

National Weather Service

Space Weather Update

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Increasing Public Awareness

*News media and Hollywood taking notice
of potential space weather impacts*

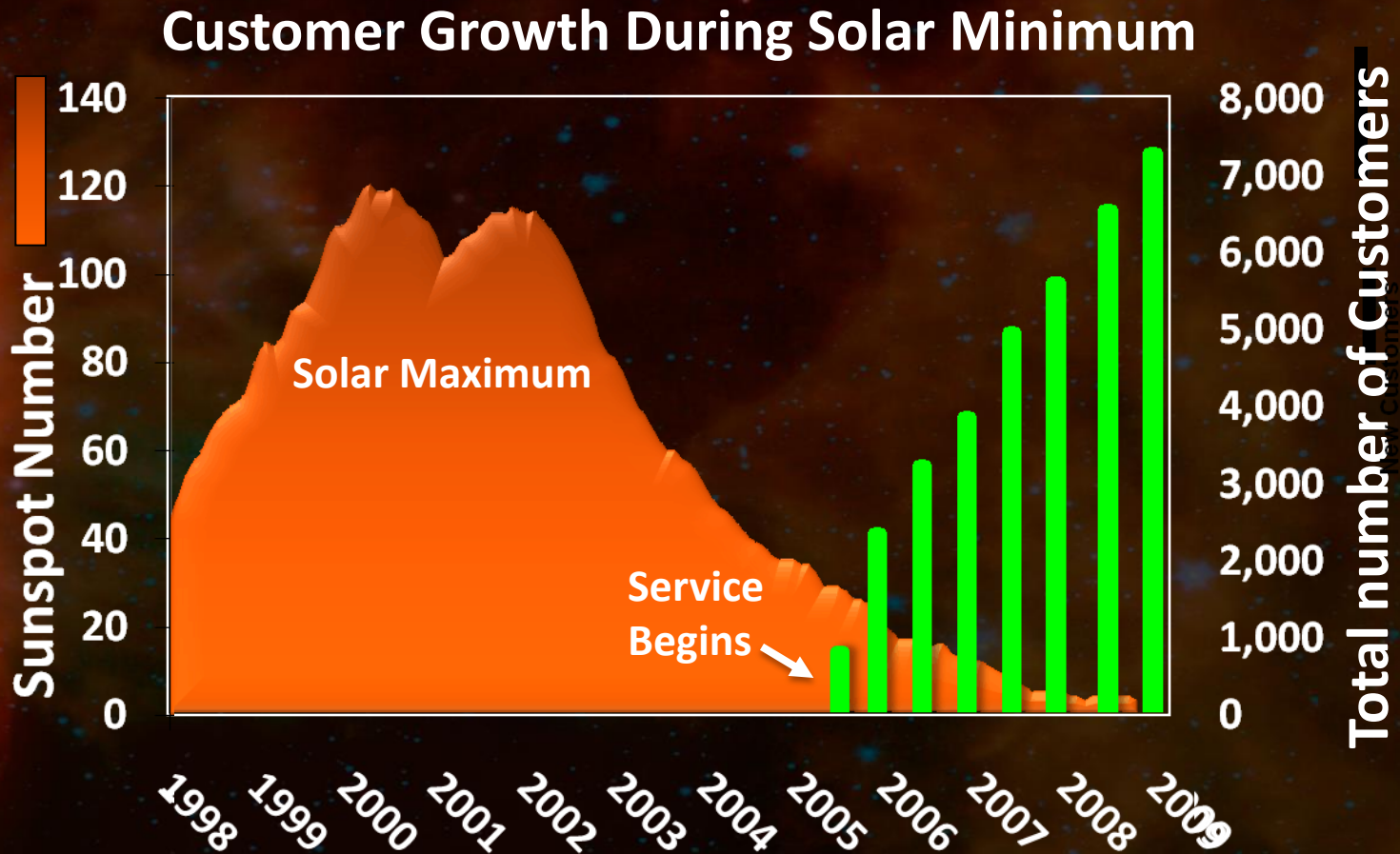
The CHRISTIAN SCIENCE
MONITOR

NewScientist



Increasing Public Awareness

*Demand for Data Increasing Even
During Extended Solar Minimum*



Drivers for Space Weather Services

Growing demands and opportunities over next decade are complex and diverse

- **Evolving technologies:**

- *Civil precision Global Navigation Satellite Systems*
- **Power grids**
- *Satellites (private and government)*

- **Evolving customers and industries:**

- *Missions to the Moon and beyond*
- *Commercial space enterprise*
- *Arctic economic development*
- **Airspace management needs**
- **Global partnerships and opportunities**



Drivers for Space Weather Services

Increasing Power Grid Vulnerability

\$1-2 Trillion:

Potential loss due to widespread power grid blackout following severe geomagnetic storm

4-10 years:

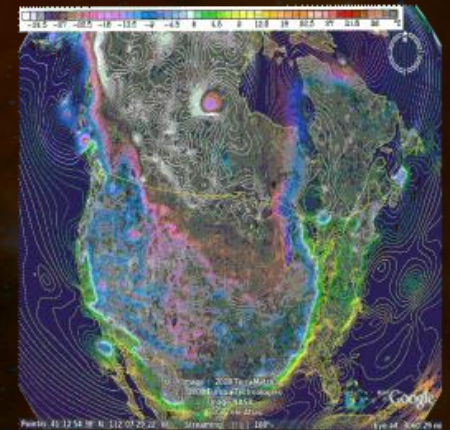
Recovery time from a widespread power grid blackout following severe geomagnetic storm



Drivers for Space Weather Services

Future Demands for Airspace Management

- U.S. Next Generation Air Transportation System (NextGen)
 - *GPS-based*
- NWS responsible for primary areas of NextGen Weather Initiative
- Space weather requirements being defined



Drivers for Space Weather Services

Global Partnerships & Opportunities

- Collaboration: National Space Weather Program



- Strategy: Leverage External Research Activities



- Delivery: Space Weather Service Providers



Drivers for Space Weather Services

Global Partnerships & Opportunities

● Space Weather Now Part of UN

- *World Meteorological Organization (WMO)*
- *International Civil Aviation Organization (ICAO)*
- *Committee on the Peaceful Uses of Outer Space (COPUOS)*
- *International Heliophysical Year (IHY)*
- *International Space Environmental Service (ISES)*



Drivers for Space Weather Services

Global Partnerships & Opportunities

- **Benefits:**

- *Provides greater access to observations, research & modeling*
- *Improves skill of forecasts*
- *Improves regional expertise*
- *Specialization in space weather science & services*

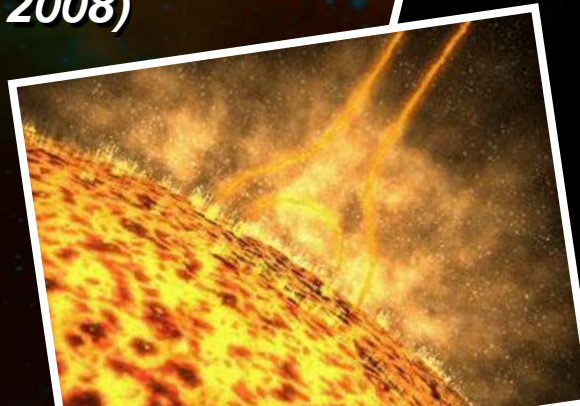
***All of Which Will Reduce
Space Weather Threats to Society***

Decision Support Services

Delivering on a Promise

“Deliver high impact weather information with timely, reliable, and authoritative data and forecasts”

—NOAA’s Strategy for High Impact Weather: Priority Service Improvements (Aug 2008)



Increasing Need for Decision Support Services

***Decision Support Services help users make
sound decisions for high-impact events***

- **Extend support to those users who are vulnerable to space weather**
 - *Need to learn, understand, and meet evolving needs for space weather services*
 - *Need to strengthen inter-agency and sector collaboration and partnerships*

NOAA's Space Weather Prediction Center

The Bottom Line

**Solar Cycle 24
Maximum: 2012 - 2013**

**With accurate and timely space
weather alerts and warnings, we
increase our chances to protect the
technologies we rely on every day.**