

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

---

# CLIMATOLOGICAL DATA

CALIFORNIA SECTION

JANUARY, 1915

---

BY

GEORGE H. WILLSON

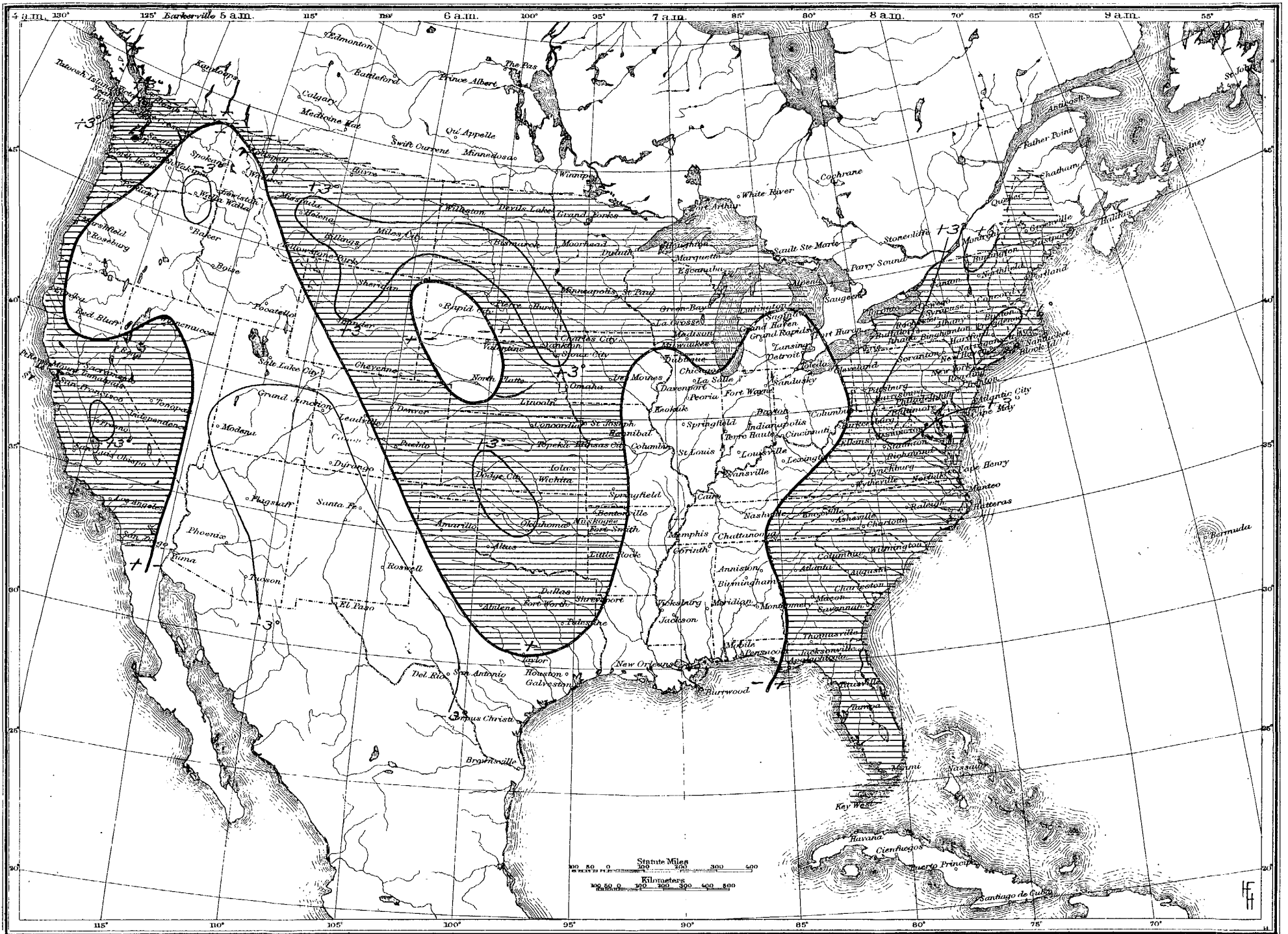
DISTRICT FORECASTER AND SECTION DIRECTOR

---



SAN FRANCISCO, CAL.  
WEATHER BUREAU OFFICE  
FEBRUARY 23, 1915

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



## U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

## CALIFORNIA SECTION.

G. H. WILLSON, District Forecaster.

VOL. XIX. SAN FRANCISCO, JANUARY, 1915. No. 1.

## GENERAL SUMMARY.

From an agricultural standpoint, the month was better than the average January. Though the temperature was below normal and there were a number of frosts during the month, the temperature did not fall unusually low; and though there was some damage to celery in the Sacramento Valley, the damage to citrus crops was practically negligible. There was less than the usual amount of fog. The rainfall was more than two inches above the normal and was unusually well distributed. In the south, many records for twenty-four hour precipitation were broken and even the desert stations were well watered. At Bakersfield, Santa Barbara and Los Alamos, a rather severe earthquake shock occurred on the 11th, causing some slight damage. On the 29th a water-spout was sighted about two miles off Point Reyes.

During the first and second decades the rainfall was light and very little fell south of the Tehachapi. These rains fell slowly and the ground absorbed practically all the water, as it has all this season, until, at the end of the second decade it was thoroughly soaked. Consequently, when heavy rain fell over the whole State near the end of the month, nearly all the water found its way into the streams, causing them to rise rapidly until they reached dangerous stages.

The storm which entered from the Pacific on the 28th was one of the most severe ever experienced in California, and much damage was done by the heavy seas along the coast. Steamships were unable to cross the bar at San Francisco; along the southern coast piers and houses were washed away by the waves and trains were delayed by washouts and land-slides. Damage to southern beach towns is estimated at \$250,000. Timely warnings were issued and there was little damage to shipping.

The snowfall in the mountains was below normal, and a large amount of the snow already on the ground was melted by the warm rains at the end of the month. However, snow was still falling on the 31st and no apprehension of a water shortage is felt.

## PRESSURE.

The monthly mean atmospheric pressure for the State, reduced to sea-level, was 30.02 inches.

The highest was 30.45 inches at Eureka on the 9th.

The lowest was 29.11 inches at Eureka on the 29th.

The range for the State was 1.34 inches.

## TEMPERATURE.

The monthly mean temperature for the State was 44.2 degrees, which is 1.6 degrees below the normal.

The highest monthly mean was 58.6 degrees at King City and the lowest was 21.5 degrees at Tamarack.

The highest temperature, 89 degrees, occurred at King City on the 12th and other dates and the lowest was -20 degrees at Tamarack on the 8th.

The range for the State was 109 degrees.

## PRECIPITATION.

The average precipitation for the State was 7.58 inches or 2.17 inches above the normal.

The greatest monthly amount was 28.40 inches at Magalia.

The least monthly amount was 0.11 inch at Mammoth Tank. The greatest amount in 24 hours was 6.42 inches at Glenn Ranch on the 29th.

## RELATIVE HUMIDITY.

The mean relative humidity from observations taken at 5 a. m. and 5 p. m., for each of the regular Weather Bureau stations, was as follows: Eureka 81; Fresno 77; Independence 82; Los Angeles 64; Mount Tamalpais 81; Red Bluff 80; Sacramento 77; San Diego 71; San Francisco 76; San Jose 82; San Luis Obispo 73.

## WIND.

The prevailing direction of the wind was south.

## SUNSHINE AND CLOUDINESS.

At Eureka there were 73 hours of sunshine during the month or 25 per cent of the possible; at Fresno 126 hours or 41 per cent; at Los Angeles 199 hours or 63 per cent; at Mount Tamalpais 96 hours or 30 per cent; at Red Bluff 124 hours or 41 per cent; at Sacramento 138 hours or 46 per cent; at San Diego, 192 hours or 71 per cent; at San Francisco 135 hours or 44 per cent; at San Jose 141 hours or 46 per cent; at San Luis Obispo 149 hours or 47 per cent.

## MISCELLANEOUS PHENOMENA.

*Thunderstorms.*—Berkeley, 11, Betteravia, 28; Big Bar, 13; Cahuilla, 29; Camptonville, 12; China Flat, 14; Escondido, 29; Happy Camp, 13; Hyampom, 14; La Jolla, 29; Monte Vista, 30; Nellie, 29; Nevada City, 12, 14; Oceanside, 29; Point Loma, 29; San Diego, 29; Santa Barbara, 29; Weitchpec, 14.

*Earthquakes.*—Aguanga, 12; Bakersfield, 11; Betteravia, 11, 12, 14; Branscomb, 31; Brawley, 20, 26, 28; Los Alamos, 11-15, 20, 26, 27; Mesa Grande, 12; Newhall, 2; Ojai Valley, 11; Ozena, 11; Paso Robles, 11; Priest Valley, 11; Rohnerville, 14; Santa Barbara, 11; Shively, 14.

## OBSERVERS NOTES.

*Campo.*—The last storm of the month gave us our first snow on the high mountains. Only a few patches remain in deep canyons near the summits. It was a warm storm, and everything is soaking wet. All streams are in big flood and will run a long time without more rain.—Archibald Campbell.

*El Cajon.*—The ground is soaked, rivers are running full and reservoirs are filling at an unprecedented rate.—H. H. Kessler.

*Glennville.*—During nearly all this month's storms, rain fell below 4,000 feet and snow above that level. At 6,000 feet, the snow is 5 feet deep on north slopes and from 1 to 2 feet deep on south slopes. The snow is well packed and contains much ice.—C. H. Likely.

*Los Alamos.*—An unusually severe earthquake occurred on the 11th, and from the 11th to the 27th, no less than 30 shocks were felt. 90 per cent of the chimneys in this district were wrecked or damaged.—J. W. Dobbins.

*Peachland.*—The soil is thoroughly saturated and the runoff has been considerable.—E. H. Parnell.

*Santa Cruz.*—January has been a miserable, gloomy month. On the 29th, record breaking large waves did some damage to the Casino and local shipping.—W. R. Springer.

*Weitchpec.*—The snowfall this month has been very light and all melted below 3,500 feet before the end of the month. Creeks and rivers are high.—M. E. Lathrop.





Climatological Data for January, 1915.

Main climatological data table with columns for Stations, Counties, Elevation, Length of record, Temperature (Mean, Departure from normal, Highest, Date, Lowest, Date, Greatest daily range, Total, Departure from normal, Greatest in 24 hours, Snowfall), Precipitation (Total, Departure from normal, Greatest in 24 hours, Snowfall), Number of days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers.

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.
\*\* 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.
a, b, c, etc., indicate respectively, 1, 2, 3, etc., days missing from the record.

COMPARATIVE DATA FOR JANUARY. (MEAN MONTHLY TEMPERATURE FOR THE STATE.)

Table comparing mean monthly temperatures for the state from 1897 to 1906.

(AVERAGE PRECIPITATION FOR THE STATE.)

Table showing average precipitation for the state from 1897 to 1906.

DELAYED REPORTS.

Table of delayed reports for January, listing stations, months, temperatures (Mean, Max., Date, Min., Date), and total precipitation.

ERRATA. DECEMBER, 1914.

Cahuilla, page 142, greatest precipitation in 24 hours 0.40, should be 0.50.
Corona, page 142, greatest precipitation in 24 hours 0.55, should be 0.61.
Orleans, page 143, number of rainy days 14, should be 15.
San Luis Obispo, page 143, greatest precipitation in 24 hours 1.12, should be 1.21.
NOTE.—Beginning with this issue the stations heretofore published under the names Davisville and Victorville, will be published as Davis and Gray Mountain, respectively.



Daily Precipitation for January, 1915.

Table with columns: Stations, Day of Month (1-31), Total. Lists 100+ stations and their daily precipitation for January 1915. Includes stations like Glennville, Gold Run, Gonzales, Grass Valley, etc.





Daily Temperature for January, 1915.

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

**SNOWFALL IN THE MOUNTAINS.**

The snowfall in California during January, 1915, was considerably below the normal in most portions of the Sierra Nevada mountains, only slightly below in the Siskiyou and somewhat above normal in the mountains of southern California. The snow-covered area of the State was large at the beginning of the month, and while January was decidedly stormy with heavy precipitation, the snow fields were greatly reduced by the rains which extended well into the mountains and melted the snow generally below the 3,000 foot level. The amount of snow on the ground at the end of the month was much less than that at the same date last year and measurements taken at various places in the Sierra while showing a water content of the snow varying from 35 to 48 per centum, is much less than given by the same tests at the end of January, 1914.

The following data were obtained by weighing a cubic foot of snow taken from different depths in the snow banks:

*Summit.*—At the surface a cubic foot of snow weighed 17 pounds, 5 feet below the surface 21 pounds and near the bottom 28 pounds.—E. F. Stewart.

*Inskip.*—Taken from a bank of snow six feet deep, from top to bottom, the cubes weighed 25 pounds and 8 ounces, 28 pounds and 3 ounces, 25 pounds and 10 ounces, 27 pounds and 13 ounces, 30 pounds and 5 ounces, 29 pounds and 9 ounces.—T. M. Cooper.

*Eagle Lake.*—A cubic foot of snow taken from the center of a snow bank 3 feet deep weighed 25 pounds, and when melted gave 628 cubic inches of water.—J. S. Spalding.

*Table Rock.*—A cubic foot of snow taken from the surface weighed 21 1-2 pounds and when melted gave 10 quarts of water.—Mrs. C. M. Hayes.

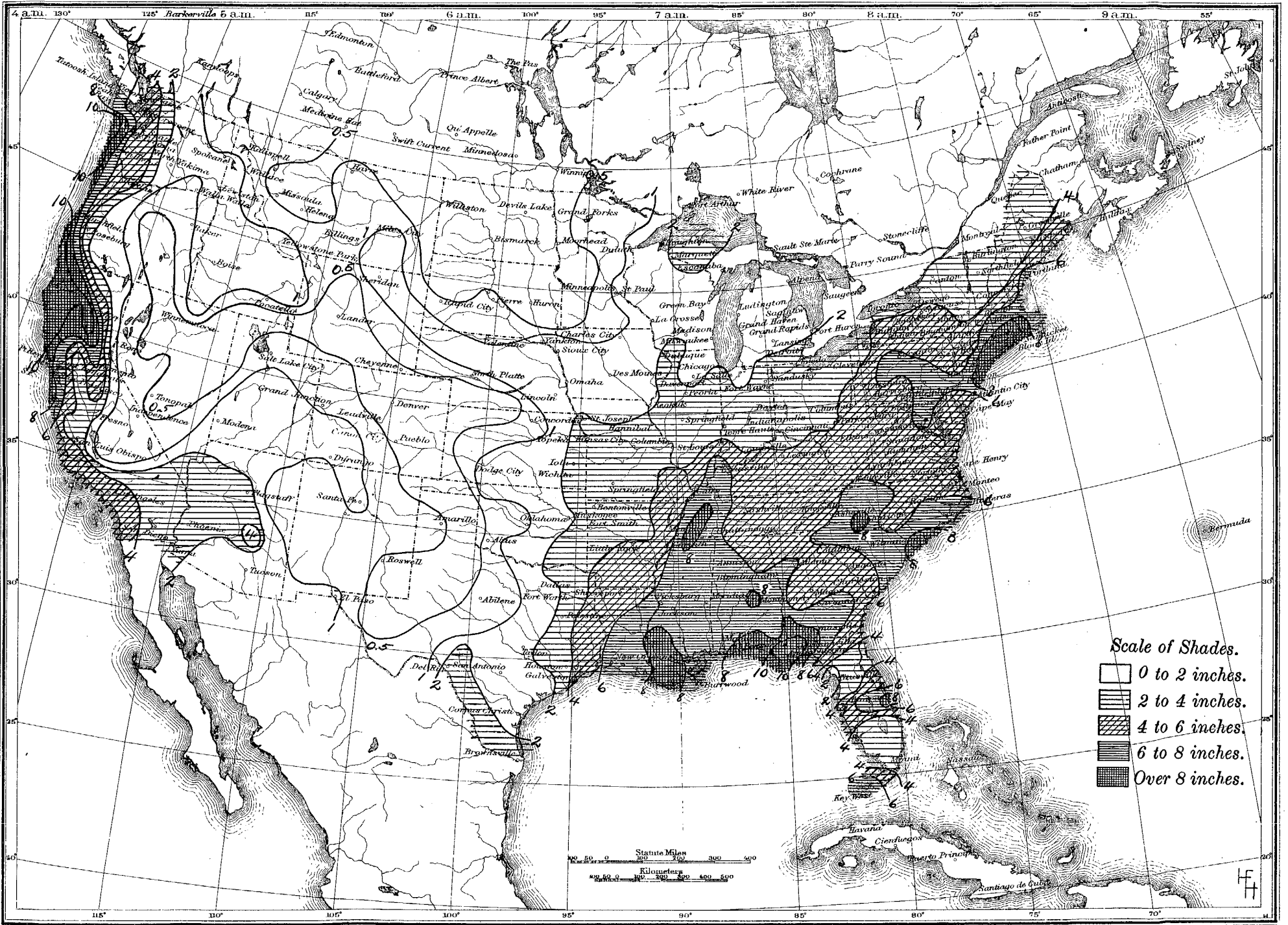
**COMPARATIVE SNOWFALL DATA FOR JANUARY.**  
(Amount on the Ground)

	FORDYCE DAM.			SUMMIT.			TAMARACK.		
	1st.	15th.	31st.	1st.	15th.	31st.	1st.	15th.	31st.
1907.....	58	106	94	45	142	148	125	175	180
1908.....	69	63	68	87	72	87	75	94	104
1909.....	25	68	107	28	90	172	35	150	190
1910.....	60	78	67	54	87	68	72	96	106
1911.....	0	99	124	4	136	218	24	130	310
1912.....	49	39	59	60	46	41	44	50	55
1913.....	28	78	78	17	79	88	40	98	118
1914.....	63	95	107	80	132	192	116	178	274
1915.....	30	59	67	24	56	80	26	50	116

**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>					
Maedoe.....	6				
Gilta.....	21		15	8	-38
<i>Trinity County.</i>					
Hayfork.....	7		5	T.	
Hyampom.....	0		0	0	
Ruth.....	10		4	0	
Weaverville.....	8		2	0	
<i>Humboldt County.</i>					
Weitchpec.....	5		0	0	-17
<b>Mountain Lakes.</b>					
<i>Modoc County.</i>					
Cedarville.....	24		T.	2	+10
Fort Bidwell.....	24		6	4	
<i>Lassen County.</i>					
Eagle Lake.....	17				-36
Fredonia.....	31				
Madeline.....					
Susanville.....	8		5	3	-20
<i>Nevada County.</i>					
Boca.....					
Truckee.....	54		31	24	-6
<i>Inyo County.</i>					
Bishop Creek.....	34		15	47	-11
Lone Pine.....	6			6	
Wells Meadow.....	2		0	0	
<b>Sacramento Watershed.</b>					
<i>Siskiyou County.</i>					
Dunsmuir.....					
McCloud.....	31		39	27	-27
Sison.....	60		26	16	+21
<i>Modoc County.</i>					
Alturas.....	10		3	0	-2
<i>Shasta County.</i>					
Burney.....	18		17	14	-7
<i>Plumas County.</i>					
Canon Dam.....	43		35	35	
Chester.....	52		40	35	-22
Clover Valley.....	22		12	12	-32
La Porte.....	85		65	56	+21
Letter Box.....					
Portola.....	15		4	2	
Quincy.....	11		7	8	-19
<i>Butte County.</i>					
De Saba.....	14		4	0	
Inskip.....	76		71	68	0
Stirling City.....	31		24	6	-5
West Branch.....	25		24	12	-27
<i>Yuba County.</i>					
Camptonville.....	22		6	0	-13
<i>Sierra County.</i>					
Bunker Hill.....	102			120	-26
Dorsey's.....	75		68	68	-20
Dowdville.....	11		T.	0	-34
Sierra City.....	32		23	6	-36
Sierraville.....	22		6	8	-20
Table Rock.....	105		64	57	+10
<i>Nevada County.</i>					
Bowman's Dam.....	58				-2
Deer Creek.....	46		30	22	-8
Fordyce Dam.....	82		59	67	-14
Lake Spaulding.....	57		51	50	-9
<i>Placer County.</i>					
Blue Canon.....	72		30	20	-26
Cisco.....	68		54	54	-2
Emigrant Gap.....	69		46	32	+14
Soda Springs.....	104		47	90	
Summit.....	77		56	80	-2
<i>El Dorado County.</i>					
Pilot Creek.....					
<b>San Joaquin Watershed.</b>					
<i>Alpine County.</i>					
Tamarack.....	118		50	116	+24
<i>Tuolumne County.</i>					
Hetch Hetchy.....	8		10	4	-7
Lake Eleanor.....	27		17	4	-23
<i>Mariposa County.</i>					
Yosemite.....	20		6	1	-18
<i>Fresno County.</i>					
Hume.....	39		6	8	
<i>Tulare County.</i>					
Hot Springs.....	T.		0	0	
Springville.....	22				+10
<i>Kern County.</i>					
Bear Valley.....	4				
<b>Mountains of Southern California.</b>					
<i>Bear Valley Dam</i>					
Converse Nursery.....	42		20	60	+23
Holcomb.....	29		21	34	+15
Squirrel Inn.....	18		10	24	+10
Seven Oaks.....	37				+25
Nellie.....	12		0	8	
Julian.....	5		0	T.	
Cuyamaca.....	6		6	0	-8

# Total Precipitation, inches, January, 1915.



**Scale of Shades.**

- 0 to 2 inches.
- ▨ 2 to 4 inches.
- ▩ 4 to 6 inches.
- ▧ 6 to 8 inches.
- ▦ Over 8 inches.

Statute Miles  
0 50 100 150 200 250 300 350 400

Kilometers  
0 50 100 150 200 250 300 350 400 450 500

HF



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.