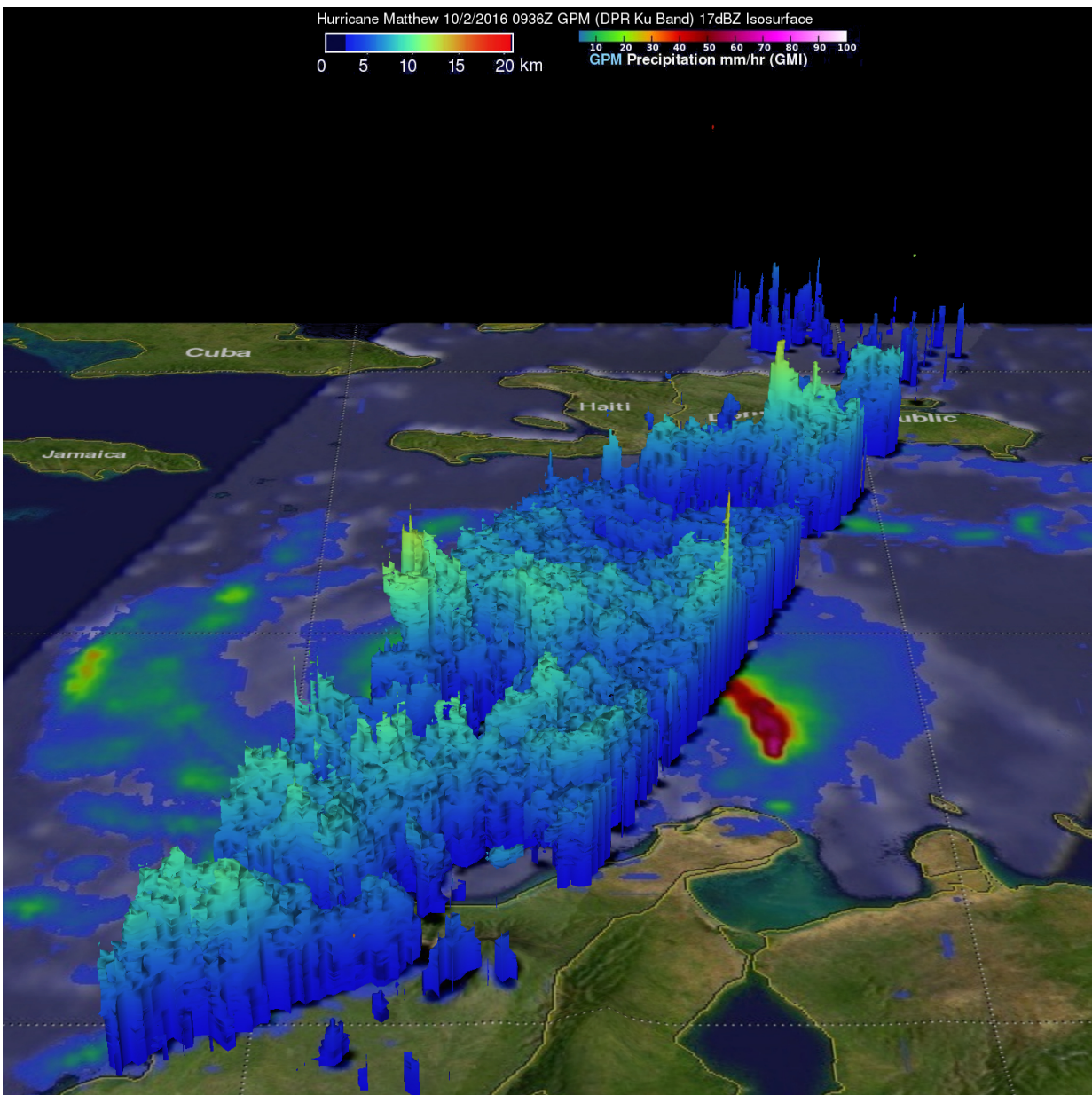


NASA sees Hurricane Matthew producing dangerous rainfall

October 3 2016



On Oct. 2 at 5:46 a.m. EDT GPM found very heavy rainfall falling at a rate of over 6.4 inches (163 mm) and Several storms in the area had cloud tops that were measured by DPR reaching heights above 9.9 miles (16 km). Credit: NASA/JAXA, Hal Pierce

The Global Precipitation Measurement mission or GPM core observatory satellite passed above major Hurricane Matthew and found very heavy rainfall that is expected to affect Hispaniola.

On Oct. 2 at 5:46 a.m. EDT (0946 UTC) GPM's Microwave Imager (GMI) and Dual-Frequency Precipitation Radar (DPR) instruments collected data that were used to create a map of [rainfall](#) occurring within Hurricane Matthew. GPM found very heavy rainfall falling at a rate of over 6.4 inches (163 mm) in some areas near hurricane Matthew.

"Heaviest rain was seen well to the east of Hurricane Matthew's center," said Hal Pierce of NASA's Goddard Space Flight Center in Greenbelt, Maryland, who created the imagery. "This area of strong convective storms has been persistent over the past few days. This area of intense rainfall is due to convergence between the trade winds (prevailing easterlies) and the wind flow from the south with Matthew. This area of heavy rainfall with Matthew may cause devastating torrential rainfall as it moves slowly over Haiti." Up to 40 inches (1016 mm) of rainfall have been predicted over Haiti.

A 3-D depiction of storm tops was created using data from GPM's radar (DPR Ku Band). The 3-D image showed the area of heaviest rainfall east of Hurricane Matthew's eye. Several storms in the area had cloud tops that were measured by DPR reaching heights above 9.9 miles (16 km). GPM is a joint mission between NASA and the Japan Aerospace Exploration Agency JAXA.

On Oct. 3 many warnings and watches were in effect from NOAA's National Hurricane Center (NHC). A Hurricane Warning is in effect for Jamaica, Haiti, and the Cuban provinces of Guantanamo, Santiago de Cuba, Holguin, Granma, and Las Tunas. Hurricane Warnings were also in effect for the southeastern Bahamas, including the Inaguas, Mayaguana, Acklins, Crooked Island, Long Cay, and Ragged Island.

A Hurricane Watch is in effect for the Cuban province of Camaguey, Turks and Caicos Islands, Central Bahamas, including Long Island, Exuma, Rum Cay, San, Salvador, and Cat Island.

A Tropical Storm Warning is in effect for Dominican Republic from Barahona westward to the border with Haiti, and a Tropical Storm Watch is in effect for the Dominican Republic from Puerto Plata westward to the border with Haiti. Interests elsewhere in Hispaniola and in the Bahamas should monitor the progress of Matthew.

NHC said at 8 a.m. EDT (1200 UTC) the eye of Hurricane Matthew was located near 15.4 degrees north latitude and 74.9 degrees west longitude. That puts the eye about 220 miles (355 km) southeast of Kingston, Jamaica, and about 280 miles (450 km) southwest of Port Au Prince, Haiti.

Matthew was moving toward the north near 6 mph (9 kph). NHC said a general northward motion with some increase in forward speed is expected through Tuesday, Oct. 4. On the forecast track, the center of Matthew will approach Jamaica and southwestern Haiti tonight, and eastern Cuba on Tuesday.

Maximum sustained winds are near 130 mph (215 kph) with higher gusts. Matthew is a dangerous category 4 hurricane on the Saffir-Simpson Hurricane Wind Scale. Some fluctuations in intensity are possible during the next couple of days, but Matthew is expected to

remain a powerful hurricane through early Wednesday.

Hurricane-force winds extend outward up to 30 miles (45 km) from the center and tropical-storm-force winds extend outward up to 195 miles (315 km). The estimated minimum central pressure is 943 millibars.

At NASA Goddard, the NASA/NOAA GOES Project created an animation of infrared and visible satellite imagery that showed the movement and strengthening of Matthew from Sept. 30 to Oct. 3. Matthew reached Category 5 status late on Oct. 1 and dropped slightly to Category 4 status the next day where it remained on Oct. 3.

NHC said that NOAA buoy 42058, located about 40 miles (70 km) south of the center of Matthew, recently reported a sustained wind of 58 mph (94 km/h) and a wind gust of 74 mph (119 kph).

Provided by NASA's Goddard Space Flight Center

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