

California Monthly Climate Summary  
June 2016

**Weather Highlights**

June 2016 was a warmer-than-average and drier-than average month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 70.8°F which is 4.2°F higher than the long-term average. With a statewide average of 0.19 inches, precipitation was 55% of average. Statewide plots of precipitation and temperature for the past month are included at the end of the document.

June started warm and dry with cooler areas near the coast and higher elevations. This pattern continued through the second week of the month. The high pressure ridging broke down in the third week leading to cooler conditions and some thunderstorm activity in the Sierra Nevada. Onshore flow persisted through the end of the month with cooler temperatures near the coast but hot temperatures in the inland deserts.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 136 temperature records tied or broken and 4 precipitation records set for the month. Of the 136 temperature records set, 66 were for new high maximum temperatures. Records were set on 17 days of the month with 12 of those days coming from the San Diego Forecast Area.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 61 stations recorded a minimum temperature below freezing while 109 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 across the state with the exception of the South Lahontan Region and Tulare Lakebed Region. For the CDEC precipitation gages, the largest amount of precipitation recorded was at Bear Trap Meadow in the Tulare Region with 1.77 inches. This is 253% of the average precipitation for this station for the month. At the other end of the spectrum, 23 stations recorded no precipitation for the month. For the CIMIS network, Macdoel II in Siskiyou County topped the precipitation charts with 3.26 inches for the month and 78 stations recorded no precipitation. The 8-Station Index for northern California precipitation recorded 0.9 inches for the month. 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. The Tulare Basin 6-Station Index recorded 0.1 inches of precipitation for the month. On average, 0.4 inches of precipitation is recorded.

### **CoCoRaHS Update**

California is in its 7<sup>th</sup> 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 18, 2016 is shown at the end of the document. California has 1,475 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 San Diego County with 129 volunteers and Sonoma County with 120. For the month of June, 10,714 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA for the month was in Shasta County on 6/18/2016 where 2.41 inches was recorded. There were no reports of snowfall recorded during the month. No hail reports were filed for the month. To join CoCoRaHS or find more information, please visit <http://www.cocorahs.org>.

### **Snowpack and Water Supply Conditions**

As of June 20, 2016, the automated sensors detected no snow for the regional reports. The median Water Supply Index (WSI) forecast for WY2016 for the Sacramento Basin is below normal while the San Joaquin Basin forecast is in the dry 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-month 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/>.

### **Seasonal Outlook**

The U.S. Monthly Drought Outlook 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](http://www.cpc.noaa.gov/products/expert_assessment/seasonal_drought.html). Updates are provided twice per month. The 30 and 90-day seasonal 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](http://www.wrcc.dri.edu/anom/cal_anom.html).

### **ENSO Conditions**

The El Niño/Southern Oscillation (ENSO) is currently in neutral conditions. Equatorial sea surface temperature anomalies for the tropical Pacific are cooling with values of -0.4°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 0.7 which is now the 15<sup>th</sup> 3-month running mean value above the 0.5 threshold for an El Niño event using the Climate Prediction Center's recomputed ONI time series. 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 temperatures cooling into the summer with conditions forecast to transition into a La Niña event. More information can be

found at the Climate Prediction Center's web site:

[http://www.cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/](http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/)

Updates are posted weekly.

### **Agricultural Data**

June 2016 saw wheat harvest finished, alfalfa irrigated, cut and baled, and corn emerging. Peaches, nectarines, plums, and apricots were picked and shipped, with a strong export market. Walnuts and almonds continued to develop while some grape vines were pruned to improve air flow and sun light. Tomatoes progressed in the warm weather while onions, watermelons, cantaloupe, bell peppers, zucchini, eggplant, squash, cucumber, and broccoli were harvested. Rangeland conditions in the foothills ranged from fair to poor condition with some fire activity. Higher elevation summer rangeland was being accessed. For further crop information see <http://www.nass.usda.gov/index.asp>.

### **Other Climate Summaries**

[California Climate Tracker](#) (Western Region Climate Center)

[Golden Gate Weather Service Climate Summary](#)

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

### **Statewide Extremes (CDEC)**

High Temperature – 122°F (2 stations)

Low Temperature – 2°F (Casa Vieja Meadow, Tulare)

High Precipitation – 1.77 inches (Bear Trap Meadow, Tulare)

Low Precipitation – 0 inches (23 Stations)

### **Statewide Extremes (CIMIS)**

High Average Maximum Temperature – 106.2°F (Cadiz Valley, San Bernardino County)

Low Average Minimum Temperature – 37.9°F (Macdoel II, Siskiyou County)

High Precipitation – 3.26 inches (Macdoel II, Siskiyou County)\*

Low Precipitation – 0 inches (78 stations)

### **Statewide Mean Temperature Data by Hydrologic Region (degrees F)**

<b>Hydrologic Region</b>	<b>No. Stations</b>	<b>Minimum</b>	<b>Average</b>	<b>Maximum</b>
North Coast	24	39.0	64.6	94.5
SF Bay	9	44.9	69.0	96.2
Central Coast	12	42.5	70.8	99.8
South Coast	50	47.9	73.1	105.4
Sacramento	75	40.1	67.6	94.1
San Joaquin	46	38.1	65.9	91.0
Tulare Lake	17	34.9	63.1	87.2
North Lahontan	27	32.5	57.0	79.8
South Lahontan	16	38.8	65.9	89.3
Colorado River Desert	7	64.1	90.2	116.7
Statewide Weighted Average	283	40.3	67.0	94.3

**Statewide Precipitation Statistics**

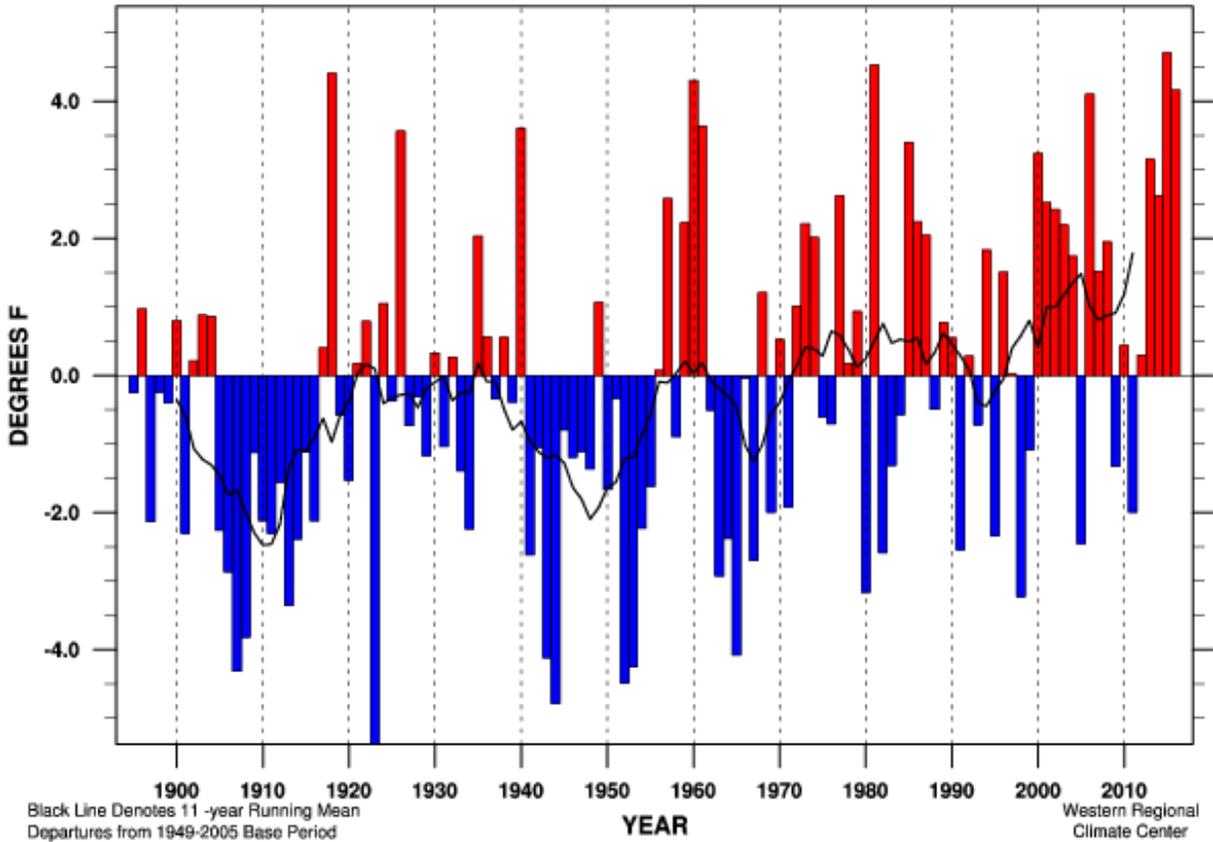
Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Jun	Oct-Jun	Stations	Jun	Oct-Jun	Jun	Oct-Jun
North Coast	0.27	5	4	4	17	7	7	74.5%	120%
SF Bay	0.03	2	2	1	6	4	2	1.9%	101%
Central Coast	0.06	3	3	3	11	6	5	1.2%	86%
South Coast	0.06	3	1	1	14	4	4	6.2%	57%
Sacramento River	0.26	5	4	4	41	12	11	35.9%	118%
San Joaquin River	0.12	6	2	2	24	7	6	13.1%	114%
Tulare Lake	0.07	5	4	4	29	14	14	133%	118%
North Lahontan	0.04	3	3	3	13	6	6	49.8%	123%
South Lahontan	0.06	3	2	2	15	5	5	172%	132%
Colorado River	0.03	1	1	1	6	4	2	33.3%	77%
Statewide Weighted Average	1	36	27	25	176	69	62	54.1%	112%

**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)	2016 Storage (taf)	% of Average
North Coast	6	2,442	1,668	68%
San Francisco Bay	17	495	473	96%
Central Coast	6	645	185	29%
South Coast	29	1,452	1,127	78%
Sacramento	43	12,833	13,026	102%
San Joaquin	34	8,134	6,330	78%
Tulare	6	1,340	1,145	85%
North Lahontan	5	670	291	43%
South Lahontan	8	295	271	92%
Total	154	28,308	24,520	87%

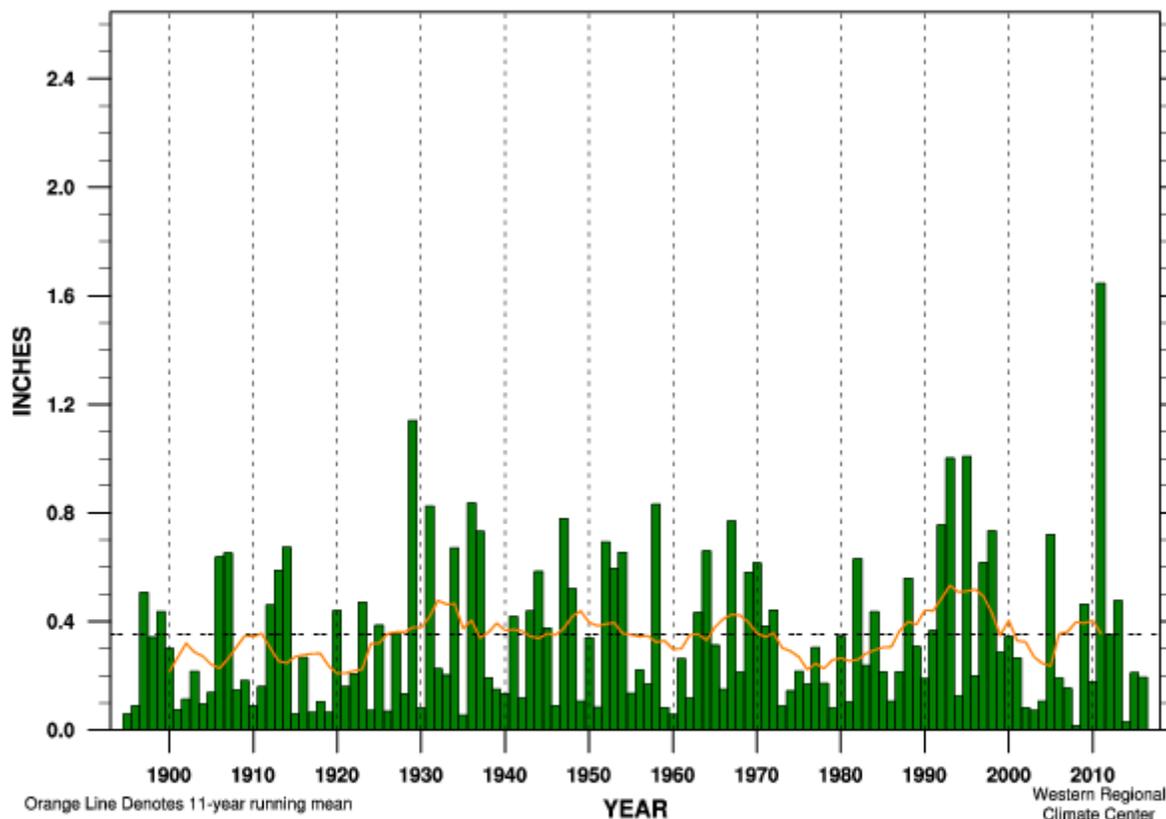
California Climate Tracker Images

### California Statewide Mean Temperature Departure June

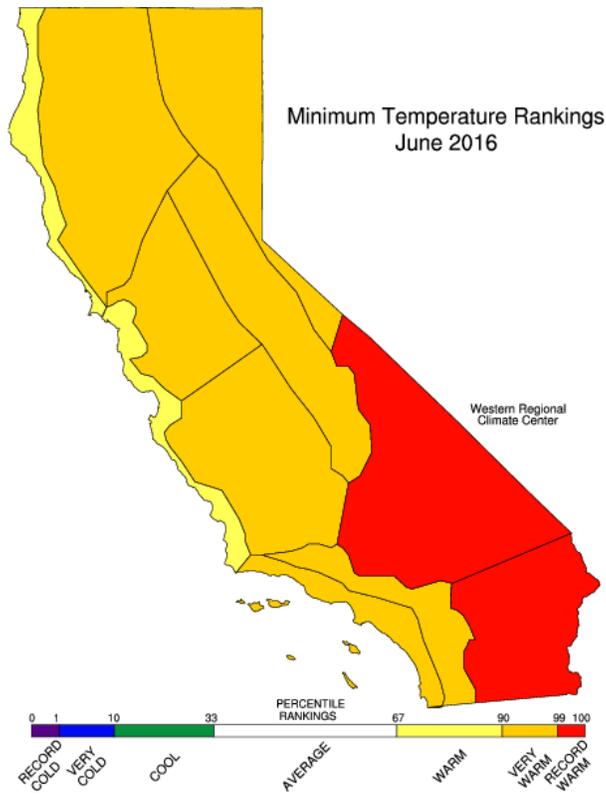
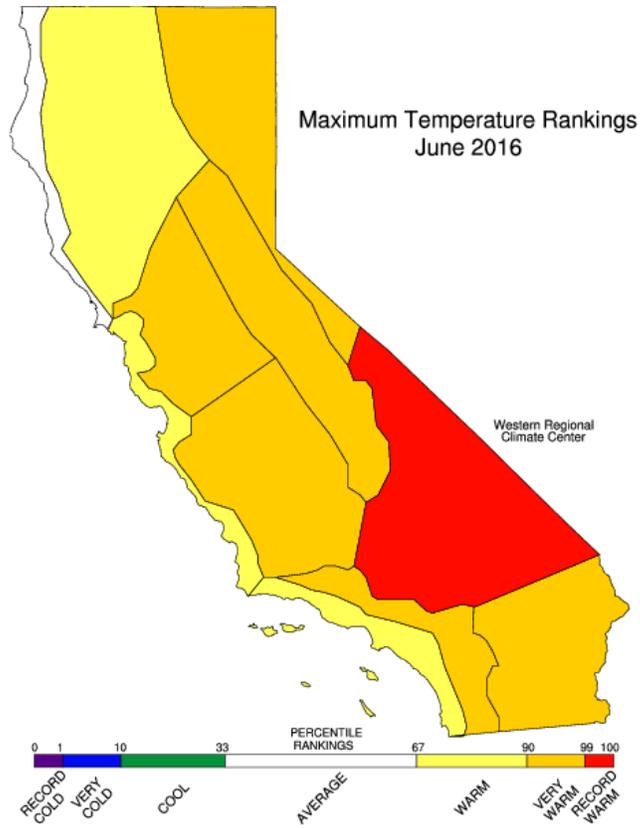


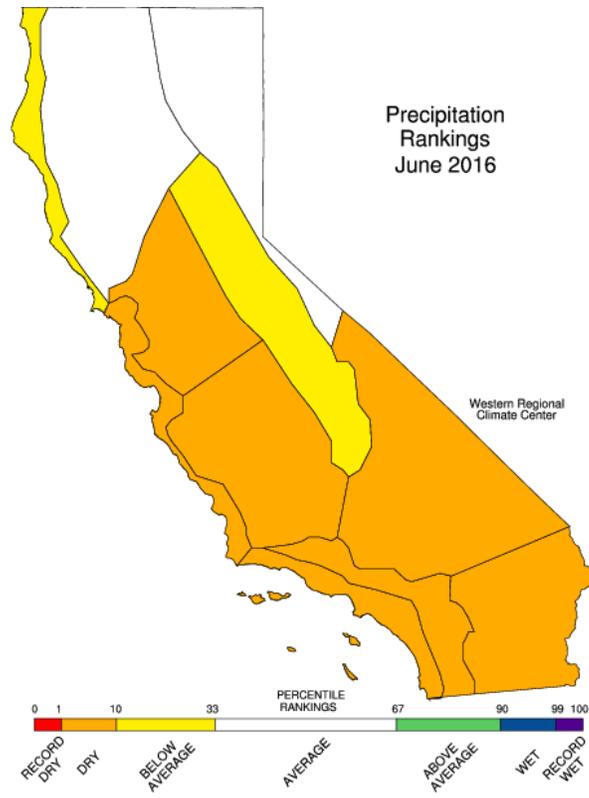
Linear Trend 1895-present	+ 2.08 ± 1.08 °F/100yr	
Linear Trend 1949-present	+ 3.93 ± 2.74 °F/100yr	
Linear Trend 1975-present	+ 4.88 ± 5.50 °F/100yr	
Warmest Year	71.4 °F (+ 4.7 °F) in 2015	MEAN 66.7 °F
Coldest Year	61.3 °F (- 5.4 °F) in 1923	STDEV 2.31 °F
June	2016	70.8 °F (+ 4.2 °F) RANK 118 of 122

## California Statewide Precipitation June



Linear Trend 1895-present	+ 0.08 ± 0.14 in.	(+ 22 ± 39%) per 100 yr	
Linear Trend 1949-present	+ 0.07 ± 0.36 in.	(+ 19 ± 102%) per 100 yr	
Linear Trend 1975-present	+ 0.25 ± 0.82 in.	(+ 70 ± 232%) 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	2016	0.19 in. ( 55%)	RANK 51 of 122





**CoCoRaHS Map**