

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

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GENERAL SUMMARY.

Seasonable temperatures prevailed in California during April, but the precipitation was deficient. For the State as a whole, the average precipitation was only 0.84 inch, or 47 per cent of the normal. The first half of the month was cool. Temperatures rose rapidly during the latter half of the month, however, and a hot wave, the first of the season, prevailed throughout the last week. During this hot wave temperatures above 90° occurred in the San Joaquin Valley, and maxima exceeding 100° were recorded in the southeastern plateau region. There were no wide-spread killing frosts, and no severe storms occurred. Sunshine was about normal, and the wind movement was high, as is usual during spring months. At Point Reyes velocities exceeding 40 miles per hour occurred on 11 days of the month. While little snow fell in the mountains, low temperatures during the first three weeks prevented that on the ground from melting rapidly. Streams maintained low stages until the last week of the month, when the hot wave caused rapid melting of snow in the mountains. Streams then rose rapidly, but no flood stages were attained.

In the extreme north portion of the State the total precipitation was somewhat above normal, due to heavy rains between the 3d and 6th, and between the 16th and 19th. Elsewhere precipitation was deficient, and what little rain fell occurred in the form of scattered, light showers. The only rain recorded in southern California fell during the occurrence of a local storm on the 26th-27th.

While the season was backward, agriculture prospered during April. The soil was in good condition, and there was extensive planting of cotton, rice, sugar beets, beans and truck crops. Dry weather favored the curing of grass and alfalfa. Damage from frost was inconsequential. However, on account of deficient rainfall grain crops headed prematurely, and valley pastures dried up earlier than usual. There was extensive cultivation of soil in the orchards for the purpose of conserving the moisture which remained. Artificial irrigation was necessary in places. Deciduous fruit set well, Valencia oranges blossomed in profusion, the harvesting of Navel oranges and lemons continued, and the first berries of the season appeared on the market. At the close of the month it appeared that there might be a shortage of irrigation water in the San Joaquin Valley, but that there would be an ample supply available for use elsewhere in the agricultural portions of the State. The agricultural situation was generally satisfactory, and there were excellent prospects for an unusually large fruit crop.

A. H. P.

PRESSURE.

The mean sea level pressure, determined from the records of twelve regular Weather Bureau stations, was 30.02 inches. The highest was 30.43 inches at Eureka on the 13th; the lowest was 29.62 inches at Independence on the 25th; the range for the State was 0.81 inch.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 100 stations, was 57.3°, which is 0.3° above the normal. The highest monthly mean was 74.6°, at Indio; and the lowest was 37.2°, at Tamarack. The highest temperature, 104°, occurred at Blythe on the 22d, and also at Greenland Ranch on the 30th; and the lowest, 10°, occurred at Tamarack on the 17th. The range for the State was 94°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 244 stations, was 0.84 inch, or 0.95 inch below the normal. The greatest monthly amount was 7.98 inches, at Upper Mattole. No rain fell at 24 stations. The greatest amount in 24 hours was 3.03 inches at Upper Mattole on the 17th.

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	92	82	87	199	50
Fresno	81	31	56	330	84
Independence	43	16	30	356	90
Los Angeles	85	60	72	280	71
Mount Tamalpais	66	61	63	335	85
Red Bluff	73	36	54	304	79
Sacramento	80	42	61	291	74
San Diego	88	74	81	264	68
San Francisco	84	70	77	247	62
San Jose	77	57	67	225	57
San Luis Obispo	84	66	75	267	68

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date.	Prev. dir.
Eureka	6,304	8.8	38	sw.	5	n.
Fresno	5,979	8.3	34	nw.	5	nw.
Independence	5,911	8.2	60	nw.	13	nw.
Los Angeles	4,255	5.9	24	w.	6	ne.
Mount Tamalpais	11,011	15.3	68	nw.	6	nw.
Point Reyes	15,383	21.4	65	nw.	6	nw.
Red Bluff	4,521	6.3	32	se.	5	se.
Sacramento	6,099	8.5	33	nw.	8	se.
San Diego	4,445	6.2	20	nw.	17	w.
San Francisco	6,668	9.3	30	sw.	1	sw.
San Jose	4,533	6.3	32	nw.	5	nw.
San Luis Obispo	3,537	4.9	21	ne.	14	nw.

COMPARATIVE DATA FOR APRIL.

Year.	Mean temp.	Ave. Precip.	Year.	Mean temp.	Ave. Precip.	Year.	Mean temp.	Ave. Precip.	Year.	Mean temp.	Ave. Precip.
1897	60.6	0.51	1903	54.8	1.25	1909	57.6	0.12	1915	56.0	1.85
1898	60.9	0.41	1904	57.2	2.18	1910	59.8	0.62	1916	57.1	0.52
1899	58.1	0.60	1905	57.2	1.18	1911	54.2	1.33	1917	52.8	1.58
1900	53.9	2.14	1906	56.3	1.68	1912	51.9	3.07	1918	53.5	0.79
1901	55.8	2.16	1907	58.2	1.11	1913	54.9	1.44	1919	57.3	0.84
1902	56.2	1.88	1908	58.4	0.67	1914	56.6	2.14			

The departures from the normal temperature and precipitation are computed only for such stations as have ten or more years of record, but all complete reports are used in determining section or division means. † Also on other dates. a, b, c, etc., indicate respectively, 1, 2, 3, etc., days missing from the record.

Daily evaporation (inches) and wind movement (miles) for April, 1919.

Stations.	Data.	Day of Month.																															Monthly.
		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**1.	Evaporation	0.78	0.95	1.56	1.68	1.37	2.02	1.83	1.94	1.78	1.91	1.76	1.92	2.00	1.96	2.29	2.08	2.01	2.19	2.10	2.04	2.09	2.04	2.24	2.32	2.24	1.00	1.53	1.96	1.71	1.44	.....	5.474
	Wind movement	76	84	87	127	121	117	142	124	5 93	84	96	87	105	98	99	112	115	108	99	107	102	128	136	137	143	99	117	133	109	93	.....	3,280
Dodgeland*2	Evaporation	1.57	1.68	1.68	1.96	1.53	2.05	1.37	2.46	2.26	1.95	1.18	1.58	1.36	2.79	2.06	2.13	2.44	0.75	2.15	2.04	1.94	2.65	2.02	2.55	1.55	0.47	2.98	1.91	1.96	1.35	.....	5.647
	Wind movement	25	26	26	128	87	95	90	5 79	58	63	45	44	60	62	35	29	96	115	81	95	37	16	28	78	43	50	44	28	30	14	.....	1,635
Oakdale (near)*3	Evaporation	1.27	1.54	1.26	1.01	1.16	0.87	1.34	1.56	1.86	1.88	1.16	1.77	1.04	1.98	1.71	1.99	2.12	2.00	1.70	2.27	2.65	2.56	2.01	2.20	1.07	1.04	1.45	1.59	1.40	1.50	.....	4.896
	Wind movement	61	73	68	88	79	92	127	147	109	5	87	93	88	184	139	50	76	83	71	97	107	98	72	101	72	64	53	63	70	.....	2,466	
Tahoe**4	Evaporation	0.50	0.80	1.10	0.20	0.80	0.75	0.45	0.50	0.60	0.40	0.40	1.15	0.00	0.00	0.80	1.30	0.90	0.55	1.45	1.60	1.15	0.95	1.05	0.45	1.00	2.50	0.70	0.70	0.70	0.80	.....	2,495
	Wind movement	61	78	63	43	49	97	132	68	68	82	64	66	76	67	61	57	88	152	71	67	57	82	32	35	78	100	78	62	48	36	.....	2,118

* Observation taken at 7 a. m.; ** at 8 a. m. † Included in next following entry. 1 Ele. 9 ft.; 10 miles SE of San Diego. 2 Ele. 125 ft.; 16 miles SW of Chico. 3 Ele. 215 ft.; Woodward Reservoir, 8 miles N of Oakdale. 4 Ele. 6230 feet; float in Lake Tahoe.

Climatological Data for April, 1919.

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, Precipitation on inch or more, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers. The table lists data for 100 stations across California, including Alturas, Antioch, Atascadero, Azusa, Bakersfield, Barstow, Berkeley, Betteravia, Blue Canon, Blythe, Bonita, Branscomb, Brawley, Calexico, Camptonville, Chico, Claremont, Cloverdale, Colfax, Corona, Crescent City, Davis, Downieville, Durham, El Cajon, Elsinore, Escondido, Eureka, Folsom, Fontana, Fort Bidwell, Fresno, Grass Valley, Greenland Ranch, Hanford, Healdsburg, Hollister, Independence, Inskip, Kennett, King City, La Porte, Lemon Cove, Lick Observatory, Lindsay, Lone Pine, Los Angeles, McClound, Madeline, Marysville, Mecca, Merced, Mount Tamalpais, Mount Wilson, Napa, Needles, Nevada City, Newman, Oakland, Orland, Oroville, Pasadena, Paso Robles, Petaluma, Placerville, Point Reyes, Pomona, Porterville, Portola, Red Bluff, Redding, Redlands, Riverside, Rocklin, Rohnerville, Sacramento, St. Helena, Salinas, San Bernardino, San Diego, San Francisco, San Jacinto, San Jose, San Luis Obispo, Santa Ana, Santa Barbara, Santa Cruz, Santa Rosa, Sisson, Spreckels, Squirrel Inn, Stockton, Summit, Ukiah, Visalia, Watsonville, Weaverly, Willow, Yosemite, and Yreka.

Daily Temperature for April, 1919.

Table with columns for Stations, days 1-31, and Mean. Rows list various California cities like 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, and Stockton.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with columns for Stations, Watersheds, and Precip. in inches. Rows list various locations and watersheds such as Abbots, Aguaanga, Angiola, Antelope Valley, Arrowhead Springs, Auburn, Avalon, Bagdad, Barrett Dam, Beaumont, Beaumont (near), Bellota, Big Bar, Big Sur, Bishop, Bishop Creek, Cahuilla, Calaveras R. S., Campbell, Campo, Canon Dam, Cascada, Cedarville, Centerville, Chester, China Flat, Chula Vista, Churn Creek, Clovis, Coalinga, Colgate, Colusa, Covelo, Crockett, Cuyamaca, Deer Creek, Del Monte, Denair, De Sable, Dinuba, Dobbins (near), Dodgeland, Dudley, Dudleys, Edison, Electra, Emigrant Gap, Fairmont, Firebaugh, Fordyce Dam, Fort Bragg, Fort Ross, Friant, Georgetown, Glennville, Goffs, Gold Run, Gray Mountain, Happy Camp, Hayfork, Head Dam, Helen Mine, Hetch Hetchy, Hullville (near), Huntington Lake, Idria, Indio, Jolon, Julian, Kennedy Mine, Kentfield, Kernville, Knights Landing, La Jolla, Lake Eleanor, Lake Spaulding, Las Plumas, Lathrop, Le Grand, Livermore, Llano, Lompoc, Lordsburg, Los Alamos, Los Gatos, Lytle Creek, Mariposa, Mariposa, Melones, Merced Falls, Mesa Grande, Middlewater, Mill Creek-1, Mill Creek-2, Milton (near), Mokelumne Hill, Monroeville, Montague, Montgomery Creek, Nellie, Nicolaus, Niles, North Bloomfield, North Fork, North Lakeport, Oakdale (near), Oak Grove, Oceanside, Ojai Valley, Orleans, Ozena, Parkfield, Paskitway, Peachland, Piedra, Priest Loma, Priest Valley, Quincy, Reedley, Represa, Rio Vista, Rosamond, Ruth, San Miguel Island, San Pedro, Santa Ana River, Santa Clara, Santa Maria, Santa Monica, Seven Oaks, Shively, Sierra Madre, Sierraville, Sonora, Springfield (near), Standish, Stanwood, Stenwood Creek, Storey, Tahoe, Tamarack, Tejon Rancho, Three Rivers, Towle, Truckee, Tustin (near), Twin Lakes, Twin Valley, Upper Mattole, Visalia, Walnut Creek, Warner Springs, Wasco, Wasojo, West Branch, West Point, Wrights, Yorba Linda.