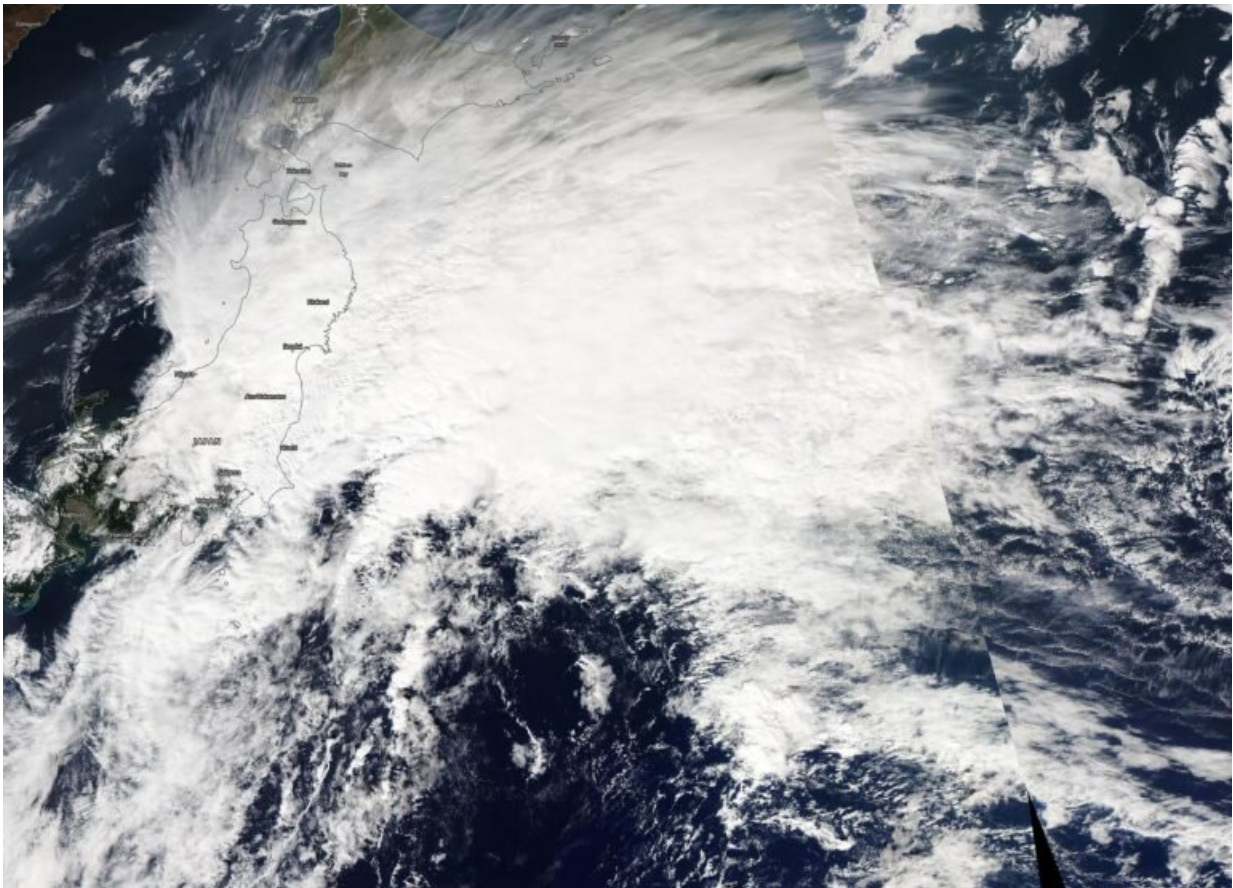


NASA imagery reveals Neoguri now extra-tropical

October 22 2019, by Rob Gutro



On Oct. 22, the MODIS instrument that flies aboard NASA's Aqua provided a visible image of Extra-Tropical Storm Neoguri, east of Japan. Credit: NASA Worldview, Earth Observing System Data and Information System (EOSDIS).

Formerly a typhoon, now an extra-tropical storm, Neoguri has taken on more of a frontal system appearance in imagery from NASA's Aqua satellite. The final warning on the system has been issued.

On Oct. 22, the Moderate Imaging Spectroradiometer or MODIS instrument that flies aboard NASA's Aqua satellite provided a visible image of Neoguri. The MODIS imagery indicated that Neoguri had an elongated and poorly defined low-level circulation center with the bulk of clouds and convection (rising air that forms the thunderstorms that make up a tropical cyclone) pushed to the northeast of the center because of strong southwesterly [wind shear](#).

What is Wind Shear?

In general, [wind](#) shear is a measure of how the speed and direction of winds change with altitude. Tropical cyclones are like rotating cylinders of winds. Each level needs to be stacked on top each other vertically in order for the storm to maintain strength or intensify. Wind shear occurs when winds at different levels of the atmosphere push against the rotating cylinder of winds, weakening the rotation by pushing it apart at different levels.

What does Extra-tropical Mean?

When a storm becomes extra-tropical, it means that a tropical cyclone has lost its "tropical" characteristics. The National Hurricane Center defines "extra-tropical" as a transition that implies both poleward displacement (meaning it moves toward the north or [south pole](#)) of the cyclone and the conversion of the [cyclone](#)'s primary energy source from the release of latent heat of condensation to baroclinic (the temperature contrast between warm and cold air masses) processes. It is important to note that cyclones can become extratropical and retain winds of hurricane or tropical [storm](#) force.

Neoguri on Oct. 22

On Oct. 22 at 5 a.m. EDT (0900 UTC), the Joint Typhoon Warning Center issued the final warning on Extra-tropical Storm Neoguri. At that time, Neoguri was centered near latitude 34.1 degrees north and longitude 141.4 degrees east. That is about 119 nautical miles south-southeast of Yokosuka, Japan. Neoguri was moving to the east-northeast and had maximum sustained winds near 45 knots (52 mph/83 kph). Neoguri is expected to intensify slightly and continue tracking northeastward.

Hurricanes are the most powerful weather event on Earth. NASA's expertise in space and [scientific exploration](#) contributes to essential services provided to the American people by other federal agencies, such as hurricane weather forecasting.

Provided by NASA's Goddard Space Flight Center

Citation: NASA imagery reveals Neoguri now extra-tropical (2019, October 22) retrieved 31 January 2023 from <https://phys.org/news/2019-10-nasa-imagery-reveals-neoguri-extra-tropical.html>

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