

**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 28° 41' N  
 LONGITUDE 99° 50' W  
 ELEV. (GROUND) 581 ft.

**CLIMATOLOGICAL SUMMARY**

STATION CRYSTAL CITY, TEXAS

MEANS AND EXTREMES FOR PERIOD 1949-1968

Month	Temperature (°F)								** Mean degree days	Precipitation Totals (Inches)							Mean number of days					Month				
	Means				Extremes					Mean	Greatest daily	Year	Snow, Sleet				Precip. .10 inch or more	Temperatures								
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Mean					Maximum monthly	Year	Greatest Depth	Year		90° and above	32° and below	32° and below	0° and below		Max.		Min.	
																							90° and above	32° and below	32° and below	0° and below
(a)	20	20	20	20		20		13	20	20		20	20		13		13	13	13	13						
Jan	65.5	41.7	53.6	88	1952+	11	1962	409	0.79	1.32	1958	0.1	1.0	1949	0		2	0	*	7	0	Jan				
Feb	70.4	46.0	58.2	95	1960	13	1951	256	1.28	1.94	1963	0.2	2.7	1966	1	1966	3	1	0	3	0	Feb				
Mar	77.9	52.6	65.3	102	1950	26	1965	116	0.75	1.50	1951	0	0	0	0		1	2	0	1	0	Mar				
Apr	85.3	58.1	71.7	104	1951	37	1961	17	1.59	2.27	1957	0	0	0	0		3	9	0	0	0	Apr				
May	90.7	68.0	79.4	105	1953	46	1954	*	3.23	4.75	1951	0	0	0	0		4	18	0	0	0	May				
Jun	96.1	72.9	84.5	106	1960+	56	1955	0	2.27	4.40	1963	0	0	0	0		2	27	0	0	0	Jun				
Jul	98.7	74.3	86.5	109	1954	67	1961+	0	1.37	3.35	1960	0	0	0	0		2	30	0	0	0	Jul				
Aug	98.3	74.1	86.2	107	1953	65	1961	0	2.23	3.22	1949	0	0	0	0		3	29	0	0	0	Aug				
Sep	92.6	70.1	81.4	106	1952+	51	1967+	*	2.69	2.57	1964	0	0	0	0		5	20	0	0	0	Sep				
Oct	83.8	61.1	72.5	101	1951	36	1955	19	2.51	6.83	1959	0	0	0	0		1	4	0	0	0	Oct				
Nov	73.3	50.2	61.8	92	1949	26	1959	148	0.87	1.57	1968	0.1	2.5	1957	0		2	*	0	1	0	Nov				
Dec	66.7	42.8	54.8	95	1951	18	1953	334	0.82	1.00	1965	0	0	0	0		2	0	0	5	0	Dec				
Year	83.3	59.3	71.3	109	July 1954	11	Jan. 1962	1299	20.40	6.83	Oct. 1959	0.4	2.7	Feb. 1966	1	Feb. 1966	30	140	*	17	0	Year				

(a) Average length of record, years.

+ Also on earlier dates, months, or years.

† Trace, an amount too small to measure.

\* Less than one half.

\*\* Base 65°F

THE CLIMATE OF CRYSTAL CITY, TEXAS

Crystal City, located in southwestern Texas, 115 miles southwest of San Antonio, and 45 miles east of the United States-Mexico boundary, is the county seat and commercial center for Zavala County. Although it is most famous as a spinach capital, this shipping and processing center for winter vegetables is noted also for its onions, carrots, tomatoes, and peppers. In 1937, a statue of Popeye the Sailor, who eats his spinach and always wins out in the finish of the cartoons was erected in Crystal City.

Zavala County consists of rolling brushy plains, drained by the Nueces River. It has a diversified irrigated farming-ranching economy that includes oil and gas production. The largest producer in the Winter Garden area, Zavala County has approximately 120,000 acres irrigated, mostly from wells. Cattle ranches produce about 45 percent of the agricultural income.

Crystal City has a subtropical steppe climate with low summer humidity. Winter temperatures are quite mild while summer daytime temperatures are rather hot. Rainfall averages 20.40 inches annually, but totals vary considerably from month to month and year to year. More than three fourths of the average annual precipitation falls in the seven months, April through October, mostly in the form of thundershowers. Heavy downpours may occur at any time, but are most likely during the late spring and early fall. The mean length of the warm season (freeze free period) at Crystal City is 280 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 February 24 and December 1, respectively. Annually, the area receives about 63 percent of the total possible sunshine. The seasonal range in relative humidity is not large, varying from the low fifties in spring and summer to the low sixties in the fall and winter. The diurnal range in relative humidity is more significant, and varies from a mean annual value of 80 percent at 6:00 a.m., to 51 percent at noon, and to 45 percent at 6:00 p.m., Central

Standard Time. Lake evaporation is rather high in the Crystal City area, averaging about 78 inches annually. The prevailing winds are southeasterly the year round, and thunderstorms occur on 32 days, in an average year.

Winter is the dry season. The small amounts of precipitation usually fall as steady light rain. Cloudiness is more prevalent in winter, reducing the amount of sunshine received to about 55 percent of the total possible for the three-month period. The morning hours are often cloudy, while the afternoons are sunny. Winter temperatures are quite mild; minima of 32°F or below occur on about one night in four during January, the coldest month. Cold periods in winter are ushered in by strong, dry, and often dusty, north and northwest winds that may cause sudden drops in temperature, but these last only a day or two.

Spring is pleasant. Weather changes occur often in early spring, but temperatures are mild. Maxima above 100°F have occurred as early as March. Thunderstorm activity increases in late spring, and the peak rainfall for the year most often occurs in May.

Summer daytime temperatures are consistently high. However, the heat is not oppressive because of low afternoon humidity and a steady southeasterly breeze, especially at night. Evaporative type home air-conditioners are effective for cooling about 85 percent of the time during July and August. Sunshine is about 75 percent of the total possible. Mid summer is a relatively dry period with little variation in the day-to-day weather.

Fall: Temperatures continue warm in September with the daily maxima 90°F or above on about two out of three days. Rainfall increases, as thunderstorms visit the area more often. Precipitation gradually decreases again as the fall season progresses, and the month of November is relatively dry. Long periods of mild sunny weather are characteristic of October and November.

CRYSTAL CITY, TEXAS

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1949	50.4	61.9	66.1	68.6	80.5	83.5	85.2	84.5	83.1	72.4	63.0	59.3	71.5
1950	52.6	62.4	66.4	73.8	81.6	83.3	86.3	85.7	82.4	75.9	62.5	54.2	73.1
1951	54.3	58.5	67.1	73.3	79.4	85.8	89.2	88.7	83.4	76.5	61.0	59.0	73.0
1952	61.8	61.4	64.9	71.6	77.9	84.6	87.5	88.8	83.7	69.2	61.4	53.9	72.1
1953	57.3	58.7	62.9	75.0	81.8	88.8	89.8	86.2	79.4	71.8	60.4	50.3	72.8
1954	57.3	62.9	66.1	76.5	81.7	85.0	86.5	87.7	84.1	74.2	61.1	58.6	73.1
1955	54.3	59.3	68.1	76.5	81.7	84.9	86.0	86.4	82.7	71.4	61.4	54.4	72.3
1956	53.5	60.5	67.0	72.6	81.5	86.5	86.4	86.4	81.3	75.1	59.9	57.1	72.4
1957	55.4	65.6	65.9	70.0	76.6	83.4	87.7	87.7	80.6	69.0	57.4	56.1	71.3
1958	55.4	65.6	65.9	70.0	76.6	83.4	87.7	87.7	80.6	69.0	57.4	56.1	71.3
1959	50.8	53.2	59.0	70.7	77.3	84.8	87.0	87.0	81.3	69.2	64.2	56.2	69.5
1960	51.4	55.9	62.9	68.9	79.4	83.3	84.3	84.3	79.6	75.1	62.8	50.9	70.0
1961	49.5	57.8	67.1	70.9	80.9	84.0	83.1	83.2	82.1	72.7	60.2	51.8	70.6
1962	48.2	57.4	63.5	73.3	81.2	83.8	88.1	87.8	82.8	77.6	63.9	54.0	72.6
1963	48.5	55.3	65.4	77.5	79.8	84.9	85.8	87.5	82.0	74.6	63.9	47.9	71.5
1964	52.1	53.5	65.4	75.7	79.8	84.0	86.5	85.4	80.7	68.6	64.8	55.0	71.5
1965	57.4	54.9	60.0	75.7	77.5	80.9	86.6	85.0	80.6	69.4	66.5	58.4	70.0
1966	48.7	53.6	63.9	73.9	76.1	80.9	86.6	85.0	80.6	70.6	65.9	54.3	71.3
1967	53.5	56.2	71.0	78.3	80.4	85.3	87.2	83.0	76.4	69.3	62.2	52.9	71.3
1968	52.7	51.9	60.0	70.3	78.2	83.1	84.6	85.7	77.5	74.2	60.4	55.4	69.5

STATION HISTORY

An Airway Observation Station was established at Crystal City, one-fourth mile west of the post office, on May 4, 1940. Temperature and precipitation data were published in CLIMATOLOGICAL DATA-TEXAS. The Airway observational program was discontinued on February 6, 1949, but the climatological program was continued. Station equipment consisted of a cotton region shelter maximum and minimum thermometers, and a standard eight inch rain gage, located at the observer's residence, 210 W. Neece Street. John E. Holdsworth has been the one and only Cooperative Weather Observer since the station was established in May, 1940. Station index number is 41-2160-09.

ESSA State Climatologist for Texas  
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 3600 Manor Road, Austin, Texas 78723  
 December 1969

Single copies of this summary are available without charge from the Bureau of Business Research, The University of Texas, Austin, Texas 78712. Quantity rates upon request.

CRYSTAL CITY, TEXAS

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1949	1.11	2.47	0.76	4.26	0.86	4.97	1.08	4.26	0.44	6.81	T	2.43	29.45
1950	0.37	0.68	0.04	1.21	3.53	3.96	3.44	3.68	1.78	0.19	0.11	0.18	18.79
1951	0.13	0.92	3.82	0.59	6.33	0.45	0.04	0.10	1.72	0.11	0.64	1.09	15.03
1952	0.42	1.20	1.48	0.23	7.32	0.54	0.08	0	0.10	T	1.67	0.37	13.87
1953	0.80	0.85	1.08	0.55	0.51	0.23	T	3.97	2.59	2.93	T	0.37	13.30
1954	0.80	0.80	0.02	3.17	4.01	3.18	0.27	1.09	0.08	2.39	0.22	0.04	14.73
1955	0.80	1.56	0.02	0.19	2.29	1.12	2.68	4.34	0.38	0.03	1.28	0.10	12.53
1956	0.33	0.35	0.01	0.33	0.26	0.44	1.95	4.67	0.41	3.51	0.17	1.22	28.48
1957	0.33	1.46	1.62	5.00	4.45	3.20	0	4.28	0.41	3.98	2.75	1.02	32.65
1958	3.22	2.42	0.65	1.44	3.24	3.86	0.83	2.30	8.24	6.10	1.26	0.60	30.11
1959	0.51	1.46	0.01	1.44	8.35	4.32	2.57	0.86	0.96	7.57	1.38	2.32	25.68
1960	0.89	1.29	0.39	1.13	1.45	0.17	6.40	4.23	1.65	4.38	1.38	0.54	15.56
1961	1.58	1.46	0.06	0.64	0.41	3.09	5.65	0.13	0.90	0.70	0.40	0.65	12.32
1962	0.34	0.29	0.19	1.43	0.14	3.45	0	2.73	2.35	3.47	1.06	0.32	20.03
1963	0.49	0.97	0.91	0.81	3.94	4.83	0.95	0	3.34	1.45	0.18	2.57	19.04
1964	0.20	1.96	1.35	1.49	5.49	0.07	0	0.60	6.29	1.45	0.18	0	20.04
1965	0.94	1.29	0.28	2.11	6.21	3.15	3.21	2.98	3.09	0.70	0	0	24.76
1966	0.11	0.41	1.27	2.54	0.24	3.21	0.13	2.98	8.58	2.43	1.96	0.90	24.76
1967	2.93	2.26	1.07	1.84	3.18	0.80	0.73	1.36	4.50	2.99	2.22	0.95	24.83
1968	T - Trace												

Monthly Temperatures and Precipitation

