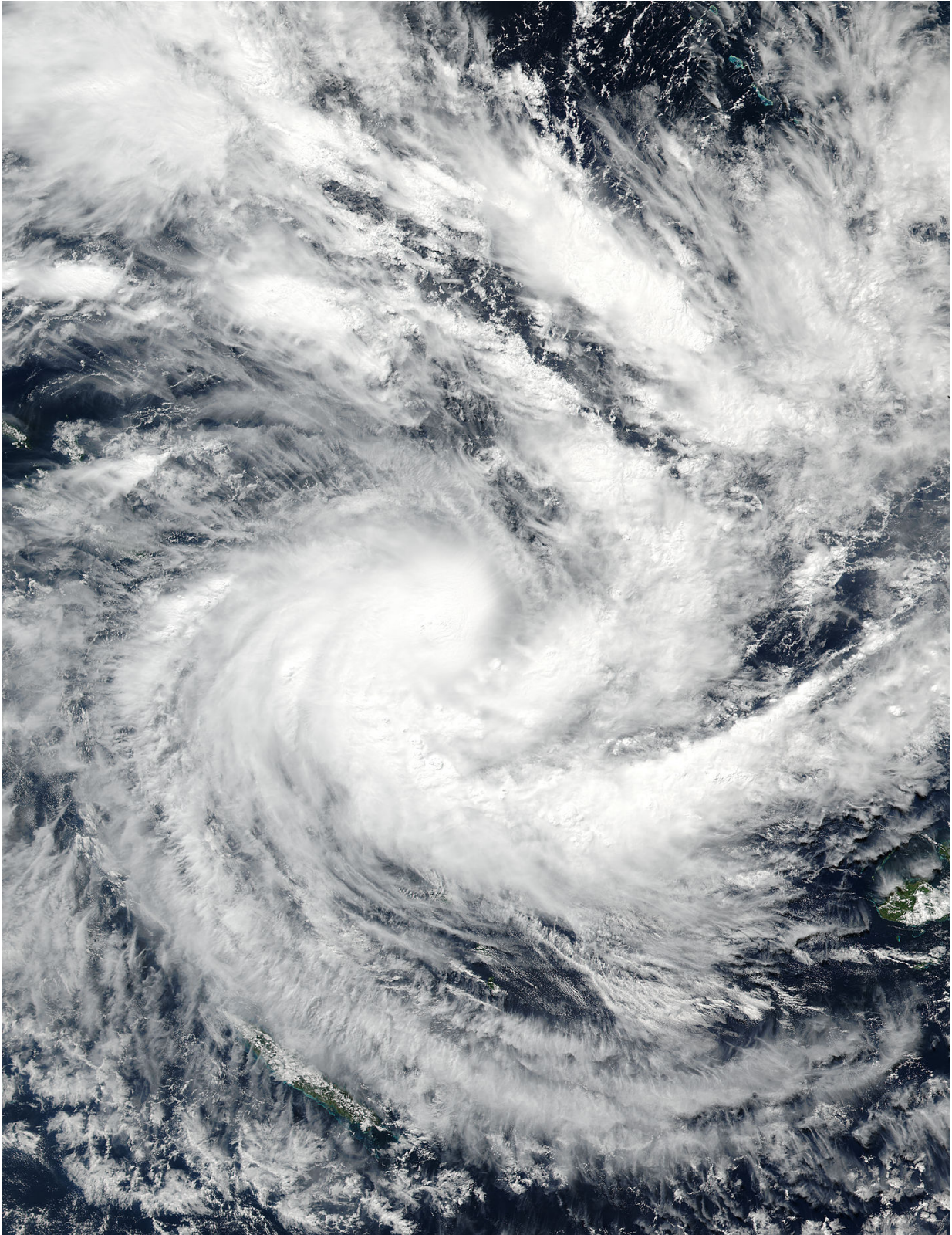


NASA measures rainfall rates in Tropical Cyclone Donna

May 4 2017



At 02:04 UTC on May 4 or 1:04 p.m. Vanuatu local time (10:04 p.m. EDT on

May 3) NASA-NOAA's Suomi NPP satellite saw Donna's center of circulation just northeast of Vanuatu's northernmost islands. Credit: NOAA / NASA Goddard MODIS Rapid Response Team

NASA found that Tropical Cyclone Donna is generating heavy rainfall as the storm is forecast to move over Vanuatu in the Southern Pacific Ocean. Tropical Cyclone Donna formed in the South Pacific Ocean northeast of Vanuatu On May 2, 2017 at 1800 UTC. Vanuatu is made up of about 80 islands that covers about 808 miles or 1,300 kilometers.

At 1521 UTC (11:21 a.m. EDT), a few hours before the storm formed, the Global Precipitation Measurement Mission or GPM core observatory satellite passed above that area and analyzed the rainfall occurring in the new storm. GPM is a joint mission between NASA and the Japanese space agency JAXA.

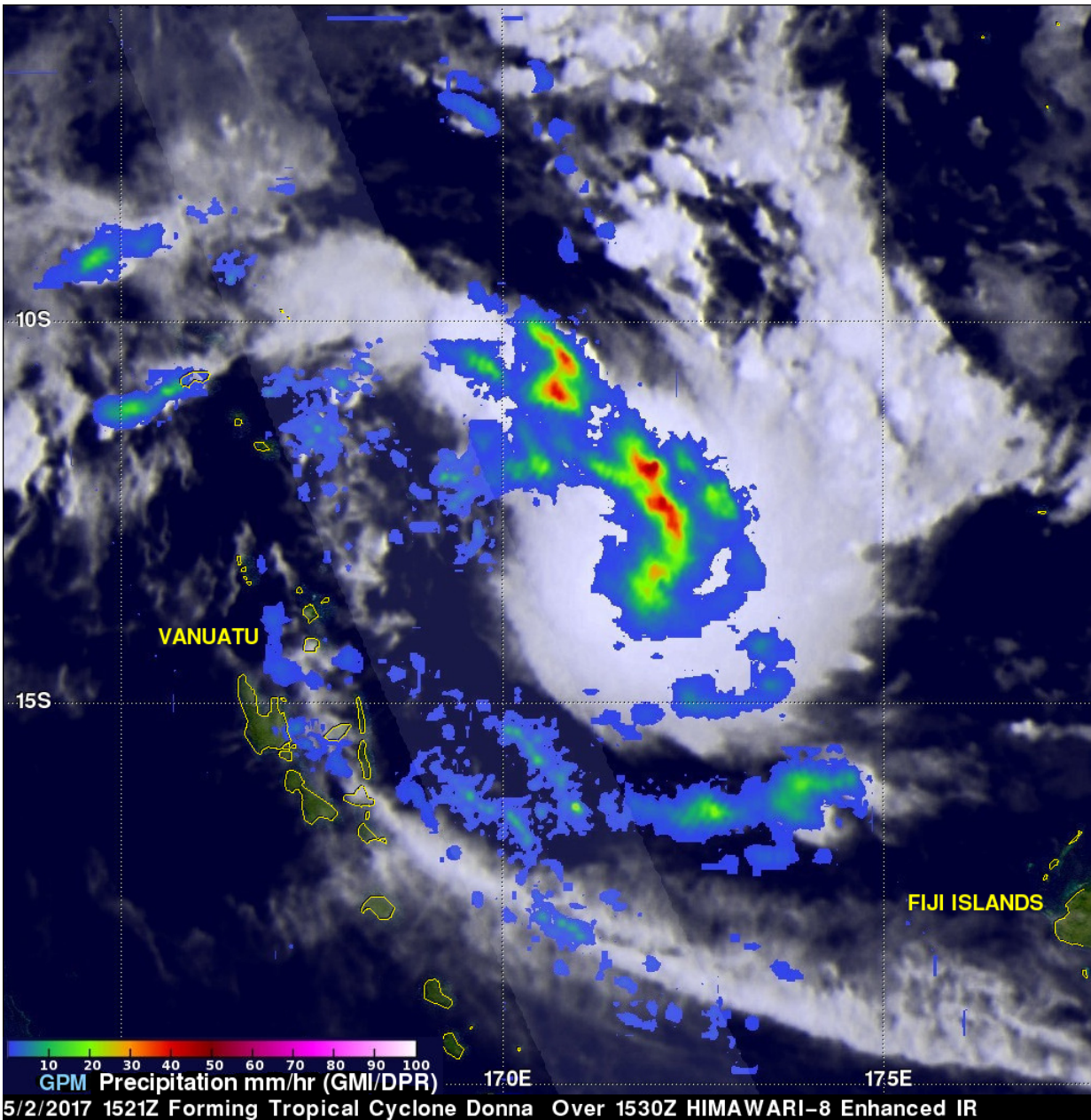
GPM's Microwave Imager (GMI) instrument provided a clear view of the rainfall associated with the forming tropical [cyclone](#). GMI revealed that an intense rain band was wrapping into the center of the forming tropical cyclone from the northern side. GMI data indicated that precipitation in one of these [intense rain](#) bands was falling at a rate of over 53 mm (~2 inches) per hour.

Another instrument that flies aboard GPM called GPM's Dual-Frequency Precipitation Radar (DPR) 151.9 miles/245 km wide swath covered an area to the west of the forming tropical cyclone's center. DPR found that rain was falling at a rate of almost 2.8 inches or 72 mm per hour within scattered showers in that area. DPR also indicated that a few storm tops in the area west of the forming tropical cyclone reached altitudes above 7.7 miles or 11.52 km high.

At 02:04 UTC on May 4 or 1:04 p.m. Vanuatu local time (10:04 p.m. EDT on May 3) the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument aboard NASA-NOAA's Suomi NPP satellite provided a visible-light image when it passed over Vanuatu. The image showed the center of circulation just northeast of the northernmost islands. Powerful bands of thunderstorms circled the center of circulation and a large band of thunderstorms extended south over many of the islands.

Tropical Cyclone Warning Number 11 issued by the Vanuatu Meteorology and Geo-Hazards Department (VMGD) at 12 a.m. local time on Friday, May 5 (11 a.m. EDT/US on May 4) includes Torba, Penama, Sanma and Malampa.

At 11:00 p.m. local time May 5 (10 a.m. EDT/U.S.) Tropical Cyclone Donna was located at 12.4 degrees south latitude and 167.3 degrees east longitude. That's about 77.6 miles/125 km northeast of Torres and 102.5 miles/165 km north of Vanua Lava. The system is moving in a west direction at 9.3 mph/15 kph. The central pressure of the system is estimated at 966 millibars. Winds close to the center are estimated at 80 mph/130 kph.



On May 2, GPM saw Donna's rainfall in some rain bands falling at a rate of over 53 mm (~2 inches) per hour. GPM also saw a few storm tops in the area west of the forming tropical cyclone reached altitudes above 11.52 km (7.1 miles).
 Credit: NASA/JAXA, Hal Pierce

For updated forecasts and local effects, visit the VMGD website:

<http://www.vmgd.gov.vu>

The Joint Typhoon Warning Center (JTWC) predicts that tropical cyclone Donna will intensify while moving southwestward toward Vanuatu. Donna's maximum sustained winds are expected to be about 95 knots (109 mph) as Donna gets close to the northern islands of Vanuatu on May 5, 2017. Tropical cyclone Donna is then expected to batter the islands with maximum sustained winds increasing to 110 knots (127 mph) as its track curves toward the south-southeast.

Provided by NASA's Goddard Space Flight Center

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