

Feds: Don't blame California drought on warming

By Seth Borenstein, AP Science Writer

In the Visalia Times-Delta and other papers, Monday, Dec. 8, 2014

WASHINGTON (AP) — Don't blame man-made global warming for the devastating California drought, a new federal report says.

A report issued Monday by the National Oceanic and Atmospheric Administration said natural variations — mostly a La Nina weather oscillation — were the primary drivers behind the drought that has now stretched to three years.

Study lead author Richard Seager of Columbia University said the paper has not yet been published in a peer-reviewed scientific journal. He and NOAA's Martin Hoerling said 160 runs of computer models show heat-trapping gases should slightly increase winter rain in parts of California, not decrease.

"The conditions of the last three winters are not the conditions that climate change models say would happen," Hoerling said. But he said the La Nina, which is the cooler flip side of the warming of central Pacific ocean, can only be blamed for about one-third of the drought. The rest of the causes can be from just random variation, he said.

Some outside climate scientists criticized the report, saying it didn't take into effect how record warmth worsened the drought. California is having its hottest year on record, based on the first 11 months of the year and is 4.1 degrees warmer than 20th-century average, according to the National Climatic Data Center.

"This study completely fails to consider what climate change is doing to water in California," wrote Kevin Trenberth, head of climate analysis at the National Center for Atmospheric Research. He said the work "completely misses" how hotter air increases drying by evaporating more it from the ground. In droughts, extra heat from global warming enhances the drying in a feedback effect, Trenberth and others said. But Hoerling said that is less of a factor in California because it is so near the ocean and its rain comes in storms coming off the Pacific.

Peer-reviewed studies are divided on whether the drought can be blamed on climate change. Others published earlier this year point more directly to changes in pressure of the Pacific that blocked rain from coming into California, but Hoerling and Seager dismissed them as not adequate.

Hoerling, who specializes in the complicated field of studying the cause of climate extremes, in the past has downplayed other scientists' claims that regional droughts are caused by man-made warming. However, Hoerling acknowledges that climate change is happening, will worsen weather in the future and has produced past studies attributing strange weather — such as more frequent Mediterranean droughts — to heat-trapping gases from the burning of fossil fuels.

Scientists can't even agree on how bad the drought is. Hoerling said the drought isn't even in the top five worst for California. But a new peer-reviewed study in the journal *Geophysical Research Letters* by researchers at the University of Minnesota and Woods Hole Oceanographic calls this "the most severe drought in the last 1,200 years."

Deke Arndt, climate monitoring chief for NOAA's National Climatic Data Center, said by some drought measures, the current California drought "is slightly more intense than, but still comparable to, the late 1970s episode. I'd put them at 1a and 1b on the list of historical multi-year drought episodes affecting California in modern times."