

U. S. DEPARTMENT OF COMMERCE
 ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
 IN COOPERATION WITH CARLSBAD CHAMBER OF COMMERCE
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 29

LATITUDE: 32° 25' N
 LONGITUDE: 104° 14' W
 ELEV. (GROUND): 3120 Ft.

CLIMATOLOGICAL SUMMARY
 Revised (November 1966)

STATION: CARLSBAD
 NEW MEXICO

MEANS AND EXTREMES FOR PERIOD 1936 - 1965

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 daily	Year	90° and above	Max.		Min.		
																			32° and below		32° and below	0° and below	0° and below
(a)	30	30	30	30	--	30	--	30	30	30	--	30	30	--	30	--	30	30	30	30	30	(a)	
Jan.	57.9	27.6	42.8	83	1948	-16	1962	690	0.44	0.75	1958	1.2	8.4	1947	8.0	1949	1	0	1	23	*	Jan.	
Feb.	63.8	31.6	47.7	88	1957	-6	1951	480	0.28	0.52	1956	1.1	4.8	1951	4.0	1965	1	0	*	16	*	Feb.	
Mar.	70.2	38.0	54.1	98	1946	14	1948	340	0.47	1.44	1941	0.4	5.0	1947+	5.0	1947+	1	*	*	8	0	Mar.	
Apr.	79.8	47.2	63.5	100	1943	24	1939	110	0.17	1.50	1963	T	0.1	1939	0.1	1939	1	4	0	1	0	Apr.	
May	84.8	53.8	69.3	104	1948+	40	1960+	10	1.75	3.41	1959	0	0	--	0	--	3	15	0	0	0	May	
June	95.2	64.0	79.6	111	1939	46	1964	0	1.38	3.70	1948	0	0	--	0	--	2	25	0	0	0	June	
July	95.8	66.9	81.4	109	1958+	52	1938	0	1.61	2.25	1950	0	0	--	0	--	3	27	0	0	0	July	
Aug.	95.0	65.8	80.4	110	1944	50	1963	0	1.54	2.61	1963	0	0	--	0	--	3	27	0	0	0	Aug.	
Sep.	88.7	59.2	74.0	106	1948	38	1942	0	1.63	2.00	1938	0	0	--	0	--	3	16	0	0	0	Sep.	
Oct.	79.2	48.0	63.6	97	1956+	26	1960	110	1.53	4.30	1945	0	0	--	0	--	2	4	0	*	0	Oct.	
Nov.	66.9	35.3	51.1	89	1942	-1	1957	420	0.35	0.90	1944	0.3	5.0	1957	5.0	1957	1	0	*	11	*	Nov.	
Dec.	59.7	29.2	44.5	85	1958	-4	1953	640	0.41	1.30	1942	0.7	11.5	1960	7.0	1931	1	0	*	22	*	Dec.	
Year	78.1	47.2	62.7	111	June 1939	-16	Jan. 1962	2800	11.86	4.30	Oct. 1945	3.7	11.5	Dec. 1960	8.0	Jan. 1949	22	118	2	81	*	Year	

(a) Average length of record, years.

T Trace, an amount too small to measure.

** Base 65°F (estimated)

+ Also on earlier dates, months, or years.

* Less than one half.

CLIMATE OF CARLSBAD, NEW MEXICO

Carlsbad, county seat of Eddy County, is on the Pecos River near the center of Eddy in the southeastern section of the State. About 45 miles away to the west and southwest lie the foothills of the Guadalupe Mountains, which range from 6000 to 7000 feet above sea level. Somewhat farther away to the northwest stand the higher Sacramento and Sierra Blanca ranges with peaks above 12,000 feet. The Pecos Valley lies in a northwest-southeast direction at Carlsbad. Across the valley to the east and north the land slopes upward to the great, rolling plains of eastern New Mexico and west Texas. Irrigated cotton, truck, and feed crops are grown in the fertile Pecos Valley. Large herds of cattle and flocks of sheep find forage on the uplands and foothills. A few miles to the east are rich potash mines, and 28 miles southwest is Carlsbad Caverns National Park with its world-famous caverns.

Climatological records at Carlsbad began in May 1894 and have been kept practically continuously since then. Only the most recent 30 years of records are summarized in the tables of this report.

Carlsbad's climate is semiarid continental with distinct summer-rainfall maxima. Summers are warm and winters are mild. Sunshine is abundant, and relative humidities are low. The Gulf of Mexico is the principal source of moisture for precipitation in this area. The general air circulation is most likely to bring this moisture in summer, with much of the annual total falling during brief but occasionally intense summer thundershowers. Average annual rainfall is about 12 inches, with 80 per cent falling in the May-through-October period. Although summer is the rainy season, an average of only 1 day in 10 gets as much as one-tenth of an inch of rain. The months November through April average about four-tenths inch of precipitation each, with an average of only one day a month having as much as one-tenth inch. Some of the winter precipitation is snow, which occasionally falls at a rate exceeding 6 inches in 24 hours. However, the mild climate usually prevents its lying on the ground for more than a few hours.

The high temperature exceeds 90 degrees on most days from mid-May to mid-September. On an average, 27 days a year have a maximum temperature of at least 100 degrees. Because the daily range is usually more than 30 degrees, due to rapid cooling after sunset combined with generally low humidities, most nights are comfortably cool. Winters are mild, dry and sunny. January, the coldest month, has an average daytime shade temperature of near 60 degrees, with the thermometers rarely remaining below the freezing point. During

midwinter, two-thirds of the nights have readings of 32 degrees or lower, but in the 30 years summarized only 11 days had readings of zero or lower. Carlsbad's average growing season is slightly over seven months long, beginning with April 3 as the average date of the last 32 degree or lower temperature in the spring and ending November 5, the average date of the first 32 degree or lower temperature in the fall.

Approximately five years of wind records made at Carlsbad Airport show an average hourly wind speed for the year of 12.2 miles per hour. March is the windiest month having an average hourly speed of 16.3 miles per hour, and September has the least wind with an average of 9.7 miles per hour. Speeds are less than 13 miles per hour 64 percent of the time, from 13 to 31 miles per hour 33 per cent of the time, and exceed 31 miles per hour only 3 per cent of the time. The wind blows from the southeast more often than from any other direction, but usually becomes southwesterly during midwinter.

Sunshine and humidity records for Carlsbad are not available, but records from surrounding stations indicate that sunshine may be expected 75 per cent of total daylight hours throughout the year. This percentage is fairly constant for all months, the range being from 70 per cent in December and January to 80 percent in June. Relative humidities are generally low, especially during the warmer part of the day. Average humidities in the early morning hours range from 55 per cent in April to 75 per cent in December. By late afternoon these averages lower to from 25 per cent in April to 45 per cent in December.

Climatological records for Carlsbad prior to 1936 show extreme values exceeding those of the tabulated 30 years to be:
 Record highest temperature: 112 degrees, June 25, 1902
 Record lowest temperature: -17 degrees, February 8, 1933
 Greatest daily precipitation: 5.12 inches, August 8, 1916
 Maximum monthly snowfall: 17.8 inches, February 1905
 Greatest daily snowfall: 10.0 inches, December 11, 1923

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Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Avg.	Sept.	Oct.	Nov.	Dec.	Ann'l
1936	44.0	50.6	59.1	64.4	72.2	81.2	81.2	81.2	75.2	61.8	49.7	45.4	63.8
1937	42.6	52.6	52.6	65.6	72.4	78.2	83.2	81.0	73.0	64.2	49.7	43.0	63.0
1938	46.0	44.2	59.0	64.2	73.6	77.7	80.1	80.4	74.4	64.7	55.0	47.0	64.7
1939	46.5	44.2	58.2	65.8	73.6	82.7	82.6	80.4	75.7	63.8	49.0	45.6	64.0
1940	37.4	46.8	55.6	63.8	71.8	74.8	80.2	78.7	74.8	64.2	50.8	49.1	62.3
1941	46.4	51.4	53.8	62.7	71.1	76.0	80.6	80.4	73.0	65.1	52.8	45.3	63.2
1942	43.1	47.0	53.9	62.2	70.8	81.0	82.5	79.8	73.0	63.0	56.6	49.4	63.5
1943	46.8	51.4	54.2	66.4	72.7	81.0	82.5	79.8	73.4	63.2	50.0	40.9	63.8
1944	41.7	47.4	53.9	61.2	71.8	81.0	83.0	80.9	72.9	64.0	51.4	40.9	63.8
1945	45.8	50.7	57.1	61.8	70.0	79.8	82.0	82.6	75.2	62.0	55.2	44.9	63.9
1946	41.9	44.0	52.6	61.8	70.7	79.8	82.0	82.6	76.0	66.1	50.8	46.8	64.1
1947	38.9	44.0	51.8	61.8	72.6	81.8	83.2	81.5	76.6	69.7	48.6	44.1	63.0
1948	38.6	45.8	51.8	69.1	73.6	80.7	83.7	82.9	75.3	63.6	49.9	50.3	64.1
1949	35.2	49.0	57.2	61.3	71.8	80.7	83.4	80.7	74.4	63.0	57.0	41.2	63.1
1950	47.9	50.8	53.9	63.8	71.1	81.7	81.7	79.3	73.2	67.7	52.2	46.4	64.0
1951	43.2	45.9	53.1	61.2	71.1	78.6	82.7	80.9	74.5	66.6	49.5	46.2	62.7
1952	48.2	47.1	51.5	61.4	69.5	80.4	78.1	82.1	72.8	63.0	47.5	42.1	61.8
1953	49.6	44.2	58.1	62.4	72.1	81.0	81.4	78.3	72.5	63.9	51.4	40.9	62.5
1954	46.3	42.4	53.3	62.8	70.7	78.0	82.1	80.3	76.9	62.1	53.4	44.5	64.2
1955	41.8	43.6	53.9	61.7	70.7	77.5	78.6	78.2	74.4	63.5	51.1	47.0	62.1
1956	45.1	44.1	55.6	60.4	73.6	81.8	81.1	80.1	73.6	64.7	45.9	45.5	62.6
1957	44.8	45.2	55.2	60.9	69.2	80.4	81.5	80.5	72.3	59.8	45.8	44.8	62.3
1958	38.9	45.8	47.8	60.9	60.6	80.4	82.4	80.1	73.0	59.3	51.0	42.6	61.1
1959	40.5	46.4	53.0	63.5	69.4	77.7	80.1	73.9	71.9	61.0	47.2	44.7	61.2
1960	40.5	44.3	51.2	61.6	69.4	77.7	77.8	76.7	71.9	61.0	50.4	37.5	60.3
1961	39.0	43.7	51.9	61.6	71.9	78.7	79.5	78.0	71.6	62.3	45.6	44.8	63.4
1962	37.9	43.7	51.1	63.8	71.9	78.7	81.1	78.0	71.7	66.0	53.6	44.8	63.4
1963	36.2	40.2	55.0	67.1	72.6	78.9	83.3	81.9	74.2	66.0	53.6	39.7	62.9
1964	40.4	46.5	52.9	62.9	72.0	78.9	83.3	81.9	74.2	66.0	53.6	44.8	63.4
1965	46.4	43.7	47.8	65.8	71.0	78.7	82.0	73.5	73.5	62.9	56.2	45.8	62.7

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1936	0.69	0.22	0.17	0.04	3.38	0.30	1.87	1.14	2.67	0.74	0.72	0.27	11.99
1937	0.95	0.35	0.16	0.67	3.60	0.00	1.08	1.59	2.58	2.51	0.36	0.36	11.91
1938	0.20	0.38	0.38	0.28	2.37	2.37	2.77	0.01	3.36	1.18	0.13	0.24	12.60
1939	0.10	0.40	0.00	1.31	3.05	1.97	2.14	1.18	0.37	1.15	0.27	0.25	7.89
1940	0.10	0.40	0.00	1.31	3.05	1.97	2.14	1.18	0.62	1.58	0.69	0.01	12.30
1941	0.67	0.74	1.27	1.44	12.28	1.53	0.65	1.48	6.81	3.27	0.20	2.12	33.94
1942	0.53	0.17	0.08	0.34	1.05	0.85	2.52	3.93	1.68	2.89	0.00	0.60	17.50
1943	0.90	0.98	0.00	0.34	0.82	4.22	1.94	0.05	4.72	0.20	1.45	1.92	10.84
1944	0.63	0.00	0.00	0.18	0.36	3.08	1.09	2.18	4.16	0.20	0.75	0.36	14.86
1945	0.84	0.36	0.00	0.18	0.46	3.08	1.09	2.18	4.16	0.20	0.75	0.36	12.91
1946	0.84	0.36	0.00	0.18	0.46	3.08	1.09	2.18	4.16	0.20	0.75	0.36	12.91
1947	0.77	0.63	0.24	0.66	0.87	1.10	1.72	1.13	0.22	0.97	0.61	0.56	5.96
1948	0.09	0.41	0.04	0.12	0.66	0.04	1.26	1.13	0.22	0.97	0.61	0.56	5.96
1949	2.31	0.05	0.20	0.38	1.46	4.81	1.57	0.46	5.81	1.24	0.00	0.15	10.73
1950	0.02	0.23	1.05	0.49	1.57	1.34	0.96	1.15	2.68	1.80	0.00	0.00	18.44
1951	0.14	0.34	1.05	0.67	1.17	0.05	0.96	1.78	0.05	0.22	0.00	0.00	14.77
1952	0.15	0.17	0.10	0.42	0.51	2.21	2.03	0.16	0.61	0.00	0.73	0.42	6.43
1953	0.02	0.01	0.14	0.35	1.05	0.43	1.69	0.47	0.16	0.93	0.00	0.42	5.97
1954	0.00	0.00	0.00	0.32	2.65	0.45	0.00	4.41	0.26	1.99	0.00	0.30	10.18
1955	0.39	0.70	0.04	0.11	0.71	1.28	1.39	0.34	1.13	1.08	0.47	0.00	7.36
1956	0.00	0.00	0.00	0.00	0.55	0.11	0.95	1.65	0.00	0.28	0.00	0.16	4.40
1957	0.14	0.22	0.05	0.05	0.55	0.55	0.26	1.44	1.02	3.86	0.59	0.00	10.72
1958	1.37	1.10	2.05	1.12	1.82	0.84	1.21	3.19	6.20	3.08	0.62	0.00	20.96
1959	0.14	0.16	0.21	0.09	0.18	0.84	1.21	2.05	1.10	3.77	0.29	1.18	11.82
1960	0.36	0.17	0.21	0.35	5.55	0.92	4.76	2.93	0.41	3.76	0.00	0.12	16.56
1961	1.06	0.37	0.80	0.17	0.39	1.48	1.76	0.27	0.28	4.41	1.89	0.00	7.58
1962	0.51	0.13	0.13	0.66	0.80	2.37	4.36	0.07	0.28	0.99	0.01	0.32	13.06
1963	0.15	0.38	0.04	1.93	1.50	0.29	0.85	4.76	0.35	0.68	0.00	0.23	10.16
1964	0.02	0.12	0.26	0.58	3.08	0.32	0.51	1.89	1.89	0.10	0.36	0.91	14.47
1965	0.00	0.64	0.03	0.58	3.08	0.32	0.51	1.89	1.89	0.10	0.36	0.91	10.47

STATION HISTORY

Climatological records were begun in Carlsbad on May 1, 1894, but the exact location of the equipment was not recorded. From the time of the establishment until the end of March 1900 the following observers signed reports: O. W. Lane, A. A. Diggins, H. C. Holabird, and E. M. Skeatts. On January 17, 1901, the equipment was moved to the head office of the Bureau of Reclamation, where employees continued the records until October 31, 1949. The thermometer shelter was installed over the ground until about 1925, when it was moved to the roof of the building. For a short time in late 1949 Mr. Nathan Wright maintained the records at a location about three-fourths of a mile northwest of the Post Office. In June 1950 the equipment was moved to the pumping-station park about a mile west of town, where employees of the City Water Department continue the records.