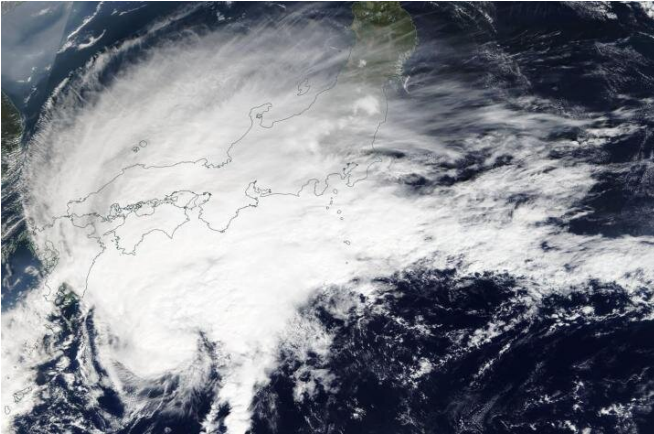


# NASA finds a transitioning Tropical Storm Neoguri

21 October 2019, by Rob Gutro



On Oct. 21, 2019 the MODIS instrument that flies aboard NASA's Terra provided a visible image of Tropical Storm Neoguri along Japan's East coast. The storm was becoming extra-tropical. Credit: NASA Worldview, Earth Observing System Data and Information System (EOSDIS).

NASA's Terra satellite passed over the Northwestern Pacific Ocean on Oct. 21 and captured a visible image of Tropical Storm Neoguri. Satellite imagery revealed that the storm is becoming extra-tropical.

On Oct. 21, the Moderate Imaging Spectroradiometer or MODIS instrument that flies aboard NASA's Terra satellite provided a visible image of Neoguri. The MODIS imagery indicated that Neoguri appeared elongated and large storm, where the bulk of clouds and convection (rising air that forms the thunderstorms that make up a tropical cyclone) were pushed to the northeast of the center as a result of southwesterly wind shear. Sheared convection and initial frontal features indicate that the system is undergoing extratropical transition.

## 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 still retain winds of hurricane or tropical storm force.

## Neoguri on October 21

On Oct. 21 at 11a.m. EDT (1500 UTC) the Joint Typhoon Warning Center said that Neoguri was centered near latitude 31.4 degrees north and longitude 125.6 degrees east. That is about 311 miles southwest of Yokosaka, Japan. Neoguri was moving to the northeast and had maximum sustained winds near 40 knots (46 mph/74 kph).

Neoguri is expected to continue to weaken and will become entirely extra-tropical within 12 hours.

Provided by NASA's Goddard Space Flight Center

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