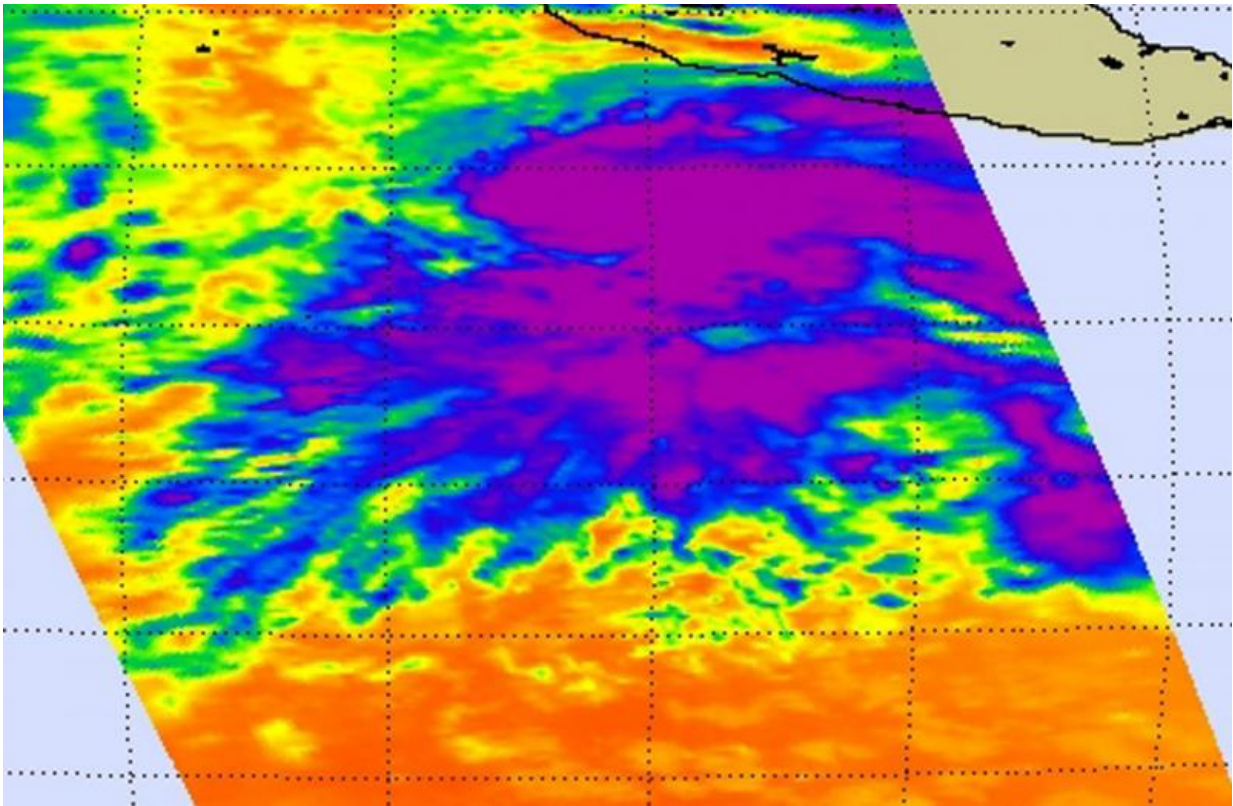


# NASA looks at Tropical Storm Blanca's increasing winds, dropping temperatures

June 2 2015, by Rob Gutro

---



On June 1 at 4:29 p.m. EDT NASA's Aqua satellite measured some very cold cloud tops (purple) near  $-81.6^{\circ}\text{F}/-63.1^{\circ}\text{C}$  indicating very high, powerful thunderstorms . Credit: NASA JPL, Ed Olsen

Cooling cloud top temperatures and increasing winds are two indications that a tropical cyclone is organizing and strengthening. NASA's Aqua

satellite and the International Space Station's RapidScat instrument helped meteorologists confirm those factors as Tropical Storm Blanca continues intensifying. In fact, the National Hurricane Center noted that environmental conditions are expected to allow Blanca to rapidly intensify to major hurricane status.

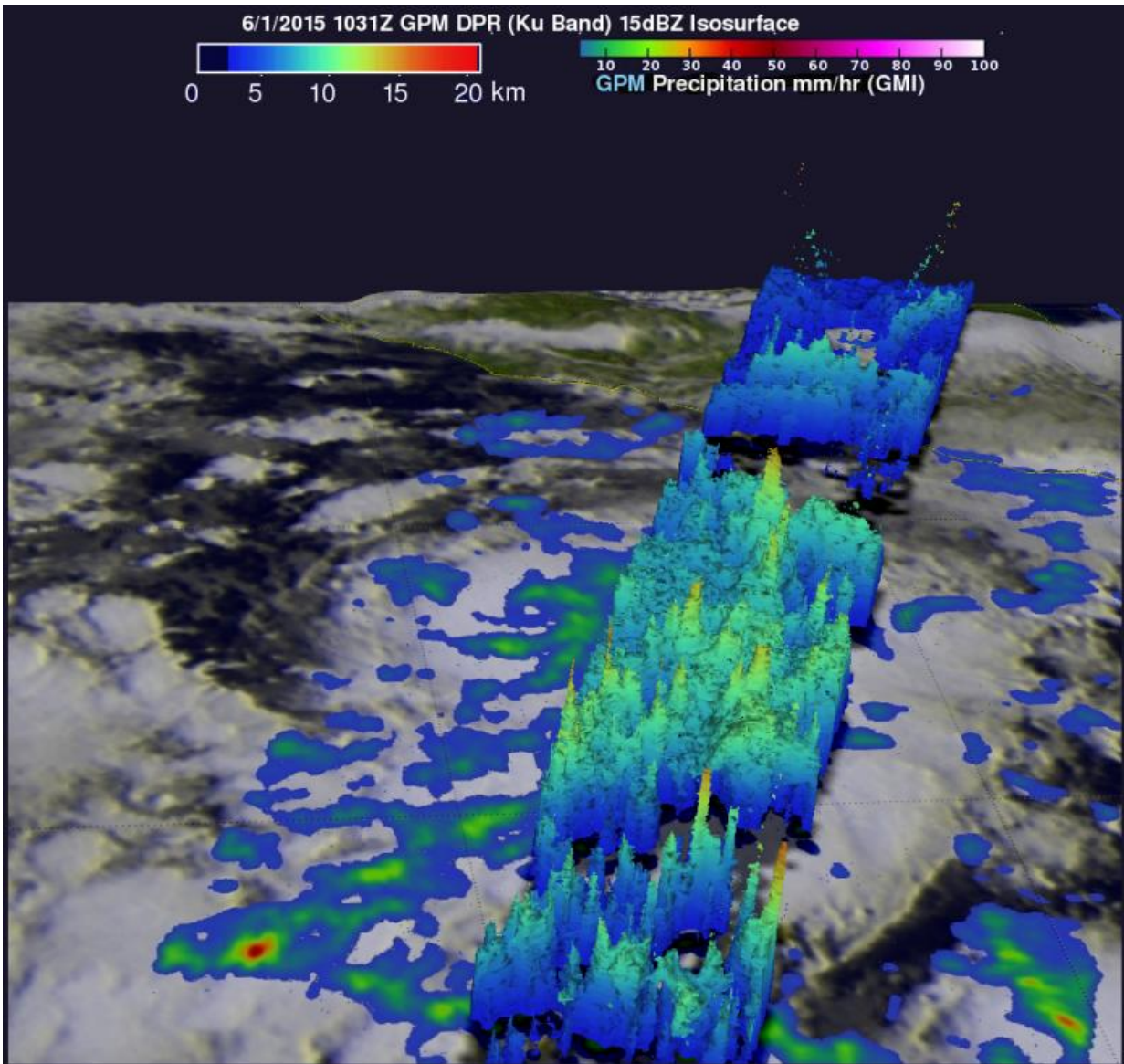
Blanca developed early Monday morning, June 1 and strengthened into a tropical cyclone later in the day.

On June 1 at 10:31 UTC (6:31 a.m. EDT) data from the Global Precipitation Measurement (GPM) core observatory showed that several areas of intense rainfall were located east of Blanca's center. Storm top heights were seen to frequently reach heights of over 15 kilometers (9.3 miles), indicating strong thunderstorms.

On June 1 at 20:29 UTC (4:29 p.m. EDT), the Atmospheric Infrared Sounder or AIRS instrument that flies aboard NASA's Aqua satellite gathered infrared data on Blanca. AIRS data from this flyover showed that cloud top temperatures over a larger area were cooling, indicating there was more uplift in the atmosphere and cloud tops were extending higher into the troposphere (and were getting stronger). AIRS measured some very cold [cloud tops](#) near 210 kelvin (-81.6F/-63.1C) indicating very high, powerful thunderstorms with heavy rain.

The International Space Station (ISS)-RapidScat instrument measures surface winds over the ocean. The ISS-RapidScat instrument gathered surface wind data today, Tuesday, June 2 from 00:35 to 2:05 UTC (June 1 from 8:35 p.m. EDT to 10:05 p.m. EDT). RapidScat identified the strongest winds in Blanca south of the center and as strong as 30 meters per second (67 mph/108 kph). Meanwhile, maximum sustained winds around the rest of Blanca's center had increased from 45 (75 kph) to 50 mph (85 kph). Forecasters at the National Hurricane Center forecast those winds will continue to increase as Blanca strengthens into a

hurricane.



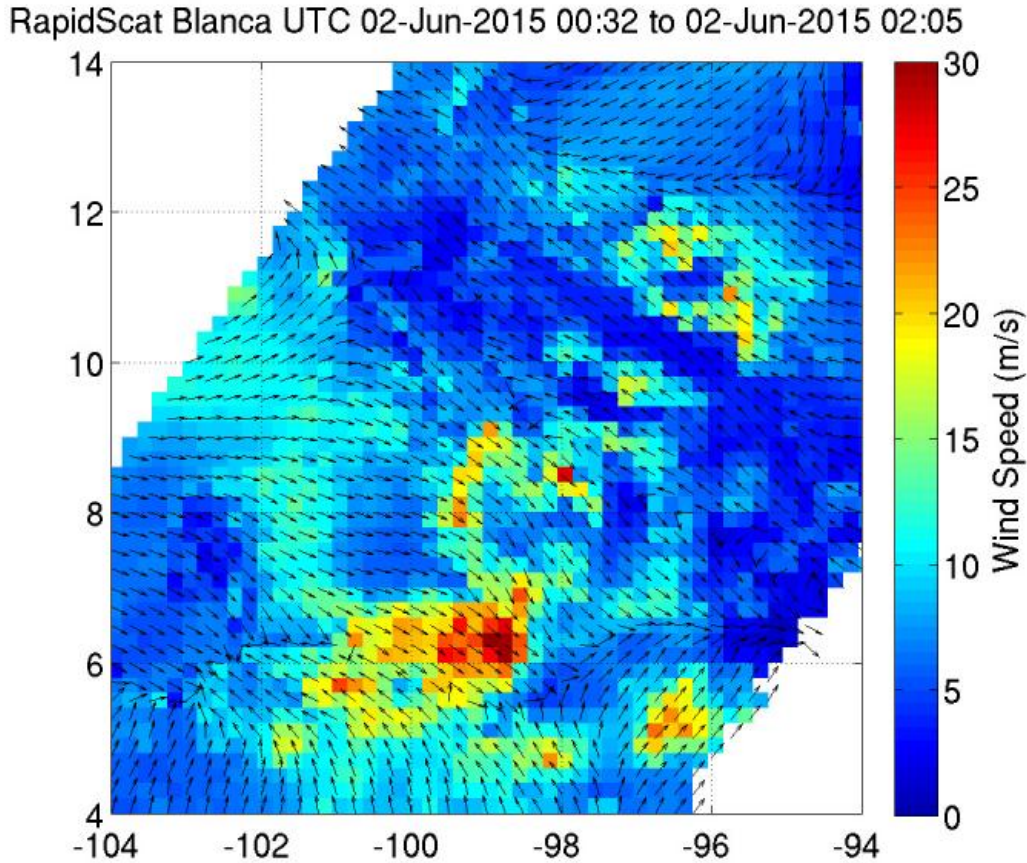
On June 1 at 6:31 a.m. EDT this 3-D view of Tropical Storm Blanca derived from GPM data shows several areas of intense rainfall east of the storm's center. Some storm top heights reached over 15km (9.3 miles). Credit: NASA/JAXA/SSAI, Hal Pierce

The National Hurricane Center noted that the cloud pattern of Blanca has become a little better organized overnight with increased banding and very deep convection over the center.

At 5 a.m. EDT (9:00 UTC), the center of Tropical Storm Blanca was located near latitude 13.3 North and longitude 104.6 West. That puts Blanca's center about 365 miles (585 km) southwest of Zihuatanejo, Mexico. Blanca was crawling toward the west near 1 mph (2 kph) and forecasters at the National Hurricane Center (NHC) expect a slow and erratic motion during the next couple of days. Blanca's maximum sustained winds were near 50 mph (85 kph) with higher gusts.

The [tropical storm](#) is located in an environment that will enable rapid development over the next few days: low vertical wind shear, warm waters (over 26.6 C/80F) and a moist atmosphere. As a result, NHC forecasters expect rapid strengthening during the next couple of days. Blanca is forecast to become a major hurricane by Wednesday night or early Thursday.





On June 2, RapidScat showed strongest winds (red) south of Blanca's center as high as 30 meters per second (67 mph/108 kph). Credit: NASA JPL/Doug Tyler

Provided by NASA's Goddard Space Flight Center

Citation: NASA looks at Tropical Storm Blanca's increasing winds, dropping temperatures (2015, June 2) retrieved 25 April 2024 from

<https://phys.org/news/2015-06-nasa-tropical-storm-blanca-temperatures.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private

study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.