

**Directions: As you read both articles, annotate to find evidence to prove whether the drought is a problem for San Diego County and California AND annotate to find evidence for a counterargument and a rebuttal.**

## **San Diego's Rain Year Ends As One Of Driest On Record**

Monday, June 30, 2014

By Susan Murphy

### **San Diego Weather Extremes**

San Diego on Monday is wrapping up one of its driest years on record, with just 5.06 inches of rain recorded at Lindbergh Field, according to the National Weather Service.

The average annual precipitation for downtown San Diego is 10.34 inches, measured from July 1 through June 30; that leaves the region's rainfall total at 49 percent of normal, and the 13th driest year ever recorded.

Escondido recorded its driest all-time record of 5.75 inches of rain; the normal average is 15 inches.

It's the third consecutive year of below-normal rainfall.

The last significant rain accumulation in San Diego County occurred in December 2010 when a rare atmospheric river system brought wave after wave of storms, dumping 5 inches in downtown, said Alex Tardy, warning coordination meteorologist with the National Weather Service San Diego.

Since then, precipitation has been dismal, he said.

"If you add up all those years we should have 30 inches of rain total," Tardy said. "And we're not even close to that. We're short a little over a foot — that's a whole season basically."

Also going down in the record books is San Diego County's above-average warm temperatures.

"This past winter from November through May is the warmest on record," Tardy said. "That's huge because our records are almost 150 years."

The daily combined high and low temperature at Lindbergh Field from November 2013 through June 2014 was 3.6 degrees above average.

Another weather extreme this year was the pair of Santa Ana wind events that battered San Diego County in April and May and fueled more than a dozen raging wildfires.

"Each one of those events in San Diego County alone saw winds over 80 miles per hour in our foothills," Tardy said. "The strongest wind was 101 miles per hour... up near Cuyamaca Lake."

"At the same time, humidity was almost not measurable, down in some places 2-3 percent," Tardy added.

The nearly week-long Santa Ana wind event that began on May 12 also brought record heat. On May 15, the temperature reached 97 degrees in downtown San Diego and 104 in Escondido and El Cajon.

The ongoing drought conditions have parched canyons and hillsides and raised the risk of fire danger.

"The fuels, the vegetation, is as dry as it can get," Tardy said. "Driest we've seen on record is the way the fuels are right now, and we're just getting through the month of June."

Tardy said there is a glimmer of hope with the brewing El Niño. If it strengthens, it could bring more rain-producing storms to San Diego.

The weather phenomenon changes the heating pattern of the atmosphere and pulls the Pacific jet stream farther south. It has the potential to play havoc on weather systems across the globe, causing heavy rain and mudslides in some areas, drought in others, and disrupting the marine food chain.

"Right now there is probability that that will give above normal precipitation, at least for the late fall and early winter," Tardy said.

Tardy warned, El Niño does not always guarantee rain for San Diego.

"Just a few years ago in 2006 and 2007 we had an El Niño — that was actually the start of our last drought.

He said 1976-1977, comparable in numbers and impact to the current drought, was also an El Niño year.

"And not just a weak El Niño year — it was a notable El Niño year. So that's the variability that we have challenges with," Tardy said.

Tardy said record-breaking conditions are expected to continue through the summer with above average temperatures and increased heat waves.

SACRAMENTO – Against the backdrop of early season rainfall that has delivered only a third of what would be needed to end the prolonged drought, statewide residential water conservation in November climbed to a 9.8 percent reduction in year-over-year water use. This change was an improvement from the October data, which indicated conservation efforts were slipping, compared to previous months.

In the most recent survey of nearly 400 urban water retailers, while the amount of water conserved by residential and commercial customers statewide continues to hover at around 10 percent, many of the State's hydrologic regions are seeing marked increases in conservation efforts. Conservation reporting by the State's largest retail water suppliers began in July, when the State Water Board adopted the Emergency Water Conservation Regulation which requires water suppliers and residents to work together to save water during the drought, primarily through reduced outdoor water use.

Since data collection began in July, more than 105 billion gallons of water have been saved compared to last year – enough to supply 1.37 million California residents for a year. For November, most of the state's hydrologic regions exhibited the best water conservation numbers since data reporting began.

"In many parts of California, it is clear that residents understand we are in a prolonged drought. And many continue to conserve water, even as we enjoy welcome rain and runoff that is beginning to recharge our reservoirs and groundwater supplies," said State Water Board Chair Felicia Marcus. "That is good news because it will take far more rain and snow to get us back to normal. Conservation is still the smartest and most cost effective way to deal with this difficult drought. We need to treat water as the precious resource that it is."

As part of its efforts to institutionalize conservation gains statewide, State Water Board members directed staff to review ideas discussed at a Dec. 17 water conservation workshop in Los Angeles to see if additional conservation measures suggested by water districts, environmentalists, and water policy experts should be considered in future rulemaking. The workshop was intended to solicit suggestions on what, if any, additional conservation measures should be adopted in 2015 to increase water conservation statewide. The Board will consider such further actions at its second Board meeting in January 2015.

### **Water Conservation Efforts Net Water Savings**

Year over year monthly residential water savings statewide increased to 9.8 percent in November, from 6.8 percent in October.

While board members were pleased to see improved water conservation in numbers in November, they acknowledged that significant precipitation in some parts of the state, as well as the time of year, could have contributed to less water used – rather than residents consciously conserving water in anticipation of continued drought conditions. Broken down by hydrologic region, some parts of the state saved more water in November than any month prior since reporting requirements began over the summer.

For example, the Sacramento River hydrologic region decreased water use by 25.6 percent in November compared to the same time in 2013, charting the most savings of any hydrologic region. Sacramento was followed by: Central Coast hydrological region (20.9 percent water use decrease over November 2013); North Coast hydrologic region (19.5 percent water use decrease over November 2013); San Joaquin River hydrologic region (18.6 percent water use decrease over November 2013); and San Francisco Bay hydrologic region (18.3 percent water use decrease over November 2013). The South Coast hydrologic region mildly improved with 3.2 percent water conservation for November, as compared to October's 1.2 percent. The October and November savings rates for this region are disappointing when compared to the 7.5 percent

savings reported for the region in September. With 56 percent of all the residential water customers statewide in the South Coast region, this conservation result significantly affected the November statewide average for residential water savings.

"While the South Coast has been a water conservation leader for several decades, we remain concerned the current drought effort has not translated into more aggressive conservation there," Marcus said. "That said, we are encouraged by what we have heard from water districts in the South Coast hydrologic region, including LA Mayor Garcetti's ambitious 20 percent reduction goal, and we expect to see better in 2015."

Water conservation efforts reached a peak of 11.6 percent of water savings in August, compared with August 2013 water use. Statistically, California urban water use is generally the highest June through October.

The report also found that in November, 93 percent of the water agencies reporting had instituted outdoor water use restrictions. Outdoor water use restrictions are a key requirement for urban water suppliers under the Emergency Water Conservation Regulation because outdoor watering accounts for as much as 80 percent of urban water use in some areas.

### **Decline in Per Capita Daily Water Use Continues Statewide**

Along with the November conservation data is the residential gallons per-capita per day (R-GPCD) report, which estimates daily water use by residential customers for nearly 400 urban water agencies statewide.

The statewide R-GPCD average for November was 88.9 gallons per person – a significant drop from the September data, which showed statewide average use of 123 gallons per person, per day. The October numbers dropped to 109 gallons per person, per day. State Water Board staff continues to study this trend in an effort to understand what is driving the reduction in water use in some hydrologic regions, but not others. In addition, some of the R-GPCD drop is to be expected as outdoor watering goes down along with the summer temperatures.

The water use reports are a requirement of the Emergency Water Conservation Regulation adopted by the State Water Board in July and are provided to the Board monthly by urban water suppliers, along with total water conservation for each month. The complete report is posted here.

According to the R-GPCD data, water use varies widely by hydrologic region and showed consistent declines in water use during this third month of reporting. At the low end, the North Coast region averaged 59 gallons per person per day. On the high end, the Colorado River region averaged 204 gallons per person per day.

### **Background**

In his Jan. 17, 2014, Emergency Drought Proclamation, Governor Brown called for Californians to voluntarily reduce their water use by 20 percent. The trend of increasing reductions and specific local data shows that many California communities have met and exceeded the call to conserve, but more can and must be done to protect water supplies should the drought persist. Current forecasts indicate that Californians cannot count upon a wet winter to end the drought. The State Water Board will closely monitor the implementation of the regulations and the weather over the coming months to determine if further restrictions are needed.

The Emergency Water Conservation Regulation will be in effect until April 25, 2015, and will likely be extended if drought conditions persist.

Visit SaveOurWater.com to find out how everyone can do their part, and visit Drought.CA.Gov to learn more about how California is dealing with the effects of the drought.

## Thesis/Main Claim

**Directions:** What is your position on whether California is doing enough to help alleviate the drought?

**Your Group Number:** \_\_\_\_

**Step 1:** Write your group members' names below

- \_\_\_\_\_
- \_\_\_\_\_

**Step 2:** Fill in the box below with your own thesis/main claim statement in answer to the question above.

**Step 3:** Fill in the box below with a bulleted list of evidence taken from the articles to prove thesis/main claim.

**Step 4:** Have each person Read their thesis/main claim statement and enough evidence to prove it. Decide which one is best and write it in the box below.

## Counterargument

Directions: Examine another group's ~~proposed solution~~<sup>thesis statement</sup> and provide a counterargument.

Step 1: You will be providing a counterargument against the ~~proposed solution~~<sup>thesis statement</sup> of group # \_\_\_\_\_. Write down that group's proposed solution (see board) below.

Step 2: With your group members, discuss weaknesses of the ~~proposed solution~~<sup>thesis sentence argument</sup>. Record your group's ideas below.

Step 3: As a group, vote for what you believe to be the best counterargument and highlight or underline it above.

Step 4: Send one group member to the front of the class to write your group's counterargument on the board.

## Rebuttal

**Directions:** Another group has developed a counterargument to oppose your group's ~~solution~~. Defend your group's ~~solution~~ by following the steps below.

~~thesis~~

~~thesis~~

~~thesis~~

**Step 1:** Write down the counterargument to your group's ~~proposed solution~~ (see board) below.

**Step 2:** With your group members, discuss why the counterargument does not "hold water" (i.e., why is it weak?). Record your group's ideas below.

**Step 3:** As a group, discuss why your group's ~~proposed solution~~ is still a good idea. Record your reasons below.

~~thesis~~