

# Comments About Space Weather Forecast Support

Tamas Gombosi

# NASA

- NASA space weather needs
  - Disconnect between human and robotic directorates
  - Confusion about replacing SOHO and ACE
  - Space weather support needs of individual missions are very different
- Good news
  - space weather support is on the radar screen of NASA's management (but not the administrator)
  - There seems to be a consensus at NASA that CCMC must be part of the solution

# AFWA

- Space Weather Operations Center (SpaceWOC)
  - Moral support for CCMC
  - ENLIL+cone model is used
  - GAIM
  - Ensemble displays!
  - Need coupled models
  - Standardized visualizations are needed
  - V&V is important for model selection
  - 5 days forecast is the goal (120 hours)
  - IT police

# SWPC

- WSA-ENLIL is being transitioned now
- Geospace model will be next
- They also need a SEP transport model
- Operational metrics selection
  - R2O and O2R
  - Intellectual property issues
  - Funding?

# AFRL

- WSA
- Radar Auroral Clutter (RAC)
- How is the coordination between AFRL, AFWA and AFOSR?
  - Is AFOSR funding potential models for AFWA/AFRL?
  - Is space weather high on AFOSR's agenda?

# Personal Comments

- CCMC fills an important gap in the Nation's space weather infrastructure
- There is inadequate interagency coordination at upper management level
  - Agency top managers recognize the importance of weather forecasting
  - Agency top managers pay only lip service to space weather forecasting
    - We need a space weather related blackout during the Super Bowl
  - There is still interagency rivalry about who “owns” space weather

# Personal Comments (2)

- It is unclear who is responsible for critical data sources (L1 monitor, upstream solar wind monitor, etc.)
  - NOAA does not have the money and expertise
  - NASA does not have the mandate
    - There is a disconnect between the human and robotic space flight sides
  - DoD does not have the critical need (or desire) to make a >\$1B investment
- In my view this is a critical issue that must be resolved

# Personal Comments (3)

- NOAA SWPC
  - Grossly underfunded, underappreciated and lacking important skill sets
- DoD
  - Inadequate coordination between AFWA, AFRL, and AFOSR
  - Inadequate coordinate between services (especially AF and Navy)
  - Inadequate collaboration with civilian agencies and universities
- NASA
  - Inadequate interest in the front office
  - It is unclear what the mandate is (operational role?)
  - What is the relationship between space weather and LWS?
- CCMC is a great success!



# Most Important Lesson from the Meeting

