

U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
 IN COOPERATION WITH El Cajon Chamber of Commerce
 CLIMATOGRAPHY OF THE UNITED STATES NO. 20 - 4

LATITUDE 32° 47' N
 LONGITUDE 116° 55' W
 ELEV. (GROUND) 525 feet

CLIMATOLOGICAL SUMMARY

STATION El Cajon, California

MEANS AND EXTREMES FOR PERIOD 1929 - 1959

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	32° and below	Max.		Min.		
																				° and below	° and below			
(a)	30	30	30	30	1954 ⁺	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	(a)			
January	67.0	36.7	51.9	92	1954 ⁺	20	1954	410	2.41	1.94	1943	T	T	1949	T	1949	30	30	30	30	30	January		
February	68.0	38.8	53.4	93	1954	24	1955 ⁺	320	2.57	4.06	1937	0	0	-	0	-	5	*	0	10	0	February		
March	70.2	40.9	55.6	93	1936 ⁺	26	1948	300	2.23	2.09	1941	0	0	-	0	-	4	*	0	6	0	March		
April	73.5	46.1	59.8	105	1940	29	1945	170	1.19	1.71	1941	0	0	-	0	-	3	1	0	2	0	April		
May	76.7	49.9	63.3	101	1956 ⁺	36	1950	100	0.46	1.70	1930	0	0	-	0	-	1	2	0	0	0	May		
June	81.0	53.6	67.3	105	1937	40	1933	20	0.07	0.38	1934	0	0	-	0	-	*	3	0	0	0	June		
July	88.0	57.6	72.8	110	1957	44	1932	0	0.04	0.16	1936	0	0	-	0	-	*	11	0	0	0	July		
August	88.2	58.4	73.3	111	1955	44	1944	0	0.15	1.35	1945	0	0	-	0	-	*	13	0	0	0	August		
September	87.5	55.6	71.6	113	1955	42	1944 ⁺	0	0.23	1.35	1939	0	0	-	0	-	1	12	0	0	0	September		
October	81.4	48.9	65.2	107	1958	33	1935	50	0.58	1.25	1932	0	0	-	0	-	1	6	0	0	0	October		
November	76.5	40.2	58.4	98	1950	25	1938	210	0.93	1.90	1944	0	0	-	0	-	2	2	0	3	0	November		
December	70.5	37.5	54.0	95	1938	21	1954	340	2.22	3.12	1940	0	0	-	0	-	4	*	0	7	0	December		
Year	77.4	47.0	62.2	113	1955	20	1954	1920	13.08	4.06	1937	T	T	1949	T	1949	26	50	0	28	0	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)

NARRATIVE CLIMATOLOGICAL SUMMARY

The City of El Cajon is located within the El Cajon Valley, at an elevation of about 500 feet msl. The valley slopes gently downward to the northwest and is surrounded by relatively rugged terrain. To the east mountains reach heights of 1,600 or 1,700 feet within 5 miles, and the Laguna Mountains reach their crest, around 6,000 feet msl, about 30 miles east northeast of the valley. Mt. Helix, 3 miles to the southwest, reaches an elevation of 1,380 feet. In general, however, the ground slopes off to the west until it reaches the Pacific Ocean some 15 miles distant.

The southerly latitude and the relative proximity to the ocean combine to give El Cajon a comparatively warm and equable climate, while the elevation of the valley helps to develop the range of temperature that avoids monotonous weather. Maximum temperatures average from around 67° in winter to 88° in summer, while minimum drop into the 50s at night during the summer and into the upper 30s during the winter. Extreme readings have ranged as high as 111° and as low as 20°. In a typical year there are about 28 days in which freezing temperatures are reported, and only 50 days with maximum readings of 90° or higher. Of the heating degree day total of 1920 units only 18% falls between April 1st and October 31st.

Precipitation is light, amounting to only a little more than 13 inches per year, and less than 1 inch of it falls during the months of May through September. A typical year has 26 days with precipitation of 0.10 inch or more. In 1 year out of 10 the annual precipitation total can be expected to amount to more than 20.5 inches, while less than 7.6 inches can be expected with about the same frequency. One half of the years should find the annual precipitation total falling between 9.8 and 16.7 inches.

On the average, rainfall amounting to 0.6 inch in one hour or 2.2 inches in 24 hours can be anticipated every other year. The one-hour rate of rainfall can be expected to increase to as much as 1.3 inches and the 24 hour amount to 5.3 inches about once in every 100 years. In the past 30 years snow has been observed only once, and on that occasion it did not accumulate on the ground.

Relative humidity is quite uniform throughout the year, slightly higher readings being noted during the winter and slightly lower values during the summer. During the early morning hours values in the middle 80s are common during the winter, while readings in the middle 60s are typical of the summer. Noon readings range from the upper 40s in the winter to the middle 30s in late summer and fall.

El Cajon has an abundance of sunshine. Clear days will total about 230 days in a typical year, 80 partly cloudy and 55 days will be cloudy. Winds are generally light. The prevailing wind direction is from the southwest during the colder months and also in June and July. The spring and fall months are more likely to produce west winds. Occasionally strong, dry winds from the north or east may be experienced, sometimes with enough force to cause local damage. Winds up to 60 mph can be expected perhaps once in 50 years.

The likelihood of experiencing freezing temperatures in the spring and fall is set forth in the accompanying table. Note that these values are for the locations of the observing stations; other locations in the valley may differ considerably.

C. Robert Elford
 Weather Bureau State Climatologist
 San Francisco, California

Statistical likelihood (in percent) that temperatures of 32° and 28° will occur in the spring after (or in the fall before) the dates indicated

Probability	Spring		Fall	
(%)	28°	32°	32°	28°
90	January 3	February 24	December 8	*
75	January 12	March 3	December 5	December 29
50	January 29	March 13	November 29	December 15
25	February 21	March 20	November 19	December 2
10	March 8	March 27	November 11	November 20

* Later than December 31

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1929	52.5	56.9	58.2	63.0	60.4	66.6	73.9	74.1	68.4	65.4	58.8	57.6	62.6
1930	52.0	54.0	57.2	62.6	66.6	69.6	75.6	75.4	71.8	65.2	60.0	51.6	63.0
1931	52.0	53.0	55.8	61.6	65.6	69.1	75.6	75.4	71.8	65.2	55.0	50.4	62.0
1932	48.8	49.0	55.0	57.8	61.6	65.2	72.4	73.2	66.6	59.8	60.2	50.0	59.8
1933	52.7	56.2	61.6	63.6	65.2	72.4	73.0	72.0	66.6	58.2	59.1	53.0	60.2
1934	51.8	54.2	52.8	60.6	62.2	67.6	73.1	75.7	71.8	63.7	55.1	53.8	63.4
1935	54.2	58.1	58.1	60.6	64.4	68.8	75.3	75.0	70.9	65.0	60.5	53.8	63.4
1936	54.2	58.1	58.1	60.6	64.4	68.8	75.3	75.0	70.9	65.0	60.5	53.8	63.4
1937	45.6	51.8	55.2	59.4	63.2	68.4	73.5	74.2	73.6	67.2	59.6	56.6	62.8
1938	55.0	54.0	55.4	60.0	63.6	67.3	72.1	73.8	74.4	64.2	56.8	57.4	62.8
1939	52.5	49.3	54.4	62.4	63.8	67.8	73.0	72.6	69.9	66.8	60.8	58.6	63.2
1940	55.1	55.6	59.0	62.0	67.4	68.9	73.0	72.9	67.8	64.0	59.7	52.2	62.4
1941	53.8	56.4	58.2	57.2	66.6	67.1	73.2	72.9	64.0	59.7	52.2	52.2	62.4
1942	54.0	50.7	53.8	57.5	62.2	66.8	72.6	72.4	69.4	64.8	57.8	54.3	61.4
1943	52.0	55.5	57.2	60.2	65.4	66.4	72.6	73.8	73.2	65.2	60.2	53.1	63.0
1944	52.0	51.0	51.5	56.6	63.2	66.4	69.8	72.9	70.3	65.2	56.6	54.0	60.9
1945	50.3	52.4	51.5	56.2	61.0	65.6	71.9	75.3	73.4	67.5	58.1	54.2	61.4
1946	52.8	50.8	54.4	61.2	63.0	69.5	73.2	74.6	72.6	61.9	55.4	53.4	61.9
1947	51.3	50.2	57.8	61.8	64.6	67.2	72.5	74.2	65.4	55.6	52.0	52.0	62.6
1948	53.5	50.2	51.0	58.9	61.6	65.1	69.6	70.1	71.2	62.4	49.6	49.6	60.2
1949	43.5	48.2	52.0	60.0	61.6	68.7	70.7	71.5	72.3	62.4	63.2	51.4	60.5
1950	48.4	52.6	54.7	59.5	59.4	64.6	71.4	69.8	67.9	66.0	60.8	59.1	61.2
1951	52.9	52.6	56.4	60.1	62.2	66.6	72.2	71.8	71.9	68.0	51.7	51.7	61.9
1952	47.9	51.9	53.0	60.3	65.7	65.7	73.2	73.8	74.9	67.9	62.3	56.6	63.5
1953	56.1	55.9	55.4	59.6	63.0	66.0	72.1	71.8	71.8	64.2	56.3	56.6	63.5
1954	55.2	63.4	---	56.9	61.2	66.5	75.5	71.9	71.3	64.2	59.9	52.2	61.4
1955	49.3	51.1	56.2	58.9	61.2	66.5	70.7	71.0	74.1	63.6	56.8	54.3	61.4
1956	52.0	49.0	55.4	58.0	64.7	69.5	72.7	71.0	75.1	64.1	59.1	54.2	62.1
1957	51.3	56.5	55.5	60.1	61.5	68.9	74.1	75.0	71.4	62.1	54.7	54.8	62.3
1958	52.7	55.9	60.1	66.3	66.3	68.9	72.5	75.7	73.6	70.2	57.7	54.8	63.3
1959	55.3	52.1	60.6	64.6	63.5	70.1	76.7	75.8	72.3	66.6	---	---	---

STATION HISTORY

The first rainfall measurements in the vicinity of El Cajon began November 1, 1875, and continued through April, 1877. No information is now available concerning the exact location of the observing personnel. On February 1, 1899, the first official station was established at the residence of Mr. H. H. Kessler, 2.1 miles east of the Post Office at an elevation of 482 feet msl. Standard Weather Bureau equipment was placed within the garden area of the observer's residence at the Kessler Ranch, located along the southeast edge of the valley's precipitation and temperature records were continued by Mr. H. H. Kessler until March, 1918. Mr. Phillip B. Kessler was the observer for the rest of that year, and in January 1919 Mr. E. P. Kessler was appointed observer, his record continuing through October, 1929. During this latter period there were some minor moves of the equipment.

On November 1, 1929 the station was moved 0.4 mile to the north, to an elevation of 560 feet. The new location was on the farm of E. V. Clark, about 2.5 miles east of the Post Office. The instrument shelter was placed in an open field over cultivated ground with the rain gauge nearby. By 1933 a thermograph was added to the instrumentation. In 1935 the shelter was moved to a second location on the observer's farm. This point of observation was 2.8 miles east of the Post Office at 540 feet elevation. The shelter was now in an open area over sod, surrounded by citrus trees except to the south. Mr. Clark's records were continued until 1943.

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1929	4.65	0.80	3.83	0.62	3.69	0	0.04	T	T	0.47	0	0	16.32
1930	2.76	4.57	0.02	1.78	0.62	T	0.02	0.37	T	0.33	2.22	0	18.44
1931	1.31	7.68	0.44	0.59	0.01	0.16	0	0	T	1.30	2.54	4.41	15.90
1932	5.21	0.04	0.12	1.88	0.95	0	T	0	T	0.15	0.38	2.18	10.98
1933	0.70	2.61	0.40	0	0	0.88	0	0	0.15	0.42	1.27	2.91	9.31
1934	3.32	4.49	2.56	1.31	0	0	0	0.42	0.10	0.09	0.14	0.84	13.26
1935	0.92	6.04	1.62	0.93	0.15	0	0.20	T	T	0.06	0.08	1.64	18.03
1936	2.86	6.86	3.54	0.71	0.35	0	0.09	T	T	0.34	0.02	4.22	18.62
1937	1.97	4.23	6.13	0.64	0.76	0.06	0.13	0.07	0.11	0.28	0.92	7.59	18.81
1938	2.85	2.33	1.79	0.95	0.06	0	0	0.07	0.10	0.23	0	3.05	28.14
1939	2.71	3.63	0.14	2.42	0	0.01	0	T	0.40	3.13	1.32	3.05	7.57
1940	1.44	3.72	8.08	6.10	0.84	0	0.06	T	T	0.37	0.44	4.74	13.05
1941	0.68	1.30	2.02	1.82	0.02	0.34	0	T	T	0	4.02	0.95	17.43
1942	4.44	1.75	2.85	1.71	0.18	0.04	0	T	T	0	0.44	4.74	9.53
1943	1.25	4.63	0.96	0.85	0.45	0.06	0	0	0	0.28	2.68	1.46	7.22
1944	0.81	0.50	2.15	0.51	0.08	0	0	1.35	0	1.00	0.61	4.51	7.96
1945	0.35	0.28	0.71	0.30	0	0.15	0	0	0	0.88	0	2.91	7.96
1946	0.07	1.85	1.08	0.30	0.63	0	0	0	0	0.41	1.00	1.02	11.98
1947	5.49	2.28	1.35	0.38	0.06	0	0	0	0	0	1.29	0.09	7.27
1948	2.61	1.29	1.33	2.08	0.20	0	0.20	0	0	0.92	1.19	5.09	15.33
1949	2.13	1.17	0.53	0	0	0	0	1.92	0	0	1.97	2.01	15.00
1950	4.41	0.35	4.86	1.40	0	0	0.07	0	T	0	1.29	0.14	5.15
1951	0.62	0.81	1.27	0.56	0.27	0.09	0.13	0	T	0	0.66	0.68	12.91
1952	4.19	1.23	5.82	0.06	0.03	0.03	0.09	0.03	0	0	0.83	0	10.00
1953	0.62	0.81	1.27	0.56	0.27	0.09	0.13	0.03	0	0	0.83	0	10.00
1954	4.19	1.23	5.82	0.06	0.03	0.03	0.09	0.03	0	0	0.83	0	10.00
1955	2.04	1.09	0.99	0.42	1.61	0.01	0.03	0	0	0.44	1.03	0.21	5.29
1956	7.13	4.51	1.25	1.27	2.22	0.20	0.03	T	T	0	1.03	1.38	17.59
1957	0.90	4.12	6.47	3.32	0.22	T	T	0	0	0.42	0.50	0.06	16.04
1958	0.14	4.69	T	0.50	0.01	T	T	0.06	T	---	---	---	---
1959	0.14	4.69	T	0.50	0.01	T	T	0.06	T	---	---	---	---

STATION HISTORY - (con't)

Mrs. Dixie B. Yale became the official weather observer in November 1943. The instruments were moved 0.3 mile south of the Clark Ranch location to a point described as 2.4 miles east southeast of the Post Office. The shelter and rain gauge were placed in the yard behind the Yale residence on gently sloping ground along the floor of the valley, with hills to the east and south at distances of approximately one half mile. Following Mrs. Yale's death in 1953 Mr. Fred Yale took over the duties until May 1954.

At that time Mr. Edwin R. Cunningham replaced Mr. Yale as the observer, and the station was moved 0.3 miles northwest of the Yale Ranch, with the observational equipment located approximately 200 feet southeast of the Cunningham home, near an orange grove. Mr. Cunningham furnished the records until the station was closed in October 1959.

This climatic summary has been made possible by the unselfish devotion of these men and women who volunteered their services to their community and to their government, and it is through the cooperation of the Chamber of Commerce that publication of the record in this form is now possible.