

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

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GENERAL SUMMARY.

Although February, 1918, was not especially stormy, the precipitation was considerably above the normal, and in some localities the excess was 50 per cent and upward of the monthly amounts; in the extreme northern and extreme southern portions of the State, however, the rainfall was deficient. During the opening days of the month, local rains fell on the northwest coast and in some interior counties; by the 5th the rain area had extended far enough south to include the central counties, and on the 6th the precipitation was quite general throughout the State. On account of the dryness of the ground, however, the water did not penetrate the soil to a satisfactory depth. On the 12th, rain set in again in northern districts due to the shifting of a moderate high pressure area from the Oregon coast to that of central California, and meteorological conditions remained comparatively unchanged for several days. On the 15th, the "high" passed rapidly inland allowing a moderate disturbance to advance across the north Pacific and Basin States; the northern California rain area then spread southward and by the 21st covered the entire State. From the 24th until the 27th most of the precipitation that occurred fell in the southern counties.

The rains of the latter half of the month effectually terminated the long spell of drought that had obtained during the preceding months. Fortunately the heaviest rains fell in those sections of the State where moisture was most needed. The storms were not of a violent character, and the rain fell quite steadily and uniformly. Since the earlier rains had prepared the surface of the ground nicely for this purpose, an exceptionally large percentage of the water was absorbed by the soil. These rains fell at a most opportune time and have been of incalculable value to agricultural interests of the State. Vegetation was revived; pastures and ranges, that had practically given out, proceeded to put forth new growth thus materially relieving the feed shortage which was becoming really serious with stockmen. Alfalfa grew so rapidly that by the end of the month it could have been used for feed for stock if necessary. In the northern counties, least affected by the drought, pastures were never better and stock are in fine condition. No losses of consequence among sheep or young lambs have been reported from the folds.

Although considerable snow fell in the mountainous sections, the amount remaining on the ground at the end of the month is insufficient to furnish an adequate supply of water for irrigation and power purposes unless that on hand is rigidly conserved. Streams in the northwestern portion of the State rose rapidly during the first week, the Eel River reaching its highest stages on the 6th and 7th; they were receding slowly as the month closed.

The mean daily temperatures throughout the State were remarkably uniform, but the State's mean monthly temperature was below normal. The lowest temperatures as a rule occurred on the 1st and during the second decade; during this time frosts were of frequent occurrence, but as vegetation was comparatively dormant little damage resulted. At the close of the month almonds were in full bloom and apricots were beginning to blossom. Other fruit buds were swelling, and orchardists and farmers were busy with their seasonal work which was generally well caught up. Citrus fruits in the south were maturing nicely and were benefitted by the rains. On the whole agricultural prospects throughout the State are very favorable.

T. F. D.

PRESSURE.

The mean sea level pressure, determined from the records of twelve regular Weather Bureau stations, was 30.06 inches. The highest was 30.55 inches at Independence on the 9th; the lowest was 29.40 inches at Independence on the 18th; the range for the State was 1.15 inches.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 98 stations, was 46.9°, which is 1.6° below the normal.

The highest monthly mean was 57.1°, at Calexico; and the lowest was 25.0° at Madeline.

The highest temperature, 88°, occurred at Calexico on the 6th; and the lowest, -18°, occurred at Madeline on the 15th.

The range for the State was 106°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 226 stations, was 6.18 inches, or 1.77 inches above the normal.

The greatest monthly amount was 19.04 inches, at Branscomb. One station, Bagdad, reported no precipitation.

The greatest amount in 24 hours was 4.77 inches at Inskip on the 6th.

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.....	84	73	79	162	54
Fresno.....	78	49	63	184	61
Los Angeles.....	74	58	66	202	66
Mount Tamalpais.....	79	77	78	125	41
Red Bluff.....	79	53	66	166	55
Sacramento.....	81	60	70	159	53
San Diego.....	78	67	72	223	72
San Francisco.....	82	66	74	186	61
San Jose.....	88	61	74	156	51
San Luis Obispo.....	85	66	76	131	42

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date.	Freq. dir.
Eureka.....	5,859	8.7	50	sw.	6	se.
Fresno.....	4,236	6.3	28	nw.	7	nw.
Los Angeles.....	4,560	6.8	29	ne.	21	ne.
Mount Tamalpais.....	15,364	22.9	76	nw.	12	w.
Point Reyes.....	15,363	22.9	71	nw.	17	nw.
Red Bluff.....	4,914	7.3	30	nw.	27	nw.
Sacramento.....	5,825	8.7	39	nw.	27	se.
San Diego.....	4,578	6.8	42	s.	17	ne.
San Francisco.....	5,785	8.6	37	ne.	27	ne.
San Jose.....	4,583	6.8	27	se.	19	se.
San Luis Obispo.....	3,071	4.6	36	se.	20	nw.

COMPARATIVE DATA FOR FEBRUARY.

Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.
1897.....	48.0	5.85	1903.....	43.7	1.76	1909.....	46.6	8.00	1915.....	46.6	10.08
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	.....	.....	.....
1902.....	50.3	8.14	1908.....	46.8	3.99	1914.....	48.4	5.49	.....	.....	.....

Explanation of Reference Marks Used in This Publication.

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. T. 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.
 Station at Llano formerly known as Valyermo; station at Lytle Creek formerly known as Rialto (near).

Climatological Data for February, 1918.

Table with columns for 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), Number of days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers.

Daily Precipitation for February, 1918.

Table with columns for Stations, Watersheds, Day of Month (1-31), and Total. It lists precipitation data for numerous California locations such as Alturas, Antioch, Atascadero, etc.

Except as otherwise indicated observations are generally made late in the afternoon, near sunset, and precipitation recorded is for the 24 hours ending at the time of observation. *** Regular Weather Bureau station; precipitation is for the 24-hour period, midnight to midnight. ||| Precipitation measured in the morning; amount then recorded is for the preceding 24 hours. * Precipitation included in the next following measurement. † Separate dates of fall not recorded. T., Trace, or less than 0.01 inch. Stations marked thus § are in Los Angeles or San Bernardino Counties.

Daily Temperature for February, 1918.

Table with 33 columns (Stations 1-31 + Mean) and 33 rows (Stations 1-31 + Mean). Each station row contains two sub-rows for Maximum and Minimum temperatures across the 31 days and a final Mean column.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with 12 columns: Stations, Watersheds, Precip. inches. It lists various locations and watersheds with their corresponding precipitation values in inches.

SNOWFALL IN THE MOUNTAINS.

On February 1, 1918, there was no snow on the ground in California except small amounts in the higher levels of the Sierra Nevada Mountains and on isolated peaks in other localities. Up to that time the winter had been unusually warm and the relatively high temperatures continued during the greater part of February but the drought that had prevailed through the winter was broken by a series of storms that gave precipitation to all parts of California.

During the first half of the month, though the precipitation was quite heavy, most of it was in the form of rain except at high levels in the Sierra Nevada Mountains and the snow that fell there was light and of low water content. On February 15th the snow at the 5,500-foot level was 14 inches in depth and the snow on the northern slopes of the mountains was very light for that time of the year. At the majority of stations from which reports were received, all or nearly all of the snow that fell in the first half of the month melted during the intervals of warm, sunny weather and what remained was, with but few exceptions, in a soft and melting condition.

In the second half of the month the snowfall was heavier and at most stations the heaviest fall occurred on the 17th, accompanied by cold, northerly winds, with lighter amounts on a few days thereafter. It was during this part of the month that the first snow of the season fell at relatively low levels in the mountains near the coast. Because of abnormally high temperatures during the day in the latter part of the month, rain fell in the daytime at the 3,500-foot level in the Sierras, with snow at night, producing a slushy condition. At higher elevations the snow became at least fairly well packed during this period. As a consequence of these conditions, there was not much more snow on the ground at the end of February than at the end of January at the lower elevations but at the higher elevations the amount of snow on the ground was considerably augmented by this month's fall.

The total snowfall for the month was well above the normal at nearly all stations while in other months of this season it has been far below the normal. At the end of January there was less snow on the ground than at the same time of any year since 1906 but at the end of February there was more snow than in 1912. While the amount of well-packed snow in the mountains at the end of February was still far less than usual at that time of the year, the situation as regards water for irrigation and power development had been improved to some extent. Owing to the melting of the snow, streams that usually do not flow so early in the year began to flow during the latter part of the month.—E. E. E.

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	167	138	172	224	213	190	234	256
1900	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	.....	.....	.....
1918	9	27	68	2	50	74	20	74	80

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	15	.....	2	0
<i>Trinity County.</i>					
Hayfork	2,300	14	.....	T.	0
Ruth	2,925	21	.....	4	0
Weaverville	2,162	10	.....	0	0
Mountain Lakes.					
<i>Modoc County.</i>					
Cedarville	4,675	11	+ 1	3	0
Fort Bidwell	4,375	12	.....	3	0
<i>Lassen County.</i>					
Eagle Lake	5,000	26	+11	8	8
Madeine	5,270	19	+ 8	12	4
<i>Nevada County.</i>					
Grass Valley	2,690	9	.....	0	0
Nevada City	2,850	11	+ 4	0	0
North Bloomfield	3,214	.....	.....	0	0
Truckee	5,817	64	+20	14	24
<i>Mono County.</i>					
Bridgeport	6,500	.....	.....	.....	.....
<i>Placer County.</i>					
Gold Run	3,222	16	+ 6	.....	.....
Tahoe	6,230	88	.....	24	39
<i>Inyo County.</i>					
Bishop Creek	8,500	60	+22	0	31
Lone Pine	3,728	6	.....	0	0
Wells Meadow	5,280	24	.....	0	2
Sacramento Watershed.					
<i>Siskiyou County.</i>					
McCloud	3,270	26	+13	1	T.
Sisson	3,555	26	+ 6	0	1
<i>Modoc County.</i>					
Alturas	4,400	10	+ 5	3	0
<i>Shasta County.</i>					
Burney	3,300	14	+ 8	1	0
<i>Plumas County.</i>					
Bucks	5,515	115	+56	34	70
Canon Dam	4,570	50	.....	14	39
Chester	4,550	48	+22	4	16
Clover Valley	5,700	30	-24	14	21
La Porte	5,000	70	+19	14	34
Portola	4,832	40	.....	10	10
Quincy	3,400	32	+19	5	9
<i>Butte County.</i>					
De Sable	2,500	20	+12	0	0
Inskip	4,975	59	+ 9	11	30
Stirling City	3,525	.....	.....	.....	.....
West Branch	3,216	18	- 2	3	2
<i>Yuba County.</i>					
Camptonville	3,500	26	+ 9	0	1
<i>Sierra County.</i>					
Downieville	3,150	11	+ 3	0	0
Sierraville	5,000	44	+24	9	8
Table Rock	5,980	72	+41	15	50
<i>Nevada County.</i>					
Dear Creek	3,700	37	+ 9	6	15
Fordyce Dam	6,500	100	+24	27	68
Lake Spaulding	4,600	98	+52	24	48
<i>Placer County.</i>					
Blue Canon	4,695	80	+34	14	30
Emigrant Gap	5,230	76	+16	14	34
Summit	7,017	127	+51	50	74
San Joaquin Watershed.					
<i>Alpine County.</i>					
Tamarack	8,000	104	+27	74	80
<i>Tuolumne County.</i>					
Lake Eleanor	4,700	.....	.....	.....	.....
<i>Kern County.</i>					
Glennville	3,300	3	- 4	0	0
<i>Mariposa County.</i>					
Yosemite	3,945	63	+42	3	17
<i>Fresno County.</i>					
Camp Seven	6,980	74	.....	.....	.....
Cascada	4,900	40	.....	0	6
Hume	5,300	38	.....	0	0
Huntington Lake	6,950	99	.....	8	50
Stevenson Creek	4,250	.....	.....	.....	.....
<i>Tulare County.</i>					
Hot Springs	3,300	10	+ 7	0	0
Springville	4,000	23	+ 3	0	0
Mountains of Southern California.					
Bear Valley Dam	6,700	19	-13	0	6
Cuyamaca	4,677	37	+26	0	0
Julian	4,222	12	.....	0	0
Mount Wilson	5,704	24	.....	0	6
Nellie	5,350	12	.....	0	T.
Seven Oaks	5,000	.....	.....	.....	.....
Squirrel Inn	5,280	14	- 2	0	0