

California Monthly Climate Summary
June 2015

Weather Highlights

June 2015 was a hot and dry month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 71.4°F which is 4.7°F higher than the long-term average and is a new high value in the 121 year record. With a statewide average of 0.21 inches, precipitation was 59% of average. Statewide plots of precipitation and temperature for the past month are included at the end of the document.

June started out in a summertime pattern with consistent highs and lows throughout the week with some rain showers in the Sierras. The second week brought the heat with triple digit highs in many locations. The heat was due to a highly amplified ridge over the western US. In the middle of the week a low pressure moved across the state bringing showers to some locations. The third week was dry with no measurable precipitation across the state. Temperatures again followed their summer pattern. The month closed out with no precipitation and slightly cooler temperatures than the previous week.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 98 temperature records tied or broken and 43 precipitation records set for the month. Of the 98 temperature records set, 43 were for new high maximum temperatures and 55 were for new high minimum temperatures. Records were set on 20 days of the month with 15 of those days coming from the Los Angeles (Oxnard) Forecast Area.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 25 stations recorded a minimum temperature below freezing while 110 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 June was below average in 6 of the hydrologic regions and above average in the other 4. For the CDEC precipitation gages for June 2015, the largest amount of precipitation recorded was at Hockett Meadow in the Tulare region with 2.51 inches. This is 314% of the average precipitation for this station the month. At the other end of the spectrum, seven stations recorded no precipitation for the month. For the CIMIS network, Macdoel II in Siskiyou County topped the precipitation charts with 2.9 inches for the month and 48 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 0.8 inches in June. On average, 1.0 inch of precipitation is recorded for the 8-Station index for the month.

The San Joaquin 5-Station Index recorded 0.3 inches of precipitation for the month. On average, 0.6 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 June 11, 2015 is shown at the end of the document. As of the end of June, California has 1295 volunteers signed up spanning 55 of California's 58 counties. The counties without volunteers are Alpine, Glenn, and Modoc. The counties with the most volunteers are Sonoma County with 111 volunteers and San Diego County with 110. For the month of June, 11,401 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in June was in Del Norte County on 6/2/2015 and in El Dorado County on 6/6/2015 where 1.46 inches was recorded. There were no reports of snowfall recorded during the month. There was 1 hail report filed in Shasta County on 6/4/2015. To join CoCoRaHS or find more information, please visit <http://www.cocorahs.org>.

Snowpack and Water Supply Conditions

As of May 26, 2015, the regional snow pillow report shows no snow in any of the regions. The Water Supply Index (WSI) for WY2015 for the Sacramento Basin and the San Joaquin Basin are in the critical category. More information can be found at <http://cdec.water.ca.gov/watersupply.html>. A historical listing of water year categories for both basins can be found at <http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST>. A table showing end-of-June reservoir storage by hydrologic region is shown at the end of this document. For more information on water conditions in California, visit <http://www.water.ca.gov/waterconditions/>.

Drought Monitor and Seasonal Outlook

The maps for California for May 26, 2015 and June 30, 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 June 30 depiction, 46.7% of California is depicted in the D4 or exceptional drought category, 24.4% of California is depicted in the D3 or extreme drought category, and 23.5% of California is depicted in D2 or severe drought category, 4.1% of California is depicted in D1 or moderate drought, 1.2% depicted in abnormally dry or D0, and 0.1% with no drought depiction. Maps are updated weekly.

The U.S. Monthly Drought Outlook for July 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.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is currently in El Niño conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have been positive with values of 1.4°C in the Niño 3.4 at the end of June. The April through June 3-month running mean of the Ocean Niño Index (ONI) is 0.9 which is the 8th 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 summer. 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

June 2015 saw more harvest and management of crops in California. Alfalfa was cut and baled. Rice emerged while sunflower and safflower fields bloomed. Stone fruit orchards were sprayed and irrigated. Peaches, nectarines, plums, and apricots were picked. Valencia orange harvest continued as did ruby-red grapefruit. Nut orchards were sprayed and irrigated. The heat helped advance hull split for almonds. Sweet corn was harvested while cucurbits and tomatoes developed rapidly. Rangeland continued its decline in nutritional value resulting in supplemental feeding and herd culling. Some cattle were moved to higher elevation fields. Diaries were using all methods to keep cows cool. 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 – 118°F (Buttercup, Colorado Desert)

Low Temperature – 24°F (Tunnel Guard Station, Tulare)

High Precipitation – 2.51 inches (Hockett Meadow, Tulare)

Low Precipitation – 0 inches (7 stations)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 106 °F (Cadiz Valley, San Bernardino County)

Low Average Minimum Temperature – 39.8°F (Big Bear Lake, San Bernardino County)

High Precipitation – 2.9 inches (Macdoel II, Siskiyou County)*

Low Precipitation – 0 inches (48 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	26	43.5	68.8	97.7
SF Bay	9	47.8	68.5	98.4
Central Coast	12	43.9	70.6	97.6
South Coast	47	46.6	72.2	98.1
Sacramento	76	45.5	71.0	97.8
San Joaquin	45	43.3	67.6	93.0
Tulare Lake	15	40.3	64.9	89.6
North Lahontan	26	35.3	58.3	81.1
South Lahontan	16	38.7	64.0	88.4
Colorado River Desert	7	60.0	89.1	112.7
Statewide Weighted Average	279	44.0	69.1	95.8

Statewide Precipitation Statistics

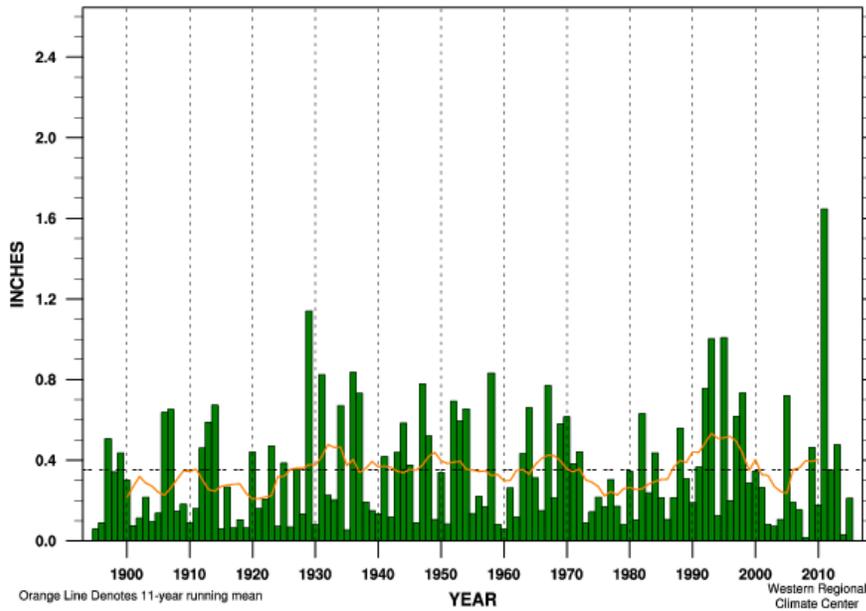
Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Jun	Oct-Jun	Stations	Jun	Oct-Jun	Jun	Oct-Jun
North Coast	0.27	5	1	1	17	1	1	27.6%	69%
SF Bay	0.03	2	1	1	6	1	1	51.4%	80%
Central Coast	0.06	3	1	1	11	1	1	0.0%	58%
South Coast	0.06	3	1	1	14	1	1	71.4%	89%
Sacramento River	0.26	5	3	3	42	6	6	83.3%	69%
San Joaquin River	0.12	6	4	4	24	7	7	44.4%	61%
Tulare Lake	0.07	5	4	4	29	10	6	125%	52%
North Lahontan	0.04	3	1	1	13	1	1	151%	40%
South Lahontan	0.06	3	2	2	15	11	11	103%	70%
Colorado River	0.03	1	1	1	6	2	1	329%	120%
Statewide Weighted Average	1	36	19	19	177	41	36	71.1%	68.1%

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

End-of-Month Reservoir Storage	Number of Reservoirs	Average Storage (taf)	2015 Storage (taf)	% of Average
North Coast	6	2,550	1,239	50%
San Francisco Bay	17	515	455	92%
Central Coast	6	694	179	27%
South Coast	29	1,515	932	63%
Sacramento	43	13,519	8,269	63%
San Joaquin	34	8,303	4,084	49%
Tulare	6	1,366	461	34%
North Lahontan	5	653	54	8%
South Lahontan	8	269	235	79%
Total	154	28,832	15,912	55%

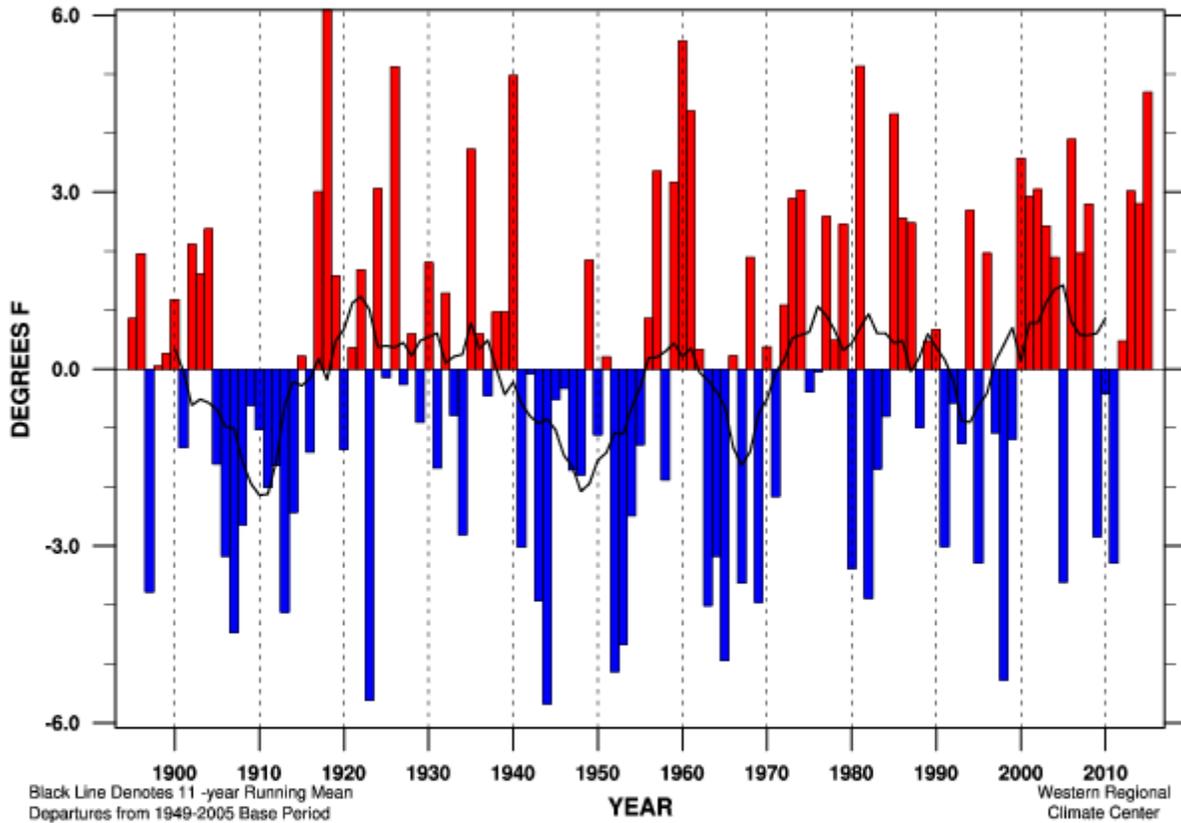
California Climate Tracker Images

California Statewide Precipitation June



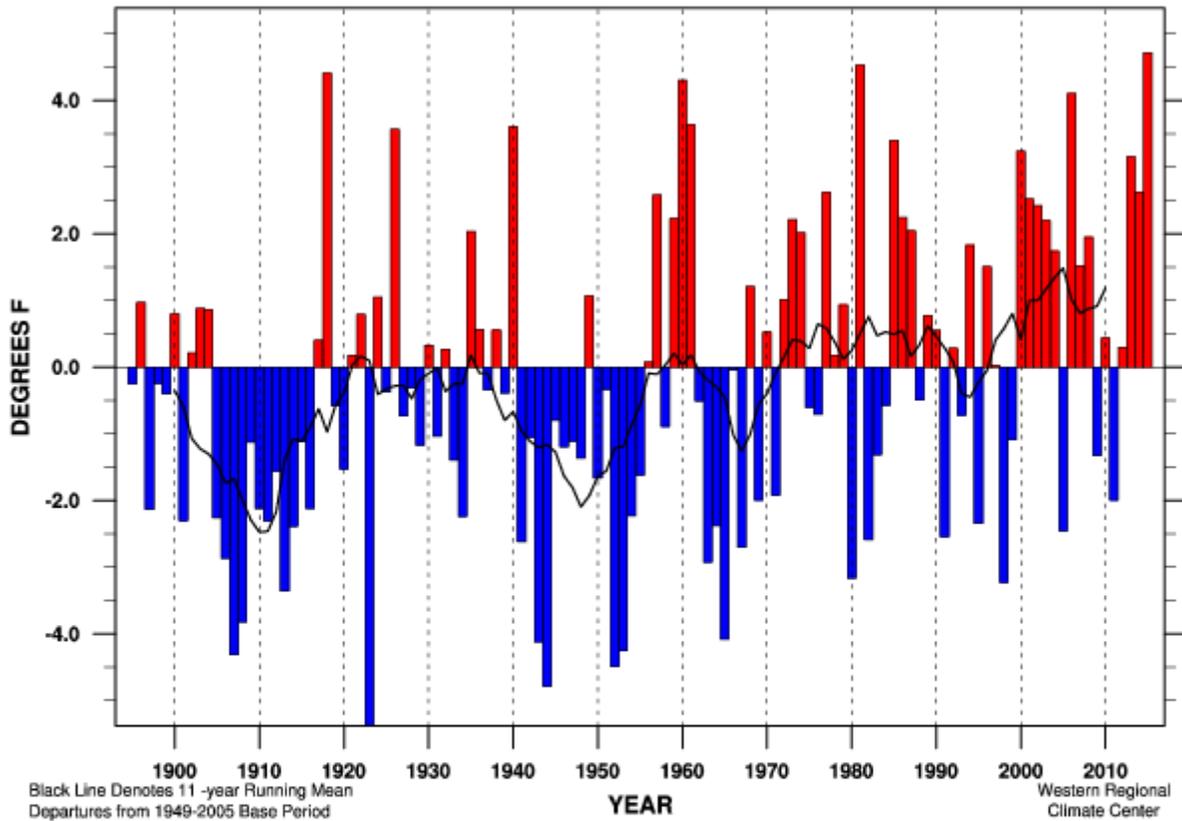
Linear Trend 1895-present	+ 0.09 ± 0.14 in.	(+ 25 ± 39%) per 100 yr	
Linear Trend 1949-present	+ 0.09 ± 0.37 in.	(+ 25 ± 104%) per 100 yr	
Linear Trend 1975-present	+ 0.33 ± 0.86 in.	(+ 93 ± 243%) per 100 yr	
Wettest Year	1.65 in. (466%) in 2011		MEAN 0.35 in.
Driest Year	0.02 in. (4%) in 2008		STDEV 0.26 in.
June	2015	0.21 in. (59%)	RANK 54 of 121

California Statewide Maximum Temperature Departure June



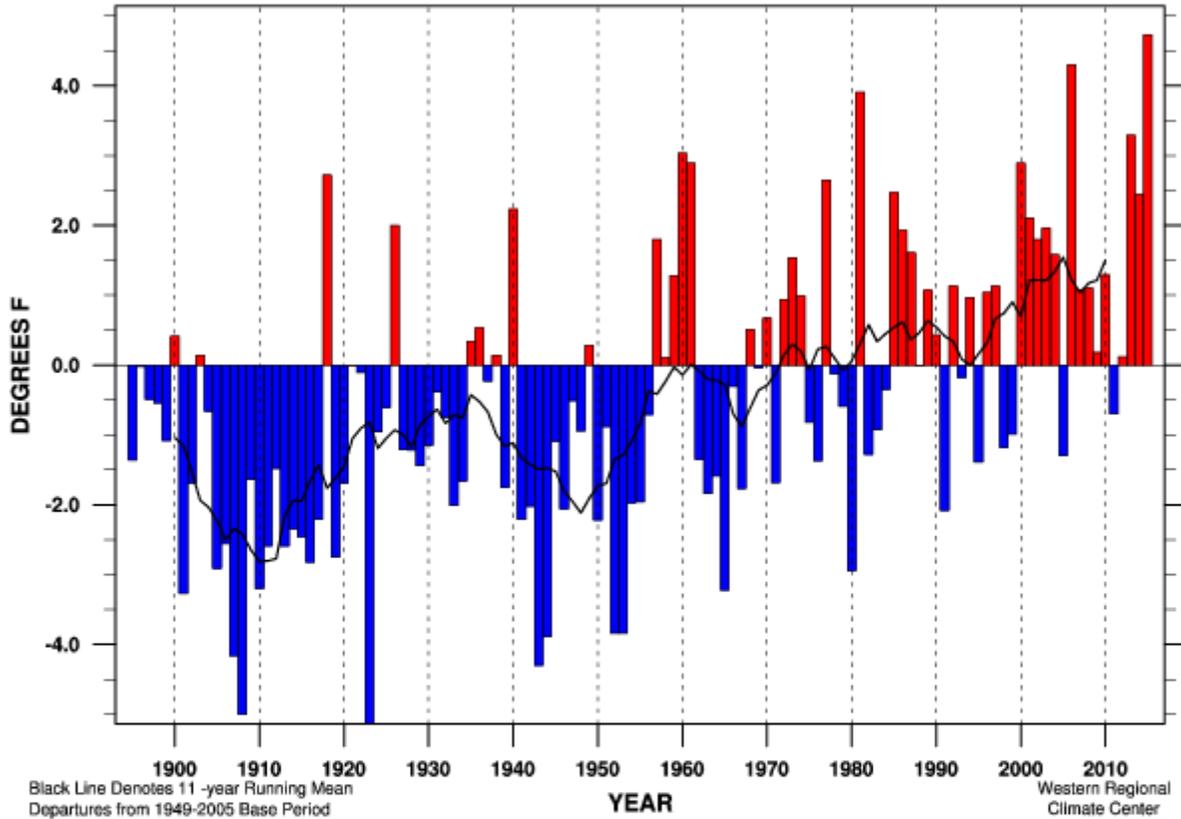
Linear Trend 1895-present	+ 1.00 ± 1.40 °F/100yr	
Linear Trend 1949-present	+ 2.79 ± 3.58 °F/100yr	
Linear Trend 1975-present	+ 2.64 ± 7.24 °F/100yr	
Warmest Year	87.4 °F (+ 6.1°F) in 1918	MEAN 81.3 °F
Coldest Year	75.6 °F (- 5.7°F) in 1944	STDEV 2.89 °F
June	2015 86.0 °F (+ 4.7°F)	RANK 116 of 121

California Statewide Mean Temperature Departure June



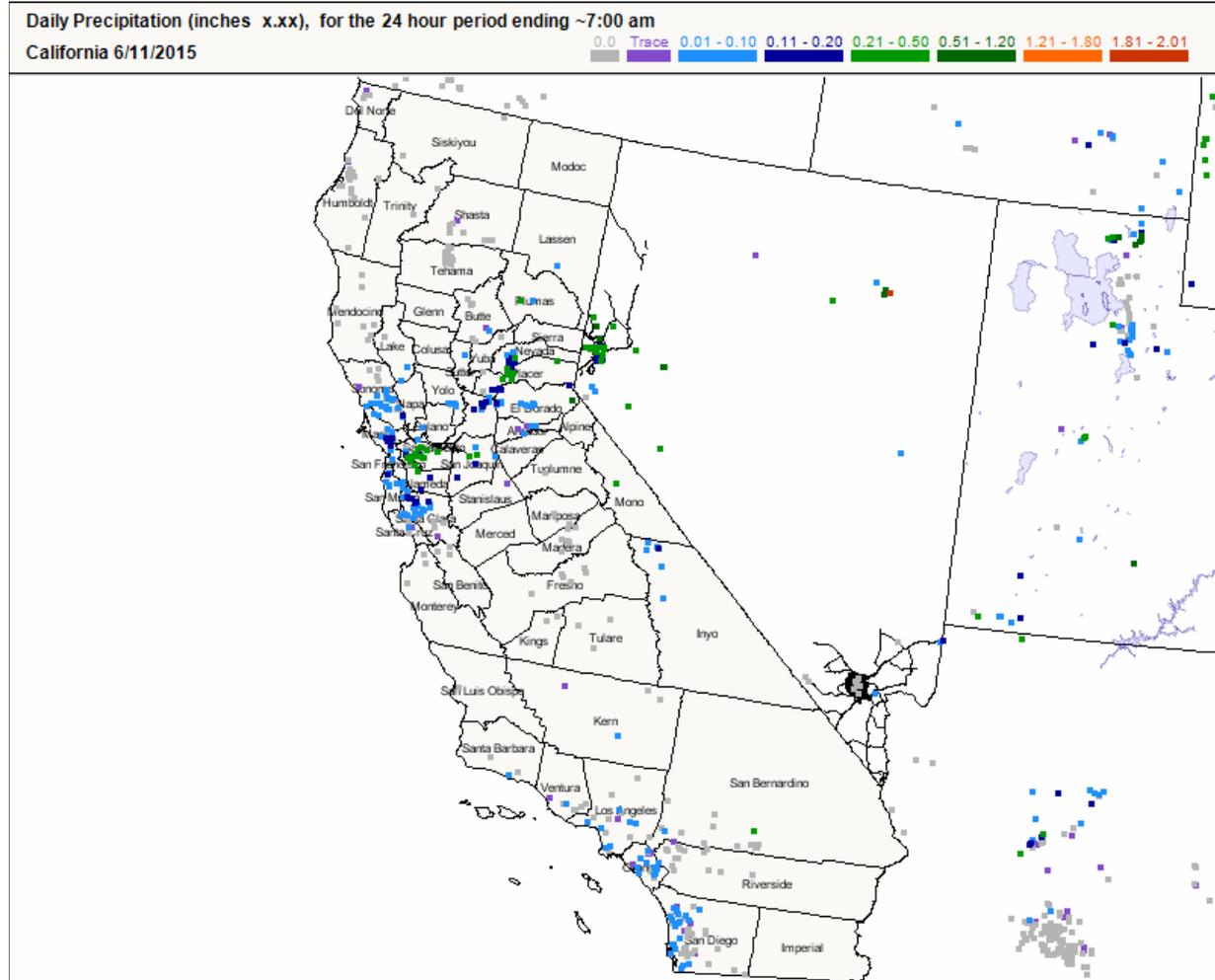
Linear Trend 1895-present	+ 1.95 ± 1.09 °F/100yr	
Linear Trend 1949-present	+ 3.58 ± 2.79 °F/100yr	
Linear Trend 1975-present	+ 4.00 ± 5.68 °F/100yr	
Warmest Year	71.4 °F (+ 4.7 °F) in 2015	MEAN 66.7 °F
Coldest Year	61.3 °F (- 5.4 °F) in 1923	STDEV 2.31 °F
June	2015 71.4 °F (+ 4.7 °F)	RANK 121 of 121

California Statewide Minimum Temperature Departure June



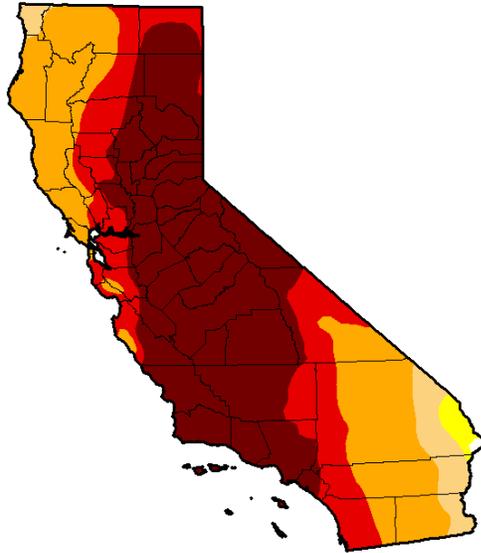
Linear Trend 1895-present	+ 2.89 ± 0.87 °F/100yr	
Linear Trend 1949-present	+ 4.38 ± 2.16 °F/100yr	
Linear Trend 1975-present	+ 5.36 ± 4.47 °F/100yr	
Warmest Year	56.8 °F (+ 4.7 °F) in 2015	MEAN 52.1 °F
Coldest Year	46.9 °F (- 5.1 °F) in 1923	STDEV 1.88 °F
June	2015	56.8 °F (+ 4.7 °F) RANK 121 of 121

CoCoRaHS Map



United States Drought Monitor

U.S. Drought Monitor California



May 26, 2015
(Released Thursday, May 28, 2015)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.14	99.86	98.71	93.91	66.60	46.73
Last Week 5/19/2015	0.14	99.86	98.28	93.91	66.60	46.77
3 Months Ago 2/24/2015	0.16	99.84	98.10	93.44	67.46	39.92
Start of Calendar Year 12/30/2014	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year 8/30/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 5/27/2014	0.00	100.00	100.00	100.00	76.68	24.77

Intensity:



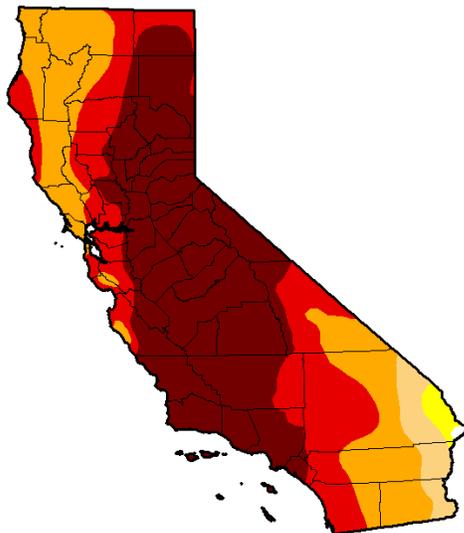
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

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

U.S. Drought Monitor California



June 30, 2015
(Released Thursday, Jul. 2, 2015)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.14	99.86	98.71	94.59	71.08	46.73
Last Week 6/23/2015	0.14	99.86	98.71	94.59	71.08	46.73
3 Months Ago 3/21/2015	0.15	99.85	98.11	93.44	66.60	41.41
Start of Calendar Year 12/30/2014	0.00	100.00	98.12	94.34	77.94	32.21
Start of Water Year 8/30/2014	0.00	100.00	100.00	95.04	81.92	58.41
One Year Ago 7/2/2014	0.00	100.00	100.00	100.00	78.97	36.46

Intensity:



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/>