

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

EDWARD A. BEALS, METEOROLOGIST.

Vol. XXIV. SAN FRANCISCO, AUGUST, 1920. No. 8.

GENERAL SUMMARY.

Hot and dry weather prevailed throughout California during the first half of August, and cool and dry weather during the latter half. Fog was of frequent occurrence along the coast, while sunshine was abundant in the interior valleys. During the hot spell of the first half of the month, temperatures of 110° or higher were common in the Sacramento and San Joaquin Valleys. At Greenland Ranch, in Death Valley, the temperature rose above 100° on 27 days. In the mountain regions violent thunderstorms were of frequent occurrence. The Forest Service is authority for the statement that 235 forest fires were caused by lightning in a series of extremely violent storms which passed over the mountains of northern California on the 8th. Freakish weather was experienced throughout the State from the 24th to the 26th. Snow fell in the Sierra Nevada Mountains, the greatest amount recorded being one inch at Huntington Lake, Fresno Country, altitude 7,000 feet. Electrical storms accompanied by wind and hail occurred in the valleys. At Indio, Riverside County, where heavy rain is a rare phenomenon, precipitation amounting to 3.61 inches fell in seven hours on the morning of the 24th. This downpour damaged roads and caused a washout on the railway. However, the larger streams of the State maintained abnormally low stages. Because of the water shortage, hydroelectric power was insufficient to meet the demand, and restrictions in its use had to be put into practice. There was a shortage of irrigation water in many portions of northern California.

The hot spell benefited citrus fruits, grapes, corn, sugar beets and rice, but injured the quality of deciduous fruit through too rapid maturity. Prunes and apricots were of uneven quality, and almonds were light in weight, due to the prolonged drought. Beans and vegetables grown in the interior valleys were damaged by heat and drought, and pastures and ranges deteriorated. Drying fruit suffered no injury from rainfall. Oranges and lemons continued to make excellent progress, but the condition of cotton was below that of last year. Some rice fields were abandoned because of water shortage. However, favorable weather conditions offset in large measure the unfavorable features, and the agricultural situation was generally good at the close of month. A great variety of crops was harvested under satisfactory weather conditions. While the total yield will probably not be as large as that of last year, owing to deficient precipitation during the preceding winter and spring, it is probable that the agricultural year as a whole will be considered satisfactory.

A. H. P.

PRESSURE.

The mean sea-level pressure, determined from the records of 12 regular Weather Bureau stations, was 29.91 inches. The highest was 30.21 inches at Eureka on the 27th; the lowest was 29.64 inches at Red Bluff on the 17th; the range for the State was 0.57 inch.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 98 stations, was 78.4°, which is 0.6° above the normal. The highest monthly mean was 98.8°, at Greenland Ranch; and the lowest was 51.8°, at Point Reyes. The highest temperature, 124°, occurred at Greenland Ranch on the 7th; and the lowest, 30°, occurred at Portola on the 19th. The range for the State was 94°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 249 stations, was 0.25 inch, or 0.17 inch above the normal. The greatest monthly amount was 3.61 inches, at Indio. No rain fell at 73 stations. The greatest amount in 24 hours was 3.61 inches at Indio on the 24th.

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.....	94	81	88	222	52
Fresno.....	50	18	34	403	96
Independence.....	41	20	30	359	85
Los Angeles.....	85	58	72	320	77
Mount Tamalpais.....	51	42	46	381	90
Red Bluff.....	51	18	34	392	92
Sacramento.....	73	27	50	400	94
San Diego.....	72	72	79	333	81
San Francisco.....	95	84	90	336	80
San Jose.....	51	51	51	359	86
San Luis Obispo.....	91	54	72	314	75

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date.	Prev dir.
Eureka.....	3,972	5.3	30	n.	18	sw.
Fresno.....	5,751	7.7	20	nw.	9	nw.
Independence.....	3,905	5.2	22	s.	24	s.
Los Angeles.....	3,951	5.3	18	w.	21	sw.
Mount Tamalpais.....	11,695	15.7	64	nw.	27	nw.
Red Bluff.....	12,566	16.9	58	nw.	28	nw.
Red Bluff.....	3,333	4.5	21	nw.	25	se.
Sacramento.....	5,808	7.8	28	s.	24	s.
San Diego.....	4,624	6.2	19	nw.	5	nw.
San Francisco.....	9,694	13.0	40	w.	6	sw.
San Jose.....	4,501	6.0	24	sw.	19	nw.
San Luis Obispo.....	2,631	3.5	17	nw.	27	nw.

COMPARATIVE DATA FOR AUGUST.

Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.
1897.....	73.9	0.06	1908.....	72.6	0.02	1909.....	72.1	0.19	1915.....	74.2	0.06
1898.....	74.5	0.02	1904.....	73.9	0.17	1910.....	72.5	0.01	1916.....	73.2	0.20
1899.....	70.3	0.11	1905.....	73.4	0.03	1911.....	70.1	0.03	1917.....	72.5	0.04
1900.....	71.0	0.02	1906.....	73.6	0.13	1912.....	70.2	0.06	1918.....	71.4	0.14
1901.....	75.6	0.12	1907.....	71.0	0.11	1913.....	74.5	0.30	1919.....	72.1	0.03
1902.....	71.8	0.06	1908.....	73.3	0.12	1914.....	72.1	0.02	1920.....	73.4	0.25

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

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.....	216	218	246	253	294	278	214	212	253	276	274	141	232	227	245	281	255	165	141	260	248	270	241	238	278	271	253	236	240	228	204	7,414
	Wind movement.....	99	85	490	100	138	130	99	101	99	114	130	92	103	72	120	110	109	131	94	106	110	117	135	116	107	134	127	92	97	115	96	3,368
Dodgeland*	Evaporation.....	330	291	292	397	312	333	114	292	301	345	387	330	203	283	460	323	318	298	305	224	136	326	150	253	225	148	246	223	226	221	322	8,414
	Wind movement.....	33	16	22	29	45	18	22	25	27	12	19	20	19	27	19	8	15	29	14	15	34	21	36	17	57	54	35	8	13	43	28	770
Oakdale (near)*	Evaporation.....	480	530	564	487	440	483	514	508	468	424	512	453	593	551	670	673	617	546	390	373	386	436	378	447	134	254	185	315	380	350	413	15,990
	Wind movement.....	85	105	104	105	153	125	95	110	120	7	0	100	100	95	110	120	125	110	130	115	175	155	172	193	150	130	120	40	115	125	105	80
Tahoe**	Evaporation.....	210	230	281	260	250	170	150	240	360	320	240	260	220	280	290	250	250	260	270	310	300	190	220	290	110	060	160	150	170	120	220	7,090
	Wind movement.....	86	42	67	42	63	73	102	102	85	64	72	49	64	53	57	58	16	72	61	63	81	30	73	92	82	63	71	61	55	50	91	2,073

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

Climatological Data for August, 1920.

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 of inch or more, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers. Rows include stations like Antioch, Atascadero, Bakersfield, Barstow, Berkeley, Blue Canon, Blythe, Bonita, Branscomb, Brawley, Calexico, Chico, Chula Vista, Claremont, Cloverdale, Colfax, Colusa, Corona, Crescent City, Davis, Dodgeland, Durham, El Cajon, Elsinore, Escondido, EUREKA, Folsom, Fontana, Fort Bidwell, Fresno, Grass Valley, Greenland Ranch, Hanford, Healdsburg, Hollister, INDEPENDENCE, Indio, Inskip, Kennett, La Porte, Lemon Cove, Lick Observatory, Lindsay, Lone Pine, LOS ANGELES, McCloud, Marysville, Mecca, Merced, MOUNT TAMALPAIS, Mount Wilson, Napa, Needles, Nevada City, Newman, Oakdale (near), Oakdale, Ojai, Orland, Oroville (near), Pasadena, Paso Robles, Petaluma, Placerville, POINT RAVES, Pomona, Porterville, Portola, RED BLUFF, Redding, Redlands, Riverside, Rocklin, Rohrererville, 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, Serterre, Sisson, Spreckels, Squirrel Inn, Stockton, Summit, Tahoe, Ukiah, Visalia, Watsonville, Weaverville, Willows, Yosemite, Yreka.

Daily Temperature for AUGUST, 1920.

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. inches. Rows list various locations and watersheds such as Abbots, Aruanga, Angiola, Antelope Valley, Arrowhead Springs, Auberry, Auburn, Avalon, Azusa, Bagdad, Barret Dam, Beaumont, Beaumont (near), Bellota, Benson's Ferry, Betteravia, Big Bar, Big Sur, Bishop Creek, Calaveras R. S., Campbell, Campo, Camptonville, Canon Dam, Cascada, Cedarville, Centerville Pwr. H., Chester, China Flat, Churn Creek, Clovis, Coalinga, Colgate, Crockett, Cuyamaca, Deer Creek, Del Monte, Denair, De Saba, Dinuba, Dobbins (near), Downville, Dudley, Dudleys, East Park, Edison, Electra, Emigrant Gap, Fairmont, Firebaugh, Fordyce Dam, Fort Bragg, Fort Ross, Friant, Georgetown, Glacier Point, Glennville, Goffs, Gray Mountain, Happy Camp, Hayfork, Head Dam, Helen Mine, Hetch Hetchy, Huntington Lake, Idria, Jenny Lind, Jolon, Julian, Kennedy Mine, Kentfield, Kernville, King City, Knights Landing, Lake Eleanor, Lakeport, Lake Spaulding, Las Plumas, Lathrop, La Verne, Le Grand, Livermore, Llano, Lompoc, Los Alamos, Los Gatos, Lytle Creek, Madeline, Mariposa, Markleville, Melones, Merced Falls, Mesa Grande, Middewater, Mill Creek-1, Mill Creek-2, Milton (near), Mokelumne Hill, Montague, Montague, Nellie, Nicolas, North Bloomfield, North Fork, Oak Grove, Orleans, Ozena, Parkfield, Paso Robles-2, Pattiway, Peachland, Pearland, Point Loma, Priest Valley, Quincy, Redley, Represa, Rio Vista, Ruth, St. John, San Miguel Island, San Pedro, Santa Ana River, Santa Clara, Santa Maria, Santa Monica, Sequoia Oaks, Shield's Ranch, Shively, Sierraville, Sonora, Springville (near), Standish, Stanwood, Sterling, Storey, Tamarrack, Tejon Rancho, Three Rivers, Towle, Trona, Truckee, Turlock, Tustin (near), Twin Lakes, Twin Valley, Upper Mattole, Vacaville, Walnut Creek, Warner Springs, Wasco, Westoga, West Branch, West Point, Wrights, Yorba Linda.

* Data obtained from 3-inch rain gage.