

California Monthly Climate Summary
December 2007

Weather Highlights

December 2007 was a cool month with near-normal precipitation for California. According to the Western Region Climate Center's California Climate Tracker, the monthly average temperature was 40.4°F which is 2.7°F lower than the long-term average of 43.1°F. With a statewide average of 3.08 inches, precipitation for December was 84% of the long term average. Out of the 113 years of record, December 2007 ranks 62nd wettest placing it near the middle of the distribution.

The first week of December saw some showers in the northern part of the state and mountains as a weak storm system passed through the Pacific Northwest. As this system moved into the Great Basin, cool offshore flow resulted for northern California and dry winds for southern California. Near the end of the week a low near Baja California brought rain to southern California with up to 2 inches in the mountain areas. Unfortunately this also brought some mudslides and debris flows to the area. The cold air in place over the Central Valley created overnight frost conditions. The second week of the month started dry with cooler temperatures in the north and above normal temperatures in the San Joaquin Valley. A storm system moving through the state produced up to an inch of rain at lower elevations and 1 to 2 feet of snow in higher elevations. Snow levels were lower than average with this storm and snowfall on the Grapevine led to road closures. Cold air stayed in place during the third week of the month with the San Joaquin Valley experiencing freezing overnight lows. Temperatures reached into the upper 20's in some locations. In the desert regions temperatures dropped into the teens. Most of the state remained dry except some trace amounts of precipitation were reported in the mountains of northern California. In the fourth week, a series of Pacific frontal systems made their way through California during the week, bringing widespread showers and colder air to the state. By midweek, daytime highs in the Central Valley were ranging in the upper 40s to mid 50s. Cold northerly winds accosted the northern and central California and Santa Ana type winds occurred in southern California. After the front's passage, temperature had warmed to the 70s in Southern California and warmed to the mid and upper 50s in the Central Valley. Dense fog was observed overnight in parts of the San Joaquin Valley. The year ended with upper level ridging.

Preliminary records, reported on the National Weather Service Record Event Report, show that statewide there were 29 temperature records tied or broken and 4 precipitation records tied and broken for the month. Of the 29 temperature records, 18 were for new low minimum temperatures and 6 were for new low maximum temperatures. On December 2nd, Crescent City set a new low minimum temperature of 31°F breaking the old record of 32°F set in 1956. On December 13th, Brown Field in San Diego set a new low minimum temperature of 38°F breaking the old record of 44°F set in 1955. On the 18th the Fresno Yosemite Airport recorded 1.64 inches of rain. This broke the old record of 1.01 inches of rain set in 1921. The 1.64 inches of

rain was also more rain than was recorded at the airport for the months of September, October, and November combined. On December 25th, Eureka tied a low minimum temperature of 30°F that was also reached in 1891, 1924, and 1997. On the 28th, San Francisco tied a 1908 record with a low maximum temperature of 45°F.

For the California Data Exchange Center's (CDEC) network of temperature gages used in this report, 231 stations recorded a minimum temperature below freezing. 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 and CIMIS networks is also shown.

Precipitation in December was back to being below normal. According to the California Climate Tracker, this is the second below normal December in a row. The largest amount of precipitation recorded in the CDEC precipitation gages for December 2007 was Strawberry Valley in the Sacramento Basin with a total of 11.89 inches. This is only 86% of the average monthly precipitation for December at this location. For the CIMIS network, Camino in El Dorado County topped the precipitation charts with 6.5 inches for the month. Four other sites topped six inches as well. The 8-Station Index for northern California precipitation recorded 7.2 inches in December with twenty days showing precipitation. On average 8.4 inches of precipitation is recorded for the 8-Station index. This is the 42nd wettest December in the 8-Station index period of record. Statewide, the average precipitation for December was 88% 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.

The Drought Monitor maps which can be found on the National Drought Mitigation Center's (NDMC) website <http://drought.unl.edu/dm/> have held steady in their depiction of California during the month of December. These maps are largely a reflection of precipitation and soil moisture deficit estimates. For December, the Drought Monitor showed no changes for California. The northernmost part of the state is not considered in any drought condition. The rest of northern California is depicted in either D0 (abnormally dry) or D1 (moderate drought) conditions. South of the San Francisco Bay area, the Sierra Nevada Mountains and coast areas were depicted in the D2 (severe drought) category. A swath of D3 category (extreme drought) was depicted for the central coast, Los Angeles Basin and Mojave Desert areas. The remainder of southern California was depicted in the D2 category. Maps are updated weekly.

The U.S. Seasonal Drought Outlook for January through March from NOAA depicts California with near-term improvement in conditions for the most of the state and some improvement of drought conditions in the southernmost part of the state. Updates are provided twice per month. Maps and information can be found at http://cdec.water.ca.gov/water_supply.html

Outlooks for the water year 2008 water supply index categories are dry for the Sacramento Basin and critical 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>.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is being classified as a moderate La Niña pattern. Equatorial sea surface temperature anomalies for the tropical Pacific for late December were running from -1.2° to -1.3° C. Both statistical and dynamical models forecast La Niña conditions lasting into spring of 2008. More information to the topic 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 (January through March) from NOAA indicates an equal chance of above, below or near normal temperatures for most of the state with above normal temperatures expected for southern California. For precipitation, below average conditions are forecast for locations south of the San Francisco Bay and an equal chance of above, below or near normal conditions north of the Bay Area. The far northwestern part of the state is forecast to have 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.

Agricultural Data

Many harvests were completed in most areas during the month of December. Rice, oats, winter wheat and winter forage was complete with herbicides applied to the new alfalfa. However, grapes and stone fruit harvests were winding down and growers were pruning, cultivating to control weeds and insects. Vegetable crop harvests continued across the state. Navel orange harvest was picking up with cooler weather benefiting fruit size and maturity. Supplemental feeding of livestock continued. Sheep continued to graze on abandoned field and retired farmland. Fall beef cattle calving continued, as well as lambing, and kidding. Bee hives were being overwintered in various locations. Shipment of out-of-state bees continued to move into central California for the upcoming almond pollination season. 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 – 92°F (Camp Pendleton Ammo Dump, South Coast)

Low Temperature – -15°F (Bogard Ranger Station, North Lohantan)

High Precipitation – 11.89 inches (Strawberry Valley, Sacramento River)
 Low Precipitation – 0 inches (Blythe, Colorado River Desert)

Statewide Extremes (CIMIS)

High Average Maximum Temperature – 67⁰F (Santa Paula, Ventura County)
 Low Average Minimum Temperature – 17.2⁰F (Tulelake FS, Siskiyou County and Owens Lake South, Inyo County)
 High Precipitation – 6.5 inches (Camino, El Dorado County)
 Low Precipitation – 0 inches (11 stations)

Statewide Precipitation Statistics

Hydrologic Region	Region Weight	Basin Reporting			Stations Reporting			% of Historic Average	
		Basins	Dec	Oct-Dec	Stations	Dec	Oct-Dec	Dec	Oct-Dec
North Coast	0.27	5	4	4	19	12	11	93.7%	90%
SF Bay	0.03	2	2	2	6	6	4	78.1%	79%
Central Coast	0.06	3	3	3	11	6	6	72.4%	55%
South Coast	0.06	3	3	3	15	12	7	80.9%	63%
Sacramento River	0.26	5	5	5	43	30	29	90.7%	71%
San Joaquin River	0.12	6	6	6	25	19	18	79.9%	60%
Tulare Lake	0.07	5	5	5	28	22	22	96.5%	68%
North Lahontan	0.04	3	3	3	14	8	7	61.2%	63%
South Lahontan	0.06	3	3	3	15	9	8	120.7%	68%
Colorado River	0.03	1	1	1	6	4	4	52.1%	146%
Statewide Weighted Average	1	36	35	35	182	128	116	88 %	75 %

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	28	23.7	38.2	57.1
SF Bay	18	32.8	44.9	59.5
Central Coast	35	33.1	46.5	65.8
South Coast	70	33.2	48.9	76.8
Sacramento	88	21.4	37.4	56.6
San Joaquin	79	21.3	37.2	58.7
Tulare Lake	17	8.9	31.8	63.6
North Lahontan	31	3.6	27.4	51.2
South Lahontan	22	12.3	32.8	58.5
Colorado River Desert	23	35.5	49.9	68.2
Statewide Weighted Average	411	22	38.4	59.6