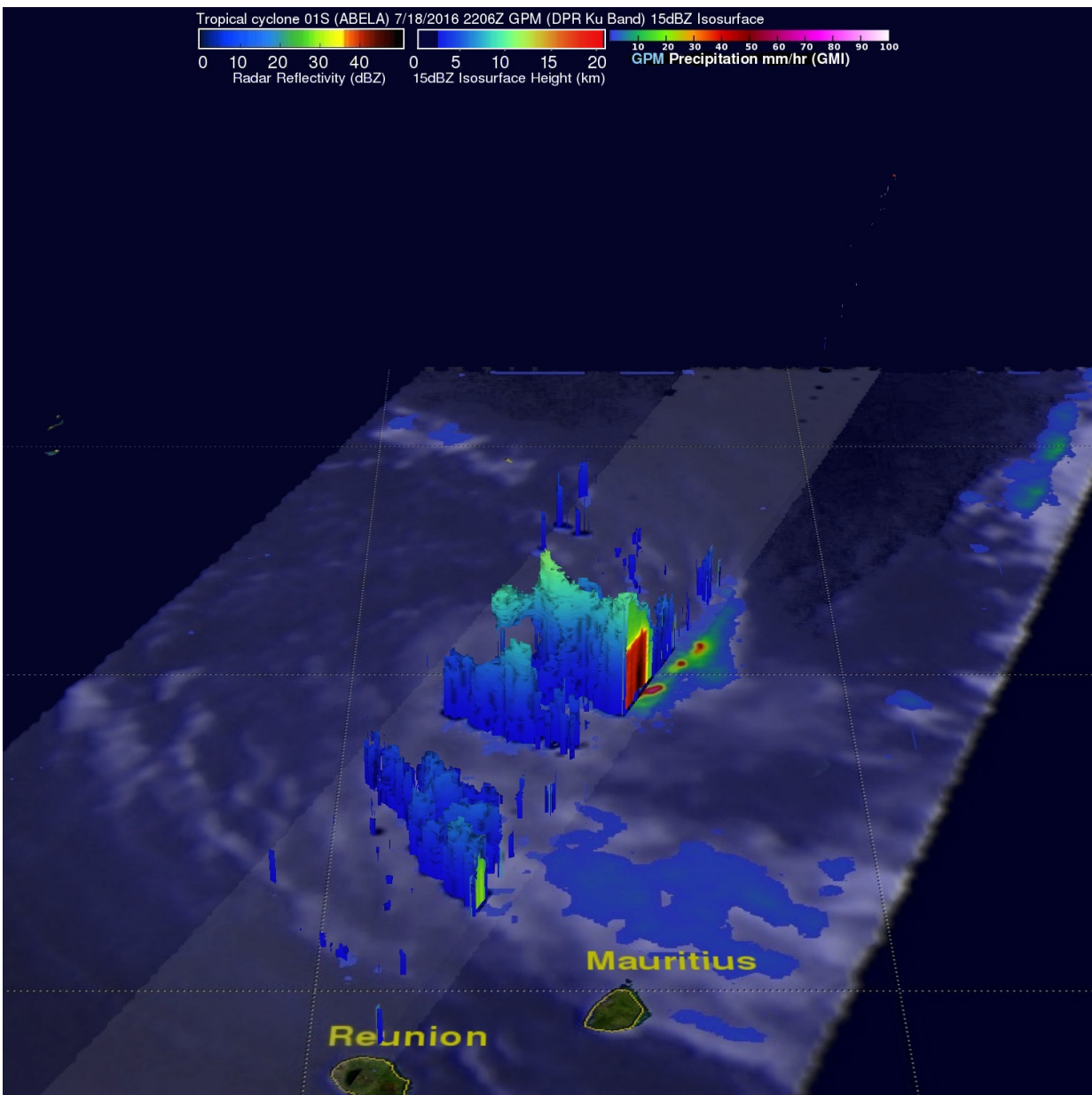


NASA Looks at Tropical Cyclone Abela in 3-D

July 20 2016



On July 18, GPM measured some cloud tops were reaching heights of over 13.6 km (8.4 miles). Credit: NASA/JAXA/SSAI, Hal Pierce

Satellite data enables scientists to look at tropical cyclones in three dimensions and that provides information about rainfall rates and cloud heights.

Tropical Cyclone Abela, formerly known as "01S," formed in the South Indian Ocean on July 16, 2016. Abela was the first tropical Cyclone to form in July over the South Indian Ocean since 2007 so it is a little unusual. The Global Precipitation Measurement mission or GPM core observatory satellite recently had two good views of Abela. GPM saw the newly formed tropical cyclone on Jul 16, 2016 at 2216 UTC (6:16 p.m. EDT). Precipitation data collected by GPM's Microwave Imager (GMI) and Dual-Frequency Precipitation Radar (DPR) instruments showed that Abela contained a large area of rainfall on July 16, 2016. Then again on July 18, 2016 at 2206 UTC (6:06 p.m. EDT) the satellite passed above after tropical cyclone ABELA had reached its peak intensity with winds of about 50 knots (58 mph).

3-D slices through radar precipitation were made possible with GPM's radar (DPR Ku Band). Vertical [wind shear](#) was already starting to affect the tropical cyclone on July 18, 2016. It was revealed that the low level center of circulation was exposed and convective storms were pushed to the southeast of the center as a result of the wind shear. Some of the cloud tops of these still powerful convective storms were shown by GPM's DPR to be reaching heights of over 13.6 km (8.4 miles). Rainfall rates were as high as 60 millimeters (2.3 inches) per hour.

The imagery was created at NASA's Goddard Space Flight Center in Greenbelt, Maryland. GPM is a joint mission between NASA and the

Japan Aerospace Exploration Agency.

On July 19 at 0600 UTC (2 a.m. EDT) Tropical Cyclone Abela was located near 14.6 degrees south latitude and 55.3 degrees east longitude, about 540 nautical miles east-northeast of Antananarivo, Madagascar. At that time Abela was moving to the west at 17 knots (19.5 mph/31.4 kph) and [maximum sustained winds](#) were near 35 knots (40 mph/62 kph). Abela is expected to dissipate today, July 20.

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Provided by NASA's Goddard Space Flight Center

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