitation JUNE
1910 - 1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
Midland
El Paso
Salt Flat
Wink
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
0 20 40 60 80 100
0 50 100 150
KILOMETERS
P-6


Mean Precipitation JULY
1910-1959
Dalhart
Amarillo
Childress
Lubbock
Wichita Falls
Abilene
Midland
Wink
El Paso
San Angelo
Junction
Del Rio
San Antonio
Waco
Dallas
Lufkin
Texarkana
Shreveport
Houston
Victoria
Palacios
Cotulla
Laredo
Corpus Christi
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-7

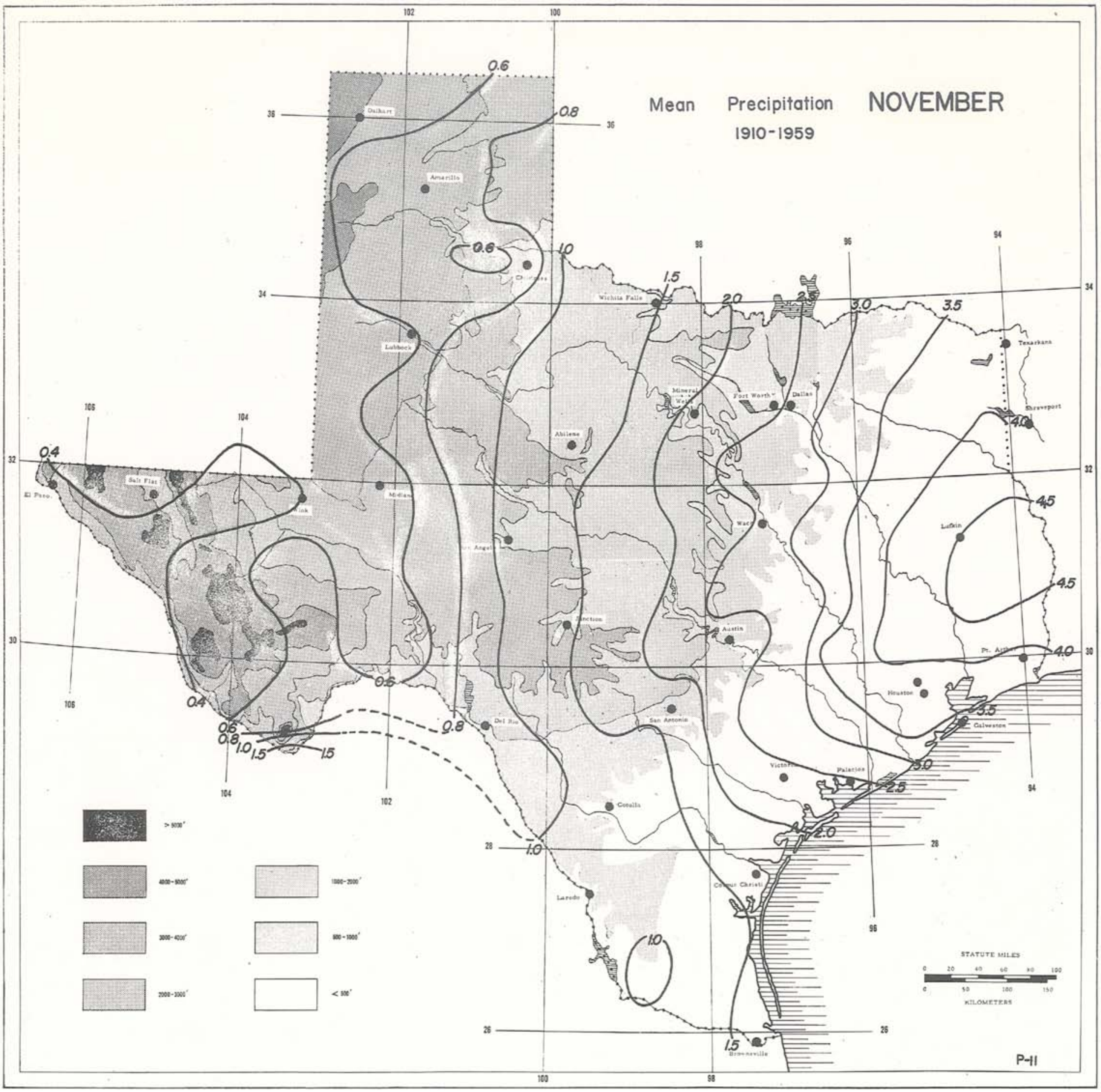

Mean Precipitation AUGUST
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
El Paso
Salt Flat
Wink
Midland
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
Del Rio
San Antonio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-8



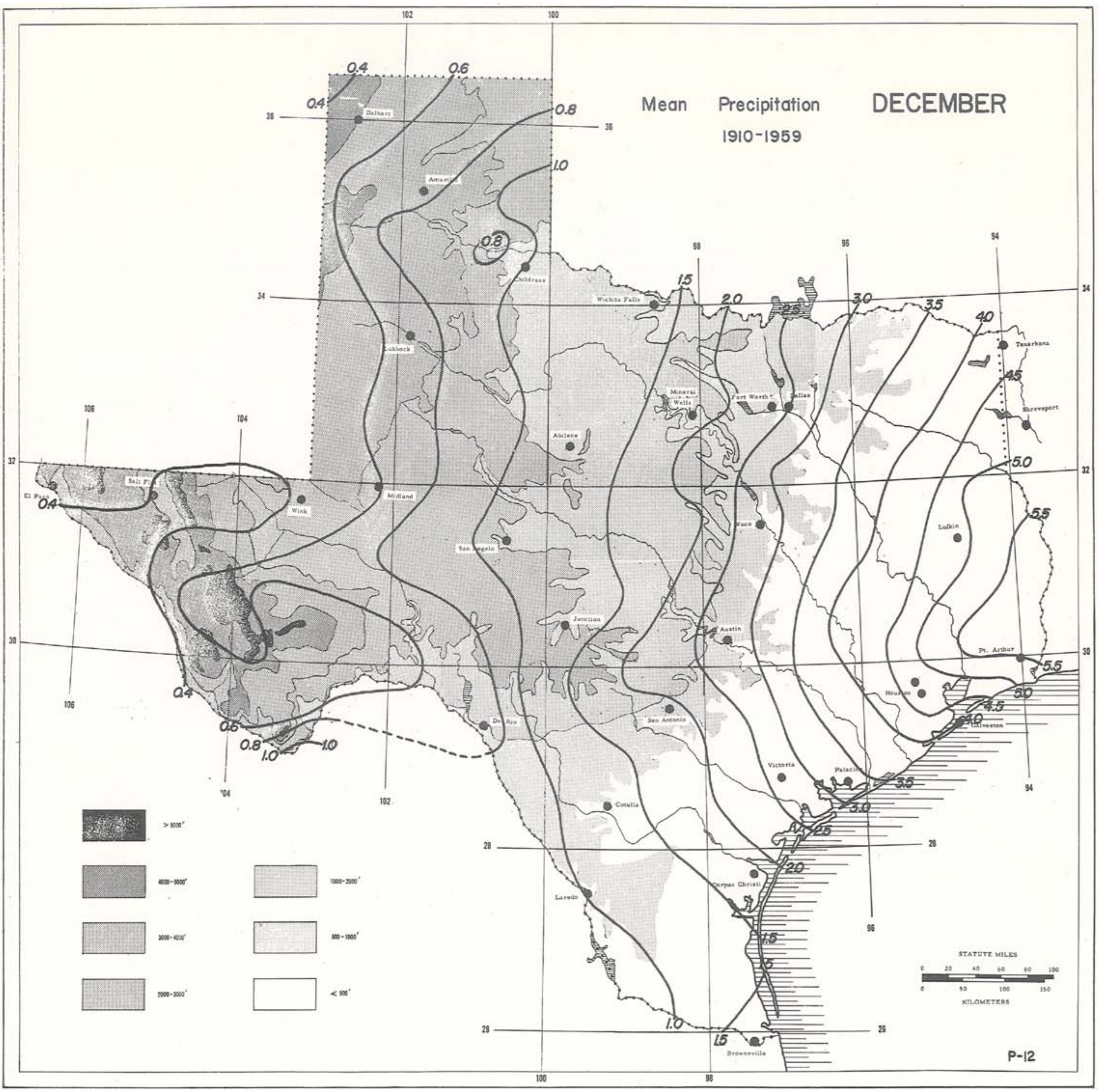
Mean Precipitation SEPTEMBER
1910-1959
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
Dalhart
Amarillo
Childress
Lubbock
Wichita Falls
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
El Paso
Wink
Midland
San Angelo
Waco
Lufkin
Junction
Austin
San Antonio
Houston
Pt. Arthur
Galveston
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
P-9

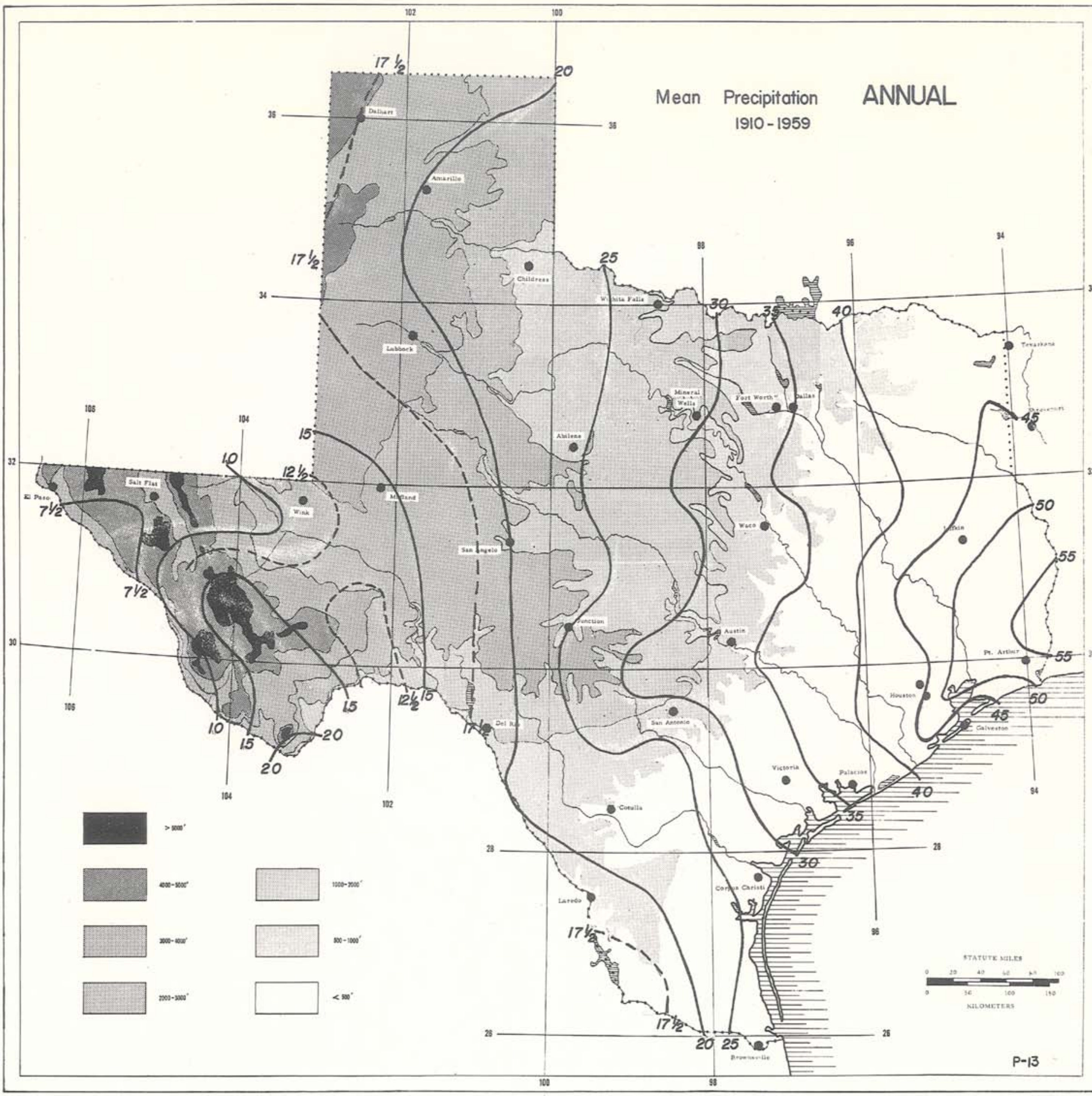


Mean Precipitation OCTOBER
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Abilene
Midland
San Angelo
Waco
Lufkin
Texarkana
Shreveport
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
El Paso
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-10



Mean Precipitation NOVEMBER
1910-1959
Dalhart
Amarillo
Lubbock
Wichita Falls
Fort Worth
Dallas
Texarkana
Shreveport
Mineral Wells
Abilene
Midland
Salt Flat
El Paso
Waco
Lufkin
Austin
Junction
San Antonio
Houston
Galveston
Pt. Arthur
Victoria
Palacios
Del Rio
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-11


Mean Precipitation
1910-1959
DECEMBER
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Shreveport
Abilene
El Paso
Salt Flat
Wink
Midland
San Angelo
Waco
Lufkin
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-12


Mean Precipitation ANNUAL
1910-1959
Dalhart
Amarillo
Childress
Wichita Falls
Lubbock
Mineral Wells
Fort Worth
Dallas
Texarkana
Abilene
El Paso
Salt Flat
Wink
Midland
Waco
Lufkin
San Angelo
Junction
Austin
Pt. Arthur
Houston
Galveston
San Antonio
Del Rio
Victoria
Palacios
Cotulla
Corpus Christi
Laredo
Brownsville
> 5000'
4000-5000'
3000-4000'
2000-3000'
1000-2000'
500-1000'
< 500'
STATUTE MILES
KILOMETERS
P-13