



GOES-R Proving Ground Status Report to CI Directors

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Proving Ground Mission Statement

The GOES-R Proving Ground engages NWS in pre-operational demonstrations of selected capabilities of next generation GOES

- **Objective is to bridge the gap between research and operations by:**
 - Utilizing current systems (satellite, terrestrial, or model/synthetic) to emulate future GOES-R capabilities
 - Infusing GOES-R products and techniques into NWS operations with emphasis on AWIPS and transitioning to AWIPS-II.
 - Engaging in a dialogue to provide feedback to developers from users
- **The Proving Ground accomplishes its mission through:**
 - Sustained interaction between developers and end users for training, product evaluation, and solicitation of user feedback.
 - Close coordination with GOES-R Algorithm Working Group (AWG) and Risk Reduction programs as sources of demonstration products, promoting a smooth transition to operations

Intended outcomes are Day-1 readiness and maximum utilization for both the developers and users of GOES-R products, and an effective transition to operations

GOES-R Program Risks: User Readiness

Rank	Risk ID	Risk Statement (Condition; Consequence)	Approach/Plan	Status Mitigation
<u>3</u>	GP0-33	GOES-R User Readiness	Mitigation	GOES-R User Readiness Plan to consolidate and document all user interface & readiness activities and coordination.
Criticality	Planned Closure	If user or NOAA infrastructure upgrades necessary to ensure compatibility with GOES-R are not adequately identified, prioritized, developed, and funded to coincide with planned deployment schedules;	<ul style="list-style-type: none"> ✓1. Interface Requirements Definition & Coordination ✓a. Interface Requirements Docs (IRDs) (Aug. 2008) <li style="padding-left: 20px;">b. GOES-R User Readiness Plan Development & Approval (Sep. 2009) 2. External (to GOES-R) Orgs. (OSO, AWG, OSD) Communication & Collaboration from Design thru. Deployment 3. GOES-R Proving Grounds & User Community Training ✓4. User Community Outreach & Conferences 5. NOAA/User Orgs. Resources and Schedule Commitments 	<p><u>Conferences, Workshops, and other forums will continue to be used to provide user community with information and transition planning</u></p> <p>Major event being planned includes the PG Annual Meeting (May 2009) and GOES Users Conference (November, 2009)</p> <p>GOES-R Proving Ground concept is being initiated to allow for the research-to-operations. Focus is on forecaster/AWIPS-2 to prepare for the GOES-R information, to get real-world experience by leveraging existing resources, and to evaluate product tailoring. Plan in development.</p> <p>Coordination with NOAA Testbeds (USWRP Workshop April, 2009). Initial plans in place for NOAA Hazardous Weather Test Bed (HWT) PG Spring Experiment Demonstration.</p>
2x4	Long-Term	Then , there is a possibility that specific users will be unable to use the data products from lack of available infrastructure or from incompatibility with data distribution to meet increased performance needs resulting in schedule delays and cost impacts;		
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		Risk Owner: Steve Goodman		

GOES-R 34 Baseline Products	
Aerosol Detection (incl Smoke & Dust)	
Suspended Matter / Optical Depth	
Volcanic Ash: Detection & Height	
Cloud & Moisture Imagery	
Cloud Optical Depth	
Cloud Particle Size Distribution	
Cloud Top Phase	
Cloud Top Height	
Cloud Top Pressure	
Cloud Top Temperature	
Hurricane Intensity	
Lightning Detection: Events & Flashes	
Rainfall Rate / QPE	
Legacy Vertical Moisture Profile	
Legacy Vertical Temperature Profile	
Derived Stability Indices	
Total Precipitable Water	
Clear Sky Masks	
Radiances	
Downward Solar Insolation: Surface	
Reflected Solar Insolation: TOA	
Derived Motion Winds	
Fire / Hot Spot Characterization	
Land Surface (Skin) Temperature	
Snow Cover	
Sea Surface Temperature	
Energetic Heavy Ions	
Magnetospheric Electrons and Protons: Low Energy	
Magnetospheric Electrons and Protons: Medium & High Energy	
Solar and Galactic Protons	
Geomagnetic Field	
Solar Flux: EUV	
Solar Flux: X-Ray	
Solar Imagery: X-Ray	

GOES-R 34 Additional Products (Option 2)	
Aerosol Particle Size	
Aircraft Icing Threat	
Cloud Ice Water Path	
Cloud Imagery: Coastal	
Cloud Layers / Heights and Thickness	
Cloud Liquid Water	
Cloud Type	
Convective Initiation	
Enhanced "V" / Overshooting Top Detection	
Low Cloud and Fog	
Turbulence	
Visibility	
Probability of Rainfall	
Rainfall Potential	
Total Water Content	
Absorbed Shortwave Radiation: Surface	
Downward Longwave Radiation: Surface	
Upward Longwave Radiation: Surface	
Upward Longwave Radiation: TOA	
Ozone Total	
SO2 Detection	
Flood/Standing Water	
Ice Cover/Landlocked	
Snow Depth	
Surface Albedo	
Surface Emissivity	
Vegetation Fraction: Green	
Vegetation Index	
Currents	
Currents: Offshore	
Sea & Lake Ice: Age	
Sea & Lake Ice: Concentration	
Sea & Lake Ice: Extent	
Sea & Lake Ice: Motion	

ABI	SUVI	EXIS
GLM	SEISS	Magnetometer

Important Issues Presenter for Discussion at Boulder, CO Annual Meeting



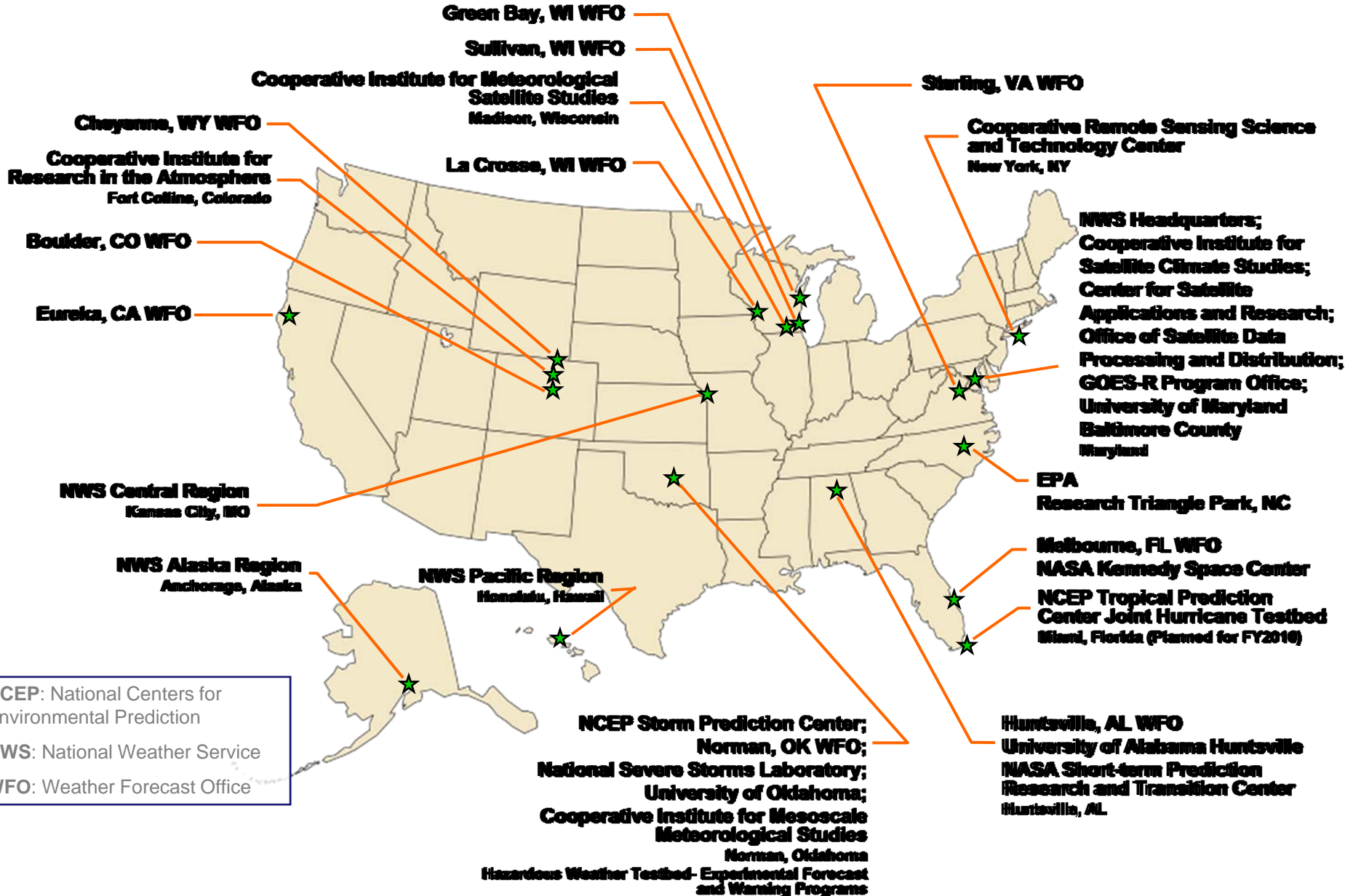
- We need to develop a comprehensive Program Level Plan for the Proving Ground... we need your help!
 - Today's discussions should provide a good foundation
- Maintain collaboration with NWS...any suggestions for improvement?
 - NWS HQS assigned personnel to co-create PG Plan with GPO
- How can we best assess the 68 baseline and option products?
 - Prioritization and where can we do the assessments?
 - Potential for collaboration with other NOAA testbeds?
- IOPs 2010 (Year 2 for SPC/HWT EFP, EWP and VORTEX-2, JHT NHC/HRD collab)
- Alaska and Pacific Region Test beds...
 - Both heavy users of GOES & POES/ foreign and domestic
 - Lead in to "Satellite Proving Ground Without Borders"
 - More comprehensive satellite proving ground with IPO as a partner?

Pathways to User Readiness for GOES-R



- GOES-R Proving Ground- Plan now in development
- User Education
 - COMET modules; VISIT; SHyMet; ESRC
- Conferences
 - GUC; Special Sessions at AMS; Direct Readout Conferences
- Provide updated information on GOES-R web page
- Outreach- contractor support to develop Fact Sheets, Web presentation (pdfs, social media)
- User Readiness Plan- Draft Plan due 30 September

GOES-R Proving Ground Partners



Proving Ground Summary

- PG is the ultimate tool for user interaction
- PG will be a recipient and a source of user education
 - PG participants must have up to date knowledge of products and applications
 - PG activities will provide material for future training modules
- Program Plan under development
- Phase I spin-up at CIMSS, CIRA (2008)
- Phase II adds SPoRT, SPC/HWT, AQ (CREST), Alaska, Pacific
 - HWT IOP with VORTEX-2 (2009)

Summary (Cont)

- Existing and Planned collaborations for product validation and assessment with NOAA Testbeds- HWT, JHT, DTC, HMT
- NESDIS Satellite Algorithm Testbed (new)- blended products from combining GEO and LEO observations at \$450K (encourages collaborations beyond CIs)
- JCSDA FFO targeted at GOES-R for mesoscale Data Assimilation (ABI and GLM) at \$450K
- Visiting Scientist Program at \$30K (AWG, R3, PG)
- NOAA-EUMETSAT GEO Working Group
 - Advanced Sounders, Lightning Imagers
 - EUMETSAT Satellite Application Facilities (SAFs)
 - Visiting Scientists
- WMO WWRP Nowcasting Working Group
 - Forecast and Research Demonstration Projects (FDPs, RDPs, e.g., Sydney 2000, B08 and SNOW-V10 Summer and Winter Olympic Games)
 - WSN09 Nowcasting and Very-Short Range Forecasting Symposium, Whistler, BC, Canada