

California Monthly Climate Summary
May 2014

Weather Highlights

May 2014 was a warm and dry month for California. According to the Western Region Climate Center's [California Climate Tracker](#), the monthly average temperature was 62.8°F which is 3.3°F higher than the long-term average of 59.5°F. With a statewide average of 0.25 inches, precipitation in May was 28% of average.

May started with dry, warm weather across the State. Strong Santa Ana conditions developed in Southern California resulting in critical fire weather conditions. The second week saw a low-pressure system graze the northwestern corner of the State bringing some showers to the region. The passing of the low pressure and associated cold front dropped temperatures for the State. Santa Ana conditions again developed in Southern California towards the end of the week. The third week saw a strong ridge of high pressure develop over California with temperatures topping 100°F in many places. Strong offshore flow over Southern California resulted in continuing Santa Ana conditions. The offshore pattern shifted to an onshore flow pattern towards the end of the week allowing temperature to cool and humidity to recover in Southern California. An unsettled weather pattern marked the fourth week in California with scattered showers and thunderstorms over the mountains. By the Memorial Day weekend, the State had returned to climatological norms.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 174 temperature records tied or broken and 3 precipitation records set for the month. Of the 174 temperature records set, 91 were for new high maximum temperatures and 81 were for new high minimum temperatures. Records were set over 19 days of the month. On May 14th, Santa Cruz set a new high maximum temperature record of 100°F breaking the old record of 92°F set in 1978. Also on May 14th, Oxnard and Camarillo reached 102°F breaking the old daily maximum records of 98°F set in 1979. This is the earliest date Santa Cruz, Oxnard, and Camarillo have reached 100°F. The previous earliest date was June 5, 1903 for Santa Cruz, and June 16, 1981 for Oxnard and Camarillo. Bishop California recorded its 10th lowest snowfall season with a total of 0.6 inches from October through May. The average seasonal snowfall is 8.1 inches.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 113 stations recorded a minimum temperature below freezing in March while 29 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 May ranged from above average in the North and South Lahontan Regions to below average elsewhere in the State. For the CDEC precipitation gages

for May 2014, the largest amount of precipitation recorded was at Gasquet Ranger Station in the North Coast region with 4.23 inches. This is 95% of the average precipitation for this station for May. At the other end of the spectrum, 17 stations recorded no precipitation for the month. For the CIMIS network, Blackwells Corner in Kern County topped the precipitation charts with 3.43 inches for the month and 53 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 0.7 inches in May. On average, 2.1 inches of precipitation is recorded for the 8-Station index for the month. The San Joaquin 5-Station Index recorded 1.0 inches for May. On average, 1.8 inches of precipitation is recorded for the 5-Station Index for the month.

CoCoRaHS Update

April 2014 continues California's fifth 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 May 9, 2014 is shown at the end of the document. As of the end of May, California has 1136 volunteers signed up spanning 54 of California's 58 counties. The counties without volunteers are Alpine, Colusa, Glenn, and Modoc. The counties with the most volunteers at the end of May are San Diego and Sonoma with 103 and 101 volunteers respectively. For the month of May, 10,347 reports were recorded for California. The largest daily rain total for CoCoRaHS- CA in May was in Del Norte County where 2.48 inches was recorded on 5/9/2014. There were 6 snowfall reports recorded with the largest being 4 inches in Placer County. The largest total depth of snow reported in May was 17 inches in Placer County. Two hail reports were submitted in May in Shasta County. The largest stone size reported was 3/8" on 5/20/2014. To join CoCoRaHS or find more information, please visit <http://www.cocorahs.org>.

Snowpack and Water Supply Conditions

April 1st is the traditional peak of the snowpack accumulation in the Sierra Nevada. During the month of May, snow melt really picks up. At the end of May, all three regions reported no snow water equivalent. The last day the Northern region snowpack registered 1 inch of snow water equivalent (SWE) was May 21st which is 5% of average for the date. The Central region SWE last reported 1 inch of SWE on May 27th which is 5% of average for the date. The Southern region SWE last reported 1 inch of SWE on May 17th which is 5% of average for the date. The Water Supply Index (WSI) for WY2013 for the Sacramento Basin fell into the dry category and the San Joaquin fell into the critical category. The median forecast for the WSI for both the Sacramento and San Joaquin Basins this year is 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>.

Drought Monitor and Seasonal Outlook

The maps for California for April 29, 2014 and May 27, 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 May 27th depiction, 24.77% of California is depicted in the D4 or exceptional drought category, 52.11% of California is depicted in the D3 or extreme drought category, and 23.12% of California is depicted in D2 or severe drought category. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for June through August from NOAA depicts California in persisting drought throughout the state. 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.

For more information on water conditions in California, visit <http://www.water.ca.gov/waterconditions/>. A table showing end-of-May 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) is currently in neutral conditions. Equatorial sea surface temperature anomalies for the tropical Pacific have been trending positively with values of 0.6°C in the Niño 3.4 at the end of May. The March through May 3-month running mean of the Ocean Niño Index (ONI) is -0.2. 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 transitioning to El Niño conditions by the latter part of summer. 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 (June through August) from NOAA indicates a higher probability for above normal temperatures for the State. For precipitation, equal chances of above or below mean conditions are forecast across 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

May 2014 saw harvests, crop development and pest emergence and control. Thrips and mites were spotted in cotton fields and several reports of armyworms were made for alfalfa fields. Rice fields were flooded and rice started to emerge during the month. Oat hay harvest continued. Grape bloom was finishing and bunches were developing.

Early varieties of apricots, cherries, nectarines, peaches and plums were harvested. Strawberries and blueberries were harvested. Fungicides were applied to orchards and vineyards. Nuts continued to develop. Onions emerged in Siskiyou County but were impacted by wind, weeds, and disease. Tomatoes were growing well with few pest issues. Herd reduction continues due to lack of forage. 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 – 112°F (Buttercup, Colorado River Desert)

Low Temperature – -6°F (Casa Vieja Meadows, Tulare)

High Precipitation – 4.23 inches (Gasquet Ranger Station, North Coast)

Low Precipitation – 0 inches (17 stations)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 96.5 °F (UC San Luis, Imperial County)

Low Average Minimum Temperature – 33.2°F (Big Bear Lake, San Bernardino County)

High Precipitation – 3.43 inches (Blackwells Corner, Kern County)*

Low Precipitation – 0 inches (53 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	20	34.1	56.6	87.3
SF Bay	9	43.0	62.0	90.2
Central Coast	10	38.6	63.8	96.6
South Coast	39	43.2	66.5	96.9
Sacramento	75	34.9	59.4	86.7
San Joaquin	46	32.6	55.9	82.7
Tulare Lake	17	26.2	49.4	73.9
North Lahontan	27	23.6	47.2	71.4
South Lahontan	14	26.2	53.1	79.4
Colorado River Desert	7	51.9	79.7	106.1
Statewide Weighted Average	264	34.3	58.0	86.3

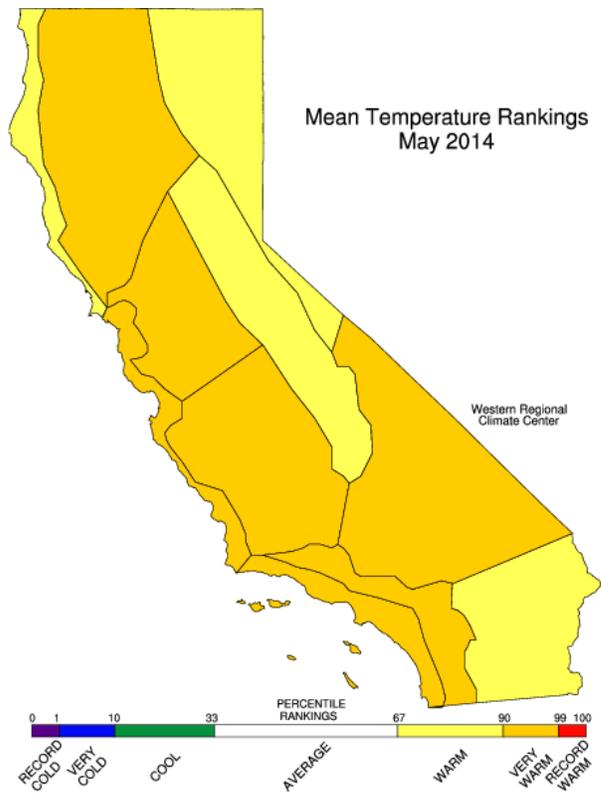
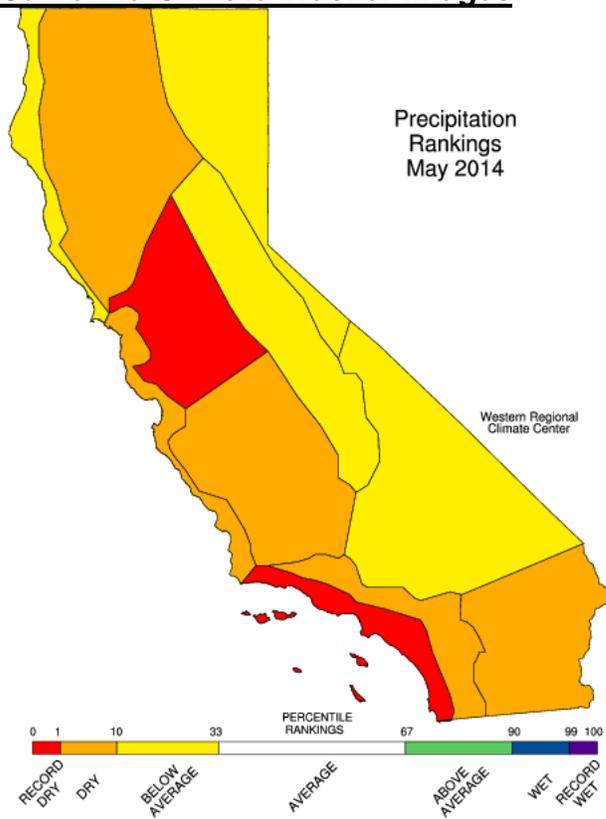
Statewide Precipitation Statistics

Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	May	Oct-May	Stations	May	Oct-May	May	Oct-May
North Coast	0.27	5	4	4	17	11	11	56.60%	50%
SF Bay	0.03	2	1	1	6	1	1	16.20%	67%
Central Coast	0.06	3	2	2	11	4	4	9.90%	43%
South Coast	0.06	3	3	3	14	11	9	2.20%	40%
Sacramento River	0.26	5	5	5	41	27	27	54.70%	60%
San Joaquin River	0.12	6	6	6	24	16	15	27.30%	50%
Tulare Lake	0.07	5	5	5	28	28	27	57.70%	48%
North Lahontan	0.04	3	3	3	13	9	9	108.80%	65%
South Lahontan	0.06	3	3	3	15	12	12	212.70%	56%
Colorado River	0.03	1	1	1	6	3	3	16.70%	37%
Statewide Weighted Average	1	36	33	33	175	122	118	55.65%	52 %

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

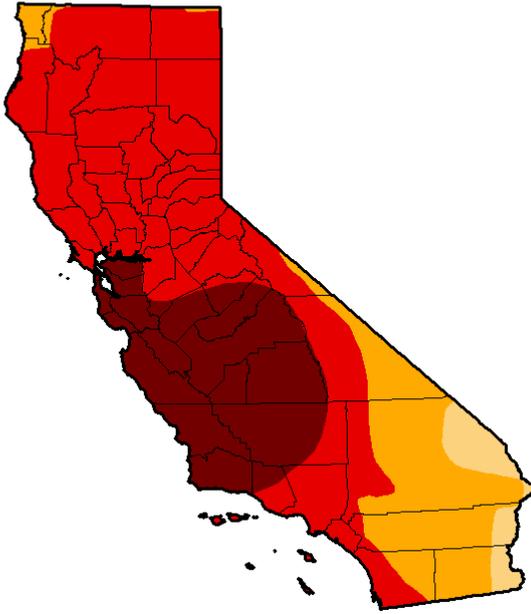
End-of-May Reservoir Storage	Number of Reservoirs	Average Storage (taf)	2014 Storage (taf)	% of Average
North Coast	6	2,550	1,508	59%
San Francisco Bay	17	515	460	89%
Central Coast	6	694	192	28%
South Coast	29	1,515	1,022	67%
Sacramento	43	13,519	9,165	68%
San Joaquin	34	8,303	5,402	65%
Tulare	6	1,366	750	55%
North Lahontan	5	653	278	43%
South Lahontan	8	269	248	92%
Total	154	29,387	19,030	65%

California Climate Tracker Images



United States Drought Monitor

U.S. Drought Monitor California



April 29, 2014

(Released Thursday, May 1, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	96.01	76.68	24.77
Last Week <i>4/22/2014</i>	0.00	100.00	100.00	96.01	76.68	24.77
3 Months Ago <i>1/28/2014</i>	1.43	98.57	94.18	89.91	67.13	8.77
Start of Calendar Year <i>1/1/2013</i>	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year <i>10/1/2013</i>	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago <i>4/30/2013</i>	0.00	100.00	64.30	32.82	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

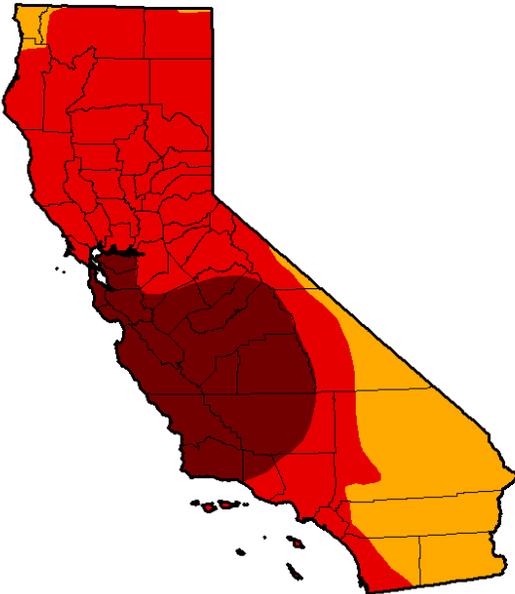
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Richard Heim
NCDC/NOAA



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

U.S. Drought Monitor California



May 27, 2014

(Released Thursday, May 29, 2014)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	100.00	100.00	76.68	24.77
Last Week <i>5/20/2014</i>	0.00	100.00	100.00	100.00	76.68	24.77
3 Months Ago <i>2/25/2014</i>	0.00	100.00	94.56	90.82	73.83	26.21
Start of Calendar Year <i>1/1/2013</i>	2.61	97.39	94.25	87.53	27.59	0.00
Start of Water Year <i>10/1/2013</i>	2.63	97.37	95.95	84.12	11.36	0.00
One Year Ago <i>5/28/2013</i>	0.00	100.00	98.16	46.25	0.00	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

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

Author:
Michael Brewer
NCDC/NOAA



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