

# CLIMATOLOGICAL DATA.

## CALIFORNIA SECTION

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### GENERAL SUMMARY.

Extraordinary weather prevailed in California during May. It was abnormally cold throughout the State. Heavy rain fell in southern California, and considerable snow fell in the Sierra Nevada Mountains. The first week was cold, and at many stations new records of extreme minimum temperatures for a month of May were established. An abrupt rise in temperature occurred during the second week, when maximum temperatures above 100° were recorded in the southeastern portion of the State. Cool and cloudy weather prevailed during the third week, and southern California received heavy precipitation. A total of 8.78 inches of rain was recorded at Mount Wilson, near Pasadena, during four days, May 20-23, inclusive. Seasonable weather prevailed at most places during the last ten days of the month. Sunshine was markedly deficient. In the Santa Clara Valley it was the cloudiest May on record. A brilliant aurora borealis was observed throughout the State on the evening of the 14th. An aurora is a rare phenomenon in California, and many residents observed this phenomenon for the first time. It was also faintly visible in the northern portion of the State on the evenings of the 13th and 15th.

Agriculture prospered in spite of the freakish weather. Because of deficient sunshine deciduous fruit made slow but even progress toward maturity. Berry and cherry crops were harvested in large quantities, but somewhat later than usual. In the southern portion of the State the heavy rains were beneficial to late sown grain, citrus orchards, truck and forage crops. However, considerable damage was done to hay where it had been cut and was still down in the field; much of it was stained, and some was entirely lost. Water supplies were replenished by the timely rains, and at least one irrigation was rendered unnecessary. Throughout the northern portion of the State, where the precipitation was more nearly normal, the showers came at opportune times, and this fact, together with the low temperatures, caused the wheat and barley crops to fill slowly, thus improving the condition of these crops. Rice, beans and corn were planted, with the soil carrying more than the usual amount of moisture, and in excellent condition for germination. The subsequent warm weather was favorable for top growth. At the close of the month the general agricultural situation was satisfactory, and the outlook for the future was favorable. During the coming summer there will be an ample amount of water available for irrigation and hydroelectric power.

A. H. P.

### PRESSURE.

The mean sea-level pressure, determined from the records of ten regular Weather Bureau stations, was 29.94 inches. The highest was 30.26 inches at Red Bluff on the 2nd; the lowest was 29.45 inches at Red Bluff on the 27th; the range for the State was 0.81 inch.

### TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 99 stations was 58.3°, which is 3.8° below the normal. The highest monthly mean was 75.2°, at Needles; and the lowest was 39.8°, at Summit. The highest temperature, 107°, occurred at Needles on the 13th, and at Greenland Ranch on the 26th, and the lowest, 13°, occurred at Tahoe on the 2nd. The range for the State was 94°.

### PRECIPITATION.

The average precipitation for the State, as shown by the records of 227 stations, was 2.10 inches, or 0.88 inch above the normal. The greatest monthly amount was 11.04 inches, at Mount Wilson. No rain fell at two stations.

The greatest amount in 24 hours was 5.69 inches at Mount Wilson on the 21st.

### RELATIVE HUMIDITY, SUNSHINE AND CLOUDINESS.

Stations.	Relative humidity Per cent.			Sunshine.	
	5 a.m.	5 p.m.	Mean.	Actual No. of hours	Per cent of possible.
Eureka.....	90	81	86	215	48
Fresno.....	72	32	356	81	
Independence.....	56	30	43	304	69
Los Angeles.....	91	72	82	164	42
Mount Tamalpais.....	75	44	62	350	78
Red Bluff.....	47	66	361	81	
Sacramento.....	55	75	80	210	54
San Diego.....	86	71	78	253	57
San Jose.....	58	58	76	221	50
San Luis Obispo.....	87	66	76	290	67

### WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date	Prev. dir.
Fresno.....	6,195	8.3	31	nw.	1	nw.
Independence.....	5,130	6.9	34	nw.	16	s.
Los Angeles.....	4,572	6.1	25	e.	5	sw.
Mount Tamalpais.....	17,034	22.9	59	nw.	14	nw.
Point Reyes.....	4,126	5.5	27	se.	1	se.
Red Bluff.....	6,479	8.3	34	sw.	1	s.
Sacramento.....	5,561	7.7	25	s.	20	sw.
San Diego.....	8,590	11.6	41	w.	15	w.
San Francisco.....	4,878	6.5	42	w.	1	nw.
San Jose.....	3,637	4.6	19	s.	1	nw.
San Luis Obispo.....						

### COMPARATIVE DATA FOR MAY.

Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.
1898....	61.3	1.56	1904....	64.9	0.22	1910....	63.5	0.18	1916....	58.1	0.61
1899....	59.9	0.73	1905....	59.6	2.15	1911....	60.7	0.72	1917....	57.2	0.75
1900....	64.0	1.39	1906....	59.8	3.19	1912....	60.7	1.02	1918....	58.0	0.37
1901....	62.0	1.03	1907....	61.5	0.57	1913....	62.3	1.04	1919....	63.3	0.32
1902....	60.8	0.84	1908....	58.0	1.63	1914....	62.3	0.69	1920....	61.7	0.20
1903....	63.5	0.14	1909....	60.4	0.23	1915....	57.6	4.13	1921....	58.3	2.10

### Daily evaporation (inches) and wind movement (miles) for May.

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.....	243	239	228	182	046	211	169	208	168	210	172	180	154	175	194	161	246	239	229	081	088	200	166	204	156	070	083	175	219	196	229	5,516
	Wind movement.....	180	126	121	88	111	174	91	101	92	111	90	62	81	102	166	173	215	128	109	135	112	147	85	122	114	83	98	127	128	98	1183	3,608
Dodgeland*.....	Evaporation.....	310	150	183	070	213	254	065	252	213	194	281	156	160	289	214	407	090	137	205	194	041	172	828	262	183	305	270	407	166	196	149	6,486
	Wind movement.....	57	123	8	15	41	60	24	16	24	17	18	16	14	30	23	38	44	18	70	23	35	33	56	73	30	23	7	87	74	36	75	1,217
Oakdale (near)*.....	Evaporation.....	356	321	399	295	381	339	290	203	190	315	345	448	318	252	233	301	337	123	152	134	107	149	332	336	310	317	371	456	304	223	292	8,532
	Wind movement.....	160	80	60	55	55	45	45	50	45	45	70	40	45	55	70	60	120	75	65	70	135	70	100	95	50	110	80	150	95	85	130	2,410
Tahoe**.....	Evaporation.....	140	130	080	080	080	160	210	140	140	130	150	160	100	150	120	160	080	000	090	110	080	100	120	060	130	120	060	50	200	120	030	3,480
	Wind movement.....	24	122	49	43	78	15	68	41	21	67	22	58	25	52	60	54	75	70	97	29	65	53	53	31	60	59	34	67	59	52	22	1,615

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

Climatological Data for May, 1921.

Table with columns: Stations, Counties, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Snowfall un-melted, Precipitation of inch or more), Number of days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.



Daily Temperature for May, 1921.

Table with columns for Stations, 1-31, and Mean. Rows include Bakersfield, Calexico, Chico, Escondido, Eureka, Fresno, Independence, Los Angeles, Merced, Mount Tamalpais, Oakland, Orland, Oroville, 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, Stockton.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with columns for Stations, Drainage-basin, and Precip. inches. Rows include Abbotts, Aguanga, Amago, Angiola, Antelope Valley, Arrowhead Springs, Aubrey, Auburn, Avalon, Bardad, Barrett Dam, Beaumont, Beaumont (near), Bellota, Benson's Ferry, Betteravia, Big Bar, Big Sur, Bishop Creek, Calaveras R. S., Campbell, Campo, Camptonville, Canon Dam, Casada, Cedarville, Centerville Pwr. H., Chester, China Flat, Churn Creek, Clovis, Coalinga, Colgate, Crockett, Cuyamaca, Deer Creek, Del Monte, Denair, De Saba, Dinuba, Dobbins (near), Downieville, Dudley, Dudleys, East Park, Elctra, Emigrant Gap, Escudido-2, Fairmont, Firebaugh, Fort Bragg, Fort Ross, Friant, Georgetown, Giant Forest, Glacier Point, Glennville, Gray Mountain, Happy Camp, Havortk, Head Dam, Helen Mine, Hetch Hetchy, Hot Springs, Hullville (near), Huntington Lake, Idria, Jenny 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, Lompoc, Los Alamos, Los Gatos, Lytle Creek, Madeline, Maricopa, Mariposa, Markleville, Melones, Merced Falls, Mesa Grande, Middlewater, Mill Creek-1, Mill Creek-2, Milo, Milton (near), Mokelumne Hill, Monroeville, Montague, Nellie, Nicolaus, North Bloomfield, North Fork, Oak Grove, Orleans, Ozeana, Parkfield, Paso Robles-2, Patchburg, Petchland, Piedra, Point Loma, Portola, Priest Valley, Quincy, Reedley, Repress, Rio Vista, Ruth, St. Helena, St. John, San Miguel Island, Santa Ana River, Santa Clara, Santa Maria, Santa Monica, Seven Oaks, Shield's Ranch, Shively, Sierraville, Sonora, Spaulding, Standish, Stirling, Storey, Tamaraek, Tejon Rancho, Three Rivers, Trona, Turlock, Tustin (near), Twin Lakes, Twin Valley, Upper Mattole, Walnut Creek, Warner Springs, Wasco, Wasioht, West Branch, West Point, Westwood, Wrights, Yorba Linda.

\*Data obtained from 3-inch rain gage.