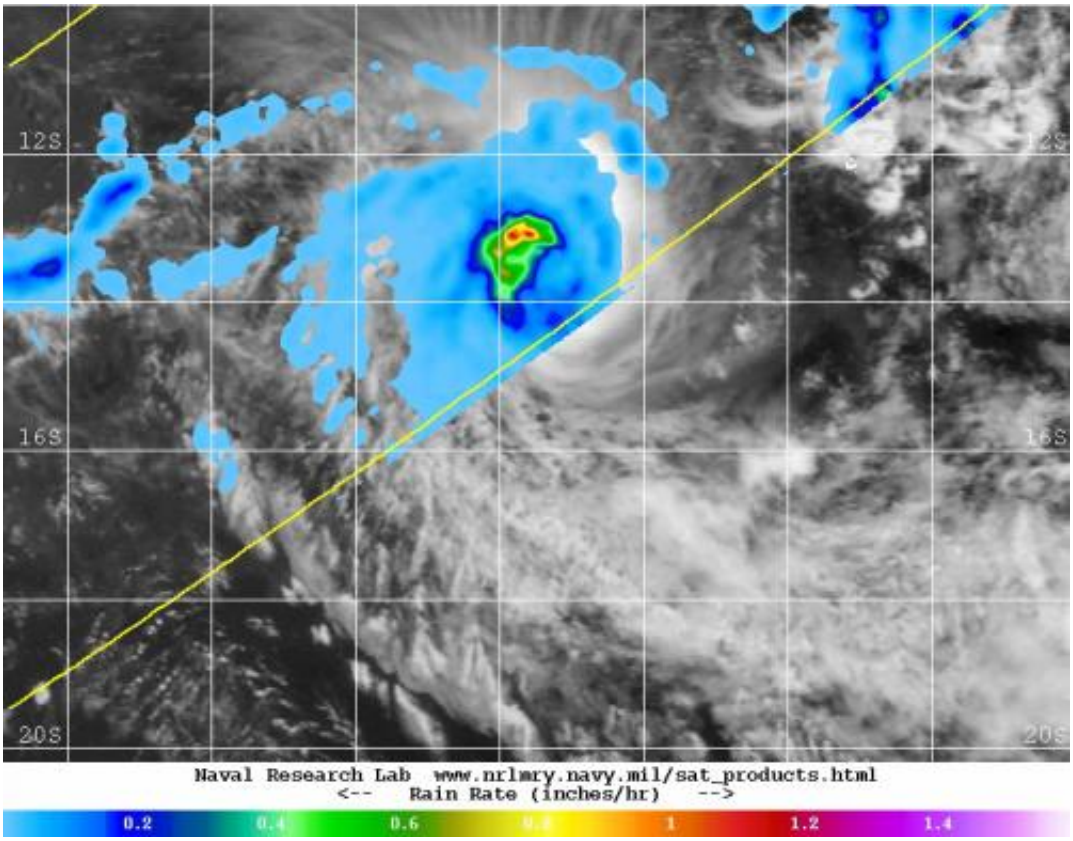
NASA sees heaviest rainfall north of Tropical Cyclone Kate's eye

December 30 2014, by Rob Gutro



The TRMM satellite flew over Kate on Dec. 30, 2015 at 0542 UTC. Kate was generating heavy rain (1.2 inches per hour) north of the center (in red). TRMM data was overlaid on cloud images from Europe's METEO-7 satellite. Credit: NASA/JAXA/NRL

As Tropical Cyclone Kate continues moving southwest through the

Southern Indian Ocean, NASA/JAXA's Tropical Rainfall Measuring Mission or TRMM satellite passed overhead on Dec. 30 and measured the rainfall rates happening throughout the storm. Kate had strengthened since Dec. 29 and developed an eye.

The TRMM satellite flew over Kate on Dec. 30, 2015 at 0542 UTC (12:42 a.m. EST/U.S.). TRMM found that Kate was generating the heaviest rainfall rate of about 1.2 inches per hour north of the center as the storm strengthened. TRMM data showed that rainfall rates around 1 inch per hour circled the center of the storm, with weaker rainfall rates in the southeastern quadrant of the storm.

At the Naval Research Laboratory, the TRMM rainfall rate data was overlaid on visible imagery from Europe's METEO-7 satellite to provide an entire picture of the storm that showed the rainfall and clouds. The METEO-7 satellite data showed that Kate maintained a circular shape and had a large band of thunderstorms wrapping into the center from the western quadrant.

At 1500 UTC (10 a.m. EST) on Dec. 30, Tropical Cyclone Kate's winds had increased to 105 knots (120.8 mph/194.5 kph). Kate's cloud-filled 5 nautical-mile-wide (5.7 mile/9.2 km) eye was centered near 8.2 south latitude and 89.1 east longitude, about 555 nautical miles (639 miles/1,029 km) south-southwest of Cocos Island, Australia. It was moving to the south-southwest at 10 knots (11.5 mph/18.5 kph).

The Joint Typhoon Warning Center (JTWC) noted that Kate will continue to track around the southwestern edge of a subtropical ridge (elongated area) of high pressure that is situated over Western Australia. JTWC forecasters expect Kate to begin weakening as it moves through cooler waters in the next couple of days, and dissipate within four days.

Provided by NASA's Goddard Space Flight Center