

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU  
In Cooperation with the UNM Bureau of Business Research

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

CLIMATOLOGICAL SUMMARY

STATION: CARLSBAD  
NEW MEXICO

MEANS AND EXTREMES FOR PERIOD OF RECORD: 1931 - 1960

Month	Temperature (°F)								** Mean degree days	Precipitation Totals (Inches)							Mean number of days						Month	
	Means				Extremes					Mean	Greatest daily	Year	Snow, Sleet					Temperatures						
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year	Precip. .10 inch or more					90° and above	32° and below	32° and below	32° and below	0° and below	Max.		Min.				
																		Year	Year	Year	Year			
(a)	30	30	30	30	--	30	--	30	30	30	--	30	30	--	30	--	30	30	30	30	30	(a)		
Jan.	59.1	28.5	43.8	83	1948	- 4	1947	660	0.44	0.75	1958	0.8	8.4	1947	8.0	1949	1	0	1	22	*	Jan.		
Feb.	64.6	32.1	48.4	88	1957	-17	1933	460	0.37	0.96	1932	0.3	4.8	1951	3.0	1951	1	0	*	15	*	Feb.		
Mar.	71.4	38.1	54.8	98	1946	9	1932	320	0.46	1.44	1941	0.6	5.0	1947+	5.0	1947+	1	*	*	8	0	Mar.		
Apr.	80.2	46.4	63.3	100	1943+	24	1939	120	0.54	1.65	1931	T	0.1	1939	0.1	1939	1	4	0	1	0	0	Apr.	
May	87.7	55.0	71.4	108	1934	34	1934	0	1.76	3.41	1959	0	0	--	0	--	3	15	0	0	0	0	May	
June	95.9	63.9	79.9	111	1939	45	1931	0	1.33	3.70	1948	0	0	--	0	--	2	26	0	0	0	0	June	
July	96.1	66.7	81.4	110	1933	52	1938	0	1.56	2.25	1950	0	0	--	0	--	3	28	0	0	0	0	July	
Aug.	95.5	66.0	80.8	110	1944	52	1955	0	1.60	2.15	1942	0	0	--	0	--	3	27	0	0	0	0	Aug.	
Sept.	89.1	59.3	74.2	106	1948	38	1942	0	1.94	2.35	1932	0	0	--	0	--	3	17	0	0	0	0	Sept.	
Oct.	79.5	48.7	64.1	101	1934	26	1960	100	1.61	4.30	1945	0	0	--	0	--	3	5	0	*	0	0	Oct.	
Nov.	67.6	35.3	51.5	92	1934	- 1	1957	410	0.35	0.90	1944	0.3	5.0	1957	5.0	1957	1	*	*	12	*	0	Nov.	
Dec.	60.2	29.3	44.7	86	1933	- 4	1953	630	0.47	1.30	1942	1.1	11.5	1960	7.0	1931	1	0	*	21	*	0	Dec.	
Year	78.9	47.4	63.2	111	June 1939	-17	Feb. 1933	2700	12.43	4.30	Oct. 1945	3.1	11.5	Dec. 1960	8.0	Jan. 1949	23	122	1	79	*	0	Year	

\* Less than one half.

\*\* Base 65° F (estimated).

(a) Average length of record, years.

† Trace, an amount too small to measure.

+ Also on earlier dates, months, or years.

‡ Partial year's record considered.

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. To the west and southwest about 45 miles away lie the foothills of the Guadalupe mountains, which vary from 6,000 to 7,000 feet above sea level. Somewhat farther away to the northwest stand the higher Sacramento and Sierra Blanca ranges with peaks above 12,000. The Pecos Valley runs in a northwest-southeast direction here; and across the valley to the east and the north the land slopes upward to the great, rolling plains of eastern New Mexico and west Texas. In the fertile Pecos valley are grown irrigated cotton, truck, and feed crops; on the uplands and foothills large herds of cattle and flocks of sheep find forage. A few miles to the east are rich potash mines, and about 27 miles southwest is the Carlsbad Caverns National Park with its world-famous caverns.

Climatological records were begun in Carlsbad in May 1894 and have been kept practically continuously since then. Only the most recent 30 years of records are summarized in this bulletin, but some earlier extremes are listed below.

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; and 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 about 80 per cent being supplied in the May-through-October period. Though summer is the rainy season, an average of only one day in 10 gets as much as a tenth of an inch of rain. The months November through April usually receive about one-third inch of moisture, and only one day a month has as much as one tenth of an inch. Some of the winter precipitation is snow, which occasionally falls at a rate exceeding six inches in 24 hours; however, the mild climate prevents its lying on the ground for more than a few hours.

The hightemperature exceeds 90° on most days from mid-May to mid-September. Thirty days, on an average, have a maximum of

at least 100°; however, the daily range is customarily more than 30°, because rapid cooling, combined with generally low humidities, makes most nights comfortably cool. Winters are mild, dry, and sunny. January, the coldest month, has an average daytime shade temperature of around 60°, with thermometers rarely remaining below the freezing mark. During midwinter about two thirds of the nights show readings lower than 32°, but in the 30 years under review only eight days had readings of zero or less.

A review of approximately five years of wind records made at Carlsbad's airport shows an average hourly wind velocity for the year of 12.2 miles per hour. March is the windiest month, with an average hourly velocity of 16.3 miles per hour. September has the least wind, with an average of 9.7 miles per hour. During most years, velocities are less than 13 miles per hour 64 per cent of the time, range 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 than from any other direction but usually changes to a southwesterly direction during most midwinter months.

Carlsbad's average growing season is slightly over seven months, beginning with April 2 as the average date of the last freeze and ending with November 7 as the average date of the first freeze. Sunshine and humidity records are not available for Carlsbad, but records made in that region indicate that sunshine can be expected 75 per cent of all daylight hours throughout the year. This percentage is fairly constant for all months, the range being from about 70 per cent in December and January to 80 per cent in June. Humidities are generally low, especially during the warmer part of the day. Average readings in the cooler morning hours range from about 55 per cent in April to around 75 per cent in December; however, by late afternoon those averages drop to about 25 per cent in April to 45 per cent in December.

Climatological records for Carlsbad prior to 1931 show these extreme values as exceeding those of the last 30 years:

(Continued Under Precipitation Table)

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	0.93	1.00	0.05	3.99	0.57	0.30	0.81	3.07	0.60	0.10	0.61	1.85	13.88
1932	0.66	1.93	0.21	0.27	2.00	1.39	1.09	1.11	7.36	1.00	0.00	1.11	18.13
1933	0.15	1.19	0.00	0.03	0.47	0.41	1.09	2.66	2.54	0.70	0.37	0.00	9.61
1934	0.00	0.00	0.67	0.20	1.85	0.35	1.05	1.21	0.18	1.17	0.08	0.03	6.79
1935	0.01	0.44	0.11	0.81	1.46	1.10	0.98	1.37	5.26	0.92	1.11	0.44	14.01
1936	0.69	T	0.17	0.04	3.38	0.30	1.87	1.14	2.67	0.74	0.72	0.27	11.99
1937	T	0.22	1.59	T	3.60	0.00	1.08	1.59	0.58	2.51	0.38	0.36	11.91
1938	0.95	0.35	0.16	0.67	0.41	2.37	0.01	3.36	1.18	1.18	0.13	0.24	12.60
1939	0.43	0.20	0.38	0.28	0.91	0.33	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	0.62	1.58	0.26	2.31	0.69	0.01	12.30
1941	0.67	0.74	4.27	1.44	12.28	1.53	0.65	1.48	6.81	3.27	0.20	0.60	33.94
1942	0.53	0.17	T	1.76	1.05	0.85	2.52	3.93	1.68	2.89	0.00	2.12	17.50
1943	T	0.00	0.08	0.34	0.82	4.22	1.94	0.05	0.72	T	0.75	1.82	10.84
1944	0.90	0.98	T	0.36	3.08	3.08	1.09	2.18	4.16	0.20	1.55	0.36	14.86
1945	0.63	T	0.00	0.18	0.46	0.11	1.76	2.27	1.34	6.13	0.00	0.03	12.91
1946	0.84	T	0.36	0.33	0.87	1.10	1.72	1.99	1.13	2.37	0.46	0.53	11.72
1947	0.77	T	0.63	0.24	0.66	0.04	1.13	1.13	0.22	0.97	0.61	0.56	5.96
1948	0.09	0.41	0.04	0.12	0.91	6.24	1.26	0.46	0.47	0.88	0.00	0.27	10.73
1949	2.31	0.05	0.20	0.38	1.46	4.81	1.57	0.04	5.81	1.24	0.00	0.15	18.44
1950	0.02	0.23	0.01	0.49	1.57	1.34	5.48	1.15	2.68	1.80	0.00	T	14.77
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	6.43
1952	0.15	0.17	0.10	0.42	0.51	2.21	2.03	0.16	0.61	0.00	0.73	T	7.09
1953	0.02	0.01	0.44	0.35	1.05	0.43	1.69	0.47	0.61	0.93	0.00	0.42	5.97
1954	0.00	0.00	T	0.62	2.65	0.05	0.00	4.41	0.26	1.99	0.00	0.20	10.18
1955	0.39	T	0.04	0.11	0.71	1.28	1.59	0.94	1.13	1.80	0.47	0.00	7.86
1956	0.00	0.70	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	0.77	0.05	1.82	0.55	0.26	1.44	1.02	3.88	0.59	0.00	10.72
1958	1.37	1.10	2.05	1.12	0.18	0.84	1.21	3.19	6.20	3.08	0.62	T	20.96
1959	0.04	0.16	0.28	0.09	5.55	1.65	2.05	2.05	0.10	0.77	0.02	0.19	11.82
1960	0.36	0.17	0.21	T	0.39	1.82	4.76	2.93	0.41	3.76	T	2.09	16.56

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 establishment until the end of March 1900 the following observers signed reports: G. W. Lane, A. A. Driggs, H. G. Holabird, and E. M. Skeats. On January 12, 1901, the equipment was moved to the headquarters of the Bureau of Reclamation, where employees of the Bureau continued the records until October 14, 1949. The thermometer shelter was installed on 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 have continued the records since then.

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1931	44.4	53.0	53.4	60.1	69.8	80.6	82.4	80.4	80.6	68.0	54.1	42.3	64.1
1932	44.8	53.4	52.2	62.6	68.4	73.4	80.6	80.0	70.2	58.2	52.7	40.0	61.8
1933	45.8	45.3	59.0	60.6	68.8	80.5	83.4	82.4	78.2	70.8	54.6	52.6	65.2
1934	46.0	51.0	54.6	65.2	73.9	83.6	84.2	83.8	76.4	70.8	57.4	48.4	66.3
1935	50.4	61.2	57.1	63.1	69.8	80.7	81.3	83.1	70.2	65.9	53.4	45.2	64.9
1936	44.0	50.6	59.1	64.4	72.2	81.2	81.2	81.0	75.2	61.8	49.7	45.4	63.8
1937	42.6	50.9	52.6	65.6	72.4	82.2	83.2	81.0	73.0	64.2	49.6	43.0	63.0
1938	46.0	52.6	59.0	64.2	73.6	77.7	80.1	81.4	74.4	65.0	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	81.7	84.6	62.2	50.0	40.9	40.9	63.8
1944	41.7	47.4	53.9	61.2	71.8	81.0	83.0	80.9	71.9	64.0	51.4	41.2	62.4
1945	45.8	50.7	57.1	61.8	74.0	78.9	80.0	82.1	75.2	62.0	55.2	44.9	63.9
1946	41.9	47.8	57.1	67.6	70.7	79.8	82.0	82.6	76.0	66.1	50.8	46.8	64.1
1947	39.8	44.0	52.6	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	51.1	69.1	74.6	83.4	83.7	82.9	75.3	63.6	49.9	50.3	64.1
1949	35.2	43.0	57.2	61.3	73.8	80.7	83.7	80.7	74.4	63.0	57.0	41.2	63.1
1950	47.9	50.8	53.9	63.8	71.4	81.7	79.7	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	65.6	49.5	46.2	62.7
1952	48.1	47.1	51.5	61.4	69.6	80.4	78.1	82.1	72.8	61.0	47.5	42.1	61.8
1953	49.6	44.2	58.1	62.4	69.5	81.0	81.6	78.8	72.5	63.3	51.1	38.3	62.5
1954	46.3	52.4	53.3	66.8	69.3	78.8	82.1	80.3	76.9	66.1	53.4	44.5	54.2
1955	41.8	43.6	53.9	64.7	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	78.6	73.6	64.7	46.9	45.5	62.6
1957	44.8	54.8	55.2	60.9	69.2	78.2	81.5	80.1	72.3	59.8	45.8	44.8	62.3
1958	38.9	45.2	47.8	60.6	70.9	80.4	82.4	80.5	73.0	59.3	51.0	42.6	61.1
1959	41.7	46.4	53.0	63.9	71.0	77.8	77.8	80.1	73.9	60.7	47.2	44.7	61.2
1960	40.5	44.3	51.2	60.5	69.4	77.7	77.4	76.7	71.9	61.0	50.4	37.5	60.3

Climate (continued)

Record highest temperature:

- 88° January 1911
- 112° June 1902

Greatest daily precipitation:

- 1.05" February 1905
- 2.41" March 1919
- 2.62" April 1915
- 3.80" July 1902
- 5.12" August 1916
- 3.57" September 1919
- 1.03" November 1906

Record lowest temperature:

- 7° January 1918
- 8° March 1922
- 23° April 1920
- 31° May 1917
- 42° June 1918
- 49° August 1915
- 33° September 1908
- 22° October 1917+

Maximum monthly snowfall:

- 8.5" January 1918
- 17.8" February 1905
- 6.5" March 1915
- 13.5" April 1928
- 12.0" November 1918
- 12.0" December 1923

Greatest daily snowfall:

- 7.0" February 1905
- 8.0" November 1918
- 10.0" December 1923

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