



Welcome to the 2013 NOAA Satellite Conference

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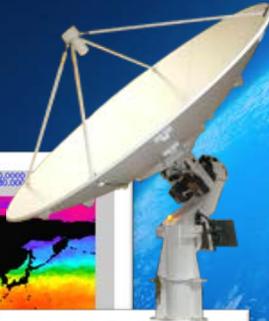




NOAA Satellite Conference



*Strengthening Partnerships to
Enhance User Readiness,
Reception, and Utility*





NOAA Satellite Conference



- Objectives

- Continue discussions initiated during the 2011 Satellite Direct Readout Conference (SDRC) and GOES-R User's Conference (GUC)
- Present specifics on the progress of the JPSS and GOES-R projects
- Provide an overview of the current direct readout and broadcast services and
- Obtain feedback on how well NOAA is meeting user needs.



NOAA Satellite Conference

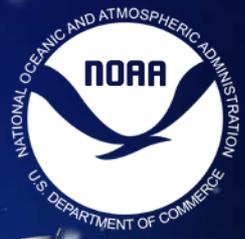


Accomplishments and Outcomes from the 2011 SDRC and GUC





NOAA Satellite Conference



- GOES Operations

- GOES-15 became operational GOES-west 12/14/2011
- GOES-11 decommissioned 12/16/2011
- GOES-12 continues to support the Caribbean and Central/South America
- Facilitated the GVAR and LRIT/EMWIN transition from GOES-11 to GOES-15





NOAA Satellite Conference



- Future Polar-orbiting Satellite Development
 - Suomi-NPP launched October 28, 2011
 - On February 22, 2013 operational control of the Suomi-NPP was transitioned to NOAA
 - Developed Community Satellite Processing Package (CSPP) to support the direct readout community in the transition from POES to S-NPP and eventually JPSS. (See Session 2.7a)





NOAA Satellite Conference



- Improved data access in WMO Regional Associations III and IV
 - Since April, 2011, through a cooperative effort between NESDIS, NWS, UCAR and USAID, 9 additional GEONETCast stations have been installed in WMO region III and IV in the countries of El Salvador and Costa Rica.
 - The hardware and software for 1 station is being shipped to Barbados while another GEONETCast station has been delivered to Belize. Funding has been approved for an additional 4 to 6 stations in Mexico. Also, Brazil has installed an additional 5 stations.





NOAA Satellite Conference



Updates on the Implementation of the 2010 President's Broadband Initiative

- NOAA continues to work with the NTIA on Spectrum-Change Issues and provides information of the exclusion zones. (See Session 2.6)
- With the help of the WMO, NOAA has facilitated better communications with the L-band community related to Spectrum-Change Issues. (See Session 2.5)





NOAA Satellite Conference



- Increased the functionality and options for users of the GOES DCS Administration and Data Distribution System (DADDS)
 - The DADDS was updated to improve the error messaging and recovery utility,
 - The display option was improved to enhance the functionality of the add/edit capability. (See Session 2.5 and the GOES DCS Workshop)





NOAA Satellite Conference



- Improved data access in NWS Pacific and WMO Regional Association V (RAV)
 - The National Weather Service has deployed several LRIT and EMWIN stations in the RA-V region,
 - NESDIS worked with JMA to provide MTSAT LRIT IR images that were reformatted for NOAA LRIT-West to support meteorological forecasting in the NWS Pacific Region and WMO RAV,
 - NESDIS and the National Weather Service participated in the WMO Region V Satellite User Requirement Task Team (TT-SUR) and the Pacific Satellite Communications Task Team (TT-PSC) along with representatives from other Pacific nations and the WMO Space Program. (See Session 2.5, attend the DCS and HRIT/EMWIN Workshop and visit the GEONETCast and HRIT/EMWIN Exhibit.)



GOES Users Conference



GUC User Questions and Feedback: 54 Action Items

- GOES-R Rebroadcast-GRB
- Training
- Looking Ahead
 - Proving Grounds/Testbeds
 - Data Fusion-NWP



U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Environmental Satellite, Data, and
Information Service

Seventh GOES Users' Conference Conference Report



October 20-21, 2011

Birmingham, Alabama

Final Report

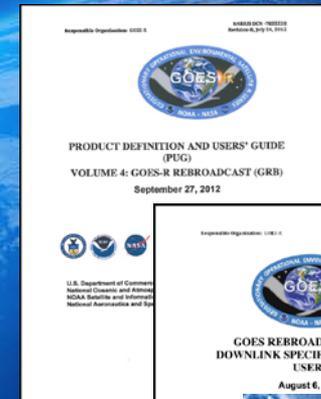


GOES-R Rebroadcast



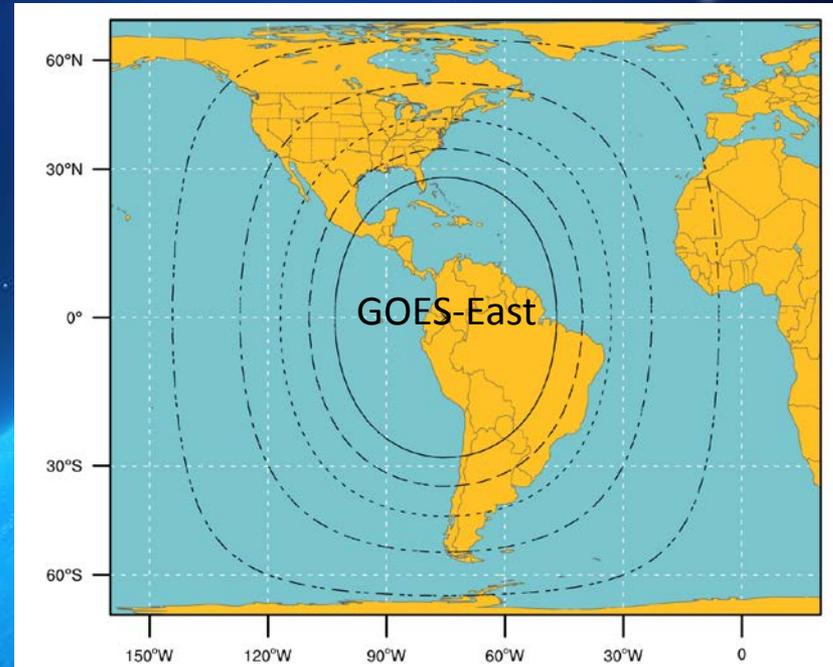
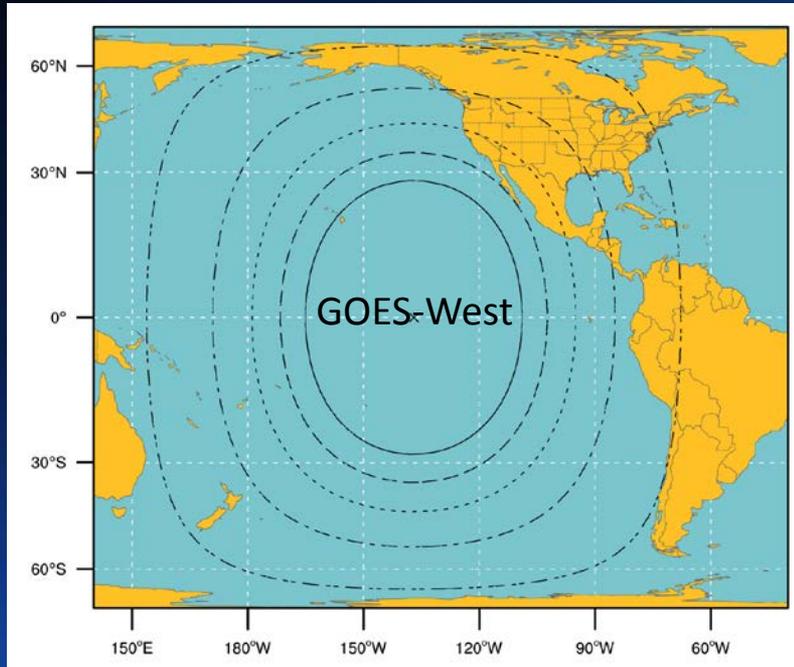
- Recommendations: Provide information on the transition from GVAR to GRB; L-band spectrum change. When will the specs for the GRB be available, and where? Vendors need this so they can build ingest equipment.

- The specifications for the GRB were finalized at the CDR and are available in the Product User's Guide (July 2012). (<http://www.goes-r.gov/users/grb.html>)
- Visit Poster T-34, The GRB Simulator: A Testing System for GOES Rebroadcast (GRB) Receivers, Gibbons et al.
- Session 2.6, "Frequency Matters", Mark Mulholland-moderator
- Direct Readout, Data Access Sessions 2.5-2.7, 3.2-3.4





Upgrade or Replace GVAR? GRB Ground Antenna Sizes



NOTES:

1. Calculations based on available data as of May 2011
2. Each antenna size is usable within the indicated contour
3. Rain attenuations included are:
1.3/1.6/2.0/2.2/2.5 dB (3.8 to 6 m)
4. An operating margin of 2.5 dB is included as the dual polarization isolation is likely to vary within each antenna size area

Antenna Diameters

-----	6.0 m
-----	5.0 m
-----	4.5 m
-----	4.2 m
-----	3.8 m



Training



- Recommendation: The GOES-R Program is encouraged to identify resources and approaches to train international users.
 - GOES-R supports funding of GOES-R COMET modules and training through the VISIT Program. The link to training resources can be found on GOES-R.gov under "User Information" and "Training".
- Recommendation: Consider more RA V training in satellite data interpretation and assimilation by the NOAA NWS Pacific Region.
 - The NOAA Satellite Proving Ground (PG) has become very active in Pacific Region (JMA bilateral for AHI access, recent installation of x-band direct broadcast). NOAA recommends users coordinate directly with Pacific Region, Satellite PG and International Affairs Offices.





Training



- Recommendation: Plan COMET monthly sessions with foreign users so the international users can start asking questions and providing feedback. Develop Outreach and more information on how international users in various countries will be trained
 - COMET has an active international training program funded through NOAA International Affairs, Canada and EUMETSAT. COMET's MetEd Online Website has over 265,000 users with over 90,000 international users. Summary of the 2012 COMET Annual Program Plan is available on request.



Working Together for Satellite Training



VISIT Virtual Institute for Satellite Integration Training

VISIT Home

- VISIT Home
- Training Sessions
- Training Calendar
- Blog Sites
- VISIT Satellite Chat
- The VISIT Program
- VISIT Contributors
- VISIT FAQ
- Links / Tutorials
- RAMSDIS Online
- VISIT Training DVD

Water-Vapor Imagery Analysis for Severe Thunderstorm Forecasting

VISIT is a joint effort involving NOAA-NESDIS Cooperative Institutes, the National Environmental Satellite Data and Information Service (NESDIS), and the National Weather Service (NWS). The primary mission of VISIT is to accelerate the transfer of research results based on atmospheric remote sensing data into NWS operations using distance education techniques.

SPoRT Short-term Prediction Research and Transition Center

GOES-R Proving Ground Activities

- **Map of Partners**: View a map showing GOES-R's 2014-15 partners.
- **Lightning Forecast Algorithm**: GOES-R enables USA lightning forecast models based on the most advanced lightning estimation work available.
- **GOES-R's Rapid**: GOES-R's rapid products to prepare and issue for the advanced weather (rapid) and a combination of visible, IR, and SWIR imagery.
- **Florida Geostationary Lightning Mapper**: Lightning products that use the 2nd generation of the Geostationary Lightning Mapper (GLM).
- **GOES Products**: GOES-R imagery offers the capability of continuous multi-spectral observations to meet operational needs.

MetEd

Module Listing > Satellite Meteorology

Satellite Meteorology

Topics: Satellite Meteorology Languages: English

In this topic area, find out how current and future satellites and their sensors work, how to interpret what they tell us, and how to make forecasts and other weather products from their data.

1 - 48 of 58 results

- SATELLITE PRECIPITATION PRODUCTS FOR HYDROLOGICAL MANAGEMENT IN SOUTHERN AFRICA**
- ASMET Satellite Precipitation Products for Hydrological Management in Southern Africa**

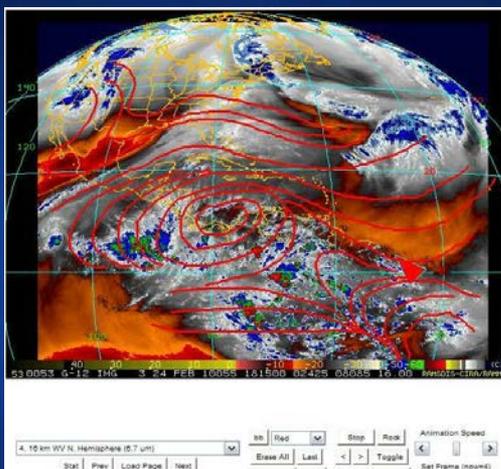
UCAR/COMET®

NASA/SPoRT, DOD, ...

VISIT (CIRA/CIMSS)

UCAR/COMET®

Satellite Proving Ground



WMO, EUMETSAT, Canada, ...

Users & Developers

NWS LEARNING CENTER

NEW NWS COURSES

These courses were recently added to the NWS Learning Center:

- GOES-R ABI Next Generation Satellite Imaging
- RDA/RPO Build 13.1 Training
- Tropical Mesoscale and Local Circulations
- Community Hydrologic Prediction System (CHPS) Basic Configuration
- Jet Streams
- Tropical Severe Local Storms
- African Easterly Waves

Training Division + SOOs & DOHs

Training Division + SOOs & DOHs



Satellite Proving Grounds



- Recommendation: Make GOES-R test products available, GOES R level 2 products for research.

- Several GOES-R level 2 products are demonstrated in the GOES-R Proving Ground. Examples can be found on the PG blogs and through the website www.goes-r.gov.
- International Projects
- Session 3.4- Data Use, Posters





GOES-R Proving Ground



THE GOES-R PROVING GROUND

Accelerating User Readiness for the Next-Generation Geostationary Environmental Satellite System

BY STEVEN J. GOODMAN, JAMES GURKA, MARK DeMARIA, TIMOTHY J. SCHMIT, ANTHONY MOSTEK, GARY JEDLOVEC, CHRIS SIEWERT, WAYNE FELTZ, JORDAN GERTH, RENATE BRAUMMER, STEVEN MILLER, BONNIE REED, AND RICHARD R. REYNOLDS

By demonstrating the advanced capabilities of the next generation of geostationary satellites, the proving ground addresses user readiness and the research-to-operations-to-research loop.

The Geostationary Operational Environmental Satellite R series (GOES-R) Proving Ground (PG) is an initiative to accelerate user readiness for the next generation of U.S. geostationary environmental satellites. The GOES-R system is a joint development between the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA), with NASA responsible for the space segment (spacecraft and instruments) and NOAA responsible for the overall program and ground segment. The GOES-R PG is a collaborative effort between the GOES-R Program Office (GPO); NOAA Cooperative Institutes; NASA's Short-Term Prediction Research and Transition Center (SPoRT); National Weather

Service (NWS) Weather Forecast Offices (WFOs); NWS National Centers for Environmental Prediction (NCEP); National Environmental Satellite, Data, and Information Service (NESDIS) Office of Satellite and Product Operations (OSPO) and the Center for Satellite Applications and Research (STAR); and NOAA test beds to conduct demonstration activities to gain early experience with GOES-R capabilities in an operational environment. Improved spacecraft and instrument technology will support expanded detection of environmental phenomena, resulting in more timely and accurate forecasts and warnings. The Advanced Baseline Imager (ABI), described by Schmit et al. (2005), is a 16-channel imager with 2 visible channels, 4 near-infrared channels, and 10

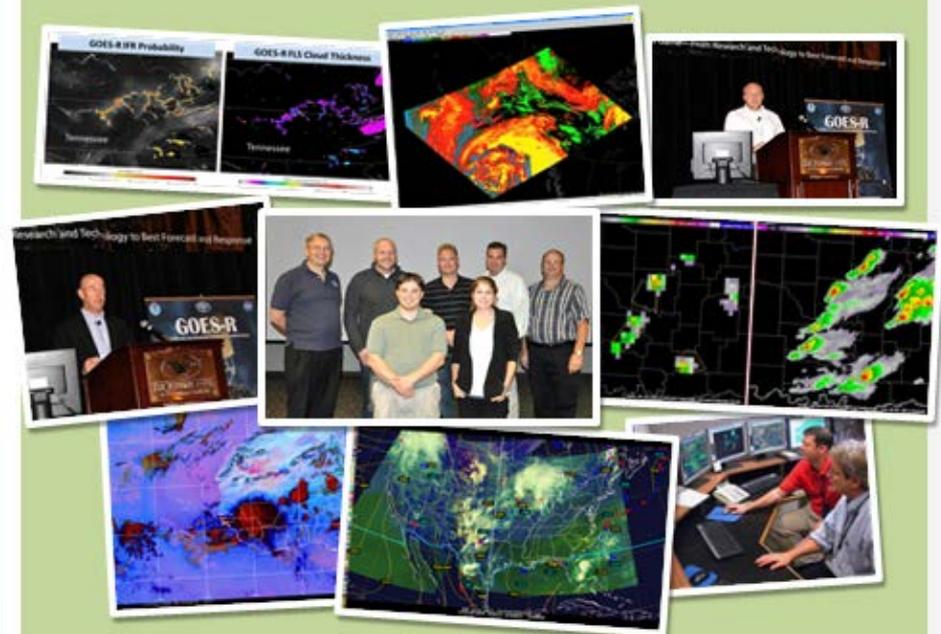
AFFILIATIONS: GOODMAN AND GURKA—NOAA/NESDIS/GOES-R Program Office, Greenbelt, Maryland; DeMARIA—NOAA/NESDIS/Center for Satellite Applications and Research, Fort Collins, Colorado; SCHMIT—NOAA/NESDIS/Center for Satellite Applications and Research, Madison, Wisconsin; MOSTEK—NOAA/National Weather Service, Boulder, Colorado; JEDLOVEC—NASA Short-Term Prediction Research and Transition Center, Huntsville, Alabama; SIEWERT—Cooperative Institute for Mesoscale Meteorological Studies, Norman, Oklahoma; FELTZ AND GERTH—Cooperative Institute for Meteorological Satellite Studies, Madison, Wisconsin; BRAUMMER AND MILLER—Cooperative Institute for Research in the Atmosphere, Fort Collins, Colorado; REED—General Dynamics

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GOES-R Proving Ground

FY12 Annual Report
November 28, 2012
Revised January 22, 2013

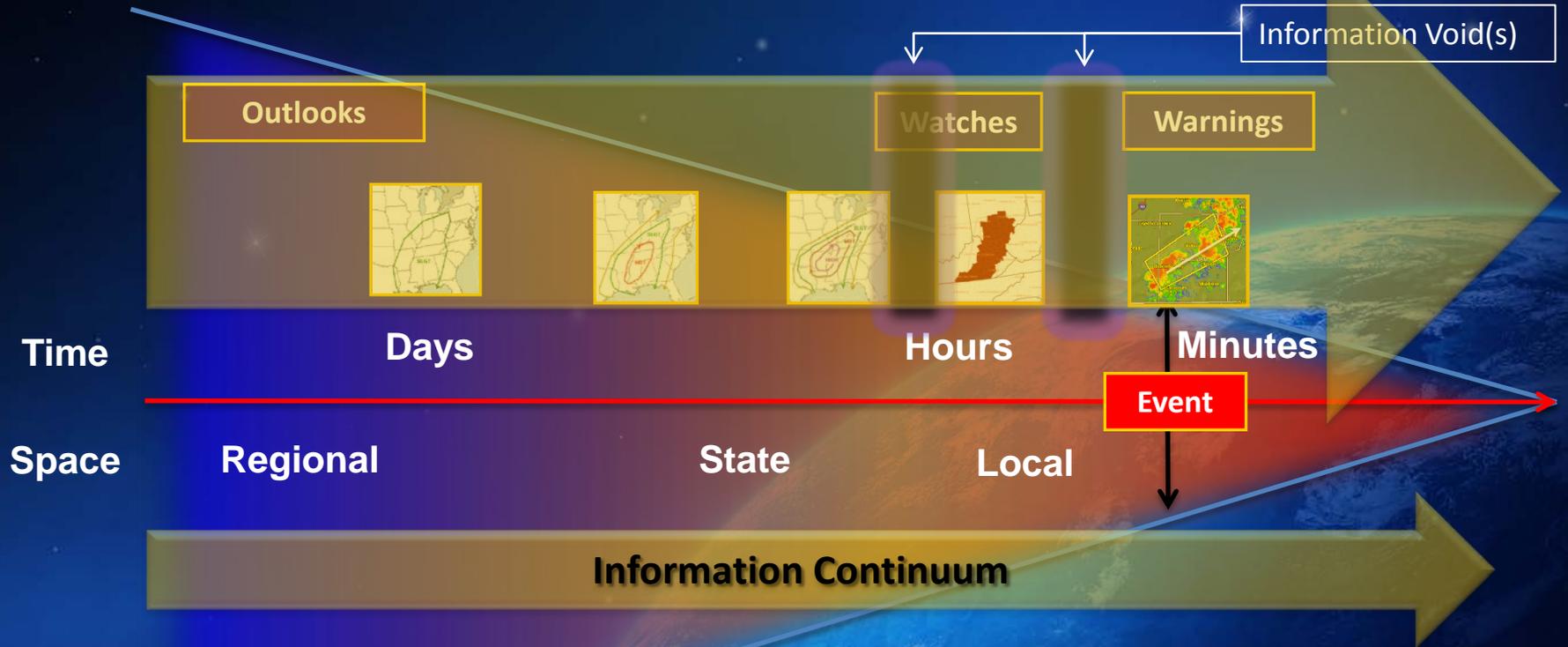




Looking Ahead - Warning Challenges

Impact-Based Decision Support

Start with desired public response and work backwards



- Product-centric and binary.
- More information needed.
- More information available.

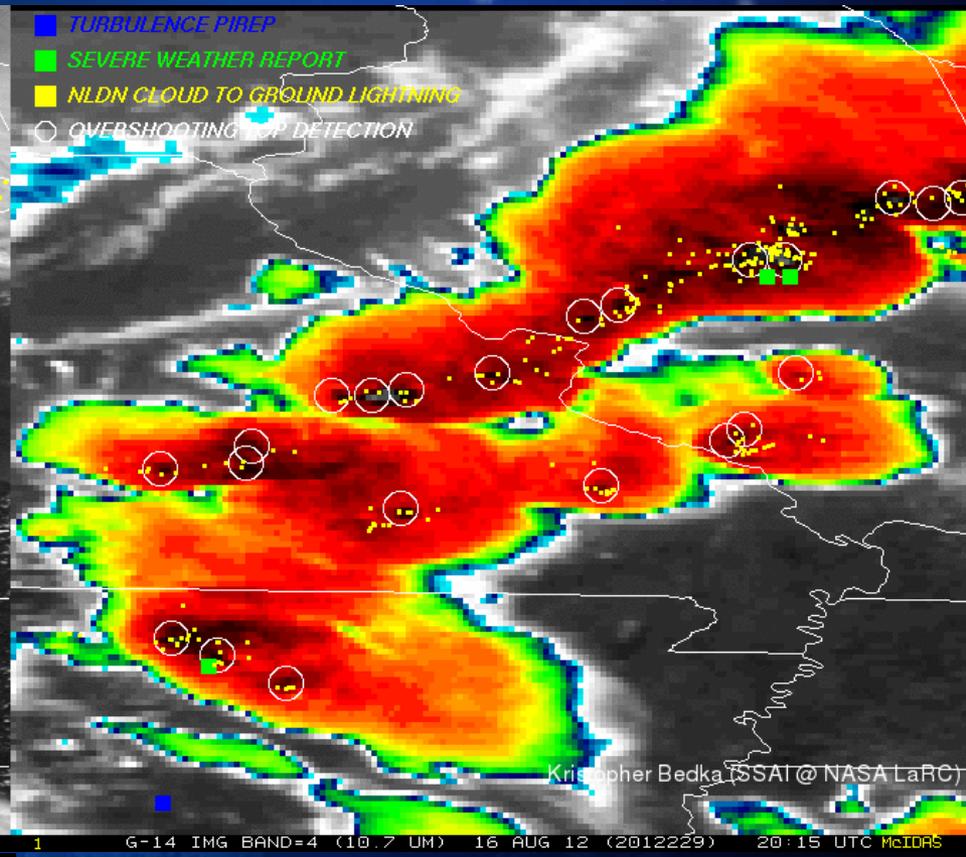
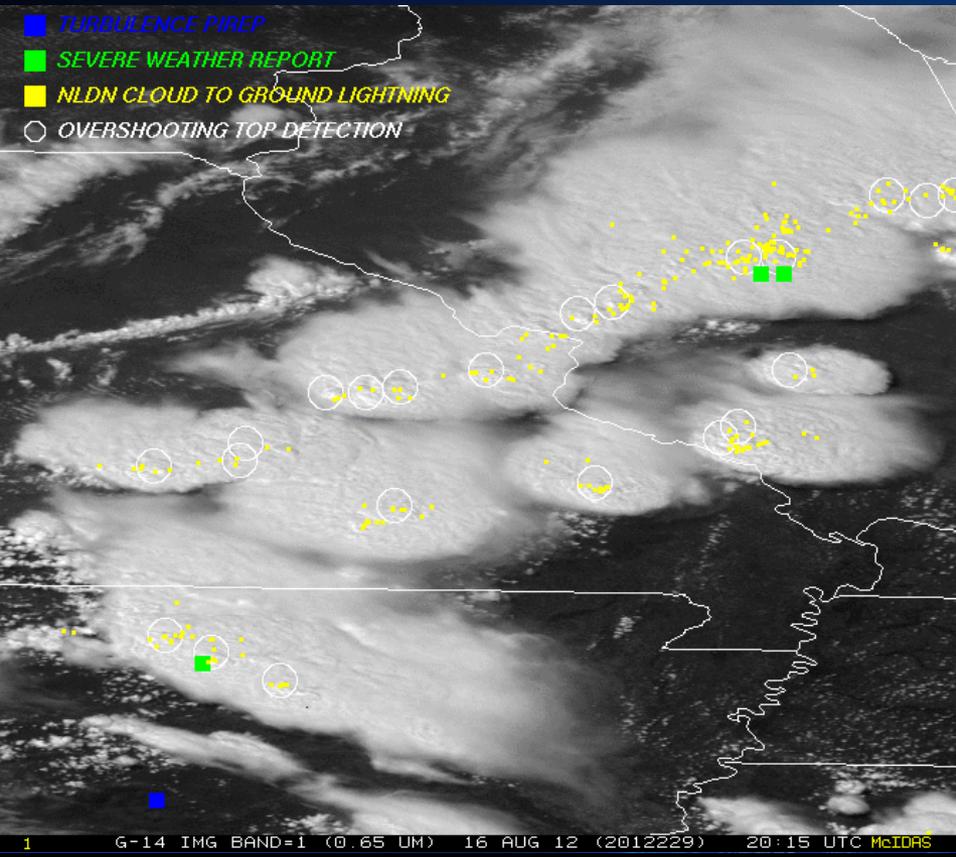
“Leo not just for NWP, Geo not just for imagery”

Louis Uccellini, Director NWS, Satellite Science Week, March 2013



GOES-R Super Rapid Scan

Moving towards data fusion



Proving Ground Demonstration at AWC Testbed

User comment: 'Cloud Top Cooling product is an excellent source of enhancing the situational awareness for future convective initiation, particularly in rapid scan mode'. (*AWC Testbed forecaster, June 2012*)

Why NWS needs this?

- Situational Awareness
- Warning confidence
- Decision Support (venues)



Science Week March 2012



Recommendation: Regional forecasts and nowcasts necessary for a Weather Ready Nation will have to make better use of the information content from AIRS, CrIS, and IASI data; GPS data should also be included. Between LEO sounding coverage, **GOES-R data should be used to monitor temporal profile (atmospheric stability, etc) changes.**

In general NWP readiness for GOES-R should continue to be a high priority activity.

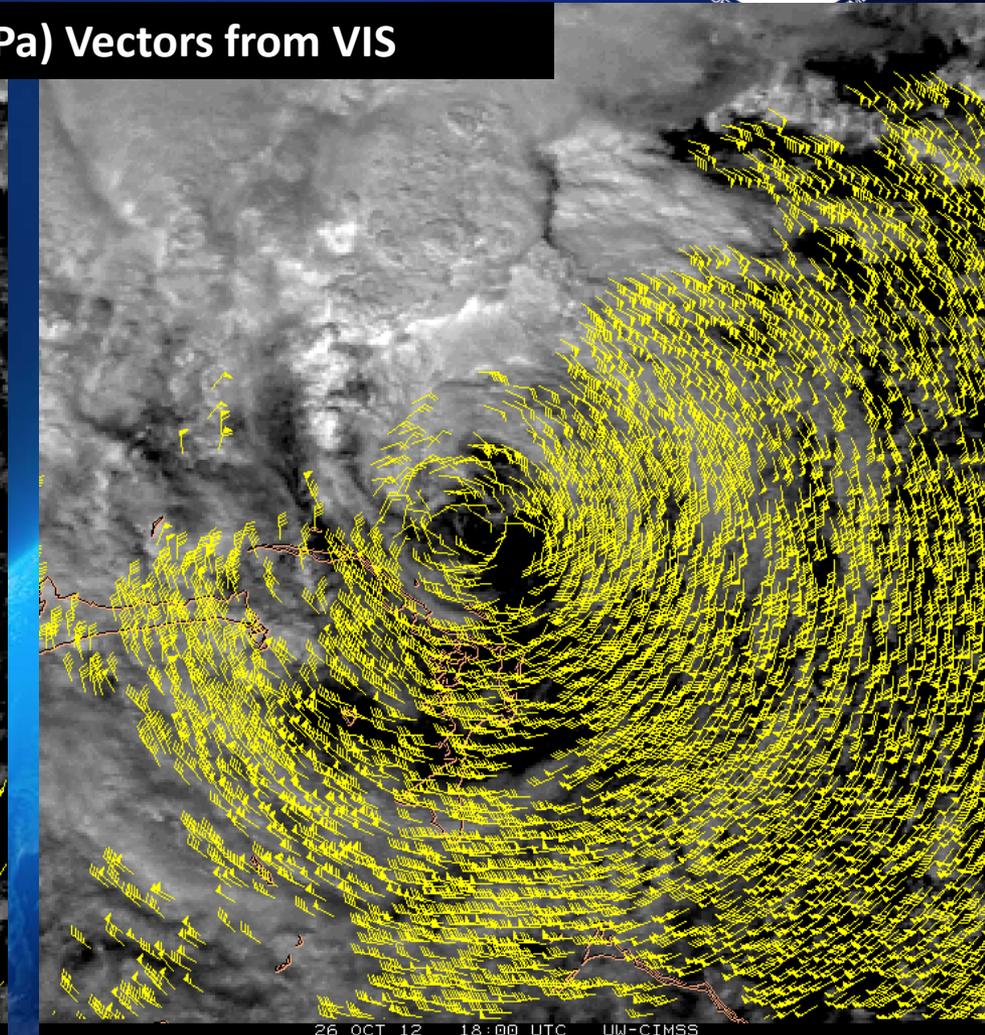
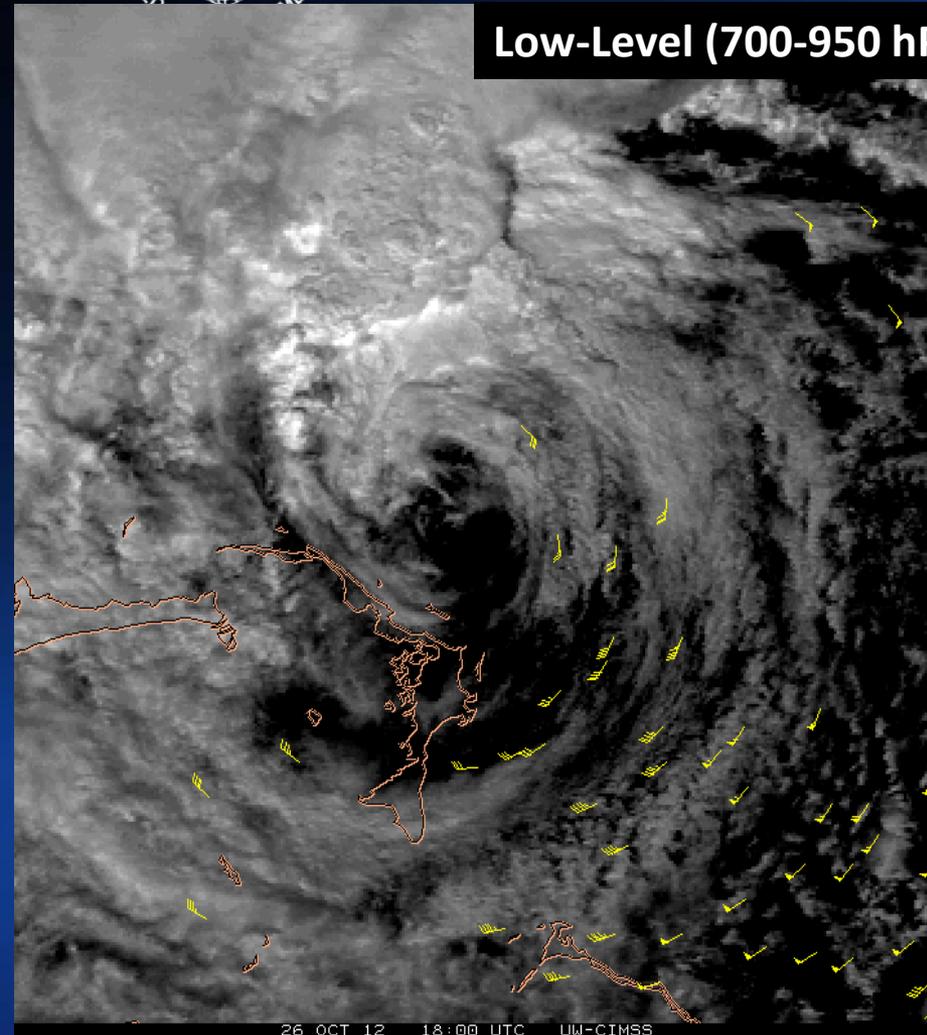
Atmospheric Motion Vectors from GOES-R

Proxy: AMVs from special GOES-14, 1-min super-rapid-scan operations



Hurricane Sandy

Low-Level (700-950 hPa) Vectors from VIS



AMVs from **15-min images** (routine **GOES** sampling)

AMVs from **1-min images** (meso **GOES-R** sampling)

1800 UTC 26 Oct, 2012