

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

CLIMATOLOGICAL SUMMARY

STATION BIG SPRING, TEXAS

LATITUDE 32° 15' N
 LONGITUDE 101° 27' W
 ELEV. (GROUND) 2528 ft.

MEANS AND EXTREMES FOR PERIOD 1933 - 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	Max.			Min.	
																			32° and below	32° and below		0° and below	0° and below
(a)	35	35	35	35		35		12	36	36		36	36		12	12	12	12	12				
Jan	57.0	31.0	44.0	83	1953	-2	1962	668	0.63	1.20	1939	0.8	8.0	1955	1	1956	2	0	1	18	*	Jan	
Feb	61.2	34.8	48.0	89	1962+	-7	1933	495	0.57	1.01	1944	0.7	4.8	1956	4	1963	2	0	1	14	0	Feb	
Mar	69.4	41.4	55.4	97	1946	9	1948	344	0.72	1.73	1953	0.3	5.4	1941	1	1962	2	*	*	7	0	Mar	
Apr	78.7	51.1	64.9	100	1959	26	1938	108	1.08	2.36	1960	T	T	1949+	0	0	3	4	0	*	0	Apr	
May	85.8	59.8	72.8	107	1953	38	1954	18	2.68	2.97	1954	0	0	0	0	0	4	13	0	0	0	May	
Jun	93.0	67.9	80.5	109	1945	48	1964	1	1.67	2.34	1961	0	0	0	0	0	3	22	0	0	0	Jun	
Jul	94.6	70.8	82.7	108	1944+	57	1959	0	1.97	3.25	1945	0	0	0	0	0	3	28	0	0	0	Jul	
Aug	94.1	70.3	82.2	108	1944	56	1944+	*	1.64	4.76	1933	0	0	0	0	0	3	26	0	0	0	Aug	
Sep	87.3	63.5	75.4	105	1959	40	1945	3	1.82	3.15	1962	0	0	0	0	0	3	14	0	0	0	Sep	
Oct	78.8	53.3	66.1	98	1951	30	1949	84	1.45	3.43	1953	0	0	0	0	0	3	3	0	*	0	Oct	
Nov	66.1	40.6	53.4	88	1952+	12	1938	339	0.78	1.98	1968	0.1	2.2	1934	0	0	2	0	0	5	0	Nov	
Dec	59.1	33.5	46.3	85	1951	9	1950	565	0.71	1.37	1939	0.4	6.2	1946	T	1962+	2	0	*	14	0	Dec	
Year	77.1	51.5	64.3	109	Jun. 1944+	-7	Feb. 1933	2625	15.72	4.76	1933	2.3	8.0	Jan. 1955	4	Feb. 1963	32	110	2	58	*	Year	

(a) Average length of record, years.

+ Also on earlier dates, months, or years.

T Trace, an amount too small to measure.

* Less than one half.

** Base 65°F

THE CLIMATE OF BIG SPRING, TEXAS

Big Spring, county seat of Howard County, derived its name from a "big spring" which served as a watering place for herds of buffalo, antelope, and wild mustangs. The spring was a source of friction between the Comanches and Shawnees, and served as a camp site for early expeditions across West Texas. Today, Big Spring is the shipping point for livestock, cotton and small grains, and since oil was discovered in 1927, it has become an oil refining and distribution point for oil well machinery. Petrochemicals, fertilizers, carbon black and other products are manufactured here. Howard County Junior College is located at Big Spring, and Webb Air Force Base is nearby. Howard County is rolling plains sloping from northwest to southeast with east-facing cuesta-like hills and occasional isolated peaks a few miles southeast of Big Spring. The land is largely prairie with some mesquite. Farming land is mostly in the northern half of the county. Hills and peaks are covered with junipers.

The climate of Big Spring is subtropical with dry winters and warm humid summers. Rainfall averages 15.72 annually. Most of this falls in the form of thundershowers during the period May through October when the prevailing south-southeasterly circulation carries Gulf moisture as far inland as West Texas. During the colder months of the year, November through April, frequent surges of cold, dry polar air are effective in closing off the Gulf source of moisture so that rainfall (or snowfall) is quite limited. Thunderstorm rainfall in West Texas is extremely variable so that large differences in rainfall amounts will exist from year to year and within relatively small geographical areas. The year 1919, when a total of 35.81 inches fell at Big Spring was the wettest of record. The driest year occurred two years rlier. Only 4.80 inches fell in 1917. The prevailing winds ave a southerly component the year round, varying from southwest to south-southeast. The mean annual relative humidity is estimated at 76 percent at 6:00 a.m., 46 percent at noon, and 40 percent at 6:00 p.m., Central Standard Time. Seasonal variations in relative humidity are small. In an average year Big Spring receives 73 percent of the total possible sunshine. Mean annual lake evaporation is estimated at 72 inches.

Winter: Frequent surges of cold Polar Canadian air bring strong northerly winds and rapid drops in temperature. However, cold spells are of short duration, rarely lasting longer than 48 hours before sunshine and southwesterly winds bring rapid warming. Freezes occur on about two out of three nights, but days are usually sunny, and daily maxima average 59.1°F. The lowest temperature ever recorded at Big Spring is -7°F, and occurred on February 8, 1933. Winter is a dry season. Precipitation is in the form of light rain or drizzle, freezing rain, or snow flurries.

Spring is a season of frequent weather changes. Warm and cold spells follow each other in rapid succession throughout March and April. Infrequently, strong, persistent southwesterly to northwesterly winds may produce dust storms in the area during these months. Thunderstorms, which rarely occur in winter, increase in number through the late spring. Spring temperature maxima average 78.0°F, and minima average 50.8°F.

Summer is a pleasant season. While afternoon temperatures are sometimes hot, most nights are pleasantly cool, with daily minima in the upper sixties and low seventies. Evaporative-type home air conditioners are effective in this climate. Thundershowers occur on an average of six days each month. A few late spring and early summer thunderstorms may be accompanied by damaging winds and hail. The highest temperature ever recorded at Big Spring is 117°F, and occurred June 30, 1907.

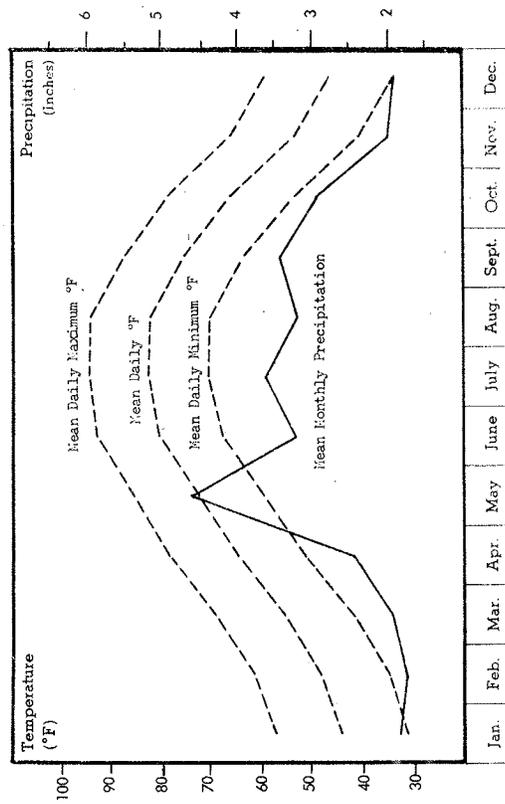
Fall is the most enjoyable season of the year, and characterized by mild, sunny days and crisp, cool nights. Wind speeds are lowest during this season. Rainfall decreases progressively from September through November.

The warm season (freeze free period) at Big Spring averages 217 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 4 and November 7, respectively.

BIG SPRING, TEXAS
Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1933	0.19	0.61	0.11	0.10	0.46	0.01	1.51	5.99	0.70	0.45	0.87	0.33	11.33
1934	0.31	0.08	1.82	1.85	0.20	2.20	1.92	3.41	0.58	0.11	2.05	0.08	14.61
1935	0.11	1.33	1.33	1.20	3.98	3.28	0.82	0.57	5.19	0.10	0.37	0.37	19.51
1936	0.12	1.25	1.39	0.77	4.75	0.19	1.23	0.58	10.38	0.84	0.50	0.40	22.22
1937	0.29	0.47	2.07	0.27	2.91	1.35	0.78	2.49	0.38	1.54	1.30	1.25	14.26
1938	1.32	1.74	0.18	0.65	1.70	3.95	5.60	1.06	0.11	1.43	6.72	0.03	17.83
1939	2.29	0.69	0.10	0.33	2.63	1.04	1.52	1.36	0	0.98	1.16	1.72	13.83
1940	0.25	0.32	0.10	0.43	1.32	2.99	0.02	4.07	0.38	0.98	1.51	1.04	13.64
1941	0.61	1.07	2.40	2.41	3.21	2.42	2.50	1.60	1.63	3.31	1.15	1.20	22.51
1942	0.07	0.03	0.64	2.33	1.32	2.42	0.30	3.71	1.86	1.12	1.07	2.03	16.36
1943	1.14	0.03	0.64	0.09	1.99	0.99	2.46	0.83	0.19	0.41	1.26	1.23	14.93
1944	1.14	0.03	0.64	0.09	1.99	0.99	2.46	0.83	0.19	0.41	1.26	1.23	14.93
1945	0.75	0.03	0.64	0.09	1.99	0.99	2.46	0.83	0.19	0.41	1.26	1.23	14.93
1946	0.93	0.68	0.68	0.19	3.79	0.99	2.46	0.83	0.19	0.41	1.26	1.23	14.93
1947	0.44	0.68	0.68	0.19	3.79	0.99	2.46	0.83	0.19	0.41	1.26	1.23	14.93
1948	0.08	0.62	0.25	0.27	1.48	0.93	0.93	0.99	3.44	2.92	1.80	1.63	15.04
1949	0.72	0.21	0.25	0.10	4.34	0.61	1.90	0.75	0.11	0.50	1.10	1.22	12.33
1950	0.78	0.20	0.02	0.28	3.54	2.78	1.56	2.53	0.79	0.50	1.80	0.33	14.31
1951	0.09	0.14	0.42	0.39	1.61	1.83	1.85	1.90	2.50	0.19	0	0.51	18.99
1952	0.09	0.06	0.36	1.77	1.80	1.12	0.04	0.53	2.52	0.77	0	0	17.31
1953	0.03	0.41	0.05	1.40	1.41	0.34	0.79	0.34	0.08	0.15	1.53	0.92	10.11
1954	0.28	0.20	0.05	0.22	5.35	3.37	0	1.81	0.08	7.04	0.23	0.14	8.45
1955	0.41	0.40	0.05	0.22	3.88	0.76	3.88	2.64	0.75	0.64	0.38	0.16	13.42
1956	0.15	0.21	0.78	2.55	5.65	2.10	0.38	2.24	0.91	1.62	0.08	0.05	14.62
1957	0.50	0.78	1.06	1.06	1.63	1.23	0.57	2.13	1.19	4.02	1.28	0.36	21.36
1958	1.38	0.59	0.59	0.72	3.16	4.93	4.10	0.86	0.43	3.28	0.89	1.32	20.97
1959	1.45	0.45	0.16	0.85	2.16	1.93	4.10	0.76	0.34	4.24	0.14	1.32	14.11
1960	1.15	0.55	0.16	0.68	4.38	4.38	5.8	0.04	3.33	2.27	2.80	0.34	21.71
1961	0.06	0.01	0.52	0.69	1.27	1.15	3.43	0.74	8.98	0.74	0.10	1.24	18.16
1962	0.04	0.99	0.02	0.89	5.05	2.59	3.43	1.03	0.22	0.12	0.99	0.46	14.75
1963	0.63	0.51	0.81	0.19	2.81	1.47	0.38	1.76	1.61	0.40	0.54	0.66	11.43
1964	0.24	1.55	0.02	0.46	6.46	1.93	0.30	1.60	1.70	0.40	0.23	0.50	15.39
1965	1.02	0.48	1.50	4.35	1.37	1.79	0.87	4.63	3.53	1.23	0.06	0	20.63
1966	0	1.02	1.20	0.17	0.34	3.01	3.51	0.53	4.28	0.52	1.15	0.65	16.58
1968	1.80	1.30	2.06	1.56	6.19	2.10	0.99	0.93	1.26	0.02	3.89	0.14	22.24

Monthly Temperatures and Precipitation



BIG SPRING, TEXAS
Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1933	48.4	44.2	58.1	62.4	73.0	81.1	83.3	81.2	79.2	68.8	55.6	49.9	65.4
1934	45.6	48.6	53.4	65.2	74.0	83.8	84.2	82.8	75.0	70.2	57.0	47.0	65.6
1935	48.4	46.1	59.8	63.0	72.6	81.8	82.4	81.6	68.2	64.4	51.0	43.6	62.9
1936	41.5	46.8	58.6	65.4	72.8	81.4	82.4	83.3	73.3	61.1	49.1	48.1	63.4
1937	48.4	48.4	59.1	63.7	72.8	80.5	80.5	84.4	76.8	65.2	52.3	44.4	64.7
1938	46.0	51.0	59.6	62.1	73.4	79.4	80.5	84.4	76.6	68.1	52.3	45.7	64.7
1939	47.2	43.7	59.2	65.4	74.0	81.7	83.2	79.9	77.8	67.5	51.0	47.5	64.8
1940	46.2	46.6	58.3	64.3	72.2	76.6	79.4	77.4	74.8	66.8	51.0	47.8	63.0
1941	47.0	47.2	50.2	62.3	71.1	75.8	80.2	79.8	67.4	63.0	52.2	41.8	64.3
1942	44.1	41.0	53.8	69.7	72.0	80.4	83.0	86.4	74.9	63.8	52.2	41.8	64.3
1943	43.5	50.2	53.8	63.6	72.6	81.8	84.1	82.8	73.7	65.8	53.8	41.5	64.0
1944	45.6	49.0	59.6	62.1	75.6	81.2	84.8	84.1	75.4	68.0	54.3	43.8	64.3
1945	41.2	42.0	58.2	69.8	78.0	84.8	84.8	84.1	75.4	68.0	54.3	43.8	64.3
1946	40.6	42.0	51.8	62.9	71.5	82.0	83.4	82.0	77.0	70.7	59.4	49.2	63.9
1947	38.8	45.3	51.8	70.8	74.7	83.0	82.0	82.8	74.6	63.2	57.5	47.4	63.2
1948	34.8	48.7	56.4	60.1	73.0	79.3	83.6	80.3	74.6	63.2	57.5	47.4	63.2
1949	48.8	53.1	56.4	64.4	72.3	79.1	85.1	84.4	77.1	67.7	50.7	48.3	64.9
1950	42.8	49.6	54.7	62.7	74.0	81.7	85.1	84.4	77.1	67.7	50.7	48.3	64.9
1951	51.4	50.9	54.2	63.6	72.9	83.8	85.1	86.8	75.1	64.7	51.1	45.5	65.4
1952	52.1	47.6	60.7	67.6	73.2	82.6	85.1	82.6	78.5	66.2	52.6	42.8	66.0
1953	46.5	54.4	55.0	68.7	68.1	80.1	84.7	83.7	79.1	66.6	54.8	48.2	65.8
1954	46.5	46.5	57.6	67.9	73.7	79.8	81.9	80.3	78.1	68.8	51.0	49.0	65.5
1955	44.7	45.7	57.1	62.6	69.3	84.3	84.0	83.3	78.1	68.8	51.0	49.0	65.5
1956	45.0	53.5	55.5	61.2	69.3	77.1	80.3	83.0	73.9	61.8	46.7	49.8	63.5
1957	42.3	43.6	48.6	61.8	72.6	80.1	84.7	83.4	75.9	62.9	53.7	43.6	63.5
1958	41.9	45.5	55.2	62.1	71.9	83.0	81.6	82.0	77.6	62.9	47.2	48.1	63.5
1959	43.8	44.4	48.6	64.4	72.6	80.1	84.7	83.4	75.9	62.9	53.7	43.6	63.5
1960	40.8	47.2	50.8	66.2	71.9	83.0	81.6	82.0	77.6	62.9	47.2	48.1	63.5
1961	37.9	54.1	50.8	63.9	78.2	77.5	78.3	79.0	73.9	65.9	49.1	44.4	63.6
1962	38.4	46.3	58.0	70.9	78.2	80.3	82.8	84.1	74.0	67.5	55.3	45.5	63.6
1963	46.3	46.3	58.0	70.9	78.2	80.3	82.8	84.1	74.0	67.5	55.3	45.5	63.6
1964	50.4	45.7	49.5	68.7	72.2	79.1	83.5	83.9	75.2	65.8	56.4	48.2	65.8
1965	40.4	45.1	59.1	65.8	71.6	78.8	83.1	78.1	74.1	63.7	60.8	52.1	65.5
1966	47.9	49.5	64.7	71.4	73.8	81.2	82.4	79.9	72.2	67.0	56.2	45.0	63.8
1968	45.5	46.5	55.1	65.4	73.5	79.5	80.7	81.6	74.6	69.8	53.2	47.7	64.2

STATION HISTORY

Rainfall observations began in Big Spring in January 1891 and temperature observations began in April 1902. These early records, through 1930, are published in CLIMATIC SUMMARY OF THE UNITED STATES, Section 30. No record of the location of the station and the names of these early Cooperative Weather Observers are available. A climatological station was established at Howard County Junior College, 1.5 miles east of the Big Spring Post Office, on November 20, 1953, in lieu of the U.S. Weather Bureau Airport Station, which was moved to Midland, Texas. The Airport location was 4.4 miles east-northeast of the Junior College site. On May 5, 1964 the climatological station was moved to the Municipal Filtration Plant, 1.3 miles east of the post office, and the city of Big Spring was appointed the official Cooperative Weather Observer. Station equipment consists of a standard 8-inch rain gage, cotton region shelter, and maximum and minimum thermometers. Data are published monthly in CLIMATOLOGICAL DATA-TEXAS, station index number 41-0784-01. A recording rain gage was installed at the U.S.D.A., Big Spring Field Station, 1.2 miles north-northeast of the post office on November 16, 1963. Hourly rainfall data from the field station are published monthly in HOURLY PRECIPITATION DATA-TEXAS, station index number, 41-0784-01.

ESSA State Climatologist for Texas
Airport Administration Building
3600 Manor Road, Austin, Texas 78723
February 1970

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.