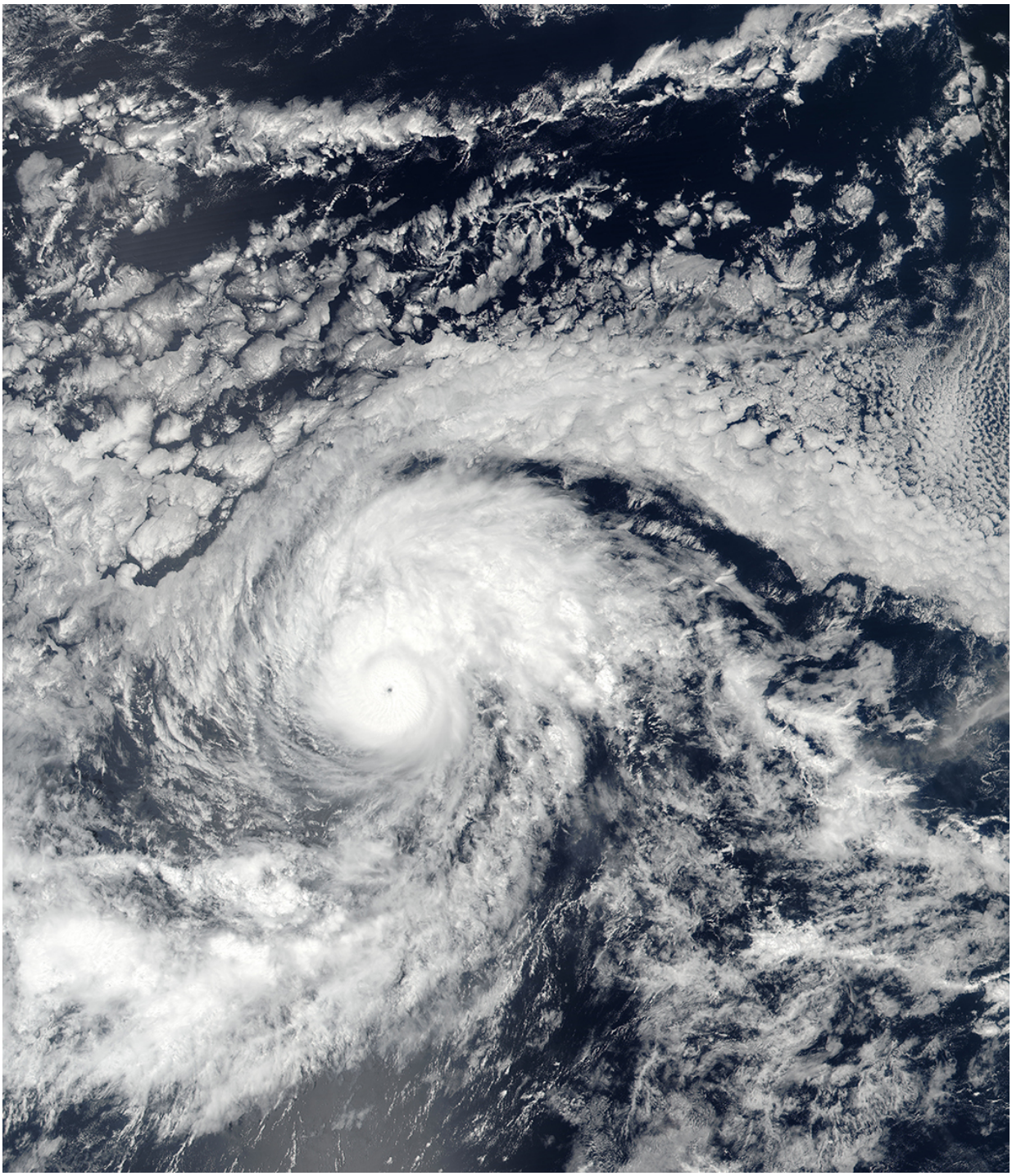
NASA finds a pinhole eye in Hurricane Otis

September 18 2017



NASA-NOAA's Suomi NPP satellite saw Hurricane Otis on Sept. 17 at 5:42 p.m. EDT (2142 UTC) in the Eastern Pacific Ocean. Credit: NOAA/NASA Goddard MODIS Rapid Response Team

Over the course of three days, Otis transitioned from a struggling tropical depression into a powerful hurricane in the Eastern Pacific Ocean. NASA-NOAA's Suomi NPP satellite captured an image of Hurricane Otis, showing a pinhole eye.

Tropical Depression 15E formed around 5 p.m. EDT on Monday, Sept. 11 several hundred miles west of Mexico. The depression struggled for days to organize. Five days later at 5 p.m. EDT, it strengthened into a tropical storm and was named Otis. Twenty-four hours later on Sunday, Sept. 17 Otis rapidly intensified to a Category 2 hurricane on the Saffir-Simpson Hurricane Wind Scale.

That's when the Visible Infrared Imaging Radiometer Suite (VIIRS) instrument aboard NASA-NOAA's Suomi NPP satellite flew over Otis captured a visible light image of the storm. The VIIRS image showed a pinhole eye surrounded by a thick band of powerful thunderstorms. From that pinhole eye, hurricane force winds only extend outward up to 25 miles (35 km) from the center and tropical-storm-force winds extend outward up to 70 miles (110 km).

The VIIRS image also showed a large, thick outer band of thunderstorms circling the northern quadrant of the storm.

At the time, the National Hurricane Center (NHC) discussion said "Recent Advanced Scatterometer (ASCAT) instrument data confirms that the wind field of the system is extremely compact." The main objective of ASCAT is the measurement of wind speed and direction over the oceans. The Advanced Scatterometer (ASCAT) winds products are processed by NOAA/NESDIS utilizing measurements from the scatterometer instrument aboard the EUMETSAT Metop satellites.

An animation of NOAA's GOES West satellite imagery from Sept. 15 at 10:30 a.m. EDT (1430 UTC) to Sept. 18 ending at 7:30 a.m. EDT (1130

UTC) showed Hurricane Norma approaching Baja California, Mexico and Tropical Depression 15E strengthening into Hurricane Otis to the west over open ocean. NOAA manages the GOES series of satellites and the NASA/NOAA GOES Project at NASA's Goddard Space Flight Center in Greenbelt, Md. uses the data to create images and animations.

On Monday, September 18, 2017 at 5 a.m. EDT (2 a.m. PDT/0900 UTC), the center of Hurricane Otis was located near 18.5 degrees north latitude and 127.3 degrees west longitude. Otis is far from land and over open waters of the Eastern Pacific Ocean, located about 1,165 miles (1,870 km west-southwest of the southern tip of Baja California, Mexico.

Otis was moving toward the north near 6 mph (9 kph). NHC said a slower northward motion is expected later today, followed by a turn to the west and southwest by late Tuesday, Sept. 19. Maximum sustained winds have decreased to near 100 mph (155 kph) with higher gusts. Rapid weakening is forecast during the next 48 hours.

For updates on Otis, visit: http://www.nhc.noaa.gov

Provided by NASA's Goddard Space Flight Center

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