U. S. DEPARTMENT OF COMMERCE, WEATHER BUREAU
IN COOPERATION WITH BERKELEY CHAMBER OF COMMERCE

LATITUDE 37° 52'
LONGITUDE 122° 16'
ELEV. (GROUND) 299

CLIMATOLOGICAL SUMMARY

MEANS AND EXTREMES FOR PERIOD OF RECORD 1929-1958

CLIMATOGRAPHY OF THE U. S.
STATION BERKELEY, CALIFORNIA
STATION NO. 04-0693-4

Month	Temperature (°F)							Mean degree days	Precipitation Totals (Inches)								Mean number of days					Month
	Means			Extremes								Snow, Sleet,						Temperatures				
																		Max.		Min.		
	Daily maximum	Daily minimum	Monthly	Record highest	Year	Record lowest	Year		Mean	Greatest daily	Year	Mean	Maximum monthly	Year	Greatest daily	Year	Precip. .10 inch or more	90° and above	32° and below	32° and below	0° and below	
(a)	30	30	30	30		30		30	30	30		30	30		30		30	30	30	30	30	
Jan.	55.5	44.0	49.8	72	1953+	25	1937	470	4.56	2.39	1950	0	0		0		8	0	0	1	0	Jan.
Feb.	58.7	45.0	51.9	79	1954+	31	1949	370	3.76	3.10	1940	0	0		0		7	0	0	*	0	Feb.
Mar.	61.2	46.4	53.8	86	1952	35	1956+	350	3.24	2.54	1940	T	0.1	1942	0.1	1942	6	0	0	0	0	Mar.
Apr.	63.1	48.1	55.6	85	1957+	36	1929	280	1.72	2.43	1958	0	0		0		4	0	0	0	0	Apr.
May	65.4	50.8	58.1	94	1956	41	1950	240	0.78	1.99	1957	0	0		0		2	*	0	0	0	May
June	68.5	53.1	60.8	96	1949	43	1945	140	0.22	1.04	1929	0	0		0		1	*	0	0	0	June
July	68.8	54.4	61.6	92	1931	40	1953	120	0.01	0.11	1949	0	0		0		*	*	0	0	0	July
Aug.	68.7	53.5	61.1	90	1950	47	1940	120	0.04	0.26	1935	0	0		0		*	*	0	0	0	Aug.
Sept.	71.3	55.2	63.3	98	1939	48	1955+	80	0.13	1.48	1957	0	0		0		*	1	0	0	0	Sept.
Oct.	69.5	53.3	61.4	94	1953	40	1935	120	1.23	1.74	1944	0	0		0		2	*	0	0	0	Oct.
Nov.	64.3	48.4	56.4	85	1932	35	1931	270	2.10	2.76	1942	0	0		0		4	0	0	0	0	Nov.
Dec.	57.7	44.9	51.3	74	1958	26	1932	420	4.32	2.91	1955	0	0		0		7	0	0	*	0	Dec.
Year	64.4	49.8	57.1	98	Sept. 1939	25	Jan. 1937	2980	22.12	3.10	Feb. 1940	T	0.1	Mar. 1942	0.1	Mar. 1942	41	2	0	1	0	Year

(a) Average length of record, years.

T Trace, an amount too small to measure.

+ Also on later dates, months or years.

* Less than one half.

THE CLIMATE OF BERKELEY, CALIFORNIA

Berkeley lies on the east shore of San Francisco Bay and directly across from and about 12 miles distant from the Golden Gate. The terrain climbs slowly eastward from the water's edge for 2 or 3 miles and then abruptly rises up the slopes of the Berkeley Hills to a height of 1754 feet at the top of Grizzly Peak. Most of the city, therefore, is exposed to the free movement of air from the Pacific Ocean through the Golden Gate and across the Bay. This results in a climate that is predominantly marine in character, though modified somewhat as a result of the protection afforded by the coastal hills extending up to the Golden Gate from both the north and the south.

The marin influence is reflected in the fact that the monthly average temperature is delayed in reaching its highest value until September. The range between the average temperatures of the warmest and coldest months is only 13.5 degrees. At any time from May through October a few warm days may be experienced, each of those months having experienced occasional days with maxima of 90 or higher. Usually one or more of these brief hot spells is experienced each year. Only in January and February have readings below freezing been recorded, with an absolute low of 25°, and frost damage to tender plants is rare. At the observation station subfreezing temperatures occur about one year in three. However, it should be noted that minimum readings may vary considerably within the range of elevation and exposure represented by the City of Berkeley. As a rule, some heating is called for in every month of the year.

Rainfall follows the pattern that is characteristic of most of California. Almost 90% of the year's precipitation falls during the winter season, beginning in November and ending in April. The months of May through October account for only a very small portion of the rainfall. Snow, while not unknown, is extremely rare, and is of very brief duration.

The sea breeze, which serves to maintain the equable year around temperature, reaches its maximum on summer afternoons. Speeds of from 20 to as much as 30 mph are not uncommon, although the average wind during the summer months is around 10 mph. Occasionally winter winds from the south and southwest - sometimes from the northwest - are stronger during the passage of intense storms, but the average speed, in general is only about 6 mph during these months. At infrequent intervals an unusual combination of meteorological factors results in a very localized east wind in some parts of the city -- a wind of sufficient strength to cause some damage to trees and small structures.

Relative humidity is rather uniformly within the range of 85 to 90% during the early morning hours; afternoon readings average around 65 to 75%. One or two thunderstorms are reported nearly every year, but they are never of great intensity.

Sunshine for the year averages between 65 and 70% of possible, the average daytime cloudiness remaining essentially the same in summer as in winter. However, the winter cloudiness is associated with rain-bearing storms, while the cloudiness of summer is the stratus deck that usually moves in during the late afternoon hours and disappears around mid-morning, permitting sunshine during most of the middle of the day. This cloud deck will drop to a level low enough to produce fog at ground level only infrequently on the coastal plain, but with considerable frequency at higher elevations in the hills. True radiation and advection fog at the surface occurs on the coastal plain about 15 to 20 days each year.

The nearly flat, imperfectly drained land adjoining the Bay tends to be saline in character. This gives way to gently sloping fan soils of good depth which have been largely urbanized. The fans in turn give way to upland soils which support woodland over that limited portion of the area that has not been disturbed by urban development. However, because of the urbanization of most of the relatively flat land in the immediate area of Berkeley, commercial agriculture is not now of economic importance to the community.

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

Average Temperature (°F)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1929	46.2	49.2	51.5	51.6	56.2	62.1	65.8	62.0	60.8	62.6	59.3	54.1	56.8
1930	48.2	55.3	55.8	51.1	55.2	59.6	58.8	61.8	61.6	62.4	56.8	51.4	57.0
1931	51.7	55.6	57.2	58.0	61.6	61.8	62.5	60.4	61.8	59.1	52.8	48.2	57.6
1932	48.1	50.0	55.7	54.2	57.1	58.6	60.4	60.8	62.5	61.4	60.4	46.8	56.3
1933	46.4	49.6	54.0	54.2	53.6	57.6	59.7	59.9	60.4	61.8	59.2	50.6	55.6
1934	51.6	54.2	59.2	57.9	59.6	60.1	60.8	61.2	63.1	61.1	56.9	52.2	58.2
1935	49.6	52.3	50.4	56.8	56.8	61.2	60.1	60.1	59.8	59.5	53.8	51.9	56.0
1936	52.2	51.6	55.4	56.4	60.6	62.2	61.9	61.0	63.8	62.2	56.9	50.0	57.8
1937	42.0	48.7	53.6	54.0	57.6	61.2	60.7	61.2	62.2	62.8	57.2	52.7	56.2
1938	50.8	51.4	50.9	54.3	57.2	58.4	60.4	61.6	62.7	61.0	55.9	53.0	56.5
1939	50.4	50.0	51.6	56.3	57.2	59.2	60.8	61.2	66.0	62.6	58.0	54.1	57.3
1940	51.8	54.1	56.0	57.2	58.0	59.5	61.4	60.8	64.0	61.6	55.6	53.7	57.8
1941	52.0	54.2	57.6	55.1	60.8	61.0	61.6	62.6	64.0	60.6	57.6	51.6	58.2
1942	50.6	51.8	54.2	54.5	56.5	60.4	61.8	60.1	61.0	61.2	54.8	51.8	56.6
1943	50.6	55.1	55.2	56.6	59.8	58.6	61.0	61.8	64.2	61.2	58.5	52.8	58.0
1944	51.0	50.6	55.0	52.8	56.8	58.6	58.4	61.0	62.4	61.3	54.2	53.3	56.3
1945	49.2	53.4	51.0	56.5	55.4	62.7	61.3	60.8	63.8	61.5	54.8	51.4	56.8
1946	49.9	50.0	52.7	55.4	55.9	59.9	62.0	59.8	63.6	60.5	53.8	50.3	56.2
1947	46.2	53.0	55.4	58.6	60.2	64.4	65.8	65.0	65.2	62.0	53.7	49.9	58.3
1948	52.6	49.4	50.5	53.0	57.0	62.2	63.2	63.8	62.8	61.2	55.6	45.8	56.4
1949	42.4	46.8	53.6	57.1	58.9	62.5	61.2	63.8	65.0	59.9	59.5	48.9	56.6
1950	45.4	50.8	53.0	57.3	57.0	59.8	60.9	63.6	64.6	62.3	60.1	53.1	57.4
1951	49.1	51.5	54.3	53.4	58.8	58.8	60.3	60.5	62.7	62.0	55.9	48.6	56.3
1952	46.8	51.4	51.3	56.5	59.6	59.3	61.4	61.6	63.7	58.7	52.9	49.8	56.1
1953	53.1	53.2	53.4	54.2	58.3	61.6	61.1	63.0	65.0	62.0	56.1	53.4	57.9
1954	50.4	54.1	51.8	58.0	59.0	62.1	63.4	60.8	64.2	62.1	56.7	49.0	57.7
1955	46.7	51.1	54.2	52.5	59.4	59.8	61.0	59.6	61.1	60.0	53.9	52.0	55.9
1956	50.0	48.8	53.4	54.4	58.9	62.6	60.5	62.0	64.2	59.0	57.6	51.0	56.9
1957	46.8	52.9	53.8	58.0	58.9	64.4	63.4	63.3	64.9	61.5	55.3	50.7	57.8
1958	51.5	55.2	51.8	57.3	60.6	64.5	62.1	63.2	67.4	62.4	57.0	55.7	59.1

Total Precipitation (Inches)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ann'l
1929	0.90	1.45	1.75	1.26	0.03	1.19	0	0	T	0.08	0	3.23	9.89
1930	4.19	2.37	2.84	1.50	0.26	0	0	0	0.14	0.50	1.06	0.65	13.51
1931	4.26	1.17	1.61	0.45	1.50	0.86	T	0	0.01	0.70	3.17	7.68	21.41
1932	2.01	2.70	1.10	0.93	0.49	0.03	T	0	0	T	0.60	2.45	10.31
1933	6.69	1.02	3.06	T	1.75	T	0	0	0.20	3.06	0	4.89	20.67
1934	1.65	4.57	0.10	0.64	0.56	0.45	0	T	T	1.23	3.34	3.78	16.32
1935	6.24	2.69	2.87	5.03	0.06	0	T	0.26	0.07	1.12	0.97	2.42	21.73
1936	6.49	8.94	1.29	1.57	1.06	0.45	0.08	T	0	0.57	T	3.33	23.78
1937	5.56	6.00	8.47	0.93	0.13	0.65	0	0	T	1.16	3.42	4.99	31.31
1938	3.71	9.12	6.33	2.24	0.01	0	0.02	0	0.09	1.64	1.58	1.55	26.29
1939	2.67	1.40	3.36	0.30	0.72	0.01	0	0	0.74	0.67	0.31	0.89	11.07
1940	10.48	10.02	6.08	0.56	0.86	0.02	0	0	0.27	0.97	1.89	5.98	37.13
1941	7.57	6.90	4.72	4.66	1.60	0.04	0.10	0.03	0.01	0.86	2.46	7.53	36.48
1942	5.18	4.50	2.80	4.25	1.83	0	0.02	0.01	0.25	1.21	4.04	2.67	26.76
1943	7.48	1.60	3.12	2.03	0.05	0.03	T	0	0.01	0.74	0.87	2.40	18.33
1944	3.36	6.31	1.04	2.40	1.12	0.29	T	0.01	0	1.96	6.07	3.42	25.98
1945	1.02	4.60	4.16	0.40	1.18	T	0.03	0	0.01	2.04	2.98	7.80	24.22
1946	1.54	1.68	1.98	0.22	0.67	0	0.03	0.01	0.06	0.30	3.44	2.88	12.81
1947	0.68	2.12	3.53	0.27	0.77	0.99	0	0	0	4.54	1.15	0.95	15.00
1948	1.77	1.66	4.89	2.91	0.82	0.03	0	0.01	0.02	0.42	1.26	4.92	18.71
1949	1.50	3.10	4.92	0.05	0.61	0	0.11	0.06	0.02	0.21	1.69	2.64	14.91
1950	8.73	2.93	3.00	1.01	0.50	0.02	0.01	0	0	3.28	7.42	6.67	33.57
1951	5.03	2.58	1.53	1.24	0.94	0.02	0	0.48	0.06	1.70	4.82	9.58	27.98
1952	8.92	2.47	4.81	1.27	0.25	0.74	0	0	T	0.07	2.34	9.28	30.15
1953	4.70	T	2.80	2.91	0.53	0.34	0	0.08	0	0.49	2.28	0.32	14.45
1954	3.60	2.92	4.20	1.18	0.13	0.25	0	0.27	0	0.14	2.98	6.07	21.74
1955	5.46	1.24	.43	1.84	0.20	0	0	0	0.03	0.05	2.23	15.04	26.52
1956	7.23	3.54	.03	1.90	1.06	0	0	0	0.25	2.48	0.05	0.26	16.80
1957	2.81	4.06	3.34	1.65	3.56	0.06	0	0	1.64	2.94	0.52	3.78	24.36
1958	5.48	9.14	7.06	6.06	0.29	0.24	0	0.04	0.10	0.31	0.16	1.42	30.30

STATION HISTORY

The weather observing station on the University of California campus in Berkeley is very near the base of the adjoining foothills and at the upper edge of the coastal plain. Here the first regular weather observations were started on October 16, 1886, utilizing maximum and minimum thermometers and a psychrometer mounted in a window shelter, some 5 to 7 feet off the ground, on the north side of the Astronomical Observatory Building. The Observatory stood on a knoll at the north side of the Campus. The latitude is given as 37° 52', the longitude as 122° 16'. The raingage in use at this time was identified as "somewhat inaccurate," and its type and exact location are unknown. A standard 8-inch rain gage was placed in service about January 1st, 1890; it was moved to a ground exposure north of the Observatory Building in September, 1892. The elevation of the station at this point was given as 317 feet. On October 1, 1899, the gage was moved to the roof of the building, about 15 feet above ground.

Observations continued at this location at the Observatory Building at the University until the end of June, 1912, when the instruments were moved to a ground shelter about 65 feet south of the previous location, the rain gage remaining on the roof of the Observatory. Duplicate readings from the window exposure and the ground location are available for a period of about 3 years.

On September 9, 1923, the entire station was moved about 1/4 mile southeast, to a location on the lawn southwest of Sather Tower and across the road southeast of South Hall. The station elevation was 308 feet, and the rain gage was mounted on top of the instrument shelter, with the catch ring about 11 feet above the ground. The next move was made on July 1, 1925, when the gage was moved to the southwest corner of the roof of Wheeler Hall. (A tipping bucket rain gage had been installed on the roof of Wheeler Hall in September, 1924.) The ground elevation here was 299 feet. At that time an anemometer, wind vane, and sunshine switch were installed on the roof of South Hall, about 73 feet above ground, with the triple register located in the basement.

STATION HISTORY-Cont'd.

On April 24, 1947, the instrument shelter was moved to the north side of South Hall, the other instruments remaining where they were.

The Department of Astronomy staff served as the observers from October 1886 to June 1912, and since that time the Department of Geography has assumed responsibility for the observations.

The original Daily Record Book for the period from December 1886 to August 1892 and from May 1895 to January 4, 1911, as well as the original precipitation records 1886 to 1912 are on file at Bancroft Library at the University. Other original records are in the Geography Department files. Temperature and precipitation data have been published in the California Climatological Data since the beginning of record; they also appeared in the California State Weather Service Bulletin from 1886 to 1896. Precipitation data by months and years has been summarized in the Weather Bureau's Bulletin W series, and hourly precipitation data appear in the Hourly Precipitation Data publication (formerly the Hydrologic Bulletin). Wind, sunshine, and humidity data have not appeared in these publications, but the University printed monthly and annual summaries until 1933. Manuscript records have been kept since then.

Since 1931 precipitation records and since 1934 temperature records have been kept at various points within the city by a group consisting of Drs. Sanchez, Hardy, and Oulton, and Judge Staats. It is this record that has been carried within recent years by the Berkeley Gazette. However, the present publication has been prepared without using these supplementary observations.