



Quarterly Newsletter
 April-June 2013
 Issue 2



GOES-R

Geostationary Operational Environmental Satellite R-Series

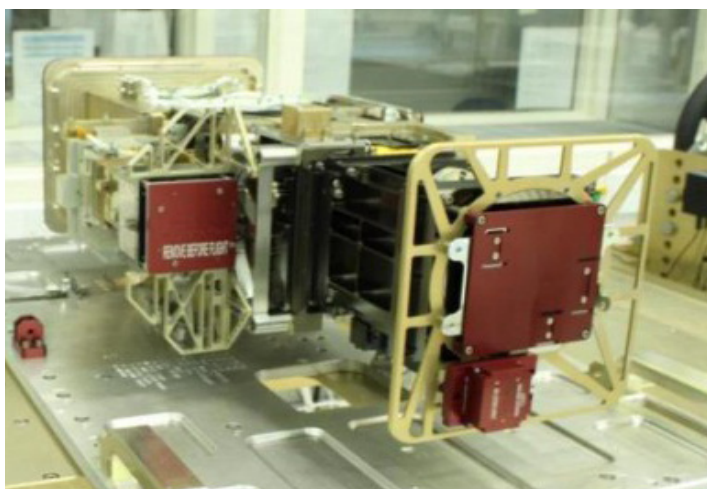


A Note from Greg Mandt, GOES-R System Program Director

As you'll see below, this spring was yet another busy time for the GOES-R Series Program! I continue to be amazed at all the hard work and dedication that so many pour into this program from all across the country. I also want to thank you for the excellent feedback we received on the inaugural issue of the Quarterly Newsletter. We have incorporated a number of suggestions in this edition and will continue to roll out others over the next few issues. If you have additional ideas, please email us at: nesdis.goesr@noaa.gov.

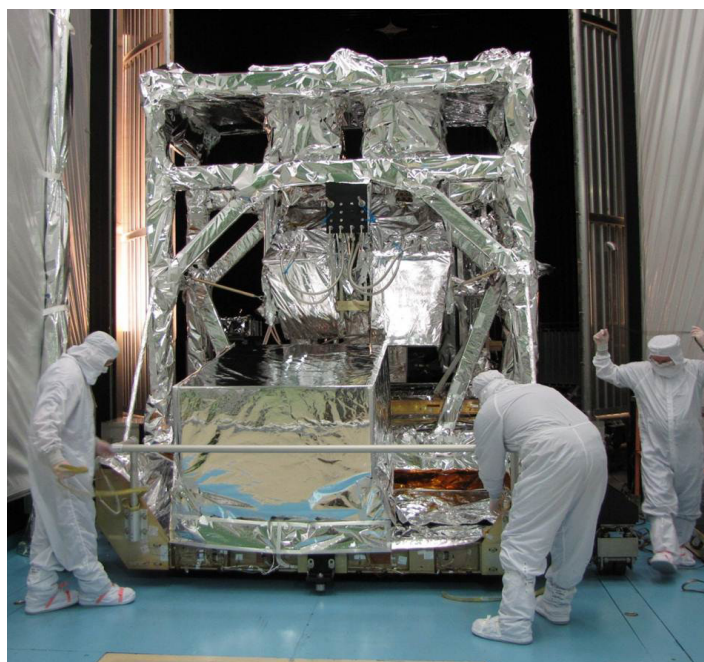
Highlights

The Extreme Ultraviolet and X-ray Irradiance Sensor (EXIS) Flight Model 1 (FM1) completed its Pre-Shipment Review (PSR) on April 17. EXIS is the first GOES-R instrument ready to be integrated onto the GOES-R spacecraft. The instrument is currently in storage at the University of Colorado's Laboratory for Atmospheric and Space Physics, which built and tested EXIS. A [press release](#) was issued on May 2. On May 30, EXIS FM2 (for GOES-S) passed its Pre-Environmental Review (PER).



EXIS Flight Model 1

The Advanced Baseline Imager (ABI) ProtoFlight Model (PFM) completed thermal vacuum testing in April. The instrument is undergoing additional testing in preparation for its PSR, currently scheduled for late September.



ABI PFM Completes Thermal Vacuum Test



... that GOES-R will mark the first major technological advance in geostationary weather satellite instrumentation since 1994?

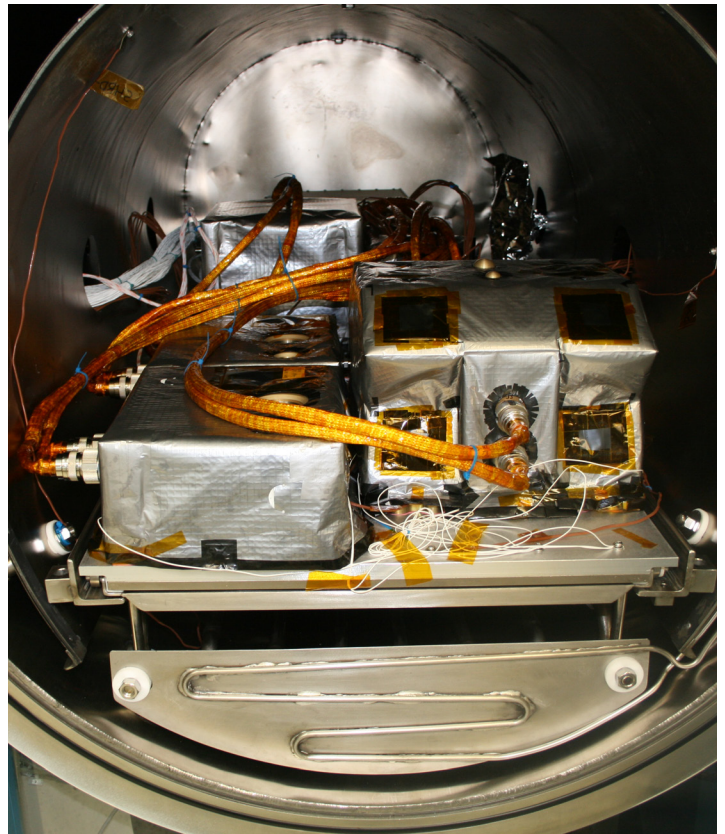
On May 7th, the GOES-R Communications Team and Program Scientist accompanied noted meteorologist Dan Satterfield of WBOC-TV in Salisbury, MD to the Wallops Command and Data Acquisition Station (WCDAS) in Wallops, VA. The group observed the GOES-R antennas under construction and other satellite data activities at the WCDAS. Mr. Satterfield filmed footage for a special [segment](#) on WCDAS and the coming era of GOES-R. The segment aired on WBOC-TV on May 23 and highlighted the role of WCDAS with weather satellites and forecasting. The segment also featured the advanced capabilities of the upcoming GOES-R Series satellites in an interview with the Program Chief Scientist, Steven Goodman, Ph.D. Satterfield also highlighted his visit to WCDAS and the “amazing” capabilities of GOES-R in his [blog](#).



Meteorologist Dan Satterfield interviews GOES-R Program Chief Scientist Steven Goodman, Ph.D about the capabilities GOES-R will provide to improve weather forecasting and warning.

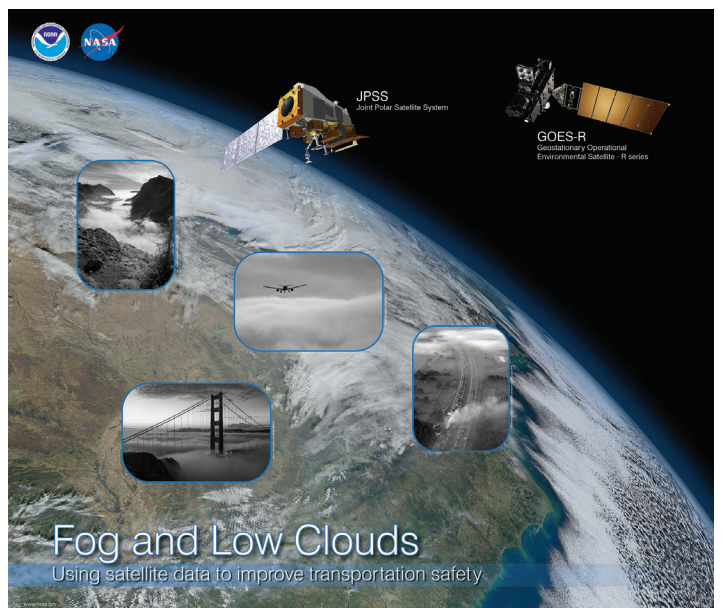
The GOES-R Rebroadcast (GRB) Simulator successfully finished long-term Product Acceptance Testing (PAT) on May 26. The GRB Simulator Delivery Test Review occurred May 28, and the GRB Simulators shipped on May 29. NOAA/NESDIS is planning an industry day in October to commence the check-out of the simulators to industry. The simulators will be provided to vendors that manufacture GRB receivers in order to verify GRB receive system compatibility with the GRB transmission. Learn more about GOES-R Rebroadcast and the GRB simulators at <http://www.goes-r.gov/users/grb.html>.

The Space Environment In-situ Suite (SEISS) FM1 PER was successfully held May 1-3 in Carlisle, Mass. SEISS is currently undergoing testing in preparation for PSR.



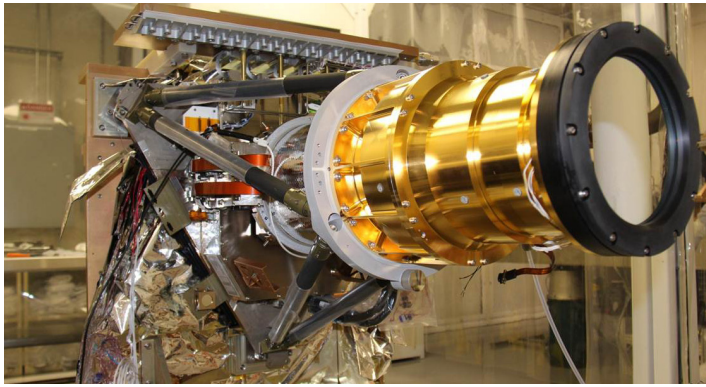
SEISS FM1 Thermal Vacuum Chamber Entry

GOES-R and the Joint Polar Satellite System (JPSS) Programs introduced a new fog and low clouds educational poster in April. This resource for students explains fog and low stratus clouds, how they form, and how weather satellites can accurately detect fog from space, improving transportation safety. The poster also includes an activity to make fog in a bottle, plus discussion questions and a link to answers. The poster is available for download from the [Student Resources](#) section of the GOES-R website.



GOES-R/JPSS Fog and Low Clouds Poster

In June, the Geostationary Lightning Mapper (GLM) FM1 completed first power up of the integrated Sensor Unit's Loop Heat Pipe (LHP) and Focal Plane Array Assembly (FPAA).



GLM FM1 Sensor Unit FPAA First Power Up

Assembly of the main GOES-R antenna structures at the Remote Backup Unit (RBU) in Fairmont, WV was completed in June.



GOES-R RBU Antenna Construction

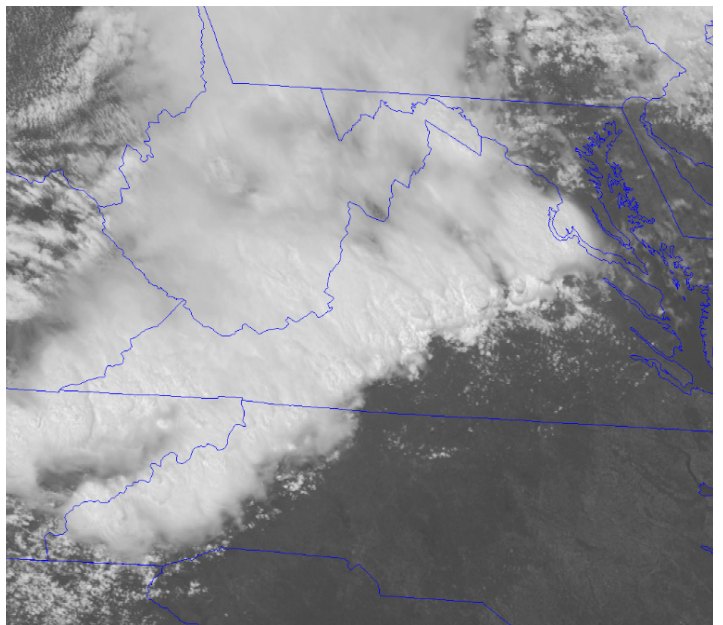
Proving Ground/Program Science

As part of GOES-R Proving Ground activities, NOAA's Hazardous Weather Testbed (HWT) in Norman, Okla. conducted its 2013 Spring Experiment May 6-24. National Weather Service forecasters attended the demonstrations to participate and provide feedback. Throughout the Spring Experiment, the GOES-R proxy products continued to demonstrate themselves as essential tools for forecaster situational awareness. One example is the GOES-R Convective Initiation product that successfully detected the initiation of the thunderstorms that eventually produced the devastating tornadoes over Oklahoma on May 19 and 20. The GOES-R Program will continue to engage forecasters with expanded efforts to include broadcast meteorologists in future product demonstrations at the Proving Ground.



Forecasters test GOES-R products at the HWT during the 2013 Spring Experiment.

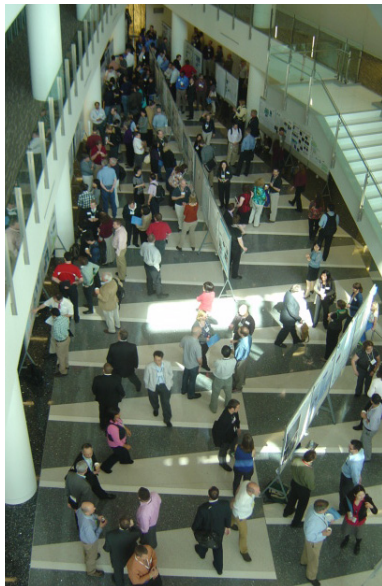
GOES-R Proving Ground efforts also benefited from special Super Rapid Scan Operations (SRSO) with GOES-14 and GOES-15 in May and June. On May 20, GOES-15 was in SRSO mode for a field campaign and captured amazing [1-minute imagery](#) of the devastating Moore, Okla. tornadic storm. In June, GOES-14 was placed into SRSO after acting as a backup to GOES-13 when it experienced an anomaly. During a severe weather event on June 13, GOES-14 SRSO imagery combined with data from the Washington, D.C. Lightning Mapping Array (as proxy for the ABI and GLM respectively) provided stunning animations demonstrating what will be available to forecasters in the GOES-R era. Learn more about this event and view animations at the [It's Severe](#) blog.



Visible Imagery from GOES-14 during the severe bow echo event on June 13.

Conferences and Events

The NOAA Satellite Conference (NSC) for Direct Read-out, GOES/POES, and GOES-R/JPSS Users was held April 8-12 at the NOAA Center for Weather and Climate Prediction (NCWCP) in College Park, Md. The conference brought together users and providers of polar-orbiting



View of a poster session in the atrium of the NCWCP during the NSC in April.

and geostationary satellite data, products and applications from the public, private and academic perspectives, and provided a venue and opportunity for greater collaboration among environmental satellite users in the Western Hemisphere. This conference is particularly important to prepare users for the GOES-R era. More than 600 people registered for the conference, taking in more than 175 posters, 70 presentations, 25 exhibits and panels, tours, user

feedback sessions and additional workshops. [Presentations](#) and [posters](#) from the conference are available on the GOES-R website.



The NSC conference closed with a special panel on the importance of NOAA Satellites. Panel members included Estela Collini (Director of Projects, National Meteorological Service and Naval Hydrographic Service of Argentina), Mary Kicza (Assistant Administrator, NESDIS), Tom Fahey (Meteorology Manager, Delta Air Lines, Inc.), Chris Vaughan (FEMA Geospatial Information Officer, Strategic Integration Group, Office of Response and Recovery), and Jerad Bales (Acting Associate Director for Water, USGS).

An international [workshop](#) on precipitation, lightning, and convection in Brazil in support of the Global Precipitation Measurement and GOES-R missions was held May 8-10 in San Paulo, Brazil. More than 60 scientists (both in-person and remote) from Brazil, Argentina, U.S., Germany, Italy and France participated in the workshop, presenting over 50 talks. A primary topic of discussion was the CHUVA (“rain” in Portuguese) field campaign and how the results can be applied to improving the forthcoming satellite missions. Participants discussed scientific advances, data available, next steps in analysis, and details for next field experiment.

University of Maryland Earth System Science Interdisciplinary Center (ESSIC)/Cooperative Institute for Climate and Satellites (CICS) Scientists Michael Folmer, Ph.D. and Scott Rudlosky, Ph.D. highlighted exciting new capabilities from the GOES-R Series satellites at the NOAA Science Days Briefing held in Silver Spring, Md. on May 13. NOAA Science Days highlights the latest and greatest NOAA work and informs senior NOAA leadership of happenings in the agency. Michael described GOES-R’s primary instrument, the ABI, while Scott highlighted the GLM. The talks were designed to generate enthusiasm and excitement about the innovative tools and techniques made possible by the GOES-R Series. Scott also presented to a smaller group of NOAA leaders at the Herbert Hoover Building in downtown Washington, D.C.



Scott Rudlosky, Ph.D. (Left) and Michael Folmer, Ph.D. (Right) highlight the capabilities that will be available in the GOES-R era to NOAA leadership during NOAA Science Days in May.

The GOES-R and JPSS programs held a joint Outside the Contiguous United States (OCONUS) Proving Ground Technical Interchange Meeting (TIM) in Anchorage and Fairbanks, Alaska for the National Weather Service (NWS) Alaska and Pacific regions June 17-21. The TIM reviewed ongoing product demonstrations, identified new opportunities and training needs and planned for upcoming risk reduction projects to address NWS priorities and “Weather Ready Nation” goals. The meetings focused on forecaster use of satellite products and program managers from NESDIS, NWS, and Office of Atmospheric Research (OAR), NOAA Cooperative Institute product developers and satellite liaisons. Participants visited with end users at the NWS Anchorage and Fairbanks Weather Forecast Offices, Volcanic Ash Advisory Center and with the station managers at the Fairbanks Command and Data Acquisition Station.



Dave Schneider of the United States Geological Survey (USGS) gives a tour of the Alaska Volcano Observatory in Fairbanks as part of the GOES-R/JPSS OCONUS Proving Ground meeting in June.

Awards and Accolades

In May, the GOES-R Geostationary Lightning Mapper (GLM) Validation Science Team was awarded the NASA Group Achievement Award (GAA) in recognition of the CHUVA Lightning Mapping Array experiment in Brazil. The lightning observations from this field campaign are an important contribution to the effort to develop, test, and validate GOES-R instrument algorithms and products.



Richard Blakeslee, Ph.D (center) accepts the NASA Group Achievement Award on behalf of the GOES-R GLM Validation Science Team from Goddard Space Flight Center Director Chris Scolese (left) and Marshall Space Flight Center Director Patrick Scheuermann (right).

In May, NOAA Supervisory Meteorologist Mark De-Maria was named a finalist for the prestigious 2013 Samuel J. Heyman Service to America (Sammy) Career Achievement Medal for his work pioneering models to better forecast the intensity of hurricanes during the past three decades. DeMaria’s work on hurricane intensity change has been an excellent demonstration of the value GOES-R will bring



to weather forecast improvement. Winners will be announced on October 3 at a Washington, D.C. gala.

On June 18, several members of the GOES-R Team were honored with Goddard Space Flight Center (GSFC) Flight Projects Directorate (FPD) Peer Awards. The FPD Peer Awards promote and recognize innovation, teamwork, respect and diligence, honoring those who contribute to the success of the directorate.



GOES-R FPD Peer Award winners (from left): John Fiorello, Kumar Taddikonda, MJ Stephenson, Monica Todirita and Derrick Early. Not pictured: Tim Ross and Jay Sigrist.

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