

El Niño vs. the Blob: which will win out this winter?

Sanden Totten

August 10 2015

You may have heard a strong El Niño could bring lots of rain this winter, but there’s another weather pattern in the region that might mess things up. Coming later this year, it’s El Niño versus the Blob!

Maya Sugarman/KPCC



109851 full

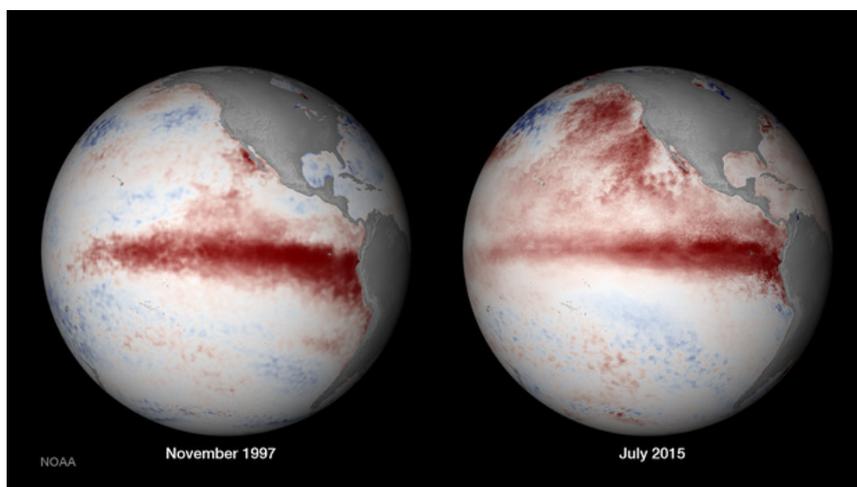
You may have heard a strong El Niño could bring lots of rain this winter, but there’s another weather pattern in the region that might keep things dry.

It’s a ridge of high-pressure air that’s created a huge patch of warm water off the coast, nicknamed “the Blob.”

This ridge and blob tag-team is believed to be deflecting storms and keeping California locked in drought.

Which pattern will win out? Let's size up the players.

El Niño: The Wet Wonder



(This NOAA image shows warmer than average sea surface temperatures from November 1997 and July 2015. You can also see the warm temperatures off the West Coast in the 2015 image.)

- **Location:** A stretch of the Pacific Ocean near the equator.
- **Size:** About six times the size of the continental United States.
- **Temperature:** 2 to 3 degrees Celsius above average.
- **Age:** Less than a year old

(researcher have been watching it since December of 2014).

Background: An El Niño occurs when trade winds across a large part of the Pacific Ocean die down. This

allows the water there to warm up more than average.

Since the Pacific covers a third of the globe, changes there affect weather around the world.

For instance, a strong El Niño typically alters the flow of a jet stream that carries storms across the Pacific from the tropics to the U.S., said researcher Nate Mantua with the National Oceanic and Atmospheric Administration.

In most winters that storm track is aimed at the Pacific Northwest, supplying the region with months of wet weather.

"During the El Niño year, it tends to alter the storm track in a way that makes it much more frequently pointed at California," said Mantua.

That happened during the 1997-98 El Niño when parts of the state saw double the average rainfall, leading to floods and mudslides that caused \$550 million in damages.

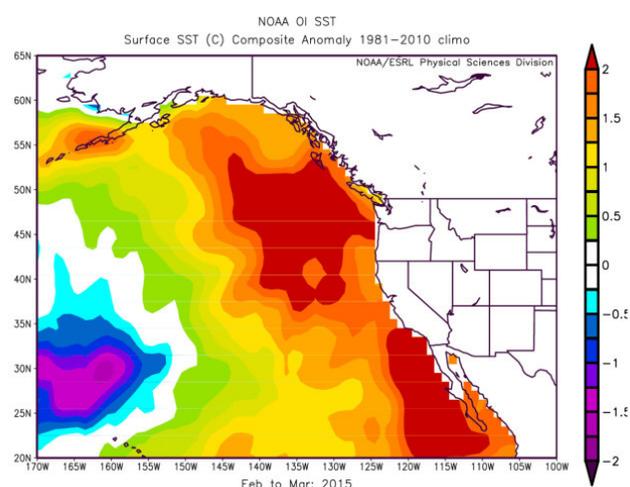
This year's El Niño could be even stronger, says Bill Patzert, a climate researcher with NASA's Jet Propulsion Laboratory.

"The intensity of this El Niño is larger than anything at this point than I have seen in my career," said Patzert.

But he cautioned, the trade winds could kick back up and cool the water down, resulting in a weak El Niño and not as much rain.

Still, at the moment all signs are pointing to a monster weather pattern this winter.

The Buoyant Blob



(Map showing the sea surface temperature (SST) anomaly spread along the West Coast as of March 2015. Image via NOAA/ESRL Physical Sciences Division at Boulder, Colorado.)

- **Location: The Gulf of Alaska and stretching down to Mexico.**
- **Size: Stretches 2,000 miles down the coast and more than 1,000 miles out from the West Coast.**
- **Temperature: 2 to 3 degrees Celsius above average.**
- **Age: 1 year old (it was first noticed in 2014).**

University of Washington meteorologist Nick Bond coined the name "the Blob" during an interview last year.

"I was remarking upon the unusually warm waters off the coast in an unusual pattern and I referred to it as the Blob and the name kind of caught on," he explained.

The Blob is likely a result of a ridge of high-pressure air, sometimes called the Ridiculously Resilient Ridge, that has stayed parked above the North Pacific on and off for the past couple years.

That ridge deflected winter storms away from the West Coast, keeping things dry on land.

It also blocked the strong winds that usually cool the ocean over the winter, said Bond.

"And so less heat was leaving the ocean. Also the weaker winds meant less stirring of the upper part of the ocean and kind of mixing up of colder water from below."

All of this allowed the ocean off the West Coast to warm up, resulting in a Blob of warm water that eventually stretched from Alaska to Mexico.

The Match Up

Researchers say there's no precedent for something like the Ridiculously Resilient Ridge and the Blob interacting with an El Niño.

It's not clear which one will win out, but here are some scenarios.

1. El Niño dominates.

Sure, the Ridge and Blob are big, but El Niño is bigger. It is known to have a much larger impact on weather around the world.

In fact, Stanford researcher Daniel Swain thinks El Niño will likely mess with the climate patterns that have kept the Ridge and Blob in place for this long.

They'll break apart and the entire West Coast could get a good soak.

2. The Blob and Ridge hold strong.

Another possibility is El Niño brings the rain, but the Ridge and Blob stay put over the Northern Pacific, deflecting storms.

In this scenario, Swain says Southern California could see a wet winter but there would be less precipitation in the north, where many vital reservoirs are.

"If indeed this ridge and this warm water mass persist that could have an opposing effect of a wetting effect of a strong El Niño event," he explained.

This outcome is more of a wild-card, Swain said. He thinks the most likely result is that El Niño trumps the Ridge and Blob this winter.

3. El Niño and the Blob team up.

There's a chance these patterns could work together, said Nate Mantua with NOAA.

The Blob is made of warm water, which easily evaporates, he explained.

That means the Blob could end up pumping more moisture into the air and fueling rain clouds as they pass over the ocean on their way to land.

"So you'd expect this kind of boost from exceptionally warm ocean to the strength of the storms and the amount of rainfall that comes out of them," Mantua said.

Luckily, you won't need Pay Per View to find out who wins this showdown, just tune into your local weather forecast this winter.