



QUARTERLY NEWSLETTER ■ JANUARY-MARCH 2016 ■ ISSUE 13

## HIGHLIGHTS

### A Note from Greg Mandt, GOES-R System Program Director



As we head into spring there's a real sense of excitement building across the program as we march closer to launch. GOES-R is currently scheduled to lift off on Thursday, October 13, 2016 at 5:43 p.m. EDT from Space Launch Complex 41 at Cape Canaveral Air Force Station in Florida. Our team is already working on launch preparations and the satellite is undergoing final testing to prepare it for shipment to NASA Kennedy Space Center in August. In February, we also announced a new launch planning date for GOES-S, which is now scheduled to launch no later than the 4th Quarter of Fiscal Year 2018. From "Flight" to "Ground" our team is working hard towards the launch of GOES-R.



GOES-R acoustics testing. Credit: Lockheed Martin

**The GOES-R satellite is going through final testing** to ensure that it can withstand the harsh conditions of launch and the space environment. In January, GOES-R completed vibration testing, which simulates the stresses experienced during launch to ensure there are no structural weaknesses. Acoustics testing, which uses high-intensity horns to subject the satellite to extreme high sound pressure that simulates the noises created when the rocket is launched, was completed in March. GOES-R will next undergo testing to ensure that the electromagnetic signals produced by satellite components do not interfere with its operation.

**The GOES-S satellite successfully passed its Key Decision Point "D" review** in February, formally beginning the spacecraft's integration phase. To date, the Earth-pointing platform has been integrated with the satellite and the Advanced Baseline Imager (ABI) and Geostationary Lightning Mapper (GLM) instruments installed.

Installation of the GOES-S GLM (right) alongside the ABI on the Earth-pointing platform of the satellite. Credit: Lockheed Martin



## DID YOU KNOW?

... the GOES-R satellite was subjected to a sound pressure level of 140.5 decibels during acoustics testing to ensure it will function normally after experiencing extreme acoustic vibrations during launch?

## HIGHLIGHTS (CONTINUED)

In January, the mission operations team began a series of rehearsals to simulate specific phases of the GOES-R mission. These mission rehearsals use a satellite simulator and the new GOES-R ground system to train operations personnel and test the readiness of operational products and the ground system. The rehearsals simulate both nominal and contingency operations and are conducted at the NOAA Satellite Operations Facility in Suitland, Maryland. Mission Rehearsal One simulated launch, liquid apogee engine burn, and solar array deployment. The second mission rehearsal, in March, successfully exercised critical launch and orbit-raising events, procedures and facilities.



GOES-R Mission Rehearsal 2. Credit: GOES-R Series Program

**GOES-R launch planning is underway.** On February 29, a delegation from NESDIS, NASA, and the GOES-R Series Program Office participated in a kickoff meeting with NASA Kennedy Space Center (KSC) to formally begin planning guest operations activities associated with the launch of GOES-R in October. The team met with KSC's guest operations and communications teams as well as representatives from United Launch Alliance and Cape Canaveral Air Force Station. KSC also provided a comprehensive tour of the various facilities that will be utilized on the day of the launch.



GOES-R launch planning team at KSC. Credit: GOES-R Series Program

**A successful Antenna Station Certification Review** was held in March for the R-3 antenna at the Consolidated Backup (CBU) facility in Fairmont, West Virginia. The antenna is now ready to support GOES-R system testing along with operations readiness and launch preparation activities. This completes certification for operations of all CBU antennas.

**The ABI that will fly on GOES-T successfully completed its Pre-Shipment Review** in February at Harris Corporation in Fort Wayne, Indiana. An independent team of aerospace engineers determined the flight model design has been fully qualified and will support the GOES-T mission needs. The instrument will remain in storage until it is needed for integration with the GOES-T spacecraft.



The GOES-R R-3 antenna at the CBU. Credit: Harris Corporation

## CONFERENCES AND EVENTS



WeatherFest participants try out GOES-R mobile games at the NOAA Satellite and Information Service booth. Credit: GOES-R Series Program

**The 96th Annual Meeting of the American Meteorological Society** was held January 11–14 in New Orleans, Louisiana. During the conference, the 12th Symposium on New Generation Operational Environmental Satellite Systems highlighted many of the development activities, program science, and user-readiness preparations underway in the GOES-R Series Program. In addition, a short course on GOES-R and the Joint Polar Satellite System was offered to highlight the new capabilities these satellites will provide and how they will improve environmental observations and forecasts. The GOES-R Series Program Office also participated in WeatherFest, the public weather fair associated with the conference, staffing the NOAA Satellite and Information Service booth and demonstrating GOES-R mobile apps and games. Highlights from the conference can be found in this [feature story](#) and [Flickr gallery](#).

## CONFERENCES AND EVENTS (CONTINUED)

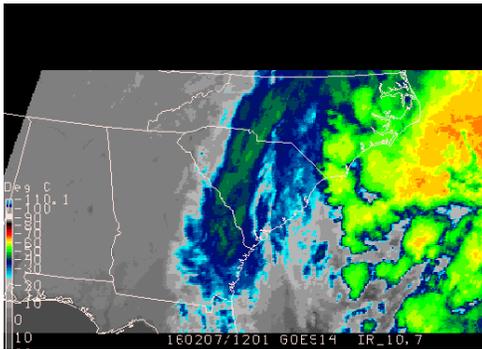
**GOES-R System Program Director Greg Mandt was an invited speaker at the Glen Gerberg Weather and Climate Summit** held January 19–23 in Breckenridge, Colorado. The summit brought together television meteorologists and leading scientists and researchers to enable broadcast meteorologists to learn more about upcoming technologies and research findings that will lead to improved public awareness. Mandt presented an overview and update of the GOES-R Series Program at the summit including GOES-R Proving Ground demonstration products and capabilities of interest to broadcast meteorologists. [Video](#) of his presentation can be found on YouTube.

GOES-R also participated in the **27<sup>th</sup> Annual Steamboat Weather Summit** for broadcast meteorologists held January 17–22 in Colorado Springs, Colorado. Bill Line, GOES-R satellite liaison at NOAA's Storm Prediction Center, spoke about GOES-R capabilities, user readiness activities and education and outreach opportunities at the summit.



GOES-R System Program Director Greg Mandt presented at the Glen Gerberg Weather and Climate Summit in January. Credit: StormCenter Communications

## PROVING GROUND AND PROGRAM SCIENCE

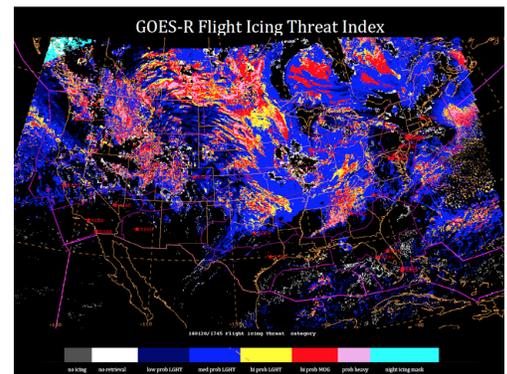


GOES-14 SRSOR infrared imagery showing the evolution of a hurricane-force storm on February 7. Credit: CIMSS

products for forecasting winter aviation hazards like icing, turbulence and visibility. The experiment was also able to utilize GOES-14 SRSOR imagery to simulate the rapid scan imagery that will be available in the GOES-R era.

**NOAA's GOES-14 backup satellite was brought out of storage** on February 1 and operated in [Super Rapid Scan Operations for GOES-R \(SRSOR\)](#) mode through February 25. During the SRSOR experiment, GOES-14 provided special one-minute rapid scan imagery and special data sets simulating the capabilities that will be available in the GOES-R era. Another GOES-14 SRSOR operations period will take place April 18–May 13.

**The GOES-R Proving Ground Aviation Weather Testbed 2016 winter experiment** was conducted in February. During the experiment, aviation forecasters tested and evaluated pre-operational GOES-R



GOES-R flight icing threat product. Credit: Aviation Weather Testbed



VORTEX-SE media day on February 29. Credit: SWIRLL

**A media day for the VORTEX-SE research project** was held February 29 at the Severe Weather Institute and Radar and Lightning Laboratory (SWIRLL) on the campus of the University of Alabama-Huntsville. A number of media outlets including The Weather Channel participated in the event. GOES-R Chief Scientist Steve Goodman spoke at the event and was also interviewed on camera. The [Verification of the Origins of Rotation in Tornadoes EXperiment-Southeast](#) (VORTEX-SE) is a research program to understand how environmental factors characteristic of the southeastern United States affect the formation, intensity, structure, and path of tornadoes in this region. The experiment began March 1 and will run through the end of April, utilizing one-minute rapid scan imagery from GOES-14 when it next comes out of storage for SRSOR operations on April 18.

## EDUCATION AND OUTREACH

The [GOES-R Education Proving Ground](#) introduced a new webinar series for educators of students in grades 6-12. This four-part webinar series is intended to ensure the education community is ready for the new satellite imagery and improved products that will be available in the GOES-R era. The first webinar, held on [February 20](#), focused on general information about weather satellites and an overview of the GOES-R Series Program. The [March 12](#) seminar highlighted lesson plans for teachers by teachers. Upcoming webinars are planned for April 23 and September 17.

## AWARDS AND ACCOLADES



NASA scientist Andrew Molthan. Credit: NASA/MSFC/ Emmett Given

In February, Andrew Molthan, Ph.D., was named by President Obama as a recipient of the [Presidential Early Career Awards for Scientists and Engineers \(PECASE\)](#), the highest honor bestowed by the United States Government on science and engineering professionals in the early stages of their independent research careers. Molthan, a research meteorologist at NASA Marshall Space Flight Center, was recognized for his research activities in numerical weather prediction, early efforts in cloud computing, support for NASA's Applied Sciences Disasters program and work focused on the transition of NASA and NOAA modeling and observations to improve weather forecasting through his participation in NASA's Short-term Prediction Research and Transition (SPoRT) Center. His contributions to the GOES-R series mission include participation in the

GOES-R Proving Ground and developing and providing training for National Weather Service Weather Forecast Offices. Molthan will receive his award at a ceremony in Washington, D.C., later this spring.

## MEET THE TEAM



In this issue, meet **Project Support Specialist Kristee Des Champs.**

Kristee joined the GOES-R team in January and provides administrative support to the GOES-R Program Office.

She comes to us from the NOAA Center for Satellite Applications and Research (STAR) where she was an administrative assistant for five years. Kristee has experienced a smooth transition into her new role as she was already familiar with GOES-R through her work at STAR. She's excited to work for a program that provides so many benefits to the public as it matches her personal philosophy of always giving back in her everyday life, no matter what the subject or task.

In her spare time Kristee manages her personal website and contributes to other publications. She loves staying active and spending quality time with her family, which includes her five-year-old son. If you haven't met Kristee yet, stop by the GOES-R Program Office and welcome her to the team.

## Upcoming Events

**GOES-R Proving Ground  
2016 Hazardous Weather  
Testbed Spring Experiment**  
April 18–May 13, 2016  
Norman, Oklahoma

**NOAA Satellite  
Proving Ground/User  
Readiness Meeting**  
May 9–13, 2016  
Norman, Oklahoma

**NOAA  
Hurricane Outlook  
Press Conference**  
May 27, 2016  
NOAA Satellite  
Operations Facility  
Suitland, Maryland

**American Meteorological Society  
44th Conference  
on Broadcast Meteorology**  
June 15–17, 2016  
**GOES-R Preview for  
Broadcasters Short Course**  
June 14, 2016  
Austin, Texas

CONNECT WITH US!

