

U. S. DEPARTMENT OF AGRICULTURE, WEATHER BUREAU.

CALIFORNIA SECTION.

G. H. WILLSON, District Forecaster.

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SAN FRANCISCO, MARCH, 1916.

No. 3.

GENERAL SUMMARY.

March, 1916, was relatively warm and dry in California. Taking the State as a whole, the mean temperature for the month was 1.2° above the normal, while the precipitation was 1.36 inches less than the average.

The first week of the month was characterized by unsettled and showery weather throughout the State, the heaviest precipitation having occurred on the 4th and 5th. The period from the 7th to the 17th, inclusive, was delightfully warm and pleasant, with unbroken sunshine. The maximum temperatures recorded on the 10th and 11th were unusually high for March, temperatures exceeding 90° having occurred in the interior valleys, while temperatures over 100° were reported from several stations in the desert regions. A stormy period followed, from the 19th to the 24th, inclusive, with heavy rains on the 19th and 20th. On the 23rd freakish weather occurred at many places in the central and southern portions of the State. Thunderstorms accompanied by sleet and snow were common. High winds, with momentary gusts exceeding 60 miles per hour in velocity, were also reported from many stations. In spite of moderate gales along the coast, shipping suffered but little damage, while piers and construction work along the southern California coast sustained some slight damage. The sharp fall in temperature immediately following this period of rainy weather resulted in the coldest weather of the month, on the 24th, when freezing temperatures occurred in many places, and severe frosts were reported from the interior valleys. The remainder of the month was clear, with temperatures increasing from day to day, moderately warm weather again prevailing at the close of the month. The average stages of streams were higher than those of last year, and higher than the averages for ten years. However, no wide-spread floods occurred, as the runoff from the melting snow in the mountains has proceeded at a slow rate, and the rainfall was well distributed through the month. Tulare Lake, which began to rise during February, when 2,000 acres of rich grain land in the vicinity were submerged, continued to rise during March, overflowing 40,000 additional acres.

From an agricultural point of view the weather of March was favorable in certain characteristics and unfavorable in others. The rain of the first week was readily absorbed by the soil, and did much good. The fine warm weather of the ten days following was extremely favorable for blossoming deciduous fruit trees, there being no rain, little wind, and an abundance of sunshine. However, the severe weather of the 19th to the 24th caused considerable damage. Heavy rains and violent winds injured blossoms and the budding leaves, in the fruit-growing sections of the State, while grain was laid low in other restricted regions. The most serious damage was that sustained by fruit trees and other tender vegetation from the frosts and cold weather of the 24th. While the State as a whole suffered from frosts on that date, the damage was greatest in the San Joaquin and Santa Clara valleys, where the estimate of the size of such crops as peaches, apricots and prunes has been materially reduced as a result. Garden produce also suffered severely. The hardier apples and pears were uninjured during the month, and the grain and grass crops have progressed under generally favorable weather conditions. The month was well adapted for outdoor farm work, which is far advanced for the season. Taking the State as a whole, the agricultural outlook remains favorable.

A. H. P.

PRESSURE.

The monthly mean atmospheric pressure for the State, reduced to sea-level, was 30.06 inches.

The highest was 30.53 inches at Eureka on the 7th.

The lowest was 29.29 inches at Independence on the 23rd.

The range for the State was 1.24 inches.

TEMPERATURE.

The monthly mean temperature for the State was 53.0 degrees, which is 1.2 degrees above the normal.

The highest monthly mean was 72.4 degrees, at Greenland Ranch; and the lowest was 28.5 degrees, at Bridgeport.

The highest temperature, 104 degrees, occurred at Indio on the 10th; and the lowest, -14 degrees, at Tamarack on the 22nd.

The range for the State was 118 degrees.

PRECIPITATION.

The average precipitation for the State was 3.38 inches, or 1.36 inches below the normal.

The greatest monthly amount was 15.53 inches, at Crescent City. One station reported no precipitation.

The greatest amount in 24 hours was 3.55 inches at Placerville on 19th and 20th.

RELATIVE HUMIDITY.—(Per Cent.)

Stations.	5 a. m.	5 p. m.	Mean.
Eureka.....	91	78	84
Fresno.....	88	53	70
Los Angeles.....	75	56	66
Mount Tamalpais.....	68	67	68
Red Bluff.....	76	46	61
Sacramento.....	84	50	67
San Diego.....	86	69	78
San Francisco.....	80	62	71
San Jose.....	95	56	76
San Luis Obispo.....	85	65	75

SUNSHINE AND CLOUDINESS.

Stations.	Actual hours of sunshine.	Per cent of the possible.
Eureka.....	175	47
Fresno.....	277	75
Los Angeles.....	274	74
Mount Tamalpais.....	263	71
Red Bluff.....	231	62
Sacramento.....	295	79
San Diego.....	256	69
San Francisco.....	246	66
San Jose.....	251	68
San Luis Obispo.....	261	70

WIND MOVEMENT.—(Miles.)

Stations.	Total movement for month.	Average hourly velocity.	Maximum velocity.	Direction.	Date.
Eureka.....	5,929	8.0	35	w.	1
Fresno.....	4,493	6.0	44	nw.	23
Independence.....	6,699	9.0	40	n.	23
Los Angeles.....	4,365	5.9	24	w.	23
Mount Tamalpais.....	13,597	18.3	63	nw.	23
Point Reyes.....	15,945	21.4	81	nw.	23
Red Bluff.....	4,681	6.3	25	se.	4
Sacramento.....	5,666	7.6	40	se.	4
San Diego.....	4,727	6.4	46	w.	23
San Francisco.....	5,486	7.4	30	ue.	30
San Jose.....	4,205	5.7	28	se.	4
San Luis Obispo.....	3,547	4.8	25	w.	23

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

Climatological Data for March, 1916.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.						Precipitation, in inches.					Number of days.				Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall (unmelted).	Precipitation of inch or more.	Clear.	Partly cloudy.	Cloudy.		Prevailing direction of wind.
Alturas	Modoc	4,400	12	42.6	.....	77	11	14	2	55	0.64	-1.14	0.16	2.5	9	14	10	7	sw.	Prof. C. B. Towle.
American Camp	Tuolumne	2,600	1	52.6	.....	88	11	26	24	44	9.93	.....	2.15	0	8	19	4	8	s.	U. S. Forest Service.
Angiola	Tulare	208	16	54.2	+0.6	83	18	30	5	39	1.30	-0.12	0.50	0	6	16	1	14	e.	Santa Fe Co.
Antioch	Contra Costa	46	37	58.4	+4.0	87	31	36	24	38	0.58	-1.72	0.25	0	3	26	2	3	c.	C. G. McDaniel.
Arrowhead Springs	San Bernardino	2,000	7	64.1	.....	92	10	31	23	40	3.23	.....	0.95	0	6	20	3	8	n.	John Jurgens.
Atascadero	San Luis Obispo	837	.....	55.6	.....	88	11	28	24	46	1.55	.....	0.70	0	5	23	4	4	n.	Colony Holding Corp.
Auberry	Fresno	2,050	.....	53.0	.....	85	11	26	24	34	4.24	.....	1.93	T.	7	15	12	4	nw.	S. J. & E. Ry. Co.
Auburn	Placer	1,360	45	54.0	+2.3	82	12	34	22	29	2.60	-3.12	1.02	0	8	21	5	5	n.	Southern Pacific Co.
Avalon	Los Angeles	30	6	59.6	.....	85	8	42	25	35	1.32	.....	0.80	0	5	22	5	7	n.	T. S. Manning.
Azusa	do	540	14	60.8	+4.5	100	10	34	24	49	2.39	-1.89	0.80	0	7	21	5	5	sw.	C. O. Hillis.
Badgad	San Bernardino	784	13	71.8	+7.9	95	11	50	24	29	0.00	-0.65	0.00	0	0	0	0	0	.....	Santa Fe Co.
Bakersfield	Kern	404	27	60.2	+3.5	94	11	33	6	48	1.23	+0.24	0.60	0	8	22	0	9	.....	do
Barstow	San Bernardino	2,105	13	59.6	+1.8	88	15	36	6	38	0.20	-0.36	0.20	0	1	24	5	2	w.	E. L. White.
Berkeley	Alameda	317	29	55.9	+4.1	82	10	37	24	32	1.91	-2.99	0.74	0	8	16	6	2	w.	State University.
Betteravia	Santa Barbara	155	3	55.5	.....	80	10	32	23	36	1.33	.....	0.73	0	4	22	2	7	w.	Union Sugar Co.
Biggs **	Butte	98	17	64.8	+11.6	92	14	40	12	.....	0.73	-3.49	0.55	0	2	.....	.....	.....	.....	Southern Pacific Co.
Bishop	Inyo	4,450	21	51.6	+5.5	85	19	22	1	55	0.70	-0.34	0.60	0	2	23	6	2	.....	W. A. Chalfant.
Bishop Creek	do	8,500	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Paul E. Lodge.
Blocksburg	Humboldt	1,700	10	48.4	.....	75	11	23	24	43	8.44	.....	1.57	5.0	17	13	1	17	se.	Victor Hope.
Blue Canon	Placer	4,695	17	39.0	-0.8	52	11	17	24	11	8.20	-6.20	2.30	26.5	9	19	1	11	n.	Southern Pacific Co.
Blythe	Riverside	288	7	63.9	.....	86	9	30	35	59	.....	.....	0.45	0	7	12	5	11	.....	C. L. Suits.
Bonita	San Diego	110	.....	60.0	.....	86	9	36	23	38	1.19	.....	0.45	0	7	12	5	11	.....	R. M. Allen.
Branscomb	Mendocino	2,000	16	48.0	+2.6	84	10	25	24	48	10.55	-2.19	2.84	T.	15	15	6	10	n.	A. J. Haun.
Brawley	Imperial	-105	6	67.3	+9.6	12	.....	40	25	44	1.04	.....	0.95	0	2	.....	.....	.....	.....	M. D. Witter
Bridgeport	Mono	6,500	2	28.5	.....	53	12	7	43	1	22	.....	0.48	10.0	4	18	7	6	ne.	Geo. Delury, Jr.
Burney	Shasta	3,300	6	49.3	.....	85	10	16	24	55	1.43	.....	0.30	3.0	8	15	4	12	nw.	Mrs. M. D. Chambers.
Cabulla	Riverside	3,600	5	46.4	.....	84	9	23	58	2.25	.....	.....	0.70	2.0	5	20	7	4	sw.	Dr. W. L. Shawk.
Calaveras Ranger Sta.	Calaveras	3,400	.....	47.5	.....	78	11	21	24	34	7.63	.....	2.22	10.0	8	20	5	6	w.	U. S. Forest Service.
Calexico	Imperial	0	11	67.8	+4.2	100	10	42	13	43	1.41	+1.14	1.17	0	2	26	2	3	.....	F. R. Spencer.
Campbell	Santa Clara	217	19	53.6	+2.0	79	11	31	24	39	0.84	-2.75	0.30	0	7	18	6	7	nw.	F. M. Righter.
Camptonville (near)	Yuba	3,500	9	50.5	.....	80	10	25	24	36	6.81	.....	1.85	10.0	10	15	8	8	sw.	Pacific Gas & Electric Co.
Canon Dam	Plumas	4,570	2	42.6	.....	78	31	14	2	60	3.21	.....	0.86	9.0	8	16	7	8	n.	Great Western Power Co.
Cascadia	Fresno	4,900	.....	46.3	.....	75	10	18	24	35	6.28	.....	2.28	8.0	11	23	0	8	.....	S. J. & E. Ry. Co.
Cedarville	Modoc	4,675	22	44.2	+6.2	74	11	19	1	41	0.59	-1.36	0.23	4.0	6	15	15	1	sw.	T. H. Johnstone.
Center Ranger Station	Tuolumne	3,850	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	U. S. Forest Service.
Centerville	Butte	490	2	52.7	.....	81	10	27	24	41	3.23	.....	1.36	0	8	20	8	3	s.	Pacific Gas & Electric Co.
Chico	do	189	46	56.2	+0.6	86	10	27	24	42	1.91	-1.34	1.38	0	3	16	8	7	sw.	U. S. Bureau Plant Ind.
China Flat	Humboldt	600	7	51.2	.....	75	11	33	1	36	5.90	.....	1.53	0.8	13	15	7	9	nw.	O. J. Westerburg.
Claremont	Los Angeles	1,200	24	59.7	+5.8	97	10	32	21	43	1.92	-2.36	0.60	0	7	20	6	5	sw.	Prof. F. P. Brackett.
Cloverdale	Sonoma	340	14	54.1	+1.6	86	11	33	5	43	3.21	-6.28	1.31	0	12	16	6	9	n.	John G. Ogle.
Coalinga	Fresno	663	4	54.4	.....	81	16	31	2	38	0.93	.....	0.29	0	6	19	3	9	w.	Producers Trans. Co.
Colfax	Placer	2,421	45	53.0	+3.9	86	10	24	24	38	6.26	-1.84	2.65	3.0	6	23	0	8	.....	Southern Pacific Co.
Colusa	Colusa	60	13	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Cousa Sun.
Converse Nursery	San Bernardino	6,000	9	43.2	.....	77	10	19	24	36	4.72	.....	1.17	8.0	7	26	.....	.....	.....	Edw. N. Munns.
Cotona	Riverside	615	2	59.6	.....	95	10	32	24	44	1.56	.....	0.85	0	4	19	6	6	nw.	J. W. Garthwaite.
Crescent City	Del Norte	125	2	48.7	+1.1	74	10	32	23	35	15.53	+4.22	2.23	0	17	14	1	16	nw.	Thos. E. Peacock.
Cuyamaca	San Diego	4,677	17	50.0	+9.3	75	10	21	24	39	4.51	-3.46	1.89	0	6	20	3	8	w.	Cuyamaca Water Co.
Davis	Yolo	51	44	55.8	-0.4	83	12	30	24	36	1.14	-1.45	0.49	0	5	18	10	3	n.	S. H. Beckett.
Deer Creek	Nevada	3,700	9	45.6	.....	74	11	19	24	38	9.37	.....	2.00	23.0	9	17	5	9	sw.	Pacific Gas & Electric Co.
Del Monte	Monterey	25	5	57.8	.....	82	11	34	9	36	1.63	.....	0.37	0	7	20	6	5	nw.	Hotel Del Monte.
Delta	Shasta	1,138	31	46.4	-3.5	70	12	28	24	26	12.00	+1.76	3.22	0	6	20	3	8	nw.	Southern Pacific Co.
Denair	Stanislaus	126	16	54.0	+0.7	78	15	30	13	39	1.57	-0.73	0.73	0	3	25	0	6	.....	Santa Fe Co.
De Saba	Butte	2,500	12	49.3	.....	82	10	24	24	40	5.17	-9.03	1.65	2.0	8	17	5	9	sw.	Pacific Gas & Electric Co.
Dobbins (near)	Yuba	1,650	12	56.6	+2.0	86	11	34	24	36	3.47	-5.06	0.83	0	9	18	3	10	s.	do
Downsville	Sierra	3,150	5	49.0	.....	82	11	21	24	50	7.81	.....	1.67	9.0	12	18	4	9	s.	J. T. Mason.
Dudley	Kings	595	4	56.4	.....	84	11	30	16	36	1.26	.....	0.62	0	5	19	9	3	c.	Producers Trans. Co.
Dudleys	Mariposa	3,000	7	48.0	.....	82	11	19	2	45	8.34	.....	2.22	9.0	7	19	6	6	n.	W. H. Dudley.
Dunsmuir	Siskiyou	2,285	27	49.4	+4.6	82	11	26	2	40	7.56	-1.51	2.06	10.5	13	14	0	17	n.	Southern Pacific Co.
Durham	Butte	160	21	53.8	+1.6	84	10	28	24	44	1.60	-2.26	1.04	0	6	19	4	8	s.	R. W. Durham.
East Park	Colusa	.....	2	52.2	.....	84	10	25	24	45	0.78	.....	0.29	0	6	15	10	6	s.	J. J. Lea.
Edison	Kern	2,500	2	58.6	.....	79	11	42	6	19	2.15	-0.71	0.81	0	8	15	4	12	.....	So. Cal. Edison Co.
El Cajon	San Diego	482	17	60.4	+4.0	92	9	37	25	48	1.27	-1.44	0.40	0	7	23	2	6	sw.	H. H. Kessler.
Electra	Amador	725	12	54.7	-0.1	85	11	32	24	38	5.26	-2.09	2.30	0	8	18	6	7	sw.	Pacific Gas & Electric Co.
Elsinore	Riverside	1,300	.....	60.6	.....	94	10	34	24	46	1.14	.....	0.65	0	4	23	4	4	.....	U. S. Forest Service.
Emigrant Gap	Placer	5,230	42	46.1	+8.4	74	18	18	24	35	8.92	+0.28	2.10	51.0	11	22	2	7	sw.	Southern Pacific Co.
Escondido	San Diego	657	22	58.8	+3.9	90	10	33	24	41	1.15	-1.87	0.44	0	5	9	2			

Climatological Data for March, 1916.—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), Number of days (Clear, Partly cloudy, Cloudy), Prevailing direction of wind, and Observers.

Climatological Data for March, 1916.—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahr.							Precipitation, in inches.				Number of days.			Prevailing direction of wind.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Snowfall (un-melted).	Precipitation .01 inch or more.	Clear.	Partly cloudy.			Cloudy.
Ukiah	Mendocino	620	23	49.0	-0.7	87	†10	27	24	50	3.78	-1.77	1.25	0	14	18	5	8	nw.	Dr. George McCowen.
Yacaville	Solano	175	28	55.0	+1.1	80	13	29	24	36	2.22	-1.98	1.64	0	5	22	3	6	n.	J. E. Bassford.
Valerme	Los Angeles	3,750	...	51.2	...	85	12	2	5	44	1.42	...	0.90	0	2	19	5	7	...	U. S. Forest Service.
Visalia	Tulare	334	28	59.2	+6.7	78	28	38	23	28	1.79	-0.13	0.55	0	8	18	0	13	...	Santa Fe Co.
Walnut Creek	Contra Costa	149	2	54.6	+0.6	77	11	33	24	34	0.99	-1.80	0.45	0	5	...	...	...	R. L. Nougaret.	
Warner Springs	San Diego	3,165	8	56.4	...	90	9	29	24	45	1.92	...	0.55	T.	8	22	3	6	...	J. A. Ream.
Wasco	Kern	336	16	55.6	+1.2	*82	10	30	5	*39	1.45	+0.45	0.86	0	5	20	0	11	sw.	Santa Fe Co.
Watsonville	Santa Cruz	23	20	56.1	+1.4	88	10	32	24	42	1.91	-3.48	0.83	0	7	13	11	7	w.	Spreekels Sngar Co.
Weaverville	Trinity	2,162	4	51.0	...	*84	11	27	13	49	3.77	-0.68	1.15	0	11	16	6	9	...	U. S. Forest Service.
Weitchpec	Humboldt	1,700	6	46.4	...	75	31	26	24	39	10.41	...	1.25	4.0	16	15	2	14	w.	G. S. Garnett.
West Branch	Butte	3,216	2	47.6	...	80	11	22	24	42	7.83	...	1.47	4.0	10	15	5	11	s.	Pacific Gas & Electric Co.
Wheatland	Yuba	84	29	55.2	+2.6	77	11	30	24	30	1.22	-2.28	0.40	0	7	17	5	9	s.	Wm. Lumbard.
Willows	Glenn	136	37	55.2	+0.6	*84	12	29	24	45	1.12	-1.08	0.31	0	5	24	2	5	n.	F. E. Barnhouse.
Yorba Linda	Orange	405	2	59.8	...	*91	10	33	24	42	1.03	...	0.61	0	3	16	11	4	w.	S. J. Walker.
Yosemite	Mariposa	3,945	12	53.7	...	90	31	27	3	48	5.41	-2.47	2.00	17.0	7	16	8	7	s.	J. R. Kelly.
Yreka	Siskiyou	2,625	27	45.9	...	77	11	20	24	46	1.72	...	0.84	8.0	11	12	7	12	sw.	U. S. Forest Service.
Means and Extremes				53.0	+1.2	104	10	-14	22	60	3.38	-1.36	3.55	4.4	7	18	5	8	sw.	

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 MARCH.

MEAN MONTHLY TEMPERATURE FOR THE STATE.

1897	48.0	1907	49.0
1898	48.8	1908	51.8
1899	51.2	1909	48.5
1900	55.7	1910	54.7
1901	53.0	1911	52.7
1902	49.7	1912	48.6
1903	50.9	1913	49.6
1904	51.1	1914	55.0
1905	54.7	1915	53.1
1906	50.8	1916	53.0

AVERAGE PRECIPITATION FOR THE STATE.

1897	3.98	1907	10.67
1898	0.66	1908	1.49
1899	6.10	1909	3.56
1900	2.38	1910	2.43
1901	1.01	1911	6.02
1902	3.39	1912	5.17
1903	5.80	1913	2.06
1904	8.52	1914	1.16
1905	5.42	1915	2.33
1906	9.19	1916	3.38

ERRATA. FEBRUARY, 1916.

Independence, page 17, wind movement, total for the month 3014, should be 2789; average hourly velocity 4.3, should be 4.0; page 24, mean maximum temperature 47.3, should be 47.2.

Hyampom, page 22, total precipitation 5.06, should be 5.23.

Page 17, highest temperature in the State, 96° at Deer Creek, should be 92° at Biggs.

DELAYED REPORTS.

Stations.	Month.	Temperature.					Total precipitation
		Mean	Max.	Date	Min.	Date	
Santa Ana River	January.	43.2	56	3	30	†1	30.81
Angiola	February.	52.2	69	20	25	1	0.20
Arrowhead Springs	"	59.6	81	18	39	1	3.33
Stirling City	"	47.2	64	17	30	3	3.11
Walnut Creek	"	55.2	73	24	34	1	1.86
Meadow Valley	"	...	...	...	...	...	6.37
Tejon Rancho	"	53.5	74	†17	28	1	0.55

MISCELLANEOUS PHENOMENA.

Thunderstorms.—Camptonville, 20, 23; Claremont, Converse Nursery, Corona, 23; Deer Creek, 20, 22; Fresno, 23; Glennville, 17, 23; Hot Springs, 23, Kinsley, 3; Lindsay, Milton (near), 23; Mokelumne Hill, 20; Riverside, Seven Oaks, 23; Three Rivers, 17, 23; Weitchpec, 22; West Branch, 20.

Earthquakes.—Imperial, 11; Lone Pine, 31; Los Alamos, 1; Mount Wilson, 21.

Daily Temperature for March, 1916.

Stations.	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	Mean.		
Alturas.....	Maximum	34	40	51	47	41	44	64	73	71	77	77	70	63	71	73	77	69	61	59	53	59	51	40	48	45	63	56	60	55	61	73	58.9	
	Minimum	22	14	27	34	23	25	18	24	26	22	28	25	20	17	26	23	27	38	42	42	19	32	25	16	30	33	40	32	22	22	21	25.3	
Bakersfield.....	Maximum	57	64	64	62	62	61	69	73	79	82	94	86	81	88	94	85	77	77	77	76	70	67	60	60	69	74	74	71	74	77	81	73.8	
	Minimum	52	42	44	52	50	33	35	36	46	52	52	53	59	51	46	46	53	56	54	46	47	51	43	38	37	39	45	48	47	47	45	46.6	
Barstow.....	Maximum	53	57	60	56	55	52	68	78	80	85	81	80	84	85	88	83	78	79	80	70	64	72	70	82	83	85	80	84	82	70	77	74.2	
	Minimum	38	40	40	38	42	36	38	44	45	50	44	43	45	52	50	45	44	45	44	43	45	44	43	45	44	45	51	50	50	41	46	48	45.1
Blocksburg.....	Maximum	41	43	45	45	43	48	60	68	70	75	69	68	70	75	73	71	66	60	58	57	56	57	53	50	52	55	55	68	75	73	72	60.4	
	Minimum	31	32	39	36	30	35	36	39	49	46	35	33	32	32	40	38	34	40	41	30	39	39	37	32	25	33	38	40	40	38	39	38	36.4
Calexico.....	Maximum	66	74	76	87	78	78	83	89	96	100	97	99	95	91	92	97	92	92	91	71	79	67	58	70	75	83	89	92	88	76	79	83.9	
	Minimum	49	46	42	45	62	48	43	50	48	57	60	54	59	52	49	55	56	63	54	62	60	62	55	43	42	44	48	58	54	46	51	51.7	
Chico.....	Maximum	59	55	56	55	56	69	72	75	79	86	83	84	76	76	77	79	71	63	66	65	65	65	62	60	66	67	71	76	78	79	78	70.0	
	Minimum	42	38	43	39	37	32	35	43	46	44	50	49	43	33	43	45	46	51	56	56	39	45	34	27	43	49	45	45	38	37	41	42.4	
Colfax.....	Maximum	45	55	50	44	50	56	68	80	82	85	85	81	84	81	82	80	72	64	56	51	69	48	45	44	54	63	66	67	66	73	74	76	66.0
	Minimum	26	28	32	35	30	28	30	42	45	32	34	35	50	52	48	45	46	48	45	42	44	34	28	27	33	34	40	38	41	40	42	39.9	
Colusa.....	Maximum	54	60	68	69	68	63	78	84	85	90	86	81	65	77	76	72	78	79	79	65	70	59	54	59	67	76	77	69	65	68	76	71.2	
	Minimum	46	46	42	44	51	37	39	45	44	50	52	51	55	48	48	55	47	48	54	56	56	47	33	34	36	40	49	46	54	53	38	45.1	
Eureka.....	Maximum	48	53	56	53	50	53	53	57	58	52	52	53	61	50	49	51	53	64	55	59	54	46	51	59	57	55	54	57	64	57	54	54.7	
	Minimum	40	40	50	40	36	40	37	39	45	44	48	47	40	40	45	46	48	50	41	41	40	36	34	49	51	45	44	41	42	44	42	44.4	
Fresno.....	Maximum	54	60	54	58	56	57	63	68	71	77	86	81	72	80	85	84	71	76	70	64	64	67	55	57	66	71	70	68	70	72	76	68.5	
	Minimum	44	38	41	45	44	37	41	48	49	53	53	53	52	51	48	51	52	58	50	44	43	39	35	38	44	46	50	48	46	50	46	50	46.2
Hanford.....	Maximum	69	65	67	69	68	66	68	70	72	73	88	83	80	81	80	72	73	75	77	74	71	68	65	64	68	71	66	68	74	75	71	79.9	
	Minimum	41	36	38	41	40	35	36	39	41	45	46	42	42	41	43	42	42	49	52	45	43	39	33	38	39	42	35	37	37	43	47	41.0	
Hollister.....	Maximum	54	56	53	56	54	59	66	72	76	80	84	76	75	80	60	69	63	64	66	62	62	61	55	58	66	69	70	65	73	74	76	66.3	
	Minimum	44	34	38	45	43	35	35	39	41	45	50	46	45	40	43	49	48	49	50	54	40	40	43	35	44	45	41	47	39	40	38	42.7	
Independence.....	Maximum	52	55	60	57	56	60	67	75	79	80	78	80	78	70	73	75	74	72	72	66	66	69	67	56	65	70	72	71	71	65	75	68.6	
	Minimum	28	26	26	36	31	26	33	31	38	42	43	40	40	30	33	36	36	46	48	46	34	36	30	26	27	33	35	35	40	38	38	35.0	
Indio.....	Maximum	70	73	77	78	80	85	95	102	104	101	97	97	94	96	97	92	90	92	81	84	81	66	71	77	84	90	93	90	82	85	86.5		
	Minimum	44	51	45	45	53	49	48	54	58	65	65	62	65	68	49	53	55	60	62	62	57	60	50	39	42	43	48	59	60	62	51	54.3	
La Porte.....	Maximum	27	30	34	35	29	34	44	46	54	54	45	57	51	45	56	45	47	43	41	38	41	31	29	35	40	41	39	47	46	58	42.3		
	Minimum	24	16	19	26	15	10	15	26	31	37	32	38	30	33	35	35	36	37	40	34	30	29	22	15	30	34	30	35	35	35	35	29.1	
Lemon Cove.....	Maximum	57	61	63	59	61	63	66	69	77	81	85	92	91	80	89	91	92	83	82	77	70	70	71	55	61	71	78	77	76	77	74.1		
	Minimum	43	44	43	49	49	48	50	43	54	51	52	58	51	50	52	48	52	58	62	55	50	51	41	34	39	43	49	52	51	55	49	49.3	
Los Angeles.....	Maximum	58	62	69	64	59	65	80	86	89	96	93	78	61	74	74	69	74	74	79	65	70	62	58	64	70	80	76	62	65	70	80	71.8	
	Minimum	47	46	49	50	48	45	52	58	63	67	67	53	52	53	46	49	54	54	53	55	55	53	45	46	45	49	55	50	54	53	51	52.2	
Merced.....	Maximum	53	58	53	57	56	59	62	69	73	75	89	78	72	77	81	77	68	71	67	66	63	65	57	59	63	69	70	67	70	71	71	67.0	
	Minimum	44	35	40	40	45	38	36	37	40	44	50	51	52	44	46	47	47	50	52	59	43	45	42	35	38	39	45	47	45	43	41	43.7	
Mokelumne Hill.....	Maximum	46	54	50	49	50	53	60	67	71	75	84	76	71	77	80	78	71	68	64	63	63	59	50	54	60	66	66	63	67	70	70	64.2	
	Minimum	35	34	38	42	38	33	33	44	48	52	59	58	51	53	53	55	48	47	38	48	38	39	45	31	38	43	45	44	48	49	49	44.7	
Needles.....	Maximum	60	60	76	78	78	76	80	84	84	84	81	82	81	85	83	81	83	80	81	71	63	65	50	65	65	63	68	69	72	77	74	70	74.5
	Minimum	42	43	46	43	44	45	45	44	56	52	55	52	53	50	48	45	46	50	51	53	55	45	44	43	43	43	44	44	44	44	44	48.1	
North Fork.....	Maximum	43	37	52	54	46	54	62	78	88	91	92	84	89	91	88	84	86	84	76	70	62	58	47	52	65	75	82	79	68	80	70.0		
	Minimum	32	27	29	36	27	29	34	37	40	40	42	41	38	36	33	39	41	42	46	33	31	30	22	28	31	36	45	37	36	38	35	35.5	
Oakland.....	Maximum	55	57	58	55	58	60	69	67	78	74	74	70	73	62	60	60	63	62	62	61	58	55	60	63									

Snowfall Data. [In inches.]

WATERSHED, COUNTY, STATION.	Total snowfall.	Compr'd with normal.	Am't on ground 15th.	Am't on ground end mo.	Water equivalent.
Klamath Watershed.					
<i>Siskiyou County.</i>					
Yreka	8		0	0	
<i>Trinity County.</i>					
Hayfork	16		0	0	
Ruth					
<i>Humboldt County.</i>					
Weitchpec	4	+ 3	0	0	
Mountain Lakes.					
<i>Modoc County.</i>					
Cedarville	4	-10	0	0	
Fort Bidwell	11		0	0	
<i>Lassen County.</i>					
Eagle Lake	10	- 5	10	2	
Fredonia					
Madeline	17	+ 7	8	0	
Susanville					
<i>Tehama County.</i>					
Mineral					
<i>Nevada County.</i>					
Boca					
Truckee	24	-16	15	0	
<i>Inyo County.</i>					
Bishop Creek					
Lone Pine	0		0	0	
Wells Meadow	0		0	0	
Sacramento Watershed.					
<i>Siskiyou County.</i>					
Dunsmuir	10	0	0	0	
McCloud	23	+ 7	15	0	
Sisson	18	- 4	0	0	
<i>Modoc County.</i>					
Alturas	2	- 3	0	0	
<i>Shasta County.</i>					
Burney	3	0	0	0	
<i>Plumas County.</i>					
Bucks	48		106	72	
Canon Dam	9		39	21	
Chester	14	-12	37	20	
Clover Valley	23	+ 9	37	12	
La Porte	28	-33	71	48	
Portola	13		0	0	
Quincy	6	-14	0	0	
<i>Butte County.</i>					
De Saba	2	-11	0	0	
Inskip	21	-27	80	56	
Stirling City	6	-16	0	0	
West Branch	4	-14	0	0	
<i>Yuba County.</i>					
Camptonville	10	- 5	0	0	
<i>Sierra County.</i>					
Bunker Hill					
Dorsey's					
Downieville	9	0	0	0	
Sierra City	19	- 9	9	0	
Sierraville	23	- 9	0	0	
Table Rock	41	-10	108	82	
<i>Nevada County.</i>					
Bowman's Dam					
Deer Creek	23	- 9	13	0	
Fordyce Dam	69	-17	148	133	
Lake Spaulding	35	-32	82	63	
<i>Placer County.</i>					
Blue Canon	26	-28	31	12	
Cisco	66	+ 3	119	95	
Emigrant Gap	51	- 3	60	24	
Summit	50	+ 3	139	120	
San Joaquin Watershed.					
<i>Alpine County.</i>					
Tamarack	76	-20	179	160	
<i>Tuolumne County.</i>					
Center Ranger Station					
Hetch Hetchy	1	- 9	0	0	
Lake Eleanor	10	-26	0	0	
<i>Mariposa County.</i>					
Yosemite	17	- 3	3	0	
<i>Fresno County.</i>					
Cascada	8		0	0	
Hume					
Huntington Lake	28		80	62	
<i>Tulare County.</i>					
Hot Springs	0	- 4	0	0	
Springville	13	- 1	0	0	
Mountains of Southern California.					
Bear Valley Dam	7	- 7	0	0	
Converse Nursery	8		0	0	
Holcomb	5	-12	0	0	
Squirrel Inn	1	-10	0	0	
Seven Oaks	4	- 6	0	0	
Nellie	1		0	0	
Julian	2		0	0	

SNOWFALL IN THE MOUNTAINS.

The snowfall in the mountains of California during March, 1916, was somewhat below the normal. Though a few stations reported more than the usual amount of new snow, the State as a whole received a relatively small amount.

In the Sierra Nevada Mountains the snow cover at the beginning of the month was about normal in depth, or slightly below the normal. Considerable precipitation accompanied the eastward passage of two storms during the first week of the month. As the temperatures were below freezing, most of the precipitation in the mountain regions was in the form of snow. The mild weather which followed caused considerable settling and accelerated melting of the snow. This was particularly true in the lower foothills. The storm of March 18-23, inclusive, was accompanied by relatively high temperatures, and as a result, further melting occurred. The coldest weather of the month followed, and melting was checked for a few days. At the close of the month warm weather again prevailed, and the snow was disappearing steadily. Throughout the Sierras the snow has been so well packed since the excessive snowfall of January that melting has progressed at a very slow rate. The lower layers of snow are densely packed, almost with the consistency of ice. A snow survey made near Summit station at the close of the month revealed the fact that the surface layer (1 foot thick) was 56 per cent water, that at a depth of 5 feet was 63 per cent water, while that at the bottom of the 10-foot cover was 66 per cent water.

In the Siskiyou Mountains the snowfall during the month was above the normal, most of it having occurred during March 1-6 and 20-24. At the close of the month it was melting steadily, but a considerable deposit remained above the 3,500 foot level, and it was well packed.

In the mountains of southern California the snowfall during March was abnormally light. Scattered light snow fell on several days during the first week of the month. Though considerable precipitation occurred in the southern portion of the State between the 19th and 24th, the temperatures prevailing at the time were so high that only in the more elevated regions was the precipitation in the form of snow. At the close of the month but little snow remained except upon the lofty peaks.

During the past winter the snowfall in the mountains of California was relatively light during December, February and March, but it was abnormally heavy during November and January. That which occurred during January was so excessive that unprecedented amounts were reported from many stations. Partly because of the excessive snowfall during January and partly because of the slow melting which has followed, the runoff has been slight, and no wide-spread floods have occurred to date. It is readily apparent that ample water for irrigation and power purposes is assured for the coming summer. A. H. P.

COMPARATIVE SNOWFALL DATA FOR MARCH.

(Amount on the Ground.)

	FORDYCE DAM.			SUMMIT.			TAMARACK.		
	1st.	15th.	End of mo.	1st.	15th.	End of mo.	1st.	15th.	End of mo.
1907	98	119	154	104	191	262	101	210	348
1908	105	87	75	116	130	60	131	126	84
1909	131	116	126	201	196	191	256	255	253
1910	72	58	71	65	38	68	101	82	90
1911	128	154	124	222	276	138	443	440	338
1912	45	80	67	26	81	53	44	79	62
1913	80	72	82	52	42	50	115	103	107
1914	130	113	108	178	140	124	271	255	258
1915	133	117	100	182	153	119	185	161	143
1916	165	148	133	151	139	120	192	179	160