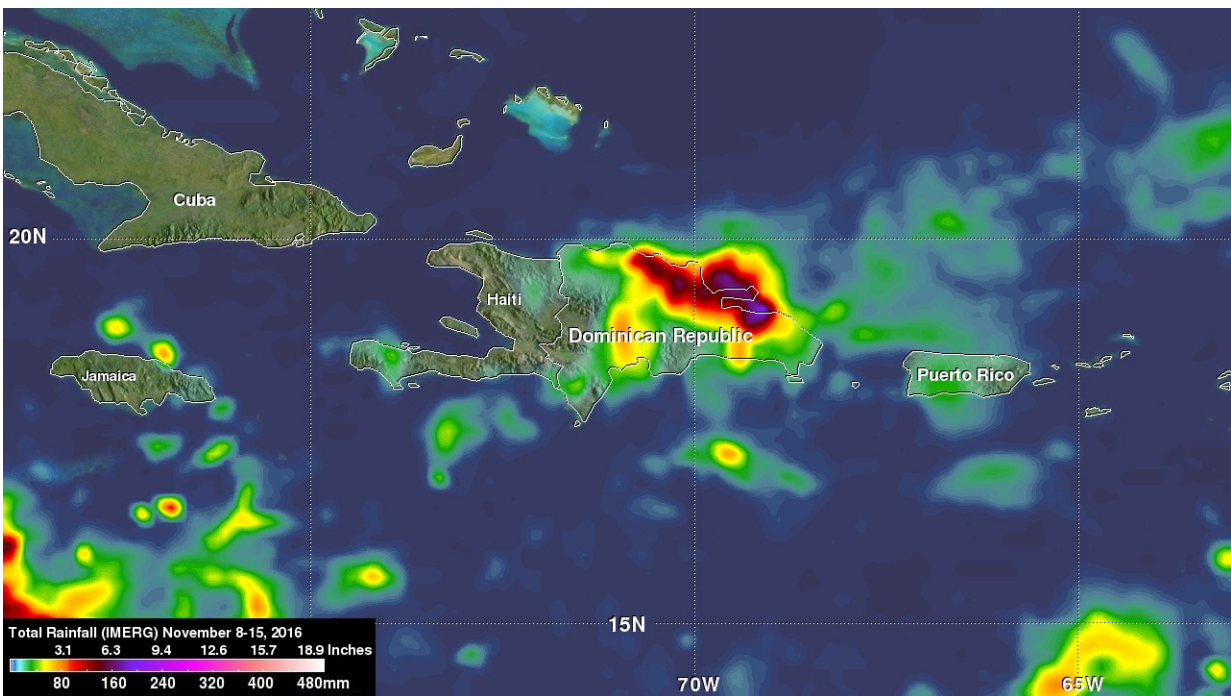


NASA analyzes heavy rainfall over Hispaniola

November 18 2016



NASA's IMERG estimated totals for rainfall that fell over the Dominican Republic during the period from Nov. 8 to 15, 2016 and showed totals greater than 230 mm (9 inches) fell over the northeastern Dominican Republic during this period. Credit: NASA/JAXA

Slow moving frontal systems draped over Hispaniola and a tropical wave recently caused heavy rainfall that led to wide spread flooding over the northern Dominican Republic. NASA analyzed that heavy rainfall using

data from satellites.

Scattered to numerous showers and scattered thunderstorms have occurred over Hispaniola during the week of Nov. 14. Hispaniola includes the Dominican Republic and Haiti.

The Global Precipitation Measurement mission or GPM core satellite can analyze rainfall rates from space. GPM is a joint mission between NASA and the Japanese space agency JAXA.

NASA's Integrated Multi-satellite Retrievals for GPM (IMERG) were used to estimate totals for rainfall that fell over the Dominican Republic during the period from Nov. 8 to 15, 2016. IMERG data indicates that rainfall totals of greater than 230 mm (9 inches) fell over the northeastern Dominican Republic during this period. Estimates of real-time IMERG rainfall totals have been adjusted to reflect observed values in similar extreme events.

The Integrated Multi-satellite Retrievals for GPM (IMERG) creates a merged precipitation product from the GPM constellation of satellites. These satellites include DMSPs from the U.S. Department of Defense, GCOM-W from the Japan Aerospace Exploration Agency (JAXA), Megha-Tropiques from the Centre National D'etudes Spatiales (CNES) and Indian Space Research Organization (ISRO), NOAA series from the National Oceanic and Atmospheric Administration (NOAA), Suomi-NPP from NOAA-NASA, and MetOps from the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT). All of the instruments (radiometers) onboard the constellation partners are inter-calibrated with information from the GPM Core Observatory's GPM Microwave Imager (GMI) and Dual-frequency Precipitation Radar (DPR).

On Nov. 18, the National Hurricane Center discussion noted "A

stationary front extends from the west-central Atlantic near 20 degrees north latitude and 70 degrees west longitude, then along the north coast of the island to the Windward Passage continuing over the west Caribbean. A surface trough (elongated area of low pressure) is just south of the Mona Passage and coupled with the frontal boundary are generating scattered showers possible isolated thunderstorms over the Dominican Republic this morning. This front will lie across the north portion of the island through Saturday, and coupled with the surface trough moving through the central Caribbean will give the island scattered showers and possible isolated thunderstorms spreading west across the island today and will persist through Saturday."

For information from the National Weather Service of Puerto Rico on how that system is affecting the region, go to:

<http://www.weather.gov/sju/>

In addition to that system, a broad area of low pressure designated as System 90L in the southwestern Caribbean is also being monitored for possible tropical cyclone development by the National Hurricane Center. Very warm sea surface temperatures and upper level winds are expected to provide favorable conditions for tropical cyclone development in that area.

Provided by NASA's Goddard Space Flight Center

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