

California Monthly Climate Summary
February 2015

Weather Highlights

February 2015 was another warm and dry month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 51.3°F which is 6.9°F higher than the long-term average of 44.4°F. This is the warmest February in 121 years of record. With a statewide average of 2.67 inches, precipitation in February was 73% of average. Statewide plots of precipitation and temperature for the past month are included at the end of the document.

February started out with high pressure dominating the State. An atmospheric river event made landfall in northern California towards the end of the first week with heavy rain and freezing elevations above 8000 feet impacting the northern part of the State and Sierra. The duration of the event was limited and runoff was muted a bit by the dry January conditions. In the second week high pressure again dominated the State with record high temperatures recorded in many places including high temperatures in the 60s at South Lake Tahoe. The warm, dry weather continued for the rest of the month. Onshore flow at the end of the month brought some rain and snow to the State including Southern California.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 147 temperature records tied or broken and 4 precipitation records set for the month. Of the 147 temperature records set, 96 were for new high maximum temperatures and 49 were for new high minimum temperatures. Records were set on 22 days of the month.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 173 stations recorded a minimum temperature below freezing while zero stations reached or exceeded 100°F at least once during the month. Statewide extremes from the CDEC network of temperature gages are shown below. Also shown are the monthly average extremes from the CIMIS network. A table of regional average minimum, mean, and maximum temperatures from the CDEC stations is also shown at the end of the summary.

Precipitation in February was mixed across the state. For the CDEC precipitation gages for February 2015, the largest amount of precipitation recorded was at Gasquet Ranger Station in the North Coast region with 14.1 inches. This is 118% of the average precipitation for this station the month. At the other end of the spectrum, Imperial Valley in the Colorado Desert recorded no precipitation for the month. For the CIMIS network, Camino in El Dorado County topped the precipitation charts with 5.81 inches for the month and 9 stations recorded no precipitation. Some CIMIS gages may show large precipitation totals if the gages are not covered during irrigation activities so care should be given to review precipitation data used from this network. The 8-Station Index for northern California precipitation recorded 7.6 inches in February. On average, 8.0 inches of precipitation is recorded for the 8-Station index

for the month. The San Joaquin 5-Station Index recorded 4.0 inches of precipitation for the month. On average, 6.9 inches of precipitation is recorded for the 5-Station Index for the month.

CoCoRaHS Update

Water Year 2015 continues California's sixth year with CoCoRaHS – the Community Collaborative Rain, Hail and Snow Network. This group uses citizen volunteers to record rain, hail and snow data. The users enter the data online at the CoCoRaHS web site. The web site provides the opportunity to see spatial detail of rain and snow patterns. A map from February 7, 2015 is shown at the end of the document. As of the end of February, California has 1268 volunteers signed up spanning 56 of California's 58 counties. The counties without volunteers are Alpine and Modoc. The counties with the most volunteers are Sonoma and San Diego and with 110 and 106 volunteers respectively. For the month of February, 12,523 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in February was in Lake County where 10.07 inches was recorded on 02/7/2015. There were 18 reports of snowfall recorded during the month with the largest daily snowfall recorded in Placer County with 17 inches recorded on 02/28/2015. Four hail reports were filed with one each from San Bernardino, Santa Cruz, Shasta, and Nevada Counties. All were rice sized. To join CoCoRaHS or find more information, please visit <http://www.cocorahs.org>.

Snowpack and Water Supply Conditions

As of February 28, 2015, the regional snow pillow report shows 4 inches of snow water equivalent in the northern region. This is 15% of the April 1 average and 17% of average for the date. For the central region, 5 inches of snow water equivalent is being reported which is 17% of the April 1 average and 20% of average for the date. For the southern region 5 inches of snow water equivalent is being reported which is 18% of the April 1 average and 21% of average for the date. The Water Supply Index (WSI) for WY2014 for the Sacramento Basin and the San Joaquin Basin fell into the critical category. More information can be found at http://cdec.water.ca.gov/water_supply.html. A historical listing of water year categories for both basins can be found at <http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST>.

Drought Monitor and Seasonal Outlook

The maps for California for January 27, 2015 and February 24, 2015 are shown below. The Drought Monitor maps can be found on the National Drought Mitigation Center's (NDMC) website <http://drought.unl.edu/dm/>. These maps are largely a reflection of precipitation and soil moisture deficit estimates. As of the February 24th depiction, 39.92% of California is depicted in the D4 or exceptional drought category, 27.54% of California is depicted in the D3 or extreme drought category, and 25.98% of California is depicted in D2 or severe drought category, 4.66% of California is depicted in D1 or moderate drought, 1.74% depicted in abnormally dry or D0, and 0.16% with no drought depiction. Maps are updated weekly.

The U.S. Monthly Drought Outlook for March from NOAA depicts California in persisting drought conditions. This forecast is based primarily on climatology and forecast models. Maps and information can be found at http://www.cpc.noaa.gov/products/expert_assessment/seasonal_drought.html. Updates are provided twice per month.

For more information on water conditions in California, visit <http://www.water.ca.gov/waterconditions/>. A table showing end-of-February reservoir storage by hydrologic region is shown at the end of this document.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is currently in neutral conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have been positive with values of 0.6°C in the Niño 3.4 at the end of February. The December through February 3-month running mean of the Ocean Niño Index (ONI) is 0.6 which is the fourth 3-month running mean value above the 0.5 threshold for an El Niño event. Five consecutive ONI values need to be above the 0.5 threshold need to be observed for classification as an El Niño event. Most forecast models have the tropical sea surface remaining warm into the spring. More information can be found at the Climate Prediction Center's web site:

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/

Updates are posted weekly. Outlook plots and discussions can be found at <http://www.wrcc.dri.edu/longrang/>. General weather information of interest can be found at <http://www.noaawatch.gov/>. For anomaly information please see http://www.wrcc.dri.edu/anom/cal_anom.html.

Agricultural Data

February 2015 saw the almond bloom and field preparations for spring planting. Winter forage crops continued to do well. Lack of rain necessitated some irrigation. The warm temperatures accelerated the strawberry crop and early bloom in some of the stone fruit. Orange trees were topped in advance of their bloom. Pistachio and walnut pruning continued. Field crops were prepared and those that were planted were progressing well. The limited precipitation impacted rangeland conditions. Supplemental feeding continued due to the lack of quality forage. For further crop information see <http://www.nass.usda.gov/index.asp>.

Other Climate Summaries

[California Climate Tracker](#) (new product of Western Region Climate Center)

[Golden Gate Weather Service Climate Summary](#)

[NOAA Monthly State of the Climate Report](#)

Statewide Extremes (CDEC)

High Temperature – 94°F (Malibu Canyon & Santa Fe, South Coast)

Low Temperature – -20°F (Casa Vieja Meadow, Tulare)

High Precipitation – 14.1 inches (Gasquet Ranger Station, North Coast)

Low Precipitation – 0 inches (Imperial Valley, Colorado Desert)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 81.7 °F (Meloland, Imperial County)

Low Average Minimum Temperature – 23.8°F (Big Bear Lake, San Bernardino County)

High Precipitation – 5.81 inches (Camino, El Dorado County)*

Low Precipitation – 0 inches (9 stations)

*Sometimes irrigation water from sprinklers gets counted as precipitation if the gage is not covered.

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	28	27.4	47.0	69.9
SF Bay	9	39.4	54.8	70.8
Central Coast	12	36.3	55.3	79.6
South Coast	48	37.1	57.3	81.7
Sacramento	76	28.3	48.3	71.3
San Joaquin	44	25.7	45.8	70.7
Tulare Lake	18	17.7	39.7	63.7
North Lahontan	24	11.2	34.5	57.1
South Lahontan	16	17.7	42.8	68.3
Colorado River Desert	7	43.4	64.5	87.4
Statewide Weighted Average	282	27.5	47.8	71.2

Statewide Precipitation Statistics

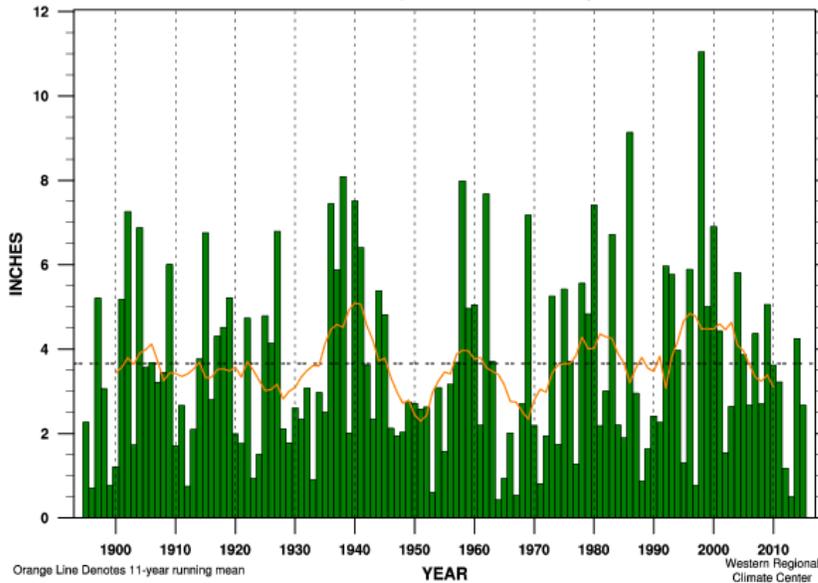
Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Feb	Oct-Feb	Stations	Feb	Oct-Feb	Feb	Oct-Feb
North Coast	0.27	5	5	5	15	11	11	120.5%	94%
SF Bay	0.03	3	3	3	6	5	5	69.1%	100%
Central Coast	0.06	5	5	5	10	6	6	44.3%	80%
South Coast	0.06	5	5	5	14	13	12	25.2%	66%
Sacramento River	0.26	10	9	9	42	31	31	120.1%	95%
San Joaquin River	0.12	7	7	7	26	20	19	73.7%	65%
Tulare Lake	0.07	5	5	5	28	26	18	67.9%	62%
North Lahontan	0.04	6	6	6	13	9	9	107.8%	68%
South Lahontan	0.06	5	5	5	14	12	12	66.1%	84%
Colorado River	0.03	2	2	2	6	4	4	23.2%	46%
Statewide Weighted Average	1	53	52	52	174	137	127	92.5%	83.1%

End-of-February Reservoir Storage by Hydrologic Region
Storage in Thousand Acre-Feet (taf)

End-of-February Reservoir Storage	Number of Reservoirs	Average Storage (taf)	2015 Storage (taf)	% of Average
North Coast	6	2,224	1,533	69%
San Francisco Bay	17	505	444	88%
Central Coast	6	656	204	31%
South Coast	29	1,447	886	61%
Sacramento	43	11,244	9,440	84%
San Joaquin	34	7,211	4,564	63%
Tulare	6	840	333	40%
North Lahontan	5	526	80	15%
South Lahontan	8	267	227	85%
Total	154	24,924	17,715	71%

California Climate Tracker Images

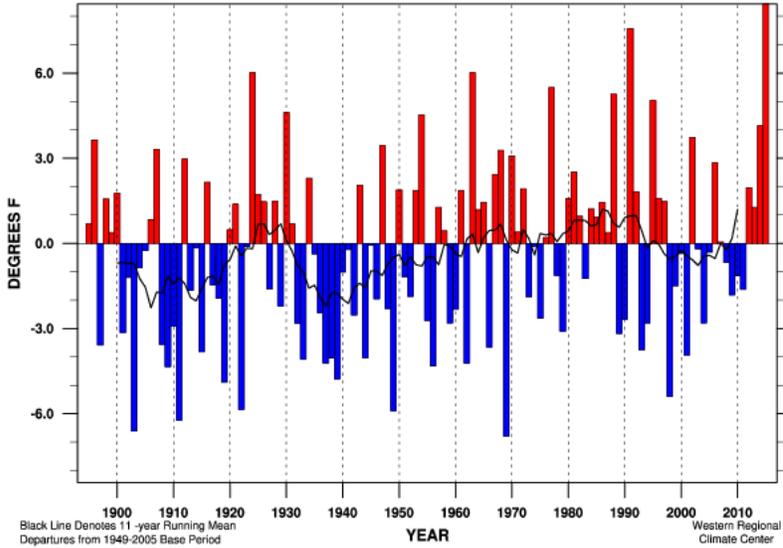
**California Statewide
Precipitation February**



Orange Line Denotes 11-year running mean
 YEAR
 Western Regional Climate Center

Linear Trend 1895-present	+ 0.28 ± 1.11 in.	(+ 7 ± 30%) per 100 yr	
Linear Trend 1949-present	+ 1.01 ± 2.87 in.	(+ 27 ± 78%) per 100 yr	
Linear Trend 1975-present	- 2.66 ± 6.23 in.	(- 72 ± 170%) per 100 yr	
Wettest Year	11.04 in. (30%) in 1998	MEAN	3.66 in.
Driest Year	0.43 in. (1%) in 1964	STDEV	2.39 in.
February 2015	2.67 in. (73%)	RANK	53 of 121

California Statewide Maximum Temperature Departure February

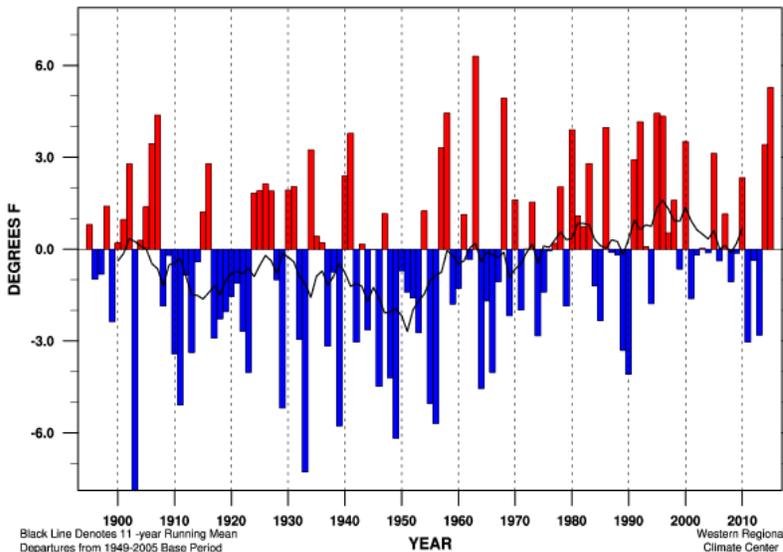


Black Line Denotes 11 -year Running Mean
Departures from 1949-2005 Base Period

Western Regional
Climate Center

Linear Trend 1895-present	+ 1.65 ± 1.56 °F/100yr	
Linear Trend 1949-present	+ 2.28 ± 3.97 °F/100yr	
Linear Trend 1975-present	+ 1.83 ± 8.41 °F/100yr	
Warmest Year	63.7 °F (+ 8.4 °F) in 2015	MEAN 55.3 °F
Coldest Year	48.5 °F (- 6.8 °F) in 1969	STDEV 3.14 °F
February	2015 63.7 °F (+ 8.4 °F)	RANK 121 of 121

California Statewide Miniumum Temperature Departure February

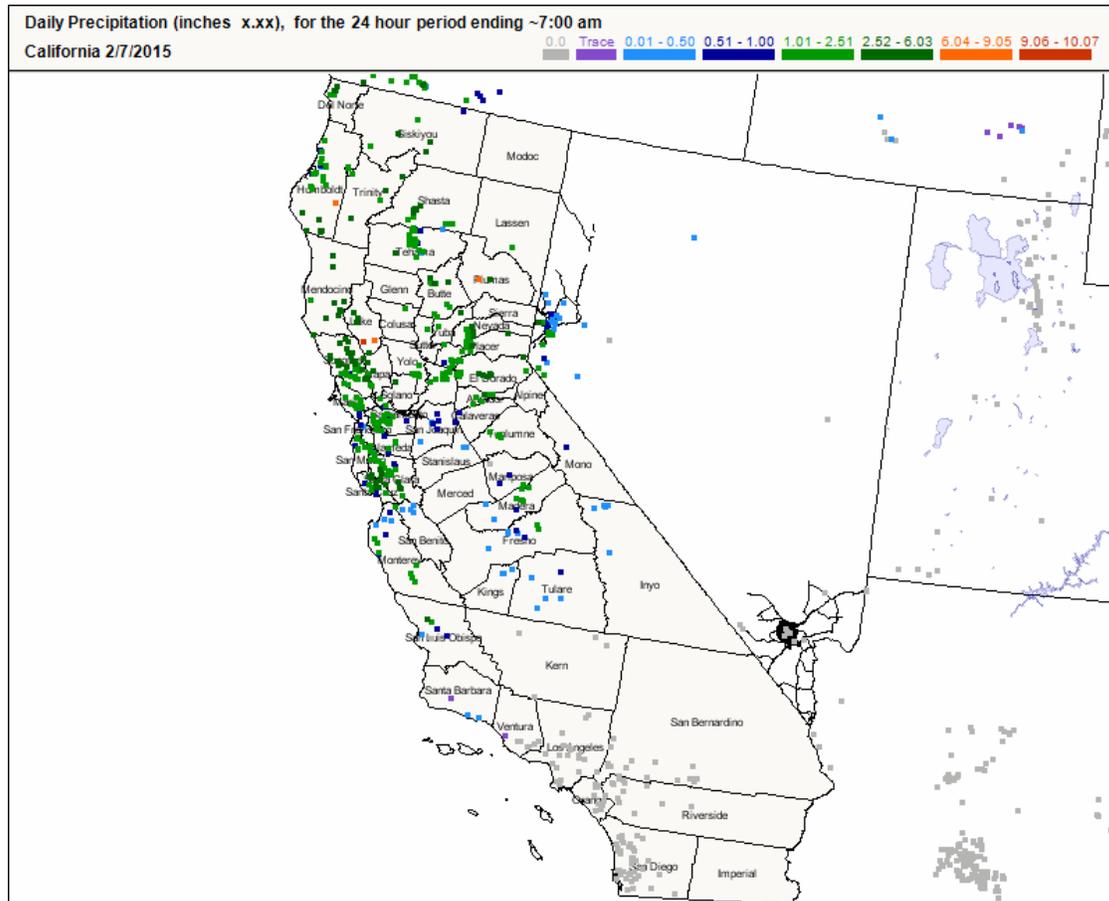


Black Line Denotes 11 -year Running Mean
Departures from 1949-2005 Base Period

Western Regional
Climate Center

Linear Trend 1895-present	+ 1.47 ± 1.44 °F/100yr	
Linear Trend 1949-present	+ 3.73 ± 3.43 °F/100yr	
Linear Trend 1975-present	+ 1.09 ± 6.46 °F/100yr	
Warmest Year	39.9 °F (+ 6.3 °F) in 1963	MEAN 33.6 °F
Coldest Year	25.7 °F (- 7.9 °F) in 1903	STDEV 2.82 °F
February	2015 38.9 °F (+ 5.3 °F)	RANK 120 of 121

CoCoRaHS Map



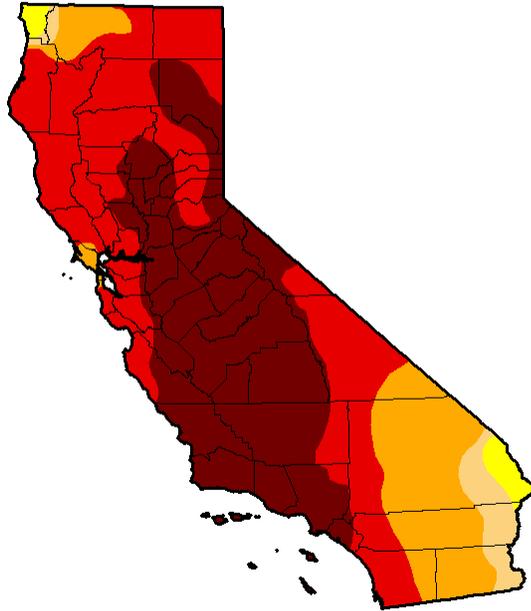
United States Drought Monitor

U.S. Drought Monitor California

January 27, 2015

(Released Thursday, Jan. 29, 2015)

Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	98.13	94.34	77.52	39.99
Last Week 1/20/2015	0.00	100.00	98.13	94.34	77.52	39.15
3 Months Ago 10/29/2014	0.00	100.00	100.00	95.04	81.92	58.41
Start of Calendar Year 1/20/2014	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year 9/30/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 1/28/2014	1.43	98.57	94.18	89.91	67.13	8.77

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
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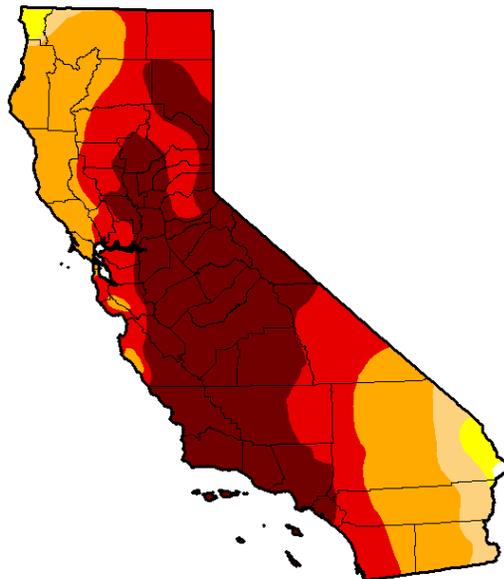
<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor California

February 24, 2015

(Released Thursday, Feb. 26, 2015)

Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.16	99.84	98.10	93.44	67.46	39.92
Last Week 2/17/2015	0.16	99.84	98.10	93.44	67.46	41.20
3 Months Ago 11/25/2014	0.00	100.00	99.72	94.42	79.69	55.08
Start of Calendar Year 1/20/2014	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year 9/30/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 2/25/2014	0.00	100.00	94.56	90.82	73.83	26.21

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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<http://droughtmonitor.unl.edu/>