

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

EDWARD A. BEALS, District Forecaster.

VOL. XXII. SAN FRANCISCO, NOVEMBER, 1918. No. 11.

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.									
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	138	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	089	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	081	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.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.					Precipitation, in inches.				Number of days.			Prevailing direction of wind.	Observers			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall (unmelted).	Precipitation 01 inch or more.			Clear.	Partly cloudy.	Cloudy.
Alturas	Modoc	4,400	14	36.5	-2.4	68	2	4	28	52	0.92	-0.20	0.34	2.0	5	11	11	8	n.	Prof. C. R. Towle.
Antioch	Contra Costa	46	39	51.8	-2.0	78	2	37	12	30	1.69	+0.31	0.60	0	5	11	14	5	s.	C. G. McDaniel.
Atascadero	San Luis Obispo	837	2	47.9		85	1	21	26	49	3.34		1.56	0	8	13	12	5	n.	Colony Holding Corp. The Banning Co. C. C. Hillis.
Avalon	Los Angeles	30	8																sw.	Santa Fe Co.
Azusa	do	540	16	60.1	+1.1	91	10	37	29	43	2.49	+0.93	0.98	0	6	16	5	9	sw.	E. L. White.
Bakersfield	Kern	404	29	54.8	-0.8	95	8	27	13	59	0.85	+0.39	0.29	0	2	20	3	7	sw.	State University.
Barstow	San Bernardino	2,105	15	48.9	-6.0	82	2	25	29	42	0.24	-0.06	0.14	0	9	17	5	8	sw.	Union Sugar Co.
Berkeley	Alameda	317	31	53.6	-0.6	71	1	38	28	24	3.48	+0.93	1.18	0	2	17	4	0	n.	Southern Pacific Co.
Betteravia	Santa Barbara	155	5	55.2		73	23	31	12	37	1.66		0.49	0	6	20	0	10	n.	G. L. Suits.
Blue Canon	Placer	4,695	19	42.0	-2.5	65	7	20	7	35	3.25	-4.53	1.50	0	3	18	11	1	n.	R. M. Allen.
Blythe	Riverside	268	9	57.1		92	1	29	9	50	0.49		0.40	0	2	23	1	6	n.	A. J. Hann.
Bonita	San Diego	2,000	18	59.6	+1.4	88	7	30	29	45	1.62		0.58	0	5	19	7	4	sw.	M. D. Wittner
Branscomb	Imperial	-105	8	59.2		193	1	29	30	46	0.06	-3.73	2.73	0	1	28	0	2	sw.	U. S. Forest Service.
Brawley	Calaveras	3,400	2	43.6		70	1	25	17	31	5.58		1.34	2.0	7	17	4	9	sw.	H. M. Rouse.
Calaveras Ranger Sta.	Imperial	0	13	59.4	-2.5	86	11	32	27	47	0.09	-0.25	0.08	0	2	17	10	3	nw.	Pacific Gas & Electric Co.
Camptonville (near)	Yuba	3,500	11	46.5		76	1	26	26	34	4.55		1.72	1.5	9	16	3	11	s.	T. H. Johnstone.
Cedarville	Modoc	4,675	24	37.8	-1.5	66	1	24	43	41	0.97	-0.81	0.55	6.2	3	14	12	4	n.	U. S. Bureau Plant Ind.
Chico	Butte	189	48	49.8	-4.0	84	1	24	28	41	2.48	-0.11	1.00	0	7	13	10	7	n.	Prof. F. P. Brackett.
Claremont	Los Angeles	1,200	26	53.0	-5.3	87	1	31	18	49	2.26	+0.95	0.91	0	4	19	7	4	n.	John O. Ogle.
Cloverdale	Sonoma	340	16	51.5	-2.6	76	1	30	28	30	5.14	+1.11	1.60	0	8	14	1	15	n.	Southern Pacific Co.
Colfax	Placer	2,421	47	48.2	-3.5	74	1	28	26	31	5.79	+0.85	1.81	0	5	19	1	10	n.	T. C. Sias.
Corona	Riverside	615	4	57.2		89	1	37	7	44	1.28		0.49	0	6	19	1	10	nw.	Thos. E. Peacock.
Crescent City	Del Norte	125	4	50.3	-0.4	71	13	33	25	26	7.88	-3.30	2.25	0	12	11	7	12	nw.	S. H. Beckett.
Davis	Yolo	51	46	50.0	-5.7	80	1	26	29	39	2.19	+0.56	0.94	0	5	20	4	6	sw.	J. T. Mason.
Downville	Sierra	3,150	7	43.5		71	1	24	8	36	5.73		1.63	0.5	9	16	6	8	s.	R. W. Durham.
Durham	Butte	160	23	49.7	-2.7	64	3	29	29	35	2.34	-0.43	0.86	0	9	21	0	9	sw.	Philip L. Kessler.
El Cajon	San Diego	482	19	58.2	-0.9	95	1	29	29	56	1.83	+0.44	0.52	0	7	18	9	3	nw.	W. L. Wilhite.
Elsinore	Riverside	1,300	2	57.2		98	1	32	29	52	0.71		0.23	0	5	16	14	0	sw.	A. R. Moon.
Esccondido	San Diego	657	24	56.1	+0.3	92	1	29	29	51	1.95	+0.71	0.58	0	9	18	4	8	sw.	U. S. Weather Bureau.
EUREKA	Humboldt	64	32	50.0	-1.0	65	18	33	28	23	4.74	-0.93	1.83	0	10	10	6	14	sw.	G. I. Marvin.
Folsom	Sacramento	252	45	52.9	-1.7	78	1	30	28	40	2.37	-0.17	1.00	0	5	16	3	11	n.	Fontana Land Co.
Fontana	San Bernardino	1,325	6	55.2		89	1	33	7	47	2.08		0.75	0	7	22	3	5	sw.	C. R. Decious.
Fort Bidwell	Modoc	4,375	29	35.6	-3.6	58	1	1	26	32	1.09	-0.90	0.40	8.0	5	6	6	18	sw.	U. S. Weather Bureau.
FRESNO	Fresno	293	31	52.8	-1.8	81	1	31	28	30	1.81	+0.78	0.62	0	6	15	8	7	nw.	Mrs. L. M. Wentworth.
Grass Valley	Nevada	2,690	46	48.0		72	1	20	15	46	5.72	+0.11	1.78	0	9	15	4	11	w.	O. A. Denton.
Greenland Ranch	Inyo	-178	7																	Santa Fe Co.
Hanford	Kings	249	18	53.8	-0.1	84	1	30	29	46	1.41	+0.58	0.48	0	6	13	0	17	nw.	Dr. F. J. Kinley.
Healdsburg	Sonoma	110	25	52.0	-2.1	82	1	30	29	37	5.34	+1.45	1.81	0	7	17	6	7	nw.	Grangers' Union.
Hollister	San Benito	284	44	50.0	-4.5	75	1	28	28	30	2.33	-0.84	0.69	0	8	16	4	9	nw.	U. S. Weather Bureau.
INDEPENDENCE	Inyo	3,987	12	46.2		70	3	23	30	35	7	-0.29	0	0	6	9	6	3	nw.	Pacific Gas & Electric Co.
Inskip	Inyo	4,975	11	42.4		62	1	26	25	20	5.90		2.26	15.5	6	9	6	3	sw.	A. J. Reef.
Kennett	Shasta	730	6	51.0		78	1	30	25	32	6.74		2.20	0	7	16	6	8	sw.	Southern Pacific Co.
King City	Monterey	333	31	55.4	+1.5	90	4	30	17	57	1.04	-0.23	0.82	0	3	23	0	7	n.	C. W. Hendel.
La Porte	Plumas	5,000	24	31.8	-9.2	63	1	11	17	29	5.58	-4.07	1.88	21.0	9	19	4	7	n.	T. E. Bence.
Lemon Cove	Tulare	600	23	54.0	-2.6	83	1	34	26	20	2.09	+0.53	0.80	0	7	17	3	10	nw.	The Director.
Lick Observatory	Santa Clara	4,209	29	43.8	-4.6	66	1	28	28	17	3.24	+0.30	0.81	0	10	17	7	6	n.	Basil Prior.
Lindsay	Tulare	384	4	50.6		83	1	27	29	41	1.53		0.69	0	6	15	7	8	nw.	G. F. Marsh.
Lone Pine	Inyo	3,728	13	46.8	-0.2	70	11	20	12	44	0.02	-0.13	0.02	0	1	26	4	0	s.	U. S. Weather Bureau.
LOS ANGELES	Los Angeles	293	41	60.8	+0.5	86	10	45	29	28	1.85	+0.37	0.86	0	5	17	6	7	ne.	McCloud River Lbr. Co.
McCloud	Siskiyou	3,270	8	39.4		63	1	17	18	37	4.02		1.92	2.5	5	16	2	12	n.	E. L. Williams.
Madeline	Lassen	5,270	9	34.2		64	2	-8	27	48	0.58		0.40	6.0	3	11	9	10	nw.	Southern Pacific Co.
Marysville	Yuba	67	47	60.0	-6.4	75	1	29	29	33	2.81	+0.64	1.03	0	6	18	4	8	n.	E. A. Palmer.
Mecca	Riverside	-185	12	60.7	-1.1	92	20	29	30	51	7	-0.27	T.	0	0	16	11	3	nw.	Santa Fe Co.
Merced	Merced	173	44	50.4	-5.0	80	2	31	28	34	2.09	+0.88	0.69	0	5	21	1	8	nw.	U. S. Weather Bureau.
MOUNT TAMALPAIS	Marin	2,375	19	48.3	-2.3	70	1	36	4	19	5.58	+1.51	1.95	0	12	12	9	9	nw.	Wendell P. Hoge.
Mount Wilson	Los Angeles	5,704	1	45.0		75	1	25	28	25	4.79		2.00	T.	8	17	3	10	sw.	State Hospital
Napa	Napa	20	41	44.1	-10.0	64	1	28	30	24	3.61	+1.12	1.25	0	8	16	10	4	nw.	Santa Fe Co.
Needles	San Bernardino	477	26	56.8	-3.9	90	3	31	30	45	0.19	-0.23	0.12	0	2	20	1	9	n.	B. H. Preston.
Nevada City	Nevada	2,550	26	44.6	-3.2	77	1	16	28	46	4.96	-0.89	1.27	0	9	5	14	11	sw.	E. S. Wengenheim.
Newman	Stanislaus	91	29	50.4	-5.7	81	2	26	29	38	2.94	+1.82	1.86	0	6				nw.	Chabot Observatory.
Oakland	Alameda	36	42	53.0	-0.8	69	1	38	28	18	3.82	+0.47	1.04	0	8	17	12	1	n.	U. S. Rec. Service.
Orland	Glenn	254	36	51.4	-5.0	80	1	35	29	35	2.26	-1.04	0.82	0	6	9	6	15	sw.	R. P. Hamlin.
Oroville (near)	Butte	250	34	51.2	-4.7	80	1	30	28	47	3.09	+1.79	1.01	0	7	14	13	3	sw.	E. J. Nye.
Pasadena	Los Angeles	1,085	28	55.6	-3.5	89	1	27	47	49	3.19	+1.49	1.56	0	8	14	13	3	sw.	John Laidis.
Paso Robles	San Luis Obispo	800	31	51.4	-0.1	80	1	27	27	49	4.15	+1.49	1.56	0	7	13	1	16	nw.	J. E. Bailey.
Petaluma	Sonoma	1,925	29	47.5		77	1	22	28	45	3.61	-1.23	1.20	0	7	13	1	16	nw.	U. S. Weather Bureau.
POINT REYES	Marin	490	26	53.6	-0.3	63	9	46	5											

Daily Precipitation for November, 1918.

Stations.	Watersheds.	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		
Alturas	Sacramento				.14											.30									.34	.07		.07						0.92
Antioch	San Joaquin			.10	.28										.23			.48						.60									1.69	
Atascadero	Coast			.08	.30									.19	.26			1.56	.15					.78	.02								3.34	
Avalon	Ocean																																	
Azusa	Coast				T	.07	T							T	.37	T		.98	.12	.03					.92								2.49	
Bakersfield	San Joaquin					.06												.29	.28						.22								0.85	
Barstow	Desert																.14								.10									0.24
Berkeley	Coast			.46	.65	.06								T	.04	.23	T	1.18	.05					.79	T			T	.02				3.48	
Betteravia	do			.16	.15									.49	.30		.41							.15									1.66	
Blue Canon	Sacramento	T			.30	T								1.45										1.50									3.25	
Blythe	Colorado													T	.09										.40				T				0.49	
Bonita	Coast				T	.08	.09																	.47									1.62	
Branscomb	do			2.73	.68									1.10	2.00	.40							1.50	.55									10.32	
Brawley	Imperial Valley							.68	.68					.06	T																		0.06	
Calaveras R. S.	San Joaquin			.88	1.13	T								.08	T	1.00		.32	.45						1.34	.46				.01			5.58	
Calxico	Imperial Valley																								.90								0.09	
Camptonville	San Joaquin			1.10	.15	.06								.02	1.72		.36	.14						.10									4.55	
Cedarville	Mountain Lakes									T					.55									.27									0.97	
Chico	Sacramento				1.00										.12		.09	.11						.12	1.00	.04							2.48	
Cloverdale	Coast														.43		.75	.17						1.53	.04								2.26	
Colfax	do			1.60	.45	.02								.19	.57		.74							1.53	.04								5.14	
Corona	Sacramento			1.81	.37										1.26										.42								5.79	
Corona	Coast				.01	T								.08	.27		.49	.16						T	.27				T				1.28	
Crescent City	do			T	2.25	.68			.02	.38	.90			1.35	.51	.16	.02							.80	.48			.33	.02				7.88	
Davis	Sacramento				.64										.44		.15							.94									2.19	
Downieville	do			.78	1.12	.05									1.63	.05	.64	.07						1.15	.74								5.73	
Durham	do				.86										.10		.11	.12						*									2.34	
El Cajon	Coast					.42	.06							.17	.52	.10		.25						*	.31								1.83	
Elsinore	do				.10									.15										.19	.04								0.71	
Escondido	do				.07	.12	.10								.56	.02	.08		.20	.22					.60	.28							1.95	
EUREKA**	do			4.01	.45	.35				T	.30	.30			.47	.37		T						.60	.28			.18	T				4.74	
Folsom	Sacramento				.50	.12									.50								T	.25		1.00	T						2.37	
Pontana	Coast				.10									.09	.42	.05								.65	.02								2.08	
Fort Bidwell	Mountain Lakes				T	.21					T	.07			.05	.40									.36								1.09	
FRESNO**	San Joaquin				.05	.35									.23		.23								.62									1.81
Grass Valley	Sacramento				.75	.56									1.78	.01									1.58	.20		.02						5.72
Greenland Ranch	Desert																																	
Hanford	San Joaquin			.11	.10										.06			.28	.38						.48									1.41
Healdsburg	Coast			1.00	.90										.61			.78	.21						63	1.81								5.94
Hollister	do				.69	.15								.07		.32	.02		.29	.28						.51								2.33
INDEPENDENCE**	Owens				T																													T
Inskip	Sacramento			1.28	.98										2.26			.20							1.07	.11								5.90
Kennett	do			1.95	.22										25	2.20		.66	.07						1.39									6.74
King City	Coast				T																													1.04
La Porte	Sacramento			1.30	.81										.13	1.88		.04	.26	.03					82	15	.07	T						1.04
Lemon Cove	San Joaquin				.46	.05									.05	.30		.09	.34						1.05	.08								5.58
Lick Observatory	Coast			.42	.34									.04	.19	.47		.14	.81	.06					.74	.03								2.09
Lindsay	San Joaquin				.38										.08	.08		.32	.18							.69								3.24
Long Pine	Owens																																	1.53
LOS ANGELES**	Coast				.03										T										.48									0.02
McCleod	Sacramento			1.92	.40					T					.35		.24	.94						.86	.13									4.02
Madeline	Mountain Lakes				.03	T										.15	T								.52									0.58
Marysville	Sacramento			1.03												.35										.17	.73	.01						2.81
Mecca	Desert					T																												T
Merced	San Joaquin				.56											.55										.89								2.09
Mt. TAMALPAIS**	Coast			.77	.51	.03								T	.02	.34	.18		.04	1.89	.16				1.19	.04		.01					5.18	
Mount Wilson	do				.30	.04									.78	.28									2.00	.37								4.79
Napa	do				1.25											.35									*	1.34	.68							4.79
Needles	Colorado					T									.12	T																		3.61
Nevada City	Sacramento			.63	.64	.03									T	1.27	.04		.28	.48					1.13	.46								0.19
Newman	San Joaquin				.21										.01	.34			1.86	.16					.56									4.96
Oakland	Coast			.52	1.02	.02									T	.20			1.09	.21					.76									2.94
Orland	Sacramento			1.04	.04	.07									T	.10																		3.82
Oroville (near)	do				.63										.25	.38		.06	.38															2.58
Pasadena	Coast				.04	T									.25	.16			1.01	.10														2.26
Paso Robles	do			T	.34	.04									.07	.11			1.18	.70					.12	.27	.36							2.19
Petaluma	do			.60	.05										T	.02	.55			1.56	.13					1.21								3.04
Placerville	Sacramento			.12	1.10										T	.80				2.22	.17					.90	.30							4.15
POINT REYES**	Coast			.89	.04										.11	.80			.69	.59														

Daily Temperature for November, 1918.

Table with 32 columns (Stations, 1-31, Mean) and 40 rows of station data including 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 11 columns (Stations, Watersheds, Precip. inches) and 40 rows of precipitation data for various locations such as Abbotts, Aruanga, Alder Creek, Angiola, Antelope Valley, Arroyo Seco, Auburn, Bagdad, Barrett Dam, Beaumont, Beaumont (near), Big Bar, Bishop, Bishop Creek, Bridgeport, Cahulla, Campbell, Camp Baldy, Camp Bonita, Campo, Camp Rincon, Canon Dam, Cascada, Centerville, Chester, China Flat, Churn Creek, Clovis, Clyde Ranch, Colby Springs, Coldbrook, Colusa, Covelo, Crockett, Cuyamaca, Deer Creek, Del Monte, Denair, and De Sable.

**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