

CLIMATOLOGICAL DATA.

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GENERAL SUMMARY.

February in California was a month of unseasonably dry weather. Not since 1913 has the precipitation over the State as a whole been so light in this month. Notwithstanding this there were several periods when rainfall occurred quite generally, notably during the opening days of the month and on the 14th, 15th and 21st, when precipitation was not confined to mountain regions and normally moist sections along the north coast, but covered the more important agricultural districts as well. Rainfall was heaviest in the coast counties from Mendocino north, in the Siskiyou Mountains and along the west slopes of the Sierra; it was lightest in desert regions of the south, many places below the Tehachapi reporting none at all. As a rule the largest amounts in all parts of the State fell on the 15th, and this was the date, likewise, when snow deposits at the high levels were greatest.

Temperatures averaged slightly above normal, but there were no very significant departures anywhere. The coldest weather occurred generally about the middle of the month when temperatures close to freezing prevailed in the agricultural districts, and the warmest weather occurred during the closing week. On a few days during the latter period excessively high temperatures were registered in southern California, the thermometer going over 90 degrees at most interior points and at many beach resorts as well.

Cloudiness was considerable, even in sections where only light rainfall occurred, but most of the great crop growing districts enjoyed a preponderance of clear weather notwithstanding. Although deficient in rainfall, the month was not adverse to agriculture. What rain fell occurred opportunely and for that reason was sufficient for present needs. Vegetation generally made excellent progress and much plowing and seeding was accomplished. The warm weather toward the close of the month brought deciduous orchards into bloom quite generally, and made possible the salvage of some of the rice crop which should have been harvested last fall. Scarcely any damage was caused by frost.

T. R.

PRESSURE.

The mean sea-level pressure, determined from the records of 10 regular Weather Bureau stations, was 30.13 inches. The highest was 30.59 inches at Independence on the 23rd; the lowest was 29.57 inches at San Jose on the 14th; the range for the State was 1.02 inches.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 100 stations was 49.4°, which is 0.9° above the normal. The highest monthly mean was 61.0° at Indio; and the lowest was 28.4° at Summit. The highest temperature, 97°, occurred at Indio on the 25th; and the lowest, -7°, occurred at Squirrel Inn on the 15th. The range for the State was 104°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 236 stations, was 2.23 inches, or 2.18 inches below the normal. The greatest monthly amount was 13.44 inches, at Crescent City; and the least monthly amount was 0.00 inches, at 5 stations. The greatest amount in 24 hours was 4.35 inches at Crescent City on the 20th.

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	89	90	97	32
Fresno.....	93	59	76	804	70
Independence.....	49	24	36	252	83
Los Angeles.....	69	57	63	319	76
Mount Tamalpais.....	76	76	76	200	66
Red Bluff.....	84	54	69	217	72
Sacramento.....	96	80	88	208	69
San Diego.....	76	68	72	224	73
San Francisco.....	84	63	74	302	63
San Jose.....	72	58	65	238	78
San Luis Obispo.....	72	58	65	238	78

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date.	Prev. dir.
Eureka.....	4,384	6.5	42	nw.	5	se.
Fresno.....	3,230	4.8	33	nw.	14	nw.
Independence.....	4,975	7.4	42	se.	14	n.
Los Angeles.....	3,770	5.6	30	nw.	5	ne.
Mount Tamalpais.....	13,509	20.1	72	sw.	13	nw.
Point Reyes.....	13,570	20.2	94	nw.	5	nw.
Red Bluff.....	3,556	5.3	30	se.	20	n.
Sacramento.....	4,614	6.9	30	se.	14	se.
San Diego.....	4,382	6.5	38	s.	14	nw.
San Francisco.....	5,467	8.1	45	nw.	5	nw.
San Jose.....	3,854	5.7	32	w.	5	se.
San Luis Obispo.....	3,215	4.8	22	w.	5	n.

COMPARATIVE DATA FOR FEBRUARY.

Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.	Year	Mean temp.	Ave. precip.
1898.....	49.4	2.95	1904.....	54.5	7.91	1910.....	46.0	2.43	1916.....	49.8	3.94
1899.....	48.5	0.45	1905.....	50.8	4.24	1911.....	43.7	3.33	1917.....	45.7	6.25
1900.....	49.9	0.94	1906.....	52.0	4.88	1912.....	49.7	0.75	1918.....	46.9	6.18
1901.....	47.7	6.03	1907.....	53.3	4.14	1913.....	46.7	2.07	1919.....	45.7	7.46
1902.....	50.3	8.14	1908.....	46.8	3.99	1914.....	48.4	5.49	1920.....	49.4	2.80
1903.....	43.7	1.76	1909.....	46.6	8.00	1915.....	46.6	10.08	1921.....	49.4	2.23

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

Stations.	Data.	Day of Month.																																
		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	Total	
Chula Vista**.....	Evaporation.....	.074	.099	.097	.102	.175	.120	.098	.103	.165	.111	.081	.089	.109	.081	.118	.103	.063	.061	.059	.083	.060	.153	.207	.243	.182	.117	.085	.128	.....	.....	.....	3,166
	Wind movement.....	70	57	71	143	229	79	36	50	149	54	61	65	107	133	118	82	87	81	70	90	112	64	67	84	120	73	89	94	.....	.....	.....	2,630
Dodgeland*.....	Evaporation.....	.129	.035	.008	.036	.042	.027	.040	.030	.039	.046	.020	.014	.033	.141	.....	.024	.018	.132	.063	.106	.024	.098	.078	.075	.044	.090	.093	.059	.....	.....	.....	1,524
	Wind movement.....	25	59	23	18	83	73	54	16	16	27	6	7	39	28	29	32	5	14	32	33	137	152	18	23	3	21	23	10	.....	.....	.....	1,006
Oakdale (near)*.....	Evaporation.....	.032	.049	.030	.020	.....	.133	.090	.045	.052	.020	.054	.073	.040	.....	.030	.115	.....	.055	.079	.024	.....	.069	.078	.142	.073	.074	.063	.085	.....	.....	.....	4,095
	Wind movement.....	50	125	75	75	155	240	140	100	40	60	50	50	40	190	120	60	100	80	50	40	180	200	40	60	40	60	55	75	.....	.....	.....	2,540
Tahoe**.....	Evaporation.....
	Wind movement.....

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

Climatological Data for February, 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), Number of days (Precipitation, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.

Daily Temperature for February, 1921.

Table with 32 columns for days of the month and rows for various California cities (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). Each city row includes maximum and minimum temperature values for each day, plus a mean value at the end.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with 12 columns: Stations, Watersheds, Precip. inches. It lists precipitation data for various locations across California, such as Abbots, Arngana, 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, Camp, Camptonville, Canon Dam, Cascada, Cedarville, Centerville Pwr. H., Chester, China Flat, China Creek, Clovis, Coalinga, Colgate, Crockett, Cuyamaca, Deer Creek, Del Monte, Denair, De Saba, Dinuba, Dobbins (near), Downville, Dudley, Dudleys, Edson, Electra, Emigrant Gap, Escondido-2, Fairmont, Firebaugh, Fort Bragg, Fort Ross, 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, Johnny Lind, Jolon, Julian, Kennedy Mine, 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, Markleville, Melones, Merced Falls, Mesa Grande, Middletown, Mill Creek-1, Mill Creek-2, Milo, Milton (near), Mokelumne Hill, Monroeville, Montague, Nellie, Nicolaus, North Bloomfield, North Fork, Oak Grove, Orleans, Ozena, Parkfield, Paso Robles-2, Pattiway, Peachland, Electric, Point Loma, Portola, Priest Valley, Quincy, Reedley, Repesa, 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, Sterling, Storey, Tamarack, Tejon Rancho, Three Rivers, Trona, Turlock, Twin Lakes, Twin Valley, Upper Mattole, Walnut Creek, Warner Springs, Wasco, Wasioja, West Branch, West Point, Westwood, Wrights, Yorba Linda.

* Data obtained from 3-inch rain gage.

SNOWFALL IN THE MOUNTAINS.

Not nearly so much snow fell in the mountains of this State in February as there did during the preceding month of January. The deposits, however, most of which were made about the middle of the month, were sufficient to materially augment the supply on hand, and it is well packed and has a large water content.

At this time last year there was only about 40 per-cent as much snow in the Sierra Nevada Mountains as at present. Compared with the average for the last fifteen years three representative stations in the Sacramento watershed show the following percentages: Fordyce Dam, elevation 6,500 feet, 108 per-cent; Summit, elevation 7,017 feet, 90 per-cent; and Tamarack, elevation about 8,000 feet, 76 per-cent.

The greatest snowfall during the month was 52 inches at Fordyce Dam. In the San Joaquin watershed the heaviest fall reported was from Huntington Lake, elevation 6,950 feet, where the total for the month was 46 inches. At Lake Tahoe, elevation 6,230 feet, only 18 inches fell during February, but the amount on the ground was 45 inches, most of which fell during the preceding months of December and January.

In the mountains of southern California there was a marked deficiency in precipitation, both in the form of rain as well as snow and without a material increase during the coming months of March and April, the water supply in that section will be short later on, thus making it necessary to conserve that now available in every possible way.

In the Sacramento and San Joaquin watersheds the well packed snow fields in the high Sierras strongly indicate that there will be a good supply of water till late in the season.

E. A. B.

COMPARATIVE SNOWFALL DATA FOR FEBRUARY.

(Amount on the Ground.)

	FORDYCE DAM.			SUMMIT.			TAMARACK.		
	1st.	15th.	End of mo.	1st.	15th.	End of mo.	1st.	15th.	End of mo.
1907.....	86	67	81	137	95	86	182	122	97
1908.....	75	81	90	88	115	74	104	108	120
1909.....	105	157	138	172	224	213	190	234	256
1910.....	69	72	74	76	70	72	114	110	101
1911.....	128	138	120	228	240	215	320	407	434
1912.....	59	52	44	38	27	23	54	45	42
1913.....	77	69	80	85	55	55	116	100	115
1914.....	107	98	130	192	150	180	274	253	272
1915.....	90	120	135	106	154	180	132	174	185
1916.....	158	150	154	207	164	145	192	165	168
1917.....	72	65	116	80	56	128	64	58	154
1918.....	9	27	68	2	50	74	20	74	80
1919.....	46	96	122	47	102	145	43	81	147
1920.....	34	30	48	32	21	42	21	27	50
1921.....	111	117	109	128	124	104	134	123	118

T. means trace.

Snowfall Data. [In inches.]

WATERSHED, COUNTY, STATION.	Elevation, feet.	Total snow-fall.	Compr'd with normal.	Am't on ground 15th.	Am't on ground end mo.
Klamath Watershed.					
<i>Siskiyou County.</i>					
Yreka.....	2,625	1	.....	0	0
<i>Trinity County.</i>					
Hayfork.....	2,300	0	.....	0	0
Ruth.....	2,925	4	.....	3	0
Weaverville.....	2,162	2	.....	0	0
Mountain Lakes.					
<i>Inyo County.</i>					
Bishop Creek.....	8,330	.....	.....	16	10
Independence.....	3,997	T.	-37	0	0
<i>Lassen County.</i>					
Madeline.....	5,270	20	+9	5	2
Standish.....	4,000	.....	.....	.....	.....
<i>Modoc County.</i>					
Alturas.....	4,400	.....	.....	.....	.....
Cedarville.....	4,675	9	-3	0	0
Fort Bidwell.....	4,375	7	.....	0	0
<i>Nevada County.</i>					
Grass Valley.....	2,690	1	.....	0	0
Nevada City.....	2,850	1	-6	0	0
North Bloomfield.....	3,214	T.	-11	T.	0
<i>Placer County.</i>					
Tahoe.....	6,230	18	-38	54	45
<i>Mono County.</i>					
Shields Ranch.....	3,500	T.	.....	0	0
Sacramento Watershed.					
<i>Alpine County.</i>					
Markleville.....	5,525	20	.....	T.	T.
Tamarack.....	8,000	29	.....	123	118
Twin Lakes.....	7,970	.....	.....	.....	.....
<i>Butte County.</i>					
De Sable.....	2,500	10	+2	6	0
Inskip.....	4,975	38	-12	108	97
West Branch.....	3,216	12	-8	20	2
<i>Nevada County.</i>					
Deer Creek.....	3,700	15	-13	20	6
Fordyce Dam.....	6,500	52	-24	117	109
Lake Spaulding.....	4,600	32	-14	.....	.....
<i>Placer County.</i>					
Blue Canon.....	4,695	32	-14	26	10
Emigrant Gap.....	5,230	37	-23	55	47
Summit.....	7,017	45	-31	124	104
<i>Plumas County.</i>					
Canon Dam.....	4,570	16	.....	52	39
Chester.....	4,550	10	-16	47	41
La Porte.....	5,000	33	-18	67	62
Portola.....	4,832	.....	.....	.....	.....
Quincy.....	3,400	7	-6	T.	T.
<i>Sierra County.</i>					
Downville.....	3,150	5	-3	0	0
Sieraville.....	5,000	8	-12	6	2
<i>Siskiyou County.</i>					
McCloud.....	3,270	13	0	40	27
Sisson.....	3,555	13	-7	15	2
<i>Yuba County.</i>					
Camptonville.....	3,500	6	-11	4	0
San Joaquin Watershed.					
<i>Calaveras County.</i>					
Calaveras Ranger Station.....	3,400	.....	.....	.....	.....
<i>Fresno County.</i>					
Camp Seven.....	6,980	22	.....	70	54
Cascada.....	4,900	28	.....	14	0
Hume.....	5,306	.....	.....	.....	.....
Huntington Lake.....	6,950	46	.....	81	58
<i>Kern County.</i>					
Glennville.....	3,300	8	+2	2	0
<i>Mariposa County.</i>					
Dudley's.....	3,000	10	.....	7	0
Glacier Point.....	7,000	38	.....	87	72
Yosemite.....	3,945	18	-3	30	14
<i>Tulare County.</i>					
Hot Springs.....	3,300	0	-3	0	0
Springville.....	4,000	25	+5	15	0
<i>Tuolumne County.</i>					
Hetch Hetchy.....	3,665	23	+11	.....	0
Lake Eleanor.....	4,700	32	+4	23	5
Mountains of Southern California.					
Cuyamaca.....	4,677	5	-6	2	0
Julian.....	4,222	5	.....	2	0
Mount Wilson.....	5,704	8	.....	4	T.
Nellie.....	5,350	6	.....	3	0
Seven Oaks.....	5,000	.....	.....	.....	.....
Squirrel Inn.....	5,280	10	-6	3	0