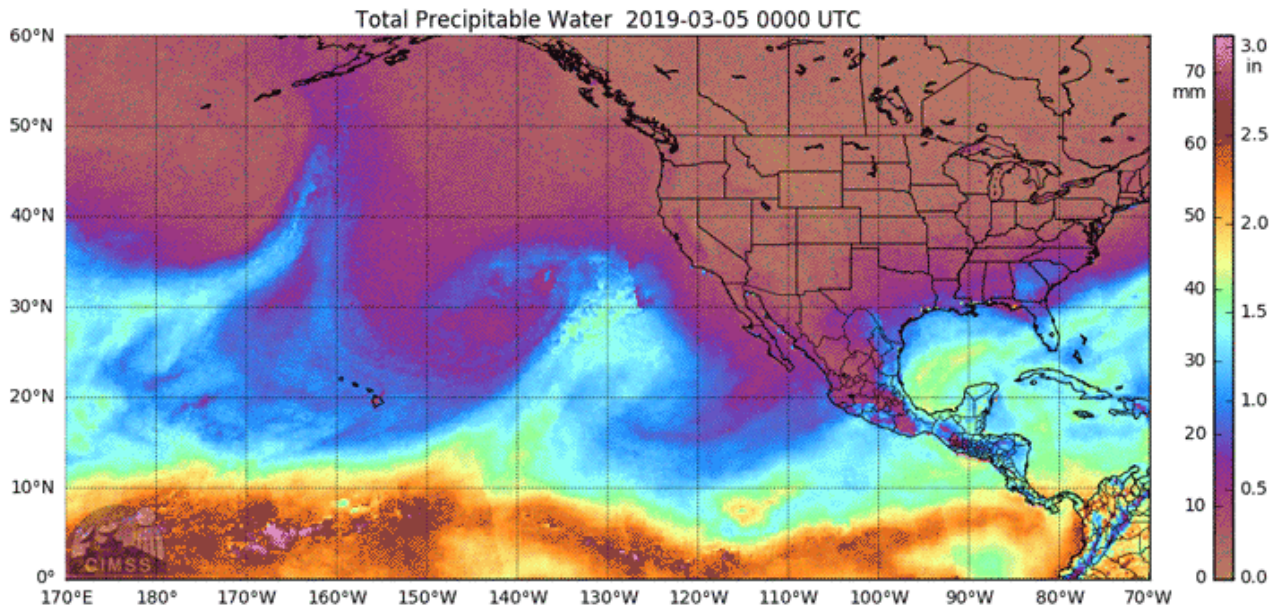




ARTICLE

Strong Atmospheric Rivers Impact Bay Area Parks

[Golden Gate National Recreation Area \(https://www.nps.gov/goga/\)](https://www.nps.gov/goga/), [Point Reyes National Seashore \(https://www.nps.gov/pore/\)](https://www.nps.gov/pore/)



An atmospheric river hitting the California coast in early March.

NOAA

March 2019 - Warm, tropical air is capable of holding massive amounts of water. Most of the time, that warm, wet air stays in the tropics, but sometimes, atmospheric conditions draw it out across great distances in long, narrow bands. When these “[atmospheric rivers \(https://www.noaa.gov/stories/what-are-atmospheric-rivers\)](https://www.noaa.gov/stories/what-are-atmospheric-rivers)” reach land in the mid-latitudes, the air cools and the water vapor it was carrying falls as rain or snow. For example, winter weather patterns often conspire to form atmospheric rivers that run into the California coast from as far off as Hawaii (that is, unless a [Ridiculously Resilient Ridge \(https://weatherwest.com/archives/5982\)](https://weatherwest.com/archives/5982) keeps the rivers away). This recurring river has been nicknamed the [Pineapple Express \(https://oceanservice.noaa.gov/facts/pineapple-express.html\)](https://oceanservice.noaa.gov/facts/pineapple-express.html).

Particularly strong atmospheric rivers affected San Francisco Bay Area parks in February and March. They caused the high precipitation, high streamflows, high winds, and high surf in the parks. As a result, Golden Gate National Recreation Area and Point Reyes National Seashore experienced flooding, erosion, landslides related to saturated soils, road collapses, and downed trees. Multiple damaged roads and trails in Point Reyes [remain closed \(https://www.nps.gov/pore/planyourvisit/roadclosures.htm\)](https://www.nps.gov/pore/planyourvisit/roadclosures.htm) until further notice. Wildlife such as [elephant seals \(https://www.nps.gov/articles/elephant-seal-monitoring-season-summary-2018-2019.htm\)](https://www.nps.gov/articles/elephant-seal-monitoring-season-summary-2018-2019.htm) and [coho salmon \(https://www.nps.gov/articles/2018-2019-coho-and-steelhead-return-looking-strong.htm\)](https://www.nps.gov/articles/2018-2019-coho-and-steelhead-return-looking-strong.htm) have also been affected by the high storm surges and streamflows. At the same time, this winter’s atmospheric rivers have brought an end to lingering drought conditions throughout California. They are also behind the amazing super blooms now underway in the state’s desert parks.

Visit the [NOAA atmospheric rivers webpage \(https://www.noaa.gov/stories/what-are-atmospheric-rivers\)](https://www.noaa.gov/stories/what-are-atmospheric-rivers) for more about this intriguing, complex phenomenon.



High rainfall led to saturated soils and several coastal landslides like this one at Drakes Beach in Point Reyes

NPS / Sarah Allen

[See more from the Bay Area Nature & Science Blog.](https://www.nps.gov/rlc/pacificcoast/blog.htm)
(<https://www.nps.gov/rlc/pacificcoast/blog.htm>).



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Last updated: April 3, 2019

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