

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 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

STATION CARLSBAD, NEW MEXICO

MEANS AND EXTREMES FOR PERIOD 1928-1957

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	30	(a)			
Jan.	59.4	28.6	44.0	83	1948	- 4	1947	650	0.39	0.66	1932	0.7	8.4	1947	8.0	1949	1	0	1	22	* Jan.		
Feb.	65.0	32.0	48.5	88	1957	- 17	1933	460	0.35	0.96	1932	0.5	4.8	1951	4.5	1928	1	0	*	15	* Feb.		
Mar.	72.1	38.4	55.3	98	1946	9	1932	310	0.43	1.44	1941	0.5	5.0	1947+	5.0	1947+	1	*	*	7	0 Mar.		
Apr.	80.8	46.6	63.7	100	1943+	24	1939	110	0.54	1.65	1931	0.5	13.5	1928	7.0	1928	1	1	5	0	2	0 Apr.	
May	88.0	55.1	71.6	108	1934	34	1934	10	1.68	3.30	1941	0	0	----	0	----	3	16	0	0	0	0 May	
June	96.4	64.0	80.2	111	1939	45	1931	0	1.38	3.70	1948	0	0	----	0	----	2	26	0	0	0	0 June	
July	96.5	67.0	81.7	110	1933+	52	1938	0	1.46	2.25	1950	0	0	----	0	----	3	28	0	0	0	0 July	
Aug.	95.7	66.2	80.9	110	1944	52	1955	0	1.56	2.15	1942	0	0	----	0	----	3	28	0	0	0	0 Aug.	
Sep.	89.3	59.1	74.3	106	1948	38	1942	10	1.87	2.35	1932	0	0	----	0	----	3	18	0	0	0	0 Sep.	
Oct.	79.8	49.2	64.5	101	1934	29	1956	90	1.56	4.30	1945	T.	T.	1929	T.	1929	3	5	0	*	0	0 Oct.	
Nov.	67.4	35.5	51.4	92	1934	- 1	1957	410	0.36	0.90	1944	0.3	5.0	1957	5.0	1957	1	*	*	11	*	0 Nov.	
Dec.	60.5	29.4	44.9	86	1933	- 4	1953	620	0.41	1.30	1942	0.8	11.0	1931	7.0	1931	1	0	*	21	*	0 Dec.	
Year	79.2	47.6	63.4	111	June 1939	- 17	Feb. 1933	2670	11.99	4.30	Oct. 1945	3.3	13.5	Apr. 1928	8.0	Jan. 1949	23	126	1	78	*	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 (estimated)

CLIMATE OF CARLSBAD, NEW MEXICO

Carlsbad, the county seat of Eddy County, is located on the Pecos River near the center of the county in the southeastern section of the State. To the west and southwest lie the foothills of the Guadalupe Mountains which rise to their crest about 45 miles away and 6000 to 7000 feet above sea level. To the northwest and somewhat further away lie the higher Sacramento and Sierra Blanca Mountain ranges with peaks above 12,000 feet. The Pecos Valley runs in a northwest-southeast direction here, and across the valley to the east and north the land rises slightly to the great rolling plains of eastern New Mexico and west Texas. In the fertile plain of the Pecos Valley cotton, truck, and feed crops are grown under irrigation, while native grasses on the uplands and foothills furnish forage for large herds of cattle and flocks of sheep. A few miles to the east rich potash mines are being worked, while some 27 miles southwest is the Carlsbad Caverns National Park and the world famous caverns.

Climatological records began in Carlsbad in May 1894 and have been practically continuous since that time. Only the most recent 30 years of records are summarized in this bulletin but some extremes of earlier years are listed at the end of this summary.

The climate of Carlsbad is semi-arid continental with a distinct summer rainfall maxima. Summers are warm and winters are mild. There is abundant sunshine and generally low relative humidities. The Gulf of Mexico is the principal source of moisture for precipitation in this area and the general air circulation is more favorable in summer to bring this moisture into New Mexico and much of the years' moisture in this area falls during brief but sometimes intense summer thundershowers. The average annual rainfall is approximately 12 inches and about 80% of this yearly moisture falls during the 6 months period May through October. Even though summer is the rainy season, there is on an average, only one day in 10 when as much as one-tenth inch of rain falls. The months November through April usually have about one-third inch of moisture and only one day per month with precipitation of one-tenth inch or more. During winter months some of the precipitation falls as snow and occasionally falls exceeding 6 inches in 24-hours are recorded. However,

because of the mild winter climate, snow seldom lies on the ground for more than a few hours.

Summer days are warm with the high temperature on most days from mid-May to mid-September exceeding 90°. During this period there are, on an average, 30 days when the maximum temperature equals or exceeds 100°. However, the daily temperature range is usually more than 30° and the nighttime cooling combined with the generally low humidities makes most summer nights comfortably cool. Winters are mild, dry and sunny. In January, the coldest month, average daytime shade temperatures are near 60° and it is rare indeed when temperatures fail to go above the freezing mark during the coldest winter day. During mid-winter about two-thirds of the nights show low readings below the freezing mark, but in the 30 years of record reviewed there were only eight days when readings fell to zero or below.

A review of approximately five years of wind records made at the Carlsbad airport shows an average hourly wind velocity for the year of 12.3 miles per hour. March is the windiest month when average hourly velocities are 16.3 miles per hour, while September has the least wind with an average hourly velocity of 9.7 miles per hour. During an average year wind velocities are less than 13 miles per hour 64% of the time; range from 13 to 31 miles per hour 33% of the time; and exceed 31 miles per hour only 3% of the time. The wind blows from the southeast more than from any other direction but usually changes to a southwesterly direction during most mid-winter months.

The average growing season at Carlsbad is slightly over seven months beginning with the average date of the last freezing temperature in the spring on April 2nd and ending November 7th, the average date of the first freezing temperature in the fall. Sunshine and humidity records are not available for Carlsbad but records made in that part of the State indicate that one can expect sunshine 75% of all daylight hours throughout the year. This percentage of sunshine is fairly constant for all months ranging from about 70% in December and January to 80% in June. Humidities are generally low, especially during the warmer part of the day. Average readings in the cooler

(continued under Precipitation Table)

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1928	45.6	45.9	59.1	61.4	72.6	83.0	83.2	78.4	72.0	65.4	48.9	42.9	63.2
1929	42.7	41.8	53.7	67.2	72.4	82.2	81.4	81.4	71.0	62.6	46.3	46.1	62.4
1930	37.6	52.8	53.8	60.1	72.0	80.6	82.6	81.8	77.0	61.6	51.0	41.8	63.6
1931	41.4	53.4	53.4	68.1	69.8	80.6	82.4	80.6	80.6	66.0	51.1	42.3	61.1
1932	44.8	53.4	52.2	62.6	68.4	78.4	80.6	80.0	70.2	55.2	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	51.6	52.6	65.2
1934	46.0	51.0	61.2	65.2	73.9	83.6	84.2	83.8	76.4	70.8	51.4	48.4	64.3
1935	50.4	50.0	61.2	67.1	69.8	80.7	81.3	83.1	70.2	65.9	51.4	45.2	64.9
1936	42.0	50.6	59.1	64.4	72.2	81.2	83.2	81.0	73.0	61.2	49.7	43.0	63.8
1937	42.6	50.9	52.6	65.6	72.4	78.2	83.2	81.0	73.0	61.2	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	55.0	47.0	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	61.2	50.8	49.1	62.3
1941	46.4	51.4	53.8	62.7	70.1	76.0	80.6	80.4	73.0	65.1	56.6	49.4	63.5
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	73.4	62.2	50.0	40.9	63.8
1944	41.7	47.4	53.9	61.2	71.8	81.0	83.0	80.9	71.9	61.0	51.4	41.2	62.4
1945	45.8	50.7	57.1	61.8	74.0	79.8	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	51.8	69.1	74.6	83.4	83.7	82.9	75.3	63.6	49.9	50.3	64.1
1949	35.2	49.0	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	64.7
1951	47.2	45.9	53.1	61.2	71.1	78.6	82.7	80.9	74.5	66.6	49.5	46.2	64.0
1952	43.1	47.1	51.5	61.4	69.8	80.4	78.1	82.1	72.8	61.0	47.5	42.1	61.8
1953	49.6	44.2	50.1	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	64.2
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

STATION HISTORY

Climatological records began in Carlisbad on May 1, 1894, and while the equipment was in from the exact location is not recorded. From the time of establishment until the end of March 1900 the following observers signed the reports: G. W. Janz; A. A. Drieggs; H. G. Holabird; E. W. Sheates. On January 12, 1901, the equipment was moved to the Bureau of Reclamation headquarters where employees of the Bureau continued the records until October 11, 1919. 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 1919 Mr. Nathan Wright maintained the records at a location about three-fourth mile north-west of the Post Office. In June 1950 the equipment was moved to the pumping station park about one mile west of town where Mr. Oren Hatney has continued the records.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1928	0.00	0.65	T	0.85	1.68	T	2.79	5.53	0.86	1.06	0.36	0.03	13.81
1929	T	0.13	1.29	0.10	1.61	1.76	1.18	0.69	1.14	3.98	0.34	0.10	12.32
1930	0.05	0.00	0.15	0.29	0.52	3.03	0.80	0.86	2.63	1.22	0.37	0.37	10.45
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	0.44	0.11	0.21	1.46	1.10	1.98	1.37	5.26	0.92	1.11	0.44	14.01
1935	0.01	0.44	0.11	0.21	1.46	1.10	1.98	1.37	5.26	0.92	1.11	0.44	14.01
1936	0.69	T	0.17	T	3.36	0.30	1.08	1.59	2.67	2.51	0.38	0.36	11.91
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	2.77	0.01	3.36	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	0.00	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	1.92	10.84
1944	0.90	0.96	T	T	0.36	3.08	1.09	2.18	4.16	0.20	1.35	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	0.55	11.72
1947	0.77	T	0.63	0.24	0.66	0.04	0.13	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	0.04	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	0.46	5.81	1.24	0.00	0.15	18.44
1950	0.02	0.23	0.01	0.49	1.57	1.34	0.96	1.75	2.68	1.80	0.00	T	14.77
1951	0.15	0.34	1.05	0.67	1.17	0.05	0.86	1.76	2.05	0.22	0.00	0.00	64.77
1952	0.11	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	0.16	0.93	0.00	0.42	5.97
1954	0.39	T	0.04	0.11	2.65	0.05	0.00	4.41	0.26	1.99	0.00	0.00	10.18
1955	0.00	0.70	0.00	0.00	0.71	1.28	1.59	1.65	0.00	1.80	0.47	0.00	7.86
1956	0.00	0.22	0.00	0.05	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	3.86	0.59	0.00	10.72

CLIMATE OF CARLSBAD, NEW MEXICO
(Continued)

morning hours range from about 55% in April to near 75% in December but by late afternoon these averages drop to about 25% in April to 45% in December.

In reviewing the climatological records for Carlisbad prior to 1928, the following extreme values exceeding those of the past 30 years were noted:

Record Highest Temperature:	Record Daily Precipitation:
86°	1.05
January 1911	1.01
June 1902	2.41
Record Lowest Temperature:	Record Monthly Snowfall:
-7°	8.5
January 1918	February 1918
8°	17.6
March 1922	February 1905
23°	8.0
April 1920	November 1918
31°	12.0
May 1917	December 1923
June 1918	
August 1915	
September 1908	
October 1917 +	
2°	
33°	
August 1915	
September 1908	
October 1917 +	
2°	
Greatest daily snowfall:	
7.0	
February 1905	
8.0	
November 1918	
10.0	
December 1923	

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