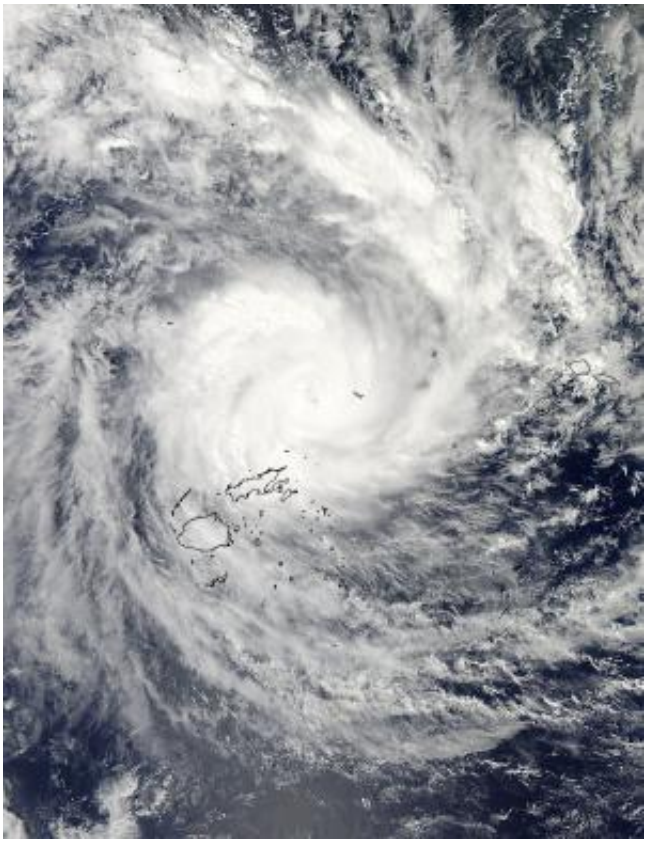
NASA sees dangerous category 4 Cyclone Evan lashing Fiji

December 17 2012



NASA's Aqua satellite flew over Tropical Cyclone Evan at 0135 UTC on Dec. 16 (8:35 p.m. EST/U.S., Dec. 15) when it was over the Fiji Islands. Credit: NASA Goddard MODIS Rapid Response Team

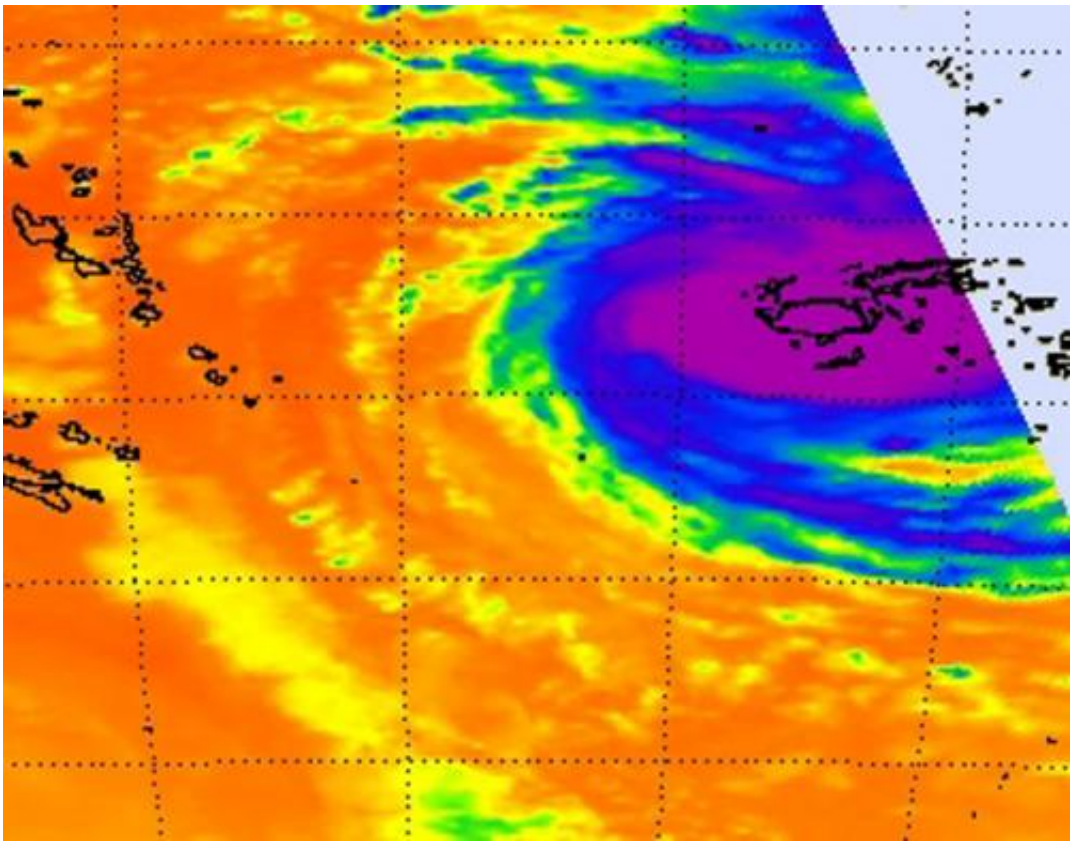
Cyclone Evan is one of the strongest cyclones to affect Fiji in almost two decades, and NASA satellites are analyzing the storm and providing

data on rainfall, cloud height, temperature data and more to forecasters.

According to NBC News, over 3,500 people in Fiji went to emergency shelters. Today, Dec. 17, Evan is lashing Fiji, just days after battering Samoa where it killed at least three people and left thousands homeless.

On Monday, Dec. 17 many warnings and watches were in effect. A tropical cyclone warning is in effect for Fiji. A Hurricane warning is in effect for the Mamanuca island group, west of the line from Lautoka to Sigatoka and nearby smaller islands. A storm warning is in effect for the Yasawa group, Vatulele and the interior of Viti Levu. A gale warning is posted for the Lomaiviti group, rest of Viti Levu and nearby smaller islands, Kadavu, Beqa, and nearby smaller islands. There are also other local warnings in effect for Fiji.

The Joint Typhoon Warning Center (JTWC) is issuing forecasts for Evan and is using NASA and other satellite data to provide warnings and status updates on the storm. On Dec. 17 at 0900 UTC (4 a.m. EST), Cyclone Evan had maximum sustained winds near 115 knots (132 mph/213 kph). Evan is a Category 4 cyclone on the Saffir-Simpson Scale.



NASA's Aqua satellite passed over Cyclone Evan at 9:11 p.m. EST, Dec. 16 and the AIRS instrument captured an infrared image of the cloud tops. AIRS data showed that temperatures (purple) were as cold as -81F (-63C) over Fiji, indicating very strong thunderstorms wrapping around Evan's center. Those thunderstorms were also generating heavy rainfall. Credit: Credit: NASA JPL, ED Olsen

According to the National Oceanic and Atmospheric Administration, a Category 4 means " Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months."

At 0900 UTC (4 a.m. EST) on Dec. 17, Evan's center was only 15 nautical miles southwest of Nadi, Fiji, near 18.3 south latitude and 177.2 east longitude. Evan was moving to the south-southwest at 10 knots.

NASA satellite imagery has helped forecasters at JTWC that Evan is moving along the coast of Vitu Levu, Fiji. When NASA's Aqua satellite passed over Cyclone Evan at 0211 UTC on Dec. 17 (9:11 p.m. EST, Dec. 16) the Atmospheric Infrared Sounder (AIRS) instrument captured an infrared image of the cloud top temperatures. The colder the temperatures, the higher and stronger the thunderstorms are that make up a tropical cyclone. AIRS data showed that temperatures were as cold as -81F (-63C) over Fiji, indicating very strong thunderstorms wrapping around Evan's center. Those thunderstorms were also generating heavy rainfall. JTWC noted that in addition to the heavy rainfall, Evan is generating very high surf that could also create major flooding.

Forecasters at the JTWC also noted that in the upper levels of the atmosphere, above Evan lies a strong anti-cyclone (high pressure area) that is providing good outflow to the system being enhanced by a subtropical jet stream to the south of Cyclone Evan. That means that the vertical wind shear over Evan is low, which has allowed the storm to become so strong.

According to Weather Underground, a weather reporting station in Nadi, Fiji reported a maximum sustained wind of 69 mph (111 kph) with a gust as high as 104 mph (167.4 kph) on Dec. 17.

Evan may be the strongest storm to affect Fiji since 1993, when Cyclone Kina killed 23 and left thousands without homes.

Cyclone Evan is now moving south and will continue weakening as vertical wind shear increases and sea surface temperatures drop. As the storm weakens and becomes extra-tropical, it is expected to speed up.

The JTWC expects Evan to move toward North Island, New Zealand and begin affecting the region by Dec. 21 or 22.

Provided by NASA's Goddard Space Flight Center

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