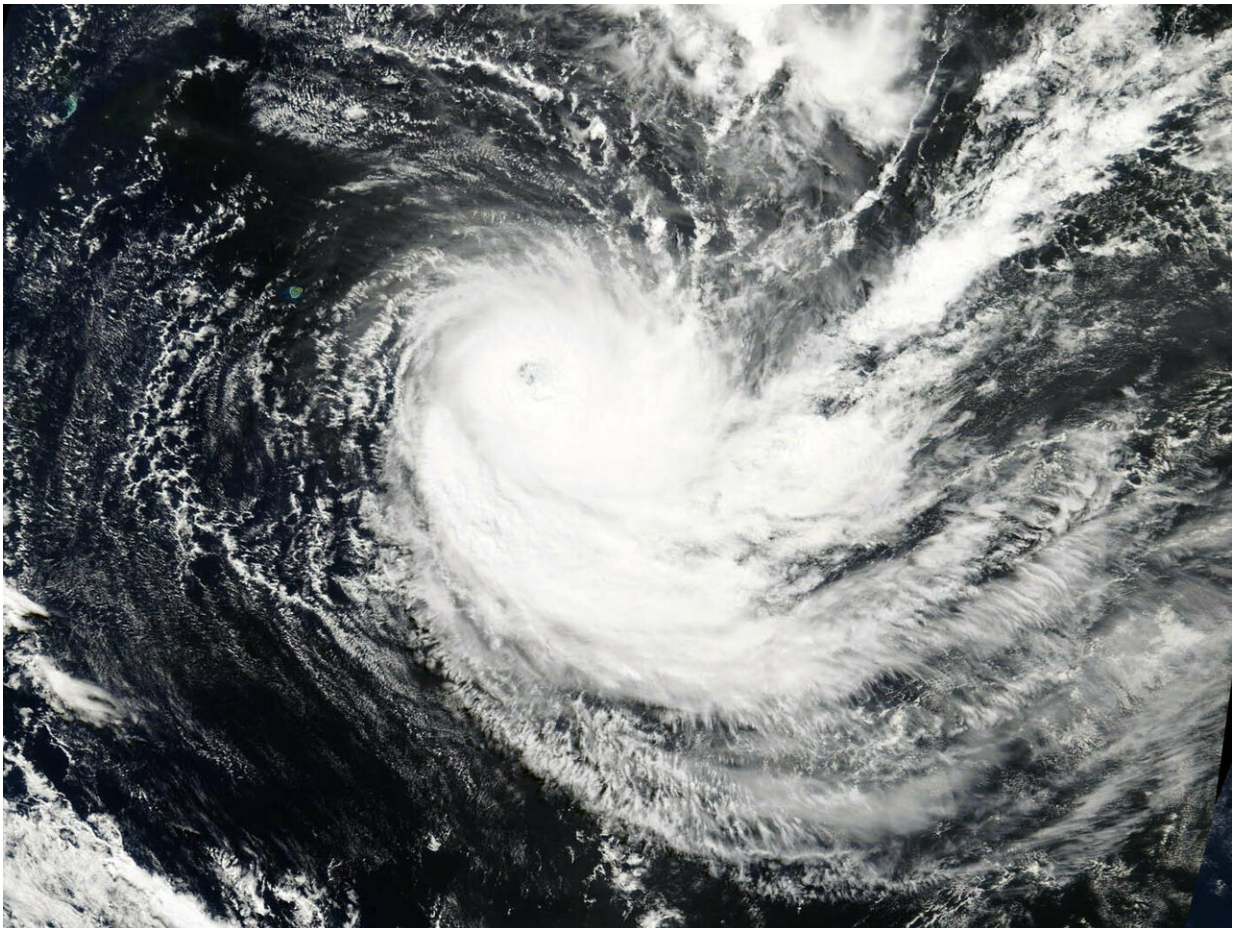


NASA finds Tropical Cyclone Joaquina maintaining an eye

March 28 2019



On March 28, 2019, the MODIS instrument aboard NASA's Terra satellite provided a visible image of Tropical Cyclone Joaquina in the Southern Indian Ocean. Credit: NASA Worldview, Earth Observing System Data and Information System (EOSDIS)

Tropical Cyclone Joania is not yet ready to close its eye and weaken. Visible imagery from NASA's Terra satellite showed Tropical Cyclone Joania maintaining an eye thanks to low wind shear and warm sea surface temperatures.

On March 28 the Moderate Resolution Imaging Spectroradiometer or MODIS instrument aboard NASA's Terra satellite provided a visible image of Joania. Joania had maintained its eye, although appearing more ragged looking than in satellite imagery the previous day. The ragged eye was surrounded by powerful thunderstorms in a thick eyewall.

Moving Through Warm Sea Surface Temperatures

The sea surface temperatures in the area of the tropical cyclone were still warm enough to support and maintain the tropical [cyclone](#). Infrared satellite imagery provides sea surface temperature data. Tropical cyclones need sea surface temperatures of at least 26.6 degrees Celsius (80 degrees Fahrenheit) and Joania is moving through an area where the sea surface temperatures range between 26 and 28 degrees Celsius (78.8 and 82.4 degrees Fahrenheit).

At 5 a.m. EDT (0900 UTC) on Thursday, March 28, 2019, maximum sustained winds near Joania's center were near 115 knots (132 mph/213 kph). Joania was centered near 21.2 degrees south latitude and 67.4 degrees east longitude. That's about 570 nautical miles east of Port Louis, Mauritius.

Joania is expected to move into an area that is unfavorable for it to maintain strength. The Joint Typhoon Warning Center or JTWC noted "Increasing westerly [vertical wind shear](#) associated with a mid-latitude trough (elongated area of low pressure) approaching from the southwest will compete with flow into that trough to produce a gradual weakening

trend" as Joania tracks southward and along the edge of an area of elongated [high pressure](#), located to the east.

In four days, Joania is expected to merge with an area of low pressure and transition into a [subtropical storm](#).

What is a Sub-tropical Storm?

According to the National Oceanic and Atmospheric Administration, a sub-tropical storm is a low-pressure system that is not associated with a frontal system and has characteristics of both tropical and extratropical cyclones. Like [tropical cyclones](#), they are non-frontal that originate over tropical or subtropical waters, and have a closed [surface](#) wind circulation about a well-defined center.

Unlike tropical cyclones, subtropical cyclones derive a significant proportion of their energy from baroclinic sources (atmospheric pressure), and are generally cold-core in the upper troposphere, often being associated with an upper-level low pressure area or an elongated area or trough of low [pressure](#).

In comparison to tropical cyclones, these systems generally have a radius of maximum winds occurring relatively far from the center (usually greater than 60 nautical miles), and are generally less symmetric.

Provided by NASA's Goddard Space Flight Center

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