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

LATITUDE 32° 32' N
LONGITUDE 94° 21' W
ELEV. (GROUND) 352 ft.

CLIMATOLOGICAL SUMMARY

STATION MARSHALL, TEXAS

MEANS AND EXTREMES FOR PERIOD 1937-1966

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)	30	30	30	30		30		11	30	30		30	30		11		11	11	11	11	11	
Jan	5.55	35.6	45.6	85	1943	2	1940	668	4.40	4.49	1952	1.2	6.0	1949	T	1966	6	0	2	18	0	Jan
Feb	60.3	39.7	50.0	85	1959	4	1951	454	3.85	2.85	1944	0.2	2.0	1966	2	1966+	7	0	*	8	0	Feb
Mar	67.4	44.9	56.2	91	1955	12	1943	343	4.08	3.90	1945	0.2	5.0	1965	3	1965	6	0	*	5	0	Mar
Apr	76.8	54.3	65.6	92	1955	32	1940	85	5.02	5.53	1966	T	T	1938	0		7	*	0	*	0	Apr
May	84.2	62.3	73.3	99	1958+	40	1948	9	4.78	3.90	1955	0	0		0		5	7	0	0	0	May
Jun	91.1	69.4	80.3	106	1937	49	1948	1	3.45	2.80	1940	0	0		0		6	19	0	0	0	Jun
Jul	94.7	72.6	83.7	106	1954	60	1943	0	2.97	2.79	1938	0	0		0		4	28	0	0	0	Jul
Aug	95.0	72.0	83.5	110	1962	54	1963+	0	2.81	4.00	1942	0	0		0		4	26	0	0	0	Aug
Sep	89.2	65.9	77.6	108	1951	40	1942	3	3.09	5.58	1951	0	0		0		5	16	0	0	0	Sep
Oct	80.2	55.1	67.7	101	1953	32	1965+	74	2.86	5.95	1957	0	0		0		3	3	0	*	0	Oct
Nov	66.7	44.2	55.5	87	1955	20	1938	275	4.20	6.30	1937	*	1.0	1937	0		5	0	0	4	0	Nov
Dec	58.3	38.1	48.2	84	1941	6	1963	543	4.41	3.32	1944	0.2	6.0	1963	0		7	0	*	13	0	Dec
Year	76.6	54.5	65.6	110	Aug. 1962	2	Jan. 1940	2455	45.92	6.30	Nov. 1937	1.8	6.0	Dec. 1963	3	Mar. 1965	65	99	2	48	0	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.

THE CLIMATE OF MARSHALL, TEXAS

Marshall, county seat, historic and geographic center of Harrison County, is located at the crossroads of rail and highway traffic. It is a manufacturing center of tile, solid propellant rocket engines, clothing, wood products, clay products, and iron and steel products. Other industries include lignite processing. Dairy products, and wholesale nurseries. Harrison is a hilly, forested East Texas county bordering Louisiana. Sawmills utilize pines and hardwoods. Natural gas, coal, and clays are commercially developed. Most of the farm income is from livestock, poultry, timber, diversified field crops, and truck gardens. Tourist trade is an important source of income for Marshall and for Harrison County. Beautiful Caddo Lake, the largest natural lake in the south is 16 miles northeast of Marshall on State Highway 43. Lake O'The Pines lies in adjoining Marion County. Both lakes are popular with residents and visitors for their outdoor recreation and water sports facilities.

The climate of Marshall is subtropical with hot humid summers. Cold polar air masses invade the area frequently in winter causing the large variations in temperature characteristic of continental type climates. In other seasons, the warm moist tropical air which flows northward from the Gulf dominates the climate of the area. Rainfall is plentiful and evenly distributed throughout the year except for a relatively dry period in mid-summer. Average annual rainfall is 45.92 inches. The wettest year recorded since 1893 was 1944, when heavy rains during the period January through May, plus 10.56 inches in December, resulted in a yearly total of 67.43 inches. The previous year, 1943, was the driest on record, with a total of only 29.58 inches. High intensity rains of short duration may occur at almost anytime during the year. These are most likely to result from large slow moving thunderstorms in late spring or early summer. Late spring, summer, and early fall rainfall is almost entirely of the local shower and thunderstorm type, whereas late fall, winter, and early spring rains are more general in nature, and are associated with the overrunning of cold polar air masses by warm moist tropical air from the south.

Winter temperatures are mild with only about two days during each year, on an average, when the daily maximum fails to go above freezing. Sudden changes in temperature and moisture do occur in winter as cold, dry polar air masses replace the tropical air from the Gulf, and vice versa. During the colder seasons, temperature falls of 20 degrees or more within an hour are not uncommon following the passage of a blustery cold front, or "norther." The occasional cold spells are of short duration. In the usual sequence, the weather turns cold one day, reaches the lowest temperatures on the second night, then warms up again on the third day. The lowest temperature ever recorded at Marshall was -9°F in February, 1899.

The summer months are hot and humid with the average daily maximum temperature 95°F in August. There is little variation in the day-to-day weather except for occasional thundershowers that break the summer heat. Refrigerated air conditioning is recommended for maximum comfort indoors. The highest temperature ever recorded at Marshall was 112°F in August 1909.

The spring and fall seasons are the most delightful. Temperatures are neither too hot nor too cold, and there is sufficient variety in the day-to-day weather to make it interesting.

Snowfall averages about two inches annually; however, average values are misleading. One snow of three to six inches may be followed by several years of no measurable snow. Ordinarily, snow melts almost as rapidly as it falls, and is an unimportant source of moisture. More troublesome than snow are the occasional ice and sleet storms that cause considerable damage to trees, shrubs, and utility lines, and also make travel hazardous. These may occur for brief periods in January and February.

The growing season (freeze free period) at Marshall is 245 days. The average date of the last freeze in the spring is March 16. The average date of the first freeze in the fall is November 17.

Average annual relative humidity is 85 percent at 6:00 a.m., 57 percent at noon, and 59 percent at 6:00 p.m. Central Standard Time. The area receives about 67 percent of the total possible sunshine annually. January is the cloudiest month. The prevailing winds are southerly the year-round. Mean annual lake evaporation is estimated at 50 inches.

During the seven year period, 1959-1966, eight tornadoes touched ground in Harrison County. No deaths and only two minor injuries resulted from these storms.

In summary, the climate of Marshall is subtropical with mild winters and hot humid summers. Rainfall is abundant, producing lush growth.

MARSHALL, TEXAS

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1937	46.9	49.6	52.0	64.4	73.2	82.5	83.3	84.0	77.2	66.0	52.9	49.9	65.2
1938	49.6	57.8	65.5	64.9	73.9	80.0	83.1	84.6	78.9	71.6	55.0	49.9	67.9
1939	51.5	50.2	60.4	64.0	74.4	82.6	86.8	85.2	83.7	69.7	54.1	53.0	68.0
1940	35.6	48.0	58.6	65.2	71.6	78.5	81.1	80.8	75.7	68.8	54.7	52.8	64.3
1941	50.0	46.2	52.0	67.0	74.2	78.7	82.9	84.0	79.4	71.8	52.2	50.0	65.7
1942	43.9	47.7	56.2	65.2	71.2	80.6	81.4	81.4	74.1	67.7	60.8	49.3	65.0
1943	48.4	53.4	53.1	67.2	75.4	82.8	84.6	86.2	76.0	65.6	53.5	45.9	66.0
1944	46.0	54.7	57.0	64.0	71.6	82.0	84.2	82.3	76.0	66.6	56.8	43.8	65.4
1945	45.6	52.0	62.7	65.3	70.2	79.7	80.4	81.2	78.6	64.0	58.9	43.6	65.2
1946	44.8	51.7	60.6	70.9	71.0	78.4	84.4	83.0	76.0	68.8	58.4	53.7	66.8
1947	46.4	43.8	50.8	67.4	72.1	81.1	83.4	86.0	79.5	73.7	52.7	49.6	65.5
1948	38.4	46.4	55.5	69.4	69.0	77.9	-	-	-	65.9	55.2	50.5	-
1949	44.5	51.4	56.4	62.9	76.8	82.4	84.1	81.1	75.9	67.4	57.5	50.5	65.9
1950	53.1	53.1	54.7	62.0	74.9	79.5	80.8	81.5	73.7	69.5	53.1	45.6	65.1
1951	46.8	47.8	58.1	63.6	73.4	80.3	85.4	88.5	78.1	68.5	50.4	49.3	65.8
1952	53.4	52.8	54.1	62.9	73.3	83.8	83.8	86.3	78.1	62.1	54.8	46.6	66.0
1953	50.1	49.4	62.5	63.7	74.0	85.8	82.2	82.4	78.4	70.2	53.9	44.6	66.4
1954	47.8	52.2	57.4	70.4	68.5	52.3	87.8	88.2	81.8	69.2	54.7	49.3	68.0
1955	47.1	49.2	60.1	69.6	76.7	78.6	84.3	82.1	80.7	68.6	53.5	45.9	66.4
1956	44.9	52.5	54.9	63.0	78.0	81.2	86.8	86.3	80.0	71.5	53.4	54.4	67.2
1957	45.9	56.0	54.9	65.4	75.2	80.0	85.6	83.8	76.0	64.2	54.9	51.7	66.1
1958	43.7	44.6	52.7	65.0	74.4	82.1	84.3	84.0	78.9	67.1	58.7	46.0	65.1
1959	42.4	50.6	56.9	63.2	76.4	79.2	82.0	83.0	78.1	68.2	52.1	51.4	65.3
1960	45.9	44.1	48.6	68.6	72.3	81.3	84.6	83.5	79.0	70.1	57.9	43.5	64.9
1961	42.5	52.4	60.7	63.6	72.3	76.5	81.7	80.5	76.9	67.4	54.4	47.1	64.7
1962	41.1	57.6	53.4	63.7	75.5	79.1	85.5	86.7	77.8	70.1	54.2	47.4	66.0
1963	38.3	45.4	58.0	67.5	72.6	79.6	82.6	82.8	76.2	69.5	57.2	38.6	64.1
1964	43.0	43.4	53.2	66.2	72.9	78.5	83.4	82.0	75.4	62.1	58.4	47.5	63.8
1965	47.9	46.5	48.1	67.7	71.9	77.0	82.3	80.0	75.4	63.0	60.9	49.2	64.2
1966	41.3	44.7	55.1	63.8	70.6	76.6	83.8	78.8	73.7	61.5	58.3	45.7	62.8

MARSHALL, TEXAS

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1937	7.76	1.93	3.96	2.49	0.60	1.84	2.38	0.78	3.15	4.03	8.58	7.60	45.10
1938	3.07	2.86	3.20	3.89	2.11	3.10	6.27	2.15	1.72	0.51	5.34	4.04	38.26
1939	7.02	7.56	1.19	2.37	2.94	3.73	2.56	1.83	0.16	0.49	7.03	4.45	41.33
1940	1.48	2.56	3.28	4.75	3.04	6.96	2.14	7.00	0.58	3.23	10.65	9.61	55.28
1941	3.41	3.52	4.82	5.15	6.38	6.83	5.63	2.11	5.30	4.65	5.64	5.18	58.62
1942	1.15	0.60	3.16	6.00	3.46	5.58	0.30	9.05	3.19	1.43	1.36	3.68	38.96
1943	3.88	0.29	3.23	2.89	4.72	1.17	2.50	0.97	1.24	2.83	1.19	4.67	29.58
1944	7.88	9.73	7.02	8.39	9.55	1.48	0.33	6.19	1.60	T	4.70	10.56	67.43
1945	3.99	5.52	14.47	4.64	3.39	6.13	3.70	1.52	2.30	7.23	2.43	3.90	59.22
1946	10.15	4.50	4.35	3.81	9.45	4.47	0.63	3.40	1.85	2.33	7.60	2.12	54.66
1947	5.20	2.78	6.77	4.72	5.01	2.14	0.64	1.15	4.12	1.59	4.95	4.50	43.57
1948	5.44	5.44	4.20	2.96	6.50	2.04	0.79	1.11	1.85	1.86	6.56	1.95	40.70
1949	7.38	3.11	3.80	6.31	1.59	2.29	10.58	4.04	3.17	9.08	0.39	3.40	55.14
1950	6.31	4.60	3.27	4.63	7.16	3.99	5.25	3.19	6.78	1.76	2.45	1.01	50.40
1951	4.63	3.16	3.81	1.69	1.97	5.41	3.01	0.19	9.82	0.66	2.65	4.54	41.54
1952	6.31	4.53	3.96	5.53	6.05	0.37	4.30	0.27	T	0.16	5.54	4.89	41.91
1953	3.01	2.23	5.98	5.89	8.29	1.19	5.79	2.42	2.52	1.04	4.04	6.92	49.32
1954	3.87	1.96	2.22	2.82	9.79	0.36	2.53	3.10	1.74	9.65	4.66	3.26	45.96
1955	3.36	5.02	2.69	4.80	9.07	1.16	3.28	6.60	3.62	2.03	0.70	1.97	44.30
1956	2.46	6.46	1.95	1.92	4.52	1.57	0.56	1.80	2.10	1.22	3.20	1.84	29.60
1957	2.99	4.77	5.36	13.57	4.75	6.18	2.57	0.54	3.05	11.51	6.95	2.21	64.45
1958	4.33	2.25	2.68	7.74	5.71	4.82	1.75	1.07	4.23	1.44	2.50	0.43	38.95
1959	1.12	4.85	4.27	4.48	6.04	5.18	6.63	1.07	1.54	2.27	3.36	6.98	47.79
1960	4.86	4.42	3.26	1.85	1.60	3.23	2.31	4.60	7.07	4.07	4.64	10.51	52.42
1961	3.95	3.98	5.83	2.06	1.90	8.47	5.03	1.19	5.55	3.87	5.88	5.55	53.26
1962	5.96	2.55	2.80	4.57	3.82	4.28	0.42	0.95	2.91	3.89	4.21	2.15	38.51
1963	1.84	1.91	2.19	5.79	1.14	3.86	2.37	3.23	2.66	0	3.65	4.53	33.17
1964	1.38	2.58	3.60	6.00	3.18	1.15	1.47	4.20	2.50	0.57	3.15	2.25	32.03
1965	4.43	6.71	3.41	1.71	6.97	3.74	0.14	2.53	3.43	0.49	0.60	3.90	38.06
1966	3.33	2.97	1.58	17.12	2.67	0.90	3.29	6.05	3.09	1.99	1.42	3.75	48.16

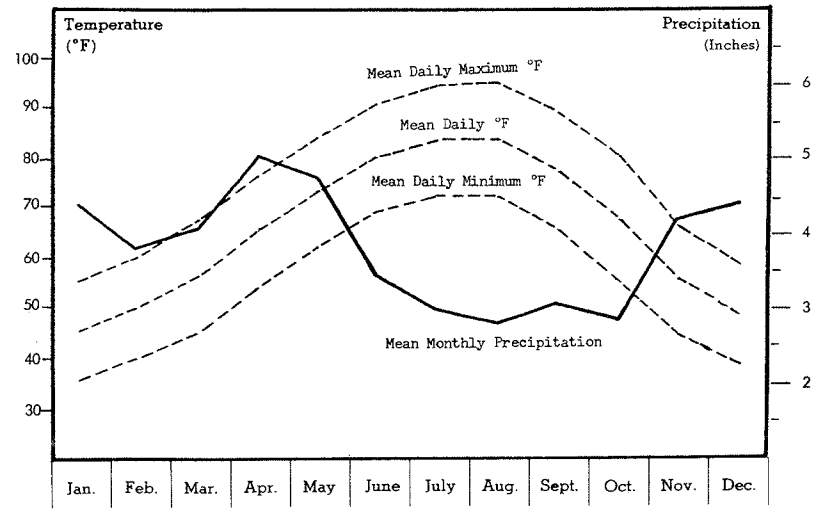
T - Trace

STATION HISTORY

A climatological station was established at Marshall in July 1892. There are many gaps in the early observational records of the station which closed in April 1899. A station was re-established at Marshall, three-fourths mile west of the post office on July 1, 1908. With few exceptions, temperature and precipitation records have been continuous since that date. The station has been moved several times; each new location was only a short distance from the previous one. The station is presently located at the Municipal Water Plant, 1.2 miles east of the post office. Equipment consists of a Cotton Region Shelter, maximum and minimum thermometers, and a standard 8-inch rain gauge. The surrounding area is gently rolling hills and valley, heavily pine timbered. Temperature and precipitation data are published monthly in CLIMATOLOGICAL DATA-TEXAS.

Weather Bureau State Climatologist
Environmental Science Services Administration
3600 Manor Road, Austin, Texas 78723
June 1967

Monthly Temperatures and Precipitation



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