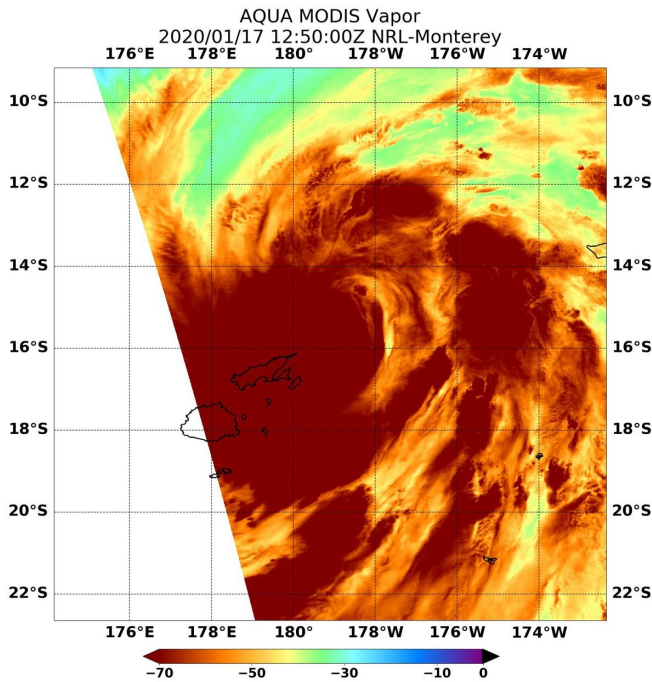


# NASA water vapor imagery shows Tino's heavy rain potential over Fiji

17 January 2020, by Rob Gutro



NASA's Aqua satellite passed over Tropical Cyclone Tino in the Southern Pacific Ocean on Jan. 17 at 7:50 a.m. EST (12:50 UTC) and highest concentrations of water vapor (brown) and coldest cloud top temperatures were around the center of circulation and over Fiji and surrounding islands. Credit: NASA/NRL

When NASA's Aqua satellite passed over the Southern Pacific Ocean it gathered water vapor data that provided information about the intensity of Tropical Cyclone Tino.

Tropical Cyclone Tino formed near Fiji in the Southern Pacific Ocean and NASA's Aqua satellite provided meteorologists with a look at the water vapor content of the [storm](#) showing potential for heavy rain.

On January 17, 2020, many warnings and watches were in effect from the Fiji Meteorological Service.

A tropical cyclone warning is in force for Cikobia, Vanua Levu, Taveuni; and nearby smaller islands, Yasawa, Lau and Lomaiviti Group. A tropical cyclone alert remains in force for the eastern half of Viti levu. A [storm warning](#) is in force for Lakeba, Cicia, Tuvuca, Nayau, Oneata, Moce, Komo, Kabara, Namuka-1-Lau, Fulaga and Ogea. A gale warning remain in force for Cikobia, Vanua Levu, Taveuni and nearby smaller islands, eastern half of Viti Levu, Yasawa, the rest of Lau and Lomaiviti group. A strong wind warning remains in force for the rest of the Fiji Group.

On Jan. 17 at 7:50 a.m. EST (12:50 UTC), the Moderate Resolution Imaging Spectroradiometer or MODIS instrument aboard NASA's Aqua satellite gathered water vapor content and temperature information on Tropical Storm Tino. The MODIS image showed highest concentrations of [water](#) vapor and coldest cloud top temperatures were around the center of circulation and over Fiji and surrounding islands. Coldest cloud top temperatures were as cold as or colder than minus 70 degrees Fahrenheit (minus 56.6 degrees Celsius) in those storms. Storms with cloud top temperatures that cold have the capability to produce heavy rainfall.

Water vapor analysis of tropical cyclones tells forecasters how much potential a storm has to develop. Water vapor releases latent heat as it condenses into liquid. That liquid becomes [clouds](#) and thunderstorms that make up a tropical [cyclone](#). Temperature is important when trying to understand how strong storms can be. The higher the cloud tops, the colder the cloud tops and the stronger the storms.

On Jan. 17 EST (0900 UTC), Tropical Storm Tino was located near latitude 16.3 degrees south and longitude 179.4 degrees east, about 178 nautical miles north-northeast of Suva, Fiji. Tino is moving to the southeast with maximum sustained winds near 55 knots (62 mph/102 kph).

Tino is forecast to move southeast while strengthening to 60 knots (69 mph/111 kph). After a day or two, the storm will become extra-tropical while weakening.

NASA's Aqua satellite is one in a fleet of NASA satellites that provide data for hurricane research.

Tropical cyclones/hurricanes are the most powerful weather events on Earth. NASA's expertise in space and scientific exploration contributes to essential services provided to the American people by other federal agencies, such as hurricane weather forecasting.

Provided by NASA's Goddard Space Flight Center

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