

California Monthly Climate Summary
January 2014

Weather Highlights

January 2014 was a warm, dry month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 47.5°F which is 6.1°F higher than the long-term average of 41.4°F. This is the second warmest January in 120 years of record. With a statewide average of 0.43 inches, precipitation was only 9% of average. This is the driest January in 120 years of record.

January started with high pressure and offshore flow covering the State. Daytime highs were above normal and clear skies often resulted in below normal lows. During the second week, a few weak systems crossed the far north of the state bringing some rain. The south part of the state remained dry with continued offshore flow. The high pressure re-established itself during the third week of the month and persisted to the end of the month. The month closed out with a system dropping out of the Gulf of Alaska bringing precipitation back into the state.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 291 temperature records tied or broken and 2 precipitation records set or tied for the month. Records were set or tied on 28 days. Of the 291 temperature records set, 245 were for new high maximum temperatures and 46 were for new high minimum temperatures. The two precipitation records were ties for months with no precipitation falling for Barstow-Daggett and Needles. Burbank and Santa Maria set new records for number of January days above 80°F. Sandberg set a new record for number of January days above 60°F. On January 5th, downtown Oakland broke a 2012 high temperature record of 67°F with a reading of 72°F. On January 24th, Riverside set a new high minimum temperature record with a reading of 63°F breaking the 1914 record of 54°F. On January 31st, Indio set a new high minimum temperature record with a reading of 62°F. The old record set in 1911 was 56°F.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 175 stations recorded a minimum temperature below freezing and no 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 January was below average across the state. For the CDEC precipitation gages, the largest amount of precipitation recorded was at Gasquet Ranger Station in the North Coast region with 3.72 inches. This is only 23% of the average precipitation for this station for the month. At the other end of the spectrum, 17 stations recorded no precipitation. For the CIMIS network, Camino in El Dorado County topped the precipitation charts with 1.31 inches for the month and 33 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 1.2 inches in January. On average, 9 inches of precipitation is recorded for the 8-Station Index for the month.

CoCoRaHS Update

January 2014 is part of California's 6th 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 January 30, 2014 is shown at the end of the document. Currently, California has 1107 volunteers signed up spanning 53 of California's 58 counties. The counties without volunteers are Alpine, Colusa, Glenn, Modoc, and Tuolumne. The counties with the most volunteers are San Diego and Sonoma with 100 volunteers. For the month of January, 12,613 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA for the month was in Placer County where 2.78 inches was recorded on 1/30/2013. Twenty-one snow reports were filed with the largest daily snowfall of 8.1 inches reported on 1/31/2014 in Mono County. No hail reports were filed during the month. For more information on CoCoRaHS, please visit <http://www.cocorahs.org>.

Snowpack and Water Supply Conditions

At the end of January the Northern region snowpack held 1 inch of snow water equivalent (SWE) which is 4% of the April 1st average and 6% of the average for the date. The Central region SWE was reported to be 3 inches which is 11% of the April 1st average and 18% of the average for the date. The Southern region SWE was reported to be 3 inches which is 12% of the April 1st average and 21% of the average for the date. The WSI for WY2013 for the Sacramento Basin fell into the dry and the San Joaquin fell into the critical category. The initial forecast for the WSI for both the Sacramento and San Joaquin Basins is in 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>.

Extreme Precipitation Monitoring Network

The National Oceanographic and Atmospheric Administration (NOAA) Earth System Research Laboratory (ESRL), Scripps Institute of Oceanography, and the California Department of Water Resources have been working on the installation of new observing equipment to monitor characteristics of extreme precipitation events associated with atmospheric rivers. Initial data is starting to flow from this network. No extreme precipitation events occurred in January 2013 where the network components are installed. Data can be viewed on the NOAA ESRL website: <http://hmt.noaa.gov>.

Drought Monitor and Seasonal Outlook

The maps for California for December 31, 2013 and January 28, 2014 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 January 28th depiction, 8.77% of California is depicted in the most extreme D4 or exceptional drought category, 58.36% is depicted in the D3 or extreme drought category, 22.78% of California is depicted in the D2 or severe drought category, 4.27% of California is depicted in the D1 or moderate drought category. An additional 4.39% of the state is depicted as D0 or abnormally dry and 1.49% of the state is depicted as drought free. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for February through April from NOAA depicts California with persisting drought conditions throughout the state depicted in drought by the US Drought Monitor. This forecast is based primarily on climatology and forecast models. Visit http://www.cpc.noaa.gov/products/expert_assessment/seasonal_drought.html for more information. 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-January 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) has transitioned to neutral conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have moved towards negative values with the Niño 3.4 region posting a reading of -0.7°C anomaly at the end of January. The November through January 3-month running mean of the Ocean Niño Index (ONI) is -0.4. 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 remaining in neutral conditions through the first half of 2014. 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. The latest three month outlook (February through April) from NOAA indicates above average chances of above average temperatures for the whole state. For precipitation, an increased probability of below normal precipitation is forecast for the entire state. 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

January saw further evidence of frost damage to some crops while others suffered from lack of precipitation. Small grain crops showed the most impacts with frost impacting wheat, barley and oats. Dry land crops either failed to germinate or withered from the dry conditions. The lack of precipitation during the month necessitated out of season irrigation for orchards. Winter vegetables were harvested along with lemons, avocados and other citrus. Rangeland continued to be in poor condition. Supplemental feeding

continued to increase. Bees were moved in anticipation of almond pollination. 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 – 93°F (Beverly Hills, South Coast)

Low Temperature – -13°F (Casa Vieja Meadows, Tulare)

High Precipitation – 3.72 inches (Gasquet Ranger Station, North Coast)

Low Precipitation – 0.0 inches (17 stations)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 77.6°F (Pomona, Los Angeles County)

Low Average Minimum Temperature – 15.1°F (Buntingville, Lassen County)

High Precipitation – 1.31 inches (Camino, El Dorado County)*

Low Precipitation – 0 inches (33 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	21	18.0	38.0	64.2
SF Bay	10	28.3	45.4	64.0
Central Coast	12	25.4	46.2	74.0
South Coast	39	26.4	49.6	75.6
Sacramento	74	14.4	37.9	64.3
San Joaquin	42	12.5	36.9	64.1
Tulare Lake	17	4.7	30.7	56.0
North Lahontan	24	-5.9	26.0	52.5
South Lahontan	12	4.0	32.9	59.3
Colorado River Desert	6	25.0	50.6	75.8
Statewide Weighted Average	257	15.2	38.3	64.5

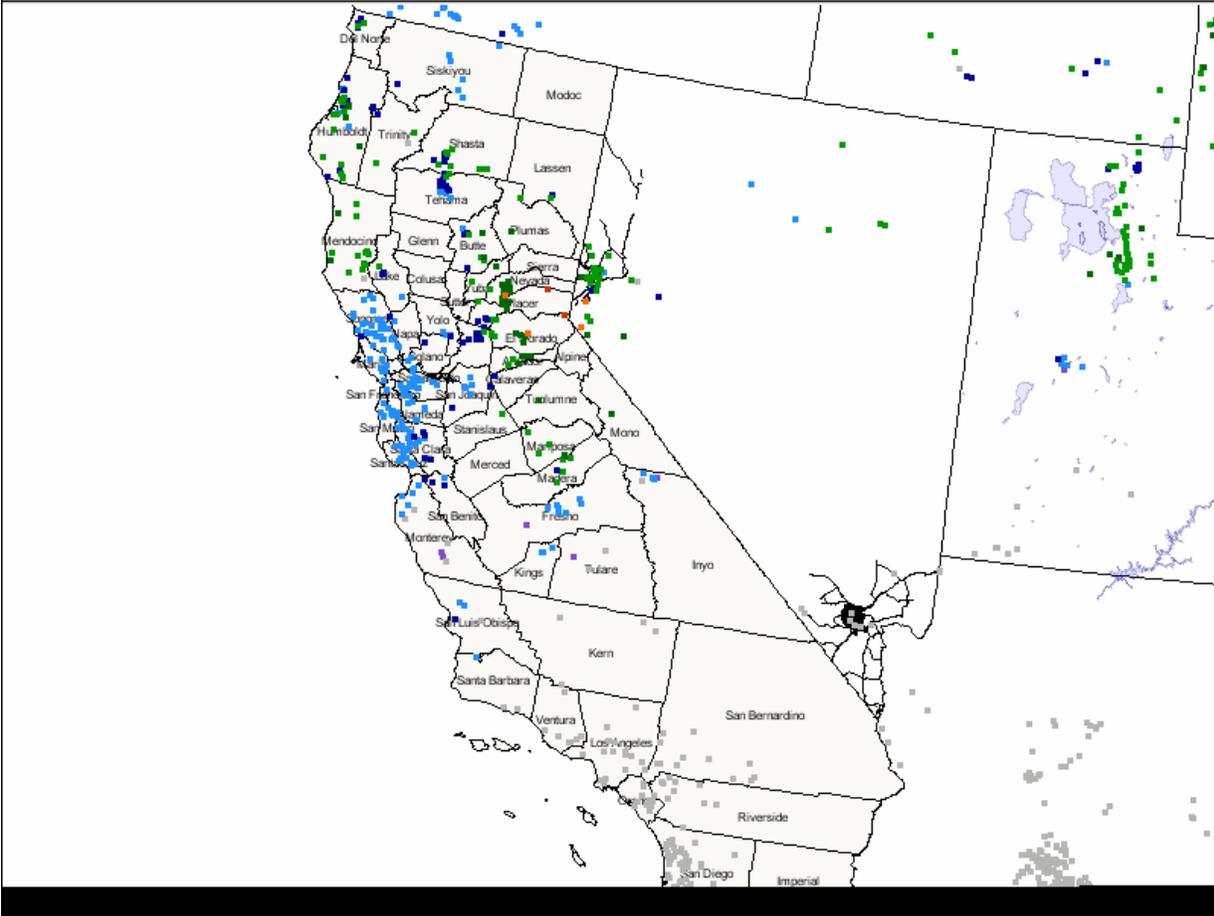
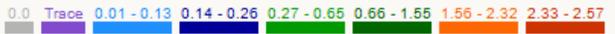
End-of-January Reservoir Storage by Hydrologic Region
Storage in Thousand Acre-Feet (taf)

End-of-January Reservoir Storage	Number of Reservoirs	Average Storage (taf)	2014 Storage (taf)	% of Average
North Coast	6	2114	1,374	65%
San Francisco Bay	17	466	356	76%
Central Coast	6	597	206	35%
South Coast	29	1,375	1,155	84%
Sacramento	43	10,358	6,719	65%
San Joaquin	34	6,933	4,609	66%
Tulare	6	763	335	44%
North Lahontan	5	503	208	41%
South Lahontan	8	267	237	89%
Total	154	23,558	15,204	65%

CoCoRaHS Map

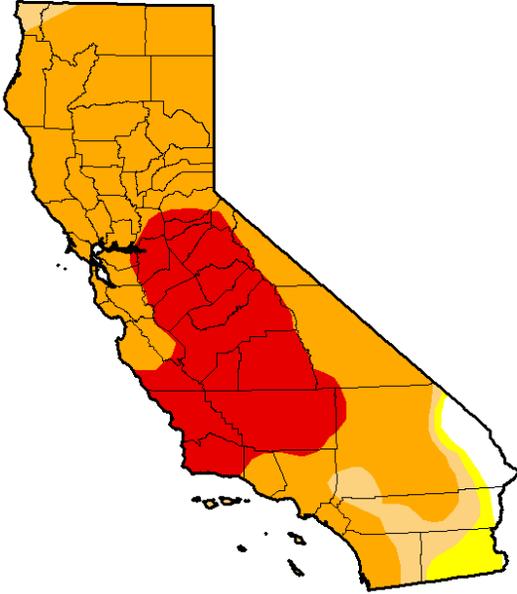
Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am

California 1/30/2014



**U.S. Drought Monitor
California**

December 31, 2013
(Released Thursday, Jan. 2, 2014)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2.61	97.39	94.25	87.53	27.59	0.00
Last Week 12/24/2013	2.61	97.39	94.25	84.88	27.59	0.00
3 Months Ago 10/1/2013	2.63	97.37	95.95	84.12	11.36	0.00
Start of Calendar Year 1/2/2013	31.75	68.25	55.32	22.50	0.00	0.00
Start of Water Year 10/1/2012	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago 1/2/2013	31.75	68.25	55.32	22.50	0.00	0.00

Intensity:



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

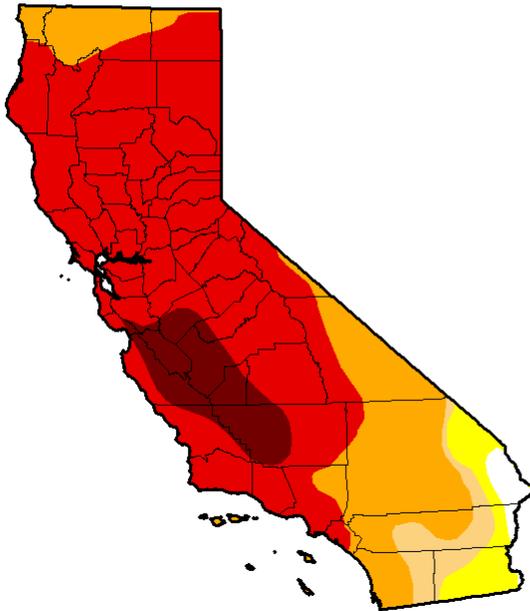
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<http://droughtmonitor.unl.edu/>

**U.S. Drought Monitor
California**

January 28, 2014
(Released Thursday, Jan. 30, 2014)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.43	98.57	94.18	89.91	67.13	8.77
Last Week 1/21/2014	1.43	98.57	94.18	89.91	62.71	0.00
3 Months Ago 10/29/2013	2.66	97.34	95.98	84.12	11.36	0.00
Start of Calendar Year 1/29/2013	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year 10/1/2012	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago 1/29/2012	34.20	65.80	47.18	21.57	0.00	0.00

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/>