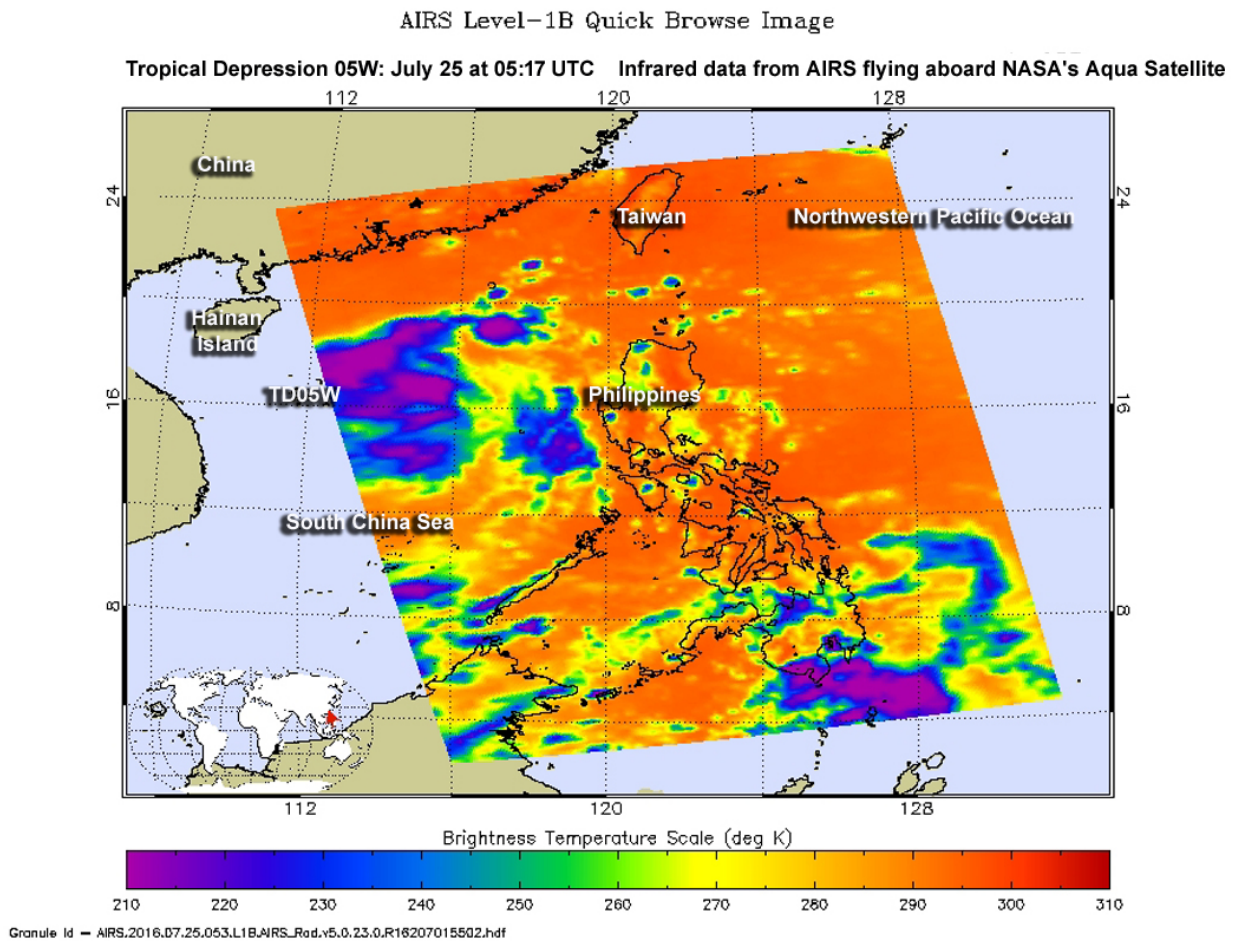


# NASA sees formation of Tropical Depression 05W in infrared

July 25 2016



The AIRS instrument aboard NASA's Aqua satellite saw cloud tops in Tropical Depression 05W on July 25 as cold as 220 kelvin (-63.6F/-53C) and warm sea surface temperatures near 31C (87.8F). Credit: NASA JPL, Ed Olsen

Tropical Depression 05W developed on July 25, 2016 as NASA's Aqua satellite passed overhead and captured temperature data on the storm as it came together.

When NASA's Aqua satellite passed over developing Tropical Depression 05W on July 25 at 517 UTC (6:47 a.m. EDT), the Atmospheric Infrared Sounder known as the AIRS instrument looked at the storm in [infrared light](#). Infrared light provides [temperature data](#), which is important in seeing the height and power of the thunderstorms that make up a tropical cyclone. The colder the cloud tops, the higher they are in the atmosphere, and the stronger the convection or uplift of air (and evaporation, condensation and thunderstorm development). Some of the coldest, highest cloud tops surrounded the center of circulation and were east of the center. AIRS data showed [cloud tops](#) in those areas as cold as 220 kelvin, or minus 63.6 Fahrenheit/minus 53.1 Celsius to maintain intensity.

The infrared data from AIRS also showed that sea surface temperatures were as warm as 31 degrees Celsius (87.8 Fahrenheit). Temperatures that warm can help a tropical cyclone intensify (if atmospheric conditions allow). A tropical cyclone requires sea surface temperatures of at least 26.6 degrees Celsius (80 degrees Fahrenheit) to maintain

At 1500 UTC (11 a.m. EDT) on July 25, Tropical Depression 05W (TD05W) had maximum sustained winds near 25 knots (28.7 mph/46.3 kph). It was centered near 17.1 degrees north latitude and 114.8 degrees west longitude, in the South China Sea, about 314 nautical miles south of Hong Kong. TD05W was moving to the west-northwest at 12 knots (13.8 mph/22.2 kph).

The Joint Typhoon Warning Center expects TD05W will become a tropical storm as it moves toward Hainan Island, China. It is expected to cross Hainan Island and make landfall in southern China.

Provided by NASA's Goddard Space Flight Center

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