

NASA satellites and HS3 Mission cover Tropical Storm Gabrielle's demise, watch other areas

September 6 2013, by Rob Gutro



Gabrielle's remnants and Systems 99L and 98L were all captured in one image from NOAA's GOES-East satellite at 10:45 a.m. EDT on Sept. 6. In the image System 99L appeared the most organized of the three low pressure areas. Credit: NASA GOES Project

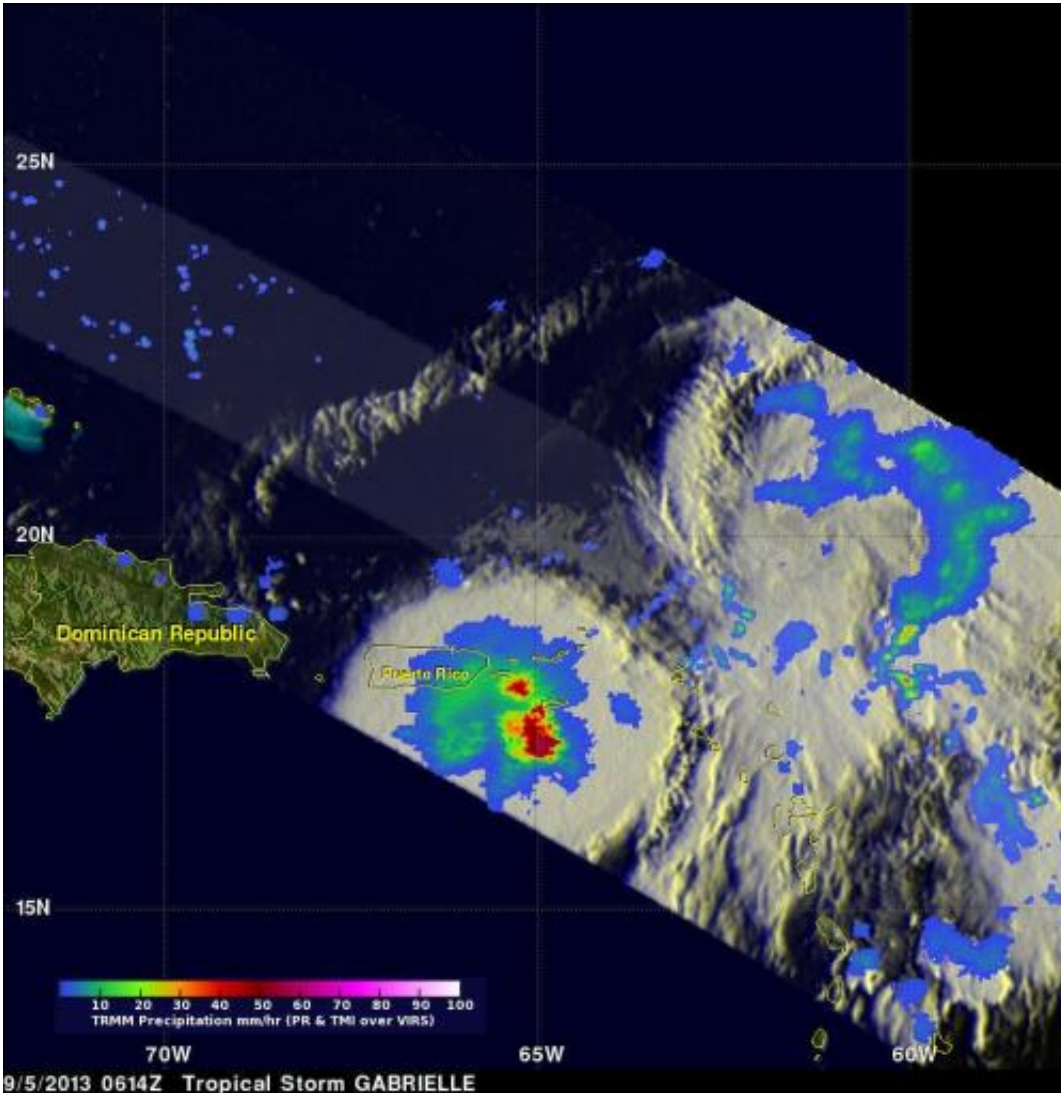
Two NASA satellites and one of NASA's Global Hawk aircraft got good looks at Gabrielle when it weakened from a tropical storm to a depression. Although Gabrielle is now a remnant low pressure area, there

are a couple of other developing low pressure areas in the Atlantic Ocean basin to keep an eye on.

As part of NASA's Hurricane Severe Storms Sentinel mission known as HS3, two of NASA's Global Hawks have been investigating Gabrielle and are gathering data over its remnants. Global Hawk 871 and 872 have been gathering data on Gabrielle this week and are expected to fly over the remnants over the weekend of Sept. 7 and 8. For more information about NASA's HS3 mission, visit: <http://www.nasa.gov/HS3>.

NASA's TRMM and Terra satellites provided data and imagery on the cloud extent and rainfall occurring within the storm. NASA's Tropical Rainfall Measuring Mission satellite called TRMM measured the rainfall in Gabrielle on Aug. 5 at 0614 UTC (2:14 a.m. EDT). At that time, TRMM's Microwave imager instrument found rain falling at a rate of over 56mm/ ~2.2 inches per hour in an area southeast of Puerto Rico. Later, at 11:15 a.m. EDT the MODIS instrument aboard NASA's Terra satellite captured a [visible image](#) of Gabrielle's clouds cover as it was approaching Puerto Rico.

By 11 p.m. EDT on Sept. 5/Sept. 6 at 0300 UTC, the National Hurricane Center noted that Gabrielle had dissipated near 19.0 north and 68.5 west, about 30 miles/45 km north-northwest of Punta Cana, Dominican Republic. All of the warnings and watches that were associated with Gabrielle had been dropped. Despite the dissipation, Gabrielle's remnants were dropping heavy rain over both Puerto Rico and the U.S. Virgin Islands. The remnants were moving to the north-northwest at 8 knots/9 mph/14.8 kph.



NASA's Tropical Rainfall Measuring Mission satellite called TRMM measured the rainfall in Gabrielle when it was a tropical storm on Aug. 5 at 0614 UTC (2:14 a.m. EDT). TRMM's Microwave imager instrument found rain falling at a rate of over 56mm/ ~2.2 inches/hour in an area southeast of Puerto Rico. Credit: NASA/SSAI, Hal Pierce

By 11 a.m. EDT on Sept. 6, the National Hurricane Center or NHC noted that Gabrielle's remnants were now part of a complex area of disturbed weather that stretched from the Dominican Republic and Puerto Rico northeastward into the Atlantic for several hundred miles.

On Sept. 5, there was a trough of low pressure to Gabrielle's east, which the remnants have now joined. NHC noted that any development would be slow to occur as it moves northwest at 10 to 15 mph. Over the weekend, however, it just has a 10 percent chance to re-develop into a tropical depression, however, NHC noted that some development of this system is possible in a few days when the disturbance moves northeastward ahead of a cold front over the central Atlantic Ocean.

Gabrielle's remnants and Systems 99L and 98L were all captured in one image from NOAA's GOES-East satellite at 10:45 a.m. EDT on Sept. 6. In the image, created by NASA's GOES Project at NASA's Goddard Space Flight Center in Greenbelt, Md., System 99L appeared the most organized of the three low pressure areas. The earlier TRMM and Terra satellite images of Gabrielle were also created at NASA Goddard.

System 99L Hugging Mexico's East Coast

The low pressure area designated as System 99L continues to hug the east coast of Mexico, and now has a better chance for becoming a [tropical storm](#), than it did 24 hours before. Located near 22.6 north and 97.0 west, the low is centered near Tampico, Mexico. NOAA's GOES-East satellite imagery showed that clouds and showers had become better organized during the morning hours of Sept. 6. Although System 99L is expected to move inland before a tropical cyclone can form, the NHC noted that will be a rain-maker for the east coast of Mexico, and it is likely to bring 3 to 5 inches of rainfall, with isolated maximum amounts of up to 8 inches in the Mexican states of Veracruz and Tamaulipas during the next couple of days. System 99L has a 20 percent chance of becoming a depression in the next 48 hours.



When Gabrielle was still a tropical storm the MODIS instrument aboard NASA's Terra satellite captured this image on Sept. 5 at 11:15 a.m. EDT as it was approaching Puerto Rico. Credit: NASA Goddard MODIS Rapid Response Team

System 98L in Eastern Atlantic

The broad low pressure system associated with a tropical wave, known as System 98L is located about 600 miles west of the Cape Verde Islands, is producing disorganized shower activity. The environment is not conducive to development, however, so the NHC gives the low a "near zero" percent chance of developing over the next couple of days. The low is moving to the west-northwest at about 10 mph.

Looking further east over Africa, there's a tropical wave that is expected

to move into the Atlantic Ocean over the next two days and NHC noted that development of that system is possible late this weekend into early next week.

Provided by NASA's Goddard Space Flight Center

Citation: NASA satellites and HS3 Mission cover Tropical Storm Gabrielle's demise, watch other areas (2013, September 6) retrieved 11 May 2024 from <https://phys.org/news/2013-09-nasa-satellites-hs3-mission-tropical.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.