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***Office of the Federal Coordinator for  
Meteorological Services and Supporting  
Research (OFCM)***



***THE NATIONAL SPACE  
WEATHER PROGRAM***

***National Science and Technology Council  
Subcommittee on Disaster Reduction***

**November 3, 2011**

***Mr. Michael F. Bonadonna  
Executive Secretary,  
National Space Weather Program Council***

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# Overview

- **What is the NSWP?**
  - Strategic goals
  - Organization
- **Activities and Results**
  - Reports and Plans
  - 2011 activities
- **Plan for the Next Decade**
  - New Vision/Mission
  - Integrated Action Plan
  - New Implementation Plan



# NSWP Goals Provide Strategic Framework

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-  **Discover and understand the physical conditions and processes that produce space weather and its effects.**
-  **Develop and sustain necessary observational capabilities.**
-  **Provide tailored and accurate space weather information where and when it's needed.**
-  **Raise national awareness of the impacts of space weather.**
-  **Foster communications among government, commercial, and academic organizations.**

**Available at <http://www.ofcm.gov/nswp-sp/fcm-p30.htm>**

*Office of the Federal Coordinator for Meteorology*

# NSWP Organization Based on Cooperation

***Thanks to  
our interagency and non-governmental partners,  
the NSWP produces synergistic results.***

## • Program Council

- Member Agencies: NOAA (NWS and NESDIS), Defense (Air Force), Energy, Homeland Security, Interior, State, Transportation, NASA, and National Science Foundation
- Observers: White House Office of Science and Technology Policy and Office of Management and Budget
- Sets overall policy, guidance, and direction

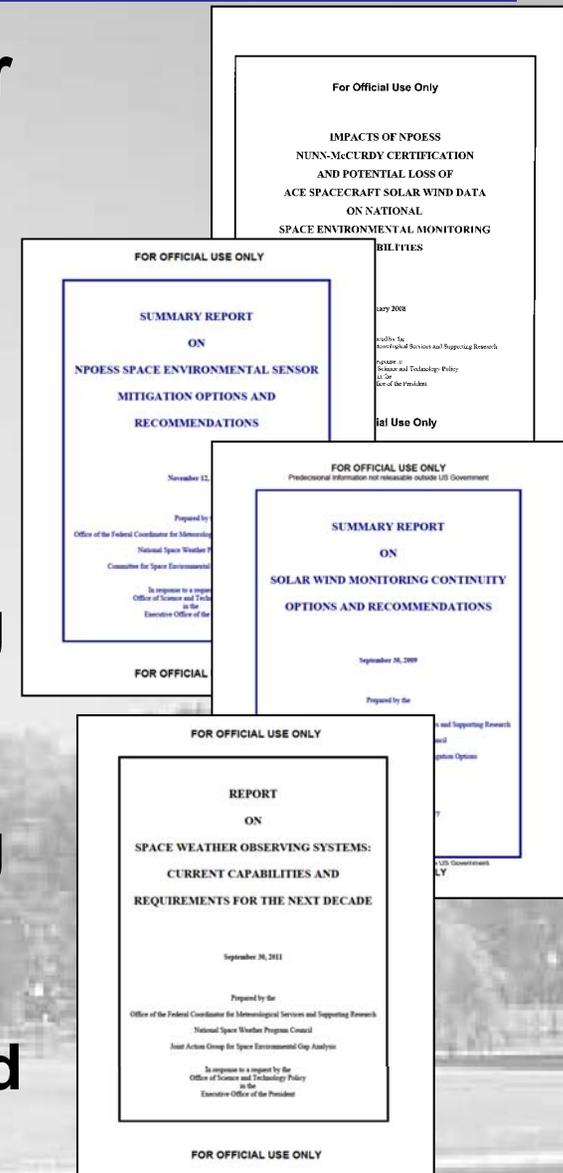
## • Committee for Space Weather

- Member Agencies: Same as Council
- Executes Council guidance and implements the program



# NSWP: Producing Results

- **NSWP produced 4 key reports for the Executive Office of the President, Office of Science and Technology Policy:**
  - **2008: Impact assessment of Low Earth-Orbit and Solar wind monitoring loss**
  - **2009: Space Environmental Sensing Mitigation Options Report: Low Earth Orbit**
  - **2009: Space Environmental Sensing Mitigation Options Report: Solar Wind Monitoring**
  - **2011: Report on current and planned Space Weather Observing Systems**



# Grand Challenges in Disaster Reduction

- NSWP partnered with the National Science and Technology Council's Subcommittee on Disaster Reduction (SDR) to publish the "Grand Challenges for Space Weather" in 2010.
  - Challenge 1: Provide hazard and disaster information where and when it is needed
  - Challenge 2: Understand the natural processes that produce hazards
  - Challenge 3: Develop hazard mitigation strategies and technologies
  - Challenge 4: Reduce the vulnerability of infrastructure.
  - Challenge 5: Assess disaster resilience.
  - Challenge 6: Promote risk-wise behavior.
- This succinct plan provides a roadmap for action and detailed planning.

Available at: <http://www.sdr.gov/>



# SDR Space Weather Grand Challenge Progress

- The SDR Space Weather Implementation Plan provided 36 recommendations across the six Grand Challenges

	Short-term Actions (1-2 years)			Mid-term Actions (2-5 years)			Long-term Actions (5+ Years)		
GC-1: Provide Disaster / Hazard Info	■	■	■	■	■	■	■	■	■
GC-2: Understand the Natural Processes	■	■	■	■	■	■	■	■	■
GC-3: Develop Mitigation Strategies	■	■	■	■	■	■	■	■	■
GC-4: Reduce Infrastructure Vulnerability	■	■	■	■	■	■	■	■	■
GC-5: Assess Disaster Resilience	■	■	■	■	■	■	■	■	■
GC-6: Promote Risk-wise Behavior	■	■	■	■	■	■	■	■	■

Subjective Progress		
■ Completed	■ In Progress	■ No Progress

- The NSWSP organizations and partners have made progress on nearly all 36 actions but much more work needs to be done.
- Most actions were incorporated into NSWSP planning documents.

# Vision for a New Decade

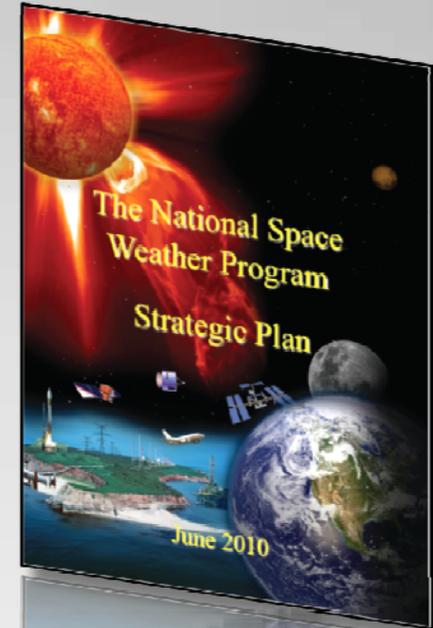
## Vision

A Nation that capitalizes on advances in science and forecasting to better cope with the adverse impacts of space weather on human activity and on advanced technologies that underlie our global economy and national security.

Committee for Space Weather

NSWP Council

185 recommendations  
10 key documents



## Mission

The National Space Weather Program (NSWP) serves as the focal point for the Federal government's national space weather enterprise and partnerships. By providing an active, synergistic, interagency forum for collaboration, the NSWP facilitates mutually beneficial interactions among the Nation's research and operational communities.

# 2011: An Exciting and Fruitful Year

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- **Initiated a cooperative agreement to establish the Unified National Space Weather Capability (UNSWC)**
- **Completed the OSTP requested Space Environmental Gap Analysis (SEGA)**
- **Hosted the 5<sup>th</sup> Space Weather Enterprise Forum**
- **Supported several key conference and workshops:**
  - **NOAA's Space Weather Workshop**
  - **American Meteorological Society, Space Weather Symposium**
  - **Electrical Infrastructure Security Summit**
  - **Space Weather events on Capitol Hill**
- **Numerous achievements on international cooperation**

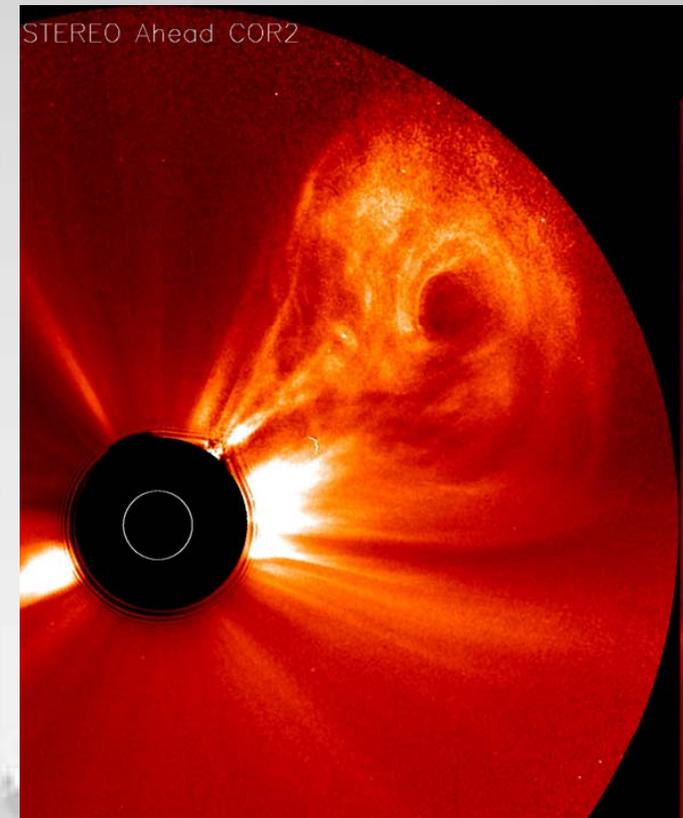
# 2011 Forum Builds Momentum

- June 21, 2011, in Washington, DC
  - **Theme:** Solar Maximum: Can We Weather the Storm?
  - **Objectives:**
    - Share information across the enterprise for new users, decision makers, and policymakers
    - Identify effective approaches to build resilience across society and critical infrastructure.
    - Identify effective approaches to raise awareness in the broader society.
    - Improve communications within and external to the enterprise.
    - Collect information for the NSWP I-Plan
  - **Results:**
    - 220+ attendees from government, industry, academia, and international
    - Key speakers:
      - Congresswoman Yvette Clarke, U.S. House of Representatives
      - Dr. Margaret Cavanaugh, Dep. Asst. Dir. Geosciences, NSF
      - Dr. Kathryn Sullivan, NOAA Asst Administrator
      - Mr. David Jones, President StormCenter Communications
    - 6 sessions, 28 national and internationally renowned speakers



# The Year Ahead

- **Integrated Action Plan**
  - **Early steps to towards achieving Strategic Plan goals.**
- **Achieving Strategic Plan goals and addressing SDR Space Weather Grand Challenges recommendations**
- **Begin development of new **Implementation Plan** incorporating results from the Space and Solar Physics Decadal Strategy**
- **Space Weather Enterprise Forum**
- **Space Weather Workshop**

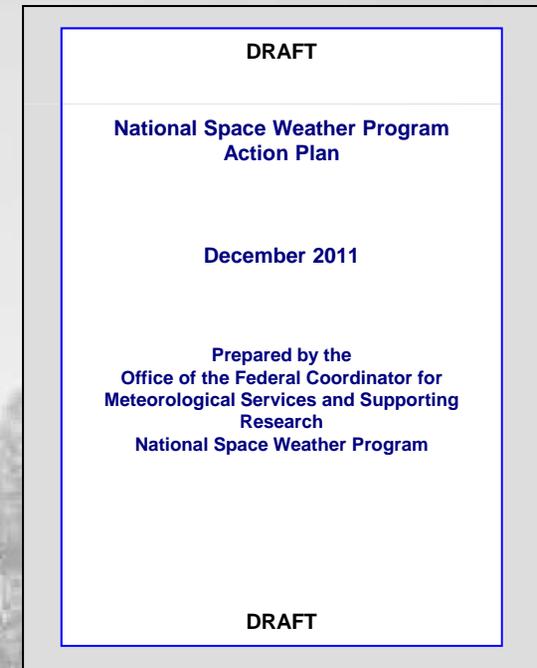


Courtesy NASA GSFC Stereo Program

# Preparing for Solar Max

## Integrated Action Plan

- **Near-term** actions to improve capability
  - **High payoff**, early actions to prepare for solar max
- **Intermediate** actions to keep making progress towards the UNSWC
  - 1-3 year actions to improve the transition of successful research results to operations
- **Long-term** actions based on NSWP Goals and Objectives
  - Research Opportunities and Challenges



# Pulling it All Together

## New Implementation Plan

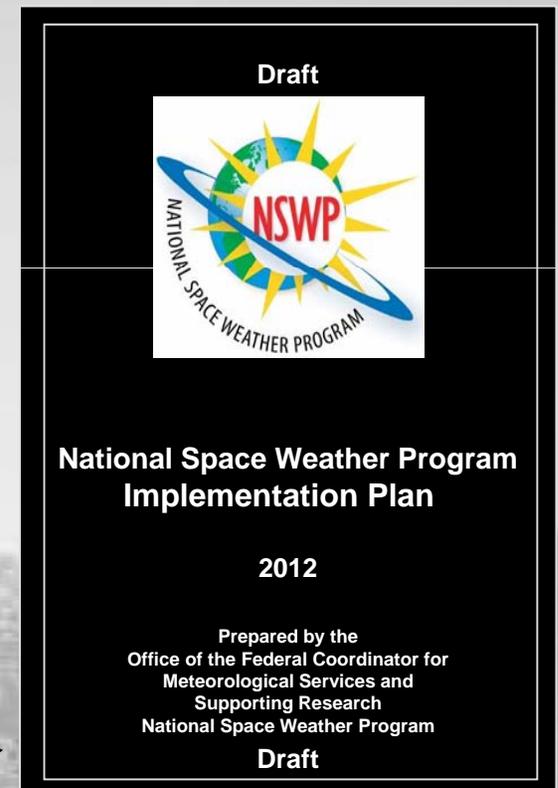
- **Specific actions and activities** to achieve the Strategic Plan goals and objectives
- Incorporates the Integrated Action Plan, results of the National Research Council's Decadal Survey for Solar and Space Physics (Heliophysics), and all previous studies
- Plan to **publish in 2012** following the decadal strategy report

Observing System Analysis

Integrated Action Plan

Previous Studies and Plans

Decadal Survey Results



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# QUESTIONS?

Visit our web site at  
<http://www.ofcm.gov>