

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.
CHARLES F. MARVIN, Chief.

CLIMATOLOGICAL DATA.

CALIFORNIA SECTION
EDWARD A. BEALS, METEOROLOGIST.

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GENERAL SUMMARY.

Seasonable weather prevailed in California during June. Along the coast the month was somewhat warmer than normal, while abnormally cold weather prevailed in the foothills and mountains. Several hot spells occurred during which the temperature rose above 100° in the interior valleys, and temperatures above 110° were recorded in the Imperial Valley and the southeastern desert regions. On the other hand, temperatures below freezing occurred on several mornings at various elevated stations. Thunderstorms accompanied by little or no rainfall were of frequent occurrence in the Sierra Nevada Mountains, and lightning caused numerous forest fires. Abundant sunshine was received in the interior valleys. As is usual during summer, there was much fog and cloud along the coast. Precipitation was light, as is usual during June. The only rainfall of consequence was recorded in the extreme north portion of the State. Wind movement was light. Hot, desiccating northerly winds were experienced in the interior valleys on several occasions.

All growing crops made satisfactory progress during June. The supply of irrigation water was ample, and all irrigated crops made good progress toward maturity. It was a good month for making hay and for harvesting grain. Favorable weather caused the filling of heads of barley, wheat and oats, and when harvested these crops proved to be better than expected. The hot spell accelerated the growth and maturity of all growing crops, especially corn, rice, cotton and alfalfa. Along the coast beans and sugar beets were benefited by the frequent fogs, from which an ample supply of moisture was derived. While pastures continued to dry, as is usual during June, ranges in the elevated regions provided abundant feed for grazing stock, and cattle maintained an excellent condition. Favorable weather caused fruit and nuts to size up nicely, and while conditions were somewhat spotted, an optimistic feeling prevailed among growers. The condition of citrus fruit was excellent. Navel oranges set well, and the picking of Valencia oranges continued. Lemons were harvested and shipped in large quantities. At the close of the month the growing crops which showed a better condition than the 10-year average included oranges, lemons, wheat, and hay; those which showed a condition somewhat below the 10-year average included almonds, apricots, apples, berries, cotton, olives, peaches, pears, prunes, rice and walnuts.

A. H. P.

PRESSURE.

The mean sea-level pressure, determined from the records of 11 regular Weather Bureau stations, was 29.92 inches. The highest was 30.24 inches at Eureka on the 18th; the lowest was 29.56 inches at Independence on the 15th; the range for the State was 0.68 inch.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 97 stations was 68.7°, which is 0.3° below the normal.
The highest monthly mean was 91.6°, at Greenland Ranch; and the lowest was 51.6°, at Tamarack.
The highest temperature, 120°, occurred at Greenland Ranch on three days; and the lowest, 20°, occurred at Tamarack on the 16th.
The range for the State was 100°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 213 stations, was 0.16 inch, or 0.15 inch below the normal.
The greatest monthly amount was 2.30 inches, at Madeline. No rain fell at 101 stations.
The greatest amount in 24 hours was 1.05 inches at Madeline on the 15th.

RELATIVE HUMIDITY, SUNSHINE AND CLOUDINESS.

Stations.	Relative humidity Per cent.			Sunshine. Actual No. of hours	Per cent of possible.
	5 a.m.	5 p.m.	Mean.		
Eureka.....	91	77	84	228	50
Fresno.....	62	21	42	427	97
Independence.....	38	16	27	380	86
Los Angeles.....	91	67	79	250	58
Mount Tamalpais.....	63	28	46	399	89
Red Bluff.....	82	41	62	361	82
Sacramento.....	88	76	82	234	55
San Diego.....	85	65	75	377	85
San Francisco.....	51	51	51	376	86
San Jose.....	83	61	72	361	83
San Luis Obispo.....	83	61	72	361	83

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date.	Prev. dir.
Eureka.....	4,488	6.2	25	n.	30	n.
Fresno.....	7,760	10.8	31	n.w.	14	n.w.
Independence.....	4,604	6.4	34	sw.	22	s.
Los Angeles.....	3,734	5.2	18	sw.	16	sw.
Mount Tamalpais.....	21,269	29.5	61	n.w.	5	n.w.
Red Bluff.....	4,401	6.1	23	n.w.	21	dw.
Sacramento.....	6,253	8.7	24	s.	13	s.
San Diego.....	3,943	5.5	18	n.w.	25	w.
San Francisco.....	3,294	11.5	43	w.	15	w.
San Jose.....	5,040	7.0	28	n.w.	15	n.w.
San Luis Obispo.....	3,605	5.0	24	w.	15	n.w.

COMPARATIVE DATA FOR JUNE.

Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.
1898.....	71.3	0.25	1904.....	71.1	0.04	1910.....	67.3	0.05	1916.....	65.2	0.22
1899.....	71.5	0.57	1905.....	67.5	0.07	1911.....	66.7	0.15	1917.....	69.2	0.02
1900.....	71.4	0.19	1906.....	66.7	1.05	1912.....	68.0	0.49	1918.....	72.5	0.12
1901.....	70.5	0.01	1907.....	66.1	1.02	1913.....	65.8	0.27	1919.....	67.9	0.01
1902.....	70.2	0.10	1908.....	66.0	0.17	1914.....	66.4	0.85	1920.....	67.3	0.42
1903.....	70.9	0.07	1909.....	68.1	0.19	1915.....	67.3	0.01	1921.....	68.7	0.16

Daily evaporation (inches) and wind movement (miles) for June.

Stations.	Data.	Day of Month.																															Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Chula Vista**.....	Evaporation.....	204	113	190	141	172	165	178	176	232	194	132	096	148	181	262	263	232	226	241	245	248	240	159	233	241	248	237	260	239	241	.....	6,117
	Wind movement.....	111	84	113	99	113	89	84	121	135	83	102	69	92	117	125	129	115	102	80	121	153	115	96	118	112	122	88	103	94	106	.....	3,191
Dodgeland*.....	Evaporation.....	129	231	339	289	203	300	375	146	367	487	400	376	424	223	308	212	205	174	311	472	369	514	439	285	196	273	156	464	379	111	.....	9,159
	Wind movement.....	19	21	14	12	8	47	50	29	22	34	43	37	48	72	44	54	30	36	16	85	77	86	22	32	18	20	28	39	49	11	.....	1,103
Oakdale (near)*.....	Evaporation.....	249	347	222	339	383	457	559	399	504	586	666	555	570	423	438	222	342	378	464	493	608	496	629	494	406	412	430	497	446	357	.....	13,373
	Wind movement.....	130	145	105	150	120	90	130	130	180	170	170	145	145	160	160	130	165	95	130	135	145	75	145	150	155	125	140	160	170	190	.....	4,230
Tahoe**.....	Evaporation.....	110	130	.....	120	140	140	200	180	140	150	220	200	260	180	140	220	150	100	190	170	190	200	250	180	210	190	250	210	190	130	.....	5,317
	Wind movement.....	65	10	29	36	36	39	48	27	23	33	28	66	71	36	53	42	44	46	62	15	9	12	33	44	33	22	20	62	51	31	.....	1,106

* Observations taken at 7 a. m.; ** at 8 a. m. † Included in the next following entry.

Climatological Data for June, 1921.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.			Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall (un-melted).	Precipitation 0.1 inch or more.	Clear.	Partly cloudy.		Cloudy.	Prevailing direction of wind.
Antioch.....	Contra Costa.....	46	41	75.4	+3.4	106	21	43	12	57	0	-11	0	0	0	30	0	0	e.	C. G. McDaniel.
Atascadero.....	San Luis Obispo.....	837	4	61.6	.....	103	21	35	16	52	0	.....	0	0	0	27	2	1	w.	Colony Holding Corp.
Bakersfield.....	Kern.....	404	31	77.4	-1.4	109	22	50	16	40	0	-03	0	0	0	25	5	0	nw.	Santa Fe Co.
Barstow.....	San Bernardino.....	2,105	17	.....	.....	.....	.....	.....	.....	.....	0	0	0	0	0	0	0	0	.....	E. L. White.
Berkeley.....	Alameda.....	317	33	63.8	+2.4	93	21	44	1	33	0	-20	0	0	0	22	4	4	sw.	State University.
Blue Canon.....	Placer.....	4,695	21	59.2	-1.2	80	11	35	16	30	.40	-70	.40	2.0	1	25	0	5	n.	Southern Pacific Co.
Blythe.....	Riverside.....	268	11	85.3	.....	115	21	53	16	48	0	.....	0	0	0	26	4	0	sw.	Palo Verde Water Co.
Bonita.....	San Diego.....	110	4	65.5	.....	87	19	47	17	38	T.	.....	T.	0	0	21	7	2	w.	R. M. Allen.
Branscomb.....	Mendocino.....	2,000	20	59.6	+0.7	98	21	34	1	44	.56	-83	.46	0	2	18	11	1	n	A. J. Haun.
Brawley.....	Imperial.....	-105	10	85.0	.....	111	21	56	17	42	0	.....	0	0	0	0	0	0	s.	M. D. Ritter
Calxico.....	Imperial.....	0	15	84.2	+0.8	110	21	57	11	46	0	-03	0	0	25	3	2	s.	H. M. Wousser	
Chico.....	Butte.....	189	50	75.2	-1.9	108	22	44	16	49	T.	-43	T.	0	0	27	1	2	sw.	U. S. Bureau Plant Ind.
Chula Vista.....	San Diego.....	9	2	62.2	.....	72	19	51	16	48	.01	.....	.01	0	1	9	17	4	nw.	Western Salt Works.
Claremont.....	Los Angeles.....	1,200	28	67.1	-0.1	94	20	45	17	40	.03	.....	.03	0	1	21	5	4	w.	Prof. F. P. Brackett.
Cloverdale.....	Sonoma.....	340	18	67.2	-1.2	103	22	42	1	47	.01	-26	.01	0	1	28	1	1	w.	John O. Ogle.
Colfax.....	Placer.....	2,421	49	68.6	-2.6	97	20	43	14	35	.55	-14	.55	0	1	26	3	1	n.	Southern Pacific Co.
Colusa.....	Colusa.....	60	17	73.8	+2.4	104	22	48	1	38	.30	-03	.30	0	1	28	1	1	se.	E. A. Hutchins.
Corona.....	Riverside.....	615	6	70.2	.....	101	20	42	1	48	.08	.....	.08	0	3	23	5	2	w.	Edwin T. Brink.
Crescent City.....	Del Norte.....	125	6	58.2	.....	81	23	47	12	32	2.02	+38	.91	0	8	14	8	8	s.	Thos. E. Peacock.
Davis.....	Yolo.....	51	48	73.6	-1.2	112	22	42	11	51	0	-17	0	0	0	22	7	1	sw.	Prof. S. H. Beckett.
Dodge Land.....	Butte.....	160	25	73.9	.....	105	23	49	1	42	.12	.....	.12	0	1	20	8	2	n.	Dodge Land Co.
El Cajon.....	San Diego.....	482	21	66.6	-0.6	92	19	45	15	45	0	-11	0	0	0	24	5	1	sw.	Eugene P. Kessler.
Elsinore.....	Riverside.....	1,300	4	72.5	.....	104	22	46	1	46	0	-04	0	0	0	15	6	9	nw.	W. L. Wilhite.
Escondido-1.....	San Diego.....	742	26	66.0	-2.2	91	19	43	17	43	.06	-04	.04	0	2	22	3	5	w.	H. L. Harlow.
EUREKA.....	Humboldt.....	64	34	57.2	+2.6	69	10	46	3	16	1.30	+24	.55	0	6	7	10	13	n.	U. S. Weather Bureau.
Folsom.....	Sacramento.....	552	47	73.3	-0.3	108	20	43	11	40	0	-23	0	0	0	27	2	1	n.	Mrs. G. I. Marvin.
Fontana.....	San Bernardino.....	1,325	8	70.0	.....	98	20	43	18	40	0	.....	0	0	0	26	4	0	sw.	Fontana Land Co.
Fordyce Dam.....	Nevada.....	6,500	26	52.7	-1.2	82	21	31	3	41	1.82	+29	.72	4.0	0	11	13	1	sw.	E. E. Roening.
Fort Bidwell.....	Modoc.....	4,375	31	62.5	-1.7	88	23	30	17	40	.50	-48	.38	0	4	19	11	0	n.	C. R. DeClous.
FRESNO.....	Fresno.....	233	33	76.0	+0.2	107	22	50	1	35	.01	-09	.01	0	1	25	4	1	sw.	U. S. Weather Bureau.
Grass Valley.....	Nevada.....	2,690	48	67.7	+2.9	96	6	40	16	32	.59	-14	.32	0	2	19	6	5	sw.	Mrs. L. M. Wentworth.
Greenland Ranch.....	Inyo.....	-178	9	91.6	.....	120	10	50	17	43	0	.....	0	0	0	26	0	2	n.	O. A. Denton.
Hanford.....	Kings.....	249	20	76.6	+1.2	108	21	46	15	46	.04	-03	.02	0	2	26	0	4	n.	Santa Fe Co.
Healdsburg.....	Sonoma.....	110	27	69.4	+3.5	109	21	39	1	48	0	-35	0	0	0	24	6	0	s.	Dr. F. J. Kinley.
Hollister.....	San Benito.....	284	46	66.0	+0.1	100	21	44	1	42	0	-13	0	0	0	28	1	1	w.	Grangers' Union.
INDEPENDENCE.....	Inyo.....	3,957	24	74.3	+0.9	100	11	44	16	37	.01	-07	.01	0	1	23	5	2	s.	U. S. Weather Bureau.
Indio.....	Riverside.....	-20	42	88.2	-0.1	114	21	61	17	40	0	0	0	0	0	21	6	3	nw.	U. S. Bureau Plant Ind.
Inskip.....	Butte.....	4,375	13	60.9	+2.6	86	12	35	15	30	.38	-17	.21	0	3	21	5	4	sw.	Pacific Gas & Electric Co.
Kennett.....	Shasta.....	730	8	76.8	.....	107	22	42	15	41	.10	-15	.10	0	1	27	1	2	ne.	Mammoth Copper Mine.
La Forte.....	Plumas.....	5,000	26	64.4	-1.8	89	21	31	14	38	.33	-103	.29	0	2	15	11	4	nw.	Wm. Schul.
Lemon Cove.....	Tulare.....	6	26	75.5	-0.5	110	22	44	16	38	.04	-05	.04	0	1	26	3	3	n.	Lick Observatory.
Lick Observatory.....	Santa Clara.....	4,209	31	61.2	+1.2	90	22	34	16	29	0	-40	0	0	0	22	4	1	sw.	Basil Prior.
Lindsay.....	Tulare.....	384	6	74.8	.....	110	22	44	16	43	.01	.....	.01	0	1	22	7	1	sw.	George D. West.
Long Beach.....	Los Angeles.....	50	0	63.9	.....	82	118	45	1	36	0	.....	0	0	0	15	13	2	sw.	U. S. Weather Bureau.
LOS ANGELES.....	Los Angeles.....	293	43	65.8	-0.9	85	19	54	1	24	.01	-06	.01	0	1	12	13	0	sw.	U. S. Weather Bureau.
McCloud.....	Siskiyou.....	3,270	10	59.0	.....	90	22	29	16	50	T.	.....	T.	0	0	19	11	0	s.	McCloud River Lbr. Co.
Marysville.....	Yuba.....	67	49	73.7	-2.5	108	22	47	1	40	T.	-25	T.	0	0	26	2	2	s.	Southern Pacific Co.
Mecca.....	Riverside.....	-185	14	86.4	+2.7	113	21	62	17	38	0	0	0	0	0	25	4	1	se.	Cooperative Date Garden.
Merced.....	Merced.....	173	46	75.4	+0.1	108	22	48	1	42	0	-12	0	0	0	30	0	0	nw.	Santa Fe Co.
MT. TAMALPAIS.....	Marin.....	2,375	21	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Weather Bureau.
Mount Wilson.....	Los Angeles.....	5,704	3	66.8	.....	90	11	37	17	27	0	.....	0	0	0	25	3	2	sw.	Solar Observatory.
Napa.....	Napa.....	103	10	68.0	+2.6	103	10	40	1	45	T.	-21	T.	0	0	26	4	0	sw.	State Hospital
Needles.....	San Bernardino.....	477	28	83.2	+0.9	116	21	57	1	47	T.	-01	T.	0	0	23	2	5	w.	Santa Fe Co.
Nevada City.....	Nevada.....	2,850	28	63.0	+0.3	95	22	30	17	43	.63	-02	.41	0	2	25	3	2	w.	B. H. Preston.
Newman.....	Stanislaus.....	91	31	71.4	-5.1	105	22	41	1	50	0	-06	0	0	0	28	4	0	nw.	S. S. Wangenheim.
Oakdale (near).....	Stanislaus.....	215	2	70.8	-1.1	108	23	44	1	47	T.	-21	T.	0	0	28	2	0	.....	S. San Joaquin Irr. Dist.
Oakland.....	Alameda.....	322	44	62.8	+1.3	88	21	45	1	28	T.	-30	T.	0	0	16	12	2	w.	Chabot Observatory.
Ojai.....	Ventura.....	900	14	67.8	+2.8	101	20	40	16	45	.03	-10	.02	0	2	24	4	2	sw.	W. H. Duncan.
Orland.....	Glenn.....	254	38	75.8	-2.9	108	22	49	16	39	.16	-18	.14	0	2	24	6	0	se.	U. S. Rec. Service.
Oroville (near).....	Butte.....	250	36	74.4	-0.1	109	23	50	12	47	T.	-37	T.	0	0	27	3	0	sw.	William Noyes.
Pasadena.....	Los Angeles.....	805	30	67.0	-3.6	92	20	46	1	39	0	-01	0	0	0	19	7	4	sw.	Morris S. Jones.
Paso Robles-1.....	San Luis Obispo.....	800	33	69.5	+1.3	106	21	49	16	51	T.	-03	T.	0	0	24	5	1	sw.	Mrs. A. F. Campbell.
Petaluma.....	Sonoma.....	9	6	67.4	.....	102	21	49	11	31	.02	-25	.02	0	1	26	4	0	w.	John Landis.
Placerville.....	El Dorado.....	1,925	31	66.2	-0.2	100	22	39	11	52	.05	-61	.05	0	1	25	0	5	w.	O. E. Bailey.
POINT REYES.....	Marin.....	490	28	53.4	+0.6	71	22	47	1	20	.02	-23	.02	0	1	10	7	13	nw.	U. S. Weather Bureau.
Pomona.....	Los Angeles.....	857	6	68.2	.....	95	20	43	1	46	.02	.....	.02	0	1	6	24	0	sw.	J. E. Adamson.
Porterville.....	Tulare.....	464	31	75.0	-2.8	109	22	40	17	42	T.	-11	T.	0	0	29	1	0	nw	

Daily Temperature for June, 1921.

Table with 32 columns for stations (1-31) and a Mean column. Rows list various California cities like Bakersfield, Calexico, Chico, Escondido, Eureka, Fresno, Independence, Los Angeles, Merced, Oakland, Orland, Oroville, Pasadena, Paso Robles, Point Reyes, Pomona, Porterville, Red Bluff, Redlands, Sacramento, San Bernardino, San Diego, San Francisco, San Jose, San Luis Obispo, Santa Barbara, Santa Rosa, and Stockton. Each city has two rows for Maximum and Minimum temperatures.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with 12 columns: Stations, Drainage-basin, Precip. inches. Lists precipitation data for various locations such as Abbots, Aruanga, Amago, Angiola, Antelope Valley, Arrowhead Springs, Auberry, Auburn, Avalon, Bagdad, Barrett Dam, Beaumont, Beaumont (near), Bellota, Benson's Ferry, Betteravia, Big Bar, Big Sur, Bishop Creek, Calaveras R. S., Campbell, Campo, Camptonville, Canon Dam, Casacada, Cedarville, Centerville Pwr. H., Chester, China Flat, Churn Creek, Clovis, Coalinga, Colgate, Crockett, Cuyamaca, Deer Creek, Del Monte, Denair, De Sable, Dinuba, Dobbins (near), Downville, Dudley, Dunesley, East Park, Edison, Emigrant Gap, Escondido-2, Fairmont, Firebaugh, Fort Bragg, Fort Koss, Friant, Georgetown, Giant Forest, Glacier Point, Glennville, Gray Mountain, Happy Camp, Hayfork, Head Dam, Helen Mine, Hetch Hetchy, Hot Springs, Hullville (near), Huntington Lake, Idria, John Lind, Jolon, Julian, Kennedy Mine, Kentfield, Kernville, King City, Knights Landing, Lake Eleanor, Lakeport, Lake Spaulding, Lake Tahoe, Las Plumas, Lathrop, Le Grand, Livermore, Livingston, Llano, Lompoc, Los Alamos, Los Gatos, Lytle Creek, Madeline, Maricopa, Mariposa, Mardeleville, Melones, Merced Falls, Mesa Grande, Middlewater, Mill Creek, Mill Creek-2, Milo, Milton (near), Mokelumne Hill, Monroeville, Montague, Nellie, Nicolaus, North Bloomfield, North Fork, Oak Grove, Orleans, Parkfield, Paso Robles-2, Pattiway, Peachland, Piedra, Point Loma, Portola, Priest Valley, Quincy, Reedley, Represa, Rio Vista, St. Helena, St. John, San Miguel Island, Santa Ana River, Santa Clara, Santa Maria, Santa Monica, Seven Oaks, Shield's Ranch, Shivelly, Sierraville, Sonora, Spaulding, Standish, Sterling, Storey, Tamarack, Tejon Rancho, Three Rivers, Trona, Turlock, Tustin (near), Twin Lakes, Twin Valley, Upper Mattole, Walnut Creek, Warner Springs, Wasco, Wasoia, West Branch, West Point, Westwood, Wrights, Yorba Linda.

*Data obtained from 3-inch rain gage.