NASA sees important cloud-top temperatures as Tropical Storm Malakas heads for Iwo To

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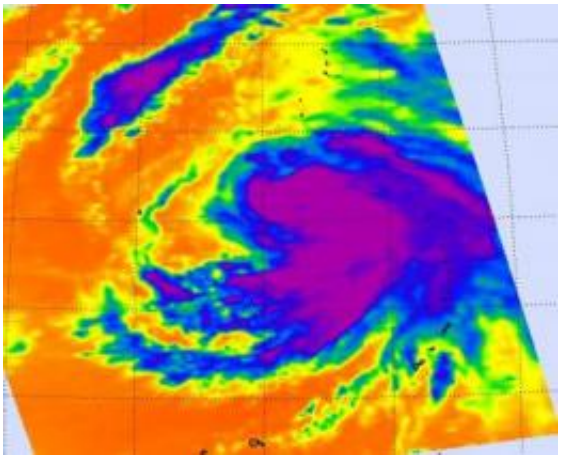

This infrared image of Malakas' cloud temperatures was captured on Sept. 23 at 0405 UTC (12:05 a.m. EDT) by the AIRS instrument on NASA's Aqua satellite. The image shows a very large area of highest, coldest cloud tops (colder than -63 Fahrenheit) throughout Tropical Storm Malakas (in purple). Credit: NASA/JPL, Ed Olsen

NASA's Aqua satellite has peered into the cloud tops of Tropical Storm Malakas and derived just how cold they really are, giving an indication to forecasters of the strength of the storm.

The Atmospheric Infrared Sounder instrument, known as AIRS has the ability to determine cloud top and sea surface temperatures from its position in space aboard NASA's Aqua satellite. Cloud top temperatures help forecasters know if a storm is powering up or powering down.

When cloud top temperatures get colder it means that they're getting higher into the atmosphere which means the "uplift" of warm, moist air is stronger and it will form stronger thunderstorms (that power a tropical cyclone). When cloud-top temperatures warm up it means that the cloud tops are lower than they were before, indicating that the storm is weakening.

When the Aqua satellite passed over Malakas from space on Sept. 23 at 0405 UTC (12:05 a.m. EDT) the AIRS instrument took the temperature of the cloud tops in the storm and found them to be as cold as or colder than -63 Fahrenheit throughout a very large area within Tropical Storm Malakas, indicating the storm had a good amount of energy powering it. Infrared imagery also showed an eye with thunderstorms banding around it (circling it), and convection (and thunderstorms) re-building over the system, which indicates strengthening.

The Joint Typhoon Warning Center is the organization that forecasts tropical cyclones in the northwestern Pacific Ocean, and they've been right on track with Tropical Storm Malakas' forecast, much to the disappointment of the residents of the Japanese island of Iwo To. That's where Malakas' center is expected to pass very closely near later tonight (Eastern Time/U.S.).

On Sept. 23 at 1500 UTC (11 a.m. EDT/midnight Sept. 24 local time at Iwo To), Malakas had maximum sustained winds near 69 mph (4 mph under typhoon strength). It was moving north at 14 mph toward Iwo To, Japan. It was located about 170 nautical miles south of the island, near 22.6 North and 140.9 East. Malakas is kicking up 27-foot high seas as it tracks north.

The center of Malakas is forecast to be closest to the island of Iwo To at 0000 UTC (about 9 a.m. Local time) on Sept. 24 (8 p.m. EDT on Sept. 23).

Provided by NASA's Goddard Space Flight Center