

California Monthly Climate Summary
February 2012

Weather Highlights

February 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 45.1°F which is 0.7°F higher than the long-term average of 44.4°F. With a statewide average of 1.15 inches, precipitation in February was only 31% of average. Regional maximum and minimum temperature and precipitation plots for the December through February time period are shown at the end of the document. Normally this is the wettest time of year for California, but water year 2012 was well below average.

February started with high pressure and above normal temperatures covering most of the State. The only part of the State receiving precipitation early in February was the North Coast. The latter part of the first week saw a cold front pass over the State with precipitation hitting the coast, Central Valley and mountain regions. Southern California did not see precipitation from this event. The second week saw a series of fronts pass through the State with periodic showers falling across the State. In between the events, conditions were mild. The pattern of periodic weak systems passing through continued into week three with a stronger system in the middle of the week producing some moderate snowfall in the northern Sierra Nevada. The month finished out with a high pressure system building in dry conditions and creating windy conditions in Southern California.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 45 temperature records tied or broken and 1 precipitation record tied for the month. Of the 45 temperature records set, 32 were for new high maximum temperatures and 7 were for new low minimum temperatures. Records were set over 12 days of the month. South Lake Tahoe continued its high temperature record streak with records set on the 9th, 17th, 23rd, and 24th of the month. Ramona California on the other hand recorded 3 of the 7 of low minimum records on the 17th, 18th and 21st. The only precipitation record was in Bishop California on the 15th when a trace of snow fell. The previous year of a trace of snow was 1969. Death Valley, California broke a new high temperature record on the 23rd with a reading of 91°F. The old record of 90°F was set in 1954. This is the first time this year that Death Valley topped 90 degrees. The average first occurrence of 90°F for Death Valley is March 12th.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 224 stations recorded a minimum temperature below freezing in February 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 February ranged from dry in the south to near normal for the north. For the CDEC precipitation gages for February 2012, the largest amount of precipitation recorded was at Gasquet Ranger Station in the North Coast region with 5.52 inches. This is 46% of the average precipitation for this station for February. At the other end of the spectrum, Independence recorded no precipitation for the month. For the CIMIS network, Camino in El Dorado County topped the precipitation charts with 2.72 inches for the month and 10 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 2.9 inches in February. On average, 8.0 inches of precipitation is recorded for the 8-Station index for the month. Statewide, the average precipitation for the month was 34.4% 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

February 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 February 7, 2012 is shown at the end of the document. As of the end of February, California has 851 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 February is Sonoma with 93 volunteers. For the month of February, 9,710 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in February was in Humboldt County where 3.01 inches was recorded on 02/29/2012. There were 118 snowfall reports recorded with the largest being 13.5 inches in Riverside County. The largest total depth of snow reported in February was 52 inches in Placer County. Seven hail reports were submitted in February in Los Angeles (1), Orange (2), Riverside (1), San Diego (2), and Sonoma (1). The largest stone size reported was 3/8" 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 8 inches of snow water equivalent for the end of February. This is 34% of average for the date and only 30% 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 critically dry category. 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

The maps for California for January 31, 2012 and February 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 February 28th depiction, 16.02% of California is depicted in the D2 or severe drought category, 56.07% of California is depicted in the D1 or moderate drought category. An additional 23.52% of the state is depicted as D0 or abnormally dry. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for March through May 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. 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 February, the Eight Station Index is in the 7th percentile or D2 for the 12-month period and the Five Station Index is in the 11th percentile for the 12-month period. For the reservoirs, Shasta and Folsom are in the D1 category, Friant, Comanche, and Berryessa are in the D0 category and the other reservoirs in the report are in drought free conditions.

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 -0.6°C in the Niño 3.4 at the end of February. The December through February 3-month running mean of the Ocean Niño Index (ONI) is -0.8. This is the fourth 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 by the end of April 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/

Updates are posted weekly. The latest three month outlook (March through May) 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 with the exception of the southeastern deserts which have a higher probability of above normal conditions. For precipitation, a higher probability of below normal conditions is forecast for the southern part of the state and equal chances for the rest of the 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

February 2012 saw the winter growth requiring some irrigation and dry-land crops start to fail. Some fields were disked under due to lack of growth. Orchards were irrigated, pruned, planted, and prepared for coming blooms. Frost damage was a concern throughout the month. The almond bloom began in early February and expanded to full bloom by the end of the month. Vegetable harvests occurred in Kern, Fresno, Merced, and Stanislaus County. Non-irrigated pasture and rangeland was reported to be in poor condition due to lack of precipitation. Supplemental feeding continued. Bees actively worked the almond and early fruit blooms. 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 – 90°F (Beverly Hills, South Coast)

Low Temperature – -7°F (Ellery Lake, South Lahontan)

High Precipitation – 5.52 inches (Gasquet Ranger Station, North Coast)

Low Precipitation – 0.0 inches (Independence, South Lahontan)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 80.1°F (Seeley, Imperial County)

Low Average Minimum Temperature – 18.8°F (Big Bear Lake, San Bernardino County)

High Precipitation – 2.72 inches (Camino, El Dorado County)*

Low Precipitation – 0 inches (10 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	22.57	40.08	66.13
SF Bay	10	33.20	47.66	70.30
Central Coast	12	28.83	47.89	77.00
South Coast	44	31.14	50.84	79.25
Sacramento	79	21.81	39.68	66.36
San Joaquin	45	19.40	37.89	65.51
Tulare Lake	15	16.11	35.43	64.19
North Lahontan	26	9.57	29.84	54.66
South Lahontan	13	13.92	34.81	62.92
Colorado River Desert	8	34.63	56.03	82.50
Statewide Weighted Average	275	22.1	40.5	67.4

U.S. Drought Monitor

California

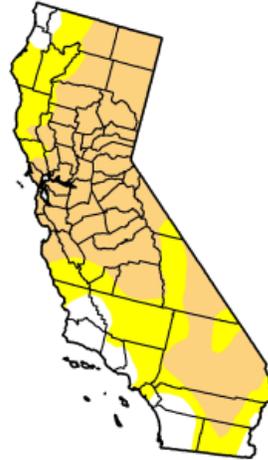
January 31, 2012
Valid 7 a.m. EST

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.



Released Thursday, February 2, 2012
Eric Luebehusen, USDA

<http://droughtmonitor.unl.edu>

U.S. Drought Monitor

California

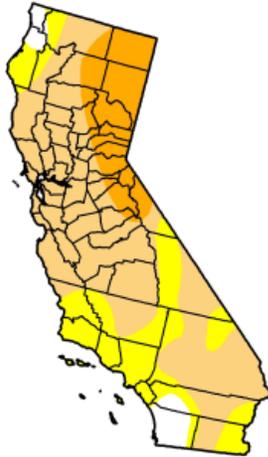
February 28, 2012
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	4.39	95.61	72.09	16.02	0.00	0.00
Last Week (02/21/2012 map)	4.77	95.23	67.76	5.06	0.00	0.00
3 Months Ago (11/29/2011 map)	88.32	11.68	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 (02/22/2011 map)	99.94	0.06	0.00	0.00	0.00	0.00

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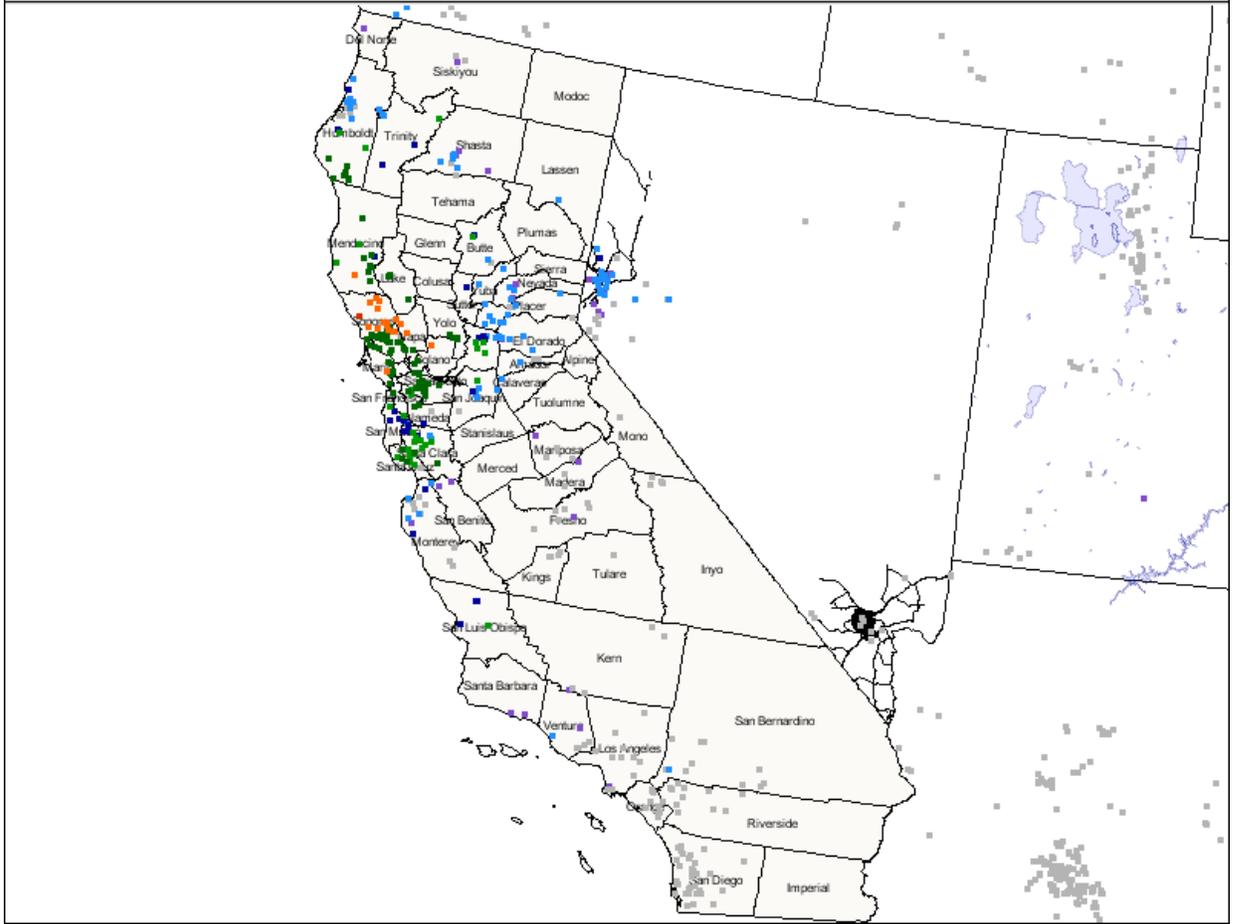


Released Thursday, March 1, 2012
Mark Svoboda, National Drought Mitigation Center

<http://droughtmonitor.unl.edu>

Daily Precipitation (inches x.xx), for the 24 hour period ending ~7:00 am
California 2/7/2012

0.0 Trace 0.01 - 0.05 0.06 - 0.10 0.11 - 0.24 0.25 - 0.57 0.58 - 0.86 0.87 - 0.95



Precipitation Rankings Dec-Feb 2011-2012

