



FROM THE AIR PROGRAM

Winter air quality and weather

Winter air quality in the Owens Valley, often calm in between storms, can be worlds apart from summer time, when wild fires and humid, unstable conditions can dominate. Wind events that raise the particulate concentrations enough to exceed the Tribal 24-hr standard of 50 ug/m³ can of course occur year round. This winter, on 12/15/16, the arrival of a storm front brought wind gusts over 50 mph at the Tribal weather station, and a high hourly concentration of 388 ug/m³, resulting in a high 24-hr average of 52 ug/m³.

During January, an atmospheric river (see below) delivered many hours of precipitation to widespread areas on the west coast. Various parts of the Owens Valley received anywhere from 1 to 4 inches.

An atmospheric river (AR) is a flowing column of condensed water vapor in the atmosphere responsible for producing significant levels of rain and snow, especially in the Western United States. When ARs move inland and sweep over the mountains, the water vapor rises and cools to create heavy precipitation. Though many ARs are weak systems that simply provide beneficial rain or snow, some of the larger, more powerful ARs can create extreme rainfall and floods capable of disrupting travel, inducing mudslides and causing catastrophic damage to life and property. Visit www.research.noaa.gov to learn more.

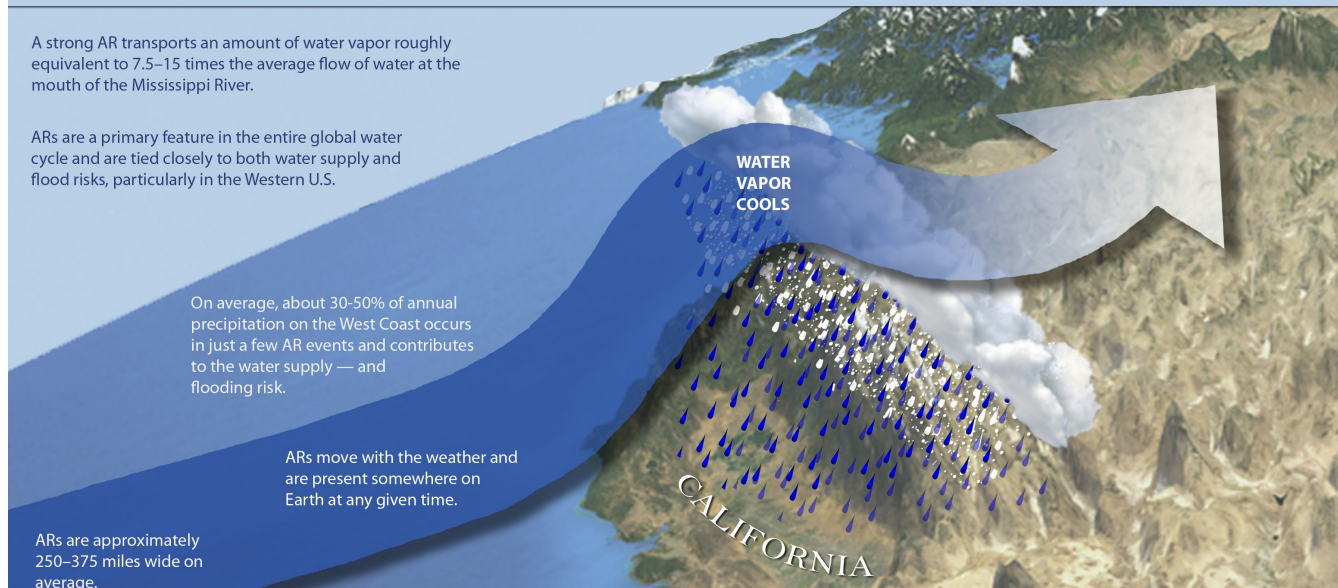
A strong AR transports an amount of water vapor roughly equivalent to 7.5–15 times the average flow of water at the mouth of the Mississippi River.

ARs are a primary feature in the entire global water cycle and are tied closely to both water supply and flood risks, particularly in the Western U.S.

On average, about 30-50% of annual precipitation on the West Coast occurs in just a few AR events and contributes to the water supply — and flooding risk.

ARs move with the weather and are present somewhere on Earth at any given time.

ARs are approximately 250–375 miles wide on average.



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