

California Monthly Climate Summary  
August 2012

**Weather Highlights**

August 2012 was a hot month with some active monsoon activity for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 75.2°F which is 3.4°F higher than the long-term average of 71.9°F. With a statewide average of 0.19 inches, precipitation was 67% of average. Water year 2012 has seen 8 months of below normal precipitation and 7 months of above normal temperature. Plots of the last 12 months of mean temperature and precipitation relative to the historical distribution are shown at the end of the report.

August started with high pressure sitting over California with temperatures above normal. A westward displaced monsoon brought showers and thunderstorms to southeastern California. A low pressure system moving through at the end of the week caused a few scattered showers and dry thunderstorms that started more fires in northern California. Week two began with a strong high pressure system over the desert southwest that built over the state during the week. This brought temperatures over 100°F for many parts of the State with the heat lasting into the weekend. High pressure continued into the third week with temperatures easing a little but still remaining above average for this time of year. Thunderstorms in the southeastern part of the State were strong enough to cause localized flooding. Thunderstorms also were observed along the Sierra crest with some reports of hail in the Lake Tahoe basin. The latter part of the month saw some low pressure systems start to break down the high pressure that dominated the State for most of the month. Abundant moisture in the southern part of the State led to more thunderstorms that extended into the Southern Sierra.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 116 temperature records tied or broken and 14 precipitation records set or tied for the month. Of the 116 temperature records set, 43 were for new high maximum temperatures and 67 were for new high minimum temperatures. Records were set over 24 days of the month. In the first half of the month, Escondido set several new high minimum temperature records. On the 8<sup>th</sup>, Escondido's 69°F tied a 2003 record. On the 10<sup>th</sup>, Escondido broke the 1935 reading of 72°F with a reading of 73°F for the minimum temperature. On the 11<sup>th</sup> the 1931 record of 71°F fell with a reading of 72°F. On the 12<sup>th</sup> the 1935 record of 69°F fell with a reading of 72°F. In other areas on August 7<sup>th</sup> Indio tied the 1904 record high minimum temperature with a reading of 90°F. On the 9<sup>th</sup> of August, Furnace Creek in Death Valley recorded a low temperature of 99°F which tied the 1915 record. The high temperature for the day reached 126°F which broke the old record of 124°F set in 1978. At the other end of the records, Eureka tied a 1910 low minimum record of 46°F on August 24<sup>th</sup>.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 14 stations recorded a minimum temperature below freezing while 120

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 August was mixed for the different regions in the State. For the CDEC precipitation gages for August 2012, the largest amount of precipitation recorded was at Big Bear Lake in the South Coast region with 3.48 inches. This is 497% of the average precipitation for this station for August. At the other end of the spectrum, 56 stations reported zero precipitation for the month. For the CIMIS network, Sisquoc in Santa Barbara County topped the precipitation charts with 5.57 inches for the month and 82 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 0.0 inches in August. On average, 0.3 inches of precipitation is recorded for the 8-Station index for the month. Statewide, the average precipitation for the month was 77% 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**

August 2012 continues 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 August 18th, 2012 when some monsoon moisture dropped some rain across the State is shown at the end of the document. Currently, California has 883 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 is Sonoma with 93 volunteers. For the month of August, 8,074 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA for the month was in Riverside County where 1.38 inches was recorded on 08/18/2012. No snowfall reports were recorded. One hail report was submitted on August 30th from Los Angeles County. For more information on CoCoRaHS, please visit <http://www.cocorahs.org>.

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

The median forecast for the WSI for WY2012 predicts the Sacramento Basin will fall into the below normal category and the San Joaquin will fall into the dry category. 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 July 31, 2012 and August 28, 2012 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 August 28<sup>th</sup> depiction, 1.14% of the State is depicted in the D3 or extreme drought category, 21.91% of California is depicted in the D2 or severe drought category, 46.39% of California is depicted in the D1 or moderate drought category. An additional 18.82% of the state is depicted as D0 or abnormally dry. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for September through November from NOAA depicts California in persisting drought throughout most of the state. This forecast is based primarily on climatology and forecast models. More 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 California Nevada River Forecast Center developed some drought monitoring tools for California that are now available on CDEC and are automatically updated. 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. For August, the Eight Station Index is in the 36<sup>th</sup> percentile for the 12-month period and the Five Station Index is in the 13<sup>th</sup> percentile for the 12-month period. The 13<sup>th</sup> percentile is associated with a D1 designation. For the reservoirs, Casitas, and Isabella are in the D1 category. Pine Flat and Folsom are in the D0 category. All other reservoirs in the report are in drought free conditions. California's reservoirs as a group fell below their historical average storage in August 2012. Water year 2011 ended with reservoirs at the top of their conservation pools headed into water year 2012 and the flood season (October through March). A below-average spring runoff in 2012 resulted in reservoir storage peaking at the end of April at 113 percent of average. The statewide end-of-August storage is 95 percent of average. A table of regional storage for the end of August is shown below. For more information on drought conditions in California, visit <http://www.water.ca.gov/waterconditions/>.

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

The El Niño/Southern Oscillation (ENSO) has transitioned to neutral conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have moved towards positive values with the Niño 3.4 region posting a reading of 0.9°C anomaly at the end of August. The June through August 3-month running mean of the Ocean Niño Index (ONI) is 0.1. Five consecutive ONI values need to be above the 0.5 threshold need to be observed for classification as an El Niño event (five consecutive values below the threshold of -0.5 for conditions to be classified as a La Niña event). Most forecast models have the tropical sea surface temperatures moving to El Niño conditions during the second half of 2012. 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 (September through November) from NOAA indicates equal chances of above average, near average, or below average temperatures for the whole State except the coastal region which is expected to have a greater chance of below-normal temperatures. For precipitation, equal chances of above, near, or below normal precipitation stand throughout the State with the exception of the northern part of the state which is forecast to have an increased probability of below normal precipitation. 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**

August 2012 saw further development of crops throughout the State and an increase in harvest activity. The warm weather promoted fast crop development. Cotton and rice crops were rated mostly good to excellent. Peach, nectarine, and plum harvests continued while apricot harvest began to wind down. Almond harvest began form some varieties. Walnut, pistachio, and pecan orchards showed good development. Summer vegetable harvests of melons, tomatoes, beans, peppers, squash, eggplant, carrots, onions, and garlic were also underway. Range conditions continued their deterioration with supplemental feeding increasing. 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 – 119°F (Rice Valley and Squaw Lake, Colorado River Desert)  
Low Temperature – 25°F (Charlotte Lake, Tulare Basin)  
High Precipitation – 3.48 inches (Big Bear Lake, South Coast)  
Low Precipitation – 0.0 inches (56 stations)

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

High Average Maximum Temperature – 107.1<sup>0</sup>F (Salton Sea East, Imperial County)  
Low Average Minimum Temperature – 43.8<sup>0</sup>F (Alturas, Modoc County)  
High Precipitation – 5.57 inches (Sisquoc, Santa Barbara County)\*  
Low Precipitation – 0 inches (82 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	Aug	Oct-Aug	Stations	Aug	Oct-Aug	Aug	Oct-Aug
North Coast	0.27	5	5	5	17	12	10	5.5%	93%
SF Bay	0.03	2	2	2	6	5	4	10.0%	82%
Central Coast	0.06	3	3	3	11	8	7	16.4%	70%
South Coast	0.06	3	3	3	14	9	9	60.1%	68%
Sacramento River	0.26	5	5	5	42	25	24	21.2%	79%
San Joaquin River	0.12	6	6	5	24	15	14	9.9%	65%
Tulare Lake	0.07	5	5	5	28	21	23	53.5%	77%
North Lahontan	0.04	3	3	3	13	6	6	149%	61%
South Lahontan	0.06	3	3	2	15	10	9	156%	56%
Colorado River	0.03	1	1	1	6	1	1	175%	49%
Statewide Weighted Average	1	36	36	35	176	112	107	76.85%	75%

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

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	22	45.7	69.5	97.6
SF Bay	9	48.6	71.8	98.7
Central Coast	11	51.1	75.7	102.0
South Coast	35	55.5	78.3	101.1
Sacramento	71	47.8	73.4	99.2
San Joaquin	42	48.8	71.9	94.6
Tulare Lake	14	48.6	70.6	91.8
North Lahontan	26	40.5	62.0	82.8
South Lahontan	13	48.7	69.5	90.1
Colorado River Desert	7	71.7	92.3	114.5
Statewide Weighted Average	250	48.6	72.2	97.2

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

End-of-July Reservoir Storage	Number of Reservoirs	Average Storage (taf)	2012 Storage (taf)	% of Average
North Coast	6	2,151	2,291	107%
San Francisco Bay	17	444	440	99%
Central Coast	6	578	557	96%
South Coast	29	1,367	1,339	98%
Sacramento	43	10,621	10,485	99%
San Joaquin	34	6,771	6,410	95%
Tulare	6	786	440	56%
North Lahontan	5	574	662	115%
South Lahontan	8	292	256	88%
Total	154	23,587	22,884	97%

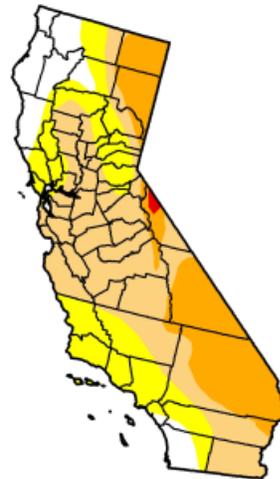
# U.S. Drought Monitor

## California

July 31, 2012  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.64	88.36	63.80	23.60	0.29	0.00
Last Week (07/24/2012 map)	11.64	88.36	63.80	26.85	0.29	0.00
3 Months Ago (05/01/2012 map)	15.84	84.16	58.97	21.14	0.00	0.00
Start of Calendar Year (12/27/2011 map)	33.91	66.09	5.41	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 (07/26/2011 map)	85.34	14.66	0.00	0.00	0.00	0.00



**Intensity:**

- D0 Abnormally Dry
- D1 Drought - Moderate
- 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, August 2, 2012  
Mark Svoboda, National Drought Mitigation Center

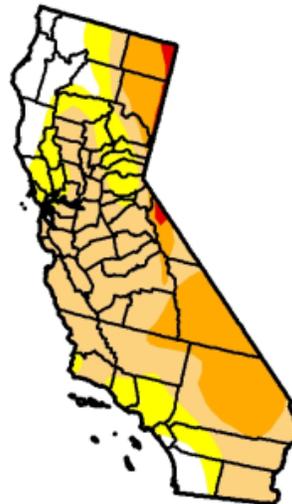
# U.S. Drought Monitor

## California

August 28, 2012  
Valid 7 a.m. EST

*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.74	88.26	69.44	23.05	1.14	0.00
Last Week (08/21/2012 map)	11.30	88.70	69.20	23.30	0.29	0.00
3 Months Ago (05/29/2012 map)	15.89	84.11	58.89	22.60	0.00	0.00
Start of Calendar Year (12/27/2011 map)	33.91	66.09	5.41	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 (08/23/2011 map)	92.12	7.88	0.00	0.00	0.00	0.00



**Intensity:**

- D0 Abnormally Dry
- D1 Drought - Moderate
- 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.

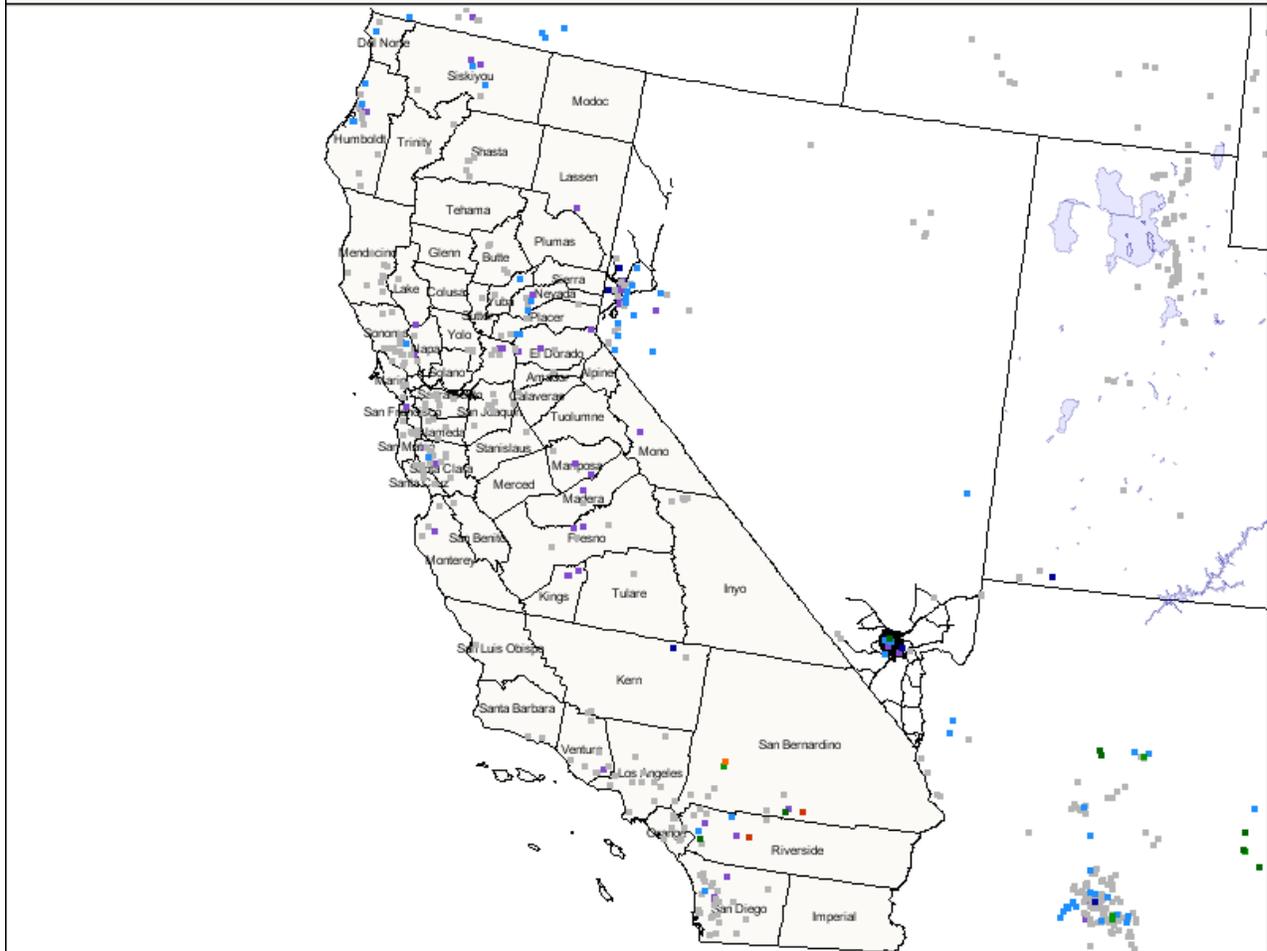
<http://droughtmonitor.unl.edu>



Released Thursday, August 30, 2012  
Brian Fuchs, National Drought Mitigation Center

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

California 8/18/2012



## California Statewide Last 12 Months

