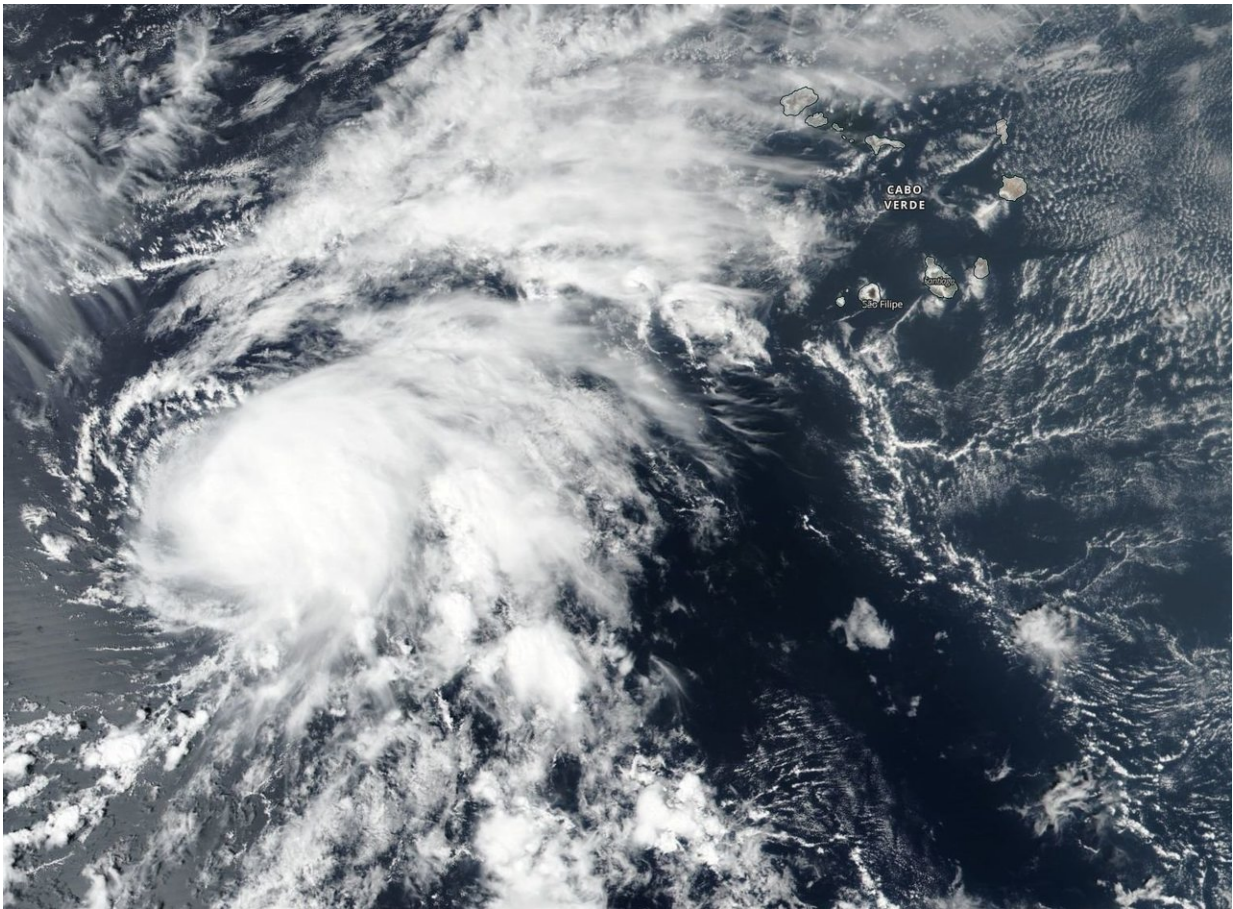


# NASA finds wind shear weakening Tropical Storm Nadine

October 11 2018

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On Oct. 10, NASA-NOAA's Suomi NPP satellite provided this visible image of Tropical Storm Nadine in the far eastern Atlantic Ocean as it was being affected by wind shear that was weakening the storm. Credit: NASA Worldview, Earth Observing System Data and Information System (EOSDIS)/ NOAA

Wind shear is an adversary of tropical cyclones like Tropical Storm Nadine, and it is tearing the storm apart in the Eastern Atlantic Ocean. NASA-NOAA's Suomi NPP satellite captured an image of Nadine as wind shear was affecting it.

NASA-NOAA's Suomi NPP satellite provided a visible image of Tropical Storm Nadine on Oct. 10 as it was being affected by wind shear. The image showed that clouds were being pushed northeast of the center. Satellite data shows that Nadine is strongly sheared and the low-level center of the tropical [storm](#) is now completely exposed, nearly 50 nautical miles to the southwest of the nearest deep convection (rising air that forms the thunderstorms that make up a tropical [cyclone](#)).

In general, wind shear is a measure of how the speed and direction of winds change with altitude. In order to understand how it affects a tropical cyclone or hurricane, think of a tropical cyclone as a vertical rotating cylinder. The different levels of rotating winds in the center of Tropical cyclones need to be stacked on top each other for the storm to strengthen. If there are outside winds pushing against the cylinder near the top, it affects the balance of the entire cylinder and that's what happens when vertical [wind](#) shear pushes against a storm. It pushes the center and weakens (or wobbles) the rotation of the entire cylinder (storm).

At 11 a.m. EDT (1500 UTC) on Oct. 11, the National Hurricane Center reported the center of Tropical Storm Nadine was located near latitude 14.1 degrees north and longitude 34.0 degrees west. That's about 645 miles (1,035 km) west of the southernmost Cabo Verde Islands. Nadine is moving toward the northwest near 8 mph (13 kph). A turn toward the west-northwest with a similar forward speed is expected later today, followed by a turn toward the west by the weekend. Maximum sustained winds are near 60 mph (95 kph) with higher gusts. Some weakening is forecast during the next 48 hours. Gradual weakening is expected during

the next couple of days, and Nadine is forecast to degenerate into a trough of low pressure over the weekend.

The [wind shear](#) battering Nadine isn't expected to let up over the next couple of days so forecasters at the National Hurricane Center expect steady weakening. By Oct. 14, Nadine is forecast to lose its strong uplift and thunderstorm development potential. By that time, Nadine is expected to degenerate into an elongated area of low pressure.

Provided by NASA's Goddard Space Flight Center

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