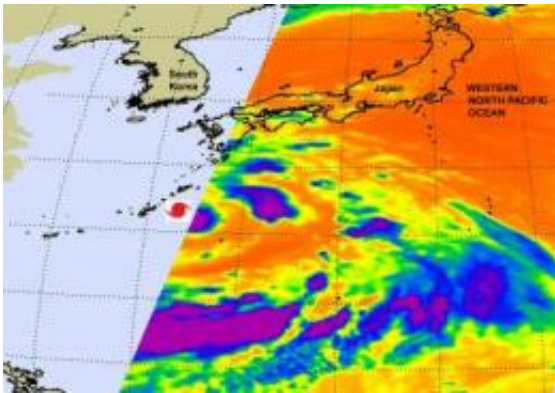


Infrared satellite data shows Tropical Storm Roke strengthening

September 16 2011



This infrared image was taken on Sept. 15 at 12:29 p.m. EDT and shows the eastern half of Tropical Storm Roke's clouds. The center of Roke is identified by the red hurricane symbol at 26.1 North and 129.6 East. The strongest convection and thunderstorms appear in purple and have cloud temperatures of -63 Fahrenheit, and heavy rainfall. Credit: NASA/JPL, Ed Olsen

Tropical Storm Roke has changed in size and is starting to change in strength. Roke appears to be consolidating in infrared imagery from NASA's Aqua satellite.

Roke began its life as a monsoon depression with a large low-level circulation center that over time consolidated and organized. The eastern half of Tropical Storm Roke was seen in an infrared image from NASA's Aqua satellite AIRS (Atmospheric Infrared Sounder) on Sept. 15, and it showed a more consolidated center with strong convection and

very cold cloud-top temperatures.

Cloud-top temperatures are important because they tell forecasters how high thunderstorms are, and the higher the thunderstorm, the colder the [cloud tops](#) and the more powerful the thunderstorms. Cloud top temperatures near Roke's center were near -63 F/-52 C, indicating strong convection.

[Infrared imagery](#) also helped forecasters indentify that the center of the storm had recently turned to the southwest.

On Friday, Sept. 16, Tropical Storm Roke had [maximum sustained winds](#) near 46 mph (40 knots/74 kmh) and was located approximately 105 nautical miles (120 miles/194 km) east of Kadena Air Base, Japan, near 26.0 North and 129.5 East. Roke was moving slowly to the south-southwest at 2 knots (3 mph). Roke is over 200 miles (321 km) in diameter with tropical-storm-force winds extending out 100 miles (160 km) from the center.

Roke is in a good environment to develop because wind shear (winds that can tear a tropical cyclone apart) remain light and under 5 knots. AIRS infrared data revealed that [sea surface temperatures](#) are over the 80F (26.6C) threshold to maintain a tropical cyclone and are in fact as warm as 82F (28C), which will allow Roke to strengthen.

Because there's not much of a steering mechanism to guide Roke , the storm has zig-zagged through the western North Pacific Ocean this week. The Joint [Typhoon Warning center](#) noted that there is still no strong steering mechanism, and expects Roke to slowly approach Kadena Air Base over the weekend.

Provided by NASA's Goddard Space Flight Center

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