

California Monthly Climate Summary  
October 2011

**Weather Highlights**

October 2011 started Water Year 2012 with a warmer and wetter than average month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 59.2°F which is 0.9°F higher than the long-term average of 58.3°F. A copy of the California Climate Tracker Temperature plot for October mean temperature departures is copied at the end of this document. With a statewide average of 1.40 inches, precipitation in October was 114% of average.

October started with high pressure building and above normal temperatures. The first week ended with an unseasonably strong low pressure system winding across the state dropping locally heavy precipitation in many places. Several precipitation records were set. High pressure built in behind the storm bringing drier conditions and warmer temperatures. The second week saw another system brush the northern part of the state with some rainfall and cool temperatures. Southern California remained dry and warm. The third week was warm dry conditions continue. Temperatures cooled a bit with the passing of a weak upper level low. Fog was an issue in some places with the cooler temperatures. Halloween was cool and dry for California.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 46 temperature records tied or broken and 37 precipitation records tied or broken for the month. Of the 46 temperature records set, 22 were for new high maximum temperatures and 10 were for new low minimum temperatures. Records were set over 17 days of the month. The storm that moved across the State at the beginning of the month was responsible for most of the precipitation records. Twenty-eight different locations set a new precipitation record between October 4<sup>th</sup> and 6<sup>th</sup> ranging from Crescent City to Needles. On October 5<sup>th</sup> Crescent City recorded 1.41 inches of precipitation breaking the 1957 mark of 1.19 inches. Needles recorded 0.18 inches of precipitation on October 4<sup>th</sup> which broke the 1963 record of 0.12 inches. Other notable new records include Salinas Airport which recorded 1.01 inches on the 4<sup>th</sup> breaking the 1957 record of 0.01 inches. Also on the 4<sup>th</sup> was Kentfield which recorded 1.75 inches breaking the 1924 mark of 0.98 inches. As for high temperatures, Santa Ana recorded a 105°F reading on October 12<sup>th</sup> breaking the 1950 record of 104°F. Fullerton Airport also recorded a 105°F on the 12<sup>th</sup> breaking the 1999 mark of 95°F. On October 7<sup>th</sup> Oceanside tied a 1916 record for lowest maximum temperature with a reading of 63°F. Ramona recorded a new low minimum temperature record on the 28<sup>th</sup> with a reading of 32°F. The old record was 34 set in 1975.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 131 stations recorded a minimum temperature below freezing in October while 27 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 October was ranged from dry in the Southeastern deserts to wet on the South Coast. Northern California was either slightly above or below. For the CDEC precipitation gages for October 2011, the largest amount of precipitation recorded was at Bear Trap Meadow in the Tulare region with 6.82 inches. This is 401% of the average precipitation for this station for October. At the other end of the spectrum, 3 stations recorded no precipitation for the month. For the CIMIS network, Camino in El Dorado County topped the precipitation charts with 4.65 inches for the month and 18 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 3.9 inches in October. On average, 3 inches of precipitation is recorded for the 8-Station index in October. Statewide, the average precipitation for October was 133% of the long-term average based on the California Data Exchange Center (CDEC) gages. Precipitation percentages by region from the CDEC gages are shown in a table at the end of this document.

### **CoCoRaHS Update**

October 2011 begins California's fourth 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 October 5, 2011 is shown at the end of the document. As of the end of October 2011, California has 819 volunteers signed up spanning 53 of California's 58 counties. The counties without volunteers are Alpine, Colusa, Glenn, Modoc, and Tuolumne. The county with the most volunteers at the end of October is Sonoma with 91 volunteers. For the month of October, 9,429 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in October was in San Bernardino County where 3.58 inches was recorded on 10/6/11. Twelve snowfall reports were recorded with the largest being 14 inches in Nevada County. One hail report was recorded in Contra Costa County in October. The largest reported hail stones were rice sized. To join CoCoRaHS or find more information, please visit <http://www.cocorahs.org>.

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

The Water Supply Index for WY 2011 is wet for the Sacramento Basin and wet for the San Joaquin Basin. Water year 2010 resulted in a below normal category for the Sacramento Basin and above normal category for the San Joaquin Basin for the Water Supply Index. Water supply information for California can be found at [http://cdec.water.ca.gov/water\\_supply.html](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 September 27, 2011 and October 25, 2011 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 October 25th depiction, California is depicted as drought free except for portions of the desert regions which are categorized as abnormally dry. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for November through January from NOAA depicts California continuing to be drought free with possible drought development in the desert southeast. This forecast is based primarily on climatology and forecast models. Updates are provided twice per month. 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).

The California Nevada River Forecast Center produces some drought monitoring tools for California. These tools look at the frequency associated with precipitation deficits for the Northern Sierra Eight Station Index and the San Joaquin Five Station Index. Another tool looks at the frequency of end-of-month storage for select reservoirs in California. The frequencies of the observations are related to the Drought Monitor's drought categories D0 through D4. These tools can be found at <http://www.cnrfc.noaa.gov/climate.php>. For October, the Eight Station Index is in drought free conditions for a 12-month and 24 month period. The Five Station Index is also drought free for both periods. All reservoirs have above average storage for this time of year.

### **ENSO Conditions and Long-Range Outlooks**

The El Niño/Southern Oscillation (ENSO) has transitioned back toward La Niña conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have been mostly negative with values of  $-0.8^{\circ}\text{C}$  in the Niño 3.4 at the end of October. The August through October 3-month running mean of the Ocean Niño Index (ONI) is  $-0.4$ . Five consecutive ONI values need to be below the threshold of  $-0.5$  for conditions to be classified as a La Niña event and five consecutive values 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 either continuing in La Niña conditions or returning to ENSO neutral conditions by the end of winter. 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. The latest three month outlook (November through January) from NOAA indicates equal chances of above or below normal temperatures for the entire State. For precipitation, equal chances of above or below normal conditions are forecast for the central part of the state with the exceptions of the extreme northern part of the state (above average) and the southern (below average) region. 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).

### **Agricultural Data**

October 2011 saw the harvesting process move into full swing in California. Rice and cotton crops were harvested with most ratings good to excellent. Alfalfa and black-eyed bean harvest were near completion. Some producers were able to get a second cutting of Sudan grass. Over a quarter of the winter wheat crop has already been planted and some had begun to emerge. Winter wheat crop conditions rated good to excellent for the most part. Peach, nectarine, and plum harvests completed while grape harvests continued including wine grapes. Pineapples, quinces, figs, kiwifruit, Asian pears, apples, pomegranate, and olive harvest continued. Lemons, Satsuma mandarins and grapefruit were picked while navel orange harvest had yet to begin. Walnut and pistachio harvest was well underway while almond harvest continued. Vegetable crops were harvested and field preparation for fall and winter crops began. Range conditions ranged from good to poor condition. Cool weather was good for milk production. 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 – 109°F (Cahuilla, Colorado River Desert)

Low Temperature – -9°F (Casa Vieja Meadows, Tulare)

High Precipitation – 6.82 inches (Bear Trap Meadow, Tulare)

Low Precipitation – 0.0 inches (3 stations)

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

High Average Maximum Temperature – 94.4<sup>0</sup>F (Salton Sea East, Imperial County)

Low Average Minimum Temperature – 28.9<sup>0</sup>F (Alturas, Modoc County)

High Precipitation – 4.65 inches (Camino, El Dorado County)\*

Low Precipitation – 0 inches (18 stations)

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

### Statewide Precipitation Statistics

Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Oct	Oct-Oct	Stations	Oct	Oct-Oct	Oct	Oct-Oct
North Coast	0.27	5	5	5	17	11	11	113.4%	113%
SF Bay	0.03	2	2	2	6	4	4	125.8%	126%
Central Coast	0.06	3	3	3	11	5	5	152.1%	152%
South Coast	0.06	3	3	3	14	12	12	173.4%	173%
Sacramento River	0.26	5	5	5	41	28	28	115.8%	116%
San Joaquin River	0.12	6	6	6	24	18	18	156.5%	156%
Tulare Lake	0.07	5	5	5	28	26	26	235.1%	235%
North Lahontan	0.04	3	3	3	13	8	8	93.3%	93%
South Lahontan	0.06	3	3	3	15	9	9	129.9%	130%
Colorado River	0.03	1	1	1	6	2	2	59.1%	59%
Statewide Weighted Average	1	36	36	36	175	123	123	132.5%	133%

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

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	23	32.2	53.1	78.6
SF Bay	9	43.1	61.3	81.7
Central Coast	12	38.5	61.3	93.4
South Coast	50	41.1	64.9	97.2
Sacramento	81	31.7	54.1	79.4
San Joaquin	45	30.4	53.4	79.7
Tulare Lake	17	22.9	48.5	74.9
North Lahontan	22	21.2	44.5	67.2
South Lahontan	13	26.1	53.8	79.8
Colorado River Desert	8	46.9	73.6	100.5
Statewide Weighted Average	280	32.1	54.8	81.0

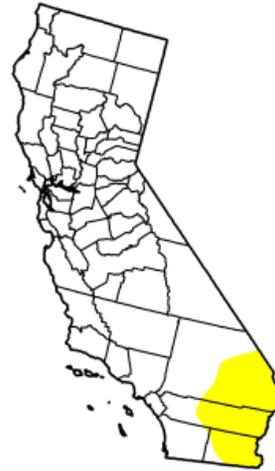
# U.S. Drought Monitor

## California

September 27, 2011  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	89.14	10.86	0.00	0.00	0.00	0.00
Last Week (09/20/2011 map)	89.14	10.86	0.00	0.00	0.00	0.00
3 Months Ago (06/28/2011 map)	87.71	12.29	0.00	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	98.62	1.38	0.00	0.00	0.00	0.00
Start of Water Year (09/28/2010 map)	85.44	14.56	8.08	0.24	0.00	0.00
One Year Ago (09/21/2010 map)	85.44	14.56	8.08	0.24	0.00	0.00



**Intensity:**

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

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

<http://droughtmonitor.unl.edu>



Released Thursday, September 29, 2011  
Michael Brewer, National Climatic Data Center, NOAA

# U.S. Drought Monitor

## California

October 25, 2011  
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	89.25	10.75	0.00	0.00	0.00	0.00
Last Week (10/18/2011 map)	89.25	10.75	0.00	0.00	0.00	0.00
3 Months Ago (07/26/2011 map)	85.34	14.66	0.00	0.00	0.00	0.00
Start of Calendar Year (12/28/2010 map)	98.62	1.38	0.00	0.00	0.00	0.00
Start of Water Year (09/27/2011 map)	89.14	10.86	0.00	0.00	0.00	0.00
One Year Ago (10/19/2010 map)	88.08	11.92	6.07	0.24	0.00	0.00



**Intensity:**

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- D2 Drought - Severe
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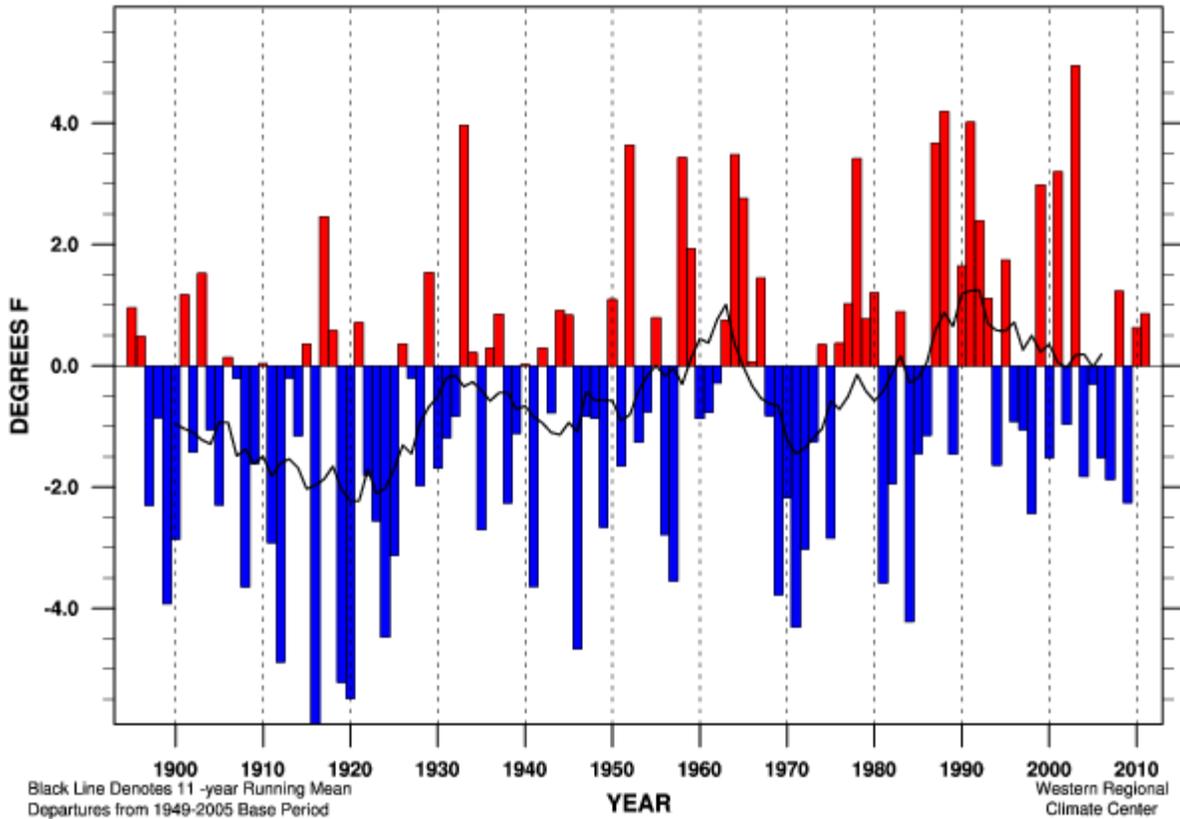
<http://droughtmonitor.unl.edu>



Released Thursday, October 27, 2011  
David Miskus, NOAA/NWS/NCEP/CPC



## California Statewide Mean Temperature Departure October



Linear Trend 1895-present	+ 1.68 ± 1.20 °F/100yr	
Linear Trend 1949-present	+ 1.02 ± 3.22 °F/100yr	
Linear Trend 1975-present	+ 0.15 ± 7.39 °F/100yr	
Warmest Year	63.3 °F (+ 4.9 °F) in 2003	MEAN 58.3 °F
Coldest Year	52.4 °F (- 5.9 °F) in 1916	STDEV 2.38 °F
October	2011 59.2 °F (+ 0.9 °F)	RANK 88 of 117