



Quarterly Newsletter
January-March 2013
Issue 1



GOES-R

Geostationary Operational Environmental Satellite R-Series



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

Welcome to the inaugural issue of the GOES-R Quarterly Newsletter. The newsletter highlights significant news and activities across the program for our stakeholders, industry partners, and the public. We welcome your comments and feedback regarding the newsletter. Email us at nesdis.goesr@noaa.gov. We hope you will find this to be a valuable resource in keeping up with the latest happenings in the GOES-R Series Program!

Highlights

Lockheed Martin delivered the GOES-R core structure to the company's Mississippi Space and Technology Center at NASA's Stennis Space Center where it is undergoing propulsion system integration. The team is integrating GOES-R's fuel tanks, lines, thermal controls and other systems within the core structure. A [press release](#) was issued January 7, 2013.

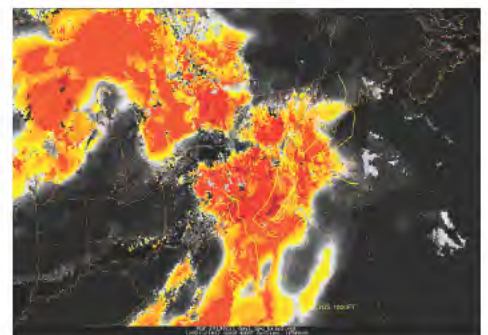


The rigid external structure of the GOES-R satellite, which will enclose the satellite's propulsion system and support the payloads, was designed by Lockheed Martin and manufactured by ATK Aerospace Group's Space and Components Division, in San Diego.

The Product Anomaly, Ticket, Relationship, Organization, and Notification tool (PATRON) became operational on February 1, 2013 at the NOAA Satellite Operations Facility (NSOF) in Suitland, MD to support satellite product operations at the NESDIS Office of Satellite Products and Operations (OSPO). PATRON, developed by the GOES-R Data Operations Support Team (DOST) and Harris Corp, is an early release of the enterprise management system being developed for GOES-R. Originally created specifically for the GOES-R Ground Segment, the tool was implemented to support other NOAA environmental satellites in operation today. A [press release](#) was issued March 21, 2013.

The first annual Aviation Weather Center Winter Weather Experiment (WWE) was conducted February 11-22, 2013 at the Aviation Weather Testbed in Kansas City, MO.

The experiment was part of GOES-R Proving Ground activities and provided a pre-operational environment in which to test and evaluate new GOES-R products



The GOES-R Fog and Low Stratus product demonstrated February 11, 2013 at the Aviation Weather Center as part of the 2013 Winter Weather Experiment.

with proxy data. The demonstration also also aided in familiarizing forecasters with the capabilities of our next generation GOES satellite series. The products tested in the WWE included Simulated Cloud and Moisture Imagery, Fog/Low Stratus, and Aircraft Icing Threat. All of the products were well received and the forecasters very much appreciated the chance to explore new satellite tools and data.

The GOES-R Program officially unveiled its new YouTube channel in late February with approximately 30 different GOES-R related videos that are available for viewing. GOES-R invites all YouTube users to subscribe to the [GOES-R YouTube Channel](#) to receive updates when new content is posted. The GOES-R Program is using the YouTube channel as another important education and public outreach tool.

An experiment to determine the nature of the poorly understood extreme and powerful lightning flashes over the ocean began in February with the deployment of a sensitive Very Low Frequency (VLF) lightning receiver on the NOAA Ship Ronald H. Brown in a research collaboration between the GOES-R Geostationary Lightning Mapper (GLM) Science Team, Office of Marine and Aviation Operations (OMAO), Defense Advanced Research Projects Agency (DARPA), NASA, and Stanford University. The experiment is occurring through September during the Atlantic cruise of the Ronald H. Brown. The experiment will estimate the lightning current in close proximity to oceanic storms, determine lightning signal propagation effects, and compare the ship-borne lightning measurements with concurrent lightning observations from space using the Tropical Rainfall Measuring Mission Lightning Imaging Sensor (LIS), which is providing proxy lightning data for the GOES-R GLM.



Above: Very Low Frequency (VLF) lightning receiver on the NOAA Ship Ronald H. Brown for a research collaboration between the GOES-R Geostationary Lightning Mapper (GLM) Science Team and NOAA's Office of Marine and Aviation Operations (OMAO).

Program/Project Status

The GOES-R Ground Segment Project (GSP) Antenna System contractor, Harris Corporation, successfully completed the System Integration Review (SIR) and Pre-Ship Review (PSR) for the R-1 and R-2 antennas at the Remote Backup (RBU) facility located in Fairmont, WV on January 23, 2013.

Assembly of the GOES-R antenna structures at the RBU Facility at Fairmont, WV and Wallops Command and Data Acquisition Station (WCDAS) at Wallops Island, VA is underway and making significant progress.

The GOES-R Mission Management Prototype (MMP) became operational in January at the NOAA Satellite Operations Facility in Suitland, MD. The MMP is now in use by the Mission Operations Support Team (MOST).

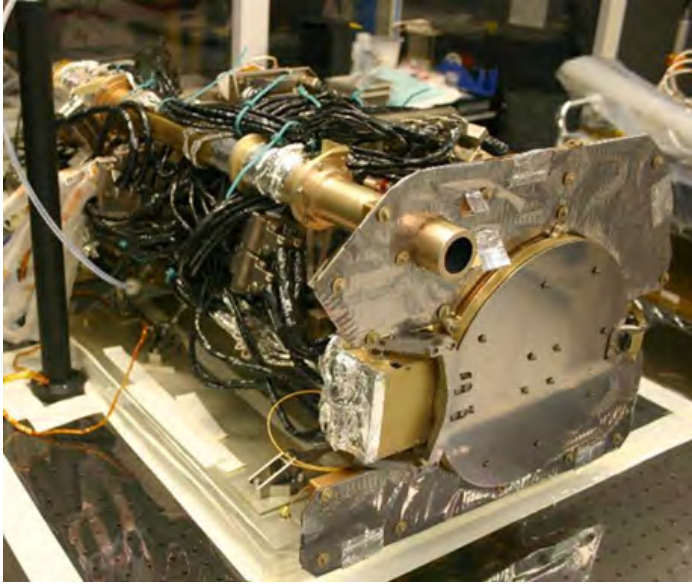
May 23, 2013

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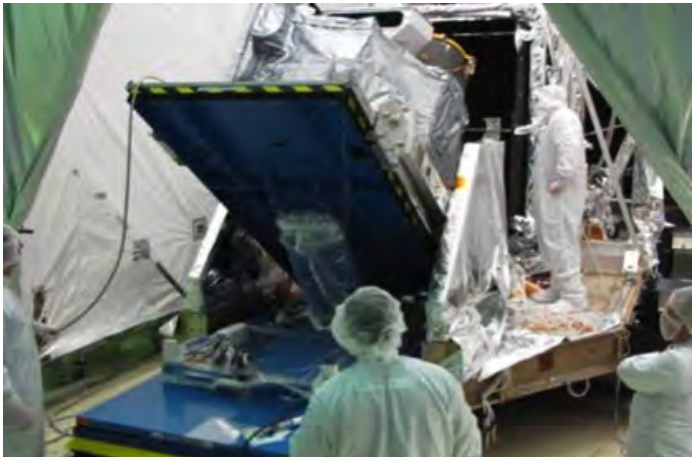
Above: Antenna construction at the RBU in Fairmont, WV: Site 3 Reflector Assembly

A [press release](#) was issued January 8, 2013, highlighting the successful **Solar Ultraviolet Imager (SUVI) Pre-Environmental Review**, which was held in November 2012.



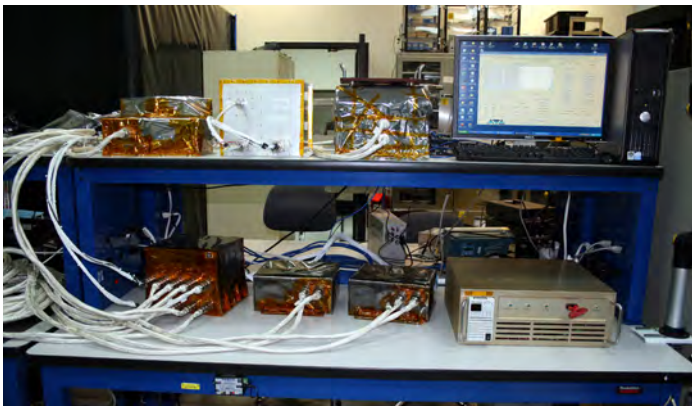
Above: SUVI Flight Model 1 instrument integrated.

The Advanced Baseline Imager (ABI) Flight Model 1 (FM1) thermal vacuum testing is proceeding on schedule at the Exelis facility in Rochester.



Above: ABI preparing for thermal vacuum testing.

The Space Environment in-Situ Sensor Suite (SEISS) integration with Data Processing Unit was completed in January.



Above: Integrated SEISS Suite FM1.

The Extreme Ultraviolet X-Ray Irradiance Sensor (EXIS) FM1 successfully completed all post-environmental calibration activities in March. The instrument was transported to Goddard Magnetic facility where it completed the powered-off magnetic testing.



Above: EXIS FM1.

GOES-R Program Systems Engineering (PSE) hosted a joint NOAA Enterprise Readiness meeting in March with NESDIS, the National Weather Service, and Joint Polar Satellite System (JPSS). This kick off was held to discuss a common path forward to support NESDIS Enterprise readiness for GOES-R, JPSS, and external stakeholders such as Comprehensive Large Array-data Stewardship System (CLASS), Product Distribution and Access (PDA), Advanced Weather Interactive Processing System (AWIPS) and GOES-R Rebroadcast (GRB). JPSS and GOES-R external stakeholder outreach/engagement is in sync which will continue to maximize partner involvement in GOES-R validation testing and coordination with JPSS.

The GOES-R Program Director and Chief Scientist participated in a GOES-R AWIPS-II Experimental Products Development Team (EPDT) workshop held March 12-14 hosted by the NASA Short-Term Prediction, Research and Transition Project in Huntsville, AL. The workshop brought together AWIPS-II software and application developers from the National Weather Service, NESDIS, Office of Atmospheric Research (OAR), and GOES-R Proving Ground Cooperative Institute partners.

Brainstorming sessions were held to identify applications pertinent to accelerating the use of GOES-R data in AWIPS II. The participants recommended a follow-on requirements-based code sprint workshop later in the year to develop specific AWIPS-II applications.

Conferences and Events

The American Meteorological Society (AMS) 93rd Annual Meeting was held January 6-10, 2013 in Austin, TX. GOES-R was well represented at the conference, especially through the Ninth Annual Symposium on Future Operational Environmental Satellite Systems. A number of important presentations and posters covering the mission status, instruments, ground segment, products, data access, user readiness, and Proving Ground activities were given throughout the course of the week. Several GOES-R contractors were also on-hand, providing GOES-R information, demos, and materials in the exhibit space. To view presentations and posters from the 9th Annual Symposium on Future Operational Environmental Satellite Systems, visit the [GOES-R website](#).



Left, GOES-R System Program Director Greg Mandt and Lockheed Martin Space Systems Company Civil Space Vice President Wanda Sigur pose with Lockheed Martin's digital model of the GOES-R Spacecraft at the AMS opening reception.

Right, The Science Week team runs the virtual event from the Cooperative Program for Operational Meteorology, Education, and Training in Boulder, CO.

For the first time, NOAA Satellite Science Week was held as a virtual meeting. The March 18-22, 2013 Go-To-Meeting was conducted by COMET in Boulder CO. Science Week is a joint meeting and review of the GOES-R Algorithm Working Group, the GOES-R and JPSS Proving Grounds and Risk Reduction Science activities, and satellite training. The goal is to promote interchange between product developers and the user communities, ensuring a path for the transition of research to operations and user readiness. Additionally, input from this meeting will guide the new Call for Proposals for the GOES-R Risk Reduction Program, which will be issued in July. Two hundred participants from across the country registered for the event.

The week was a success despite some challenges associated with holding such a meeting virtually. Feedback and lessons learned were collected to improve future virtual meetings. All of the meeting objectives were met and recommendations made by the advisory committees will be covered in the final report. Visit the [Science Week](#) web page for conference info, presentations, and posters.



Publications

The Winter 2012 issue of The Earth Scientist, the quarterly journal of the National Earth Science Teachers Association, featured an article by the GOES-R Chief of Staff and Communications Specialist and included a GOES-R satellite poster. The article, "[The GOES-R Series: The Nation's Next-Generation Geostationary Operational Environmental Satellites](#)" provides an overview of the mission, outlines the benefits the satellites will provide to the nation, and highlights the resources GOES-R provides for fostering education and supporting national Science, Technology, Engineering, and Mathematics (STEM) efforts.



GOES-R Program Scientist Dr. Steven J. Goodman and colleagues Richard J. Blakeslee, William J. Koshak, Douglas Mach, Jeffrey Bailey, Dennis Buechler, Larry Carey, Chris Schultz, Monte Bateman, Eugene McCaul Jr., Geoffrey Stano published "[The GOES-R Geostationary Lightning Mapper \(GLM\)](#)," which can be found in the May 2013 issue of Atmospheric Research. The paper provided an overview of the GLM instrument and the advancements it will bring to severe weather forecasting.