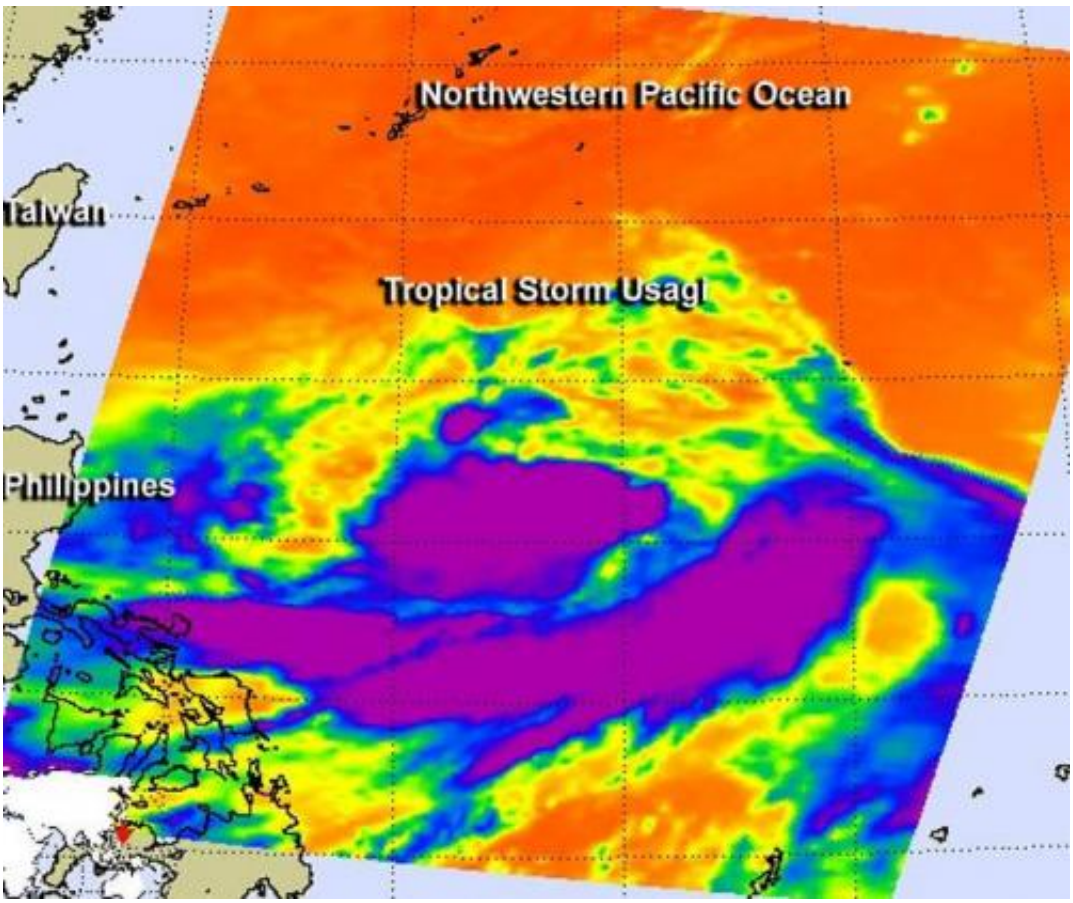
NASA spots wide band of strong thunderstorms south of Tropical Storm Usagi's center

September 18 2013, by Rob Gutro



The AIRS instrument aboard NASA's Aqua satellite captured this infrared image of Tropical Storm Usagi on Sept. 16 at 16:59 UTC/12:59 a.m. EDT. The image showed the highest storms and coldest cloud top temperatures (purple) around and south of the center. Credit: NASA JPL, Ed Olsen

Infrared data provides a look at cloud top temperatures in tropical cyclones and there were very cold cloud tops in the thunderstorms banding around the south of newborn Tropical Storm Usagi's Center.

On Sept. 16, low pressure System 99W strengthened into Tropical Depression 17W. The depression became Tropical Storm Usagi very late in the day.

The Atmospheric Infrared Sounder or AIRS instrument aboard NASA's Aqua satellite captured an infrared image of Tropical Storm Usagi on Sept. 16 at 16:59 UTC/12:59 a.m. EDT. The image showed the highest storms and coldest cloud top temperatures around and south of the center of circulation. The cloud top temperatures exceeded -63F/-52C in those areas, indicating high thunderstorms, with the potential for heavy rainfall.

The Joint Typhoon Warning Center or JTWC is the forecast organization for this tropical storm. JTWC noted that animated infrared satellite imagery revealed the low-level circulation center was consolidating, although partially exposed to outside winds. The circulation center has become more tightly wrapped and a central dense overcast feature has started to build along the southern edge of the center.

When NASA's Tropical Rainfall Measuring Mission satellite called TRMM passed overhead on Sept. 17 at 1050 UTC/6:50 a.m. EDT, the TRMM Microwave Imager, or TMI showed that the low-level center was continuing to consolidate and wrap more tightly, while thunderstorms and convection continued to strengthen.

On Tuesday, Sept. 17 at 1500 UTC/11 a.m. EDT Usagi had maximum sustained winds near 40 knots//46 mph/74 kph. Usagi was centered near 17.6 north and 130.6 east, about 559 nautical miles/643 miles/1,035 km

south-southeast of Kadena Air Base. Usagi was moving to the west at 5 knots/5.7 mph/9.2 kph.

The Joint Typhoon Warning Center forecast takes Usagi west toward the northern Philippines but turning to the northwest before reaching the country, and heading toward Taiwan.

Provided by NASA's Goddard Space Flight Center

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