

All instruments for GOES-R satellite now integrated with spacecraft

January 12 2015, by Lauren Gaches



The GOES-R Advanced Baseline Imager (ABI) is installed onto the GOES-R spacecraft at Lockheed Martin in Littleton, Colorado, on October 13, 2014. Credit: Lockheed Martin

All six instruments that will fly on the NOAA's Geostationary Operational Satellite - R (GOES-R) satellite have now completed integration onto the spacecraft.

The instruments are: the Advanced Baseline Imager (ABI), the Geostationary Lightning Mapper (GLM), the Space Environment In-Situ Suite (SEISS), the Extreme Ultraviolet and X-ray Irradiance Sensors (EXIS), the Solar Ultraviolet Imager (SUVI) and the Magnetometer.

Together, these instruments will offer significant improvements for the observation of both terrestrial [weather](#) and space weather that impact life on Earth. The GOES-R series satellites will offer enhanced hurricane track and intensity forecasts, increased severe weather warning lead time, improved solar flare warnings for communications and navigation disruptions, better data for long-term climate variability studies, improved aviation flight route planning, and better monitoring of [space weather](#) to improve geomagnetic storm forecasting.

"The completion of the instruments integration marks another critical step in the development of the GOES-R satellite as we look forward to launch in March 2016," said Greg Mandt, NOAA's GOES-R System Program Director at NASA's Goddard Space Flight Center in Greenbelt, Maryland. We are now focusing our efforts on the environmental testing phase, the next step for the GOES-R spacecraft, to ensure the satellite is prepared to withstand the rigors of launch and operation in the extreme environment of space."

The GOES-R series will be more advanced than the current GOES fleet. The satellites are expected to more than double the clarity of today's GOES imagery and provide more atmospheric observations than current capabilities with more frequent images.

"We're very excited about the new channels and higher resolution of the ABI, which will help NOAA's Hurricane Center (NHC) monitor tropical cyclones. The data also have the potential to improve track forecasts when they're included in numerical models," said James Franklin, branch chief, Hurricane Specialist Unit, NHC. "We also think GLM could help

us better anticipate tropical cyclone rapid intensification periods. These new instruments on GOES-R represent a vast potential for future improvements."

The advanced spacecraft and instrument technology on the GOES-R series satellites will result in more timely and accurate [weather forecasts](#). It will improve support for the detection and observations of meteorological phenomena and directly affect public safety, protection of property, and ultimately, economic health and development. The GOES-R series satellites will provide images of weather patterns and severe storms as frequently as every 30 seconds, which will contribute to more accurate and reliable weather forecasts and severe weather alerts.

"Future GOES-R imagery, combined with its new lightning measurements, will provide NOAA Storm Prediction Center (SPC) forecasters with unprecedented observations of developing severe storms," said SPC Director Russell Schneider. "This will increase the accuracy of our warning messages for communities across the United States."

With the GOES-R satellite on track for launch in March 2016, development for the following GOES-S satellite is also executing on schedule. Two instruments, ABI and EXIS, are already complete and work on the spacecraft is well underway as the satellite moves towards launch in the third Quarter of FY2017. The SEISS and SUVI instruments for GOES-S are scheduled for completion in 2015.

Provided by NASA's Goddard Space Flight Center

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