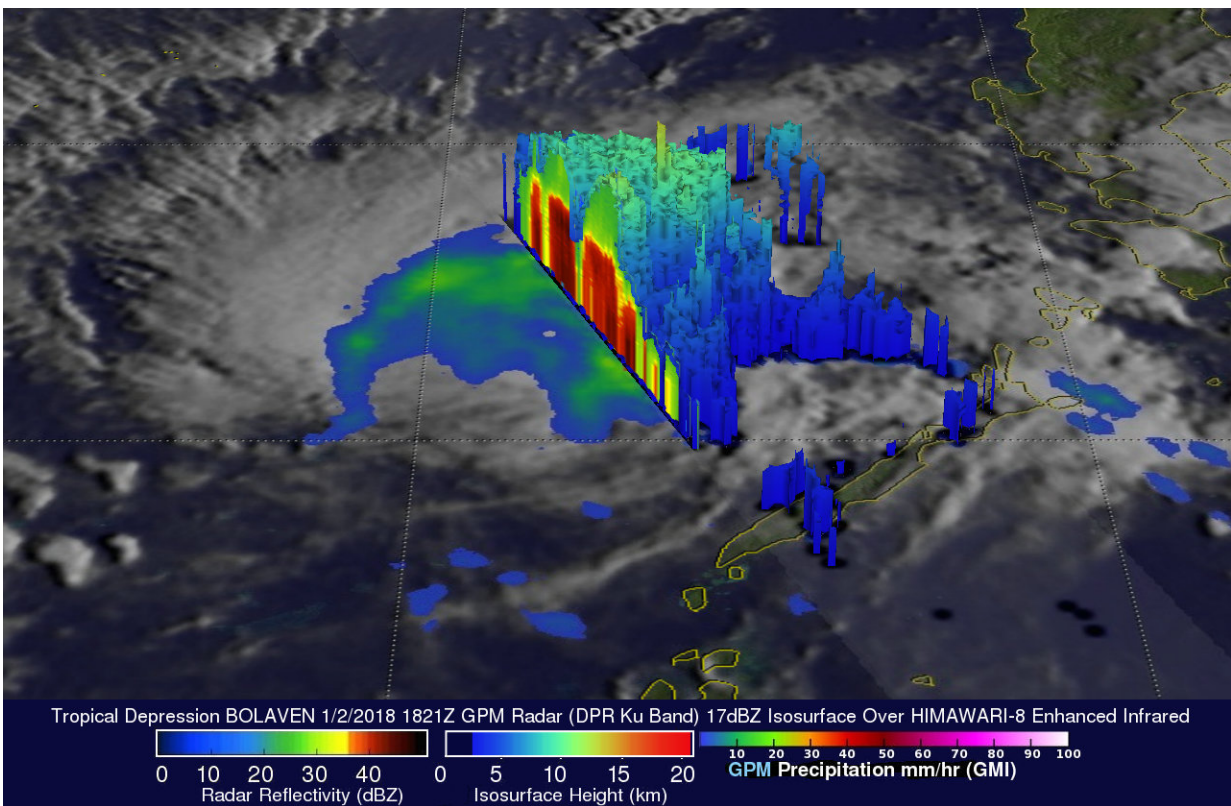


NASA looks at rainfall intensity in Tropical Depression Bolaven

January 4 2018, by Hal Pierce



The GPM core satellite found rain in Bolaven was falling at a rate of almost 121 mm (4.8 inches) per hour in a band of convective storms northwest of the storm's center of circulation on Jan. 2. GPM found a few storm tops had heights exceeding 16 km (9.92 miles). Credit: NASA/JAXA, Hal Pierce

The Global Precipitation Measurement mission or GPM core satellite

gathered data on rainfall rates occurring in Tropical Depression Bolaven as it moved toward Vietnam. Bolaven's final warning was issued early today, Jan. 4.

Tropical depression Bolaven drenched the Philippines and is moving west through the South China Sea toward southern Vietnam. Bolaven is the third deadly tropical cyclone to hit the Philippines in less than a month. Tropical storm Kai-Tak and Tembin caused widespread destruction last month in much of the same area of the Philippines. Bolaven, known as Agaton in the Philippines, was the first tropical cyclone to hit the Philippines this year. Heavy rain with Bolaven caused flooding, landslides and at least two deaths in the Philippines.

The GPM core observatory satellite passed over the center of Bolaven on January 2, 2018 at 1:21 p.m. EST (1821 UTC). GPM is a joint mission between NASA and the Japan Aerospace Exploration Agency, JAXA.

Bolaven had moved into the South China Sea and had winds estimated at 30 knots (34.5 mph/55.5 kph) making it a tropical depression on the Saffir-Simpson hurricane wind scale. Data collected by GPM's Microwave Imager (GMI) and Dual Frequency Precipitation Radar (DPR) instruments showed that rain was falling at a rate of almost 121 mm (4.8 inches) per hour in a band of convective storms northwest of Bolaven's center of circulation.

At NASA's Goddard Space Flight Center in Greenbelt, Md. a 3-D view of Tropical Depression Bolaven was created from GPM's Radar data (DPR Ku Band). The 3-D image showed a simulated cross-section through precipitation within the storm. Radar reflectivity values greater than 50dBZ were frequently revealed in the vertical slice through the western side of GPM's radar swath. GPM's radar also showed that a few storm tops had heights exceeding 16 km (9.92 miles).

The Joint Typhoon Warning Center (JTWC) issued the final warning on Bolaven on Jan. 4 at 0300 UTC (Jan. 3 at 10 p.m. EST). At that time, maximum sustained winds were down to 25 knots (28.7 mph/46.3 kph). It was centered near 2.3 degrees north latitude and 110.5 degrees east longitude, about 268 nautical miles east-northeast of Ho Chi Minh City, Vietnam. Bolaven was moving to the northwest at 9 knots (10.3 mph/16.6 kph).

Satellite imagery early on Jan. 4 showed a fully exposed low-level circulation center with decaying thunderstorms pushed to the north of the center from vertical wind shear. Bolaven is forecast to rapidly dissipate after it makes landfall north of Ho Chi Minh, Vietnam later on Jan. 4.

Provided by NASA's Goddard Space Flight Center

Citation: NASA looks at rainfall intensity in Tropical Depression Bolaven (2018, January 4) retrieved 24 May 2024 from <https://phys.org/news/2018-01-nasa-rainfall-intensity-tropical-depression.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.