

California Monthly Climate Summary  
January 2012

**Weather Highlights**

January 2012 was a warm and mostly dry month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 44.2°F which is 2.8°F higher than the long-term average of 41.4°F. With a statewide average of 2.44 inches, precipitation in January was only 56% of average. Regional maximum and minimum temperature and precipitation plots are shown at the end of the document

January started with high pressure and above normal temperatures covering the State. The only part of the State receiving precipitation early in January was the North Coast. Southern California enjoyed temperatures in the 70s and 80s and low humidity. Offshore flow in week two prompted some red flag warnings to be put into place. In week three the high pressure system dominating the State's weather finally flattened out which allowed a series of storms to pass over the State. Rainfall was heavy at times and several feet of snow fell in the mountains. The North Coast received the most precipitation from the systems with some rivers rising to monitor stage. The pattern was short-lived however as the high pressure rebuilt bringing back more dry weather. The month ended with dry mild conditions for the whole State.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 126 temperature records tied or broken and 12 precipitation records tied or broken for the month. Of the 126 temperature records set, 100 were for new high maximum temperatures and 18 were for new low minimum temperatures. Records were set over 25 days of the month. South Lake Tahoe continued its streak of high temperature records into the New Year with records set on 4 of the first 7 days. On January 19<sup>th</sup> Eureka set a new precipitation record with 2.26 inches of rain recorded. This broke the old record of 1.93 set in 1887. Eureka broke its daily precipitation record for January 20<sup>th</sup> as well with a value of 1.80 inches. This beat the old record of 1.78 inches set in 1969. Bishop, CA recorded its first measurable snow of the season on January 23<sup>rd</sup> when 4.6 inches of snow fell which broke the 1969 record of 0.1 inches.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 233 stations recorded a minimum temperature below freezing in January while zero 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 ranged from dry in the south to near normal for the north. The greatest portion of precipitation for the north fell in a seven day window ending on January 26, 2012. A plot of the total precipitation for this 7-day period is shown at the

end of the document. For the CDEC precipitation gages for January 2012, the largest amount of precipitation recorded was at Gasquet Ranger Station in the North Coast region with 20.34 inches. This is 124% of the average precipitation for this station for January. At the other end of the spectrum, 2 stations recorded no precipitation for the month. For the CIMIS network, Windsor in Sonoma County topped the precipitation charts with 7.06 inches for the month and 13 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 7.4 inches in January. On average, 9.0 inches of precipitation is recorded for the 8-Station index for the month. Statewide, the average precipitation for the month was 12.4% 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**

January 2011 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 January 21, 2012 is shown at the end of the document. As of the end of January, California has 847 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 January is Sonoma with 93 volunteers. For the month of January, 10,147 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in January was in Humboldt County where 6.07 inches was recorded on 01/21/2012. Fifty snowfall reports were recorded with the largest being 21 inches in Placer County. The largest total depth of snow reported in January was 31 inches in Placer County. Six hail reports were submitted in January in Humboldt (4), Kings (1) and Marin (1) Counties. The largest stone size reported was pea sized. To join CoCoRaHS or find more information, please visit <http://www.cocorahs.org>.

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

The automated snow sensor network in California showed a statewide average of 6 inches of snow water equivalent for the end of January. This is 38% of average for the date and only 23% of the April 1 average. The Water Supply Index for WY 2011 was 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 (WSI). The median forecast for the WSI for WY2012 predicts the Sacramento Basin will fall into the dry 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 January 3, 2012 and January 31, 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 January 3rd depiction, 57.33% of California is depicted in the D1 or moderate drought category. An additional 31.58% of the state is depicted as D0 or abnormally dry. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for February through April from NOAA depicts California in persisting or developing drought throughout most of the state with the far north having a chance for some improvement. 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 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. The links can be found on the State Climatologist web page and are repeated here:

<http://cdec.water.ca.gov/cdecapp/drought/getres.action> (California Reservoirs – Drought Status)

<http://cdec.water.ca.gov/cdecapp/drought/get8SI.action> (Sacramento River Drought Status)

<http://cdec.water.ca.gov/cdecapp/drought/get5SI.action> (San Joaquin River Status)

For January, the Eight Station Index and the Five Station Index are in drought free conditions or the 55<sup>th</sup> percentile for the 12-month period and 71<sup>st</sup> percentile for the 24 month period largely due to last year's bounty. The San Joaquin 5 Station Index is in the 65<sup>th</sup> percentile for the 12 month period and 90<sup>th</sup> percentile for the 24 month period. All reservoirs except Comanche Reservoir are in the normal category. Comanche's storage ranks in the 27<sup>th</sup> percentile which corresponds to a D0 ranking.

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

The El Niño/Southern Oscillation (ENSO) is currently in La Niña conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have been mostly negative with values of -1.1°C in the Niño 3.4 at the end of January. The November through January 3-month running mean of the Ocean Niño Index (ONI) is -0.9. This is the third consecutive 3-month period with a value below the threshold of -0.5 for conditions to be classified as a La Niña event. Five consecutive ONI values need to be below the threshold of -0.5 for conditions to be classified as a La Niña event (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 returning to ENSO neutral conditions during the spring 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 (February through April) from NOAA indicates a higher probability for below normal temperatures for the North Coast and equal chances of above or below normal temperatures for the rest of the State. For precipitation, a higher probability of below normal conditions is forecast for the central and southern part of the state and equal chances for the northern part of the state with the exception of the North Coast which has a higher probability of above 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**

January 2012 saw the harvesting process wrap up and winter planting and field maintenance continue. Late planting of wheat, oats and small grains occurred with the hope of wetter weather. Early planted fields started to head out. Some producers utilized irrigation to improve conditions. New alfalfa fields were being seeded.

Persimmon, kiwifruit, table grape, walnut, and pomegranate, harvests wrapped up early in the month. Harvests of pineapple, quince, figs, apples, tangerine, Satsuma mandarin, lemon, and orange harvests continued. Citrus fruit was checked for frost damage. Grape vineyards were dug and pruned. Orchard pruning also was underway. Pre-emergent and dormant sprays were limited due to the dry weather.

Nut orchards were fertilized and irrigated. Lettuce and pummelo harvest continued along with, broccoli and carrots. Strawberry fields were progressing nicely during the month. Rangeland conditions continued to deteriorate due to lack of precipitation.

Supplemental feeding continued. Out-of-state bees began to arrive in preparation for the almond bloom. 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 (Santa Fe, South Coast)

Low Temperature – -18°F (Casa Vieja Meadows, Tulare)

High Precipitation – 20.34 inches (Gasquet Ranger Station, North Coast)

Low Precipitation – 0.0 inches (2 stations)

**Statewide Extremes (CIMIS)**

High Average Maximum Temperature – 79.2<sup>0</sup>F (Seeley, Imperial County)

Low Average Minimum Temperature – 16.7<sup>0</sup>F (Alturas, Modoc County)

High Precipitation – 7.06 inches (Windsor, Sonoma County)\*

Low Precipitation – 0 inches (13 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	Jan	Oct-Jan	Stations	Jan	Oct-Jan	Jan	Oct-Jan
North Coast	0.27	5	5	5	17	14	13	105%	70%
SF Bay	0.03	2	2	2	6	4	4	72.4%	54%
Central Coast	0.06	3	3	3	11	9	8	53.3%	58%
South Coast	0.06	3	3	3	14	11	11	36.6%	65%
Sacramento River	0.26	5	5	5	41	37	37	75.4%	53%
San Joaquin River	0.12	6	6	6	24	23	20	73.6%	50%
Tulare Lake	0.07	5	5	5	28	28	27	71.1%	60%
North Lahontan	0.04	3	3	3	13	13	11	87.3%	50%
South Lahontan	0.06	3	3	3	15	10	10	61.7%	56%
Colorado River	0.03	1	1	1	6	4	4	0.6%	48%
Statewide Weighted Average	1	36	36	36	175	153	145	76.5%	59%

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

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	23	18.9	40.3	64.0
SF Bay	9	29.2	48.8	66.1
Central Coast	11	26.1	50.7	78.1
South Coast	47	32.2	54.9	82.8
Sacramento	76	16.0	40.4	64.6
San Joaquin	42	19.3	40.9	66.4
Tulare Lake	16	14.9	36.9	63.5
North Lahontan	26	7.0	33.0	57.3
South Lahontan	11	15.8	39.0	63.5
Colorado River Desert	8	33.1	55.7	80.6
Statewide Weighted Average	269	19.2	42.0	66.7

# U.S. Drought Monitor

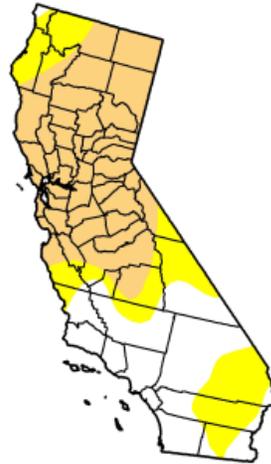
## California

January 3, 2012  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	29.91	70.09	46.34	0.00	0.00	0.00
Last Week (12/27/2011 map)	33.91	66.09	5.41	0.00	0.00	0.00
3 Months Ago (10/04/2011 map)	89.25	10.75	0.00	0.00	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 (12/28/2010 map)	98.62	1.38	0.00	0.00	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, January 5, 2012  
Brad Rippey, U.S. Department of Agriculture

# U.S. Drought Monitor

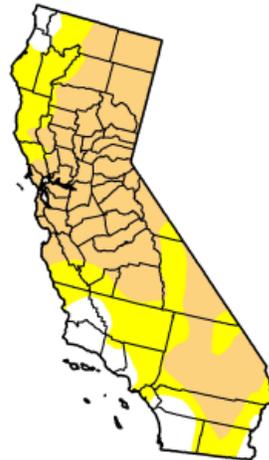
## California

January 31, 2012  
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.09	88.91	57.33	0.00	0.00	0.00
Last Week (01/24/2012 map)	19.12	80.88	41.23	0.00	0.00	0.00
3 Months Ago (11/01/2011 map)	89.22	10.78	0.00	0.00	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 (01/25/2011 map)	99.94	0.06	0.00	0.00	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, February 2, 2012  
Eric Luebbehusen, USDA

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

California 1/21/2012

0.0 Trace 0.01 - 0.30 0.31 - 0.60 0.61 - 1.50 1.51 - 3.61 3.62 - 5.42 5.43 - 6.03



