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NOAA's GOES-R weather satellite readies for historic launch *Cascade of forecast improvements anticipated*

In just 30 days, the first of NOAA's long-awaited, next-generation geostationary weather satellites launches into space, paving the way for faster, more accurate forecasts and warnings. The Geostationary Operational Environmental Satellite-R, known as [GOES-R](#), is scheduled to launch Nov. 4 at approximately 5:40 p.m. EDT from Cape Canaveral, Florida, aboard an Atlas V 541 rocket.

GOES-R, NOAA's biggest satellite advancement to date, will provide National Weather Service forecasters the meteorological equivalent of going from black and white to ultra-high-definition color TV. The new satellite can deliver vivid images of severe weather as often as every 30 seconds, scanning the Earth five times faster, with four times greater image resolution and using triple the number of spectral channels compared with today's other GOES spacecraft.

GOES-R's advanced imagery and higher resolution will enable improvements to NOAA's hurricane tracking and intensity forecasts, as well as the forecasting of severe weather including tornadoes, thunderstorms and flooding. In addition, GOES-R's space weather sensors will improve NOAA's ability to monitor the sun and forecast space weather, including the detection of radiation hazards that affect satellites, astronauts and commercial aviation.

"This remarkable spacecraft and the instruments it holds embody what NOAA and the aviation, aerospace, and private weather enterprises have been conceptualizing for years," said NOAA administrator Dr. Kathryn Sullivan. "GOES-R will serve as the vital foundation for the Weather-Ready Nation we are building. Not only will its data help forecasters increase our watch and warning times, but will help our communities and businesses build smarter, stay safer, and remain resilient to global change."

Among GOES-R's six highly advanced instruments is the first operational lightning mapper in geostationary orbit, which will allow forecasters to track lightning over the entire hemisphere, almost instantaneously. This is important because intensification in lightning activity may indicate a storm is becoming increasingly severe.

"With GOES-R, the National Weather Service will have unprecedented new capabilities that allow for a wide range of forecast improvements," said NOAA's National Weather Service director Louis W. Uccellini, Ph.D. "Space-based lightning detection and advanced imagery are among the new tools, which will help forecasters better monitor storm development and deliver more precise, timely and accurate watches and warnings."

GOES-R will fly in a geostationary orbit at the same rotational speed as the Earth, 22,300 miles above the equator. GOES, which operates from two primary locations, GOES-East and GOES-West, has provided continuous imagery and data on weather and atmospheric conditions of Earth's Western Hemisphere for more than 40 years.

“With GOES-R, NOAA will now operate the most sophisticated technology ever flown in space to help forecast weather on Earth,” said Stephen Volz, Ph.D., assistant administrator of NOAA’s Satellite and Information Service.

Once launched, GOES-R will undergo testing and validation for one year. GOES-R is designed for 10 years of on-orbit operation, followed by up to five years of on-orbit storage. Once on orbit, the satellite will be known as GOES-16.

There are four satellites in the GOES-R series: -R, -S, -T and -U, which will extend satellite coverage through 2036.

“This mission builds on more than four decades of partnership between NOAA and NASA to successfully build and launch geostationary operational environmental satellites,” said Sandra Smalley, director of NASA’s Joint Agency Satellite Division, which works in partnership with NOAA to manage the development and launch of GOES-R. “We are excited to be a part of this next generation satellite that promises to be a game changer in the realm of operational weather forecasting.”

NOAA manages the GOES-R Series Program through an integrated NOAA-NASA office, staffed with personnel from both agencies. NASA’s Goddard Space Flight Center oversees the acquisition of the GOES-R spacecraft and instruments. Lockheed Martin is responsible for the design, creation and testing the GOES-R series satellites and for spacecraft launch processing. Harris Corp. provided GOES-R’s main instrument payload, the Advanced Baseline Imager, the antenna system for data receipt and the ground segment.

For more information about GOES-R and the upcoming launch, visit: <http://www.goes-r.gov/>.

NOAA’s mission is to understand and predict changes in the Earth’s environment, from the depths of the ocean to the surface of the sun, and to conserve and manage our coastal and marine resources. Join us on [Twitter](#), [Facebook](#), [Instagram](#), and our other [social media channels](#).