

NASA saw Tropical Storm Haruna come together

February 19 2013



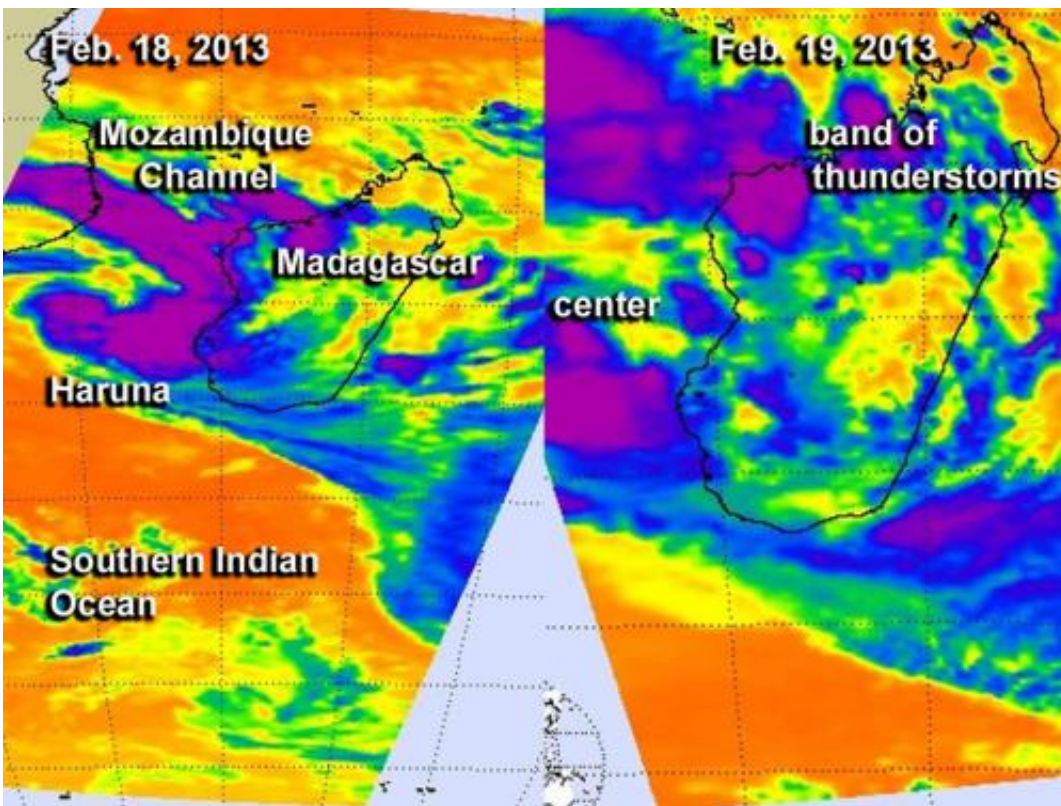
The sixteenth tropical cyclone of the Southern Indian Ocean season formed in the Mozambique Channel, and the MODIS instrument aboard NASA's Terra satellite captured this visible image of Tropical Storm Haruna on Feb. 19 at 0745 UTC. Credit: NASA Goddard MODIS Rapid Response Team

Tropical Storm Haruna came together on Feb. 19 in the Southern Indian Ocean and two NASA satellites provided visible and infrared imagery

that helped forecasters see the system's organization.

A low pressure area called System 94S developed on Friday, Feb. 15 in the northern Mozambique Channel. Over the course of four days System 94S became more organized and by Feb. 19 it became Tropical Storm Haruna.

On Tuesday, Feb. 19, Tropical Storm Haruna had [maximum sustained winds](#) near 35 knots (40.2 mph/64.8 kph). Haruna was located in the Mozambique Channel, near 21.4 south latitude and 40.9 east longitude, about 375 nautical miles (431.5 miles/694.5 km) west-southwest of Antananarivo, Madagascar. [Microwave satellite](#) imagery from the AMSU-B instrument confirmed the location of Haruna's low-level center. Haruna is moving south at 5 knots (5.7 mph/9.2 kph).



On Feb. 18-19 the AIRS instrument aboard NASA's Aqua satellite captured

these infrared images of the development of Tropical Storm Haruna. The area of strongest thunderstorms appear in purple, where cloud top temperatures were colder than -63F (-52C). The image on Feb. 19 shows that the band of thunderstorms east of the center became fragmented. Credit: NASA JPL, Ed Olsen

[Infrared imagery](#) from NASA's Atmospheric Infrared Sounder (AIRS) instrument taken on Feb. 18 and Feb. 19 showed the development of Haruna from a depression into a tropical storm. AIRS imagery on Feb. 19 indicated that the low-level circulation center was well-defined and symmetrical. The area of strongest thunderstorms appeared around the center of circulation and in a band of thunderstorms around the south and east of the center where cloud top temperatures were colder than -63F (-52C). The AIRS data on Feb. 19 also showed that the band of thunderstorms east of the center became fragmented over eastern Madagascar.

An instrument aboard NASA's [Terra satellite](#) called the Moderate Resolution Imaging Spectroradiometer, also known as "MODIS" captured a [visible image](#) of Tropical Storm Haruna on Feb. 19 at 0745 UTC (2:45 a.m. EST). The image showed the center of Haruna over the southern Mozambique Channel, between Mozambique on the African mainland to the west, and the island nation of Madagascar east. Haruna's eastern bands of thunderstorms were draped over Madagascar bringing showers, thunderstorms and gusty winds to the island.

The MODIS image was created by the MODIS Rapid Response Team at NASA's Goddard Space Flight Center in Greenbelt, Md.

According to forecasters at the Joint Typhoon Warning Center (JTWC), the organization that forecasts tropical cyclones in the Indian Ocean,

Haruna is being guided by a low-to-mid-level subtropical ridge (elongated area) of high pressure and is expected to continue moving south until a low pressure area turns the [tropical storm](#) southeast.

Forecasters at the JTWC expect that Haruna will intensify over the next day or two and make a brief landfall over southern Madagascar. Haruna is expected to re-emerge into open ocean and vertical wind shear is forecast to increase with the low pressure area, weakening the storm.

Provided by NASA's Goddard Space Flight Center

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