U. S. DEPARTMENT OF COMMERCE
Environmental Science Services Administration

in cooperation with
Cotton Economic Research and
Bureau of Business Research of
The University of Texas at Austin

CLIMATOGRAPHY OF THE UNITED STATES NO. 20-41

ATITUDE 35° 34' N
LONGITUDE 100° 58' W
ELEV. (GROUND) 3220 ft.

CLIMATOLOGICAL SUMMARY

Revised September 1970

STATION PAMPA, TEXAS

MEANS AND EXTREMES FOR PERIOD 1934-1969

Month	Temperature (°F) # Means: Daily maximum	Daily minimum	Monthly	Extremes: Record highest	Year	Record lowest	Year	** Mean degree days	Precipitation Totals (Inches): Mean	Greatest daily	Year	Snow, Sleet: Mean	Maximum monthly	Year	Greatest Depth	Year	Mean number of days: Precip. .10 inch or more	Temperatures: Max. 90° and above	Max. 32° and below	Min. 32° and below	Min. 0° and below	Month
(a)	32	32	32	32		32		14	35	35		35	35		14		14	14	14	14	14	
Jan	48.2	22.4	35.3	81	1953	-12	1962	906	0.52	1.88	1939	3.0	12.0	1960	6	1966	1	0	3	26	2	Jan
Feb	52.5	26.3	39.4	84	1963+	-10	1951	736	0.70	1.68	1964	2.8	10.7	1940	5	1969+	2	0	3	22	0	Feb
Mar	59.8	31.5	45.7	92	1946+	- 6	1948	616	0.81	2.01	1962	2.5	16.9	1934	5	1969+	2	0	2	17	*	Mar
Apr	70.9	42.6	56.8	96	1937	12	1945+	255	1.31	2.30	1936	0.2	4.0	1938	T	1961+	3	1	0	3	0	Apr
May	78.3	52.2	65.3	102	1953	29	1953	76	3.35	4.36	1955	T	T	1953+	0		5	5	0	0	0	May
Jun	86.8	61.4	74.1	109	1939	40	1937	8	3.34	4.12	1942	0	0		0		6	11	0	0	0	Jun
Jul	91.4	66.0	78.7	108	1940	53	1952	*	2.33	4.88	1953	0	0		0		5	21	0	0	0	Jul
Aug	90.7	65.3	78.0	108	1944	49	1956	2	2.51	3.15	1937	0	0		0		4	19	0	0	0	Aug
Sep	82.8	57.5	70.2	105	1939	31	1945	28	1.91	3.39	1960	0	0		0		3	6	0	0	0	Sep
Oct	73.0	47.0	60.0	95	1967+	26	1957	194	1.88	2.85	1946	0.1	1.9	1941	1	1957	3	1	0	1	0	Oct
Nov	59.9	33.1	46.5	86	1952	6	1940	526	0.54	1.60	1964+	0.7	7.0	1952	2	1967	2	0	*	13	0	Nov
Dec	51.0	25.8	38.4	85	1939	- 1	1951	815	0.60	2.30	1943	2.3	7.7	1943	5	1960	1	0	3	24	*	Dec
Year	70.4	44.3	57.4	108	Aug. 1944+	-12	Jan. 1962	4162	19.80	4.88	July 1953	11.6	16.9	Mar. 1934	6	Jan. 1966	37	64	11	106	2	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F

+ Also on earlier dates, months, or years.

* Less than one half.

For the period 1937-1969.

THE CLIMATE OF PAMPA, TEXAS

Pampa, called the city at the Top O' Texas, is located near the northwest corner of Gray County in the east-central section of the Panhandle. The city is an oil field supply point, and a center for oil, gas and petrochemical operations as well as a marketing center for an agricultural and stock raising area. Feedlot operations have become prominent in the area in recent years. Principal recreation areas nearby are Lake Meredith, a 2,435,000 acre-foot capacity reservoir behind Sanford Dam in southwestern Hutchinson County, and Lake McClellan Park in southern Gray County. The Top O' Texas Rodeo is staged each August.

Gray County is high level plains, broken by tributaries of the Red River. Elevations range from 2,500 to 3,300 feet above sea level. Soils are sandy loams and waxy types. More than 535 million barrels of oil have been produced in Gray County since 1925: gas is produced also. Agricultural income is derived from beef cattle, including large feedlot operations, and the production of wheat, sorghums, cotton and alfalfa. About 25,000 acres are irrigated.

Pampa lies in a cool temperate climatic zone: it has a dry steppe type of climate with mild winters. The mean total annual precipitation is 19.80 inches, and in an average year, 84 percent of this amount falls during the warm season, April through October. Both monthly and annual precipitation amounts are extremely variable. Since 1928, the wettest year of record is 1941, when Pampa received a total of 32.91 inches. Only 11.10 inches fell in 1956, the driest year. Warm season rainfall occurs most frequently as the result of thunderstorms, and in exceptionally wet years, a significant proportion of the total may be the result of excessive pours that are lost to the land because of rapid runoff. nderstorms occur on about 50 days each year. The prevailing winds at Pampa are southwesterly November through April and southerly March through October. At noon, Central Standard Time, the mean relative humidity is estimated at 50 percent in January, 40 percent in April and 43 percent in both July and October. These values are representative of the four seasons. Pampa receives approximately 47 percent of the total possible sunshine in winter, 70 percent in spring, 78 percent in summer and 73 percent in the fall. In an average year, free water (lake) evaporation exceeds precipitation by 46 inches.

Winter: Pampa is subjected to sharp drops in temperature when Polar Canadian air masses sweep southward across the level plains: sometimes these air mass changes are accompanied by strong, northerly winds: at other times the colder air moves in slowly from the northeast. In spite of occasional low temperatures, the winters at Pampa are actually mild compared to those of the northern High Plains. The lowest temperature of record at Pampa (since 1937) is -12°F, and occurred on January 11, 1962. Winter is a dry season since frequent "northers" cut off the supply of moisture form the Gulf of Mexico. Precipitation most often falls in the from of light snow. The mean annual snowfall is 11.6 inches, but the seasonal totals have varied from only a "trace" in 1950 to 30.5 inches in 1931. A total of 29.2 inches of snow fell in 1969. Strong winds often pile the snow up in drifts so that the snow melt is not uniformily distributed.

Spring is a season of many weather changes. Warm and cold spells follow each other in rapid succession throughout March and April. Trees and shrubs may bloom too early and be nipped by a late freeze. Occasionally, strong persistent, southwesterly to northwesterly winds in spring (and in late winter) may cause blowing dust. Thunderstorms, which rarely occur in winter, are frequent in late spring. May and June are the wettest months of the year.

Summer is a pleasant season at Pampa, while afternoon temperatures are sometimes hot, most evenings and nights are pleasantly cool. Thundershowers are frequent, and cloudiness and precipitation, when present during the day, cause significant cooling. Evaporative-type air-conditioners operate efficiently in this relatively dry climate. The highest temperature of record at Pampa (since 1937) is 108°F, and occurred on several days in July 1940, and again on August 3, 1944.

Fall, like the summer season, is a very pleasant one. There is a greater variety in the weather than in summer, but temperatures are moderate. Rainfall decreases in the fall. Mild, sunny days and clear, cool nights characterize the fall season. Winds are not so strong as in the spring.

The warm season (freeze free period) at Pampa is 200 days. The mean dates of the last occurrence of 32°F or below in the spring, and the first occurrence of 32°F or below in the fall, are April 15 and October 27, respectively.

PAMPA, TEXAS

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1937	28.9	39.6	43.3	58.8	67.6	73.3	82.1	-	71.4	58.6	44.2	35.2	-
1938	38.2	40.7	53.4	56.8	66.6	75.5	78.4	80.9	72.0	63.2	43.5	38.3	59.0
1939	38.3	34.2	50.8	57.0	66.4	77.0	79.6	77.7	76.0	63.5	46.3	42.4	59.1
1940	24.0	40.2	49.6	55.7	65.2	73.6	82.2	75.4	71.0	-	44.6	41.0	-
1941	37.3	38.6	41.6	55.1	63.9	69.7	75.8	76.2	70.4	58.5	48.4	40.3	56.3
1942	34.4	36.4	44.7	57.5	62.8	72.8	76.8	74.9	66.8	56.7	49.4	37.4	55.9
1943	36.6	44.0	42.2	60.6	60.8	75.0	78.6	82.8	69.1	58.0	45.4	32.6	57.1
1944	33.5	39.6	43.6	52.6	64.8	74.4	76.4	79.5	69.8	59.4	46.9	35.2	56.3
1945	37.0	39.6	51.0	51.0	65.2	71.6	76.6	77.8	70.3	59.2	50.0	35.4	57.1
1946	36.0	44.2	51.8	63.8	62.9	75.0	81.7	81.3	67.9	58.6	45.8	43.0	59.4
1947	34.8	35.2	41.3	52.3	62.2	72.7	77.7	80.1	74.6	64.6	40.9	37.8	56.2
1948	31.6	33.6	40.0	61.4	65.5	75.5	78.4	76.3	-	-	-	-	-
1949	24.9	37.3	-	-	64.5	71.7	77.8	74.5	67.2	57.4	51.2	37.2	-
1950	37.7	46.4	47.1	57.1	66.0	74.6	72.9	72.4	65.8	64.5	45.3	39.3	57.4
1951	34.8	40.2	44.1	52.8	63.6	70.6	80.2	80.1	68.5	57.4	40.7	37.6	55.9
1952	41.5	41.7	43.5	53.1	64.7	79.6	77.9	81.8	70.1	56.6	42.6	36.3	57.5
1953	43.4	40.4	51.5	53.8	65.0	82.8	79.3	75.9	73.0	61.1	47.8	-	-
1954	-	48.6	43.0	59.6	59.0	74.7	82.3	79.3	74.7	60.3	50.8	-	-
1955	37.3	36.6	46.2	60.1	65.4	70.6	77.9	78.6	71.6	60.4	-	-	-
1956	37.2	-	-	53.5	68.0	76.5	78.8	78.7	73.3	62.3	43.9	41.7	-
1957	33.1	43.6	42.4	50.7	59.8	70.2	80.8	77.4	65.2	54.8	40.1	42.1	55.0
1958	36.1	34.8	35.4	50.1	66.1	74.6	76.4	78.0	68.4	57.8	45.6	35.9	55.0
1959	30.1	37.4	44.7	53.4	65.1	74.6	74.5	78.1	-	-	-	-	-
1960	34.9	33.0	43.2	62.0	66.8	76.5	77.7	78.5	71.6	60.8	49.8	37.6	57.7
1961	36.6	42.5	48.3	57.3	67.9	73.7	76.6	75.9	66.9	60.9	43.6	38.0	57.4
1962	33.1	46.4	47.5	57.8	72.4	72.2	78.4	78.9	71.2	63.4	49.8	43.1	59.5
1963	30.3	44.9	52.3	64.4	70.4	75.8	82.3	79.6	72.9	67.6	51.8	34.5	60.6
1964	41.4	32.8	43.6	-	69.1	73.8	81.6	78.3	70.1	59.7	45.8	37.0	-
1965	39.5	36.4	36.0	59.6	67.8	73.1	80.0	77.4	70.7	59.9	53.7	44.4	58.2
1966	30.6	36.2	52.7	56.8	67.2	75.1	83.1	75.7	68.4	60.7	52.7	-	-
1967	39.8	41.3	55.1	62.0	64.2	74.6	77.0	75.2	69.0	61.6	-	35.3	-
1968	36.2	36.2	47.4	55.0	61.6	74.1	77.0	76.4	68.8	60.4	44.6	34.8	56.0
1969	39.9	38.6	36.9	57.3	65.1	70.9	81.2	79.6	69.5	52.5	45.8	38.4	56.3

STATION HISTORY

Temperature and rainfall records began at Pampa April 8, 1908, at a site two city blocks south of the post office. Instruments were moved to the KPDN radio transmitter site, one mile east of the post office, November 1, 1936. A Weather Bureau office was established in Pampa March 15, 1939, and the instruments moved to the site of the new office, 1.5 miles northeast of the post office. A recording rain gage was installed in addition to the standard rain gage. This office closed August 31, 1948, and the climatological station returned to a site near the KPDN transmitter September 1, 1948. On September 7, 1953, the thermometer shelter and the standard rain gage were installed on the roof of the Hughes Building, 120 feet above ground, 1200 feet west-northwest of the post office. The recording rain gage was kept at the previous location at the transmitter site and this station designated as Pampa 1E. On January 28, 1960, the thermometer shelter was moved from the roof of the Hughes Building to a ground site one block west of the Hughes Building on the Tom Rose Motor Company parking lot, 0.3 mile west-northwest of the post office. The rain gage remained on the roof of the Hughes Building. On February 1, 1961, the thermometer shelter was moved to the alley behind Radio Station KPDN. Because of the unsatisfactory exposure at the above site, a thermometer shelter and standard rain gage were installed at the Pampa Water Works Plant No. 1, located 0.6 mile west-northwest of the post office on January 25, 1964. Publication of temperature and precipitation data in the TEXAS CLIMATOLOGICAL DATA bulletin from the Water Plant location in lieu of the Hughes Building location began February 1, 1964. On August 11, 1965, the temperature equipment, standard rain gage, and the recording rain gage were moved to the home of the observer, 2.5 miles northwest of the post office. The station was designated Pampa #2, index number, 41-6776-01. On July 7, 1966, the station was relocated 1100 feet west and 300 feet south of the post office; then relocated to a site 1.2 miles southwest of the post office on February 8, 1967. The station was relocated to its present site, at the home of the observer, 2373 Aspen Street, 1.9 miles north of the post office, on November 2, 1967. Daily temperature and precipitation data are published monthly in CLIMATOLOGICAL DATA—TEXAS.

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September 1970

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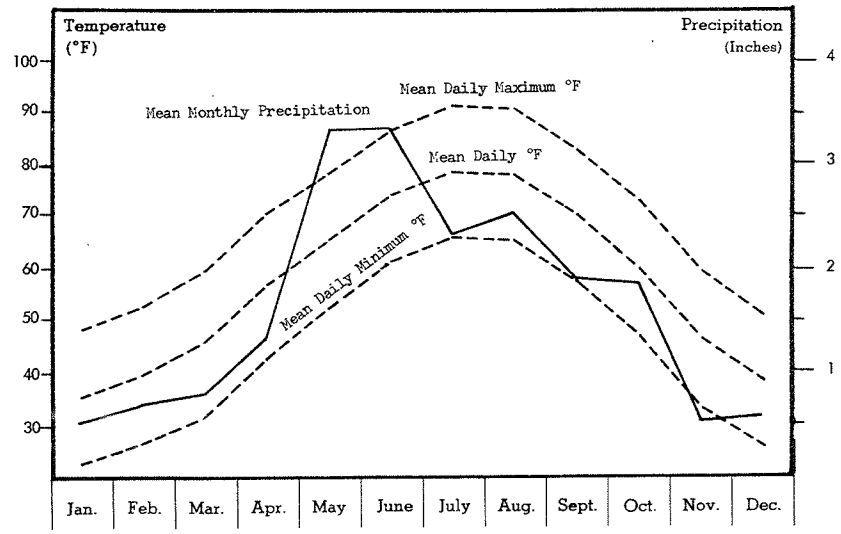
PAMPA, TEXAS

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1934	0.05	0.14	2.39	1.93	5.96	2.27	0.04	4.11	1.38	0.43	0.94	0.50	20.14
1935	0.42	0.45	1.60	T	4.79	1.45	0.35	5.61	1.61	1.57	1.31	0.48	19.64
1936	1.10	0.21	0.15	2.47	3.67	0.86	0.12	1.23	4.67	0.57	0	2.12	17.17
1937	0.14	0.09	0.95	0.54	3.61	2.88	1.30	5.11	2.96	1.50	0	0.55	19.63
1938	-	1.55	0.44	2.13	4.15	3.08	1.32	0.05	1.43	1.41	0.18	0.08	-
1939	2.22	0.04	0.38	2.29	2.37	5.66	2.19	2.77	0	0.72	0.06	0.70	19.40
1940	0.21	1.20	0.18	1.47	2.67	1.15	0.29	2.59	1.48	-	1.84	0.48	-
1941	0.43	1.26	1.50	1.21	6.46	6.34	2.97	2.65	1.58	7.41	0.33	0.77	32.91
1942	0.48	0.78	0.63	4.05	2.08	8.81	1.01	2.55	1.57	6.62	T	0.95	29.53
1943	0.03	T	0.08	1.15	4.01	0.97	2.52	2.44	1.34	1.04	0.28	2.72	16.58
1944	1.06	0.71	T	1.47	6.72	1.58	2.29	1.68	2.18	1.88	0.91	1.90	22.38
1945	0.94	0.40	0.48	1.87	1.16	4.07	2.49	0.96	3.65	0.37	T	0.20	16.59
1946	0.48	0.77	1.27	0.63	1.29	1.84	1.21	2.45	2.55	5.97	1.94	0.77	21.17
1947	0.37	0.12	1.01	1.86	6.11	3.97	3.46	1.39	0	1.25	0.83	1.82	22.19
1948	0.21	1.30	0.66	1.31	1.46	3.34	2.52	4.18	-	-	-	-	-
1949	2.01	0.52	-	1.09	5.89	3.95	3.66	2.00	1.69	3.39	0	0.30	-
1950	T	0.47	0.12	0.37	2.94	5.03	8.05	3.60	3.68	0.06	0.08	T	24.40
1951	0.47	1.11	0.42	0.75	9.04	3.06	0.58	0.98	2.05	1.39	0.14	0.04	20.03
1952	0.32	0.30	0.44	2.32	0.95	2.10	3.00	1.22	0.68	0	0.95	0.28	12.56
1953	0.25	1.02	0.38	1.06	0.76	0.59	6.60	1.74	0.07	3.27	0.11	0.25	16.10
1954	0.02	T	0.02	1.32	4.24	0.52	1.59	3.32	0.30	1.02	0	0.46	12.81
1955	0.23	0.16	T	0.21	8.52	2.77	1.23	1.58	1.66	0.48	0.05	0.03	16.92
1956	0.13	0.89	0.03	0.06	3.49	2.20	2.88	0.39	0.15	0.88	0	T	11.10
1957	0.58	1.48	3.58	3.66	3.66	0.88	1.04	3.20	0.16	3.02	1.14	0.04	22.44
1958	0.88	0.95	1.76	2.61	2.76	2.58	7.10	1.37	3.42	0.13	0.50	0.48	24.54
1959	0.60	0.72	0.19	0.92	2.81	4.21	4.00	0.86	-	-	-	-	-
1960	0.95	1.30	1.16	0.74	1.35	4.22	4.05	4.37	5.74	4.68	T	0.73	29.29
1961	0.09	0.52	2.90	0.20	1.92	7.32	2.01	6.40	1.48	1.81	1.88	0.26	26.79
1962	0.81	T	2.03	1.34	0.91	4.13	2.97	1.95	1.44	0.99	0.31	0.34	17.22
1963	0.04	0.71	0.20	0.13	2.11	1.85	1.41	1.69	4.12	1.70	0.05	0.33	14.34
1964	0.18	2.19	0.24	0.42	2.27	3.49	1.76	1.11	2.21	0.64	2.75	0.89	18.15
1965	0.59	0.44	0.88	0.93	1.65	7.93	0.21	3.38	2.00	1.47	0.05	0.66	20.19
1966	0.68	0.64	T	0.85	0.26	3.91	2.81	2.08	2.80	0.70	T	0.40	15.13
1967	0	0.20	0.32	2.14	1.08	5.81	2.06	4.24	0.78	2.38	0.33	0.25	19.59
1968	1.12	0.85	0.71	1.25	3.24	2.03	0.67	3.42	1.32	0.97	1.05	0.15	16.78
1969	0.03	1.53	1.21	0.35	4.13	3.35	2.08	1.70	2.93	2.33	0.33	0.60	20.57

T - Trace

Monthly Temperatures and Precipitation