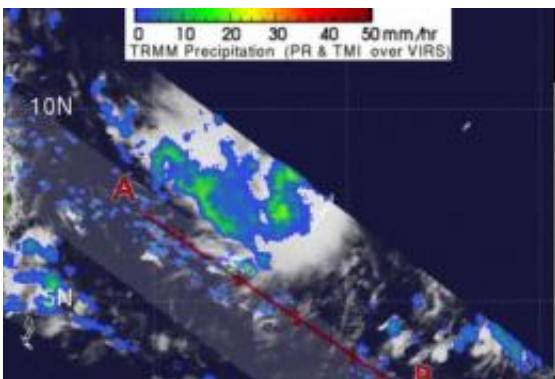


NASA eyes power in Tropical Storm Washi, warnings in the Philippines

December 15 2011



TRMM provided a "top down" rainfall analysis of Tropical Storm Washi on Dec. 15. Light to moderate rainfall (green and blue) was falling throughout the storm a rate between .78 to 1.57 inches/20 to 40 mm per hour). There was a small area of heavy (red) rainfall to the southwest of the center. Credit: Credit: SSAI/NASA, Hal Pierce

NASA's TRMM satellite measured heavy rainfall and powerful towering thunderstorms as Tropical Depression 27W intensified into Tropical Storm Washi today. Now, warnings are up in areas of the Philippines as Washi heads in that direction.

Now that [Tropical Depression](#) 27W strengthened into a [tropical storm](#), it has been given two names: Washi and Sendong. [Tropical cyclones](#) within each [ocean basin](#) are named in six year lists, but some countries will also assign their own names to a storm, so following a storm can get a little

confusing. Low pressure areas that form into a depression are given a number and Washi's was 27W, for the twenty-seventh tropical depression in the western North Pacific this season. Once it strengthens into a tropical storm it gets a name.

Tropical Storm Washi, or Sendong as it is known in the Philippines has residents there on guard as it continues to strengthen upon its approach.

The Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) Weather Forecasting Section, Weather Division is responsible for forecasts of tropical cyclones affecting the Philippines. PAGASA noted in a bulletin today, December 15 at 5 p.m. local time (0900 UTC or 4 a.m. EST): "Tropical Storm 27W (called "Sendong" in the Philippines) is expected to make landfall over Surigao del Sur early tomorrow (Friday) afternoon and by Saturday afternoon, at 220 km East Northeast of Puerto Princesa City. By Sunday afternoon, it will be at 260 km West Northwest of Puerto Princesa City."

As a result of Washi's (Sendong) approach, PAGASA has posted warning signals. Signal One is in effect for Mindanao and Visayas. Mindanao is the second largest and easternmost island of the Philippines. It is one of the three island groups in the country, the others being Luzon and the Visayas.

Included in the warning in Mindanao is the province of Surigao Del Norte including Siargao Island, Surigao Del, Sur and Dinagat Province, Agusan Provinces and Misamis Oriental. Included in the warning in Visayas are the provinces of Eastern Samar and Western Samar, Leyte Provinces, Camotes Island, and Bohol. Heavy rains and gusty winds are expected. Rainfall may cause flooding and mudslides.

On Dec. 15 at 0900 UTC, Tropical Storm Washi had maximum sustained winds near 35 knots (40 mph/65 kmh). It was about 140

nautical miles (161 miles/259 km) west of Palau near 7.7 North and 131.5 East. It was moving quickly to the west at 20 knots (23 mph/37 kmh).

When the Tropical Rainfall Measuring Mission (TRMM) satellite passed over Washi early today, Dec. 15 at 0205 UTC (Dec. 14 at 9:05 a.m. EST) a "hot towering" thunderstorm was seen in the southwestern quadrant of the storm topping 10 miles (16 kilometers) high. Research done at NASA's Goddard Space Flight Center in Greenbelt, Md. has shown that tropical cyclones are likely to intensify within six hours of a "hot tower" being spotted in a tropical cyclone.

Multispectral satellite imagery showed the banding of thunderstorms wrapping into the center of circulation - another indication that the storm is strengthening. The storm is strengthening because the wind shear is light (only 10 knots/11 mph/18 kmh) and the sea surface temperatures are very warm at about 88 degrees Fahrenheit (31 Celsius) which is about 8F warmer than the minimum temperature needed to maintain a tropical cyclone.

The Joint Typhoon Warning Center expects Washi to make landfall on Friday, Dec. 16 and then re-emerge over water in the Sulu Sea. In the meantime, residents of Mindanao and Visayas need to prepare for Washi's arrival.

Provided by NASA's Goddard Space Flight Center

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