



National Oceanic and Atmospheric Administration

**La Niña causes the jet stream to move northward and to weaken over the eastern Pacific.**

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# Weather patterns to look for in a La Niña year

BY REBECCA LEXA

Winter arrived in the Columbia-Pacific region with a blast of cold air and a few inches of snow that just skirted the end of Christmas. It's unusual weather here. But it's not uncommon as part of the La Niña portion of the ENSO phenomenon, and we are in a La Niña year.

ENSO stands for El Niño-Southern Oscillation, which is a shifting in water temperatures in the eastern half of the Pacific Ocean's tropical region, offshore from Ecuador, Colombia and

Peru. The phenomenon begins with the Walker circulation, an air flow pattern in the equatorial Pacific that affects air pressure and temperatures. During an average year, this circulation maintains high pressure over the eastern equatorial Pacific Ocean, and low pressure to the west. The high pressure feeds the trade winds, which draw cold, deep water from the ocean to the surface, cooling air over the ocean. That cool air then travels eastward, affecting temperatures and weather patterns across the Americas.

During a La Niña year, extra-

high pressure builds over the eastern Pacific, reducing water temperatures and, by extension, bringing in cooler air over the water. Conversely, in an El Niño year, the Walker circulation is either much weaker, or even reversed; the trade winds slow, and less cold water is added to the ocean's surface, warming water and surrounding air. Both of these changes can bring dramatic effects to weather patterns, even those thousands of miles to the east.

Different parts of the country have different La Niña effects, at least based on what we've seen over the past century. Like us, the region south of the Great Lakes tends to be wetter, the southern third of the country is likely to be drier, and the Southeast in particular is warmer during La Niña. And the northern Great

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