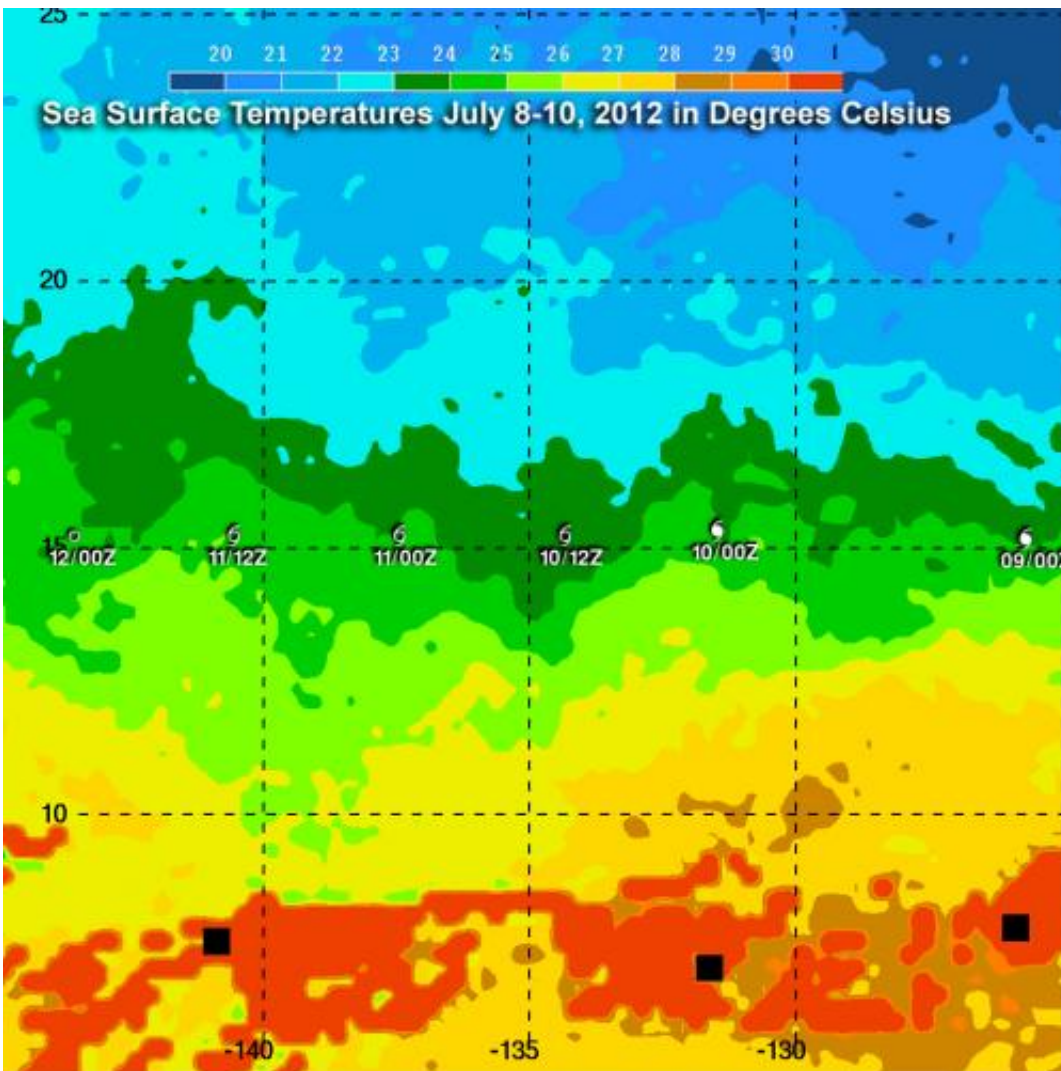


NASA sees Tropical Storm Daniel move over cooler water

July 11 2012

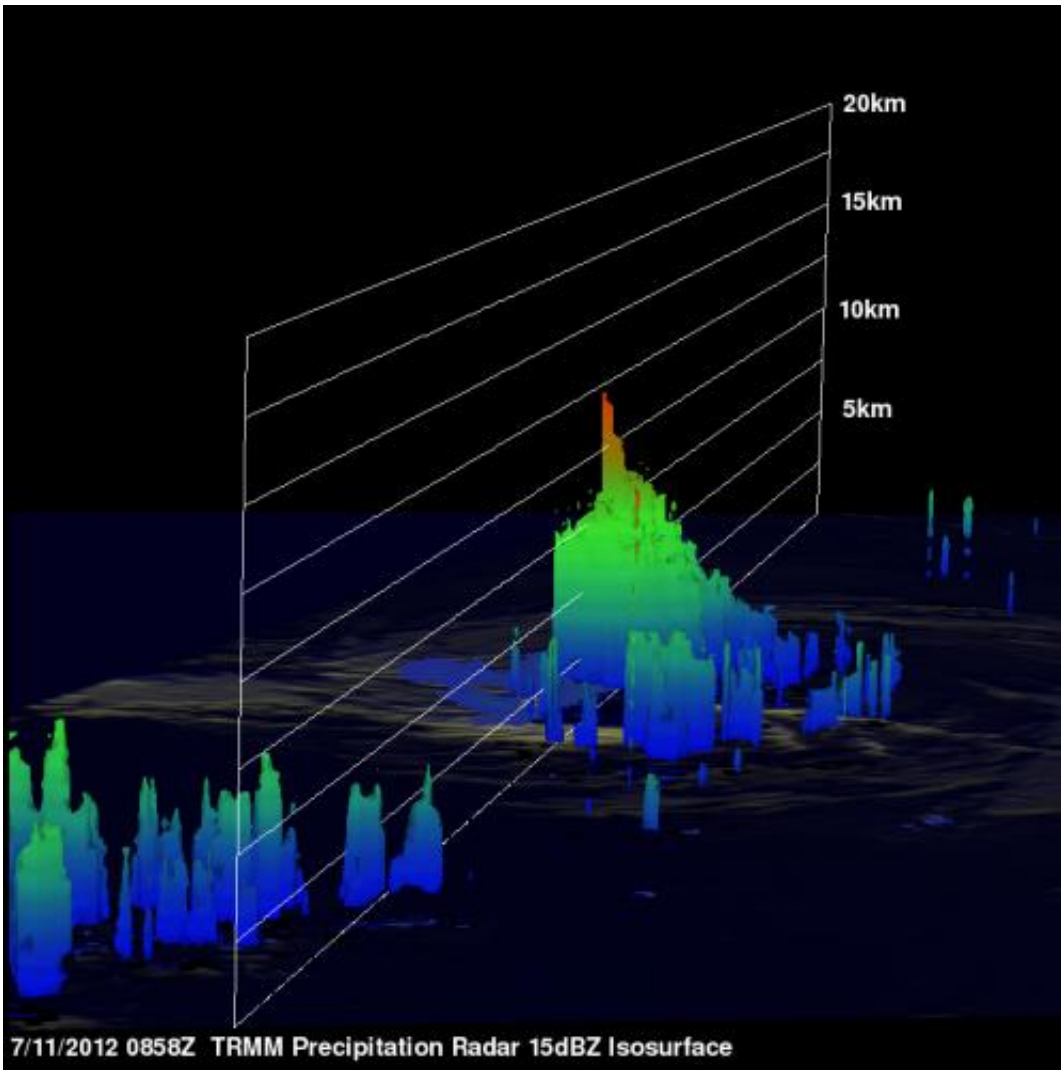


This analysis of sea surface temperatures is from July 8-10, 2012. Daniel's predicted path (shown in white) takes it over water with temperatures of about 24-25 C (~75.2 to 77.0 F). The boundary of 26 C (~79 F) temperatures are shown in yellow on this analysis. Credit: Credit: NASA/SSAI, Hal Pierce

Tropical Storm Daniel was once a hurricane and now a rapidly weakening tropical storm as a result of moving over cooler waters. NASA's Tropical Rainfall Measuring Mission (TRMM) satellite provided a look at just how cool the waters are that have sapped Daniel's strength.

The TRMM satellite flew above weakening tropical storm Daniel on July 10, 2012 at 0003 UTC. TRMM's Microwave Imager (TMI) and [Precipitation Radar](#) (PR) data from that pass showed that only light to moderate rainfall (.0.78 to 1.57 inches/20 to 40 mm/hour) was occurring with the weakening storm.

At NASA's Goddard Space Flight Center in Greenbelt, Md. Hal Pierce of the TRMM team created an analysis that showed averaged [Sea Surface Temperatures](#) (SST). The SST data was derived from TRMM [Microwave Imager](#) (TMI) data for the period from July 8-10, 2012. Daniel's predicted path takes it over water with temperatures of about 24-25 C (~75.2 to 77.0 F). Water needs to be around 26 C (~79 F) to fuel a tropical cyclone so Daniel is predicted to gradually weaken to a tropical depression over the next couple days.



TRMM passed over Daniel on July 11, 2012, at 0857 UTC. Surface rainfall near the storm's center was light to moderate (0.78 to 1.57 inches/20 to 40 mm/hr), appearing in yellow, blue and green. A few strong thunderstorms near Daniel's center of circulation were reaching to heights of over 11km (~6.8 miles). Radar reflectivity values of almost 42 dBZ were being returned to TRMM PR indicating that moderate to heavy rainfall (red) was occurring in that area.
 Credit: Credit: NASA/SSAI, Hal Pierce

At 5 a.m. EDT on July 11, 2012 Tropical Storm Daniel had [maximum sustained winds](#) near 40 mph (65 kmh) and was moving to the west near

16 mph (26 kmh). Daniel was about 1,055 miles (1,700 km) east-southeast of Hilo, Hawaii near 15.4 North and 139.7 West. Satellite data indicates that only a small area of deep convection (rising air that form the thunderstorms that make up the tropical cyclone) remains south and southeast of Daniel's center.

When TRMM passed over Daniel on July 11 at 0858 UTC, it observed a few strong thunderstorms near Daniel's center of circulation reaching to heights of over 11km (~6.8 miles). Radar reflectivity values of almost 42 dBZ were being returned to TRMM PR indicating that moderate to heavy rainfall was occurring in that area.

Daniel is crossing over into the central Pacific Ocean today. On Friday the weakening tropical depression is expected to be south-southeast of the Hawaiian Islands.

Provided by NASA's Goddard Space Flight Center

Citation: NASA sees Tropical Storm Daniel move over cooler water (2012, July 11) retrieved 26 June 2024 from <https://phys.org/news/2012-07-nasa-tropical-storm-daniel-cooler.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.