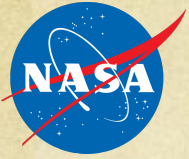


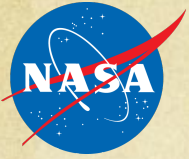
Review of SWRC alerts

A. Pulkkinen, NASA GSFC.



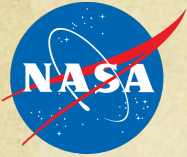
Contents

- Review of different types of alerts generated by SWRC.
- Example alert sequence.
- Future.



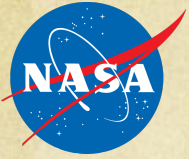
Review of SWRC alerts

- The list of alerts is based on the input we received at the Sep 2009 and subsequent Space Weather and NASA Robotic Mission Operations workshops.
- All SWRC alerts are currently manually generated by the forecaster on duty.
- As we will see below, some alerts are purely deterministic while others require forecaster judgment.
- Your feedback is welcomed!



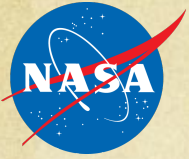
The list of alerts - Part I

- SOLAR
 - GOES 0.1-0.8 nm X-rays [M5.0]
 - SOHO LASCO C3 imagery [“significant transient in the imagery”]
 - STEREO A and B COR2 imagery [“significant transient in the imagery”]
 - Cone/WSA/ENLIL simulations [transient alert sent]
 - Ensemble cone/WSA/ENLIL simulations [alert sent about Earth-directed event]
- Diagram annotations:
- Domain: points to SOLAR
 - Product: points to GOES 0.1-0.8 nm X-rays [M5.0]
 - Alert threshold: points to [M5.0]



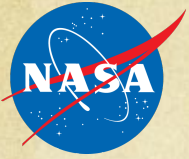
The list of alerts - Part II

- HELIOSPHERE
 - STEREO A and B 13-100 MeV protons [10^{-1} pfu/MeV]
 - SOHO COSTEP > 15.8 MeV proton channels [10^{-1} pfu/MeV]
 - GOES > 10 MeV and > 100 MeV protons [10 pfu and 1 pfu]
 - RELEASE forecast for > 15.8 MeV proton channels [10^{-1} pfu/MeV + verification]
 - Significant interplanetary shock at L1 [“arrival of substantial shock”]

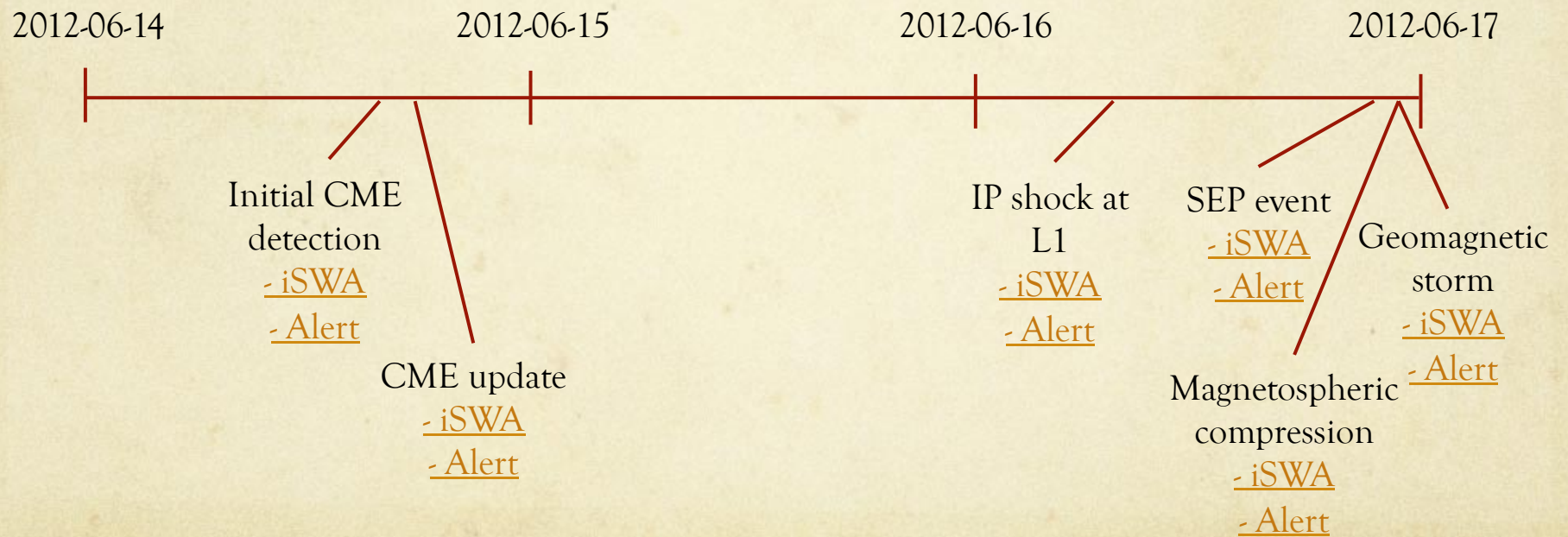


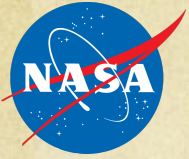
The list of alerts – Part III

- **MAGNETOSPHERE**
 - Kp index [≥ 6 or larger than in the previously issued alert]
 - GOES > 0.8 MeV electrons [10^5 pfu]
 - Modeled magnetopause standoff distance [6.6 Re]



Example alerts sequence





Future

- We are very responsive to your requests! Let us know if there is a need for something additional.
- Automated alerts Phase I: deterministic alerts will be automated allowing 24/7 and timely distribution. Implementation Feb-March 2014.
- Automated alerts Phase II: tailored thresholds for deterministic alerts. Subscription to selected sets of alerts. Implementation Aug-Sep 2014.