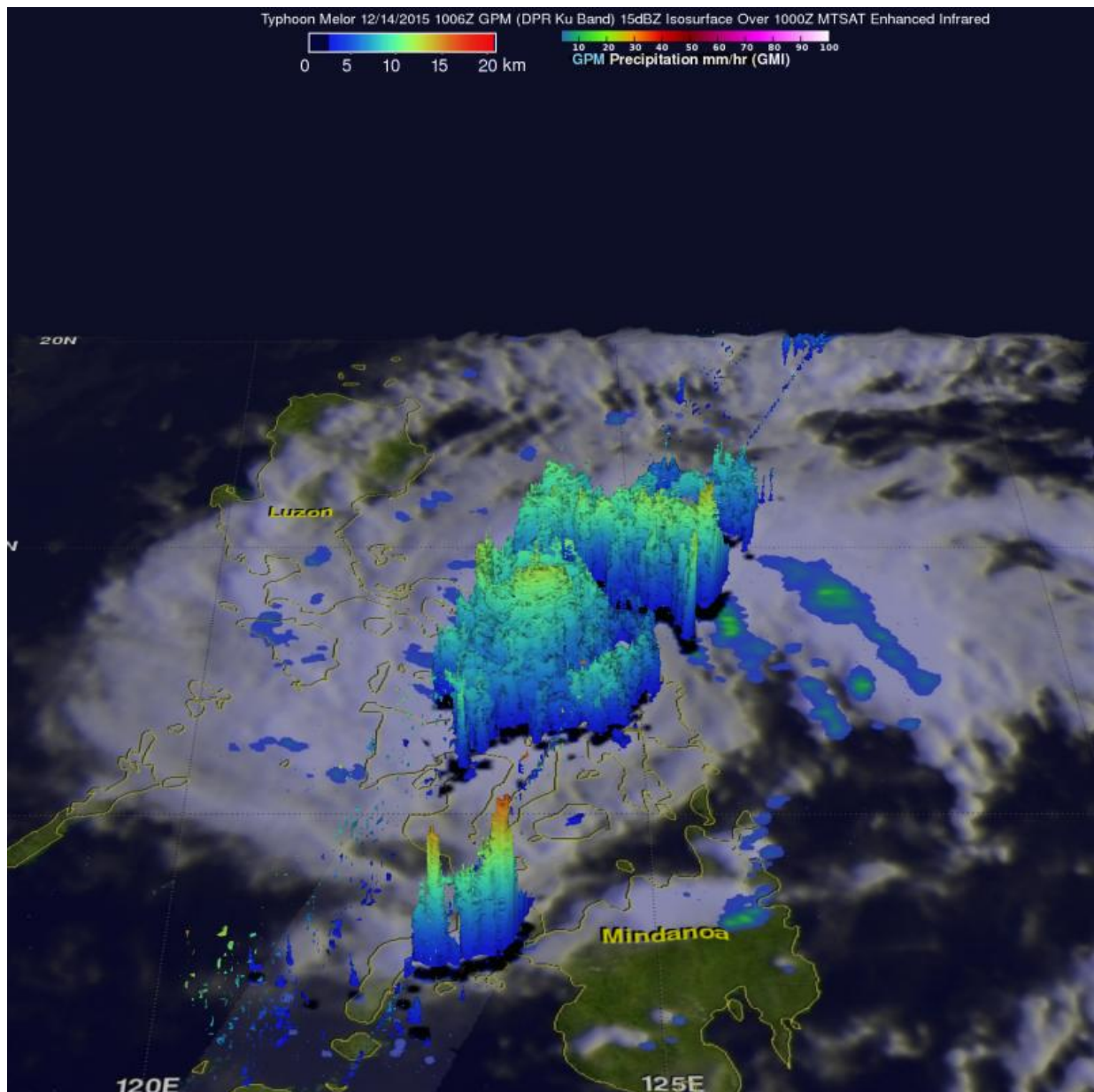


NASA's GPM measured Super Typhoon Melor's heavy rainfall

December 15 2015



On Dec. 14, 2015 the GPM satellite showed very intense storms in the southeastern side of Melor's eye wall were dropping rain at a rate of over 86 mm (3.4 inches) per hour. Storm top heights around Melor's eye were around 12.4 km (7.7 miles) and higher storm tops reaching 14.5 km (9 miles) were northeast of Melor's eye. Credit: NASA/JAXA/SSAI/Hal Pierce

Super-Typhoon Melor moved through the central and northern Philippines and dropped heavy rainfall on Dec. 14, 2015 and Dec. 15, 2015. The Global Precipitation Measurement or GPM core satellite measured the rainfall within Typhoon Melor as it affected the Philippines on Dec. 14, 2015. Early on Dec. 15, 2015, Melor reached the South China Sea still maintaining typhoon status.

Melor (known in the Philippines as Nona) formed east of the Philippines on Dec. 12, 2015. Melor became more powerful and became a typhoon the next day while heading toward the Philippines. The Joint Typhoon Warning Center (JTWC) indicated that Melor became [super typhoon](#) with winds of 115 knots (133 mph) just before hitting the Philippines. The GPM core observatory satellite passed above as super typhoon Melor was impacting the Philippines on Dec. 14, 2015 at 1006 UTC. At that time Melor still had [maximum sustained winds](#) of about 115 knots (133 mph).

At NASA's Goddard Space Flight Center in Greenbelt, Maryland, rainfall derived from data collected by GPM's Microwave Imager (GMI) and Dual-Frequency Precipitation Radar (DPR) instruments were overlaid on an enhanced Infrared image from the MTSAT satellite. The combined data showed the distribution of heavy rain in Melor. The GPM data found that very intense storms in the southeastern side of Melor's eye wall were dropping rain at a rate of over 86 mm (3.4 inches) per hour. GPM is managed by NASA and the Japan Aerospace Exploration

Agency.

GPM's Radar (DPR Ku Band) were used to examine the 3-D structure of super typhoon Melor's precipitation. Most of the storm top heights around Melor's eye were measured by GPM at heights of around 12.4 km (7.7 miles). Higher storm tops reaching 14.5 km (9 miles) were found in a feeder band northeast of Melor's eye.

On Dec. 15, 2015 at 0900 UTC (4 a.m. EST) Typhoon Melor was still a Category four tropical cyclone on the Saffir-Simpson scale with maximum sustained winds of about 115 knots (132 mph/213 kph). At that time, Melor's center was near 13.4 degrees north latitude and 120.9 degrees east longitude, about 78 nautical miles south of Manila. Melor has tracked west-northwestward at 6 knots (6.9 mph/11.1 kph). The storm is expected to turn to the west-southwest as it moves through the South China Sea.

Public storm [warning signal](#) #3 was in effect in the following Luzon provinces: Oriental Mindoro and Occidental Mindoro including Lubang Island. Public [storm warning](#) signal #2 was in effect in the following Luzon provinces: Batangas, Cavite, Marinduque, Romblon and Calamian group of Islands. Public storm warning signal #1 is in effect in the following provinces: Luzon: Metro Manila, Bataan, Southern Zambales, Bulacan, Laguna, Rizal, Quezon and Northern Palawan including Cuyo Island. In Visayas: Antique

JTWC predicts that Melor will maintain [typhoon](#) status through Dec. 17, 2015, and then winds will gradually decrease. JTWC noted that the storm will weaken to a remnant low pressure area over the South China Sea by Dec. 19.

Provided by NASA's Goddard Space Flight Center

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