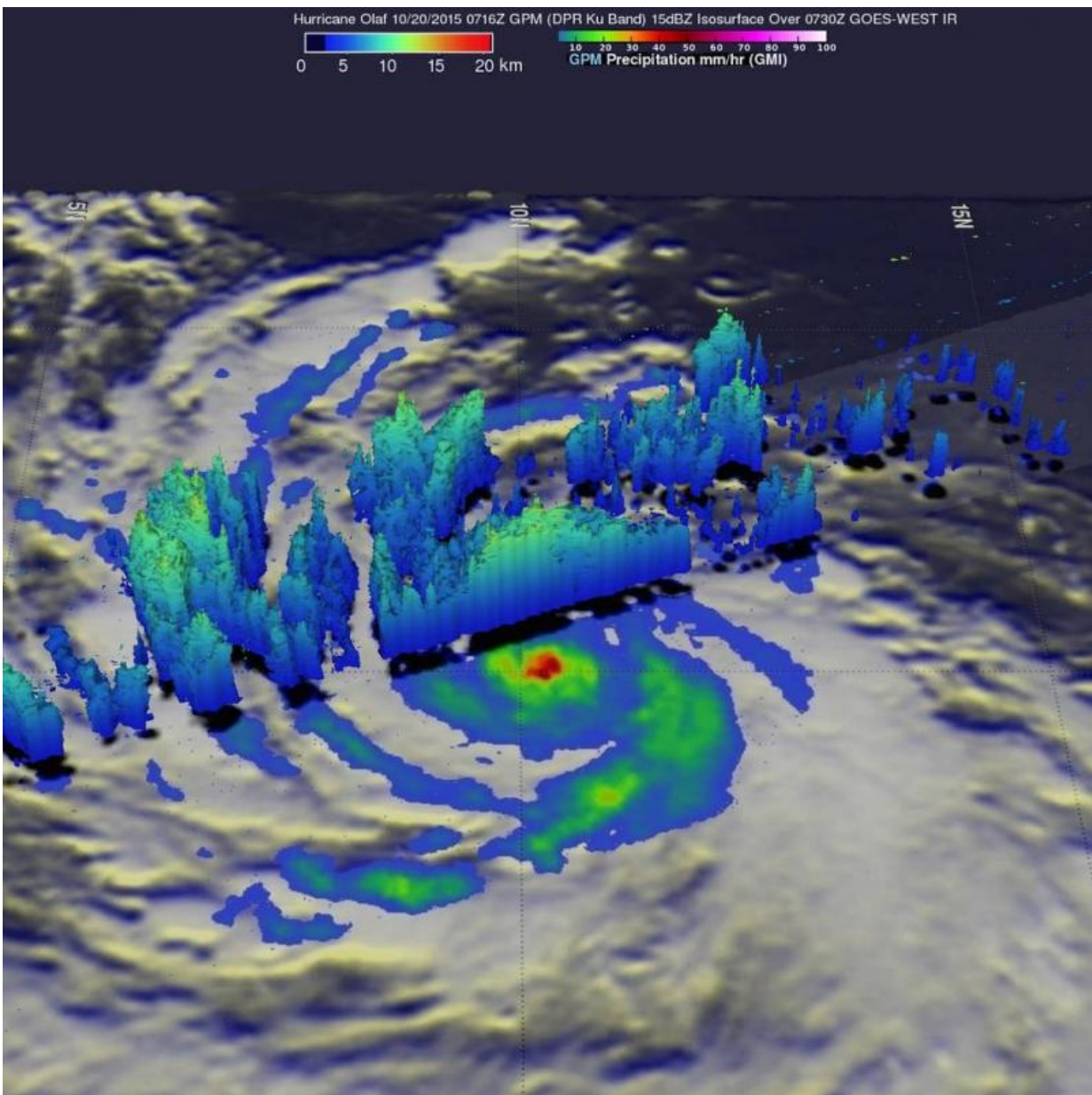


GPM checks rainfall rates in Category 4 Hurricane Olaf

October 21 2015



On Oct. 20, GPM found rain falling at a rate of over 71.5 mm (2.8 inches) per hour in Olaf's eye wall. Credit: NASA/JAXA/SSAI, Hal Pierce

Hurricane Olaf has been a Category 4 hurricane for three days in the Central Pacific Ocean. The Global Precipitation Measurement mission (GPM) analyzed rainfall rates occurring in the major hurricane.

On Oct. 19, 2015 Hurricane Olaf became the eighth category four hurricane in the busy 2015 Eastern Pacific hurricane season. The Global Precipitation Measurement mission or GPM core satellite analyzed rainfall and cloud heights in the powerful storm which remained a Category 4 storm on Oct.21.

The GPM core observatory satellite had a good look at the distribution of rainfall around powerful hurricane Olaf on October 20, 2015 at 0716 UTC. At that time Olaf had sustained winds estimated at over 130 knots (150 mph). GPM's Microwave Imager (GMI) and Dual-Frequency Precipitation Radar (DPR) measured the intensity of rainfall within the hurricane. GPM's GMI found rain falling at a rate of over 71.5 mm (2.8 inches) per hour in Olaf's eye wall. The DPR instrument swath covered scattered rain bands on the western side of the hurricane where it found precipitation dropping at a rate of 56.8 mm (2.23 inches). A simulated 3-D view of Olaf was created from GPM's radar (DPR Ku band) when it measured the heights of scattered rain bands in the western side of Olaf's circulation.

At 5 a.m. EDT (0900 UTC) on Oct. 21, 2015 the center of Hurricane Olaf was located near latitude 11.5 degrees north and longitude 143.8 degrees west. That's about 940 miles (1,515 km) southeast of Hilo, Hawaii. Olaf was moving toward the west-northwest near 9 mph (15 kph) NOAA's Central Pacific Hurricane Center (CPHC) expects a turn

toward the northwest on Wednesday, October 22 will be followed by a turn toward the north-northwest on Thurs., Oct. 23.

Maximum sustained winds are near 135 mph (215 kph). Olaf is still a category four [hurricane](#) on the Saffir-Simpson Hurricane wind scale. Gradual weakening forecast from Wednesday through Thursday. Hurricane force winds extend outward up to 35 miles (55 km) from the center and tropical storm force winds extend outward up to 140 miles (220 km). The estimated minimum central pressure is 952 millibars.

NOAA's CPHC noted that large swells generated by Olaf will build along east facing shores of the main Hawaiian Islands over the next couple of days. Resultant hazardous surf will be large and potentially life-threatening and damaging.

Fortunately for the Hawaiian Islands Hurricane Olaf which was about 1,090 miles southeast of Hilo, Hawaii is predicted to stay far away. Olaf is expected re-curve to the north well before it approaches the Hawaiian Islands.

Provided by NASA's Goddard Space Flight Center

Citation: GPM checks rainfall rates in Category 4 Hurricane Olaf (2015, October 21) retrieved 23 March 2023 from <https://phys.org/news/2015-10-gpm-rainfall-category-hurricane-olaf.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.