

New satellite animation shows 'Pineapple Express' bringing rains to California

February 11 2014

A new animation made at NASA using imagery from NOAA's GOES-West satellite showed the "Pineapple Express" bringing much needed rain and snow to California from Feb. 7 to 9.

A "Pineapple Express" is a low-level jet of moist air flowing from Hawaii to California, delivering a generous supply of precipitation. In this case, much-needed rain falls in central California, which was suffering from a severe drought.

"For Californians, a Pineapple Express can be both a blessing and a curse," said Bill Patzert, climatologist at NASA's Jet Propulsion Laboratory in Pasadena, Calif. "These narrow, moisture-rich 'atmospheric rivers' burst out of the tropics near Hawaii, rushing northeast, taking aim on the U.S. West Coast. This year, on our knees because of a multi-year drought, some areas in central and northern California were pounded by fierce winds and 4 inches to 8 inches of rain by this classic Pineapple Express. Although this event definitely put a dent in the drought, there was also plenty of flooding and wind damage."

Visible and infrared images taken from NOAA's Geostationary Operational Environmental, or GOES-West, satellite from Feb. 7 through 9, 2014, were animated by the NASA GOES Project at NASA's Goddard Space Flight Center in Greenbelt, Md., to create a 30-second movie. The movie shows a stream of clouds associated with the Pineapple Express flowing into California.

GOES satellites provide the kind of continuous monitoring necessary for intensive data analysis. Geostationary describes an orbit in which a satellite is always in the same position with respect to the rotating Earth. This allows GOES to hover continuously over one position on Earth's surface, appearing stationary. As a result, GOES provide a constant vigil for the atmospheric "triggers" for severe weather conditions such as tornadoes, flash floods, hail storms and hurricanes.

"These events can produce up to 50 percent of California's annual [rain](#)," Patzert said. "The amount of water they can dump on California can be 10 times the flow of the Mississippi River. Our drought recovery in the West depends on the Pineapple connection."

Provided by NASA

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