



GOES-R

GEOSTATIONARY OPERATIONAL ENVIRONMENTAL SATELLITE R-SERIES

QUARTERLY NEWSLETTER ■ OCTOBER–DECEMBER 2017 ■ ISSUE 20

HIGHLIGHTS

A Note from Tim Walsh, Acting GOES-R System Program Director:



I am excited to take over as Acting GOES-R System Program Director for the

GOES-R Series Program and look forward to working with all of you to continue the successful path this program is on. We have a lot to be proud of this quarter. GOES-16 is now fully operational as NOAA's GOES-East satellite and forecasters are thrilled. GOES-S was delivered to Kennedy Space Center in December and is undergoing final preparations for launch on March 1, 2018. We will soon have two game-changing geostationary satellites watching over the Western Hemisphere!

GOES-16 is OPERATIONAL
as **NOAA's GOES-East**

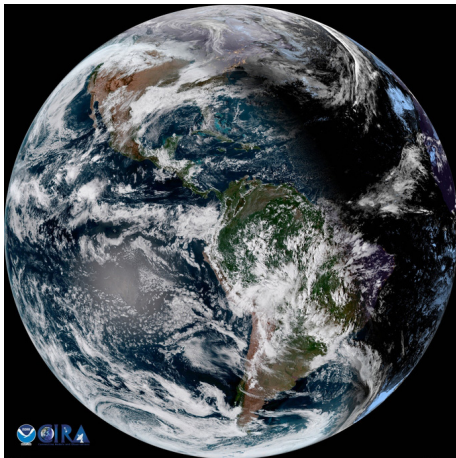
Position: **75.2W**

On December 8, GOES-16 entered service as NOAA's operational GOES-East satellite. GOES-16 began drifting from its checkout location at 89.5 degrees west longitude to the GOES-East operational location of 75.2 degrees west longitude on November 30. The satellite arrived at its destination on December 11 and all instruments transitioned back to operational mode. Data began flowing to users on December 14, and on December 18, GOES-16 officially became GOES-East.

[Learn more about the transition to operations in this press release.](#)

View GOES-16 operational imagery via the brand new [GOES-East Image Viewer](#).

The previous GOES-East satellite, GOES-13, provided data until January 8, 2018, at which time instruments were turned off. GOES-13 began drifting to its storage location at 60 degrees west longitude on January 9 and is expected to arrive on January 31. Welcome to the fleet GOES-16 and [thank you for your service GOES-13!](#)



GOES-16 full disk geocolor imagery taken from the operational GOES-East position on December 18. Credit: NOAA

DID YOU KNOW?

The GOES-16 Geostationary Lightning Mapper (GLM) has detected more than 18 billion lightning events to date!

HIGHLIGHTS (CONTINUED)



This year, forecasters had a revolutionary new forecasting tool at their disposal – NOAA's GOES-16 satellite. Brand new instrumentation, additional spectral information, improved resolution, faster scanning ability, and new product development allow GOES-16 to provide information on meteorological features like never before. During its extended validation phase, GOES-16 provided vital data on severe storms, hurricanes, wildfires and other weather hazards. The satellite generated 299 terabytes of data in 2017! Thanks to GOES-16, forecasters and emergency managers are better equipped with more accurate weather predictions and faster warnings. [Take a look back at GOES-16's momentous year in this feature story.](#)

GOES-S arrived at NASA's Kennedy Space Center on December 4 aboard a U.S. Air Force C-5M Super Galaxy cargo transport from Buckley Air Force Base in Aurora, Colorado. The satellite now resides in a clean room at Astrotech Space Operations in Titusville, Florida, and is undergoing preparations for a March 1, 2018 launch. [WeatherNation TV](#) accompanied GOES-S on the journey and produced several on-air and online videos. On December 8, [NASA issued a news release](#) and [NOAA published a photo essay](#) on the milestone. Photos of the shipment and arrival can be viewed in the [GOES-S Road to Launch image gallery](#) on Flickr.



GOES-S emerges from its transport at Kennedy Space Center on December 4.
Credit: Michael Starobin, NOAA/NASA

GOES-S is unwrapped in a clean room at Astrotech Space Operations after arriving in Florida.
Credit: Michael Starobin, NOAA/NASA



A number of reviews were completed before GOES-S was shipped to Kennedy Space Center. The GOES-S **Ground Operations Review** was conducted on October 17 and confirmed readiness to start launch site processing at Astrotech Space Operations near Kennedy Space Center. On November 8, the GOES-S **Pre-Shipment Review** was successfully completed at Lockheed Martin in Littleton, Colorado. The review verified the satellite was built according to specification and meets all government requirements. The GOES-S **Operational Readiness Review (ORR)** was conducted on November 15 at Goddard Space Flight Center in Greenbelt, Maryland. The ORR examined the characteristics and procedures used in the system's operation and determined that flight and ground hardware, software, personnel, procedures, and user documentation accurately reflect the deployed state of the system. The review confirmed the system is ready to transition into an operational mode with two on-orbit satellites.

Progress continues on the development of the GOES-T satellite. The Pre-Shipment Review for the GLM instrument that will fly on GOES-T was successfully completed on December 6. Also in December, the satellite was powered on for the first time since the mate operation. The latest

flight software version was installed and communications subsystem testing is ongoing.

The GOES-T Key Decision Point D Review was conducted on December 20. During the review, a joint NOAA-NASA Program Management Council determined the satellite is ready to proceed to the integration phase.



The SUVI development team was honored with a plaque commemorating the completion of all GOES-R Series SUVI instruments. Credit: Lockheed Martin

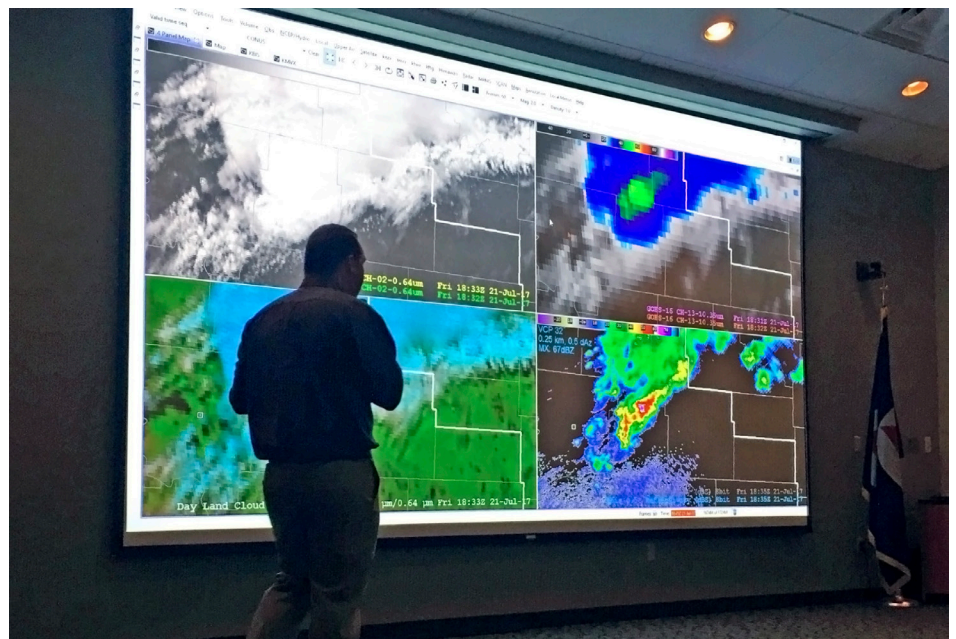
The program celebrated the completion of the GOES-U Solar Ultraviolet Imager (SUVI) on December 7. This marks the conclusion of SUVI development activities for the entire GOES-R Series. The GOES-U SUVI will remain in storage to await spacecraft integration.

CONFERENCES, EVENTS AND TRAINING

The National Weather Service (NWS) GOES-16 User Applications Workshop was held November 14-16 at the NWS Training Center in Kansas City, Missouri. This workshop allowed forecasters to share applied content on the use of GOES-16 in forecast and warning operations. "The GOES-16 Workshop was truly phenomenal in how it allowed operational meteorologists to share how they've used the new satellite imagery to make real-world decisions in a manner that cannot be replicated from simple classroom learning," said Chauncy Shultz, Science and Operations Officer at the NWS Forecast Office in North Dakota.



The seven-week [GOES-R Series Faculty Virtual Course](#) webinar series is now complete. The course provided an introduction to the new capabilities offered by the GOES-R Series satellites and offered learners the opportunity to hear from key experts in the field. Fostering discussion and interaction



Chauncy Shultz leads a session at the GOES-16 User Applications Workshop on using GOES-16 for convective warning operations. Credit: NOAA

between experts, educators, students, and satellite users, the course provided university faculty with a basis for using GOES-16 data in coursework and student research projects. Approximately 20-30 universities participated each week from across the United States.

MEET THE TEAM



In this issue, meet Daniel Lindsey, Ph.D., new senior scientific advisor to the GOES-R Series Program. In his new role, Dr. Lindsey serves as the primary science authority for the program. As senior scientific advisor, Dan looks forward to helping to lead cutting edge research activities using data from GOES-16 and -17. “As a scientist, few things are more exciting than having access to data from brand new instruments and being tasked with figuring out the wealth of operationally-useful applications that those data allow for,” he says.

Lindsey is a research meteorologist at the NOAA Center for Satellite Applications and Research with the Regional and Mesoscale Meteorology Branch in Fort Collins, Colorado. He is also a member of the Imagery Team and the Calibration Working Group for GOES-R’s Advanced Baseline Imager (ABI) and helped lead an evaluation of the utility of one-minute imagery from GOES-14 by the National Weather Service (NWS) in preparation for the launch of GOES-R. Dan has been integral in determining how to best display GOES-16 imagery and create multi-spectral products that help the NWS in their day-to-day operations.

As a self-professed “weather weenie,” Dan’s research interests include remote sensing of mesoscale phenomena, especially convective storms, cloud physics, and algorithm development. He is a recent recipient of the NOAA David Johnson Award for his work in preparing for the optimal use of data and imagery from GOES-R’s

ABI prior to launch. Outside of work, Lindsey is a snow lover and enjoys downhill skiing with his family and playing both indoor and outdoor volleyball.

UPCOMING EVENTS

GOES-S is scheduled to launch on March 1 aboard an Atlas V 541 rocket from Cape Canaveral Air Force Station in Florida. Once it joins GOES-16 in geostationary orbit, GOES-S will be renamed GOES-17. After a checkout period and drift to its operational location, GOES-17 will join NOAA’s operational fleet as GOES-West in late 2018. Together, GOES-16 and GOES-17 will observe the majority of the Western Hemisphere from the west coast of Africa all the way to New Zealand.

CONNECT WITH US!

