

NASA's GPM finds Ophelia strengthening in Eastern Atlantic

October 12 2017, by Hal Pierce

Heaviest rainfall in Ophelia was found south of the center by the Global Precipitation Measurement mission or GPM core observatory satellite as it passed overhead and analyzed the storm with radar from space.

On Monday Oct. 9, 2017 at 11 a.m. EDT/AST (1500 UTC) tropical depression seventeen was upgraded to Tropical Storm Ophelia. Ophelia strengthened into a hurricane on Oct. 11 over the open waters of the eastern Atlantic, southwest of the Azores.

The GPM core observatory satellite had a good view of Ophelia when it was a tropical [storm](#) on Oct. 10 at 2:46 p.m. EDT/AST (1846 UTC). GPM's Microwave Imager (GMI) and Dual-Frequency Precipitation Radar (DPR) revealed that the storm was organized but most of the rainfall in the storm was only of light to moderate intensity. GPM's Ku band radar swath covers 151.9 miles (245 km). GPM's radar (DPR Ku Band) showed that rain was falling at a rate of almost 3.2 inches (81 mm) per hour in the strongest band of showers located on the southern side of the tropical storm.

GPM's radar data (DPR Ku Band) were used in a 3-D view to show the precipitation structure of storm tops within tropical storm Ophelia. Strong convective storms south of the tropical cyclone's center of circulation were reaching heights of almost 7.44 miles (12 km). GPM is a joint mission between NASA and the Japanese space agency JAXA.

Infrared satellite data on Oct. 12 revealed that cloud top temperatures

surrounding the stronger Hurricane Ophelia's eye were between minus 50 and minus 70 degrees Centigrade (minus 58 and 94 Fahrenheit). NASA research has shown that storms with cloud tops that cold have the capability to generate heavy rainfall.

Location and Status on Oct. 12

At 11 a.m. EDT/AST (1500 UTC) on Oct. 12 the eye of Hurricane Ophelia was located near 30.5 degrees north latitude and 35.6 degrees west longitude. That's about 715 miles (1,145 km) southwest of the Azores. Ophelia is drifting north-northeastward around 2 mph (4 kph). A slow northeastward motion is expected to begin later today, followed by a faster east-northeastward motion on Friday and Saturday.

Maximum sustained winds are near 90 mph (150 kph) with higher gusts. Little change in strength is forecast during the next 48 hours. Ophelia is a small storm and hurricane-force winds extend outward up to 25 miles (35 km) from the center. Tropical-storm-force winds extend outward up to 70 miles (110 km). The estimated minimum central pressure is 978 millibars.

The NHC said that interests in the eastern Azores should monitor the progress of Ophelia.

Ophelia is expected to move into the northeastern Atlantic and become extra-tropical by Sunday, Oct. 15 as it interacts with a potent mid-latitude trough (elongated area of low pressure) moving eastward across the north Atlantic Ocean.

The NHC forecasts that Ophelia will later affect Ireland and then Scotland early next week.

Provided by NASA's Goddard Space Flight Center

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