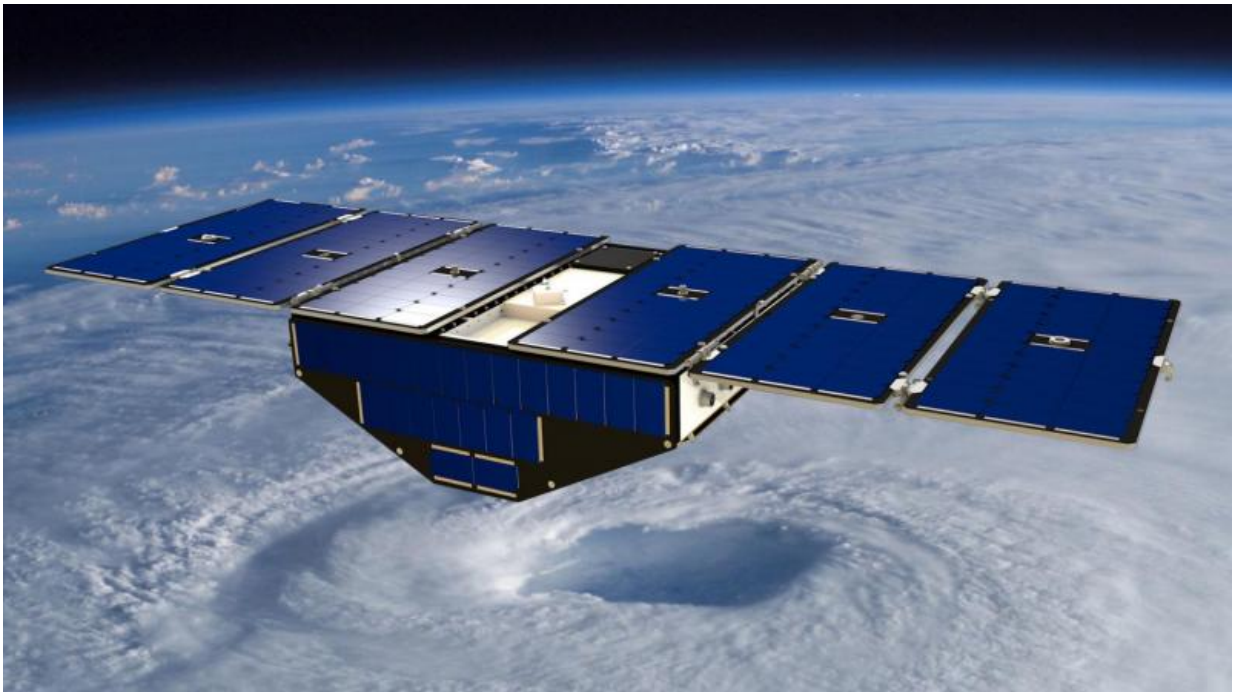


New NASA hurricane tracking mission on track

December 19 2016



Artist's concept of one of the eight NASA Cyclone Global Navigation Satellite System satellites deployed in space above a hurricane. Credit: NASA

NASA confirmed Friday morning that all eight spacecraft of its latest Earth science mission are in good shape. The Cyclone Global Navigation Satellite System (CYGNSS) will provide scientists with advanced technology to see inside tropical storms and hurricanes as never before.

CYGNSS launched into orbit at 5:37 a.m. PST (8:37 a.m. EST) Thursday aboard an Orbital ATK air-launched Pegasus XL launch vehicle. The rocket was dropped and launched from Orbital's Stargazer L-1011 aircraft, which took off from Cape Canaveral Air Force Station in Florida, over the Atlantic Ocean, off the coast of central Florida.

"The launch of CYGNSS is a first for NASA and for the scientific community," said Thomas Zurbuchen, associate administrator for the agency's Science Mission Directorate in Washington. "As the first orbital mission in our Earth Venture program, CYGNSS will make unprecedented measurements in the most violent, dynamic and important portions of [tropical storms](#) and hurricanes."

The CYGNSS constellation will make frequent and accurate measurements of ocean surface winds in and near a hurricane's inner core, including regions beneath the eyewall and intense inner rainbands that previously could not be measured from space. CYGNSS will do this by using both direct and reflected signals from existing GPS satellites to obtain estimates of [surface wind speed](#) over the ocean.



A Pegasus XL rocket carrying eight Cyclone Global Navigation Satellite System (CYGNSS) spacecraft fires its first-stage engine following release from the Orbital ATK L-1011 Stargazer aircraft over the Atlantic Ocean off Daytona Beach, Florida, on Dec. 15, 2016. Credit: NASA

"CYGNSS will provide us with detailed measurements of hurricane wind speeds, an important indicator of a storm's intensity," said Christopher Ruf, CYGNSS principal investigator at the University of Michigan's Department of Climate and Space Sciences and Engineering in Ann Arbor. "Ultimately, the measurements from this mission will help improve hurricane track and intensity forecasts."

"In the vast majority of cases we can predict a hurricane's track very accurately, but we still have a very hard time knowing how intense the storms will be when they get where they're going," said Derek Posselt, CYGNSS deputy principal investigator at NASA's Jet Propulsion Laboratory, Pasadena, California. "It's the intensity of hurricanes—the wind speed and the storm surge—that really determines how much damage there will be and whether a population will need to evacuate or shelter in place."

CYGNSS is the first orbital mission competitively selected by NASA's Earth Venture program, managed by the Earth System Science Pathfinder (ESSP) Program Office at NASA's Langley Research Center, Hampton, Virginia. This program focuses on low-cost, science-driven missions to enhance our understanding of the current state of Earth and its complex, dynamic system and enable continual improvement in the prediction of future changes.

"There is a feeling of pride and joy knowing that you have been a part of something that is much bigger than yourself and will potentially have a significant positive impact on the general public safety," said Jim Wells, ESSP [mission](#) manager.

More information: For more information about CYGNSS, visit www.nasa.gov/cygnss

Provided by NASA

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