CLIMATOLOGICAL DATA FOR OCTOBER, 1912.

DISTRICT No. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

GENERAL SUMMARY.

October, 1912, was a pleasant month, but much cooler than the average October and with less rainfall than usual. In many respects October is the most pleasant month of the year in California, owing to the fact that light rains occur for short periods and are not of such duration or intensity as to interfere with the general run of fine weather. Temperatures are not extreme, there being an absence of high afternoon readings and at the same time no morning temperatures are low enough to cause discomfort. The present month was such as here described and there were no unusual disturbances. A moderate depression over the southern half of the State at the beginning of the month caused some cloudiness, light showers, and occasional thunderstorms in the mountains. On October 2 a thunderstorm was reported at San Diego. For four or five days the weather was unsettled in the section south of the Tehachapi, but elsewhere pleasant weather prevailed. A succession of clear days followed, lasting until October 21, when the southern end of a northern storm caused rain in the central and northern counties. Again, on October 25, light rains fell over the same districts, and for several days the weather was unsettled, and showers were reported in the Bay district and Sacramento Valley. The month closed with fair weather. As illustrating the diversity of climate within comparatively short distances in California, due largely to the influence of local factors, it may be stated that on October 13 the temperature did not rise above 48° at Eureka, nor above 52° at Southeast Farallon, while at Mount Tamalpais the maximum temperature was 77°, at Point Reyes 76°, and at San Francisco 79°. On the same date the maximum temperature at San Diego was 94°; at Los Angeles 92°, at Fresno 88°, at San Jose 82°, and at Sacramento 80°.

The month as a whole was favorable for raisin making, fruit drying, and other agricultural pursuits. There was no damage to raisins and the thrashing of beans was not interfered with. All the crops were safely harvested and the water supply was ample for agricultural purposes.

TEMPERATURE.

The temperature for the State was 4° below the normal. The following table gives the mean temperature for each October during the time for which records have been kept:

Years.	Mean.	Departure.	Years.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897	58.5	−2.6	1905	60.7	−0.4
1898	61.0	−0.1	1906	63.4	+2.3
1899	58.1	−3.0	1907	62.0	+0.9
1900	58.8	−2.3	1908	58.3	−2.8
1901	63.2	+2.1	1909	60.2	−0.9
1902	60.7	−0.4	1910	61.9	+0.8
1903	64.0	+2.9	1911	59.1	−2.0
1904	61.6	+0.5	1912	57.1	−4.0

The highest temperature recorded was 109° at Suisun on the 17th; but this record is doubtful, as it is not in accord with other reports for that date. Rejecting this reading, the highest temperature was 102° at Oceanside on the 13th. This is 6° cooler than the highest temperature recorded during October, 1911. The lowest temperature was 2° at Tamarack on the 7th, or 11° colder than the lowest temperature reported during October, 1911, which occurred at the same station. The highest mean temperature was 74.4° at Bagdad, and the lowest was 28.4° at Tamarack, the elevation of which is 8,000 feet. The mean temperature at this station during October, 1912, was 10° lower than during October, 1911.

PRECIPITATION.

The average monthly precipitation for California for October with departures from the normal is as follows:

Years.	Mean.	Departure.	Years.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897	1.79	+0.34	1905	0.12	−1.33
1898	0.59	−0.86	1906	0.09	−1.36
1899	3.50	+2.05	1907	1.56	+0.11
1900	2.34	+0.89	1908	1.37	−0.08
1901	1.50	+0.05	1909	1.66	+0.21
1902	1.78	+0.33	1910	0.83	−0.62
1903	0.49	−0.96	1911	0.58	−0.87
1904	2.74	+1.29	1912	1.09	−0.36

The greatest monthly precipitation was 6.15 inches at Weitchpec. Nineteen stations reported no rain during the month.

SUNSHINE.

The following table gives the total hours of sunshine and percentages of the possible:

Stations.	Hours.	Percentage of possible.	Stations.	Hours.	Percentage of possible.
Eureka	66	19	Sacramento	268	77
Fresno	299	86	San Diego	242	69
Los Angeles	231	66	San Francisco	317	91
Mount Tamalpais	271	78	San Jose	301	86
Red Bluff	227	66	San Luis Obispo	255	73

There was less sunshine than during the same month of the preceding year, except at San Francisco, San Jose, and Mount Tamalpais, where there was more.

NOTES ON THE RIVERS OF THE SACRAMENTO AND LOWER SAN JOAQUIN WATERSHEDS DURING THE MONTH OF OCTOBER, 1912.

By N. R. TAYLOR, Local Forecaster.

Sacramento watershed.—The rivers of this watershed continued at abnormally low stages during the entire month.

The rains that were more or less general during the last decade of the month had little effect on the run-off in any stream, the resultant rise in no case being greater than 0.5 of a foot.

From the mouth of the Pit to tidewater the Sacramento River averaged from 0.5 of a foot to nearly 1 foot below the average stages of the preceding month. The average stage at Sacramento City, 4.6 feet, is 0.1 of a foot below the lowest previous average of which there is a record.

The rivers of the Feather-Yuba Watershed maintained stages slightly higher than those of the preceding month, and the American River averaged 0.2 of a foot below. For mining purposes water was not plentiful, but there were no complaints from power companies.

Notwithstanding the extreme low water in the Sacramento River there were no serious or prolonged interruptions in navgiation, the tides being appreciably felt well above the mouth of the American.

Lower San Joaquin Watershed.—The occurrence of rainfall in this watershed was coincident with that of the Sacramento, but there was no rise in any stream greater than 0.5 of a foot, and the average stages generally showed little departure from those of the preceding month.

NOTES ON STREAMS OF THE UPPER SAN JOAQUIN WATERSHED.

By W. E. BONNETT, Local Forecaster.

No noteworthy changes occurred in the stages of streams of this district during October, the stage at every point, already low at the beginning of the month, showing a slight decline on November 1. The sources of water supply have held out fairly well, but no considerable amount of precipitation to increase the flow has occurred in these watersheds during the early autumn months.

Late cuttings of alfalfa in sections dependent on ditch water are very light, but no serious or permanent injury appears to have resulted from the short water supply. As there has been practically no rain, foothill ranges have not started.

FROST STUDIES.

By A. G. MCADIE.

NOTE ON THAWING AND DEFROSTING.

In answering a request for information from a large fruit company concerning the efficiency of burning baled straw to protect crops from frost, it became necessary to discuss the problem of the prevention of rapid heating of chilled vegetable tissue. During the frost of December 26, 1911, in southern California, when several million dollars worth of citrus fruit was damaged, it was noted that at many points in the citrus belt there was a rise of 15° F. in temperature between 7 a. m. and 9 a. m. At some places there was a rise of 20° F. At one station there was a rise of 24° in 2 hours and it was said that no damage resulted, which seems doubtful. Between 9 and 10 a. m., on the frosty morning at one place the temperature rose 17° in 1 hour and at another orchard there was a rise of 16°. Such rapid rises after the fruit had been for a period of 6 hours at a temperature of 20° to 24° might account for destructive changes in the cell tissue. It would appear that the most effective frost-protection method would be one devised with special reference to the prevention of such rapid heating of chilled vegetable tissue. Following this line of investigation an inquiry was submitted to the Bureau of Plant Industry, and Dr. William A. Taylor, assistant chief of the bureau, and Prof. A. V. Stubenrauch, answered the question as follows:

> Answering the inquiry as to whether frost-protective methods could not be devised with special reference to the prevention of such rapid heating of chilled vegetable tissue as occurred in connection with the disastrous freeze of December 26 last, in southern California, studies made by Stubenrauch and his assistants on the effect of freezing of oranges, which work was done in a cold-storage warehouse where the fruits were allowed to remain in a cold temperature for a much longer time than is the case on frosty nights, show that the length of time the fruit remains in a frozen condition has a very material effect upon its condition after thawing out. There is apparently an optimum temperature for thawing the frozen fruit with the least resultant injury. If the thawing is done too slowly, the fruit is injured more than where a somewhat higher defrosting temperature is used and the thawing accomplished more quickly. On the other hand, it was found that quick defrosting was more injurious than slow defrosting, so that it appears probable that through experimentation the defrosting temperature which would be most effective could be determined.
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> Of course storage-house conditions, both as regards frosting and defrosting, are very different from those to which fruit on the trees is subjected during a frost.
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> Undoubtedly the most important thing in connection with frost fighting in the field is to prevent the foliage and fruit from being frosted. Where this is not possible it seems probable that anything which would considerably retard the defrosting would be helpful by permitting the gradual restoration of the tissues and juices to their normal state.

APPLES, CODLING MOTH, AND CLIMATE.

By Prof. C. W. WOODWORTH, of the University of California.

The following paper is a portion of an address entitled "The Battle of the Arsenicals," read at the Watsonville Apple Show, October, 1910, and is reproduced through the courtesy of the editor of the Pacific Rural Press.

> It is undoubtedly true that nowhere in the world is there an area planted to any crop of the extent of the apple orchards in this valley, where spraying is so universally and efficiently done, and there is no similar area where such difficulties have to be surmounted in order to place spraying on a practical basis. The story of the horticultural achievements of the Pajaro Valley will always include the contribution here made to the means of controlling insect pests.
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> Just a quarter of a century ago I had the privilege of taking part, under the direction of Prof. Forbes in Illinois, in the first thorough scientific experiments made to test the efficiency of arsenicals in the control of the codling moth. This method has gradually extended until now spraying with these substances has become an essential part of the practice of apple growing in every region which figures in the commercial production of this fruit. * * * The conquering of the codling moth has been the work of the last eight years. Previous to 1903 spraying for the codling moth was not extensive enough to produce any appreciable effect on the apple market in this valley. Even to-day the good which can come from spraying is only a little over half realized. While we have a right to felicitate ourselves upon the progress thus far made, that this valley to-day leads the world in this phase of the fight for perfect fruit, let us realize that this preeminence can only be maintained by improving the spraying practice over the greater portion of the present acreage, bringing it in line with the best practice in the valley. Many orchards are experiencing a loss from codling moth notwithstanding their spraying work, of between 10 and 20 per cent, while adjacent orchards under identical climatic conditions suffer a loss of less than 1 per cent. * * *

Prof. Woodworth here gives the history of the work carried on in the attempt to prove that the arsenicals were not inefficient, as those who had previously experimented in the valley had concluded. It soon developed that the most serious problem was how to so apply the arsenicals that the foliage should not be damaged. The work was full of failures in its early stages and it became necessary to test out all the brands of arsenicals on the market, other than Paris green, and especially the lead arsenates. The most significant discovery of the year 1906 was that when a lead arsenate was so compounded that all the arsenic acid present was combined with lead no injury was produced on the most delicate foliage.

TABLE 1.—*Climatological data for October, 1912. District No. 11, California.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Oregon.																				
Klamath Agency	Klamath	4,169	3	42.8	.....	72	15	10	30	56	0.50	.....	0.40	1.0	3	17	8	6	nw.	
Klamath Falls	do	4,100	22	42.9	− 6.2	71	3	14	30	40	0.51	− 0.55	0.24	0	5	12	11	8	nw.	
Lakeview	Lake	4,825	28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Merrill	Klamath	4,070	5	42.6	.....	73	13	8	30	45	0.23	.....	0.20	0	2	17	6	8	.....	
Yonna	do	4,146	4	39.6	.....	80	14	6	30	61	0.26	.....	0.15	0	3	1	17	13	s.	
California.																				
Alameda	Alameda	19	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Chas. E. Sears.
Alturas	Modoc	4,460	8	44.0	.....	76	2†	15	20	55	0.24	.....	0.11	0.5	4	13	14	4	nw.	Prof. C. B. Towle.
Angiola	Tulare	208	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Antioch **	Contra Costa	46	33	65.3	+ 1.9	86	5	39	22	....	0.28	− 0.42	0.20	0	2	28	0	3	.....	Southern Pacific Co
Aptos **	Santa Cruz	102	27	55.7	− 2.1	75	14	37	21	....	0.81	− 1.07	0.28	0	3	24	1	6	nw.	Do.
Arrowhead Springs	San Bernardino	2,000	3	64.4	.....	91	1†	42s	28	41	2.88	.....	2.80	0	2	22	6	3	.....	Dr. E. A. Crokat.
Auburn	Placer	1,360	41	57.5	− 7.1	93	3	40	20†	38	1.21	− 0.73	0.85	0	4	22	0	9	ne.	Southern Pacific Co.
Avalon	Los Angeles	30	2	64.2	.....	88	13	51	6†	23	0.21	.....	0.21	0	1	25	5	1	w.	T. S. Manning.
Azusa	do	540	10	64.8	−0.8	98	17	40	28	43	0.51	− 0.50	0.28	0	2	21	6	4	sw.	A. P. Griffith.
Bagdad	San Bernardino	784	9	74.4	.....	95	1	54	5	33	0.18	.....	0.18	0	1	29	0	2	.....	Santa Fe Co.
Bakersfield	Kern	404	23	62.9	− 2.6	96	18	32	24	51	0.00	− 0.36	0.00	0	0	.....	.....	.....	.....	Do.
Barstow	San Bernardino	2,105	9	64.2	.....	89	1†	41	31	40	1.10	− 0.59	0.84	0	3	27	0	4	w.	E. L. White.
Berkeley	Alameda	317	25	60.0	+ 0.7	86	13†	43	24	36	0.70	− 0.79	0.29	0	5	19	11	1	w.	State University.
Biggs **	Butte	98	13	59.0	− 4.8	84	17	33	30	....	0.97	− 0.55	0.46	0	4	26	0	5	n.	Southern Pacific Co.
Bishop	Inyo	4,450	17	50.6	− 5.3	95	1	18	26†	57	0.00	− 0.41	0.00	0	0	.....	.....	.....	.....	Paul E. Lodge.
Bishop Creek	do	8,500	2	38.8	.....	58	17†	18	28†	32	1.45	.....	0.60	14.5	3	.....	.....	.....	.....	Do.
Blocksburg	Humboldt	1,700	6	52.7	.....	80	2	31	21†	40	4.42	.....	1.40	0	8	9	12	10	nw.	Victor Hope.
Blue Canon	Placer	4,695	13	48.6	− 4.4	69	5†	25	20	39	3.66	− 1.35	1.70	T.	6	20	0	11	n.	Southern Pacific Co.
Blythe	Riverside	268	3	66.2	.....	94	1	32	29	50	0.70	.....	0.70	0	1	23	1	7	n.	D. H. Carey.
Branscomb	Mendocino	2,000	12	52.8	.....	80	11	30	31	43	5.77	− 0.04	1.98	0	8	22	3	6	n.	A. J. Hann.
Brawley	Imperial	− 105	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	M. D. Witter.
Burney	Shasta	3,300	2	35.4	.....	78	12	18	20†	53	0.97	.....	0.50	0	3	11	10	10	sw.	Mrs. M. D. Chambers.
Cahuilla	Riverside	3,600	1	52.1	.....	80	17†	28	29	42	0.18	.....	0.18	0	1	22	7	2	sw.	Carl Stevens.
Calexico	Imperial	0	7	70.4	.....	95	18	44	29	37	0.00	.....	0.00	0	0	28	0	3	nw.	J. E. Peck.
Caliente **	Kern	1,290	36	61.6	− 3.2	86	16	45	7	....	0.70	+ 0.31	0.31	0	4	20	0	11	.....	Southern Pacific Co.
Calistoga	Napa	363	40	55.5	− 4.5	85	8	30	20†	....	0.95	− 1.28	0.53	0	2	27	0	4	.....	Do.
Campbell	Santa Clara	217	15	55.5	− 3.4	84	13	31	21†	46	0.14	− 0.71	0.05	0	4	25	5	1	w.	F. M. Righter.
Camptonville (near)	Yuba	3,500	5	55.3	.....	86	12†	30	30	42	2.91	.....	1.20	0	7	18	3	10	s.	Cal. Gas. & Electric Co.
Cedarville	Modoc	4,675	18	44.4	− 5.6	75	3	21	24†	41	0.23	− 1.03	0.12	0	3	11	20	0	sw.	T. H. Johnstone.
Chico	Butte	189	42	59.1	− 5.3	88	15	34	24†	44	1.23	− 0.08	0.90	0	4	21	2	8	n.	C. H. Stephenson.
China Flat	Humboldt	600	3	54.6	.....	83	2	32	1	49	2.25	.....	0.53	0	7	15	6	10	sw.	O. I. Westerburg.
Chino **	San Bernardino	714	20	73.5	+ 8.2	90	6†	56	11	....	0.78	− 0.01	0.42	0	4	20	0	11	.....	Southern Pacific Co.
Cisco **	Placer	5,939	41	52.5	+ 5.8	80	1†	28	23	....	1.25	− 1.26	0.50	8.5	4	20	0	11	.....	Do.
Claremont	Los Angeles	1,200	20	63.0	− 1.4	93	17	40	28	39	0.90	− 0.12	0.30	0	5	14	11	6	w.	Prof. F. P. Brackett.
Cloverdale	Sonoma	340	10	59.0	− 3.4	89	2†	37	23	45	1.45	− 0.41	0.54	0	7	29	0	2	n.	John O. Ogle.
Coalinga	Fresno	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Union Oil Co.
Colfax	Placer	2,421	41	54.0	− 5.5	82	3	29	31	37	4.23	+ 1.79	3.53	0	4	13	4	14	n.	Southern Pacific Co.
Colusa	Colusa	60	9	55.8k	.....	81	17	34	31	37	0.27	− 0.36	0.25	0	2	.....	.....	.....	.....	C. D. McComish.
Corning **	Tehama	277	26	64.6	− 0.2	87	13	40	23	....	0.15	− 1.17	0.15	0	1	23	8	0	n.	Southern Pacific Co.
Cuyamaca	San Diego	4,677	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	L. L. Macquarie.
Davisville	Yolo	51	40	57.3	− 7.6	88	15†	27	24	47	0.25	− 0.58	0.14	0	3	22	5	4	n.	S. H. Brackett.
Deer Creek	Nevada	3,700	5	46.7	.....	78	2	25	20†	41	3.23	.....	0.90	0	10	16	6	9	w.	Cal. Gas & Electric Co.
Del Monte	Monterey	25	1	58.4	.....	78	13	40	21	30	0.28	.....	0.15	0	2	27	2	2	w.	H. R. Warner.
Delta	Shasta	1,138	27	55.3	− 4.8	86	12	33	29	44	2.01	− 3.05	0.62	0	6	20	3	8	n.	Southern Pacific Co.
Denair	Stanislaus	126	12	56.3	− 6.5	87	14	24	24	54	0.00	− 0.52	0.00	0	0	25	1	5	nw.	Santa Fe Co.
De Sabla	Butte	2,500	8	53.4	.....	82	2	30	30	37	2.19	.....	0.71	0	6	13	14	4	sw.	Cal. Gas & Electric Co.
Dobbins (near)	Yuba	1,650	8	60.8	.....	88	2†	38	30	36	2.39	.....	1.23	0	4	11	17	3	s.	Do.
Downieville	Sierra	3,150	1	50.1	.....	81	3†	26	20†	49	2.50	.....	0.70	0	10	18	2	11	s.	J. T. Mason.
Dudley	Kings	595	....	65.8	.....	93	14	58	3	39	0.08	.....	0.08	0	1	23	6	2	ne.	Union Oil Co.
Dudleys	Mariposa	3,000	3	49.8	.....	79	3	26	10†	47	0.57	.....	0.31	0	4	16	6	9	nw.	W. H. Dudley.
Dunlap (near)	Fresno	2,800	....	52.2	.....	90	3	30	27	53	0.50	.....	0.45	0	2	13	12	6	.....	U. S. Forest Service.
Dunnigan **	Yolo	65	35	68.2	− 1.1	92	1	48	28†	....	0.09	− 0.90	0.09	0	1	27	0	4	n.	Southern Pacific Co.
Dunsmuir **	Siskiyou	2,285	23	48.2	− 5.4	84	11	30	23	....	2.28	− 1.57	0.86	0	7	20	2	9	n.	Do.
Durham	Butte	160	17	58.2	− 4.1	84	15†	32	24†	45	1.28	− 0.26	0.97	0	3	19	10	2	n.	R. W. Durham.
El Cajon	San Diego	482	13	63.1	− 2.4	94	15	36	31	46	0.77	+ 0.27	0.22	0	5	23	6	2	sw.	H. H. Kessler.
Electra	Amador	725	8	60.2	.....	84	3†	40	20†	34	0.82	.....	0.42	0	4	20	7	4	.....	Cal. Gas & Electric Co.
Elsinore	Riverside	1,234	17	60.6	−4.6	90	14†	31	31	47	0.87	+ 0.29	0.45	0	4	19	7	5	w.	A. F. Schult.
Emigrant Gap	Placer	5,230	38	53.8	+3.1	78	10	27	15	35	3.28	+ 0.58	1.60	T.	5	14	9	8	.....	Southern Pacific Co.
Escondido	San Diego	657	18	62.0	− 0.1	92	17	35	31	45	0.56	+ 0.03	0.27	0	3	4	25	2	w.	A. R. Moon.
Eureka	Humboldt	64	26	50.8	− 2.3	63	24	38	20	22	1.55	− 1.35	0.55	0	11	6	15	10	se.	U. S. Weather Bureau.
Farmington **	San Joaquin	111	33	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Folsom	Sacramento	252	40	60.3	− 3.3	88	14	38	20	37	1.28	− 0.07	0.71	0	5	21	1	9	e.	F. O. Hutton.
Fordyce Dam	Nevada	6,500	17	41.5	.....	65	3	20	31	32	3.38	− 1.59	1.25	16.0	9	13	7	11	sw.	E. E. Roening.
Fort Bidwell	Modoc	4,735	23	40.7	− 9.9	75	2	12	20†	52	0.40	− 0.62	0.30	0	2	17	3	11	.....	E. O. Franklin.
Fouts Springs	Colusa	1,650	8	55.1	.....	83	2	25	25	46	1.35	.....	0.75	0	2	.....	.....	.....	.....	A. J. Burgi.
Fresno	Fresno	293	25	61.6	− 3.1	89	14	38	24	39	0.01	− 0.52	0.01	0	1	21	9	1	nw.	U. S. Weather Bureau.
Galt **	Sacramento	49	34	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Georgetown	El Dorado	2,650	39	52.4k	−11.2	80	18	32	30	37	2.22	− 1.04	1.64	0	3	18	0	13	.....	H. D. Jerrett.
Gilroy **	Santa Clara	193	38	63.2	+ 2.9	90	14†	35	21†	....	0.20	− 0.85	0.12	0	3	19	7	5	se.	Southern Pacific Co.
Gilta	Siskiyou	3,300	2	48.5	.....	78	2	29	20†	39	4.11	.....	1.73	0	10	11	5	15	s.	A. Dannenbrink.
Glennville	Kern	3,300	2	52.6	.....	78	14	32	28	31	0.19	.....	0.19	0	1	12	16	3	w.	C. H. Likely.
Gold Run	Placer	3,222	13	54.7	− 5.9	83	3	34	30	33	3.20	− 0.24	1.70	0	6	15	8	8	.....	Southern Pacific Co.
Gonzales **	Monterey	127	13	62.4	+ 3.9	88	3†	44	21†	....	0.07	− 0.59	0.07	0	1	26	1	4	n.	Do.
Grass Valley	Nevada	2,690	40	54.7	.....	79	1†	32	30	32	2.77	− 0.25	1.20	0	7	16	12	3	sw.	F. R. Hull.
Greenland Ranch	Inyo	− 178	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	J. W. Corkhill.
Greenville	Plumas	3,600	18	47.0	− 4.3	79	3	19	21	53	0.88	− 1.96	0.47	0	3	11	11	9	sw.	C. H. Higbie.
Groveland	Tuolumne	2,828	3	53.1	.....	78	1	32	27	33	1.01	.....	0.64	0	4	13	18	0	.....	H. S. Richardson.
Guinda **	Yolo	350	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Handford	Kings	249	12	58.6	− 5.1	85	14	34	21†	41	0.00	− 0.28	0.00	0	0	11	18	2	.....	Santa Fe Co.
Healdsburg	Sonoma	110	19	57.8	− 3.6	90	2	34	21	46	1.37	− 0.90	0.77	0	5	18	0	13	s.	F. J. Kinley.
Hearst	Mendocino	1,800	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	H. D. Ellmaker.
Heber	Imperial	− 20	6	68.0	.....	96	1	39	29	39	0.00	.....	0.00	0	0	19	12	0	nw.	C. J. Booth.
Hetch Hetchy	Tuolumne	3,665	2	51.0	.....	83	2	27	31	48	1.16	.....	0.40	0	6	16	5	10	n.	E. W. Brown.
Hollister	San Benito	284	38	58.0	− 2.6	91	14	34	21†	46	0.22	− 0.48	0.08	0	4	21	6	4	w.	J. N. Thompson.
Hornbrook **	Siskiyou	2,154	24	45.0	− 8.1	66	3	30	27†	....	0.15	− 0.73	0.10	0	2	7	9	15	.....	Southern Pacific Co.
Hot Springs	Tulare	3,300	5	54.1	.....	77	13†	32	28	33	0.27	.....	0.25	0	2	16	10	5	.....	U. S. Forest Service.
Hullville	Lake	2,250	5	53.4	.....	84	3	28	20	41	2.72	.....	0.84	0	7	0	24	7	nw.	T. H. Betterton.
Idyllwild	Riverside	5,250	11	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Earl Powers.

TABLE 1.—*Climatological data for October, 1912. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit. Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Precipitation, in inches. Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Sky. Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.
California—Continued.																				
Independence	Inyo	3,907	16	53.0	− 6.3	80	1	25	31	40	0.02	− 0.30	0.01	0	2	21	4	6	.....	U. S. Weather Bureau.
Indio	Riverside	−20	34	71.2	− 4.2	99	1	43	31	39	1.90	+ 1.79	1.76	0	3	21	8	2	nw.	R. N. Johnson.
Inskip	Butte	4,975	5	49.9	.....	76	14†	30	30	30	2.99	.....	0.83	1.0	5	8	18	5	.....	Cal. Gas & Electric Co.
Ione**	Amador	287	34	60.9	− 1.6	88	14	36	20†	....	0.95	− 0.22	0.57	0	4	18	0	13	nw.	Southern Pacific Co.
Jamestown	Tuolumne	1,471	9	56.2	.....	84	3†	32	29†	40	0.85	.....	0.55	0	4	20	0	11	.....	Sierra Railway Co.
Kennett	Shasta	730	....	58.0	.....	86	2	33	24	41	2.44	.....	1.19	0	4	14	14	3	n.	O. J. Egleston.
Kentfield	Marin	65	24	57.0	.....	86	3	35	21†	42	1.07	− 2.16	0.59	0	3	17	14	0	.....	Miss M. E. Parsons.
King City	Monterey	333	25	64.4	+ 4.0	98	3	31	28	43	0.00	− 0.71	0.00	0	0	23	0	8	n.	Southern Pacific Co.
Lake Eleanor	Tuolumne	4,700	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	O. J. Todd.
La Porte	Plumas	5,000	18	45.5	− 3.2	69	12†	28	30	31	3.03	− 2.51	1.07	8.0	7	15	13	3	n.	Chas. W. Hendel.
Le Grand	Merced	255	12	59.3	− 4.6	88	3†	34	30	41	0.18	− 0.87	0.18	0	1	16	0	15	w.	Santa Fe Co.
Lemon Cove	Tulare	600	17	64.0	− 3.4	92	14	38	23	36	0.00	− 0.75	0.00	0	0	18	11	2	w.	G. W. Sandidge.
Lick Observatory	Santa Clara	4,209	23	50.1	− 4.9	73	15	32	4	27	0.94	− 0.74	0.60	0	6	19	6	6	n.	The Director.
Livermore	Alameda	485	41	61.2	− 1.6	93	16	35	21†	47	0.71	− 0.05	0.40	0	4	17	12	2	n.	E. G. Still.
Lodi	San Joaquin	45	30	58.6	− 3.7	85	3	34	21†	40	0.68	− 0.40	0.33	0	3	21	7	3	w.	Ezra Fiske.
Lone Pine	Inyo	2,728	7	54.4	.....	81	3	29	29†	48	0.08	.....	0.05	0	2	24	7	0	s.	G. F. Marsh.
Long Valley	Lassen	4,400	3	44.3d	.....	68	13†	23	31	34	0.53	.....	0.22	T.	5	11	8	12	sw.	A. G. Evans.
Los Angeles	Los Angeles	293	35	65.2	+ 2.9	92	17	49	28	30	0.56	− 0.18	0.44	0	4	13	10	8	sw.	U. S. Weather Bureau.
Los Banos**	Merced	121	25	67.6	+ 3.0	89	16	52	31	....	0.00	− 0.34	0.00	0	0	18	0	13	w.	Southern Pacific Co.
Los Gatos	Santa Clara	600	25	59.6	− 1.2	87	13	40	20†	36	0.24	− 1.63	0.11	0	4	20	6	5	n.	F. H. McCullagh.
McCloud	Siskiyou	3,410	2	47.7	.....	69	2	27e	24†	35	2.34	.....	0.94	0	7	19	8	4	nw.	F. F. Spencer.
MacDoel	do	4,528	7	42.0	.....	73	12	11	31	56	0.31	.....	0.18	0.1	3	.....	.....	.....	n.	Butte Valley Land Co.
Madeline	Lassen	5,270	3	41.1	.....	71	14†	15	21†	49	0.46	.....	0.20	2.0	6	10	13	8	nw.	J. H. Williams.
Magalia	Butte	2,321	8	54.6	.....	84	14†	32	18†	44	2.29	.....	0.76	0	4	23	3	5	se.	Butte Co. R. R. Co.
Mammoth Tank	Imperial	257	34	71.4	− 5.4	95	1	45	30	33	0.50	+ 0.39	0.50	0	1	26	1	4	w.	Southern Pacific Co.
Maricopa	Kern	540	1	62.4	.....	91	13	40	23†	36	0.15	.....	0.10	0	3	17	6	8	n.	Union Oil Co.
Marysville	Yuba	67	41	59.2	− 6.1	88	15	34	24†	45	0.75	− 0.41	0.40	0	3	21	0	10	s.	Southern Pacific Co.
Mecca	Riverside	−158	6	70.0	.....	98	17	42	29	40	1.30	.....	1.30	0	1	18	12	1	nw.	E. A. Palmer.
Menlo Park**	San Mateo	64	34	59.9	+ 0.7	81	21	40	24	....	0.56	− 0.39	0.53	0	3	24	0	7	.....	Southern Pacific Co.
Merced	Merced	173	38	61.0	− 3.8	86	3†	34	24†	44	0.20	− 0.30	0.12	0	2	21	3	7	nw.	Santa Fe Co.
Middlewater	Kern	.....	1	.....	.....	.....	.....	.....	.....	.....	0.02	.....	0.02	0	1	.....	.....	.....	.....	Union Oil Co.
Mill Creek (1)	Amador	.....	5	53.4	.....	83	15	31	30	42	1.54	.....	0.50	0	8	15	9	7	n.	Cal. Gas & Electric Co.
Milton (near)	Calaveras	660	21	62.2	− 2.3	89	14	40	30	32	0.54	− 0.45	0.25	0	3	17	11	3	nw.	J. H. Southwick.
Modesto**	Stanislaus	90	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Mojave	Kern	2,751	35	61.6	− 4.0	76	17	48	31	20	0.25	+ 0.01	0.25	0	1	20	9	2	sw.	Do.
Mokelumne Hill	Calaveras	1,550	19	59.9	− 0.4	89	14	39	30	28	0.89	− 0.75	0.40	0	4	17	2	12	.....	C. E. Prindle.
Mono Ranch	Ventura	3,210	6	51.2	.....	78	17	30	5†	37	0.40	.....	0.22	0	3	20	6	5	w.	Herbert Lathrop.
Montague	Siskiyou	2,450	24	45.6	− 9.6	75	3†	19	31	52	0.54	− 0.35	0.46	0	4	12	11	8	n.	I. E. Deboy.
Monterey	Monterey	15	47	56.9	− 1.3	70	11†	42	21	....	0.25	− 0.60	0.19	0	2	29	1	1	se.	Southern Pacific Co.
Monterio	Kern	4,500	13	53.5	− 7.0	80	17	32	10	28	1.21	+ 0.20	0.71	0	5	16	4	11	e.	John C. Knecht.
Mount Tamalpais	Marin	2,375	13	55.6	− 3.1	79	14	40	23	19	0.87	− 1.33	0.56	0	6	19	7	5	nw.	U. S. Weather Bureau.
Napa City	Napa	20	35	57.7	0.0	90	1†	34	22†	48	0.58	− 0.61	0.22	0	3	11	20	0	s.	Alex. Hah.
Napa (S. H.)	do	60	34	61.4	− 0.6	90	2†	41	20†	41	0.54	− 0.65	0.18	0	5	13	13	5	sw.	W. H. Martin.
Needles	San Bernardino	477	20	70.0	− 1.7	93	1	51	28	30	1.15	+ 1.03	0.43	0	4	20	3	8	w.	Santa Fe Co.
Nellie	San Diego	5,350	3	55.8	.....	80	1	32	7	34	3.30	.....	2.50	0	3	22	4	5	.....	T. O. Bailey.
Nevada City	Nevada	2,580	20	52.2	− 3.5	87	2	25	30	52	2.45	− 0.17	0.74	0	6	13	9	9	sw.	S. W. Marsh.
Newhall**	Los Angeles	1,200	35	64.1	+ 2.0	92	10	48	15	....	0.65	− 0.08	0.30	0	5	22	0	9	se.	Southern Pacific Co.
Newman	Stanislaus	91	23	62.6	− 2.2	90	14	35	24†	48	0.16	− 0.47	0.13	0	2	.....	.....	.....	.....	E. S. Wangenheim.
North Bloomfield	Nevada	3,214	15	54.0	− 1.9	85	2	33	20	32	2.74	− 0.81	1.70	0	3	16	7	8	nw.	J. R. McIntosh.
North Fork	Madera	3,000	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Oakdale**	Stanislaus	156	18	62.1	− 0.6	87	3†	40	31	....	0.11	− 0.72	0.08	0	2	27	2	2	nw.	Southern Pacific Co.
Oak Grove	San Diego	2,751	2	51.2	.....	85	18	31	8	47	0.99	.....	0.29	0	4	18	8	5	nw.	B. L. Johnson.
Oakland	Alameda	36	36	57.8	− 0.6	78	2	44	24†	27	0.56	− 0.99	0.22	0	4	20	7	4	w.	Chabot Observatory.
Oceanside	San Diego	60	2	70.2	.....	102	13	51	29	37	0.44	.....	0.17	0	4	20	4	7	w.	H. D. Brodie.
Ojai Valley	Ventura	900	6	62.4	.....	98	17	34	31	48	0.55	.....	0.30	0	4	21	8	2	sw.	W. H. Duncan.
Orland	Glenn	254	30	60.1	− 6.3	87	12†	35	22†	41	0.57	− 0.49	0.45	0	4	18	5	8	n.	U. S. Reclamation Service.
Orleans	Humboldt	520	9	58.4	.....	86	3†	38	10†	46	3.58	.....	1.05	0	13	17	2	12	.....	F. T. Hale.
Oroville (near)	Butte	250	28	60.4	− 5.0	88	1	38	20	35	1.00	− 0.62	0.63	0	4	17	3	11	se.	E. D. Fairchild.
Palermo	do	213	21	52.2	−10.4	78	10	29	23†	35	0.50	− 1.13	0.25	0	2	5	17	9	sw.	Western Pacific Co.
Palm Springs**	Riverside	584	23	70.3	− 4.9	96	1	52	5	....	1.90	+ 1.70	1.00	0	2	25	1	5	w.	Southern Pacific Co.
Pasadena	Los Angeles	827	22	60.4	− 1.4	93	14	37	28	44	0.69	− 0.29	0.34	0	5	19	7	5	sw.	E. D. Sorver.
Paso Robles	San Luis Obispo	800	25	56.6	− 2.8	94	15†	26	21†	61	0.00	− 0.93	0.00	0	0	29	2	0	nw.	Dr. F. W. Sawyer.
Peachland	Sonoma	190	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. H. Parnell.
Placerville	El Dorado	1,875	23	52.6	− 3.7	78	14	32	20†	40	1.58	− 0.71	1.00	0	4	.....	.....	.....	.....	A. Baring-Gould.
Point Lobos	San Francisco	250	19	58.1	+ 0.1	78	15	46	24	26	0.51	− 0.54	0.26	0	6	18	5	8	nw.	John Hyslop.
Point Reyes	Marin	490	20	53.6	− 1.9	76	13	45	13	31	0.55	− 1.20	0.18	0	5	16	11	4	nw.	U. S. Weather Bureau.
Porterville	Tulare	464	23	61.4	− 3.5	92	15	36	27	46	0.12	− 0.40	0.12	0	1	15	12	4	.....	Leslie McAuliff.
Quincy	Plumas	3,400	17	44.0	− 5.9	75	3	17	7	51	1.78	− 1.54	0.83	0	4	18	1	12	s.	U. S. Forest Service.
Red Bluff	Tehama	307	35	59.8	− 4.0	86	2	36	24	38	0.79	− 0.57	0.60	0	4	18	5	8	nw.	U. S. Weather Bureau.
Redding	Shasta	552	37	61.0	− 3.5	88	2†	36	24	39	1.41	− 1.01	0.57	0	4	20	9	2	n.	W. W. Jones.
Redlands	San Bernardino	1,352	19	61.2	− 4.5	89	17	40	29†	39	1.11	+ 0.40	0.49	0	3	15	8	8	w.	P. W. Moore.
Reedley	Fresno	247	12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Santa Fe Co.
Rialto (near)	San Bernardino	2,250	6	61.8	.....	88	17	41	28	24	1.70	.....	0.79	0	5	13	9	9	n.	Southern Cal. Edison Co
Riverside	Riverside	851	30	62.8	− 1.4	94	17	37	31	46	0.78	+ 0.24	0.65	0	3	18	11	2	sw.	J. N. D. Cox.
Rocklin	Placer	249	41	67.4	+ 3.8	95	16	33	20	55	1.10	+ 0.03	0.70	0	3	22	0	9	.....	Southern Pacific Co.
Rohnerville	Humboldt	75	9	52.4	.....	73	6	33	20	33	1.80	.....	0.56	0	8	18	10	3	n.	Dr. R. Callahan.
Sacramento	Sacramento	71	35	60.6	− 1.6	86	2	40	21	33	0.58	− 0.32	0.21	0	6	24	3	4	nw.	U. S. Weather Bureau.
St. Helena	Napa	255	4	57.6	.....	88	2	33	21†	46	0.78	.....	0.27	0	4	23	5	3	.....	E. E. Hooper.
Salinas	Monterey	40	38	59.6	+ 2.1	83	18	37	7	35	0.41	− 0.29	0.18	0	4	31	0	0	w.	Miss E. Ruth Abbott.
San Bernardino	San Bernandino	1,054	20	61.7	− 2.5	93	17	35	31	47	1.42	− 0.82	0.48	0	5	16	8	7	sw.	Dr. A. K. Johnson.
San Diego	San Diego	93	41	63.3	+ 0.3	94	13	49	29	36	0.89	+ 0.49	0.35	0	5	18	9	4	ne.	U. S. Weather Bureau
San Francisco	San Francisco	207	41	60.0	+ 1.6	81	2	48	21	28	0.49	− 1.21	0.26	0	5	27	1	3	w.	Do.
San Jacinto	Riverside	1,550	19	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	E. T. Tanner.
San Jose	Santa Clara	95	37	57.4	− 2.9	86	2	35	24	42	0.21	− 0.67	0.09	0	6	26	4	1	nw.	U. S. Weather Bureau.
San Luis Obispo	San Luis Obispo	201	17	59.6	+ 0.4	92	14	37	22	44	T.	− 1.04	T.	0	0	19	7	5	n.	Do.
San Mateo**	San Mateo	22	38	60.6	+ 1.6	82	2	44	21†	....	0.45	− 0.77	0.23	0	5	19	7	5	n.	Southern Pacific Co.
San Miguel	San Luis Obispo	616	25	61.8	− 0.6	87	14	37	30	....	T.	− 0.63	T.	0	0	18	11	2	.....	Do.
San Miguel Island	Santa Barbara	500	18	61.2	.....	89	14	48	20	26	0.24	− 0.53	0.14	0	2	29	0	2	w.	Capt. W. G. Waters.
Sanger**	Fresno	371	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Southern Pacific Co.
Santa Barbara	Santa Barbara	130	28	61.2	− 1.8	92	14	42	5†	45	0.28	− 0.58	0.25	0	2	25	2	4	w.	G. W. Russell.
Santa Clara	Santa Clara	90	23	57.8	− 1.8	89	2	31	21	48	0.21	− 0.73	0.11	0	6	27	1	3	nw.	Santa Clara College.
Santa Cruz	Santa Cruz	20	39	56.5	− 3.2	89	14	34	21	51	0.77	− 0.92	0.30	0	4	27	1	3	w.	W. R. Springer.
Santa Margarita**	San Luis Obispo	996	23	57.2	− 2.8	86	16	30	3†	....	0.00	− 1.65	0.00	0	0	14	0	17	sw.	Southern Pacific Co.
Santa Maria	Santa Barbara	220	24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Edwin Morris.
Santa Monica	Los Angeles	110	27	61.4	− 2.0	92	13	44	10	32	0.51	− 0.21	0.45	0	3	17	9	5	w.	N. D. Ingham.

TABLE 1.—*Climatological data for October, 1912. District No. 11*—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.							Precipitation, in inches.				Number of rainy days, 0.01 inch or more.	Sky.			Prevailing wind direction.	Observers.
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.		Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
California—Continued.																				
Santa Rosa	Sonoma	181	23	56.7	− 3.2	90	2	33	20†	50	1.47	− 0.55	0.80	0	4	23	0	8	s.	Southern Pacific Co.
Selma **	Fresno	311	26	65.8	+ 2.1	90	15†	45	4	....	0.00	− 0.59	0.00	0	0	31	0	0	.....	Do.
Seven Oaks	San Bernardino	5,000	2	47.2	.....	74	16	24	27	36	1.68	.....	0.76	6.0	4	19	6	6	w.	M. Lewis.
Shasta	Shasta	1,048	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Dr. T. J. Edgecomb.
Sierra Madre	Los Angeles	1,400	15	64.4	− 0.8	89	14†	46	28	24	1.17	− 0.31	0.65	0	2	15	6	10	se.	Mrs. A. E. Gregory.
Sierraville	Sierra	5,000	2	44.?	.....	78	2	16	21	57	1.14	.....	0.56	1.0	3	11	10	10	sw.	C. D. Johnson.
Sisson	Siskiyou	3,555	23	43.8	− 7.5	75	17	22	30	43	1.77	− 1.21	0.65	0	6	7	6	18	n.	Southern Pacific Co.
Soledad **	Monterey	188	38	65.1	+ 5.3	82	6	54	2	....	0.00	− 0.48	0.00	0	0	20	0	11	n.	Do.
Sonora	Tuolumne	1,825	24	56.0	.....	81	3	35	30	34	0.86	− 1.34	0.52	0	4	19	6	6	nw.	Chas. P. Jones.
Southeast Farallon	San Francisco	30	9	52.8	.....	62	2	47	12	8	0.40	.....	0.17	0	5	19	9	3	nw.	U. S. Weather Bureau.
Springville	Tulare	4,000	5	52.0	.....	78	14†	28	28	38	0.75	.....	0.45	0	2	18	7	6	.....	D. L. Wishon.
Squirrel Inn	San Bernardino	5,280	2	48.6	.....	67	17†	33	27	20	2.32	.....	1.45	0	4	23	3	5	n.	A. D. Frantz.
Stanwood	Butte	2,140	8	51.6	.....	82	1	28	20†	28	1.95	.....	0.95	0	3	28	0	3	n.	Cal. Gas & Elect. Co.
Stirling City	do	3,525	8	55.0	.....	85	1	28	29	45	2.25	.....	1.25	0	4	9	12	10	se.	Butte County R. R. Co.
Stockton (S. H.)	San Joaquin	23	41	58.6	− 3.1	84	14	36	31	38	0.40	− 0.30	0.19	0	3	22	5	4	nw.	State Hospital.
Storey	Madera	296	12	58.8	− 3.0	87	18	33	26	47	0.00	− 0.48	0.00	0	0	29	0	2	.....	Santa Fe Co.
Suisun **	Solano	20	32	.....	.....	.....	.....	.....	.....	.....	0.46	− 0.61	0.30	0	2	21	0	10	sw.	Southern Pacific Co.
Sulphur Banks	Lake	1,350	....	58.4	.....	85	1	32	29†	38	0.93	.....	0.26	0	5	22	3	6	w.	J. T. La Bree.
Summerdale	Mariposa	5,270	16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Bertus Gude, jr.
Summit	Placer	7,017	39	39.4	− 4.6	62	17	20	9†	26	1.50	− 0.85	0.80	10.0	3	15	2	14	w.	Southern Pacific Co.
Susanville	Lassen	4,175	23	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	James Branham.
Tamarack	Alpine	8,000	6	28.4	.....	60	17†	2	7	40	1.26	.....	0.40	15.5	7	10	8	13	n.	Cal. Gas & Elect. Co.
Tehachapi **	Kern	3,964	35	53.9	− 2.2	70	11†	31	22	....	1.16	+ 0.77	1.10	0	2	.....	.....	.....	.....	Southern Pacific Co.
Tehama	Tehama	220	41	63.3	− 1.1	84	2†	39	24†	....	0.12	− 1.87	0.12	0	1	23	2	6	n.	Do.
Tejon Ranch	Kern	1,500	10	53.5	.....	78	13	35	31	32	0.58	.....	0.31	0	5	22	0	9	.....	S. E. Bailey.
Three Rivers	Tulare	870	2	59.4	.....	90	1	33	28	48	0.32	.....	0.32	0	1	17	6	8	sw.	E. D. Barton.
Towle	Placer	3,704	26	51.6	− 3.9	78	14†	28	20	39	3.04	+ 0.10	1.45	0	6	18	3	10	.....	Southern Pacific Co.
Tracy **	San Joaquin	64	32	63.4	− 0.1	86	17	40	30†	....	0.17	− 0.37	0.17	0	1	15	8	8	nw.	Do.
Ukiah	Mendocino	620	19	54.4	− 5.6	88	2	29	21	48	1.89	− 0.11	0.70	0	6	14	9	8	nw.	Dr. Geo. McCowen.
Upper Lake	Lake	1,350	27	54.8	− 4.6	87	2†	28	20	51	1.24	− 0.23	0.58	0	6	23	2	6	se.	C. M. Hammond.
Vacaville	Solano	175	24	59.0	− 5.3	99	17	31	24†	57	0.47	− 0.88	0.25	0	4	19	10	2	n.	G. O. Coburn.
Valley Springs **	Calaveras	673	23	64.6	+ 0.3	90	14	48	23†	....	0.66	− 0.64	0.34	0	3	15	7	9	nw.	Southern Pacific Co.
Vasalia	Tulare	334	24	54.0	− 9.1	71	6†	33	29	32	0.00	− 0.54	0.00	0	0	22	0	9	.....	Santa Fe Co.
Warner Springs	San Diego	3,165	4	57.0	.....	85	17	33	27	37	3.07	.....	2.08	0	4	20	7	4	.....	Mrs. F. S. Sandford.
Wasco	Kern	336	12	63.4	+ 0.2	89	9	35	29	41	0.00	− 0.23	0.00	0	0	17	9	5	.....	Santa Fe Co.
Watsonville	Santa Cruz	23	16	52.9	− 5.6	92	13	22	21	62	0.47	− 0.69	0.26	0	3	19	11	1	w	Spreckels Sugar Co.
Weaverville	Trinity	2,162	....	49.5	.....	82	2	23	20	51	1.59	.....	0.48	0	7	14	8	9	.....	U. S. Forest Service.
Weitchpec	Humboldt	1,700	2	50.3	.....	75	2	31	20	34	6.15	.....	2.15	0	12	21	2	8	n.	M. E. Lathrop.
Westley **	Stanislaus	90	23	63.7	− 3.1	88	14	32	31	....	0.10	− 0.48	0.10	0	1	27	0	4	n.	Southern Pacific Co.
Wheatland	Yuba	84	25	58.4	− 4.0	84	2	37	20†	38	0.82	− 0.59	0.49	0	4	19	5	7	nw.	William Lumbard.
Willows	Glenn	136	33	65.8	+ 0.6	87	2†	47	23	34	0.48	− 0.45	0.35	0	3	18	10	3	n.	E. C. Mills.
Yosemite	Mariposa	3,945	8	50.4	.....	87	13†	21	31	60	0.76	.....	0.25	0	5	21	0	10	s.	J. P. Kelley.

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

TABLE 2.—*Daily precipitation for October, 1912. District No. 11, California.*

Stations.	Watershed.	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	
Oregon.																																	
Klamath Agency	Klamath																							.05					.40	.05			0.50
Klamath Falls	do																						.24	.08				T.	.04	.08	.07		0.51
Lakeview	Pitt																																
Merrill	Interior drainage.																						.20						T.	T.	.03		0.23
Vistillas	Pitt	.02																		.02	.01		.10	.06	.04						.11		0.36
Yonna	Interior drainage.																			T.			.15						.05	.06			0.26
California.																																	
Aguanga	Coast																																
Alameda	do																																
Alturas	Sacramento				.02																			.11						.06	.05		0.24
Angels Camp	San Joaquin																						.36			.09		.05	.21				0.71
Angiola	do																																
Antelope Valley	do																																0.00
Antioch	do																						.20			.08							0.28
Aptos	Coast																							.26			.28			.27			0.81
Arrowhead Springs	do					2.80																						.08					2.88
Auburn	Sacramento																							.85			.19	.01	T.	.16			1.21
Avalon	Ocean			.21																													0.21
Azusa	Coast																																‡0.51
Bagdad	Desert		.18																														0.18
Bakersfield	San Joaquin																																0.00
Barstow	Desert		.84	.16	.10																												1.10
Bear River	San Joaquin																																
Bear Valley (1)	Sacramento	.07			.06																.25		.82	.90		.55		.10	T.	.55			3.30
Bear Valley (2)	San Joaquin			.43		.13																		T.					.38				0.94
Bear Valley Dam	do			.42	.67	1.25																											2.34
Beaumont	do		.81	.12	.50	.34																											1.77
Beaumont (near)	do		1.10	.17	.57	.19																											2.03
Belotta	do																						.20				.15		.20				0.55
Ben Lomund	Coast																						.20			.22			.17				0.59
Berkeley	do																						.18			.29	.10		.01	.12			0.70
Biggs	Sacramento																							.22		.46	.15			.14			0.97
Bishop	Owens																																0.00
Bishop Creek	do	.60	.40							.45																							1.45
Blocksburg	Coast																			.13		.25			1.40	.80	.35	.94	.44	.11			4.42
Blue Canon	Sacramento	.10				.16															.25		1.70			.55				.90			3.66
Blythe	Desert	T.	T.	.70																								T.					0.70
Boulder Creek	Coast																							.10		.18	T.	T.	T.	.10			0.38
Branscomb	do																			.12			1.98	.18		.96	.96	.85	.52	.20			5.77
Brawley	Desert																																
Burney	Sacramento																						.50			.39		.08	T.	T.			0.97
Butte Valley	do																																
Cahuilla	Coast						.18																										0.18
Calexico	Desert																																0.00
Caliente	San Joaquin		.31	.19	.10																			.10									0.70
Calistoga	Coast																						T.	.42	.53								0.95
Campbell	do																						.03				.02	.04	.05				0.14
Campo	do			.41		.57																											0.98
Camptonville (near)	Sacramento						.01													.03			1.20	.59		.63		.03	T.	.42			2.91
Cedarville	M't'n Lakes				.07																			.12				.04					0.23
Chester	Sacramento																			T.			.45	.16		.14			.16	.17			1.08
Chico	do																						.15			.90		.03		.15			1.23
Chico (near)	do																						.26			.97	T.		.16				1.39
China Flat	Coast																			.13		.19	.53		.36	.34	.20		.50				2.25
Chino	do	.02	.42	.28	.06																												0.78
Cisco	Sacramento					T.																		.50			.50		.05	.20			1.25
Claremont	Coast		.04	.21	.12	.30	.23																										0.90
Cloverdale	do																						.54	.02		.62	.08	.02	.06	.11			1.45
Coalinga	San Joaquin																																
Colfax	Sacramento																							3.53			.28		.05	.37			4.23
Colgate	do																							1.50		.37			.02	.36			2.25
Colusa	do																									T.			.02	.25			0.27
Corning	do																									.15			T.				0.15
Corona	Coast																																
Cuyamaca	do																																
Davisville	Sacramento																										.03	.08	T.	.14			0.25
Deer Creek	do	.07			.02															.08			.78	.90		.52	.05	.20	.05	.56			3.23
Del Monte	Coast																						.13			.15							0.28
Delta	Sacramento																					.08	.20		.62	.43		.18	.50				2.01
Denair	San Joaquin																																0.00
De Sabla	Sacramento																						.71	.15		.70		.18	.05	.40			2.19
Descanso	Coast			*	*	1.50																											1.50
Devils Canon	do			.39	.78	.39															.06							.18					1.80
Dinuba	San Joaquin																											.09					0.09
Dobbins	Sacramento																						1.23	.40		.38	T.			.38			2.39
Downieville	do	.05			.10															.04			.70	.65		.37	.04	.08	.04	.43			2.50
Dudley	San Joaquin				.08																												0.08
Dudleys	do	T.																						.31		.03		T.	.08	.15			0.57
Dunlap (near)	do																											.45		.05			0.50
Dunnigan	Sacramento																									T.			.09				0.09
Dunsmuir	do																						.07	.47		.46	.86	.20	.01	.21			2.28
Durham	do				T.																		.14			.97		T.	.17				1.28
East Park	do																									.17		.03	.27				0.47
Edgewood	do			.02																			.04	.26		.65	.04				.05		0.96
Edison	San Joaquin																																
El Cajon	Coast		.05	.12	.21	.22	.17																										0.77
Electra	San Joaquin																							.42		.22			.03	.15			0.82
Elsinore	Coast			.45	.02	.39																						.01					0.87
Emigrant Gap	do							.16	T.													.22	1.60			.50		T.		.80			3.28
Escondido	do			.05	.27	.24																											0.56
Eureka	do	.12																	.10	.14		.01	.54		.02	.45	.04	.10	.12	.01			1.55
Fairmont	do																																‡0.75
Farmington	San Joaquin																																
Felton	Coast																																
Firebaugh	San Joaquin																																
Folsom	Sacramento																						.71			.29	.03	.03	.22				1.28
Fordyce Dam	do				.05	T.	T.													.30			.42	1.25		.42	.25	.15	.12	.42			3.38
Fort Bidwell	M't'n Lakes				T.																		.10	.30					T.	T.			0.40

TABLE 2.—*Daily precipitation for October, 1912. District No. 11*—Continued.

Stations.	Watershed.	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	
California—Contd.																																	
Fort Bragg	Coast																						.62	.32	.65	.84	.05	.09	.28				2.85
Fort Ross	do																						.91	.07		.94		.04	.07	.22			2.25
Fouts Springs	Sacramento																									.75			.60				1.35
Fredalba	Coast																																
Fresno	San Joaquin				T.																			T.		T.		.01		T.			0.01
Friant	do																													.05			0.05
Fruto	Sacramento																																
Galt	San Joaquin																																
Georgetown	do																							1.64		.30				.28			2.22
Gilroy	Coast																									.02		.12	.06				0.20
Gilta	do																			.21			1.73	.22	.06	.90	.25	.51	.21	.02			4.11
Glendora	do																																
Glen Ranch	do		.06	.23	.53	.31	.06																						1.04				2.23
Glennville	San Joaquin		T.	T.	T.	T.																						.19		T.			0.19
Glenwood	Coast																						.15			.13	.14	T.	.10				0.52
Gold Run	Sacramento					T.															.05			1.70			.35	.05	.55	.50			3.20
Gonzales	Coast																													.07			0.07
Grass Valley	Sacramento																			.03			1.20	.55		.43		.08	.01	.47			2.77
Greenland Ranch	Desert																																
Greenville	Sacramento	T.																		T.			.35	.47		.06			T.	T.			0.88
Gridley	do																																
Groveland	San Joaquin																						.64			.18		.13	.06				1.01
Guinda	Sacramento																																
Hanford	San Joaquin																																0.00
Head Dam	Sacramento																						1.60	.50		.36		.05		.44			2.95
Healdsburg	Coast																						.38			.77	.02	T.	.05	.15			1.37
Hearst	do																																
Heber	Desert																																0.00
Helen Mine	Coast																						1.14		.90		.15	.12	.29				2.60
Hetch Hetchy	San Joaquin	T.			T.	.10																		.40		T.	.01	.33	.12	.20			1.16
Holcomb	Coast		.30	.61	.21	.25	T.																										1.37
Hollister	do																							.08			.03		.06	.05			0.22
Hornbrook	Klamath															.10				.05													0.15
Hot Springs	San Joaquin		T.	T.	T.	.02																						.25					0.27
Hullville	Coast																						.80	.08		.84	.21	.19	.34	.26			2.72
Idyllwild	do																																
Independence	Owens		.01			.01																											0.02
Indio	Desert		.06	1.76	.08																												1.90
Inskip	Sacramento																						.83	.59		.72		.42	.43				2.99
Ione	San Joaquin																							.57			.21		.05	.12			0.95
Jacksonville	do																							.50				.10		.04			0.64
Jamestown	do																							.55		.15	.05			.10			0.85
Jenny Lind	do																							.25				.15	.20				0.60
Jolon	Coast																																0.00
Julian	do																																
Kennedy Mine	San Joaquin																																‡0.86
Kennett	Sacramento																					T.	.74			.19	.16	T.	.35	T.			2.44
Kentfield	Coast																							.43		.59	T.		.05				1.07
Kernville	San Joaquin		.12																														0.12
King City	Coast																																0.00
Knights Landing	Sacramento																							.06		.12	.02	.04	T.	.16			0.40
La Grange	do																						.24		.05								0.29
La Jolla	Coast		.03	.80	.92	.60																											2.35
Lake Eleanor	San Joaquin																																
Lakeside	Coast																																
La Porte	do	T.			T.															.08			1.07	.69		.68		.10	.03	.38			3.03
Lathrop	San Joaquin																							.05						.50			0.55
Laurel	Coast																							.20			.20		.10				0.50
Laytonville	do																																
Le Grand	San Joaquin																												.18				0.18
Lemon Cove	do																																0.00
Lick Observatory	Coast																						.50			.16	.01	.08		.14	.05		0.94
Livermore	do																						.40	.06		T.	.02	T.	.23				0.71
Lodi	San Joaquin																						.33			.15			.20				0.68
Lone Pine	Owens		.03	.05	T.	T.																											0.08
Long Valley	Mountain Lakes.	.22			.10	.09	.05																.07			T.				T.			0.53
Lordsburg	Coast																																0.00
Los Alamos	do		T.	T.	T.																												T.
Los Angeles	do	.01	.07	.37	.11																												0.56
Los Banos	San Joaquin																																0.00
Los Gatos	Coast																						.11			.06		.05	.02				0.24
Los Molinos	Sacramento																																
Lowe Observatory	Coast	T.		1.30	.80																					.10							2.20
McCloud	Sacramento																						.67	.02	T.	.94	.28	.17	.20	.06			2.34
McDoel	Klamath																					.18								.05	.08		0.31
Magdeline	Mountain Lakes.	T.			T.	.01	.01																T.	.20		T.	T.	.03			.10	.11	0.46
Magalia	Sacramento																						.76				.33	.68	.52				2.29
Mammoth Tank	Desert			.50																													0.50
Maricopa	San Joaquin		.10	.02																			.03										0.15
Mariposa	do					.01																		.10						.13			0.24
Marysville	Sacramento																						.15			.20			.40				0.75
Mecca	Desert		T.	1.30	T.	T.																					T.						1.30
Melones	San Joaquin																							.32	T.					.28			0.60
Menlo Park	Coast																						.01			.02	.53						0.56
Merced	San Joaquin																							.12						.08			0.20
Merced Falls	do																																
Mesa Grande	Coast		*	1.38	.99	.81	.40																										3.58
Middlewater	San Joaquin		T.		.02																												0.02
Mill Creek(1)	do	.02			.16																			.50		.12	.09	.01	.16	.48			1.54
Mill Creek(2)	Coast	.17	.14	.35	.74	.86																											2.26
Mills College	do																						.12			.15	.10	.01		.15			0.53
Milo	San Joaquin																												.25				0.25
Milton (near)	do																					.25			.13			T.	.16				0.54
Modesto	do																																
Mojave	Desert		.25																														0.25
Mokelumne Hill	San Joaquin																						.40			.25	.06		.18				0.89
Mono Ranch	Coast		.13	.22	.05																												0.40
Montague	Klamath																						.46		T.		.01		.05	.02			0.54
Monterey	Coast																						.19							.06			0.25
Monterio	San Joaquin			.71	.28	.10																		.02				.10					1.21

TABLE 2.—*Daily precipitation for October, 1912. District No. 11*—Continued.

Stations.	Watershed.	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	
California—Contd.																																	
Montgomery Creek	Sacramento																							.86		.83	.60	.18	.01	.45			2.93
Mount Tamalpais	Coast																						.56			.16	.05	.03	.06	.01			0.87
Mount St. Helena	do																						.70			.65							1.35
Napa City	do																						.22		.16			.20					0.58
Napa (S. H.)	do																						.17			.17	.01	.01	.18				0.54
Needles	Desert		.43	.24	.23																							.25					1.15
Nellie	Coast		.50			2.50	.30																										3.30
Nevada City	Sacramento	T.			T.															.02		.74	.73		.31		.16	T.	.49				2.45
Newcastle	do																																
Newhall	Coast	.23	.07	.30	.04	.01																											0.65
Newman	San Joaquin																						.13			.03							0.16
North Bloomfield	Sacramento																						1.70			.34			.70				2.74
North Fork	San Joaquin																																
North Lakeport	Coast																						.28		.10	.10	.42	.08	.35				1.33
Oakdale	San Joaquin																							.08						.03			0.11
Oak Grove	Coast		.29	.27	.29	.14																											0.99
Oakland	do																						.10			.22	.10			.14			0.56
Oakville	do																							.20		.20							0.40
Oceanside	do	T.	.14	.04	.14	.17																											0.44
Ojai Valley	do		.16	.30	.02	.07																											0.55
Orland	Sacramento																						.04		.45	T.	.01	T.	.07				0.57
Orleans	Klamath																		.30	.08	.01	.45	1.05	.02	.23	.27	.24	.01	.72	.12		.08	3.58
Oroville	Sacramento																						.12			.63	.15		.10				1.00
Ozeana	Coast																																
Palermo	Sacramento																		T.		.25					.25							0.50
Palm Springs	Desert			1.60	.30																												1.90
Parkfield	Coast																									.07							0.07
Pasadena	do	.06	.01	.34	.27	.01																											0.69
Paso Robles	do																																0.00
Peachland	do																																
Phoenix Dam	San Joaquin																							.50	.15		.07			.10		.05	0.87
Pilot Creek	Sacramento																			T.			.67	.89		.52		.08	.07	T.			2.23
Pinchot	Coast	*	*	*	.75																												0.75
Pine Crest	do			T.	.14																												0.14
Placerville	Sacramento																							1.00			.21		.05	.32			1.58
Point Lobos	Coast																						.09	.05		.26	.03		.01	.07			0.51
Point Loma	do	.01		.30	.01	.09			.01																	.01					T.			0.43
Point Reyes	do																						.18			.13	.02	.07	.15				0.55
Porterville	San Joaquin																											.12					0.12
Portulaca	do																																
Prattville	Sacramento																						.84			.05		.04	.02				1.05
Priest Valley	Coast																																0.00
Quincy	Sacramento																						.83	.60		.23			T.	.12			1.78
Red Bluff	do																						.06			.60	.02		.11				0.79
Redding	do																						.43			.57	.20		.21				1.41
Redlands	Coast		T.	.32	.30	.49															T.												1.11
Reedley	San Joaquin																																
Repressa	Sacramento																					.48				.28		.08	.19				1.03
Rialto (near)	Coast	T.	.07	.79	.60	.14				T.																		.10					1.70
Rio Vista	Sacramento																							.07		T.	T.			T.			0.07
Riverside	Coast			.65	.03	.10																											0.78
Rocklin	Sacramento																						.70			.20				.20			1.10
Rohnerville	Coast	T.																		.14			.51	.09		.56	.04	.30	.12	.04			1.80
Sacramento	Sacramento																						.21			.18	.01	.01	.07	.10			0.58
St. Helena	Coast																						.25		.27		.03		.23				0.78
Salinas	do							.07																.07		.18				.09			0.41
San Bernardino	do		.01	.39	.40	.48																						.14					1.42
San Diego	do		.16	.14	.19	.05	.35																										0.89
San Francisco	do																						.12			.26	.04		.06	.01			0.49
San Jacinto	do																																
San Jose	do																						.08	.01		.02	T.	.04	.05	.01			0.21
San Luis Obispo	do																									T.				T.			T.
San Mateo	do																						.10			.07		.04	.01	.23			0.45
San Miguel	do																									T.							T.
San Miguel Island	Ocean			.14	.10																												0.24
Sanger	San Joaquin																																
Santa Ana River	Coast	.10	.14	.24	.94	.97																						.09					2.48
Santa Barbara	do		.03	.25																													0.28
Santa Clara	do																						.02	.03		.01	T.	.11	.01	.03			0.21
Santa Cruz	do																						.25		.30			.02	.20				0.77
Santa Margarita	do																																0.00
Santa Maria	do																																
Santa Monica	do	.03		.45	.03																												0.51
Santa Rosa	do																							.40	.80			.11		.16			1.47
Sausalito	do																							.30		.36	.03			.08			0.77
Selma	San Joaquin																																0.00
Seven Oaks	Coast		.76	.12	.64																							.16					1.68
Shasta	Sacramento																																
Shingle Springs	San Joaquin																																
Shrively	Coast	.14																		.25			.66	.12		1.50	.30	.25	.20				3.42
Sierra Madre	do		.52		.65																T.							T.					1.17
Sierraville	Mt'n Lakes			.20	.10																		.56	.28									1.14
Sisquoc Ranch	Coast																																
Sisson	Sacramento																					.07	.65		.55	.30	.10		.10				1.77
Soledad	Coast																																0.00
Sonora	San Joaquin																						.52			.10	.08		.16				0.86
S'theast Farallone	Ocean																				.17					.08	.01	.04	.10				0.40
Spreckels	Coast																							.07			.15	.03		.05			0.30
Springville	San Joaquin					.30																						.45					0.75
Squirrel Inn	Coast		.15	.55	1.45																							.17					2.32
Stanwood	Sacramento																						.95	.60	.40								1.95
Stirling City	do																						1.25		.25	.30		.45					2.25
Stockton (S. H.)	San Joaquin																							.19		.10			T.	.11			0.40
Storey	do																																0.00
Suisun	Sacramento																						.20			.16							0.46
Sulphur Banks	do																						.15			.25	T.	.12	.26			.15	0.93
Summerdale	San Joaquin																																
Summit (1)	Sacramento																			T.			T.	.80		.50	T.	T.	T.	.20			1 50
Summit (2)	Coast																																
Susanville	M't'n Lakes																																
Tamarack	Sacramento	.03			.25	.40														T.				.30		.10		.10		.08			1.26

TABLE 2.—*Daily precipitation for October, 1912. District No. 11*—Continued.

Stations.	Watershed.	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	
California—Contd.																																	
Tehachapi	San Joaquin.	T.		1.10	.06																												1.16
Tehama	Sacramento.																									.12			T.				0.12
Tejon Ranch	San Joaquin.		T.	.03	.04																			.31	.10				.10				0.58
Three Rivers	do.					T.																						.32					0.32
Towle	Sacramento.																			.18			1.45		.30	.05	.56	.50					3.04
Tracy	San Joaquin.																						.17										0.17
Tulare	do.																											T.	T.				T.
Tustin (near)	Coast	T.		.30	.05	.11	.38																										0.84
Ukiah	do.																						.25			.70	.20	.36	.13	.25			1.89
Upland	do.																																
Upper Lake	Sacramento.																						.21			.58	.09	.06	.03	.27			1.24
Upper Matole	Coast	.06														.01					.09	.08	.98	.64	.01	1.65	.25	1.39	.13	.29			5.57
Vacaville	Sacramento.																							.25		.05		.02		.15			0.47
Valley Springs	San Joaquin.																						.34			.18				.14			0.66
Visalia	do.																																0.00
Warner Springs	Coast		.30	2.08	.48	.15																											3.07
Wasco	San Joaquin.																																0.00
Watsonville	Coast																						.15			.26			.06				0.47
Weaverville	do.																		T.				.48	.06	T.	.47	.06		.40	.11	.01		1.59
Weitchpec	Klamath	.03							T.											.65	.01	.02	2.15	.64		1.34	.08	.29	.46	.43	.05		6.15
West Branch	Sacramento.																						1.00	.14		.52		.47		.50			2.63
Westley	San Joaquin.																						.10										0.10
West Point	do.				T.															T.				.54		.15			.55	.37			1.61
West Saticoy	Coast	.12	.18	.25																													0.55
Wheatland	Sacramento.																			T.			.19			.49			.02	.12			0.82
Willows	do.																						T.			.35			.02	.11			0.48
Yosemite	San Joaquin.	.16			.10																						.25			.25			0.76

* Precipitation included in that of the next measurement.
‡ Separate dates of falls not recorded.
‖ Precipitation for the 24 hours ending on the morning when it is measured.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—*Maximum and minimum temperatures for October, 1912. District No. 11, California.*

Date.	Lake View, Oreg.		California.																									
			Alturas.		Barstow.		Branscomb.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.		Porterville.		Red Bluff.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	.....	.....	63	38	89	56	76	42	.....	.....	.....	.....	57	47	72	56	80	48	70	58	57	46	69	48	74	51	74	58
2	.....	.....	76	32	70	57	75	41	.....	.....	.....	.....	62	44	82	48	69	46	70	57	74	57	87	41	80	56	86	62
3	.....	.....	76	31	76	56	78	41	.....	.....	.....	.....	58	48	85	55	75	46	64	55	74	55	82	40	80	50	82	56
4	.....	.....	65	34	75	55	80	42	.....	.....	.....	.....	54	50	69	53	72	46	60	52	57	42	66	45	76	47	67	57
5	.....	.....	47	37	68	49	80	43	.....	.....	.....	.....	54	46	69	49	55	38	63	52	57	45	61	30	75	42	67	56
6	.....	.....	59	40	70	45	70	40	.....	.....	70	52	61	44	73	46	59	38	67	51	60	43	67	39	76	44	72	55
7	.....	.....	66	24	77	43	70	39	.....	.....	71	51	59	45	75	46	64	36	74	50	64	52	74	34	77	45	77	50
8	.....	.....	60	33	80	50	64	39	.....	.....	74	50	55	46	77	49	66	33	73	53	61	50	72	35	79	42	71	50
9	.....	.....	56	23	79	53	65	38	.....	.....	70	54	56	41	73	48	54	40	65	54	62	48	64	31	74	47	71	55
10	.....	.....	69	16	78	43	75	36	.....	.....	75	43	56	41	75	45	67	32	73	50	67	54	75	27	80	45	78	47
11	.....	.....	74	19	78	46	80	37	.....	.....	74	40	53	43	82	50	71	34	80	52	66	61	77	30	84	47	80	46
12	.....	.....	75	20	82	48	77	40	.....	.....	78	41	53	40	84	49	72	42	86	58	69	59	85	33	86	46	86	48
13	.....	.....	76	26	84	44	75	42	.....	.....	.....	.....	48	44	88	50	72	35	92	62	77	62	85	36	87	42	80	50
14	.....	.....	76	25	83	45	74	44	.....	.....	.....	.....	55	43	89	50	74	37	92	69	79	61	85	37	89	43	82	50
15	.....	.....	75	28	85	48	75	43	.....	.....	80	45	60	45	88	55	75	35	92	67	77	64	84	38	92	49	82	50
16	.....	.....	75	23	84	50	70	41	.....	.....	79	50	58	49	88	54	75	40	91	68	77	65	83	36	91	53	82	51
17	.....	.....	65	25	89	54	70	39	.....	.....	81	47	56	46	84	50	76	39	92	67	74	63	84	36	88	49	82	53
18	.....	.....	72	18	88	53	70	40	.....	.....	.....	.....	56	41	85	50	76	37	81	61	74	59	81	35	86	48	79	55
19	.....	.....	61	38	85	54	60	41	.....	.....	.....	.....	59	44	77	52	76	42	71	58	59	41	59	39	85	46	65	48
20	.....	.....	52	15	80	54	60	39	.....	.....	.....	.....	56	38	68	46	67	43	67	56	55	42	67	26	78	42	66	47
21	.....	.....	50	18	79	52	61	40	.....	.....	.....	.....	62	40	73	40	65	35	71	53	59	45	71	29	78	43	68	42
22	.....	.....	56	39	84	53	61	41	.....	.....	67	36	58	47	75	41	70	38	75	54	54	42	61	32	76	41	59	49
23	.....	.....	47	27	82	55	60	34	.....	.....	61	39	58	43	65	46	69	48	71	56	48	40	61	33	71	37	62	38
24	.....	.....	55	16	78	49	65	38	.....	.....	62	35	63	43	70	38	67	34	72	57	51	42	63	29	72	39	57	36
25	.....	.....	57	34	79	48	56	37	.....	.....	60	43	58	49	72	52	68	45	73	54	50	44	50	39	73	42	58	47
26	.....	.....	58	18	82	50	48	40	.....	.....	63	40	57	50	71	49	71	40	70	57	51	43	60	33	74	41	60	46
27	.....	.....	51	24	68	53	47	40	.....	.....	58	43	55	48	64	46	59	41	65	54	48	41	56	36	72	36	59	43
28	.....	.....	44	33	75	48	47	35	.....	.....	58	43	60	49	66	41	57	27	67	49	47	42	51	31	68	45	55	45
29	.....	.....	43	30	70	40	53	37	.....	.....	59	44	58	45	64	47	61	28	69	50	50	41	57	40	65	38	59	44
30	.....	.....	49	16	73	47	60	32	.....	.....	62	38	57	43	63	41	55	34	73	52	57	42	64	25	61	39	61	40
31	.....	.....	59	17	72	41	64	30	.....	.....	63	34	60	42	71	44	57	25	77	52	58	46	68	28	73	44	64	39
Mns.	.....	.....	61.5	26.4	78.8	49.6	66.6	39.1	.....	.....	68.2[k]	43.4[k]	57.0	44.6	75.4	47.9	67.5	38.1	74.4	56.1	61.7	49.6	70.0	34.5	78.2	44.5	70.7	48.3

Date.	California.																									
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obispo.		Santa Barbara.		Santa Rosa.		Sisson.		Stockton.		Summit.		Susanville.		Yosemite.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	77	55	75	56	67	60	68	57	70	47	71	50	67	58	75	49	56	38	74	51	55	38	.....	.....	78	37
2	68	55	86	62	67	56	81	58	86	49	68	45	67	51	90	49	65	36	80	54	57	34	.....	.....	82	35
3	63	51	85	58	66	57	75	52	83	49	77	52	64	51	82	43	70	36	82	52	56	32	.....	.....	84	34
4	58	55	70	52	63	57	66	53	68	48	58	50	68	55	74	46	52	35	79	54	52	41	.....	.....	72	36
5	61	46	72	53	64	56	65	55	70	47	62	46	64	42	65	46	48	35	79	48	45	29	.....	.....	46	26
6	67	44	71	50	66	55	62	51	71	44	65	42	64	44	72	45	58	30	69	44	48	32	.....	.....	61[y]	25
7	72	41	75	47	67	51	69	50	74	41	74	46	73	43	77	37	60	32	73	42	50	35	.....	.....	70	24
8	73	42	72	51	68	51	57	52	73	44	67	40	69	46	69	41	58	35	74	47	43	38	.....	.....	70	26
9	65	45	73	52	64	54	69	51	71	41	63	45	66	47	76	36	54	28	73	46	41	20	.....	.....	68	31
10	76	41	75	47	69	50	76	51	78	42	72	37	68	45	82	36	69	29	74	41	53	28	.....	.....	73	22
11	81	42	77	47	76	52	76	51	78	41	81	48	78	45	83	35	68	30	75	43	56	35	.....	.....	76	24
12	85	47	82	49	80	54	78	50	82	41	85	42	89	47	84	36	72	36	77	44	57	34	.....	.....	82	24
13	88	49	82	50	94	58	79	53	82	43	90	46	91	51	87	37	65	38	81	44	60	34	.....	.....	87	27
14	88	51	84	52	92	65	80	57	83	45	92	49	92	56	88	39	71	36	84	46	59	35	.....	.....	87	27
15	88	54	83	53	88	65	80	55	82	45	90	47	89	51	88	40	74	32	83	49	59	37	.....	.....	82	36
16	88	52	83	53	85	67	75	51	80	43	92	58	91	64	86	38	71	29	82	48	59	35	.....	.....	84	20
17	89	55	83	55	86	65	76	56	81	42	91	57	90	55	86	44	75	32	83	50	62	36	.....	.....	82	28
18	83	55	81	55	68	59	76	52	84	42	87	53	77	52	83	38	52	31	77	46	60	34	.....	.....	81	28
19	72	48	65	50	68	60	62	51	66	42	67	50	64	60	69	40	48	23	65	46	38	37	.....	.....	82	29
20	68	53	67	44	65	55	61	49	64	39	60	40	67	49	70	33	50	28	68	41	44	30	.....	.....	73	32
21	75	48	72	40	66	50	61	48	68	35	74	45	67	47	71	33	55	32	68	38	52	27	.....	.....	71	23
22	80	45	63	47	68	51	61	51	72	38	68	37	70	46	61	38	50	25	65	42	33	32	.....	.....	76	23
23	75	49	61	45	69	57	60	49	60	41	64	53	67	50	63	37	48	24	67	44	36	24	.....	.....	70	32
24	77	43	65	41	66	55	61	48	71	37	68	45	67	50	65	33	45	32	66	45	40	24	.....	.....	72	22
25	76	46	60	48	68	52	64	53	68	44	68	47	65	51	65	44	44	32	66	45	41	32	.....	.....	65	31
26	73	57	64	46	68	59	63	51	69	41	66	48	73	43	63	40	45	29	63	44	35	33	.....	.....	71	26
27	63	51	61	43	63	55	58	51	60	42	62	42	67	53	60	40	49	29	64	43	32	30	.....	.....	55	25
28	66	41	58	45	64	50	57	51	62	40	63	44	70	43	57	44	45	34	57	43	32	25	.....	.....	.....	.....
29	68	40	59	49	66	49	63	52	63	43	64	48	72	76	63	40	48	26	60	48	34	28	.....	.....	57	36
30	71	45	62	42	65	54	64	49	65	37	70	50	70	51	67	34	44	22	61	40	37	20	.....	.....	59	24
31	75	40	67	42	70	51	67	49	70	36	72	47	72	42	69	33	50	24	63	36	47	22	.....	.....	69	21
Mns.	74.5	47.9	72.0	49.2	70.8	55.8	68.1	51.8	72.7	42.2	72.6	46.7	72.8	49.7	73.9	39.5	56.7	30.9	71.9	45.3	47.5	31.3	.....	.....	72.8[a]	27.9[a]

[a], [b], [c], etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.