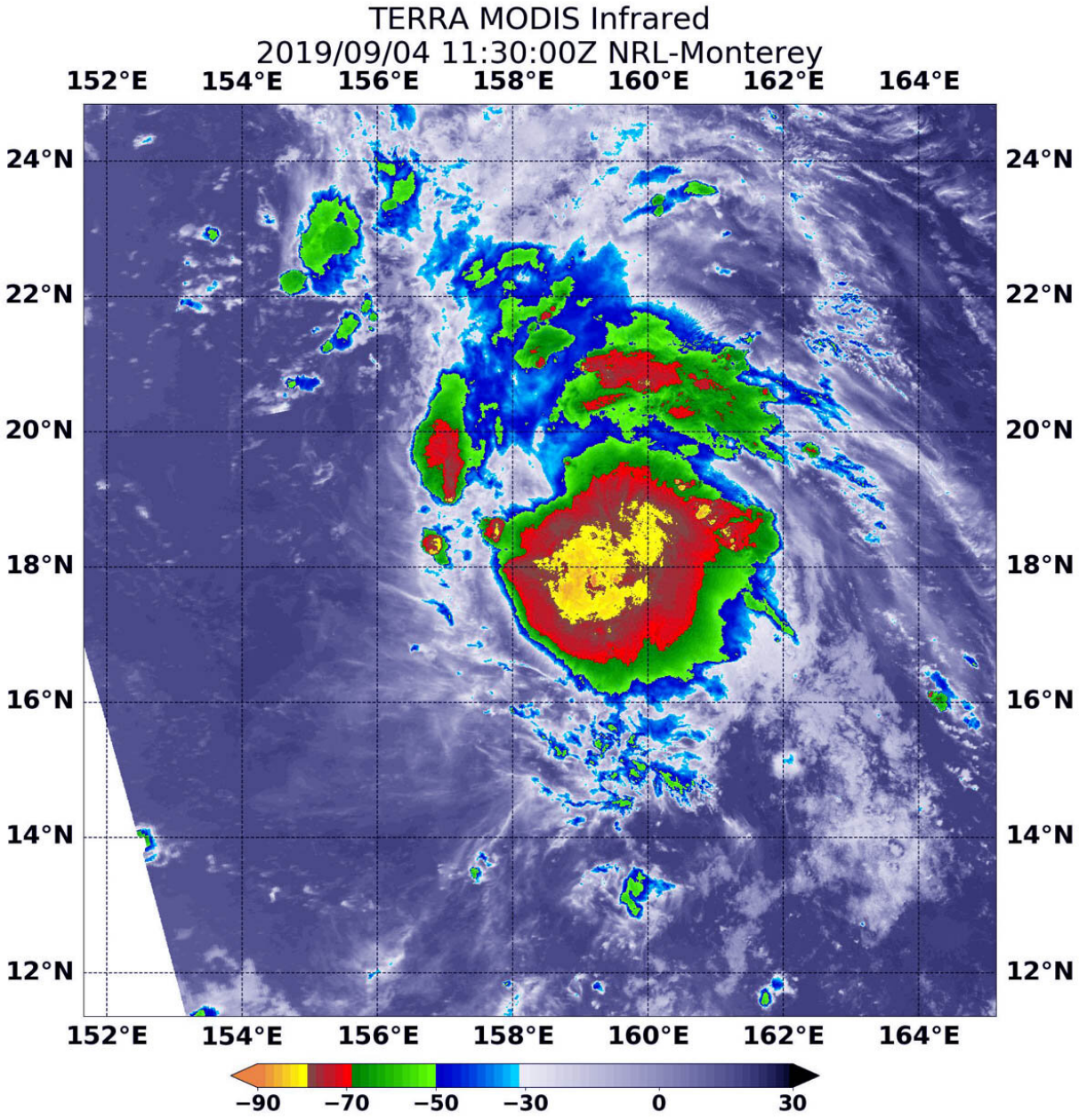
# NASA finds strongest storms off-center in Tropical Storm 14W

September 5 2019



On Sept. 4 at 7:40 a.m. EDT (1130 UTC ).the MODIS instrument that flies aboard NASA's Terra satellite showed strong storms (yellow) around 14W's center where cloud top temperatures were as cold as minus 80 degrees Fahrenheit (minus 62.2 Celsius). Credit: NASA/NRL

NASA's Terra satellite provided an infrared view and temperature analysis of Tropical Storm 14W's cloud tops. Terra satellite showed some powerful thunderstorms in the storm were east of the center.

On Sept. 4 at 7:40 a.m. EDT (1130 UTC), the Moderate Imaging Spectroradiometer or MODIS instrument that flies aboard NASA's Terra satellite used infrared light to analyze the strength of storms within the 14W. NASA researches these storms to determine how they rapidly intensify, develop and behave.

The Joint Typhoon Warning Center noted that, "Satellite imagery shows a partially exposed low-level circulation center with an area of deep convection (thunderstorms) offset to the east of the center." Just as on Sept. 3, the low-level circulation center of the storm remained exposed to outside westerly winds so the strongest thunderstorms continue to be pushed to the eastern side of the storm.

Tropical cyclones are made of up hundreds of thunderstorms, and infrared data can show where the strongest storms are located. They can do that because infrared data provides temperature information, and the strongest thunderstorms that reach highest into the atmosphere have the coldest cloud top temperatures.

MODIS found those strongest storms were around the center of circulation where cloud top temperatures were as cold as minus 80

degrees Fahrenheit (minus 62.2 Celsius). NASA research has found that cloud top temperatures that cold indicate strong storms with the potential to generate heavy rainfall.

The Joint Typhoon Warning Center (JTWC) noted on Sept. 4 at 11 a.m. EDT (1500 UTC), Tropical Storm 14W still had maximum sustained winds near 35 knots (40 mph/65 mph). 14W is far from land areas and is about 1,429 nautical miles southeast of Yokosuka, Japan. 14W is moving to the west.

JTWC said 14W will move west-northwest across the Pacific Ocean and gradually intensify to 90 knots after five days.

Provided by NASA's Goddard Space Flight Center