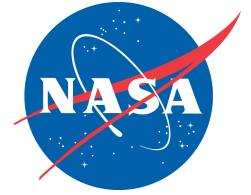
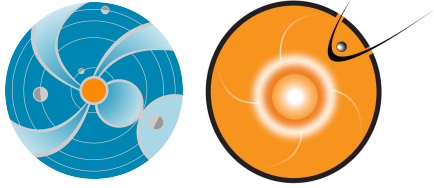


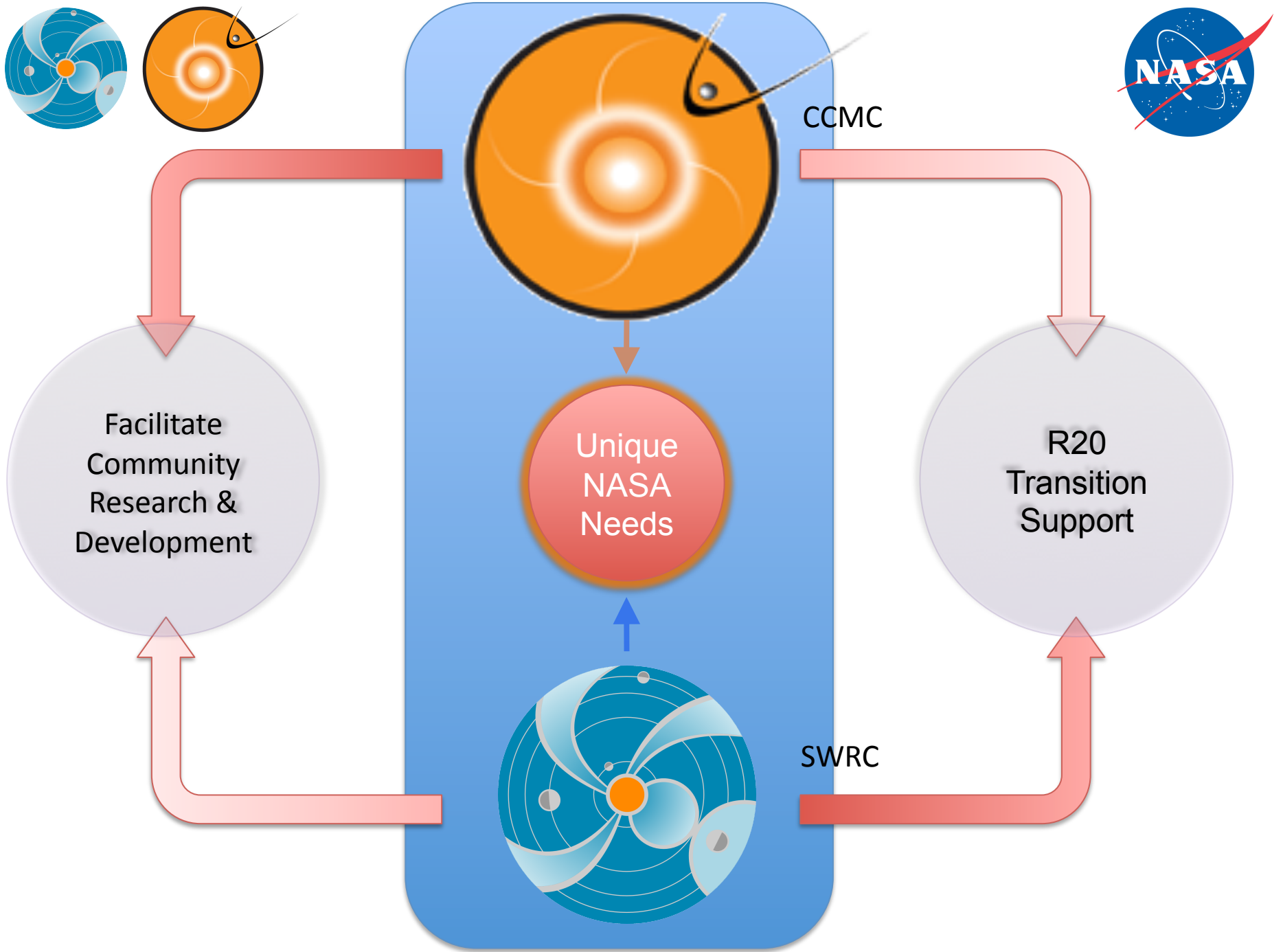
# Space Weather Research Center Status and Future Plans

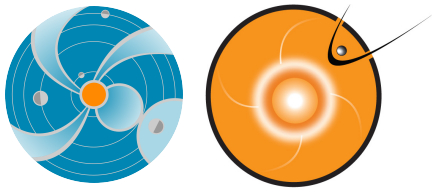
Antti Pulkkinen  
NASA GSFC



# Contents

- SWRC Concept of Operations
- SWRC activities and services status
- New products
- Planned future directions





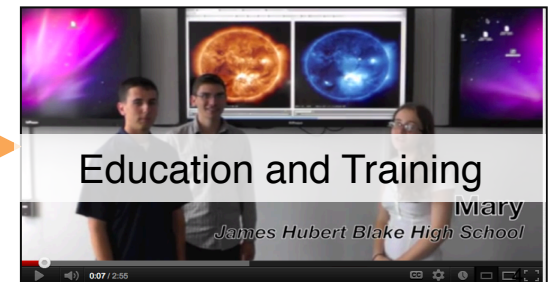
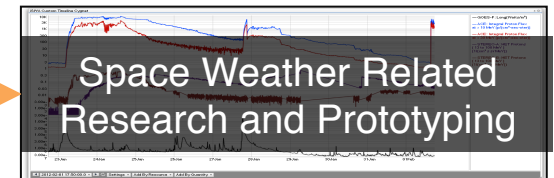
# SWRC Concept of Operations



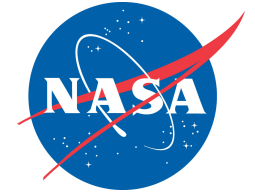
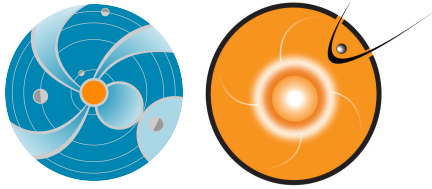
Notifications  
Weekly Reports  
Anomaly Analysis Support  
Workshops & Training



Partnering







# Key services status

- Daily Service To All NASA Missions/Centers
  - Real-time space weather analysis
  - Notifications
  - Weekly reports
- Since March 2010
  - 600+ forecaster generated notifications
  - 200+ weekly reports issued
- 3000+ individual entries into the DONKI space weather database since March 2010.

NASA Goddard Space Flight Center, Space Weather Research Center ( SWRC )

- Message Type: Space Weather Alert - SEP
- Message Issue Date: 2013-08-21T13:07:00Z
- Message ID: 20130821-AL-001

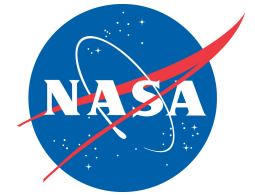
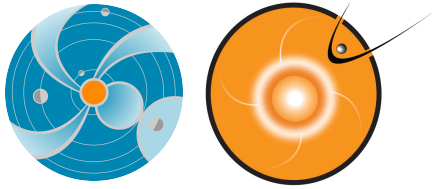
Summary:

- Solar energetic particle event detected by STEREO B.
- The flux of 13-100 MeV protons exceeds  $10^{-1}$  pfu/MeV starting at 2013-08-21T06:57Z.

STEREO B can be impacted.

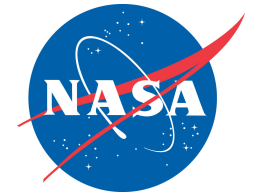
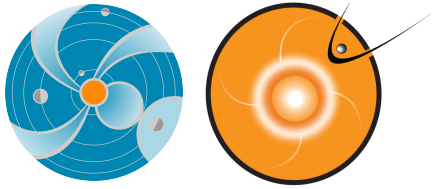
At STEREO A an SEP event continues with the 13-100 MeV protons flux exceeding  $10^{-1}$  pfu/MeV (Activity ID: 2013-08-20T05:54:24-SEP-001).

Activity ID: 2013-08-21T06:57:10-SEP-001.



# Key services status

- Reports for Spacecraft Anomaly Resolution Generated
  - Supported: Dawn, GALEX, MRO, SWIFT, IBEX, Kepler, SOHO, Fermi and A-Train missions.
  - We help with quick and cost-effective assessment of space weather's role in the anomalies.
- Conducted annual NASA Robotic Mission Ops & Space Weather Workshops since 2009
  - Goal to help agency-wide education about space weather and its impacts.
  - Goal to help exchange of information between operators and tailoring of space weather services to meet the NASA robotic fleet needs.
  - Expanded format this year.

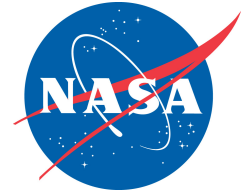
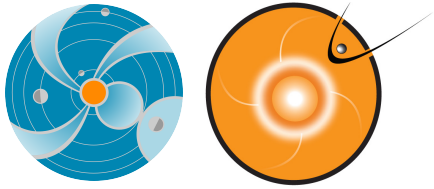


# Key services status

- Space Weather Research, Education and Development Initiative (REDI) summer bootcamps 2013-2014 and Jan 2014 space weather training for engineers.

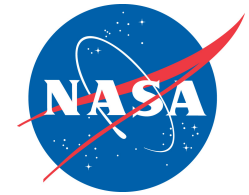
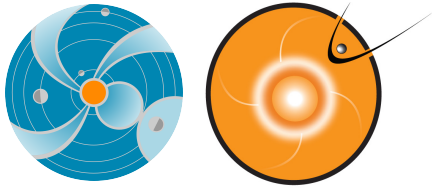


SW REDI  
bootcamp 2014



# Key services status

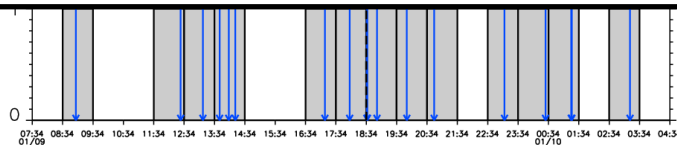
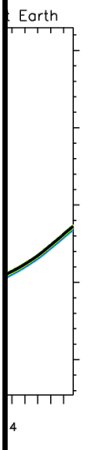
- Thanks to everybody for your endorsements and testimonials, which were very important over the past year!
- Our goals for the past year were:
  - Sustainability. COMPLETED/IN PROGRESS
  - Automated alerts, Phase I and II. COMPLETED/IN PROGRESS
  - Orbit-specific SWx products. IN PROGRESS (M. Maddox on Thu)
  - Move toward better specification of hardware impacts. IN PROGRESS
  - Expand Space Weather REDI training. COMPLETED/IN PROGRESS
- We will have a demo session on Thu morning, please join us!



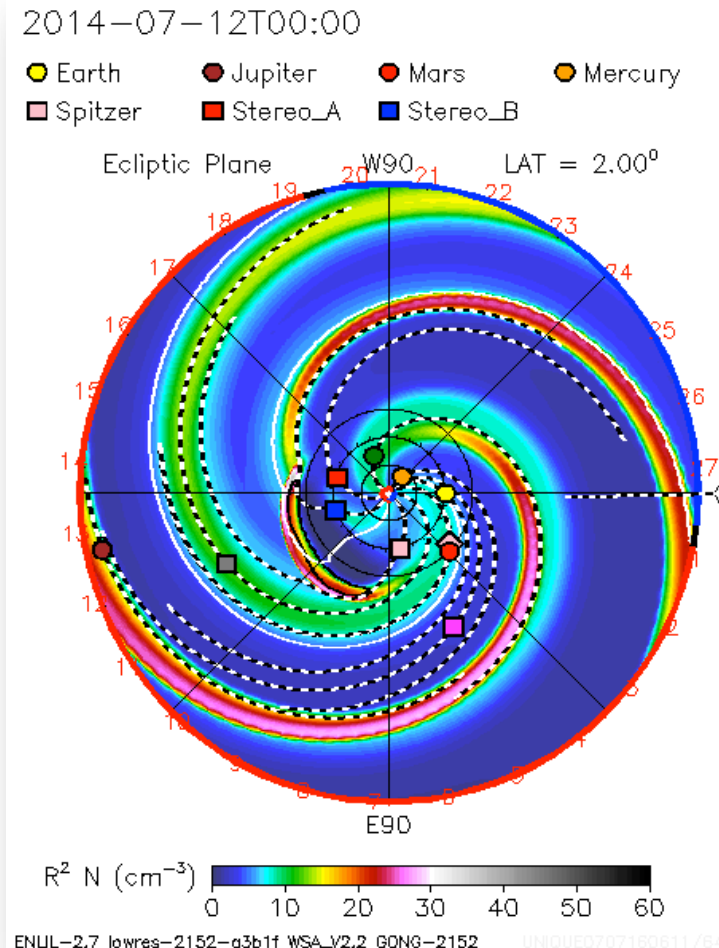
# New products

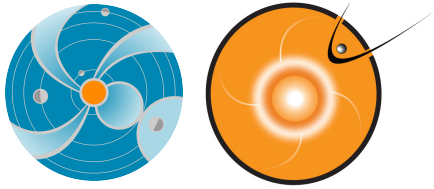
- [Ensemble CME product.](#)
- [5.5 AU CME products.](#)
- Automated notifications.

- GOES X-ray
- Geomagnetic storm Kp
- Modeling-based magnetopause crossing
- GOES > 0.8 MeV radiation belt electron flux
- GOES energetic protons > 10 and 100 MeV
- STEREO A and B energetic protons 13-100 MeV

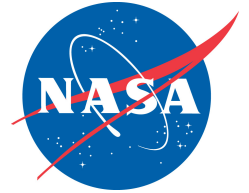


Average Arrival: 2014-01-09 18:34UT



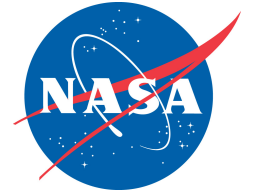
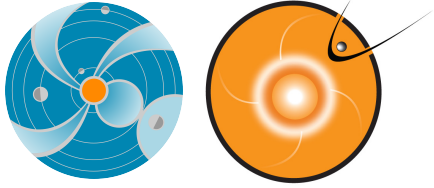


# Planned future directions



- Let us know what your needs are.
- At the moment, some of the high priority new space weather products are:
  - Tailoring capacity for notifications.
  - [New flare prediction products.](#)
  - Space weather effects database. More in the Thu morning session.
- We have daily space weather tag ups in Bldg 21, Room 261. All are welcomed to attend! We also have Google Hangout sessions Mon and Fri.
  - Mon 11:15am, Tue 11:30am, Wed 11:15am, Thu 9:00am, Fri 11:15am.





Thank you!