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CALIFORNIA SECTION.

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GENERAL SUMMARY.

Seasonal weather prevailed in California during July. The usual midsummer heat occurred in the interior valleys, while cool winds and ocean fogs kept the temperatures relatively low along the coast. During the hot spell of the 8th and 9th of the month, temperatures of 110° and over were common in the Sacramento, San Joaquin and Imperial Valleys. The drought continued unbroken, and streams maintained abnormally low stages. There was growing anxiety that the supply of water stored for irrigation and power purposes would be exhausted before the advent of the rainy season. The only rain of consequence was that which accompanied thunderstorms in the desert plateau of the southeastern portion of the State. Thunderstorms, generally unaccompanied by rainfall, were also of frequent occurrence in Sierra Nevada Mountains, where forest fires resulted from lightning. Light snow fell on the summit of Mount Whitney on the 22d. Cloudless skies prevailed in the interior valleys. The wind movement was about normal. At Point Reyes, one of the coolest places in the United States in midsummer, the mean temperature was under 53°, and the extreme maximum was but 71°. Fog occurred there on 22 days of the month, and wind velocities exceeding 40 miles per hour were recorded on 12 days of the month.

Agriculturally, the weather during July was generally satisfactory. Farm work in general, and harvesting in particular proceeded without interruption. Ideal weather prevailed for the gathering of a great variety of fruits and grains. The unbroken sunshine was well adapted for the curing of fruit, grain, hay and alfalfa. Considering the long continued drought, ranges maintained a fair condition, and grazing stock found ample feed. The dropping of citrus fruit was diminished, and sugar beets, corn, rice, cotton, hops, beans, potatoes and truck crops did well. The hot spell slightly injured grapes and prunes, some rice fields were abandoned on account of deficient water, and olives gave promise of a poor yield on account of the occurrence of unfavorable weather at the time of blossoming. However, at the close of the month the agricultural situation was generally good, and for many crops the conditions were the best in years.

A. H. P.

PRESSURE.

The mean sea level pressure, determined from the records of twelve regular Weather Bureau stations, was 29.91 inches. The highest was 30.21 inches at Eureka on the 29th; the lowest was 29.60 inches at Red Bluff on the 26th; the range for the State was 0.61 inch.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 99 stations, was 72.4°, which is 1.6° below the normal. The highest monthly mean was 96.2°, at Bagdad; and the lowest was 52.8°, at Point Reyes. The highest temperature, 119°, occurred at Blythe on the 9th, and also at Bagdad on the 25th; and the lowest, 23°, occurred at Portola on the 30th. The range for the State was 96°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 230 stations, was 0.01 inch, or 0.03 inch below the normal. The greatest monthly amount was 2.47 inches, at Warner Springs. No rain fell at 191 stations. The greatest amount in 24 hours was 1.26 inches at Warner Springs 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	Percent of possible.
Eureka	92	81	86	230	50
Fresno	47	15	31	443	99
Independence	41	16	28	393	88
Los Angeles	87	59	73	388	88
Mount Tamalpais	42	37	40	445	99
Red Bluff	49	16	32	449	99
Sacramento	80	32	66	442	98
San Diego	88	74	81	336	77
San Francisco	89	75	82	293	65
San Jose	88	75	81	385	86
San Luis Obispo	91	54	72	368	83

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date.	Prev. dir.
Eureka	4,938	6.6	28	n.	6	nw.
Fresno	5,576	8.8	25	nw.	9	nw.
Independence	4,414	5.9	29	se.	1	se.
Los Angeles	4,088	5.5	16	sw.	19	sw.
Mount Tamalpais	9,746	13.1	58	nw.	11	nw.
Point Reyes	15,166	20.4	55	nw.	12	nw.
Red Bluff	3,558	4.8	20	nw.	7	se.
Sacramento	6,767	9.1	23	s.	28	s.
San Diego	4,738	5.6	17	nw.	29	w.
San Francisco	10,472	14.1	36	w.	21	sw.
San Jose	4,401	5.9	28	se.	27	nw.
San Luis Obispo	2,597	3.5	12	w.	28	nw.

COMPARATIVE DATA FOR JULY.

Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.
1897	74.5	0.01	1903	71.2	0.03	1909	71.2	0.05	1915	72.7	0.06
1898	81.4	T.	1904	72.2	0.09	1910	75.5	0.10	1916	70.3	0.31
1899	77.9	T.	1905	74.8	0.01	1911	74.1	0.10	1917	75.8	0.08
1900	75.9	T.	1906	76.8	0.04	1912	71.0	0.06	1918	71.5	0.07
1901	76.0	0.01	1907	73.1	0.03	1913	73.1	0.46	1919	72.4	0.01
1902	72.8	0.07	1908	76.4	0.04	1914	72.4	0.06			

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 July, 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.....	.235	.223	.259	.249	.210	.234	.251	.273	.296	.261	.219	.247	.254	.270	.236	.255	.186	.243	.229	.273	.252	.251	.258	.254	.258	.230	.180	.280	.280	.244	.229	7.619
	Wind movement.....	163	97	113	109	94	91	91	89	118	103	114	91	100	95	125	128	103	108	93	125	127	131	102	104	108	125	95	109	134	109	102	3.336
Dodgeland*2.	Evaporation.....	.349	.383	.321	.403	.476	.362	.297	.400	.437	.483	.589	.422	.412	.368	.468	.322	.411	.385	.496	.419	.435	.440	.412	.500	.292	.357	.454	.487	.325	.303	.337	12.545
	Wind movement.....	50	71	36	47	87	62	33	45	61	76	56	43	51	45	65	41	42	40	61	69	64	71	77	97	44	28	55	83	91	30	52	1,773
Oakdale (near)*3.	Evaporation.....	.430	.220	.439	.515	.449	.472	.450	.502	.651	.561	.629	.597	.550	.471	.523	.539	.548	.504	.516	.628	.526	.531	.515	.471	.488	.517	.565	.477	.403	.372	.438	15.497
	Wind movement.....	120	128	131	127	150	137	107	81	41	246	137	127	142	153	183	179	130	141	162	209	159	173	205	228	168	139	136	165	171	151	125	4,651
Tahoe**4.	Evaporation.....	.130	.250	.210	.070	.220	.270	.190	.280	.090	.120	.240	.200	.300	.230	.250	.160	.230	.180	.110	.280	.150	.250	.280	.360	.270	.270	.310	.390	.110	.240	6.900	
	Wind movement.....	74	110	112	34	76	108	107	4	107	28	19	180	37	59	70	47	107	36	28	47	113	18	9	77	88	124	122	3	94	123	108	2,269

* 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 July, 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, etc.), Number of days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers.

Daily Temperature for July, 1919.

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, 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. Each city has two rows for Maximum and Minimum temperatures.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with 12 columns: Stations, Watersheds, Precip. inches. It lists precipitation data for various locations including Abbots, Aruanga, Angiola, Antelope Valley, Arrowhead Springs, Auburn, Avalon, Bagdad, Barrett Dam, Beaumont, Beaumont (near), Bellota, Big Bar, Big Sur, Bishop, Bishop Creek, Cahulla, Calaveras R. S., Campbells, Campo, Canon Dam, Cascaeda, Cedarville, Centerville, Chester, China Flat, Chula Vista, Churn Creek, Clovis, Coalinga, Colgate, Colusa, Covelo, Crockett, Chaymaca, Deer Creek, Del Monte, Denairst, De Sabla, and Dinuba. Each entry includes the watershed name and precipitation amount in inches.