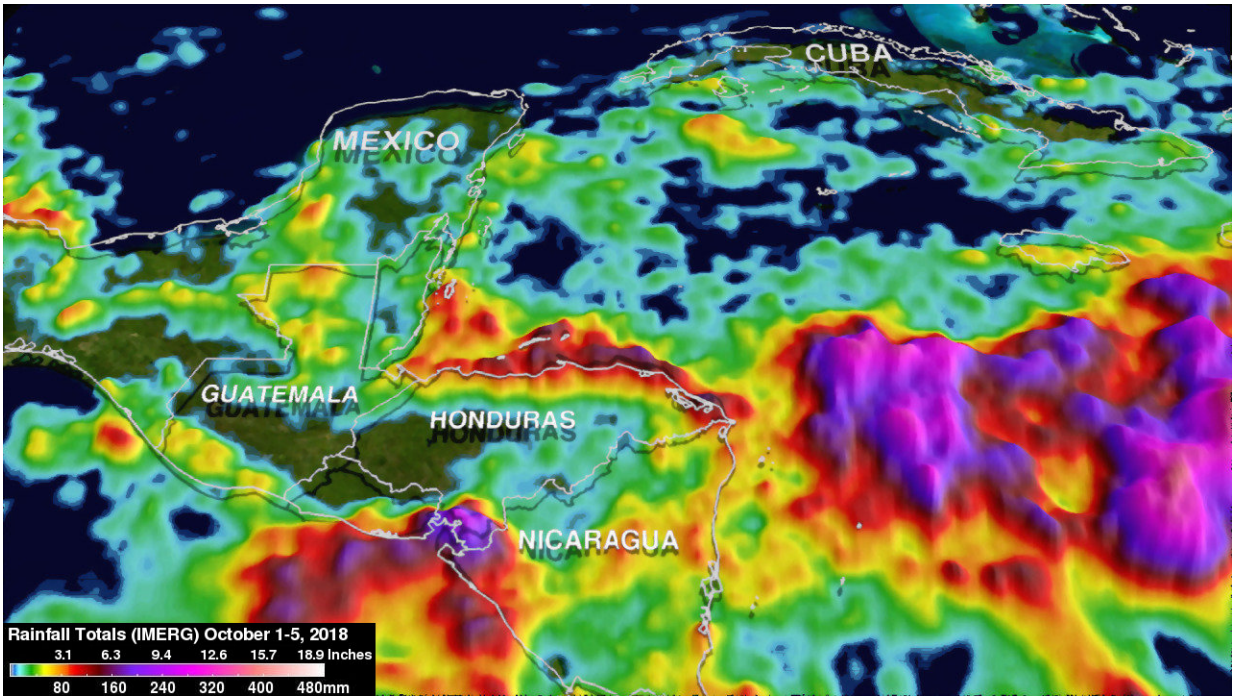
NASA investigated rainfall in Hurricane Michael as it was developing

October 9 2018



The analysis showed IMERG rainfall accumulation estimates during the period from Oct. 1 to 5, 2018 when rainfall was getting more concentrated over the western Caribbean. IMERG indicated that rainfall accumulation totals of over 12.6 inches (320 mm) fell in the Caribbean Sea east of Honduras during this period. Credit: NASA JAXA, Hal Pierce

The Global Precipitation Measurement mission or GPM core satellite analyzed rainfall and structure of an intensifying low pressure area in the

western Caribbean Sea on Oct. 5. That system strengthened into what has become Category 2 Hurricane Michael on Oct. 9.

On Friday, Oct. 5, the National Hurricane Center (NHC) indicated that the low pressure center in the western Caribbean Sea may become a tropical cyclone in the next five days. The NHC said, "Some slow development of this system is possible this weekend or early next week as the system drifts northwestward across the northwestern Caribbean and the southern Gulf of Mexico."

Data from NASA and the Japan Aerospace Exploration Agency's GPM core satellite was combined with data from other satellites to provide a rainfall accumulation analysis using NASA's Integrated Multi-satellitE Retrievals data (IMERG) program. IMERG data are used to calculate estimates of precipitation from a combination of space-borne passive microwave sensors, including the GMI microwave sensor on the GPM satellite, and geostationary IR (infrared) data. The analysis showed IMERG rainfall accumulation estimates during the period from October 1 to 5, 2018 when rainfall was getting more concentrated over the western Caribbean. IMERG indicated that rainfall accumulation totals of over 12.6 inches (320 mm) fell in the Caribbean Sea east of Honduras during this period.

The system developed into a depression on Sunday, Oct. 7 at 4 a.m. CDT. By 11:55 a.m. EDT, the depression strengthened into a tropical storm and was named Michael. On Oct. 8 at 11 a.m. EDT, Michael became a hurricane.

On Tuesday, Oct. 9, Data from a NOAA Hurricane Hunter aircraft indicate that the maximum sustained winds have increased to near 100 mph (155 kph) with higher gusts. Additional strengthening is expected, and Michael is forecast to be a major hurricane at landfall in Florida. At 8 a.m. EDT (1200 UTC), the eye of Hurricane Michael was located near

latitude 24.5 degrees north and longitude 86.1 degrees west. Michael is moving toward the north-northwest near 12 mph (19 kph). Watches and warnings are in effect in Mississippi, Alabama and northwestern and western Florida.

Provided by NASA's Goddard Space Flight Center