



GOES-R Data Operations & User Services

Matthew Seybold

GOES-R Data Operations Manager

[Acting]

NESDIS/OSPO/SPSD

ABI L2+ Product Test Artifact
Cloud & Moisture Imagery
(CMI) Band 1

Satellite Proving Ground
User Readiness Meeting
Kansas City, MO
June 2, 2014

Slide Collaborators

- Satya Kalluri – GOES-R
- Alex Nguyen – GOES-R
- Pete Phillips – GOES-R
- Ananth Rao – GOES-R
- Chris Sisko – OSPO/MOD
- Joe Zajic – GOES-R
- Tim Schmit – STAR/CIMSS
- Andy Royle – GOES-R
- Jaime Daniels – GOES-R
- Ed Czopkiewicz – GOES-R

Outline

- Exciting Differences from Legacy GOES
- GOES-R User Support Teams
 - Help Desk
 - Product Operations
 - Cal/Val Radiometrics
- Product Distribution
 - Pathways
 - Product Portfolio
 - Implementation Release Schedule
- GRB Simulators

10-May-2014 1800 UTC



Tim Schmit (NESDIS/STAR/CIMSS) http://cimss.ssec.wisc.edu/goes/srsor2014/GOES-14_SRSOR.html

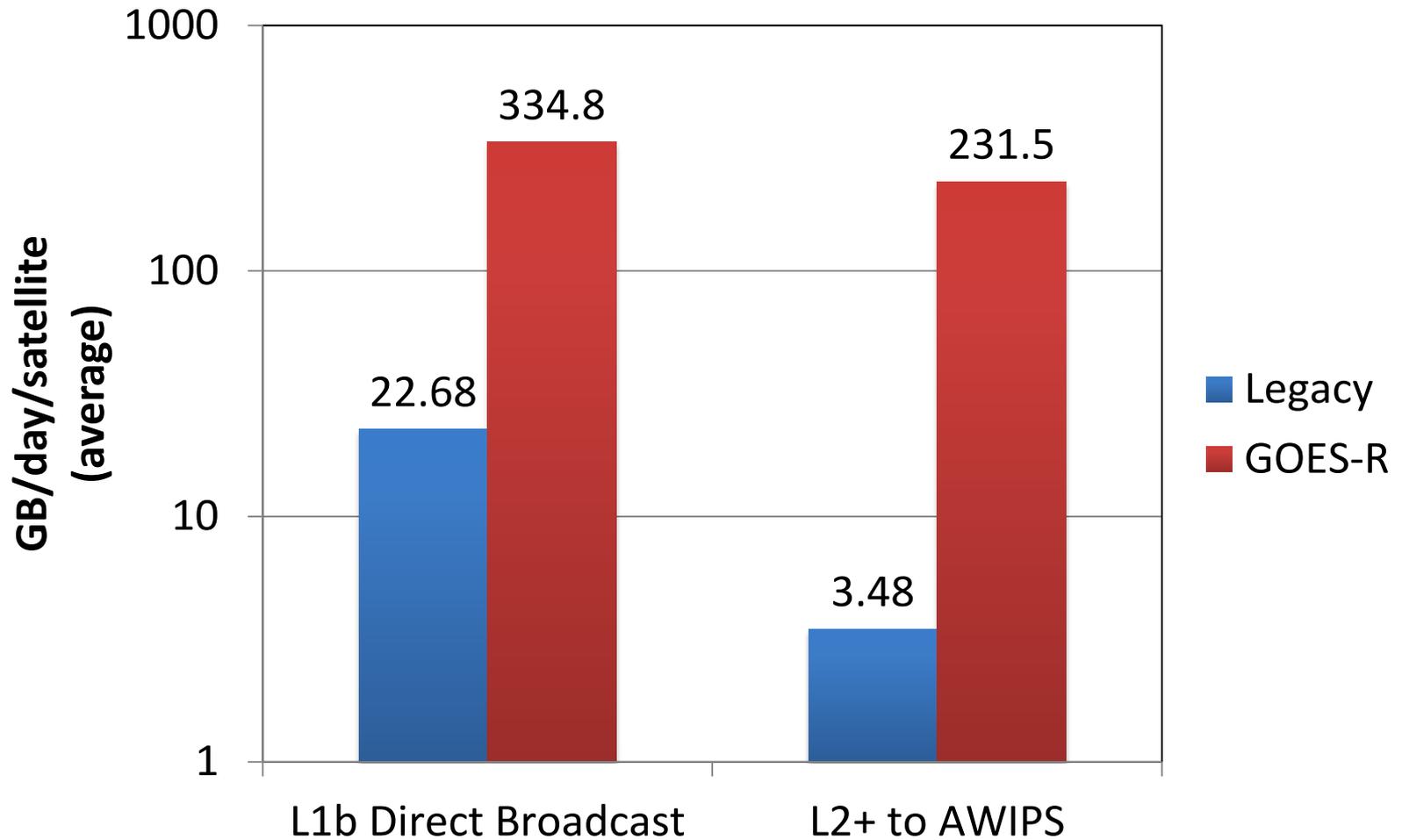


G-14 IMG BAND=1 VISIBLE 10-MAY-2014 18:00 UTC

McIDAS

OFFICE OF SATELLITE AND PRODUCT OPERATIONS

Data Volumes – GOES Legacy & GOES-R



Bonnie Morgan (NESDIS/OSPO)
Andy Royle (NESDIS/GOES-R)

Includes Sectorized CMI KPP
Excludes non-KPP L2+ products



GOES-R Product Help Team

- Dual Capabilities
 - GOES-13/14/15
 - GOES-R
- ESPC Help Desk
 - Help Ticket submissions
 - ESPCoperations@noaa.gov
 - (301) 817-3880
 - Anomaly Notifications
 - Future Subscription Service
 - RSO Requests to SDM

NESDIS

OSPO (Operations)



NSOF



NCWCP

GOES-R Product Operations Team

- DOM (Data Operations Manager) at GSFC/NSOF/NCWCP
 - Matthew Seybold (Acting)
- Direct Readout Services PAL (Product Area Lead) at NSOF
 - HRIT/EMWIN (High Rate Information Transmission / Emergency Managers Weather Information Network)
 - GRB (GOES-R Rebroadcast)
- Imagery PAL (Product Area Lead) at NCWCP
 - ABI (Advanced Baseline Imager)
 - GLM (Geostationary Lightning Mapper)
- User Services Coordinator at NCWCP
- Legacy GOES-13/14/15 Staff
 - PALs - Bonnie Morgan, Kay Metcalf, Marlin Perkins, Lakel Smith, John Paquette, Derived Product PALs
 - User Services Coordinators – Matt Seybold, Natalia Donoho
 - PDA – Chris Sisko, Donna McNamara

NESDIS

OSPO (Operations)



NSOF



NCWCP

- Space Weather PAL (Product Area Lead) at SWPC in Boulder, CO
 - EXIS (Extreme Ultraviolet and X-ray Irradiance Sensors)
 - SEISS (Space Environment In-Situ Sensor Suite)
 - SUVI (Solar Ultraviolet Imager)
 - MAG (Magnetometer)

GOES-R Product Cal/Val Team

- POM (Product Operations Manager)
Bob Iacovazzi at GSFC/NSOF/NCWCP
 - ABI
 - GLM

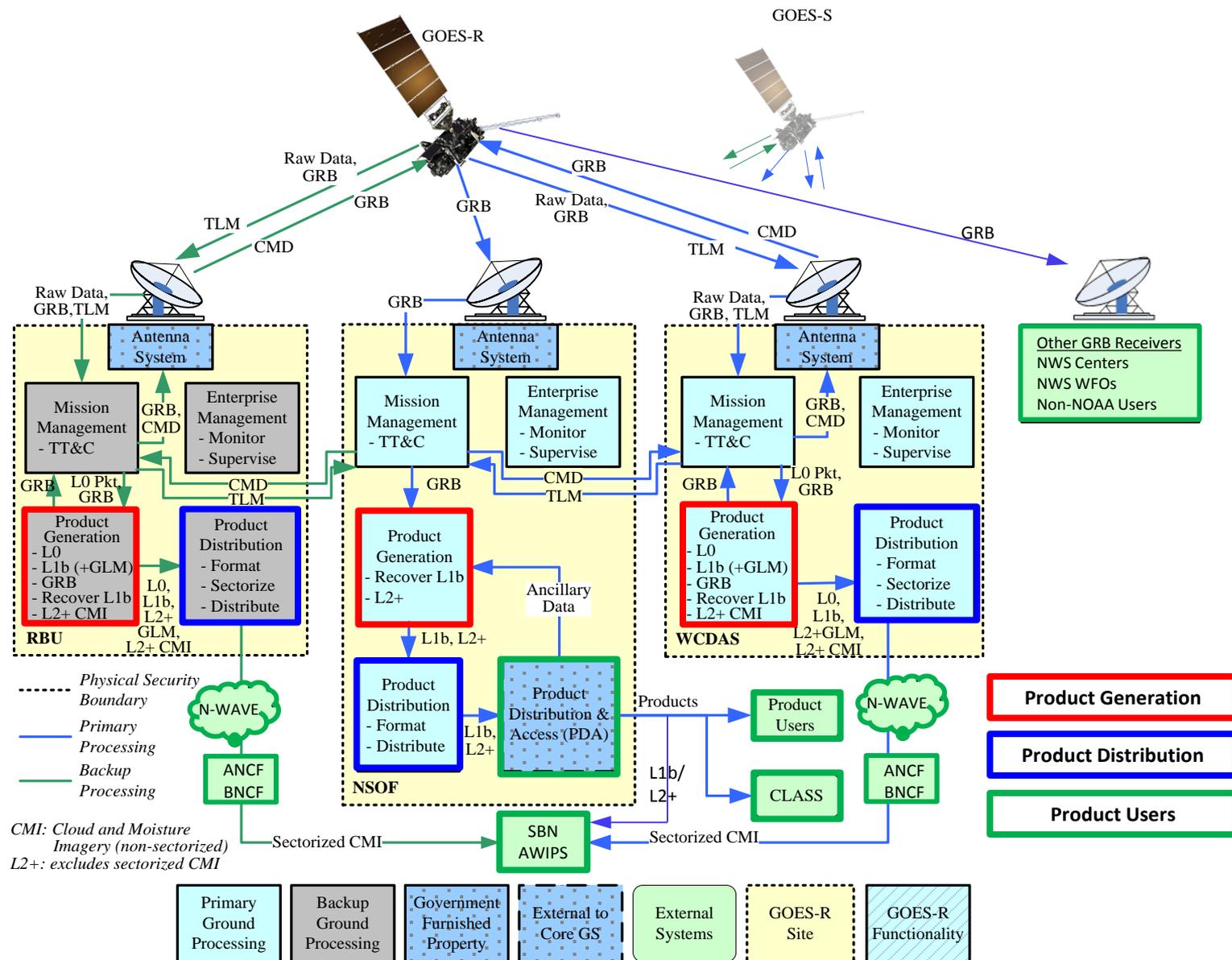
- Chief – Solar & Terrestrial Physics
Bill Denig at NGDC
 - EXIS (Extreme Ultraviolet and X-ray Irradiance Sensors)
 - SEISS (Space Environment In-Situ Sensor Suite)
 - SUVI (Solar Ultraviolet Imager)
 - MAG (Magnetometer)

NESDIS

GOES-R Program

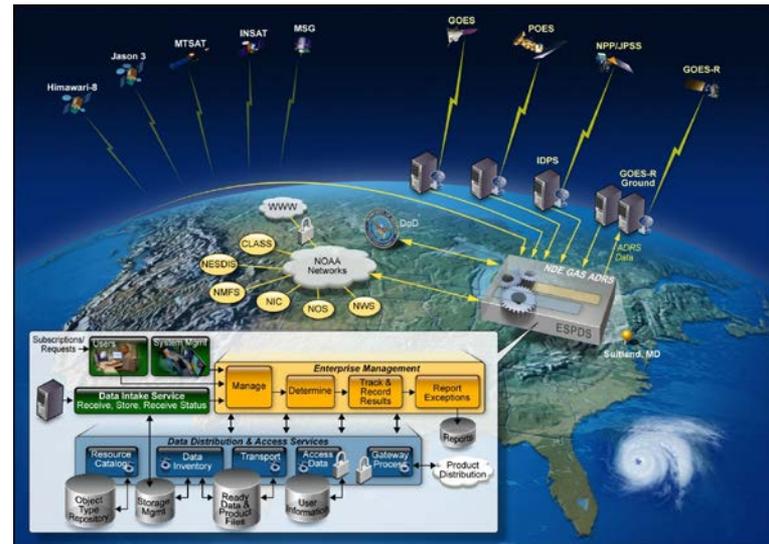
NGDC Archive Center

GOES-R Distribution to Users



PDA (Product Distribution & Access)

- Enterprise (GOES, POES, Others) GUI-based customer data access portal
- Provides catalog for data discovery
- Allows users to manage their data access details (product customization, selection and transfer method)
 - No longer one-size-fits-all
 - Data Shaping Capability
 - Flexible
 - Sectorize
 - Time Frequency
 - Mesoscale Domains
 - Mode Changes
- Source of data for
 - NCO (and EMC) Model ingest of GOES Radiances, Derived Products, and AMVs
 - AWIPS L1b/L2+ Derived Products
- Access granted to real-time users by Data Access Review Board (DARB)
- External Interface Testing - March 2015
- Operational Readiness Review (ORR) - August 2015



GOES-R Instruments and Products

Baseline Products

Advanced Baseline Imager (ABI)	Geostationary Lightning Mapper (GLM)
<ol style="list-style-type: none"> 1. Aerosol Detection (Including Smoke and Dust) 2. Aerosol Optical Depth (AOD) 3. Clear Sky Masks 4. Cloud and Moisture Imagery (KPP) 5. Cloud Optical Depth 6. Cloud Particle Size Distribution 7. Cloud Top Height 8. Cloud Top Phase 9. Cloud Top Pressure 10. Cloud Top Temperature 11. Derived Motion Winds 12. Derived Stability Indices 13. Downward Shortwave Radiation: Surface 14. Fire/Hot Spot Characterization 15. Hurricane Intensity Estimation 16. Land Surface Temperature (Skin) 17. Legacy Vertical Moisture Profile 18. Legacy Vertical Temperature Profile 19. Radiances 20. Rainfall Rate/QPE 21. Reflected Shortwave Radiation: TOA 22. Sea Surface Temperature (Skin) 23. Snow Cover 24. Total Precipitable Water 25. Volcanic Ash: Detection and Height 	<ol style="list-style-type: none"> 1. Lightning Detection: Events, Groups & Flashes
	Space Environment In-Situ Suite (SEISS)
	<ol style="list-style-type: none"> 2. Energetic Heavy Ions 3. Magnetospheric Electrons & Protons: Low Energy 4. Magnetospheric Electrons: Med & High Energy 5. Magnetospheric Protons: Med & High Energy 6. Solar and Galactic Protons
	Magnetometer (MAG)
	<ol style="list-style-type: none"> 7. Geomagnetic Field
	Extreme Ultraviolet and X-ray Irradiance Suite (EXIS)
	<ol style="list-style-type: none"> 8. Solar Flux: EUV 9. Solar Flux: X-ray Irradiance
	Solar Ultraviolet Imager (SUVI)
	<ol style="list-style-type: none"> 10. Solar Imagery (X-ray): coronal holes, solar flares, coronal mass ejection source regions

Future Capabilities

Advanced Baseline Imager (ABI)
<ul style="list-style-type: none"> Absorbed Shortwave Radiation: Surface Aerosol Particle Size Aircraft Icing Threat Cloud Ice Water Path Cloud Layers/Heights Cloud Liquid Water Cloud Type Convective Initiation Currents Currents: Offshore Downward Longwave Radiation: Surface Enhanced "V"/Overshooting Top Detection Flood/Standing Water Ice Cover Low Cloud and Fog Ozone Total Probability of Rainfall Rainfall Potential Sea and Lake Ice: Age Sea and Lake Ice: Concentration Sea and Lake Ice: Motion Snow Depth (Over Plains) SO₂ Detection Surface Albedo Surface Emissivity Tropopause Folding Turbulence Prediction Upward Longwave Radiation: Surface Upward Longwave Radiation: TOA Vegetation Fraction: Green Vegetation Index Visibility

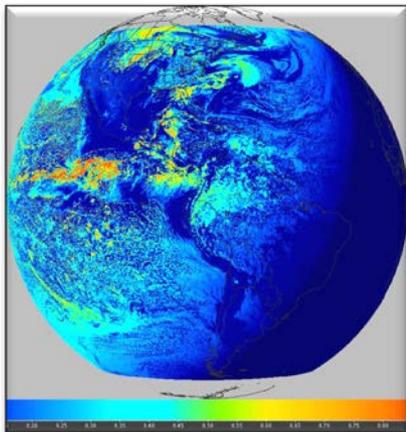
Satya Kalluri (NESDIS/GOES-R)

ABI L2+ Product Implementation for IPS

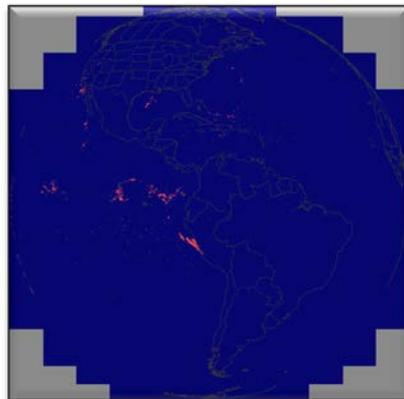
– Initial Product Set (IPS) Release Objectives

- Create, distribute, and monitor ABI radiances (L1b) and Cloud & Moisture Imagery (CMI) (L2+)
- Mode 3 & 4, Three Sectors (CONUS, Full Disk, Mesoscale)
- 16 channels, 2 sites (Wallops, RBU)
- 3 sectors * 16 channels * 2 sites = 96 products
- Delivery to AWIPS and CLASS node
- End-to-End MM Hardware integration and EM Ground Control

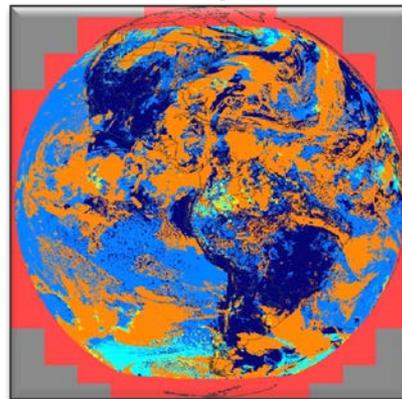
CMI Band 1



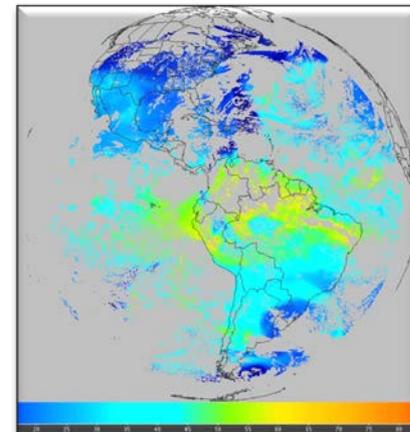
Air Quality (ADP)



Cloud Top Phase



Total Precipitable Water



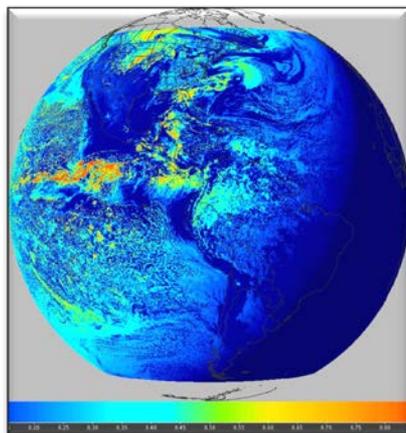
Satya Kalluri (NESDIS/GOES-R)

ABI L2+ Product Implementation for IPS

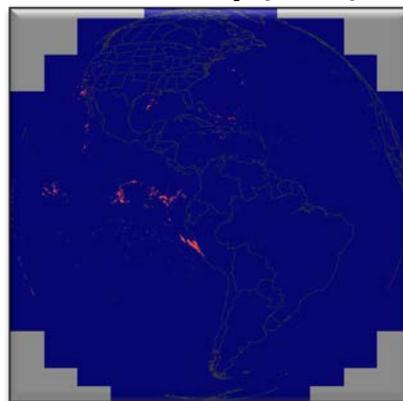
– Status

- Successfully completed Factory Integration and Test on schedule: 5/9/14
- Successfully completed Day In The Life demonstration: 5/13/14
- Shipped to NSOF
- Data flow from WCDAS and RBU to ANCF, BNCF, and TNCF
 - AWIPS testing scheduled: 6/2/14 - 6/20/14 (vetted by Harris at time of writing)
 - Site (Observe at NSOF) 1st Dry Run: 7/8/14-7/28/14
 - Site (Observe at NSOF) 2nd Dry Run: 8/7/14-8/20/14
 - Site (Observe at NSOF) Formal Testing Scheduled: 8/26/14 - 9/9/14

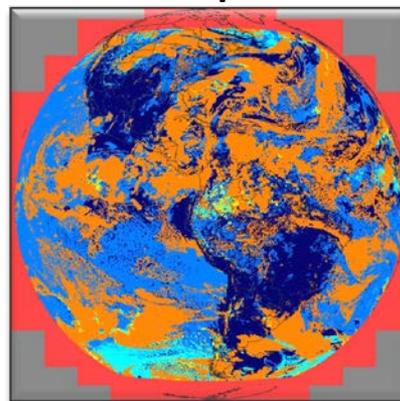
CMI Band 1



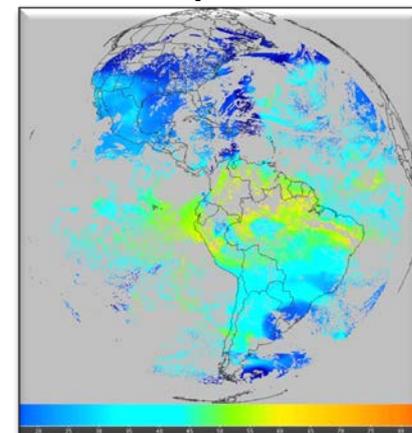
Air Quality (ADP)



Cloud Top Phase



Total Precipitable Water



Satya Kalluri (NESDIS/GOES-R)

ABI L2+ Product Implementation for FPS

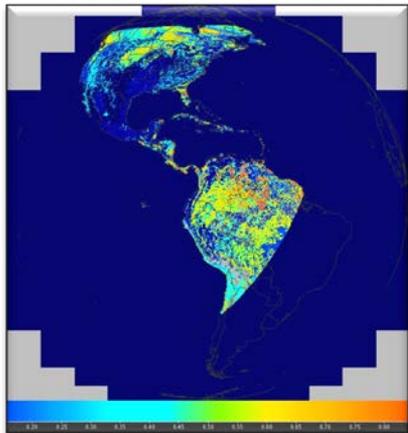
– Final Product Set (FPS) Release

- Create, distribute, and monitor ALL products
- End-to-End integration from MM to PDA/AWIPS/CLASS
- Enterprise Management (EM) Ground Control

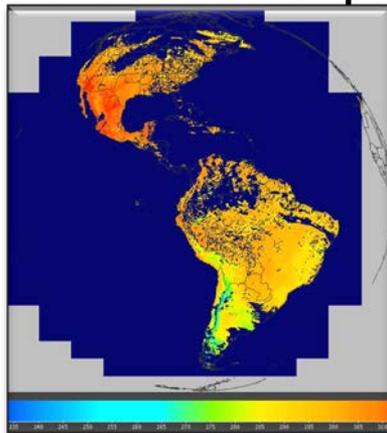
– Status

- Factory Integration and Test started on schedule – progressing well
- Factory Test: 9/11/14
- Day In The Life demonstration: 9/12/14
- PreShip Review to Site: 9/17/2014

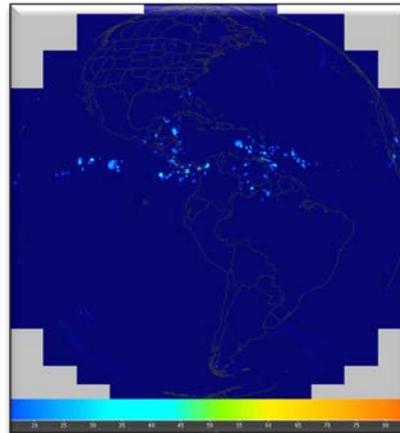
Fractional Snow Cover



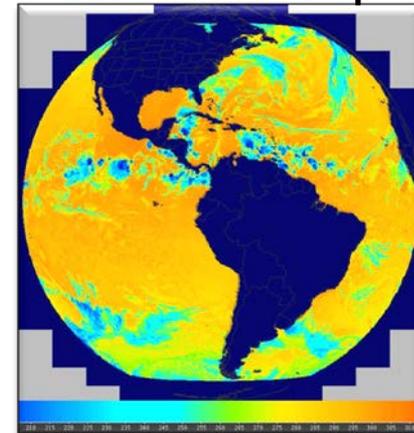
Land Surface Temp



Rainfall Rate



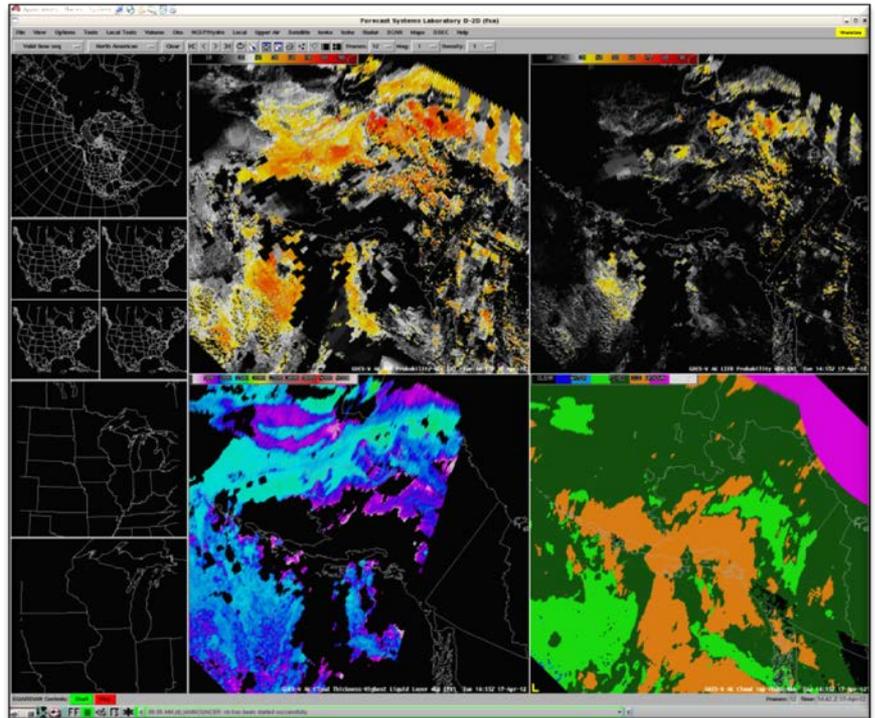
Sea Surface Temp



Satya Kalluri (NESDIS/GOES-R)

When will baseline products be in AWIPS?

- Launch is scheduled for Oct 2015
- PLT (Post Launch Testing) is scheduled for 6 months, which is April 2016
 - Could be earlier if POSST completes tests ahead of schedule
 - Could be later by up to 12 months – Oct 2016
 - Last 1.5 months of PLT is PLPT (Post Launch Product Testing)
- Valid for both AWIPS and PDA



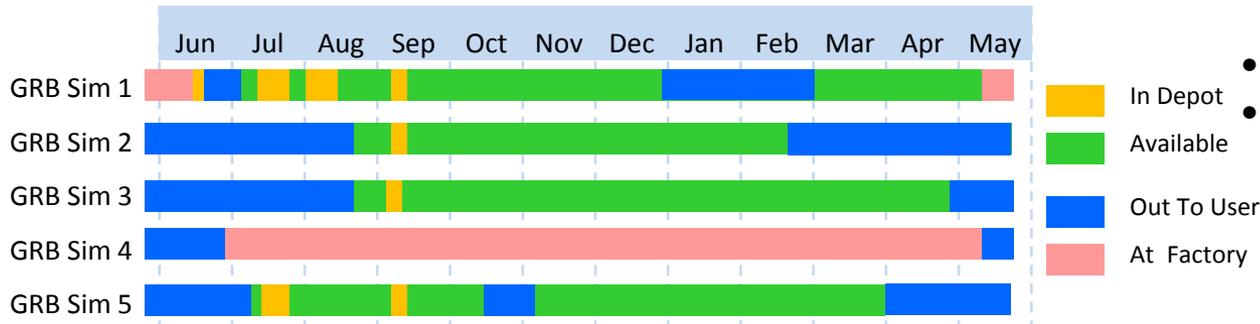
Jordan Gerth (GOES-R Proving Ground)
http://cimss.ssec.wisc.edu/goes_r/proving-ground/awips/geocat-ak/index.html

GRB Simulator Status



Locations

- ★ Current
- ★ Past



- 90-day loan periods with potential extensions depending on queue
- Project commenced Nov 2013 and slated through 2019
- 2 completed
- 4 of the 5 simulators are currently on site with customers and all trained
- 5th Simulator is at factory with Harris for Mission Management testing
- EEC Telespace is scheduled to receive a simulator in July, 2014
- NHC is tentatively scheduled to receive a simulator in mid-August, 2014 – Need to confirm
- Harris again in Fall, 2014
- Ed Czopkiewicz (HITS)
 - Software CM
 - Loan process
 - Training
 - Technical support



Thank You!

Matthew Seybold
GOES-R DOM (Acting)

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(202) 557-4997

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