

California Monthly Climate Summary
January 2011

Weather Highlights

January 2011 was a warmer than average, drier than average month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 42.9°F which is 1.5°F higher than the long-term average of 41.4°F. With a statewide average of 1.2 inches, precipitation for January was only 27% of the long term average.

The year 2011 started with a storm rolling down the entire State bringing cloudy wet weather for the New Year. However this was not a sign of things to come. High pressure built over the State in the storm's wake resulting in plenty of Central Valley fog and sunny skies elsewhere. While a few small systems brushed the north part of the State over the next couple of weeks, significant precipitation did not return to the majority of the State until the end of the month when a storm pushed out of the Gulf of Alaska.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 67 temperature records tied or broken and zero precipitation records tied or broken for the month. Of the 67 temperature records set in January, 40 were for new high maximum temperatures. Records were set over 17 days of the month. On January 15th Elsinore smashed a 1938 high minimum record of 52°F with a reading of 59°F. On January 16th Laguna Beach set a new high minimum temperature record with a reading of 62°F. The old record was 57°F set back in 1938. On January 25th, Salinas' airport tied a 1938 high temperature record at 76°F. On January 26th, San Jose set a new high temperature record with a reading of 70°F. The old record set in 1934 was 68°F.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 247 stations recorded a minimum temperature below freezing in January while 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 normal across the state. For the CDEC precipitation gages for January 2011, the largest amount of precipitation recorded was at Gasquet Ranger Station in the Smith River Basin with 4.91 inches. This is only 30% of the average precipitation for this station for January. At the other end of the spectrum, three stations recorded no precipitation for the month. For the CIMIS network, San Luis Obispo in San Luis Obispo County topped the precipitation charts with 3.44 inches for the month and 11 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.

This is normally not an issue in the winter. The 8-Station Index for northern California precipitation recorded 2.1 inches in January with 10 days showing precipitation. On average, 9 inches of precipitation is recorded for the 8-Station index in January. The 2.1 inches ranks as the 9th driest in the 8-Station Index record that dates back to 1920. Statewide, the average precipitation for January was 31% 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 third 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 in participating states. As of the end of January 2011, California has 763 volunteers signed up spanning 53 of California's 58 counties. The county with the most volunteers at the end of December is Sonoma with 86 volunteers. For the month of January 9,753 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in January was in Monterey County with 2.52 inches recorded on 1/2/11. No hail reports were recorded. Eighty-three snow reports were included with the precipitation reports with a 13 inch depth being the largest new snow total from Nevada County on the 30th. The largest total snow depth reported was 99 inches in Placer County on the 13th. To join CoCoRaHS or find more information, please visit <http://www.cocorahs.org>.

Snowpack and Water Supply Conditions

As of the end of January, the snow pillow sensors show the statewide snowpack to be 131% of average for the date and 80% of the April 1st peak. The northern region (from the Trinity to the Feather and Truckee Basins) shows 19 inches of snow water equivalent which is 105% of average to date and 66% of the April 1st peak. The central region (the Yuba Basin to the Merced/Walker Basins) shows 23 inches of snow water equivalent which is 124% of average to date and 77% of the April 1st peak. The southern region (the San Joaquin Basin to the Kern Basin) shows 26 inches of snow water equivalent which is 171% of average to date and 99% of the April 1st peak. Water year 2011 has begun for the water supply index categories. Water year 2010 resulted in a below normal category for the Sacramento Basin and above normal category for the San Joaquin Basin. The January forecast for WY 2011 has above normal for the Sacramento Basin and wet for the San Joaquin Basin. Water supply information for California 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>.

Drought Monitor and Seasonal Outlook

Although January was really dry, season to date precipitation remains above average and no degradation was depicted in California. The maps for California for December 28, 2010 and January 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 January 25th depiction, California is depicted drought free. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for February through April from NOAA depicts California with improving conditions in the remaining drought areas as depicted by the Drought Monitor. This forecast is based on climatology and an expectation for a wetter than average winter largely due to the evolving El Niño conditions in the tropical Pacific. Updates are provided twice per month. Maps and information can be found at http://www.cpc.noaa.gov/products/expert_assessment/seasonal_drought.html. The California Nevada River Forecast Center has begun producing some drought monitoring tools for California. These tools look at the frequency associated with precipitation deficits for the Northern California 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 January, 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) is being classified as a La Niña pattern. Equatorial sea surface temperature anomalies for the tropical Pacific have been negative with values of -1.7°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 -1.4. This is the sixth consecutive ONI value to fall below the -0.5 threshold and the third consecutive ONI value at -1.4. Five consecutive ONI values need to be below the threshold for conditions to be classified as a La Niña event. Most forecast models have the tropical sea surface temperatures remaining cooler than average through the spring of 2011. 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 increased chances of below normal temperatures for the coastal regions and the Central Valley. For precipitation, the southern half of the state is forecast to have below normal conditions with a stronger signal in the south. 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 2011 saw winter crops progress and preparations continue for spring planting. Winter wheat, barley and oats fared well as standing water in fields finally dried up. The dry weather allowed weed control efforts to be pursued in some fields. Vineyards and orchards underwent winter maintenance with nut trees in their winter dormancy. For citrus crops, mandarins, navel oranges, grapefruit and lemons were being harvested. Some Central Coast strawberry fields battled anthomyiid and sciarid infestations. Winter vegetables and greenhouse crops also continued to be harvested with good conditions reported. The previous month's rains and favorable temperatures helped range and pasture conditions improve decreasing the need for supplemental feeding. Calving and lambing were ongoing during the month. Honey bees started arriving from out-of-state and were located in staging areas for upcoming 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 – 94°F (Fish Creek Mountains, Colorado River Desert)
Low Temperature – -22°F (Casa Vieja Meadows, Tulare)
High Precipitation – 4.91 inches (Gasquet Ranger Station, North Coast)
Low Precipitation – 0.0 inches (3 stations)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 73.7°F (Long Beach, Los Angeles County)
Low Average Minimum Temperature – 17.8°F (Tulelake, Siskiyou County)
High Precipitation – 3.44 inches (San Luis Obispo, San Luis Obispo County)*
Low Precipitation – 0 inches (11 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	10	10	26.8%	102%
SF Bay	0.03	2	2	2	6	3	3	32.2%	114%
Central Coast	0.06	3	3	3	11	6	6	42.4%	131%
South Coast	0.06	3	3	3	14	10	10	18.4%	183%
Sacramento River	0.26	5	5	5	41	25	24	24.8%	121%
San Joaquin River	0.12	6	6	6	24	15	15	52.6%	154%
Tulare Lake	0.07	5	5	5	28	26	26	52.8%	183%
North Lahontan	0.04	3	3	3	13	5	5	23.4%	144%
South Lahontan	0.06	3	2	2	15	4	4	33.4%	158%
Colorado River	0.03	1	1	1	6	3	3	0.3%	112%
Statewide Weighted Average	1	36	35	35	175	107	106	31.3%	131%

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	19	20.9	41.8	66.2
SF Bay	8	30.3	48.1	67.1
Central Coast	14	30.1	50.4	76.1
South Coast	49	30.9	52.6	81.9
Sacramento	77	18.1	40.6	66.8
San Joaquin	46	16.9	38.1	63.7
Tulare Lake	18	11.5	33.7	60.5
North Lahontan	27	3.6	30.8	55.4
South Lahontan	13	12.6	36.4	64.0
Colorado River Desert	8	28.8	53.9	83.9
Statewide Weighted Average	279	19.5	41.4	67.2

U.S. Drought Monitor

California

December 28, 2010
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	98.62	1.38	0.00	0.00	0.00	0.00
Last Week (12/21/2010 map)	94.86	5.14	0.00	0.00	0.00	0.00
3 Months Ago (09/28/2010 map)	85.44	14.56	8.08	0.24	0.00	0.00
Start of Calendar Year (12/29/2009 map)	6.56	93.44	72.16	9.24	0.00	0.00
Start of Water Year (09/28/2010 map)	---	---	---	---	---	---
One Year Ago (12/22/2009 map)	6.56	93.44	72.16	9.24	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.



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National Drought Mitigation Center

<http://drought.unl.edu/dm>

U.S. Drought Monitor

California

January 25, 2011
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	99.94	0.06	0.00	0.00	0.00	0.00
Last Week (01/18/2011 map)	99.94	0.06	0.00	0.00	0.00	0.00
3 Months Ago (10/26/2010 map)	90.14	9.86	4.62	0.19	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 (01/19/2010 map)	7.95	92.06	63.20	13.98	0.00	0.00



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- D2 Drought - Severe
- D3 Drought - Extreme
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The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



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<http://drought.unl.edu/dm>