

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

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GENERAL SUMMARY.

Unlike the preceding month, February, 1916, was a month of seasonable weather in California. Except along the immediate coast, where cold and cloudy weather prevailed, the greater portion of the State experienced mild, spring-like weather. For the State as a whole the temperature was 1.3° above the normal, while the precipitation was about half an inch less than the average for February. Six stations received no measurable precipitation. Following the abnormally cold weather of the 1st and 2nd, a period of showery weather persisted until about the 10th, the precipitation being particularly heavy on the 4th and 5th in the northern part of the Sacramento Valley. The second decade was fair and warm, with unbroken sunshine. Light showers accompanied the eastward passage of depressions on Feb. 20-22, and again from the 25th to the close of the month. No severe storms or violent winds were recorded during the month. However, a thunderstorm which occurred at Turlock on the 23rd was attended by destructive lightning. Fog on San Francisco Bay on the evening of the 7th resulted in a collision of steamers which caused the loss of one life. There was no approach to flood conditions in any of the larger streams, and the runoff was about normal. Water from melting snow raised the level of Tulare Lake, in Kings County, to such an extent that over 2,000 acres of rich grain land in the vicinity was submerged, and it is estimated that the grain on a considerably larger area in that region will not reach harvest.

From an agricultural point of view the month as a whole was favorable. At the beginning of the month the fear was expressed that the season would be backward, owing to the unfavorable weather of January. The setback was only temporary, however. The persistent cold and cloudy weather of January delayed the blossoming season but slightly, and almond and apricot trees were in full bloom near the close of February. In the northern portion of the State considerable citrus fruit dropped from the trees before maturing on account of injuries sustained during the severe weather of the preceding month. In the southern portion of the State oranges developed to unusually large size and weight because of the excessive rains which fell a few weeks previously. Pastures were everywhere in excellent condition. The growing season, which began about the 11th or 12th, was attended by warm weather during the remainder of the month. The bright sunshine of the middle decade hastened the flow of sap in deciduous fruit trees. As no wide-spread killing frosts occurred during the month, damage from low temperatures was negligible in amount.

February is the great seeding and planting month in California. While the saturated condition of the soil delayed planting somewhat, seeding and planting has progressed under generally favorable conditions. In certain restricted areas some re-seeding was necessary owing to the rotting in the ground during January of early sown grains. The fine weather which marked the middle portion of February was used to good advantage for out-door farm work, particularly in the preparation of gardens and in the cultivation of field crops. Though the rainfall as a whole was below the average, the ground was still well saturated at the close of the month, and the outlook for the immediate future was favorable.

A. H. P.

PRESSURE.

The monthly mean atmospheric pressure for the State, reduced to sea-level, was 30.10 inches.

The highest was 30.68 inches at Red Bluff on the 1st.

The lowest was 29.59 inches at Red Bluff on the 29th.

The range for the State was 1.09 inches.

TEMPERATURE.

The monthly mean temperature for the State was 49.8 degrees, which is 1.3 degrees above the normal.

The highest monthly mean was 63.8 degrees, at Bagdad; and the lowest was 23.6 degrees, at Bridgeport.

The highest temperature, 96 degrees, occurred at Deer Creek on the 11th; and the lowest, -23 degrees, at Bridgeport on the 1st.

The range for the State was 119 degrees.

PRECIPITATION.

The average precipitation for the State was 3.94 inches, or 0.47 inch below the normal.

The greatest monthly amount was 31.59 inches, at Magalia. Six stations reported no measurable precipitation.

The greatest amount in 24 hours was 7.74 inches at Magalia on February 3-4.

RELATIVE HUMIDITY.—(Per Cent.)

Stations.	5 a. m.	5 p. m.	Mean.
Eureka .....	91	84	88
Fresno .....	89	61	75
Los Angeles .....	81	68	74
Mount Tamalpais .....	73	78	76
Red Bluff .....	64	85	74
Sacramento .....	91	87	79
San Diego .....	89	72	81
San Francisco .....	87	74	80
San Jose .....	94	66	80
San Luis Obispo .....	83	66	74

SUNSHINE AND CLOUDINESS.

Stations.	Actual hours of sunshine.	Per cent. of the possible.
Eureka .....	112	36
Fresno .....	173	55
Los Angeles .....	228	71
Mount Tamalpais .....	146	47
Red Bluff .....	131	42
Sacramento .....	160	51
San Diego .....	211	66
San Francisco .....	139	44
San Jose .....	160	51
San Luis Obispo .....	159	50

WIND MOVEMENT.—(Miles.)

Stations.	Total movement for month.	Average hourly velocity.	Maximum velocity.	Direction.	Date.
Eureka .....	3,964	5.7	34	se.	9
Fresno .....	3,220	4.6	31	sw.	25
Independence .....	3,014	4.3	25	w.	29
Los Angeles .....	3,603	5.2	22	sw.	29
Mount Tamalpais .....	11,717	16.8	60	s.	10
Point Reyes .....	10,958	15.7	55	s.	4
Red Bluff .....	3,891	5.7	25	se.	4
Sacramento .....	4,520	6.5	34	se.	4
San Diego .....	3,336	4.8	21	w.	29
San Francisco .....	3,936	5.7	28	nw.	29
San Jose .....	3,592	4.7	25	se.	21
San Luis Obispo .....	2,584	3.7	20	ne.	11

The prevailing direction of the wind for the State was southwest.



Climatological Data for February, 1916.—Continued.

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), Number of days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.

Climatological Data for February, 1916.—Continued.

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 .01 inch or more), Number of days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, Observers.

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.
\* Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
‡ Precipitation is less than 0.01 inch rain or melted snow.
a, b, c, etc., indicate respectively, 1, 2, 3, etc., days missing from the record.

Special Rainfall Stations in Los Angeles and San Bernardino Counties for February, 1916.

Table with columns: Stations, Day of Month (1-31), Total. Lists rainfall for various stations like Camp Baldy, Camp Bonita, etc.

COMPARATIVE DATA FOR FEBRUARY.

MEAN MONTHLY TEMPERATURE FOR THE STATE.

Table comparing mean monthly temperature for the state from 1897 to 1906.

AVERAGE PRECIPITATION FOR THE STATE.

Table comparing average precipitation for the state from 1897 to 1906.

ERRATA. DECEMBER, 1915.

Blue Canon, page 144, monthly mean temperature 29.2, should be 30.8.
Tamarack, page 146, monthly mean temperature 34.8, should be 29.8.

JANUARY, 1916.

North Fork, page 8, total precipitation 23.90 inches, should be 23.09 inches.
Santa Cruz, page 5, total precipitation 14.79 inches, should be 15.49 inches.
Ukiah, pages 6 and 9, total precipitation 14.26 inches, should be 15.26 inches.

DELAYED REPORTS.

Table with columns: Stations, Month, Temperature (Mean, Max., Date, Min., Date), Total precipitation. Lists reports for Denair, Bear Valley Dam, etc.

MISCELLANEOUS PHENOMENA.

Thunderstorms.—Big Bar, 21; Calaveras, Camptonville, 20, 28; Cloverdale, 21; Deer Creek, 20; Dobbins (near), 28; Dudleys, 21; Dunlap (near), 20; Electra, 27; Glennville, 19, 20; Happy Camp, 21; Hetch Hetchy, 20; Lake Eleanor, La Porte, Las Plumas, 20; Lemon Cove, 27; Linden, 21, 26, 27; Lindsay, 26, 27; Merced, 21; Mill Creek (No. 1), 20, 27; Mitchell Mill, 20, 27; Monte Vista, 20; Red Bluff, Sacramento, 21; St. Helena, Stanwood, 20; Stockton, 21; Table Rock, 20.

Earthquakes.—Cahuilla, 25; Hollister, 4; Julian, 1; Los Alamos, 27; Nellie, 25.







Daily Temperature for February, 1916.

Table with columns for Stations, days 1-31, and Mean. Rows list various California locations such as Alturas, Bakersfield, Barstow, etc., with their respective maximum and minimum temperatures for each day.



Snowfall Data. [In inches.]					
WATERSHED, COUNTY, STATION.	Total snowfall.	Compr'd with normal.	Am't on ground 15th.	Am't on ground end mo.	Water equivalent.
<b>Klamath Watershed.</b>					
<i>Siskiyou County.</i>					
Yreka .....	1	.....	0	0	.....
<i>Trinity County.</i>					
Hayfork .....	0	.....	8	0	.....
Ruth .....	1	.....	2	1	.....
<i>Humboldt County.</i>					
Weitchpec .....	2	- 3	0	2	.....
<b>Mountain Lakes.</b>					
<i>Modoc County.</i>					
Cedarville .....	2	- 8	0	2	.....
Fort Bidwell .....	8	.....	0	0	.....
<i>Lassen County.</i>					
Eagle Lake .....	3	-12	24	16	.....
Fredonia .....	.....	.....	.....	.....	.....
Madeline .....	10	- 1	15	12	.....
Susanville .....	1	-15	0	0	.....
<i>Tehama County.</i>					
Mineral .....	.....	.....	.....	.....	.....
<i>Nevada County.</i>					
Boca .....	.....	.....	.....	.....	.....
Truckee .....	18	-26	48	30	.....
<i>Inyo County.</i>					
Bishop Creek .....	23	-15	43	44	.....
Lone Pine .....	0	.....	0	0	.....
Wells Meadow .....	2	.....	0	0	.....
<b>Sacramento Watershed.</b>					
<i>Siskiyou County.</i>					
Dunsmuir .....	6	- 5	0	0	.....
McCloud .....	11	- 2	42	22	.....
Sisson .....	10	-10	12	0	.....
<i>Modoc County.</i>					
Alturas .....	4	- 1	0	0	.....
<i>Shasta County.</i>					
Burney .....	3	- 3	7	0	.....
<i>Plumas County.</i>					
Bucks .....	48	.....	159	99	.....
Canon Dam .....	10	.....	53	49	.....
Chester .....	11	-15	50	40	.....
Clover Valley .....	17	-37	47	37	.....
La Porte .....	17	-34	87	76	.....
Portola .....	4	.....	22	1	.....
Quincy .....	4	- 9	0	0	.....
<i>Butte County.</i>					
De Saba .....	2	- 6	0	0	.....
Inskip .....	23	-27	98	83	.....
Stirling City .....	.....	.....	.....	.....	.....
West Branch .....	4	-16	22	5	.....
<i>Yuba County.</i>					
Camptonville .....	6	-11	12	0	.....
<i>Sierra County.</i>					
Bunker Hill .....	.....	.....	.....	.....	.....
Dorsey's .....	.....	.....	.....	.....	.....
Downieville .....	2	- 6	18	0	.....
Sierra City .....	12	-11	42	24	.....
Sierraville .....	9	-11	14	11	.....
Table Rock .....	47	+16	140	113	.....
<i>Nevada County.</i>					
Bowman's Dam .....	.....	.....	.....	.....	.....
Deer Creek .....	16	-12	38	24	.....
Fordyce Dam .....	61	-15	150	154	.....
Lake Spaulding .....	29	-17	100	91	.....
<i>Placer County.</i>					
Blue Canon .....	30	-16	72	30	.....
Cisco .....	65	- 8	115	103	.....
Emigrant Gap .....	23	-37	72	54	.....
Summit .....	41	-35	164	145	.....
<b>San Joaquin Watershed.</b>					
<i>Alpine County.</i>					
Tamarack .....	69	- 8	165	168	.....
<i>Tuolumne County.</i>					
Center Ranger Station .....	.....	.....	.....	.....	.....
Hetch Hetchy .....	9	- 3	2	0	.....
Lake Eleanor .....	14	-14	30	22	.....
<i>Mariposa County.</i>					
Yosemite .....	12	- 9	34	20	.....
<i>Fresno County.</i>					
Cascada .....	4	.....	12	2	.....
Hume .....	.....	.....	.....	.....	.....
Huntington Lake .....	37	.....	75	86	.....
<i>Tulare County.</i>					
Hot Springs .....	0	- 3	0	0	.....
Springville .....	2	-18	0	1	.....
<b>Mountains of Southern California.</b>					
Bear Valley Dam .....	2	-30	31	28	.....
Converse Nursery .....	6	.....	0	3	.....
Holcomb .....	1	-21	8	0	.....
Squirrel Inn .....	3	-13	9	3	.....
Seven Oaks .....	0	-13	0	0	.....
Nellie .....	1	.....	0	0	.....
Julian .....	0	.....	0	0	.....

SNOWFALL IN THE MOUNTAINS.

In marked contrast to that of January, 1916, the snowfall in the mountains of California during February was abnormally light. Only one station received more than the usual amount of snow, while most stations reported less than one-half the normal February snowfall. In the Sierra Nevada Mountains a generous snowfall accompanied the eastward passage of a moderate storm on February 3-7. Additional snow fell from the 27th to the 29th. In the mountains of southern California no station reported more than 6 inches of new snow during the month, and most of this was brought by the storm of February 27-29. While considerable precipitation accompanied this storm, much of it was in the form of rain, owing to the high temperatures prevailing at the time.

At the close of January the deposits of snow in the mountains were enormous, in some places the heaviest in many years. Moreover, on account of the cool and cloudy weather which persisted unbroken throughout that month, the snow extended well into the lower levels. However, as little new snow fell after February 7th, and the remainder of the month was warm and accompanied by abundant sunshine, the snow settled rapidly. By the 15th the snow remaining was about the average in depth for that date. Further settling and melting followed, and at the close of the month the snow remaining was somewhat less than the normal in depth. As much of the water from the melting snow soaked into the ground, the runoff was only moderate, and none of the larger streams approached flood conditions. Moreover, the snow which remained on February 29th, though less than the usual depth for that date, and considerably less than the depth at the beginning of the month, was well packed, almost with the consistency of ice. The solidified nature of the remaining snow insures a slow rate of melting, and will tend to conserve it until late spring. It is therefore apparent that an abundant supply of water is assured for the coming season for all the varied purposes to which it is put in California.

A. H. P.

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	88	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