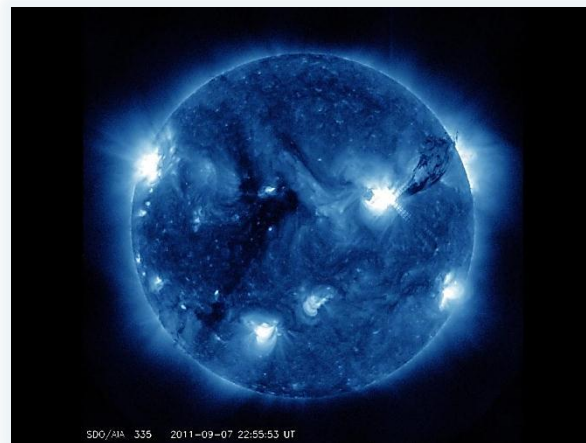




Swedish Civil
Contingencies
Agency

Shared awareness and joint action

Dealing with the effects of Extreme Space Weather



Emmelie Andersson, Space weather Coordinator
Swedish Civil Contingencies Agency (MSB)
Boulder, April 18, 2013



Swedish Civil
Contingencies
Agency

MSB International round-table on Extreme space weather



Overall conclusions

- Awareness of the risks from space weather is high among the community of experts but **further work remains to turn this awareness into political action.**
- There are still **major knowledge gaps** when it comes to understanding the direct and indirect implications of an extreme space weather event on society at large
- **International and EU collaboration** on developing space weather resilience remains a critical precondition for future progress.



Sample of recommendations for Science, Operations and Policy:

- It is essential to create a **solid link** between **space research** and **security research** focusing on critical infrastructure protection.
- There is a need to develop methods and models that can help **bridge the communication gap** between **senders and receivers of alerts** and forecasts. The operators who receive the alerts need to understand what they mean and how to act.
- An increasing number of nations are **developing processes for risk assessment** covering also the risks from extreme space weather. We need to develop Euro-Atlantic cooperation in relation to risk assessments on extreme space weather through **identifying and sharing lessons learned.**



Swedish Civil
Contingencies
Agency

JRC/MSB/NOAA International Workshop

- **“Exchange of experience-** *Historical impacts on grid systems and how does grid vulnerability in Europe differ from U.S.?*
- **“Early warning/Alert-** *What are the needs in terms of required timelines and accuracy of space weather products?”*
- **“Mitigation measures-** *How do they work in practice? What organizational capacities are needed to receive, assess and operationalize warnings?”*

Thank you!

Stockholm Round Table proceedings:

<https://www.msb.se/en/Prevention/Space-weather/>

Welcome to International workshop on extreme space weather in October 2013! More information coming soon.