

Space Weather Coordination Group Report to CGMS Plenary

Presented to CGMS-47 Plenary

Co-Chairs: Tsutomu Nagatsuma (NICT), Elsayed Talaat (NOAA)

Andrew Monham (EUMETSAT), Rapporteur

Overview of Session

~20 participants
Sunday 13.00-17.30
17 WPs
10 Agencies participated

SWCG/1: Objectives

SWCG/2: Review of actions and recommendations
from previous meetings - **1WP**

SWCG/3: Update on the CGMS baseline- **1WP**

SWCG/4: Updates on space-based observational capabilities - **3 WPs**
- *CMA, NOAA, ESA*

SWCG/5: Updates on space weather activities - **4 WPs**
- *KMA, ROSHYDROMET, NICT, NOAA, NASA*

SWCG/6: International space weather activities - **5 WP**
- *WMO, ICAO, UN COPUOS*

SWCG/7: OSCAR review for space weather

SWCG/8: Expansion of space weather user survey

SWCG/9: Task Group on space weather calibration - **1 WP**

SWCG/10: Any Other Business

SWCG/11: Review and updating of the HLPP - **2WPs**



Mission Updates

- CMA provided updates of upcoming Space Weather measurements on
 - FY-3E (2019, solar X-EUV flux and EUV imaging, UV ionosphere photometer)
 - FY-4B (2020, high, medium and low energetic charged particles)
 - FY-4C (2022, solar X-EUV flux and EUV imaging, UV ionosphere imager)
- NOAA is launching COSMIC-2 in June 2019
- NOAA began formulation of the Space Weather Follow On-L1 mission to be launched in 2024
- ESA continues development of the Lagrange mission to L5 point, currently in Phase B1
- NOAA and ESA are defining a framework agreement on space weather cooperation likely to conclude in Summer/Fall 2019



ICAO

- International Civil Aviation Organization has designated ICAO Space Weather Providers
 - ICAO issued State Letter AN 10/1-IND/17/11 on Jun 9, 2017
 - WMO conducted an audit of all States and consortia
 - Three global consortiums (considered one center) and two regional selected in Nov 2018
 - Goal of operations in Nov 2019 for global center, regional centers by 2022
- Centers to provide advisories on HF Communications, GNSS, and Radiation environment
- Discussion centered on what products/observations are currently used for ICAO; whether latency/availability requirements are being met; and future products/observations desired
- Action to establish a small task group to identify gaps and disconnects between results of surveys from data providers and space weather service providers, including perspective on ICAO products; group to report out in Jan 2020



Task Group on Inter-calibration of High Energy Particle Sensors

- Activity:
 - Kick off meeting (telecon): Feb. 2019
 - GSICS Annual Meeting (remote): March. 2019
 - GSICS EP Meeting (remote): May, 2019
- Near-term work plan:
 - Data sharing for validation/calibration
 - Expansive “white paper” on calibration of space weather observations



Next steps for HLPP Implementation

6.2	Space Weather		
6.2.1	Establish dialogue with Space Weather User Community and define the future framework for continuing this dialogue.	<p>Interactions between SWCG and Space Weather community were had at US Space Weather Workshop, European Space Weather Week, UN IPT-SWeiSS and at UN-COPUOS, where CGMS and its space weather activities were presented. Link to ISES also established, chair invited and provided input to SWCG session.</p> <p>Action proposed to establish a small task group to identify gaps and disconnects between results of surveys from data providers and space weather service providers (Action A47.07)</p>	



Next steps for HLPP Implementation

6.2	Space Weather		
6.2.2	Investigate feasibility of a consistent inter-calibration for energetic particle measurements using instruments with adequate in-orbit calibration and vicarious methods, using GSICS methodology as reference.	<p>SWCG formed a Task Group on Inter-calibration of High Energy Particle Sensor and held kick-off meeting in February 2019.</p> <p>The Task Group presented the status of its efforts at the 2019 Annual GSICS and GSICS-EP meetings.</p> <p>Two actions proposed for the task group, including developing an expansive “white paper” on the current state of on-orbit calibration for space weather measurements (Actions A47.08, A47.09)</p> <p>These activities and actions are also tied to HLPP 4.1 (WG II)</p>	



Next Steps for HLPP Implementation

1.1	Coordination of observing systems	WG-III
1.1.2	Ensure long-term continuity of the Early Morning orbit, in particular for IR/MW sounding	<p>Action proposed that SWCG survey the operational need for magnetometers in LEO and assess magnetorquer TM can be extracted to allow assessment for magnetic field derivation (Action 47.01, 47.02).</p> <p>SWCG encourages that the WMO CGMS Early Morning Tiger Team includes Space Weather data in their impact analysis. (Action 47.03)</p>



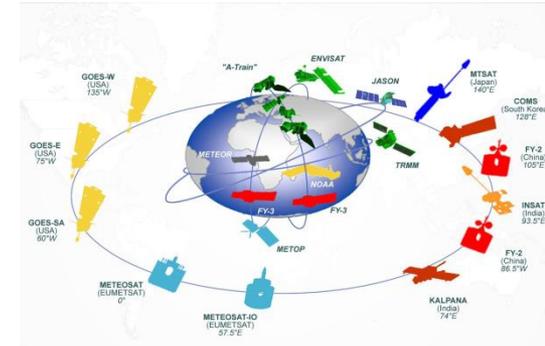
Next Steps for HLPP Implementation

3	COORDINATION OF DATA ACCESS AND END-USER SUPPORT	WG-IV
3.10	Document current data formats for space weather observations	Action proposed to recommend improvements to the space weather parameters in the OSCAR DB. (Action A47.04)
3.11	Improve the near-real-time access to and global exchange of space weather data from instruments hosted on meteorological satellites	<p>Action proposed CGMS Members to complete the on-going Space Weather data provider survey (Action A47.05).</p> <p>Action proposed to Identify Space Weather Data and Services Users and send survey including findings from the Data Providers Survey for their comment. (Action A47.06)</p>



To be considered by CGMS:

➤ None



Back up



WG I – SWCG Intersessional

- There was a Joint WGI & SWCG meeting with presentations on progress of the Space Weather Anomaly Database, Space Weather user needs, and also the capabilities of the space weather services that are currently available in the ESA SSA Space Weather Service Portal supporting satellite operations.
- To progress further on the Space Weather Anomaly database, it was proposed to create a Task Group with WGI members. The initial tasks for the Group are:
 - Establish the requirements of the Space Weather Database parameters
 - Establish the requirements for the Security / Confidentiality aspects
 - Establish the process and rules for access the Database content

SWCG Intersessional Meetings are to be scheduled (dates to be confirmed):

1. End of July 2019
2. October 2019
3. January 2020
4. April 2020

