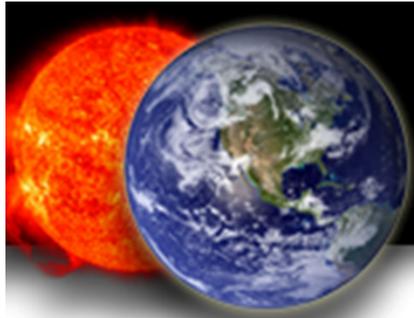


Meeting the Nation's Evolving Needs for Space Weather Services



Dr. Louis W. Uccellini
NOAA Assistant Administrator for Weather Services
Director, National Weather Service

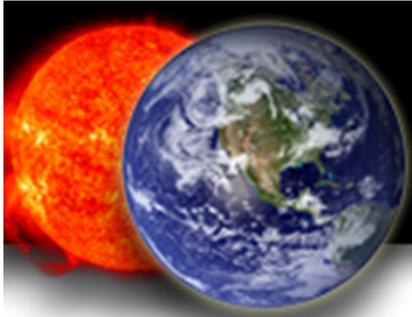
2013 Space Weather Enterprise Forum
Silver Spring, MD
June 4, 2013



NOAA's Contribution to Unified National Space Weather Capability

- Observations – GOES X-rays, protons; ACE Real Time
- Space Weather Prediction Test Bed - operational models developed by research community (WSA-Enlil, Ovation, D-RAP)
- Space weather observations, forecasts, warnings 24x7
- Outreach and education
- Leadership for Portal
- International connection - WMO

The screenshot shows the homepage of the National Space Weather Program (NSWP) Unified National Space Weather Portal. The page features a navigation menu with links for Welcome, Products/Services, Research, Infrastructure, Data, Outreach, Programs, and International. Below the menu is a section titled 'AGENCY PARTICIPANTS' with logos for various agencies including NOAA, NASA, and others. The main content area includes a 'Welcome' message and a brief description of the portal's purpose: 'The Unified National Space Weather Portal provides a gateway to access federally funded space weather information, services, and activities. It connects to a system of existing portals and websites, providing national information to enhance understanding.' A small image of the sun and Earth is visible in the bottom right corner of the screenshot.



NOAA's Commitment to Improve R2O

• Model Transition

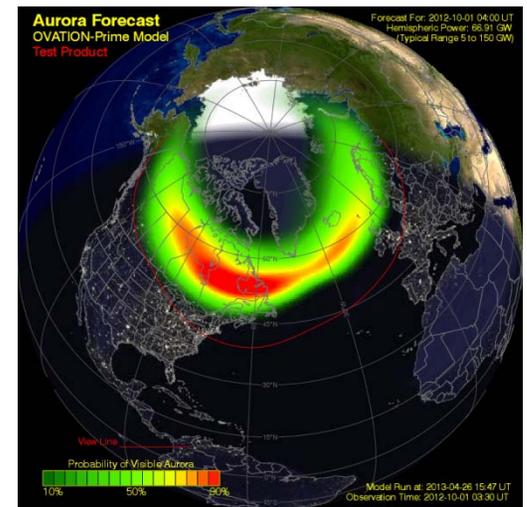
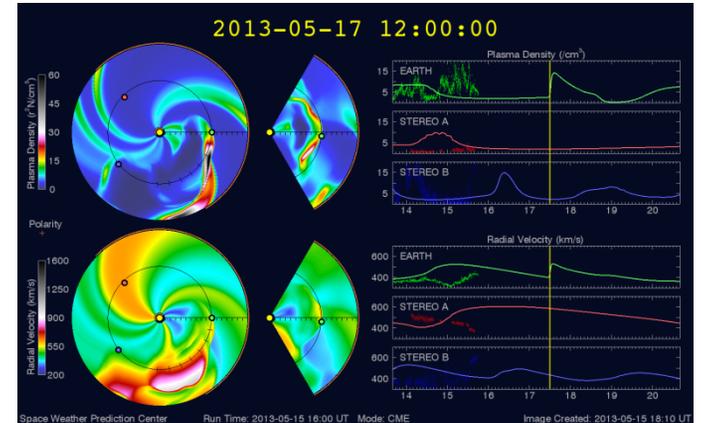
- WSA-Enlil model in operations
- Increased geomagnetic storm onset accuracy from ± 16 hrs to ± 7 hrs
- Improves 1-3 day geomagnetic storm forecast

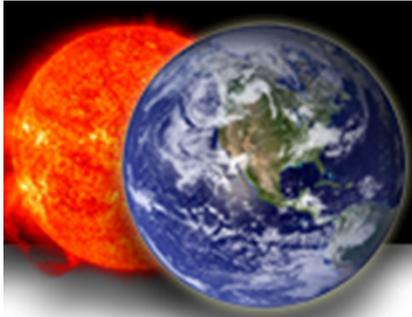
• Promoting SWx Prediction Testbed to accelerate R2O

- Geospace Model
- Whole Atmosphere Model
- Ovation - Auroral Forecast Model

• Upgrade operational product suite – critical new data sets for power grid & GPS operations

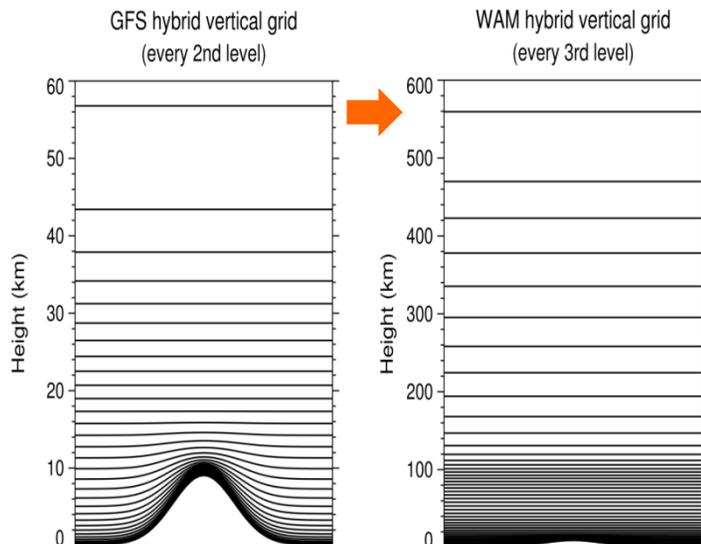
- Geomagnetic storm products
- USGS and INTERMAGNET data





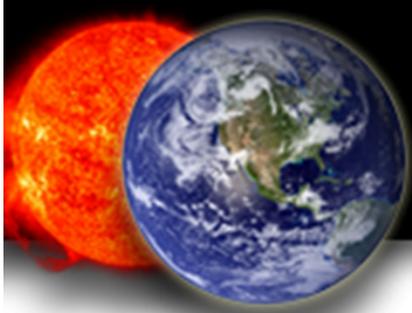
Integrated Dynamics in Earth's Atmosphere (IDEA)/ Whole Atmosphere Model (WAM)

- Multiyear project to raise the top of operational GFS to 600km
- Couples ionosphere/plasmasphere prediction capabilities, with current terrestrial weather prediction model
- Will predict lower atmosphere impact on ionospheric space weather (and vice versa)



Expected benefits:

- Improved forecasts/lead times for ionospheric conditions that can disrupt GPS services & communications
- Improved terrestrial forecasts from upper atmosphere coupling



NOAA's Connection to Interagency Partners

Value of partnerships to leverage Nation's investment in observations & research for space weather

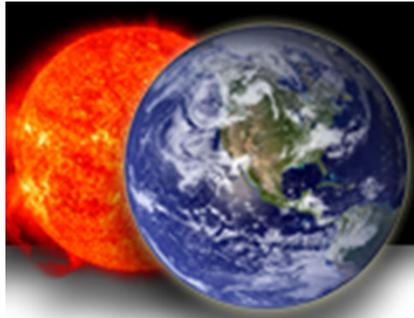
- **NSF** – basic research and modeling advances
- **NASA** – research satellite observations, modeling/real-time model assessments (CCMC), link to SWx Prediction Testbed
- **U.S. Geological Survey** – magnetometer data
- **Air Force Weather Agency** – Solar Electro Optical Network (SEON), SWPC backup
- **Commercial sector**: tapping into increasing role in SWx

WMO – Interprogramme Coordination Team on Space Weather, portal, requirements, gap analysis, link to users

Summary

- NOAA is making advancements in operations and R2O
 - Collaboration with research community is essential to leveraging existing model development and assessment
- Achieving our operational mission depends on our public/private sector partnerships and related R2O activities





Overall Budget Landscape

FY13 severe budget cuts applied across agency

- Sandy Supplemental – bolsters operational computing capacity

FY14 President's Budget

- NOAA \$5.4B
NWS \$1.05B
- Space Weather Operations \$11.4M
 - R2O \$2.5M

