

CLIMATOLOGICAL DATA FOR NOVEMBER, 1913.

DISTRICT NO. 11, CALIFORNIA.

Local Forecaster G. H. WILLSON, District Editor.

GENERAL SUMMARY.

November, 1913, was generally cloudy and unsettled in the northern portion of the State, with frequent rains, but in the south there were many clear days and the usual amount of sunshine. Frosts occurred quite generally from the 22d to 24th, and on the 30th, but no material damage was reported. High seas caused considerable damage along the central and northern coast on the 26th, destroying an iron pier near the Golden Gate, about 700 feet of railroad track along the beach near the entrance to Humboldt Bay, and the wharf at Capitola. Shipping was also delayed on account of the rough bars at San Francisco and Humboldt Bays. There were no high winds at the time, nor had there been, and the rough seas were probably caused by a disturbance far out in the Pacific.

The mean temperature for the State was slightly below the normal, although very warm weather occurred in the southern coast valleys and southern interior portions on the 7th and 8th, and many stations reported maximum temperatures of 90° and over. In the Sacramento and San Joaquin Valleys maximum temperatures seldom reached 80°.

The most important feature of the month was the generous precipitation over the entire State—rain in the valleys and foothills, and rain, followed by heavy snow, in the mountains. In the northern portion the rain continued with short intervals during the entire month, but in the south there were not so many rainy days, although the amounts for the month were proportionally as large. The average precipitation for the month for the State was more than twice the normal amount, and coming after two years of light rainfall did much to allay the fear of a third dry year. The ground was so thoroughly dry from the scanty precipitation of the past two seasons that the rivers responded but slightly to the heavy fall.

The snowfall in the mountains was the heaviest recorded for November for some years, and a heavy cover of well-packed snow remained at the higher levels at the close of the month. The following are some of the larger amounts: Fordyce Dam, 85.5 inches; Tamarack, 63; Summit, 62.5; Table Rock, 50; and Bowman's Dam, 36.

TEMPERATURE.

The mean temperature for the State was 0.7° below the normal. The following table gives the means and departures for each November from 1897 to 1913, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897.....	50.8	-2.1	1906.....	52.6	-0.3
1898.....	51.6	-1.3	1907.....	52.7	-0.2
1899.....	52.1	-0.8	1908.....	52.9	0.0
1900.....	54.7	+1.8	1909.....	50.7	-2.2
1901.....	54.9	+2.0	1910.....	52.8	-0.1
1902.....	50.8	-2.1	1911.....	51.1	-1.8
1903.....	55.2	+2.3	1912.....	52.2	-0.7
1904.....	53.4	+0.5	1913.....	52.2	-0.7
1905.....	52.8	-0.1			

The following table gives the average precipitation for the State and departure from the normal for each November from 1897 to 1913, inclusive:

Year.	Average.	Departure.	Year.	Average.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897.....	1.41	-1.40	1906.....	1.92	-0.89
1898.....	0.99	-1.82	1907.....	0.28	-2.53
1899.....	3.82	+1.01	1908.....	1.85	-0.96
1900.....	5.21	+2.40	1909.....	4.52	+1.71
1901.....	2.85	-0.16	1910.....	1.91	-0.90
1902.....	3.61	+0.80	1911.....	1.00	-1.81
1903.....	5.03	+2.22	1912.....	2.85	+0.04
1904.....	1.43	-1.38	1913.....	5.00	+2.19
1905.....	2.26	-0.55			

The greatest monthly amount was 19.29 inches at Helen Mine and the greatest 24-hour amount was 4.39 inches at Kennett on the 26th. At Bagdad, in the Colorado desert, there was no rain.

Stations.	Sunshine.	
	Hours.	Percentage of possible.
Eureka.....	67	23
Red Bluff.....	111	37
Sacramento.....	302	87
Mount Tamalpais.....	142	47
San Francisco.....	148	49
San Jose.....	138	45
Fresno.....	139	46
San Luis Obispo.....	160	51
Los Angeles.....	240	77
San Diego.....	248	79

NOTES ON THE RIVERS OF THE SACRAMENTO AND SAN JOAQUIN WATERSHEDS DURING THE MONTH OF NOVEMBER, 1913.

By N. R. TAYLOR, Local Forecaster.

Sacramento watershed.—Although precipitation in this watershed was much in excess of the normal amount for the month the general average of all streams was considerably below the stages that are usually maintained during November.

Up until the last decade of the month the increased run-off of mountain streams and the main feeders of the trunk stream was barely noticeable. This, no doubt, was due to the dry condition of the entire watershed and to the fact that many of the small waterways were quite dry when the rains began.

There was a slight rise in the upper Sacramento River on the 26th, but from the 27th to the close of the month substantial rises occurred at all points from Red Bluff to Walnut Grove.

No rises much in excess of 2 feet occurred in the American, Feather, or Yuba Rivers. The average stage of the Feather at Oroville was the lowest of which there is a record for November, and the average stage of the Yuba at Marysville lacked only 0.2 of a foot of the previous November low-water record, which was in 1910.

Lower San Joaquin watershed.—There was little departure in the precipitation in this watershed from the seasonal normal. All streams rose slightly after the middle of the month, but the general average was practically the same as that of the preceding month.