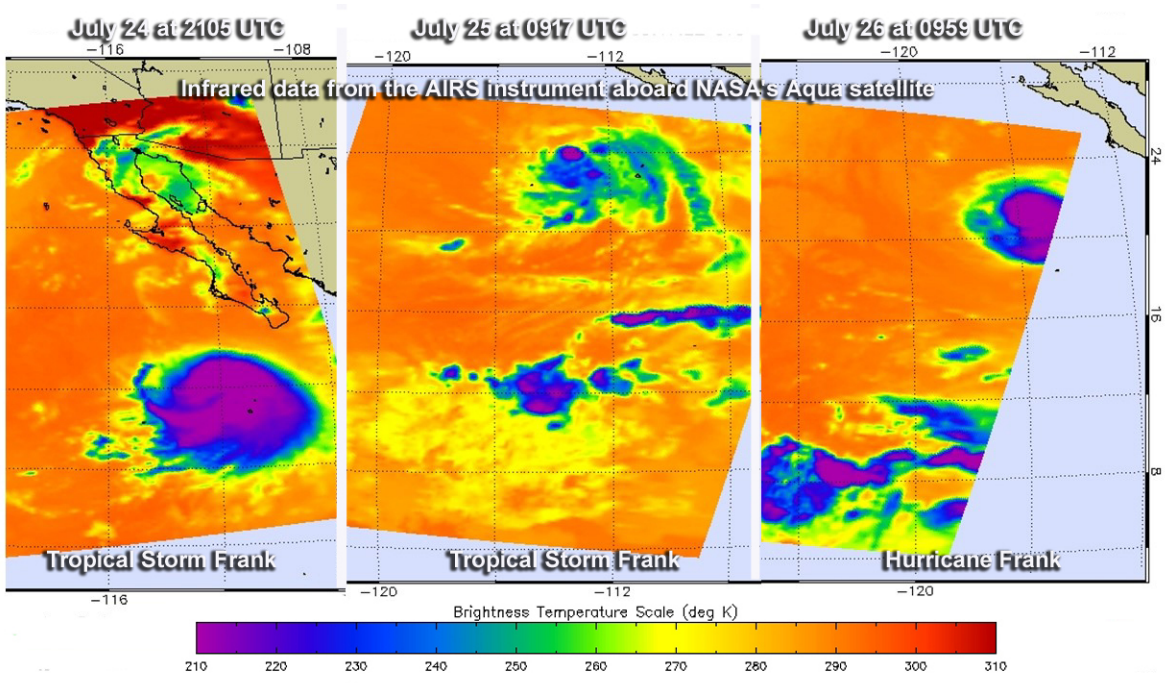
NASA data show Hurricane Frank's fluctuation in strength

July 26 2016



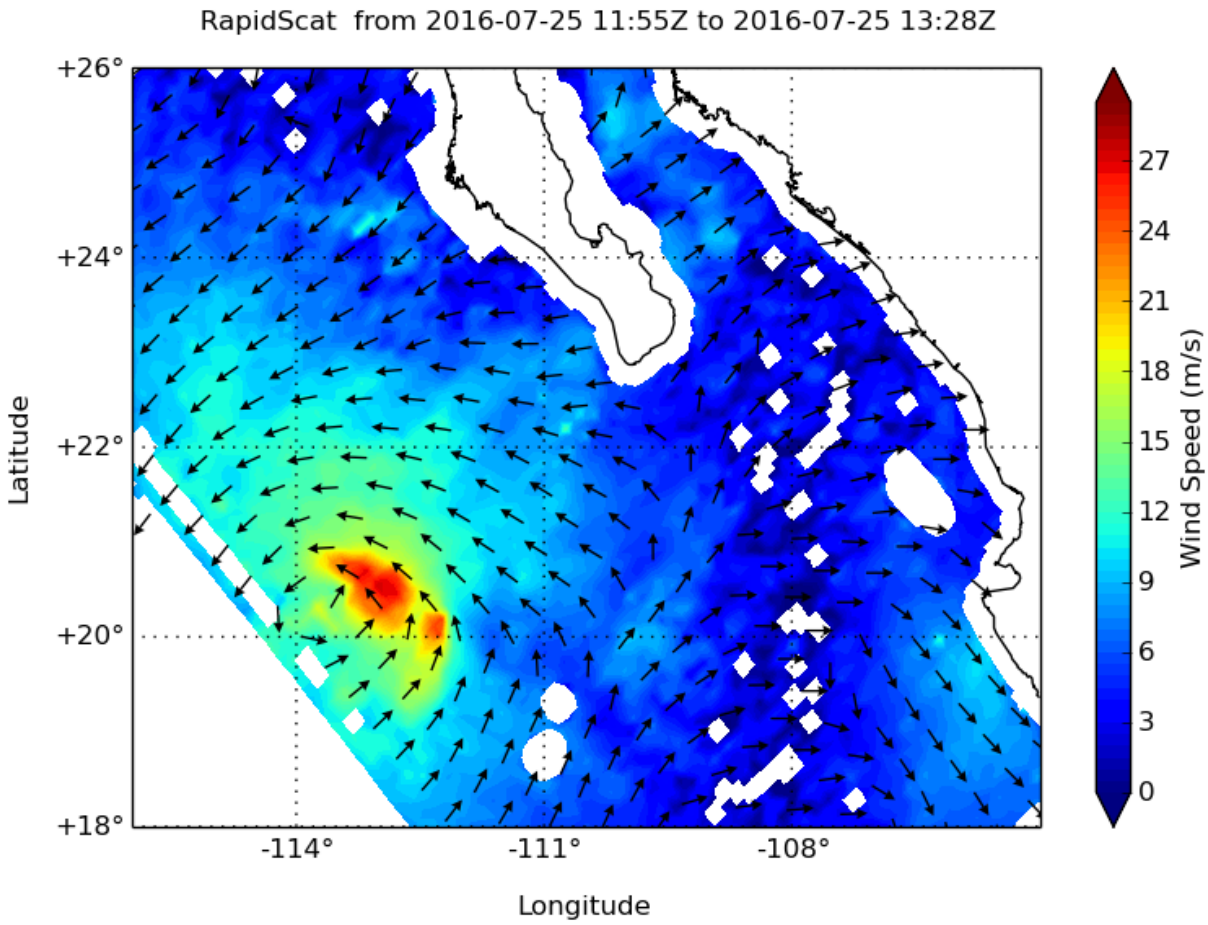
NASA's Aqua satellite passed over Frank on three days, July 24, 25 and 26 and saw the storm weaken on July 25 and restrengthen to hurricane status on July 26. Credit: NASA JPL/Ed Olsen

Infrared data from NASA's Aqua satellite showed a transition within Tropical Storm Frank over three days, and now Frank has become the Eastern Pacific's fifth hurricane.

NASA's Aqua satellite passed over Frank on three days, July 24, 25 and 26 and gathered infrared temperature data on the storm using the Atmospheric Infrared Sounder instrument. During that three day period, Frank weakened on July 25 and infrared data showed cloud top temperatures warmed and thunderstorm activity decreased. Warming cloud tops means that the top of the clouds are not as high in the troposphere as they were before (the higher you go in the troposphere, the colder it is). Warming cloud tops indicate weaker uplift of air in the storm, making it weaker

Data showed that the area of coldest cloud top temperatures, in excess of minus 63 degrees Fahrenheit (minus 53 degrees Celsius) and strongest thunderstorms diminished on July 25 and expanded again on July 26 as Frank moved over warm waters. Forecaster Pasch of the National Hurricane Center (NHC) noted this morning, July 26 that "deep convection associated with Frank has recently increased."

In addition to looking at temperatures, NASA's RapidScat looked at Frank's winds. The RapidScat instrument that flies aboard the International Space Station (ISS) has been analyzing the winds around Tropical Storm Frank. RapidScat is a scatterometer that can measure wind speeds over open ocean surfaces. The ISS passed over the eastern side of Tropical Storm Frank and RapidScat saw strongest winds near 27 meters per second (60.4 mph/97.2 kph) were occurring in the storm's northeastern quadrant. RapidScat found that tropical-storm-force winds extend outward up to 70 miles (110 km) from the center.



RapidScat passed directly over Tropical Storm Frank on July 25 and saw strongest sustained winds on the storm's northeastern side near 27 meters per second (60.4 mph/97.2 kph. Credit: NASA JPL/Doug Tyler

At 11 a.m. EDT (1500 UTC) on July 26, 2016 the eye of Hurricane Frank was located near latitude 21.2 degrees north and longitude 116.6 degrees west. Frank is moving toward the west-northwest at 9 mph (15 kph) and the NHC said this general motion is expected to continue for the next couple of days. Maximum sustained winds have increased to near 75 mph (120 kph) with higher gusts. Little change in strength is expected today.

NHC said that weakening is expected to begin on Wednesday as Frank moves into waters cooler than the 26.6 degree Celsius (80 degree Fahrenheit) threshold needed to maintain a tropical cyclone.

Provided by NASA's Goddard Space Flight Center