U.S. National Space Weather Strategy

UN Committee on the Peaceful Uses of Outer Space

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“Flights disappeared from radar screens in Swedish air traffic control towers during the blackout, which lasted about an hour.”
Extreme Space Weather: Carrington Event, September 1859

“All our exchanges, from the northern coast of the Island of Cuba gave glowing descriptions of the Aurora Borealis - as bright in the tropics as in the northern zones”  [New Orleans Daily Picayune, September 7, 1859]

Discharges shocked telegraph operators and set the telegraph paper on fire.

Visible Aurora, Sep 2

- US population at risk of extended power outage: 20-40 mil
- Duration: 16 days to 1-2 years
- Economic cost: $0.6-2.6 trillion USD
- Highest Risk: DC-NYC corridor

- Gulf Coast states, including Florida, identified as "high risk" area
The National Strategy and Action Plan

NMATIONAL SPACE WEATHER STRATEGY
PRODUCT OF THE
National Science and Technology Council
October 2015

NATIONAL SPACE WEATHER ACTION PLAN
PRODUCT OF THE
National Science and Technology Council
October 2015

Released on 29 October 2015
A cohesive all-of-government strategy was necessary to ensure the federal government was positioned to mitigate, respond to and recover from a major space weather storm.

Nov 2014 – Space Weather Operations, Research, and Mitigation (SWORM) Task Force is established

Tasked to develop:

- National Space Weather Strategy (NSWS)
- Space Weather Action Plan
National Space Weather Strategy – Whole Enterprise Involvement

- Multi-agency effort – both science and preparedness
- All Actions coordinated with White House Office of Science and Technology Policy, National Security Council, and Office of Management and Budget
- Public Comment Period - stakeholders provided input and feedback on National Strategy

Strategy will require us to strengthen our interagency, public-private and international partnerships, in a whole community approach.
National Space Weather Strategy – Structure
Strategy articulates six high-level goals

1. Establish Benchmarks for Space-Weather Events
2. Enhance Response and Recovery Capabilities
3. Improve Protection and Mitigation Efforts
4. Improve Assessment, Modeling, and Prediction of Impacts on Critical Infrastructure
5. Improve Space-Weather Services through Advancing Understanding and Forecasting
6. Increase International Cooperation
A National Space Weather Action Plan (NSWAP) establishes a process to implement the National Space Weather Strategy.

The NSWAP establishes specific activities with:

- implementation timelines
- detailed actions
- specific agency assignments
Goal 6. Increase International Cooperation

Space weather should be regarded as a global challenge requiring a coordinated global response.

- Build international support and policies for acknowledging space weather as a global challenge
- Increase engagement with the international community on observation infrastructure, data sharing, numerical modeling, and scientific research
- Strengthen international coordination and cooperation on space-weather products and services
- Promote a collaborative international approach to preparedness for extreme space-weather events
Way Forward – NSTC Subcommittee on Space Weather

NATIONAL SCIENCE AND TECHNOLOGY COUNCIL (NSTC)

COMMITTEE ON ENVIRONMENT, NATURAL RESOURCES, AND SUSTAINABILITY (CENRS)
Tamara Dickinson (OSTP), Kathryn Sullivan (NOAA), Glenn Paulson (EPA)

- AQRS: Air Quality Research (SC)
- CSMSC: Critical & Strategic Mineral Supply Chains (SC)
- IARPC: Interagency Arctic Research Policy Committee (IWG)
- ISTS: Integration of Science and Technology for Sustainability (TF)
- SDR: Disaster Reduction (SC)
- SES: Ecological Services (SC)
- SGCR: Global Change Research (SC)
- SOST: Ocean Science & Technology (SC)
- SWAQ: Water Availability & Quality (SC)
- T&R: Toxics & Risk (SC)
- USGEO: U.S. Group on Earth Observations (SC)

Subcommittee on Space Weather Operations. Research, and Mitigation (SWORM)

Co-Chairs

NOAA
OSTP
Dep. Homeland Security

Office of Federal Coordinator of Meteorology: Executive Secretary

Departments and Agencies

Working Groups
THANK YOU!