

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

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GENERAL SUMMARY.

Seasonable weather prevailed in California during November. For the State as a whole the mean temperature was somewhat below the normal, while the average precipitation was slightly above the normal. Along the coast the days were warm, with abundant sunshine, and few storms occurred. In the interior valleys and in the mountains, however, cold, northerly winds and accelerated nocturnal radiation kept the temperature relatively low. Frosts were frequent in the interior lowlands. In the northeastern plateau region extremely cold weather prevailed during the last week of the month, when the temperature fell below zero on three successive mornings.

The first well-defined storm of the present season passed eastward across the State between the 3d and 5th, when moderately heavy precipitation was general. Scattered showers fell between the 13th and 15th, and moderately heavy rains occurred throughout the State on the 18th and 19th. Light showers again fell on the 23d and 24th. Snowfall was somewhat above normal throughout the central portion of the Sierra Nevada Mountains, but it was deficient elsewhere. All streams maintained low stages during the month. Destructive northerly winds occurred in southern California on the 24th, when a velocity of 90 miles per hour was recorded on Mount Wilson. Fruit trees in Los Angeles County suffered considerable damage as a result of this gale.

From an agricultural viewpoint, the weather during November was satisfactory. As a result of the frequent rains during this and the preceding months the soil was in excellent condition. Early sown wheat and barley sprouted and made good progress. The weather was generally favorable for harvesting of apples, pears, grapes, olives, walnuts, sugar beets, potatoes and late garden vegetables. A considerable acreage of rice failed to mature on account of the cool weather, and frosts checked further growth of late cotton. Pastures were revived by the frequent showers, and grazing stock were much benefited. Winter growing truck crops made a good start. Citrus fruit trees were uninjured by frosts. Orange and lemon picking were general, the fruit being of good size and color. The weather was favorable for all kinds of field work, and much was accomplished. As far as personal comfort was concerned it was a pleasant month.

A. H. P.

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 Eureka on the 30th; the lowest was 29.57 inches at Point Reyes on the 18th; the range for the State was 0.98 inch.

TEMPERATURE.

The monthly mean temperature for the State, as shown by the records of 96 stations, was 50.5°, which is 2.4° below the normal. The highest monthly mean was 61.3°, at Indio; and the lowest was 31.8°, at La Porte. The highest temperature, 98°, occurred at Elsinore on the 1st; and the lowest, -8°, occurred at Madeira on the 27th. The range for the State was 106°.

PRECIPITATION.

The average precipitation for the State, as shown by the records of 218 stations, was 3.10 inches, or 0.29 inch above the normal. The greatest monthly amount was 10.32 inches, at Branscomb. Bagdad reported no precipitation. The greatest amount in 24 hours was 3.07 inches at Kentfield on the 23d.

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.....	90	78	84	143	48
Fresno.....	86	57	72	192	63
Independence.....	49	30	40	226	74
Los Angeles.....	64	56	60	225	72
Mount Tamalpais.....	68	71	70	211	69
Red Bluff.....	83	58	70	154	51
Sacramento.....	89	64	76	192	64
San Diego.....	67	68	67	220	70
San Francisco.....	81	65	73	216	71
San Jose.....	64	64	64	170	56
San Luis Obispo.....	75	60	68	216	70

WIND MOVEMENT.—(Miles.)

Stations.	Total mov. for month.	Ave. hr. velocity.	Maximum velocity.	Direction.	Date.	Prev. dir.
Eureka.....	4,338	6.0	41	n.	27	se.
Fresno.....	3,569	5.0	24	nw.	24	nw.
Independence.....	4,710	6.5	32	nw.	28	nw.
Los Angeles.....	4,994	6.9	38	nw.	24	ne.
Mount Tamalpais.....	11,783	16.4	60	se.	3	nw.
Point Reyes.....	11,616	16.1	73	se.	17	nw.
Red Bluff.....	3,779	5.2	31	n.	27	nw.
Sacramento.....	5,196	7.2	37	nw.	27	se.
San Diego.....	4,186	5.8	32	nw.	24	nw.
San Francisco.....	4,913	6.8	42	ne.	27	ne.
San Jose.....	3,083	5.5	35	se.	17	se.
San Luis Obispo.....	2,894	4.0	22	sw.	17	n.

COMPARATIVE DATA FOR NOVEMBER.

Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.	Year.	Mean temp.	Ave. precip.
1897.....	50.8	1.41	1903.....	55.2	5.03	1909.....	50.7	4.52	1915.....	50.8	1.96
1898.....	51.6	0.99	1904.....	53.4	1.44	1910.....	52.8	1.91	1916.....	48.0	1.77
1899.....	52.1	3.82	1905.....	52.8	2.26	1911.....	51.1	1.00	1917.....	54.1	1.53
1900.....	54.7	5.21	1906.....	52.6	1.92	1912.....	52.2	2.85	1918.....	50.5	3.10
1901.....	54.9	2.65	1907.....	52.7	0.28	1913.....	52.2	5.00	.....	.....	.....
1902.....	50.8	3.61	1908.....	52.9	1.85	1914.....	54.2	0.80	.....	.....	.....

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 November, 1918.

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.....	129	123	157	227	102	133	143	180	185	144	133	.046	.075	126	137	134	.018	.032	.099	107	126	118	.094	221	168	167	.085	145	117	119	.....	3.795
	Wind movement.....	69	54	103	217	71	83	78	79	73	58	63	60	107	116	122	69	80	56	63	70	73	74	186	180	97	100	98	83	71	70	.....	2.723
Dodgeland*2....	Evaporation.....	106	156	120	139	.052	101	.061	.080	.039	.042	.060	.061	.049	.042	.035	.080	.041	.013	1	.057	.062	.013	1	.081	.027	104	.038	136	.075	.041	.....	1.905
	Wind movement.....	23	56	140	117	99	84	22	23	17	20	33	24	28	26	124	42	31	40	26	36	40	28	42	60	50	116	54	140	58	27	.....	1.526
Oakdale (near)*3	Evaporation.....	157	139	163	.031	.053	.074	.071	.087	.060	.093	.074	.071	.078	.109	.027	.062	.088	.096	.098	.059	.049	.052	.000	.012	.069	.095	.097	104	.054	.069	.....	2.289
	Wind movement.....	60	75	60	146	132	96	61	34	32	36	67	45	37	80	113	55	64	174	216	70	47	42	71	138	164	174	86	160	58	84	.....	2.727
Tahoe**4.....	Evaporation.....	105	135	.070	.030	.060	155	.055	110	.065	.065	145	.095	.065	115	1	.025	115	120	1	135	.075	125	.045	1	.020	1	.060	.070	.070	.065	.....	2.225
	Wind movement.....	46	78	50	189	113	73	58	54	52	62	69	46	34	48	108	116	46	56	55	68	39	49	59	59	74	344	88	55	63	.....	2.348	

\* 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 November, 1918.

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

Daily Precipitation for November, 1918.

Table with 33 columns (Stations, Watersheds, 1-31, Total) and multiple rows listing various California locations and their monthly precipitation data for 1918.

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. ... Precipitation included in the next following measurement. † Separate dates of fall not recorded.

Daily Temperature for November, 1918.

Table with 32 columns (Stations 1-31, Mean) and 32 rows (Bakersfield to Stockton). Each station row contains two sub-rows for Maximum and Minimum temperatures.

SUPPLEMENTAL PRECIPITATION TABLE.

Table with 10 columns (Stations, Watersheds, Precip. inches) and 32 rows listing various locations and their precipitation amounts.

**SNOWFALL IN THE MOUNTAINS.**

During the present season but little snow had fallen in the mountains of California previous to November 1st. Heavy snow fell on Mount Shasta on September 12th-13th, and again on the 27th, on which date light snow fell throughout the high Sierra Nevada Mountains, the first of the season. High temperatures followed, however, and this snow soon disappeared.

During October the precipitation was relatively light throughout California, and the snowfall in the mountains was also deficient. On several occasions the isolated peaks were snow-covered, but subsequent high temperatures melted most of this snow. At Summit, Placer County, altitude 7,017 feet, but four inches of snow fell during October.

On November 1st there was no snow on the ground at any of the 300 stations from which reports were received. Only the isolated peaks were snow-covered. During November moderately heavy precipitation occurred throughout California, and the snowfall in the mountains was proportionately heavy. In the Coast Ranges and in the mountains of southern California the highest peaks were covered with snow on several occasions. However, at the close of the month most of this snow had disappeared, partly through melting and partly through evaporation.

In the high Sierras heavy snow fell on November 3d-5th, during the eastward passage of the first well-defined storm of the season. Warm sunshine and desiccating winds followed, and most of this snow disappeared by the middle of the month. Light snow fell on the 15th and 16th, and again on the 18th and 19th. Rapid melting followed, however. Heavy snow again fell in the high Sierras on the 23d and 24th. Though some melting followed, a considerable portion of this snow remained on the ground at the close of the month.

Most of the snow which fell during November occurred above the 5,000-foot level in the Sierra Nevada. The greatest amount which fell at any one station was that of 54 inches which occurred at Summit, Placer County, altitude 7,017 feet. At the close of the month the greatest amount on the ground at any of the 300 stations was 21 inches, at Summit. In general, the November snowfall was somewhat above normal throughout the central portion of the Sierra Nevada, and it was deficient elsewhere throughout the State.

A. H. P.

**COMPARATIVE SNOWFALL DATA FOR NOVEMBER.**

(Amount on the Ground.)

	FORDYCE DAM.			SUMMIT.			TAMARACK.		
	1st.	15th.	End of mo.	1st.	15th.	End of mo.	1st.	15th.	End of mo.
1907	0	0	0	2	0	2	0	3	0
1908	0	0	12	2	0	27	0	0	29
1909	6	32	5	4	47	4	6	55	22
1900	0	0	6	0	3	9	0	5	8
1911	0	12	5	0	16	2	0	31	6
1912	5	9	6	2	4	T.	1	17	3
1913	0	15	34	0	15	32	0	11	36
1914	0	0	9	0	0	12	0	0	11
1915	0	7	9	0	8	6	0	4	3
1916	0	10	9	0	10	20	0	4	7
1917	0	0	0	0	0	0	0	0	0
1918	0	12	17	0	7	21	.....	.....	.....

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.
<b>Klamath Watershed.</b>					
<i>Siskiyou County.</i>					
Yreka	2,625	2	.....	0	0
<i>Trinity County.</i>					
Hayfork	2,300	T.	.....	0	0
Ruth	2,925	T.	.....	0	0
Weaverville	2,182	0	.....	0	0
<b>Mountain Lakes.</b>					
<i>Modoc County.</i>					
Alturas	4,400	2	- 1	0	0
Cedarville	4,675	6	0	T.	2
Fort Bidwell	4,375	8	.....	1	4
<i>Lassen County.</i>					
Eagle Lake	5,000	5	+ 2	2	0
Madeline	5,270	6	+ 2	T.	3
<i>Nevada County.</i>					
Grass Valley	2,690	0	.....	0	0
Nevada City	2,850	0	0	0	0
North Bloomfield	3,214	2	0	0	0
Truckee	5,817	.....	.....	.....	.....
<i>Placer County.</i>					
Gold Run	3,222	0	- 1	0	0
Tahoe	6,230	22	.....	3	8
<i>Inyo County.</i>					
Bishop	4,450	.....	.....	.....	.....
Bishop Creek	8,390	8	- 2	0	0
Lone Pine	3,728	0	.....	0	0
Wells Meadow	5,280	.....	.....	.....	.....
<b>Sacramento Watershed.</b>					
<i>Siskiyou County.</i>					
McCloud	3,270	2	- 2	0	0
Sisson	3,565	0	- 4	0	0
<i>Plumas County.</i>					
Bucks	5,515	18	- 3	6	4
Canon Dam	4,570	0	.....	0	0
Chester	4,550	12	+ 4	1	1
Clover Valley	5,700	11	.....	1	0
La Porte	5,000	21	+ 6	5	4
Portola	4,832	12	.....	0	0
Quincy	3,400	2	- 1	0	0
<i>Butte County.</i>					
De Sabla	2,500	0	0	0	0
Inskip	4,975	16	+ 9	0	2
West Branch	3,216	2	+ 1	0	0
<i>Yuba County.</i>					
Camptonville	3,500	2	+ 1	0	0
<i>Sierra County.</i>					
Downieville	3,150	T.	- 1	0	0
Sierraville	5,000	4	0	0	0
<i>Nevada County.</i>					
Deer Creek	3,700	4	+ 1	0	0
Fordyce Dam	6,500	39	+ 6	12	17
Lake Spaulding	4,600	27	+17	4	3
<i>Placer County.</i>					
Blue Canon	4,695	0	- 9	0	0
Emigrant Gap	5,230	24	+11	0	T.
Summit	7,017	54	+20	7	21
<b>San Joaquin Watershed.</b>					
<i>Alpine County.</i>					
Tamarack	8,000	.....	.....	.....	.....
Twin Lakes	7,970	.....	.....	.....	.....
<i>Tuolumne County.</i>					
Hetch Hetchy	3,665	.....	.....	.....	.....
Lake Eleanor	4,700	12	+ 4	0	0
<i>Kern County.</i>					
Glennville	3,300	T.	- 3	0	0
<i>Mariposa County.</i>					
Yosemite	3,945	4	0	0	0
<i>Fresno County.</i>					
Camp Seven	6,980	.....	.....	.....	.....
Cascada	4,900	4	.....	0	0
Hume	5,300	.....	.....	.....	.....
Huntington Lake	6,950	42	.....	4	9
Stevenson Creek	4,250	7	.....	0	0
<i>Tulare County.</i>					
Hot Springs	3,300	0	0	0	0
Springville	4,000	3	- 1	0	0
<b>Mountains of Southern California.</b>					
<i>Cuyamaca</i>					
Julian	4,677	T.	- 2	0	0
Mount Wilson	4,222	T.	.....	0	0
Nellie	5,704	T.	.....	0	0
Seven Oaks	5,350	1	.....	0	T.
Squirrel Inn	5,000	0	- 1	0	0
	5,280	0	- 2	0	0