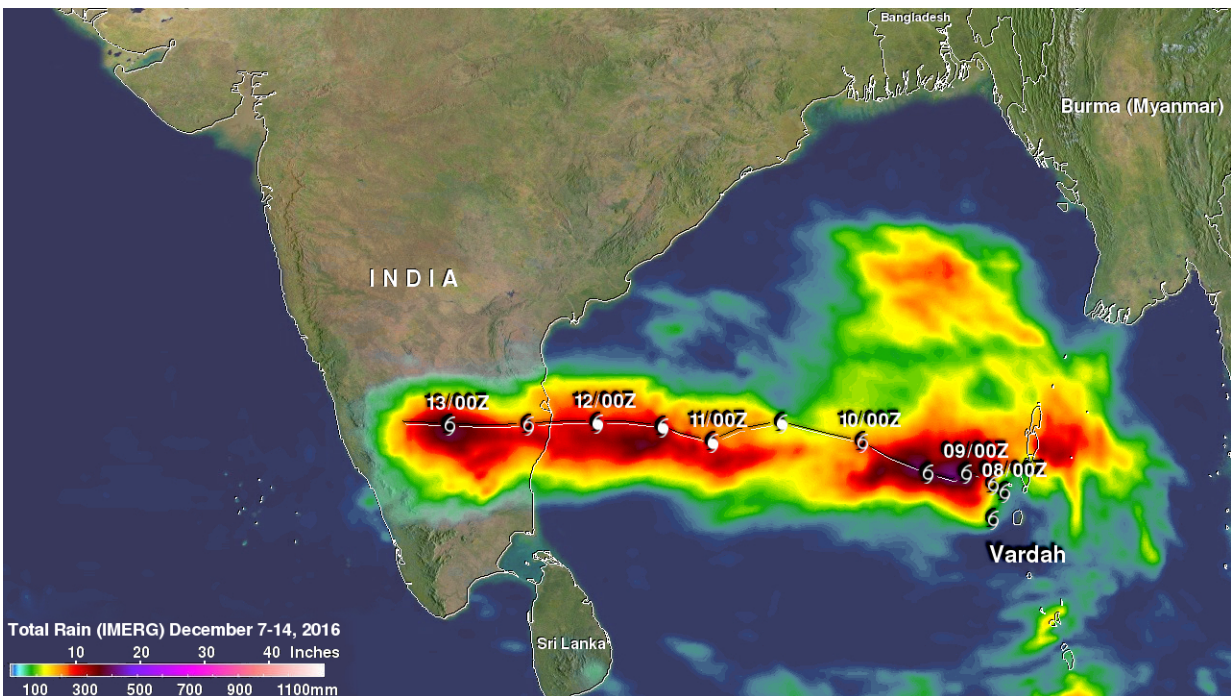


NASA finds a lifetime of heavy rainfall from Tropical Cyclone Vardah

December 15 2016



Rainfall totals were estimated from Dec. 7-14, 2016, and about 500 mm (19.7 inches) were analyzed in the area west of the Andaman Islands where Vardah formed and initially moved very slowly. IMERG total rainfall estimates of over 300 mm (11.8 inches) were shown in many areas along Vardah's track. Credit: NASA/JAXA, Hal Pierce

NASA gathered rainfall data on Tropical Cyclone Vardah from its birth in the Bay of Bengal through its mNASA gathered rainfall data on

Tropical Cyclone Vardah from its birth in the Bay of Bengal through its movement west into the Arabian Sea. Rainfall totals were estimated over Vardah's lifetime and path, and NASA found heavy rainfall from the remnants on Dec. 14.

Although Vardah's circulation dissipated the remnants were still producing rainfall in a few stormy areas when the Global Precipitation Measurement mission or GPM core observatory satellite flew over the Arabian Sea on Dec. 13 at 9:31 p.m. EST (Dec. 14 at 0231 UTC).

As GPM flew over the remnants, the satellite's Dual-Frequency Precipitation Radar (DPR) data showed that rainfall was still quite heavy. Rainfall was occurring at a rate of over 101 mm (4 inches) per hour in storms that were moving into the Arabian Sea. GPM's radar (DPR Ku Band) measured storm top heights in a few of these storms that were reaching altitudes above 14 km (8.7 miles). GPM is a joint mission between NASA and the Japanese space agency JAXA.

To calculate the rainfall dropped along Vardah's lifetime path, data from NASA's Integrated Multi-satellitE Retrievals for GPM (IMERG) were used. Rainfall totals were estimated from Dec.7 through 14, 2016 which was the period from Vardah's formation in the eastern Bay of Bengal until the tropical cyclone dissipated over southern India. IMERG showed that Vardah produced [heavy rainfall](#) over a large area of the central Bay of Bengal.

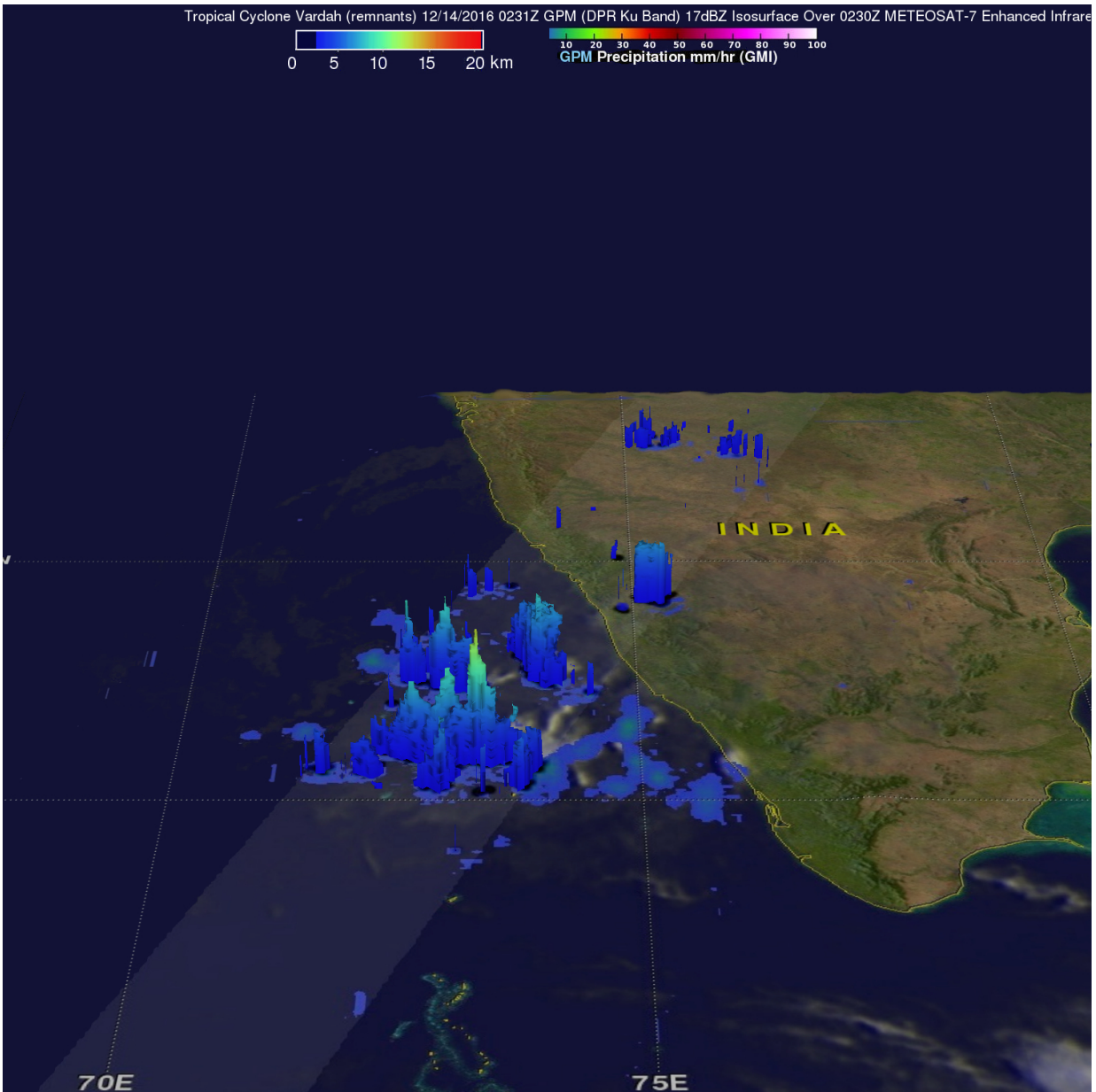
The highest IMERG rainfall total estimates of about 500 mm (19.7 inches) were analyzed in the area west of the Andaman Islands where Vardah formed and initially moved very slowly. IMERG total rainfall estimates of over 300 mm (11.8 inches) were shown in many areas along Vardah's track.

The highest IMERG rainfall total estimates over land were found from

where Vardah made landfall on India's southeastern coast through dissipation in the western part of the Indian state of Tamil Nadu. Flooding [rainfall](#) totals of over 224mm (8.8 inches) were reported in Chennai where Vardah came ashore.

India's RSMC or Regional Specialised Meteorological Centre in New Delhi said on Dec. 15 that the low pressure area and "associated scattered low/medium clouds with embedded moderate to intense convection (developing thunderstorms) lies over the Kerala - Karnataka coast and adjoining some parts of southeast Arabian Sea."

Vardah's remnants have a zero percent chance of redeveloping.



On Dec. 13 at 9:31 p.m. EST (Dec. 14 at 0231 UTC) the GPM core satellite showed rainfall was still quite heavy. Rainfall was occurring at a rate of over 101 mm (4 inches) per hour in storms that were moving into the Arabian Sea. Credit: NASA/JAXA, Hal Pierce

Provided by NASA's Goddard Space Flight Center

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