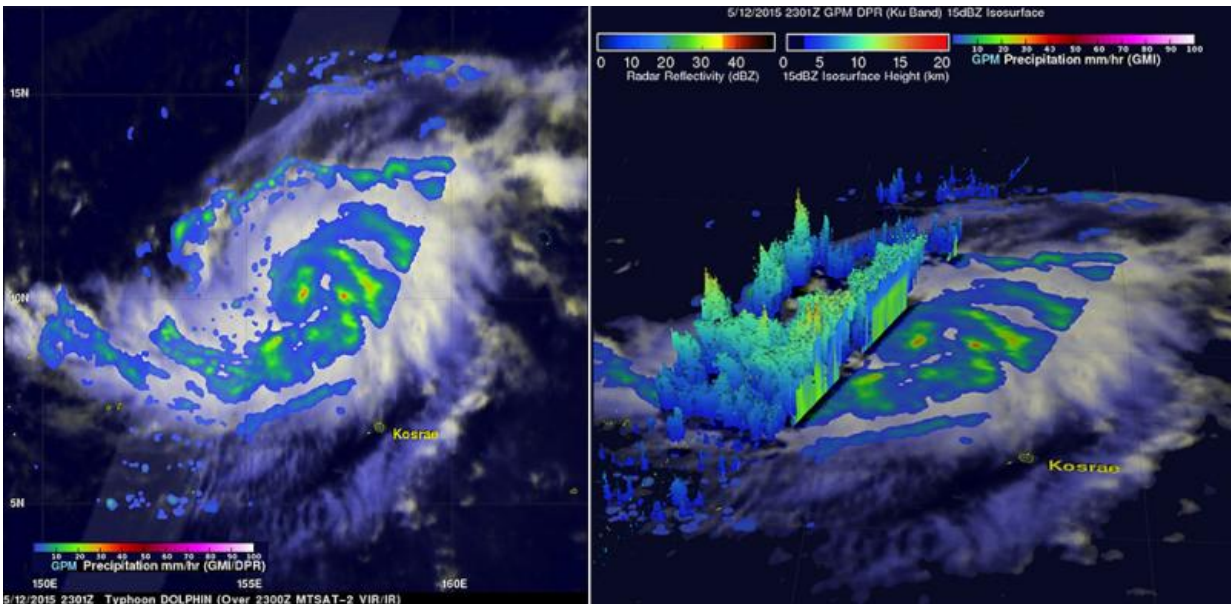


# GPM, AIRS, and RapidScat view Typhoon Dolphin headed for Guam

May 13 2015, by Lynn Jenner



The Global Precipitation Measurement Mission took these images of Typhoon Dolphin on May 12, 2015. Credit: NASA/SSAI, Hal Pierce

Typhoon Dolphin (strengthened overnight on 5/12 from Tropical Storm status) formed south of Pohnpei in the western Pacific Ocean on May 7, 2015. Dolphin's power has oscillated from a weak tropical depression to typhoon intensity over the past five days. Dolphin is now an intensifying typhoon headed westward.

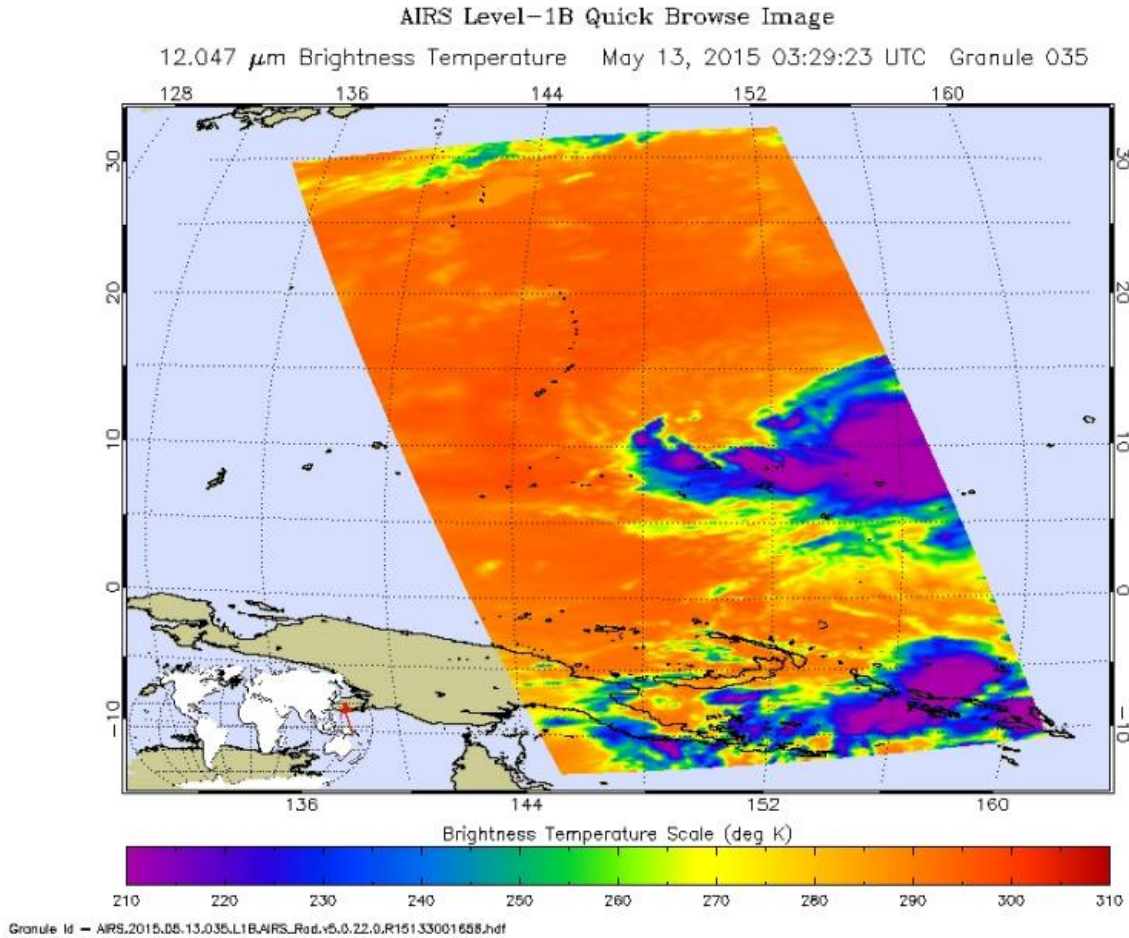
The GPM core observatory satellite flew over Dolphin on May 12, 2015

at 2301 UTC. At that time Dolphin's wind speeds were estimated at about 65 kts (75 mph). Rainfall collected by GPM's Microwave Imager (GMI) showed that rain was falling at a rate of over 47 mm (1.9 inches) per hour in a feeder band to the southeast of Dolphin's eye.

Ku Band data from GPM's Dual-frequency Precipitation Radar (DPR) were used in this image to show the vertical structure of rainfall along the satellite's path. The GPM radar's field of view was of rain bands to the west of Dolphin's eye. Those data show that some [storm](#) top heights were reaching above 15 km (9.8 miles) in one intense feeder band that was transporting moisture to the southern side of the [typhoon](#).

The RapidScat instrument on the International Space Station captured this image of Typhoon Dolphin on May 12, 2015. The image shows that the storm is now tightly organized with a well-established spiral pattern that reveals the eye of the storm.

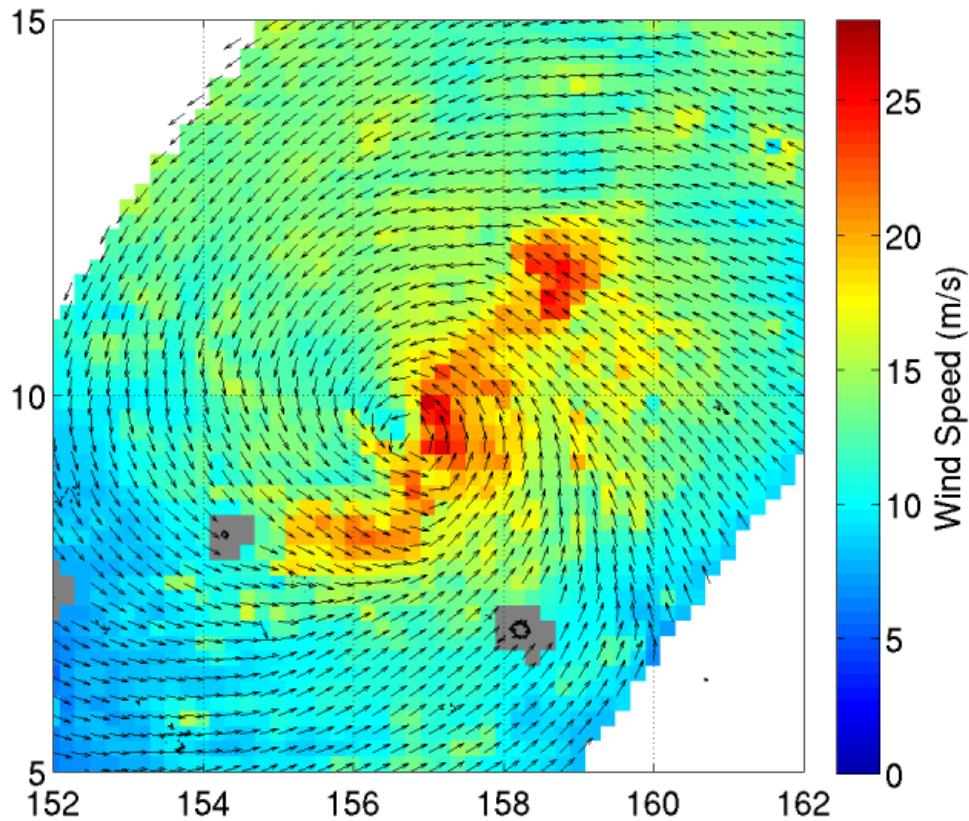
The AIRS instrument on the Aqua satellite showed very cold temperatures in the upper atmosphere of the storm in this satellite image (above). The purple color denotes the areas where the clouds are exceptionally cold and reach up into the upper atmospheres (also seen in the 3-D GPM image at the beginning of the update). This is indicative of a storm with a lot of energy and convective winds. In 2007, NASA hypothesized that the wind shear between the eye and the eyewall could enhance updraft and be a purely dynamic generator of convection. (Towers in the Tempest) Hot towers may appear when the hurricane is about to intensify.



RapidScat instrument on the International Space Station captured this image of Typhoon Dolphin on May 12, 2015 showing a very well-established spiral pattern in the storm. Credit: NASA JPL, Doug Tyler

The Joint Typhoon Warning Center (JTWC) predicts that typhoon Dolphin will become more powerful and will hit Guam in a couple days with sustained winds of about 100 kts (115 mph).

RapidScat Dolphin UTC 12-May-2015 15:43 to 12-May-2015 17:16



AIRS instrument image of Dolphin from May 13, 2015. Credit: NASA JPL/Ed Olsen

Provided by NASA's Goddard Space Flight Center

Citation: GPM, AIRS, and RapidScat view Typhoon Dolphin headed for Guam (2015, May 13) retrieved 26 April 2024 from

<https://phys.org/news/2015-05-gpm-air-rapidscat-view-typhoon.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.