

U. S. DEPARTMENT OF AGRICULTURE  
WEATHER BUREAU  
CHARLES F. MARVIN, CHIEF

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# CLIMATOLOGICAL DATA

CALIFORNIA SECTION

DECEMBER, 1915

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BY

GEORGE H. WILLSON

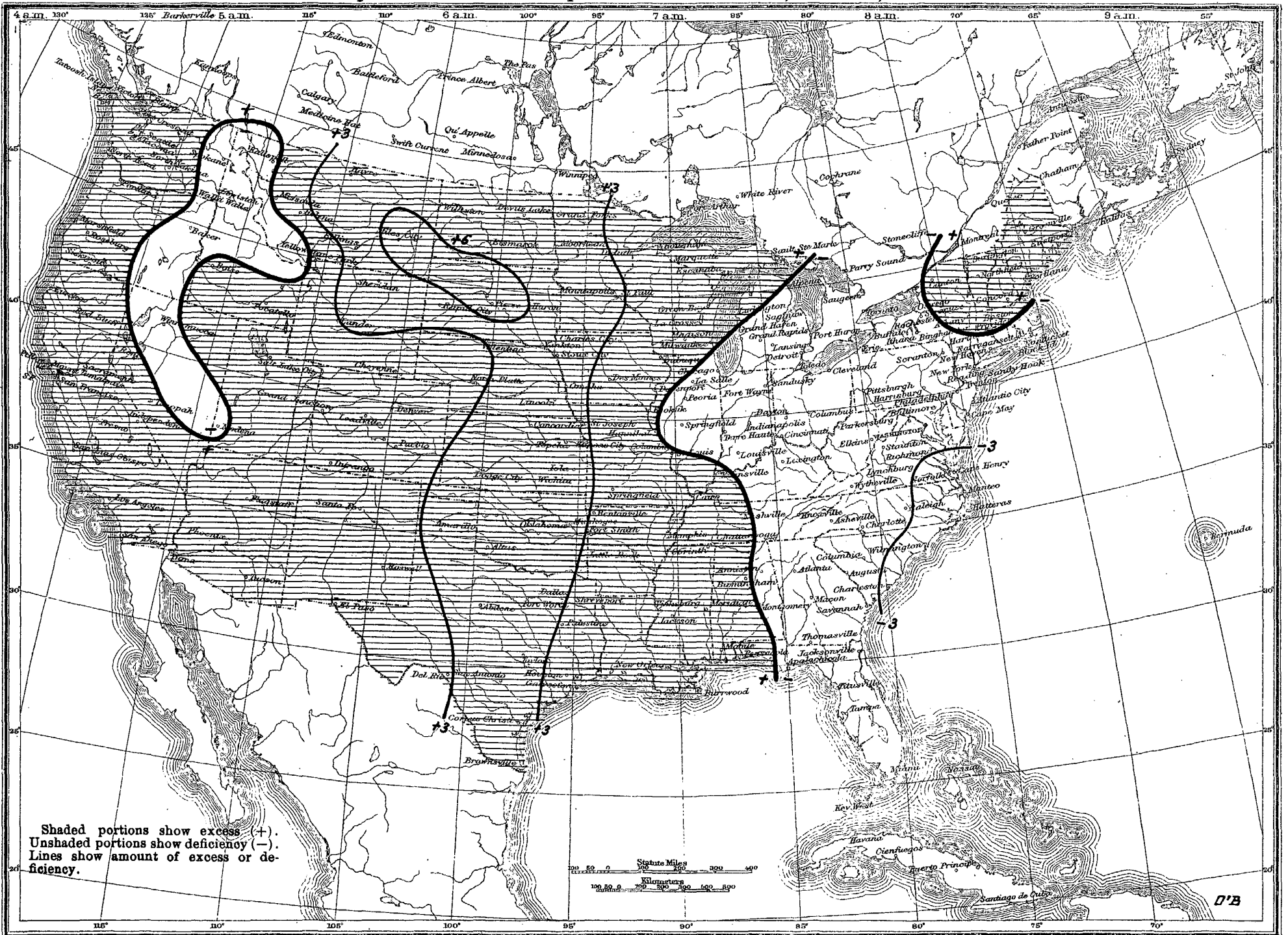
DISTRICT FORECASTER AND SECTION DIRECTOR

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SAN FRANCISCO, CAL.  
WEATHER BUREAU OFFICE  
JANUARY 21, 1916

# Departure of the Mean Temperature from the Normal, December, 1915.



U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

G. H. WILLSON, District Forecaster.

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GENERAL SUMMARY.

In California December was slightly below the average in temperature, while the precipitation was somewhat above the normal.

Throughout the greater part of the State there were two relatively warm periods, December 2-4, and 21-24, the maximum temperatures for the month occurring at most stations on the 2nd. The last three days of the month brought abnormally cold weather, with wide-spread freezing temperatures. In the interior valleys the lowest temperatures in several years occurred on the 30th and 31st, while southern California was saved from a severe freeze by the clouded skies and a generous rainfall.

The long continued drought was broken in all parts of the State by the excessive precipitation accompanying the storm of December 2-4, the rainfall being especially heavy in the San Francisco Bay region and in the upper Sacramento Valley. At San Francisco the 24-hour rainfall of 3.40 inches which fell on December 2-3 is the greatest on record for that month. High southerly winds prevailed during this first real storm of the season. Besides doing some slight damage to vessels along the coast, shipping schedules were affected, and delays of 24 to 36 hours occurred. A second storm brought copious rain in the central and north portions of the state on December 11-14, while southern California received practically no precipitation. The 24-hour rainfall of 9.04 inches at Magalia, in Butte County, on December 11-12 has rarely been exceeded in California. The third storm of the month, that of December 29-31, brought precipitation principally south of the Tehachapi. While at the beginning of the month the rainfall at all stations was well below the normal, the whole State had received the normal rainfall by the end of the month. In spite of the excessive precipitation none of the larger streams reached flood stages, as the ground readily absorbed most of the rain as it fell.

From an agricultural point of view December was a favorable month in California. The long dry autumn had been ideal for out-door work, and as a result, the timely rains were welcome. The winds accompanying the first two storms did some damage in the citrus regions of the Sacramento Valley, particularly in blowing down unharvested oranges. The cold weather of the last three days, while causing considerable anxiety among gardeners and fruit growers, did little damage, except to tender garden produce in the interior valleys. In most places, however, the cold arrived too late to do any real injury. No wide-spread damage from frosts was reported.—A. H. P.

PRESSURE.

The monthly mean atmospheric pressure for the State, reduced to sea-level, was 30.08 inches.

The highest was 30.48 inches at Red Bluff on the 20th.

The lowest was 29.31 inches at Independence on the 3rd.

The range for the State was 1.17 inches.

TEMPERATURE.

The monthly mean temperature for the State was 45.7 degrees, which is 1.0 degree below the normal.

The highest monthly mean was 60.0 degrees at Biggs and the lowest was 27.0 degrees at Bridgeport.

The highest temperature, 88 degrees, occurred at San Miguel on the 16th and 17th, and also at Edison on the 2nd, and the lowest, -13 degrees, at Madaline on the 30th.

The range for the State was 101 degrees.

PRECIPITATION.

The average precipitation for the State was 5.56 inches, or 1.53 inches above the normal.

The greatest monthly amount was 18.61 inches at Branscomb, while none occurred at 3 stations.

The greatest amount in 24 hours was 9.04 inches at Magalia on December 11-12.

MISCELLANEOUS PHENOMENA.

*Thunderstorms.*—Converse Nursery, 14; Crescent City, 11; Fort Bragg, 31; McCloud, 4; Monte Vista, 3, 13; Oakland, 13; Oceanside, 29; Spreckels, 28.

*Earthquakes.*—Abbotts, 1; Corona, 1; Eureka, 31; Holcomb Valley, 1; Lonoak, 26; Redlands, 1, 14; Riverside, 1; Salinas, 26; San Bernardino, 14; San Jose, Santa Cruz, 26; Shively, 31; Spreckels, Watsonville, 26.

RELATIVE HUMIDITY.—(Per Cent.)

Stations.	5 A. M.	5 P. M.	Mean.
Eureka.....	88	79	84
Fresno.....	87	62	74
Los Angeles.....	68	61	64
Mount Tamalpais.....	74	77	76
Red Bluff.....	84	69	76
Sacramento.....	84	72	78
San Diego.....	73	69	71
San Francisco.....	81	65	73
San Jose.....	90	70	80
San Luis Obispo.....	78	60	69

SUNSHINE AND CLOUDINESS.

Stations.	Actual Hours of Sunshine.	Percent of the Possible.
Eureka.....	148	51
Fresno.....	169	56
Los Angeles.....	241	78
Mount Tamalpais.....	165	56
Red Bluff.....	99	31
Sacramento.....	122	42
San Diego.....	227	73
San Francisco.....	296	47
San Jose.....	165	55
San Luis Obispo.....	110	66

WIND MOVEMENT.—(Miles.)

Stations.	Total Movement for Mo.	Avr. Hr. Vel.	Max. Vel.	Dir.	Date.
Eureka.....	6079	8.2	38	n	28
Fresno.....	3879	5.2	36	nw	3
Independence.....	5060	6.8	36	se	3
Los Angeles.....	4711	6.3	30	e	4
Mount Tamalpais.....	16487	22.2	67	nw	28
Point Reyes.....	15114	20.3	68	nw	28
Red Bluff.....	4548	6.1	32	se	12
Sacramento.....	6386	8.6	35	nw	30
San Diego.....	3960	5.3	36	s	4
San Francisco.....	5568	7.5	40	sw	3
San Jose.....	4684	6.3	40	s	3
San Luis Obispo.....	3265	4.4	24	se	13

The prevailing direction of the wind for the State was south.

Climatological Data for December, 1915.

Table with columns for Stations, Counties, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Snowfall), Number of days (Precipitation 0.1 inch or more, Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers. The table lists data for numerous stations across California for the month of December 1915.

Climatological Data for December, 1915.—Continued.

Table with columns: Stations, Counties, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range), Precipitation (Total, Departure from normal, Greatest in 24 hours, Snowfall, Precipitation on inch or more, Clear, Partly cloudy, Cloudy), Number of days (Prevailing direction of wind), and Observers. The table lists data for numerous California locations including Jamestown, Modesto, Sacramento, and San Francisco.











Daily Temperature for December, 1915.

Table with columns for Stations, 1-31, and Mean. Rows list various California locations such as Alturas, Bakersfield, Barstow, etc., with their corresponding daily temperature readings for each day of the month and a monthly mean.

**Snowfall Data. [In inches.]**

WATERSHED, COUNTY, STATION.	Total snow-fall.	Water equivalent.	Am't on ground 15th.	Am't on ground 31st.	Compr'd with normal.
<b>Klamath Watershed.</b>					
<i>Siskiyou County.</i>					
Gilta.....			0	0	
Yreka.....	2		0	0	
<i>Trinity County.</i>					
Hayfork.....	T.		0	0	
Ruth.....	T.		0	0	
<i>Humboldt County.</i>					
Weitchpec.....	0		0	0	-14
<b>Mountain Lakes.</b>					
<i>Modoc County.</i>					
Cedarville.....	2		1	T.	-9
Fort Bidwell.....	2		0	T.	
<i>Lassen County.</i>					
Eagle Lake.....					
Fredonia.....			3	2	-4
Madeline.....	7				-14
Susanville.....	2				
<i>Tehama County.</i>					
Mineral.....					
<i>Nevada County.</i>					
Boca.....	9				-16
Truckee.....	25		18	2	-7
<i>Inyo County.</i>					
Bishop Creek.....	28		14	14	0
Lone Pine.....	1		0	0	
Wells Meadow.....	3			1	
<b>Sacramento Watershed.</b>					
<i>Siskiyou County.</i>					
Dunsmuir.....	1				-10
McCloud.....	7		3	0	-22
Sisson.....	8		0	0	-16
<i>Modoc County.</i>					
Alturas.....	4		2	2	-3
<i>Shasta County.</i>					
Burney.....	13		8	3	-5
<i>Plumas County.</i>					
Bucks.....	59		54	42	
Canon Dam.....	19		12	7	
Chester.....					
Clover Valley.....	27		17	9	
La Porte.....	22		26	5	-15
Portola.....	20		6	2	
Quincy.....	5		0	0	-5
<i>Butte County.</i>					
De Saba.....	0		0	0	-10
Inskip.....	20		17	9	-21
Stirling City.....	0		0	0	-16
West Branch.....	T.		0	0	-21
<i>Yuba County.</i>					
Camptonville.....	T.		0	0	-13
<i>Sierra County.</i>					
Bunker Hill.....					
Dorsey's.....			0	0	-13
Downieville.....	4		0	0	-14
Sierra City.....	13		3	0	-12
Sierraville.....	6		5	2	-22
Table Rock.....	72		43	32	
<i>Nevada County.</i>					
Bowman's Dam.....			T.	0	-16
Deer Creek.....	7		47	45	+27
Fordyce Dam.....	80		31	21	-3
Lake Spaulding.....	51				
<i>Placer County.</i>					
Blue Canon.....	29		12	2	0
Cisco.....	68		45	43	-8
Emigrant Gap.....	52		25	3	+13
Summit.....	79		67	40	+7
<i>El Dorado County.</i>					
Pacific.....					
<b>San Joaquin Watershed.</b>					
<i>Alpine County.</i>					
Tamarack.....	78		67	43	-17
<i>Tuolumne County.</i>					
Center Ranger Station.....			0	0	-3
Hotch Hetchy.....	4		2	2	-15
Lake Eleanor.....	9				
<i>Mariposa County.</i>					
Yosemite.....	6		1	1	-11
<i>Fresno County.</i>					
Cascada.....	22		2	7	
Hume.....					
Huntington Lake.....	46		22	24	
<i>Tulare County.</i>					
Hot Springs.....	0.5		0	0	-2
Springville.....	15		2	0	+3
<b>Mountains of Southern California.</b>					
Bear Valley Dam.....	30		1	9	
Converse Nursery.....	29		6	13	+13
Holecomb.....	43		2	37	+32
Squirrel Inn.....	20		18	15	+8
Seven Oaks.....	24		1	22	
Nellie.....					
Julian.....	12		2	10	

**SNOWFALL IN THE MOUNTAINS.**

Though the precipitation for the State as a whole was above the normal during December, 1915, the snowfall in the mountains was everywhere deficient, except in southern California. In the Sierra Nevada Mountains, where there was little or no snow on the ground at the beginning of the month, two storms brought moderate amounts of snow. These storms occurred December 3-4 and 12-14. On December 15 the amount on the ground throughout the Sierra ranges was slightly in excess of the normal for that date. However, no considerable amounts fell during the remainder of the month, and as much of that which fell during the first half of the month melted, there was only a fraction of the usual amount left on December 31.

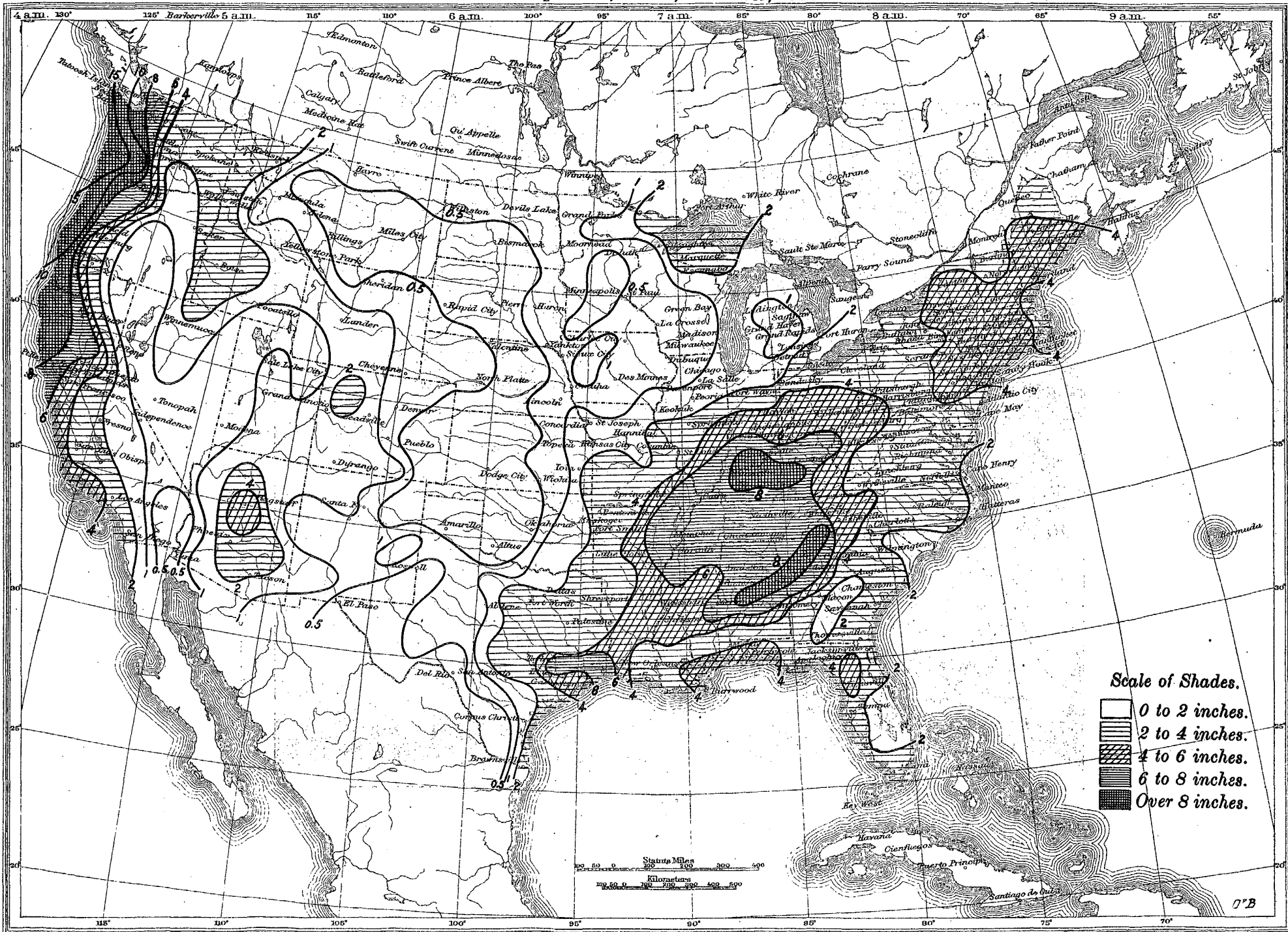
In the mountains of southern California the snowfall was above the average for the month, and came in three storms, those of December 3-4, 13-15, and 29-31. The last of the three brought the largest amount, and as the storm was accompanied by unusually low temperatures, much of the precipitation at relatively low levels was in the form of snow. At many stations where snow is an unusual phenomenon, the first snowfall in years occurred on the 30th and 31st. This was true not only in southern California, but in parts of the Sacramento Valley as well.—A. H. P.

**COMPARATIVE SNOWFALL DATA FOR DECEMBER.**

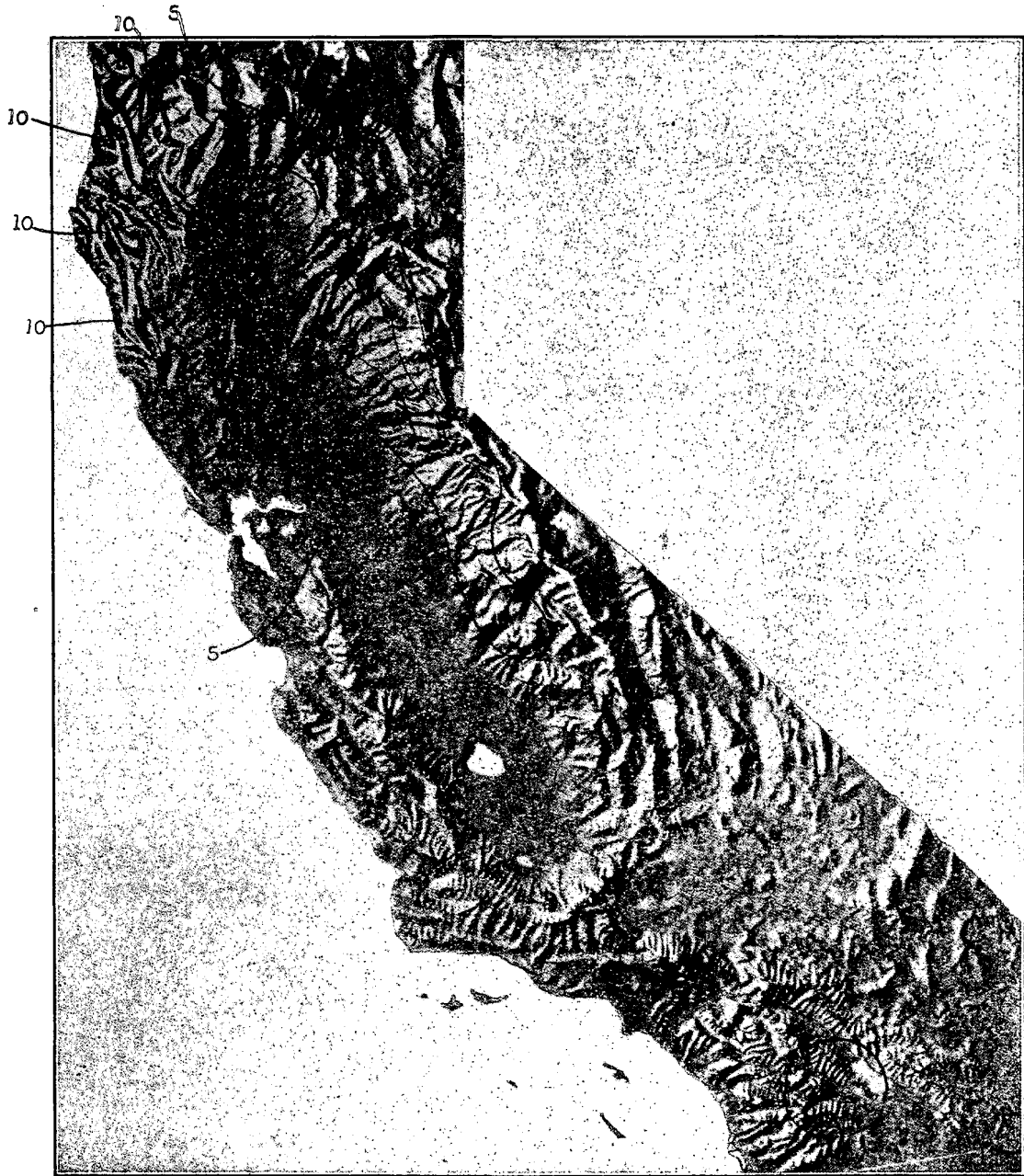
(Amount on the Ground.)

	FORDYCE DAM.			SUMMIT.			TAMARACK.		
	1st.	15th.	31st.	1st.	15th.	31st.	1st.	15th.	31st.
1906.....	2	60	60	5	70	46	55	101	125
1907.....	0	30	72	0	42	37	0	39	74
1908.....	11	27	21	24	32	21	29	43	32
1909.....	2	25	43	2	24	45	26	52	65
1910.....	5	2	0	7	4	4	8	21	24
1911.....	4	1	44	1	2	56	3	5	45
1912.....	6	22	30	T.	14	19	3	29	42
1913.....	35	35	60	31	24	80	35	41	110
1914.....	8	40	31	12	46	26	10	31	27
1915.....	9	57	45	6	67	40	3	67	48

# Total Precipitation, Inches, December, 1915.



D.B.



The influence of the diversified topography of California upon its precipitation is shown by the lines of equal rainfall in inches, on the accompanying relief map.