## TRMM satellite sees Paul's low headed back to Gulf of Carpentaria

March 312010


The Tropical Rainfall Measuring Mission satellite captured Paul's rainfall rates on March 30 at 1707 UTC (1:07 p.m. EDT). The yellow and green areas indicate moderate rainfall between .78 to 1.57 inches per hour. The few red areas represent heavy rainfall at almost 2 inches per hour, and all of them are over the Gulf of Carpentaria. Credit: SSAI/NASA, Hal Pierce

NASA's Tropical Rainfall Measuring Mission satellite, better known as TRMM has been tracking Cyclone Paul's rainfall over the last week, and has watched is it made landfall in the Northern Territory and is now tracking Paul as it heads back toward the Gulf of Carpentaria for a return over water.

The Australian Bureau of Meteorology (ABM) continues to monitor the low pressure system that was tropical storm Paul. The ABM issued an
update on Paul's low at 4:56 p.m. CST local time (3:26 UTC), Wednesday, March 31, which would be 11:26 p.m. on March 30 for U.S. Eastern Daylight Time (the U.S. East coast is $141 / 2$ hours behind Darwin, Australia's time). Paul's center was still over land on March 31 but is forecast to move into the southwestern Gulf of Carpentaria on April 1.

As a result, there is now a cyclone Watch in effect for coastal and island communities from Cape Shield to the Northern Territory/Queensland border, including Groote Eylandt. The Cyclone Watch from Nhulunbuy to Cape Shield was cancelled. However, there is a Severe Weather Warning for damaging wind gusts and heavy rainfall in the RoperMcArthur and Arnhem Districts.

TRMM captured a satellite image of Paul's rainfall on March 30 at 1707 UTC (1:07 p.m. EDT). At that time, Paul's rainfall was mostly light to moderate (between 20 and 40 millimeters or .78 to 1.57 inches per hour) over land and the isolated areas of heavy rain (as much as 2 inches per hour) were confined over the waters of the Gulf of Carpentaria.

TRMM images are pretty complicated to create. They're made at NASA's Goddard Space Flight Center in Greenbelt, Md. At Goddard, rain rates in the center of the swath (the satellite's orbit path over the storm) are created from the TRMM Precipitation Radar (PR) instrument. The TRMM PR is the only space borne radar of its kind. The rain rates in the outer portion of the storm are created from a different instrument on the satellite, called the TRMM Microwave Imager (TMI). The rain rates are then overlaid on infrared (IR) data from the TRMM Visible Infrared Scanner (VIRS).


This is an infrared satellite image of Paul's cold thunderstorm tops (purple=coldest, highest) from March 29 at 16:35 UTC, when he was making landfall. Now, Paul has been downgraded to a low, and is almost in the same location, but exiting the mainland and headed back into the Gulf. Credit: Credit: NASA JPL, Ed Olsen

At 3:30 p.m. CST (02:00 UTC) on March 31, Paul was over land, and about 12 miles ( 20 kilometers) west of Numbulwar and 65 miles ( 105 kilometers) west southwest of Alyangula, near 14.3 degrees South and 135.5 degrees East. Paul's center was moving southeast at $6 \mathrm{mph}(10$ $\mathrm{km} / \mathrm{hr}$ ) per hour. Wind gusts near the low's center have been reported at $52 \mathrm{mph}(85 \mathrm{~km} / \mathrm{hr}$ ).

The Joint Typhoon Warning Center issued their final warning on Cyclone Paul on March 30 at 0900 UTC (5 a.m. EDT). Meanwhile, the ABM forecast takes Paul's center back into the Gulf of Carpentaria as a low and toward Port McArthur by April 1.

More information: For more information about TRMM, visit: http://www.trmm.gsfc.nasa.gov/.

## Provided by NASA's Goddard Space Flight Center

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