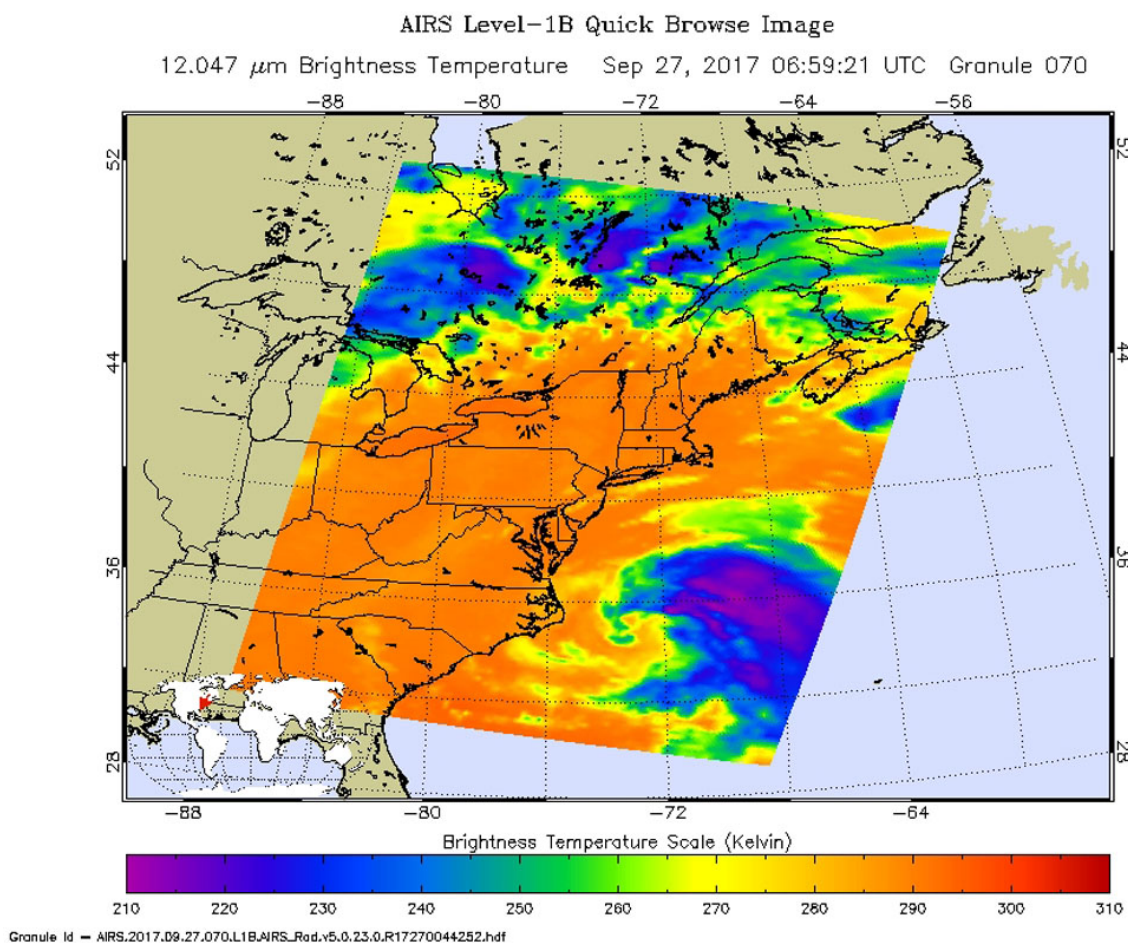


NASA satellites peer into a lop-sided Hurricane Maria

September 28 2017



This false-colored infrared image of Tropical Storm Maria was taken from the AIRS instrument aboard NASA's Aqua satellite on Sept. 27 at 2:59 a.m. EDT (0659 UTC). It shows coldest cloud top temperatures (purple) northeast of Maria's center. Credit: NASA JPL, Ed Olsen

NASA's Aqua satellite and Global Precipitation Measurement mission, or GPM, satellites have been peering into what appears to be a somewhat lop-sided Hurricane Maria. The storm appears asymmetric because vertical wind shear is pushing clouds and showers to the eastern side of the storm.

On Sept. 27, NHC forecaster Daniel Brown noted, "Deep convection and banding has increased over the eastern and northeastern portion of the large circulation of Maria since yesterday."

The GPM core observatory satellite flew over Maria on Sept. 25, 2017, at 9:28 p.m. EDT (Sept. 26, 2017, at 0128 UTC). This informative GPM pass showed that the western side of the hurricane was drier and contained much less precipitation than the eastern side. GPM's Dual-Frequency Precipitation Radar (DPR) scanned directly through the center of Maria's eye and showed that there were only light to moderate rain showers around the hurricane's center. DPR found a few convective storms within Maria dropping rain at a rate of less than 2 inches (51 mm) per hour.

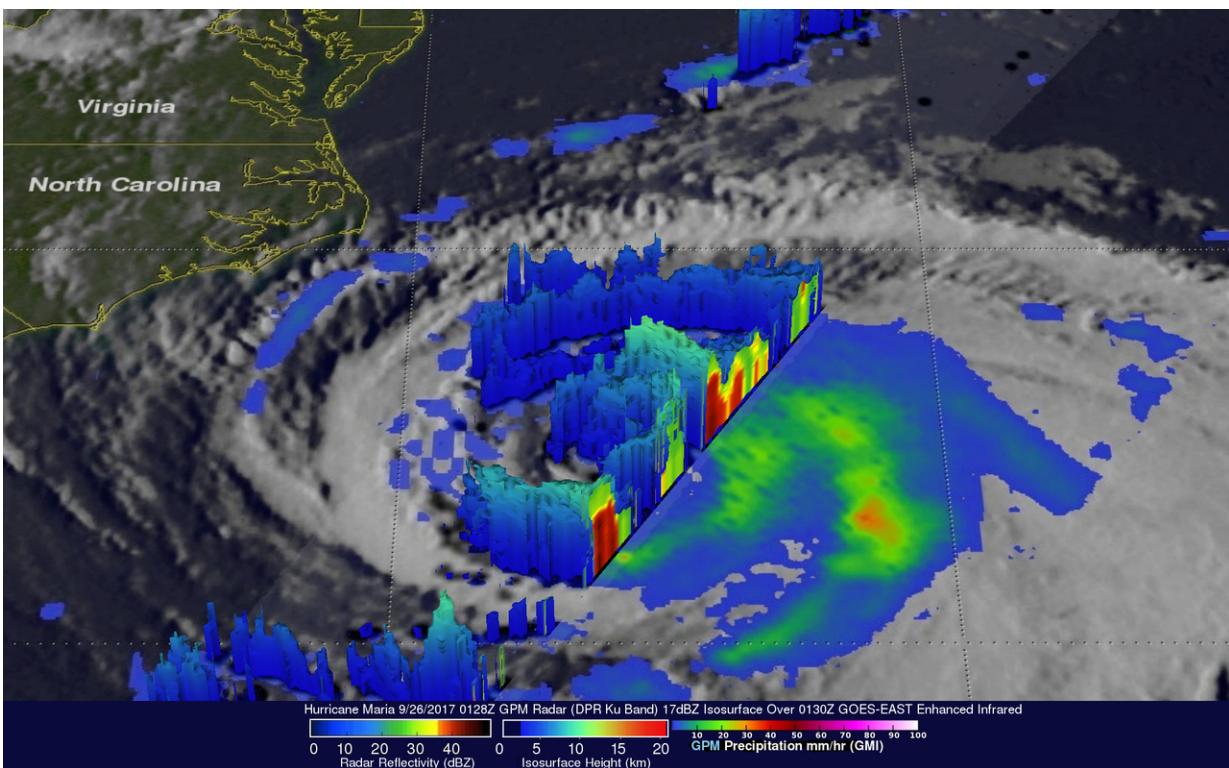
This close examination of Maria's 3-D rainfall structure was made possible by using GPM's radar data (DPR Ku Band) data at NASA's Goddard Space Flight Center in Greenbelt, Maryland. This 3-D cross-section view showed the locations of downpours within bands of convective storms east of the hurricane's center. A few of these storms were revealed to be returning strong echoes to GPM's radar. GPM is a joint mission between NASA and the Japan Aerospace Exploration Agency (JAXA).

On Sept. 27 at 2:59 a.m. EDT (0659 UTC) infrared data of Tropical Storm Maria was taken from the AIRS instrument aboard NASA's Aqua satellite. The AIRS data showed coldest cloud top temperatures northeast of Maria's center, where the strongest storms were located. The AIRS

data showed that the coldest cloud tops in that area were colder than minus 63 degrees Fahrenheit (minus 53 degrees Celsius).

Watches and Warnings on Sept. 27, 2017

A Storm Surge Warning is in effect for Ocracoke Inlet to Cape Hatteras, North Carolina. A Tropical Storm Warning is in effect from Ocracoke Inlet to the North Carolina/Virginia Border and the Albemarle and Pamlico Sounds. A Storm Surge Watch is in effect from north of Cape Hatteras to Duck, North Carolina.



The GPM core observatory satellite flew over Maria on Sept. 25, 2017, at 9:28 p.m. EDT (Sept. 26, 2017, at 0128 UTC) and saw the western side of the hurricane was drier and contained much less precipitation than the eastern side. DPR found a few convective storms within Maria dropping rain at a rate of less than 2 inches (51 mm) per hour. Credit: NASA/JAXA, Hal Pierce

Maria's Location and Strength on Sept. 27, 2017

At 11 a.m. EDT (1500 UTC), the center of Hurricane Maria was located near 35.6 degrees north latitude and 72.6 degrees west longitude. Maria is moving toward the north-northeast near 6 mph (9 kph), and this motion is expected to continue today. Maria is forecast to accelerate east-northeastward on Thursday and Thursday night. On the forecast track, Maria will begin to move away from the coast of North Carolina later today and tonight.

Reports from an Air Force Reserve reconnaissance aircraft indicate that the maximum sustained winds are near 75 mph (120 kph) with higher gusts. Some weakening is forecast during the next 48 hours. Maria remains a large [storm](#). Hurricane-force winds extend outward up to 105 miles (165 km) primary to the northeast of the center, and tropical-storm-force winds extend outward up to 230 miles (370 km). The estimated minimum central pressure based on reconnaissance aircraft data is 978 millibars.

The National Hurricane Center (NHC) predicts that cool ocean water and moderate wind shear will cause Maria to weaken to a tropical storm in less than 24 hours. Maria is predicted to move northward, paralleling the United States East Coast for a couple days. Storm surge flooding and rip currents are expected in that area. Maria is then forecast to turn toward the northeast and move away from the coast.

Provided by NASA's Goddard Space Flight Center

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