

**REPORT OF THE 54th PLENARY SESSION OF
THE COORDINATION GROUP FOR
METEOROLOGICAL SATELLITES**

***EXTRACT
WORKING GROUP SWCG***

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Report edited on behalf of CGMS by:

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PARALLEL WORKING GROUP SESSIONS

SWCG REPORT

Acting Co-Chairs: *Zong Weigou, CMA & Juha-Pekka Luntama, ESA*

Rapporteur: *Andrew Monham, EUMETSAT*

1. Welcome, objectives and review of agenda

CGMS-54-SWCG-WP-12 Meeting objectives and expected outcomes by co-chairs (verbal) (Co-chairs)

SWCG Acting Chairs Dr. Zong Weigou and Dr. Juha-Pekka Luntama, supported by Rapporteur Mr. Andrew Monham, welcomed the participants, consisting of representatives from CMA, ESA, EUMETSAT, ISRO, JAXA, KMA, NASA, NICT, NOAA, Roscosmos, ROSHYDROMET and WMO (see Annex 1 for full list of participants).

Apologies were received from SWCG Co-Chair, James Spann for not being able to attend on-site, due to family reasons and also from SWCG Co-Chair, who has announced he will be stepping down as Co-Chair following the CGMS-54 WG meetings.

SWCG reviewed and adopted the draft agenda proposed by the CGMS Secretariat prior to the meeting which is in line with the Terms of Reference for SWCG.

CGMS-54-SWCG-WP-17 Review of updated Terms of Reference (Andrew Monham)

Andrew Monham presented the proposed update to the Terms of Reference for the CGMS Space Weather Coordination Group.

This is the first update since the establishment of the SWCG in 2018, reflecting the CGMS-53 appointment of James Spann as co-chair and contains minor updates, refining SWCG interfaces with other CGMS WGs and external bodies. It also encompasses the scope of the HLPP 6.1 which has been recommended for removal from the HLPP.

The SWCG endorsed the updated Terms of Reference.

2. CGMS risk assessment and baseline update

CGMS-54-WGIII-WP-12swcg Status and outcome of the 8th CGMS WGIII risk assessment (Melissa Johnson (NOAA))

CGMS conducts an annual risk assessment against the CGMS baseline to track how well CGMS is meeting its commitments. For each sensor/observation such assessment is based on a qualitative analysis of all the orbits and satellite missions from which the observation is provided. It is based on

planned launch dates and design life while resiliency, quality and availability are not analyzed in detail. Hosted payloads operated by Members are included as well as commercially sourced data if the provision is consistent with the CGMS Baseline principles of sustained commitment to provide the data on a free and open basis for operational applications.

The Risk Assessment process is fully described in the CGMS Contingency Plan. The risk assessment was updated in a workshop in February following updates provided by the agencies.

In general, the risk of not meeting commitments remains low with improvement in the risk posture for coronagraphy on the Sun-Earth line. Exceptions identified:

- Risk of not having energetic particle sensors in the LEO afternoon orbit in the early 2030s.
- Slight risk of gap in GEO magnetometers at 128°E in 2030.

Discussion

It was decided that no specific action needs to be taken regarding the slight risk on the GEO magnetometers. This is due to a later than foreseen launch of GK5, but it is quite likely that the previous mission will be extended to cover the gap.

CGMS-54-WGIII-WP-16swcg CGMS baseline document updates proposed from the 8th risk assessment workshop (Melissa Johnson + SWCG leading entity) For recommendation to WGIII

The 'Baseline' constitutes the commitments and plans of CGMS members to provide particular observations and services. CGMS members plan to maintain the capabilities and services described below to support the global observing system. This document will remain consistent with the principles of the WMO Integrated Global Observing System (WIGOS) Vision and the WIGOS Vision serves as important input in the development of CGMS members' plans.

Associated Open Actions have been addressed by SWCG (see other agenda points)

- WGIII/7RAWS-8: SWCG to make a recommendation to WGIII how to separate RO and Ionospheric Electron Density profiles in the CGMS Baseline and Risk Assessment.
- WGIII/7RAWS-4: SWCG to clearly define the quantitative threshold between High and Very High (and Extremely High) Energy Electrons and Protons.

Discussion

RAWS actions are closed.

3. Updates on space-based observational capabilities

CGMS-54-CMA-WP-12 The update of space weather observations on FengYun satellites (ZONG Weiguo)

- CMA/NSMC launched **FY-3H** (Sun-synchronous orbit, **FY-4C** (geostationary orbit) in late 2025.

- The new space weather payloads onboard FY-4C and FY-3H will enhance CMA's capabilities for **solar EUV imaging, solar X-ray flux and EUV spectra, ionospheric emission and spectrum and aurora monitoring.**
- After **the post-launch test** for approximate **six** months to check the **data validation**, CMA/NSMC will provide these new space weather products to the public in 2026, welcome to use these new observations in the **operation** and the **science studies.**

Discussion

- Plans for availability to the public with NRT?
 - 4 levels of data are defined. Level-2 will be open to the public for science uses. Expected this will be available in real-time.
 - What about in-situ measurements? Radiation monitors are not embarked on these new satellites, but they are on other satellites in the future. Particle observations will be continued.

CGMS-54-ESA-WP-01 ESA Space Safety Space Weather Missions Update (Juha-Pekka Luntama)

- The presentation provides a summary of the implementation status of the Space Weather missions in the framework of the ESA Space Safety Programme
- The presentation covers missions in development: Vigil, Aurora, SHIELD, SWORD and space weather nanosatellites: SWING and SAWA

Discussion

- The Hermeria Swing mission is fully outsourced to industry, but will be compliant with CGMS operational requirements.
- Cooperation with NASA on the Heliophysics Environmental and Radiation Measurement Experiment Suite (HERMES) was made on the now cancelled Gateway and cooperation should continue on Moon and Mars mission space weather payloads.
- Concerning the size of the Nanosatellite mission, they are bigger than cubesats... 40-50Kg range. Industry selected preexisting designs to keep cost low.

CGMS-54-NICT-WP-01 NICT space weather observation update (Tsutomu Nagatsuma)

Since 2021, NICT has been developing Radiation Monitors for Space Weather (RMS) for onboard installation on the meteorological satellite Himawari-10. The RMS consists of a high-energy electron sensor and a very-high-energy proton sensor and is designed to conduct space environment measurements over Japan.

Since CGMS-53, two major milestones have been achieved in the development of RMS. First, particle irradiation tests were conducted using the engineering models (EMs) of RMS-e and RMS-p to verify sensor performance and to acquire calibration data. Second, the Critical Design Review (CDR) of the RMS proto-flight model (PFM) was successfully completed.

The RMS PFM is scheduled to be manufactured by the end of FY 2026 and delivered to the satellite bus manufacturer after final verification. Once onboard Himawari-10, RMS will contribute to the global network of operational space-based space weather observations.

In addition, NICT has started a study on the feasibility of SWx observations onboard future geostationary meteorological satellites beyond Himawari-10 in collaboration with JMA.

Discussion

- It was remarked that this will help to fill observation gaps.

CGMS-54-NOAA-WP-13 Status and Plans for NOAA Space Weather Activities (James Spann)

The following activities were presented:

Space Weather Follow-On (SWFO) Program

- SOLAR-1 (formerly SWFO-L1): Launched on September 24, 2025, this is the first satellite dedicated exclusively to space weather operations. It represents the final element of the SWFO Program.
 1. Status: Positioned at Sun-Earth Lagrange Point 1 (L1) and in the final stages of commissioning. All instruments and systems are operating as expected.
 2. Data release planned for the day following the provisional review.
 3. Instruments: SupraThermal Ion Sensor (STIS), Solar Wind Plasma Sensor (SWiPS), Compact Coronagraph 2 (CCOR-2), and Magnetometer (MAG).

Space Weather Next Program

- This next-generation program is divided into three distinct orbital elements and an innovation element.
 1. SW L1 SOLAR Series
 - Both upcoming satellites in this series will feature a core instrument suite for solar and solar wind observations: a Space Weather Solar Coronagraph, X-ray Irradiance sensor, Suprathermal Ion Sensor, Solar Wind Plasma Sensor, and Magnetometer. A partner-contributed instrument (PCI) is also included.
 - SOLAR-A: Currently in Phase B (Preliminary Design Review passed) with a scheduled launch in 2029. The partner-contributed instrument is the ESA Energetic Particle Spectrometer.
 - SOLAR-B: Currently in Phase B (PDR pending) with a launch date yet to be determined. The partner-contributed instrument is also TBD.
 2. SW GEO Series

- Status: Requirement and concept definition work is ongoing.
 - Notes: The program is actively exploring the inclusion of a photospheric magnetic field imager in addition to particle, magnetic fields, and solar observing instruments.
3. SW LEO Series
- Status: Currently in the concept phase.
 - Notes: The Space Weather Office (SWO) is evaluating the best approach to leverage commercial and partner assets and capabilities. Mitigation of space weather impacts on satellite orbits drag and communications is being considered.
4. Innovation
- The SWO office is partnering with NASA Technology Mission Directorate to develop a solar sail mission to go to a sub L1 location. Spacecraft studies and consideration instrument payloads are currently under way.

Discussion

- No points raised.

CGMS-54-NOAA-WP-22 NOAA's Contributions to the Space Weather observations (SWO) at Lagrange Point 5 (L5) (Nai-Yu Wang (SWO))

The following contributions were presented:

- NOAA is planning to provide a compact coronagraph to the ESA Vigil Lagrange 5 (L5) mission.
- NOAA's collaboration with ESA Vigil L5 mission from locations off the Sun-Earth-Line (60 degrees off-SEL) will enhance space weather monitoring and improve early warning capabilities for space weather impacts on Earth.
- NOAA is planning for a synergistic approach by Integrating data from several advanced observatories at key orbital locations at the Sun-Earth Lagrange point 1 (L1) (SOLAR-1, and planned NOAA SOLAR-A), at the geostationary orbit (GOES-19), and at the Lagrange point 5 (L5) (ESA VIGIL). to provide continuous and enhanced monitoring of solar activity to protect earth's technology infrastructure and human exploration activities.

Discussion

- No points raised.

4. Updates on space weather activities - agency reports

CGMS-54-EUMETSAT-WP-12 EUMETSAT space weather activity status and planning update (Andrew Monham)

EUMETSAT presents the progress in implementing its space weather roadmap for an increasing role in delivery of operational space weather data services in support of European and global operational

space weather services. An exchange of letters with ESA has set the foundation for collaboration on operational space weather in support of a potential future European Commission funded programme following approval by EUMETSAT Member States in 2025.

EUMETSAT has already embarked on limited activities such as supporting space weather data distribution from international satellite operators and the integration of the NOAA SEM-2 and ESA NGRM radiation monitor processors into the EUMETSAT Ground Segment. Ionospheric Radio Occultation product deliveries are already part of the EUMETSAT baseline. Operationalisation of topside TEC products from Metop, Metop-SG and multi-mission products, including commercial RO, is envisaged if use cases are expressed by partners.

Discussion

- Concerning the WIS-2.0 test of SOSMAG, it was clarified that this is a process test and only a fixed data set was made available.

CGMS-54-ESA-WP-03 ESA space weather service network: progress and next steps (Alexi Glover)

- The latest status of the ESA space weather service network was presented, covering:
 - maturing R2O2R processes and procedures
 - highlights of the targeted application & tool development
 - space weather training via the SWW portal

Discussion

- Regarding the February 2026 workshop, it was clarified that a report of the end user feedback will be prepared.
- Regarding the space weather training course it was clarified that training also at user level or operational staff level, like VLAB is being planned.
- Regarding aurora tourism and whether any activities are on-going, it was mentioned that the Umea ESWW had a trip to view the aurora – organisers gave input on how they organise and needs.

CGMS-54-ISRO-WP-10 ISRO space weather activity report: Aditya L1 performance (Dr. Sankarasubramaniam)

An overview of the Aditya-L1 performance was presented, covering:

- Summary of science experiments and payloads
- Sample observations from in-situ measurements.
- Sample observations from remote sensing measurements.
- Data availability (within 48 hours of observations) <https://www.issdc.gov.in/adityal1.html>
- Summary of research articles from the mission.

Discussion

- No points raised.

CGMS-54-KMA-WP-09 KMA: Multi-Satellite Geostationary Observations of Recent Space Weather Events (Dr. OH Daehyeon)

The presentation covered the following:

- Using GK2A, Himawari-9 and GOES-18 and -19, KMA analysed 8 magnetopause crossing events since May 2025.
- Magnetospheric responses to compression events show local time-dependent asymmetries, with distinct variations in timing, intensity, and duration across sectors such as noon–midnight and dawn–dusk.
- This provides multi-point observational evidence confirming spatially structured magnetospheric responses on GEO orbit to compression, as previously inferred from modelling and single-point measurements.
- This shows the value of multi-point observations in providing a more comprehensive view of magnetospheric responses in space weather events.

Discussion

- No points raised.

CGMS-54-NASA-WP-01 NASA Space Weather Program Update (Jamie Favors (virtually))

The NASA update was presented, covering:

- The NASA Space Weather Strategy
- Heliophysics 2025 highlights including launches.
- The R2O2R process
- 2025 accomplishments
- Artemis II support

Discussion

- No points raised.

CGMS-54-NICT-WP-02 NICT space weather activities (Tsutomu Nagatsuma)

NICT Space Environment Laboratory routinely operate space weather services of Japan on 24/7 bases as a part of ICAO's global centers, ACFJ. NICT continues to strengthen its space weather monitoring and service capabilities through advances in real-time data acquisition, multi-satellite observations, and impact-oriented information provision.

A major milestone is the establishment of a dedicated ground receiving station at the Kashima Space Technology Center for NOAA's SOLAR-1 (formerly SWFO-L1) mission. Following the launch in September 2025, Kashima successfully achieved first signal reception and stable operations, and preparations are underway to enable secure data streaming in compliance with NOAA's operational requirements.

In parallel, NICT is advancing impact-oriented space weather services through the introduction of SAFIR (Space weather Alerts For social Impacts and Risks). SAFIR shifts from physics-based alerting to societal impact-based information, supported by utilization guidelines and introductory materials for users. Together, these activities contribute to more resilient infrastructure operations and informed decision-making in response to space weather events.

In addition, near real-time acquisition of space environment data from Japan's Quasi-Zenith Satellite System (QZSS) has been realized. QZS-2 and QZS-4 carry SEDA sensors measuring high-energy electrons, light ions including protons, and the geomagnetic field. These observations complement SWx measurements onboard Himawari and enhance spatial coverage over the Japanese longitude sector. Near real-time data acquisition began in December 2025, with further development of databases and visualization tools planned.

Discussion

- The user engagement process to get an understanding of requirements was discussed. NICT uses a government-led committee to obtain user requirements and address the relationship between the magnitude of the event and its impact.
- It was clarified that data received at the NICT ground station for SOLAR-1 is transferred to NOAA in real-time.

CGMS-54-WMO-WP-09 WMO report on the Space Weather Expert Team priorities and activities (Kirsti Kauristie, ET-SWx Co-Chair (virtually))

The WMO report on the Space Weather Expert Team (ET-SWx) priorities and activities outlines the main points of the preparatory work for the WMO INFCOM-4 meeting to be held during Q4/2026. Inputs for the next versions of the WIGOS Manual, Guide and Visio2050 are expected as main deliverables from ET-SWx for INFCOM-4 assessment and approval. ET-SWx has composed its inputs to the WIGOS documents in coordination with the WMO Secretariat and submitted them to the next steps in the INFCOM-4 preparations.

In the Manual and Guide SWx space-based components are expected to be compliant with the CGMS baseline and follow the general guidance for WMO space-based observations. CGMS involvement in the refining work of the WIGOS Vision2050 would be welcome for unified specifications throughout the different sub-systems. Also, ET-SWx and CGMS should join their efforts in advancing the protection of critical radio frequencies for SWx observations.

Discussion

- The subject of heterogeneity in space weather formats and metadata was discussed, highlighting that there is no space weather equivalent to CF. WMO are starting to address metadata formats.
- It was agreed to raise an action on CGMS SWCG to review the terminology consistency for WIGOS Vision, OSCAR and CGMS baseline.
- Other CGMS support to the WMO-ET-SWx shall be made through CGMS representatives on the Expert team.

SWCG agreed the following action.

CGMS-54 ACTIONS - SWCG					
Actionee	AGN item	Action #	Description	Deadline	Status
SWCG	4	CGMS-54	Review terminology consistency for WIGOS Vision, OSCAR and CGMS baseline. Provide feedback to WMO	September 2026 (input on WIGOS Vision for WMO INFCOM)	

5. International space weather data user activities

CGMS-54-GUEST-WP-01 Recent Activities of International Space Environment Services (ISES) (Mamoru Ishii (virtually))

The presentation covered the following:

- Overview of Officials and member states (noting Thailand joined as a new collaborative expert centre last year.
- WMO-ISES-COSPAR Coordination and the 2023 Space Weather International Coordination Forum
- Establishment of “Global Ionosonde Operation Network (GION) – progress in data sharing and format standardisation.
- Discussion on future style of ISES Global Space Weather Warning System (G-SWXWS)

Discussion

- Regarding the G-SWXWS, it was noted that Option 1 on Slide 17 is analogous to the ICAO SWx centres’ structure. It was questioned how this may work at national level, where national interests may be prioritised. How to work across national boundaries? This is being discussed in ISES.
- Regarding the space-based observations, ISES feel they are well established: It was noted there will be an ISES-CGMS Coordination Meeting at the US SWW on 30 April.

CGMS-54-NOAA-WP-15 Solar Wind Measurements from an International L1 Constellation: Enabling Cal/Val and Novel Research (Dimitrios Vassiliadis (virtually))

The recently launched Aditya-L1 (9/2023), and IMAP and SWFO-L1 (now SOLAR-1) satellites (9/2025) have reached L1 and joined legacy missions ACE, DSCOVR, and Wind in taking measurements of the solar wind upstream of the Earth. Simultaneous measurements of plasma, magnetic field, and particle distributions from this number of multiple platforms is unprecedented and will certainly benefit operations as well as research. The satellites have been measuring structures ranging from CMEs and shocks, which produce intense space weather at Earth, down to lower amplitude events such as switchbacks and intervals of turbulence which are of significant research interest. Detailed comparisons have been made for several recent events using IMF and, starting more recently, plasma data from several of the missions and especially from SOLAR-1 and IMAP which flew less than 1 RE from each other while enroute to Lagrange 1. Mission scientists have developed a plan for creating datasets with useful observations and common formats with the goal of sharing the data broadly for R&D objectives. At the same time, the space weather/science communities have advocated for extending the operational lives of legacy missions. A number of presentations and special sessions are planned in conferences and workshops.

Discussion

- It was discussed that agencies may agree on when missions can be operationally added and noted that while it is good to have continuity of observations, the right balance with resource requirements (small but not negligible) has to be met. The combination of new and legacy missions at L1 does represent a unique opportunity to get a better understanding of solar wind and its geoeffective structures with many more sensors than available at any time in the past.
- It was asked whether orbit deployment of the upcoming NOAA SOLAR-A and -B satellites will be planned such that 3D structures can be simultaneously observed. It was clarified that the SOLAR missions are planned as continuity missions with limited overlap and are not intended to augment the current capabilities of two operational spacecraft at L1.
- It was agreed that this input closes the action SWCG/A53.02, "Consider how to harness the suite of L1 constellation missions for operational space weather usage." NOAA will continue to report the progress of these activities to the SWCG.

6. WIGOS Vision, OSCAR/Space and Gap Analysis for Space Weather

CGMS-54-WMO-WP-10 WIGOS Vision, OSCAR/Space and Gap Analysis for Space Weather (Heikki Pohjola)

This working paper introduces the latest status of OSCAR/Space database and its recent developments related to SWx activities including data latency records. In addition, the outcome of the annual WMO Gap Analysis for space weather is presented. It identifies gaps for the remote sensing of the solar disk from the L1 orbit at any wavelength and no geomagnetic field measurements in the ionosphere at the

end of the period. Finally, a short update on WIGOS Vision 2050 related to space weather was given. WIGOS Vision has three components detailing space weather instruments expected to be needed in 2050 for in-situ measurements and remote sensing of the sun and heliosphere on Sun-Earth line and off Sun-Earth line.

Discussion

- The Action SWCG/A50.01 “Supply latency information to OSCAR DB with granularity of each relevant space weather sensor on their space missions” remains open – work is on-going.
- Oscar surface metadata has been added but does not contribute directly to the space-based gap analysis.
- The Action 7RAWS-2 “The SWCG to review WMO space weather gap analysis and inform WMO on missing or incorrect (NRT) data availability indicated in the WMO Gap Analysis document” remains open – work is on-going.
- Discussion on how to handle observations which are in red (marked as observation gaps), noting that many can be covered by the ground. It was noted that care needs to be taken with the maintainability / continuity of ground-based infrastructure, but it would be good to differentiate where no ground-based alternative is available for space-based observation gaps. A new action is raised to cover this.
- SWCG agreed the following action.

CGMS-54 ACTIONS - SWCG					
Actionee	AGN item	Action #	Description	Deadline	Status
SWCG	6	CGMS-54	Review OSCAR space-based gaps and identify which ones may be covered by ground-based sensors.	September 2026 (input on WIGOS Vision for WMO INFCOM)	

7. Briefing from GSICS GRWG space weather subgroup on intercalibration

CGMS-54-SWCG-WP-07 GSICS GRWG space weather sub-group report (Tutomu Nagatsuma, NICT, Chair)

The GSICS GRWG Space Weather Sub-group continues to promote activities aimed at the crosscalibration of space weather sensors, especially high energy particle sensors. During the current reporting period, the sub-group successfully established its Work Plan, which defines four tasks, each led by designated task Leads to drive the associated activities. In particular, under the task “Define procedure for dataset cross-calibration,” the development of the document “Procedure for Dataset Cross-Calibration: Roadmap” was initiated.

Regarding the update of the COSPAR/PRBEM Data Analysis Procedure, the future approach was reconsidered, and a remote meeting was convened to discuss the way forward. In addition, a COSPAR/PRBEM business meeting is scheduled to be held at COSPAR in August this year.

The Space Weather breakout session at the 2026 GSICS Annual Meeting included five presentations related to cross-calibration, including results based on multiple GEO satellite datasets, and provided an opportunity for fruitful discussions.

Discussion

- SWCG thanked Nagatsuma-san for his leadership of the intercalibration activities over the years.

8. Future directions 2022+ initiative

CGMS-54-CGMS-WP-3swcg Future direction: Proposal on the way forward

The CGMS-51 Plenary endorsed the CGMS future direction 2022+ strategic themes. Since then, the strategic themes have been integrated into the working structure of the CGMS Working Groups and progress has been made in several areas. From the perspective of the CGMS Secretariat, the initiation phase has been concluded. This working paper provides an overview and proposed way forward for each of the themes.

Discussion

- Recommendation endorsed
- It was discussed that it would be good to periodically step back and look at the relevance of the CGMS activities in the evolving global environment and therefore consider repeating the Future Directions process every 5 years or so. It was recommended to consider this for Plenary deliberation.

9. Review and updating of the HLPP

CGMS-54-CGMS-WP-07 Status of implementation of CGMS High Level Priority Plan (2025-2029) (Mikael Rattenborg)

This working paper provides the status of implementation of CGMS High Level Priority Plan (2025-2029). It incorporates inputs from:

- WG I, II, III, and IV
- CGMS Space Weather Coordination Group
- International Science Working Group chairs and rapporteurs
- GSICS
- CEOS-CGMS Joint Working Group on Climate

It was agreed that Section 6.1 is redundant to the Terms of Reference and can be removed from the HLPP.

CGMS-54-SWCG-WP-16 Identification of top priorities for SWCG

This is addressed in the WGIII meeting.

10. Review of SWCG list of actions

CGMS-54-SWCG-WP-10 Status of CGMS-53 SWCG list of actions (incl. review of any relevant CGMS-53 plenary actions) (Andrew Monham)

The table below provides the updated status of open actions from CGMS-53 coming from the deliberations of both SWCG and WGI-WGIV-SWCG Joint Meetings (see separate report for the details of the proceedings of the Joint meeting).

SWCG CGMS-53 list of actions							
Actionee	AGN item	Action #	Description	Action feedback/closing document	Deadline	Status	HLPP ref
CGMS Members	SWC G/6	SWCG/A 50.01	Supply latency information to OSCAR DB with granularity of each relevant space weather sensor on their space missions.	CGMS-54: WMO OSCAR presentation – on-going	CGMS-53	OPEN	1.3
SWCG (RO TG)	Joint WGI-WG-IV-SWCG/4	SWCG/A 50.03	Establish requirements for and recommend an implementation of an optimised system for radio occultation observations for ionosphere monitoring	CGMS-54: Closed with reference to the ToR and HLPP 6.4 (as normal work of the TG)	CGMS-53	Closed	6.4
SWCG (Anomaly TG)	Joint WGI-WG-IV-SWCG/2	SWCG/A 51.01	Expand extent of anomaly data feedback	CGMS-54: Closed in favour of more specific actions	CGMS-53	Closed	2.5.1
SWCG	SWC G/10	SWCG/A 52.02	Consider observation requirements in support of interplanetary human exploration	CGMS-54: NASA confirmed closure.	CGMS-53	Closed	
SWCG/ Data Access TG	Joint WGI-WG-IV-SWCG	SWCG/A 52.03	Report on space weather product level definitions, identify any differences and propose steps for alignment.	CGMS-54 – Inputs still required	CGMS-53	OPEN	

SWCG CGMS-53 list of actions							
Actionee	AGN item	Action #	Description	Action feedback/closing document	Deadline	Status	HLPP ref
SWCG	SWC G/2	SWCG/A 53.01	Decide which NASA missions have sufficient commitment to include in CGMS baseline (e.g. JEDI, Punch, SDO)	CGMS-54: NASA have made review _ NASA/NOAA to coordinate.	CGMS-54	OPEN	
SWCG Data Access TG	SWC G/5	SWCG/A 53.02	Consider how to harness the suite of L1 constellation missions for operational space weather usage.	CGMS-54: Closed based on NOAA presentation <i>CGMS-54-NOAA-WP-15</i>	CGMS-54	Closed	
SWCG Data Access TG	SWC G/5	SWCG/A 53.03	Establish response to the ICAO space weather service identified needs presented at CGMS-53.	CGMS-54: Closed based on NOAA presentation <i>CGMS-54-NOAA-WP-23</i>	CGMS-54	Closed	
SWCG Data Access TG	SWC G/8	SWCG/A 53.04	Review usage plans and implementation status for improved data access through heritage, new and future mechanism infrastructures, learning lessons from terrestrial data access approaches.	CGMS-54: Inputs made by EUM and WMO – other agency's inputs still needed (in coord with WGIV)	CGMS-54	OPEN	
CGMS Spacecraft Operators	Joint WGI-WGIV - SWC G/2	SWCG/A 53.05	CGMS Members operating satellites to produce EDAC data covering 2024 and report on ability to supply historical and future data.	CGMS-54: Closed in favour of new actions	CGMS-54	Closed	
SWCG Anomaly TG	Joint WGI-WGIV - SWC G/2	SWCG/A 53.06	Assess suitability of SPARK database tool as repository for CGMS anomalies, including data access criteria, metadata needs and standardisation.	CGMS-54: Closed based on TG Report: <i>CGMS-54-SWCG-WP-03</i>	CGMS-54	Closed	
SWCG TG on Improving User Data Access	Joint WGI-WGIV - SWC G/3	SWCG/A 53.07	Draft WMO-CF profiles with improved metadata in coordination with WMO ET-SWx, ISES, COSPAR and research community and proposed follow-up activities.	CGMS-54: Follow-up from Edmund' presentation to be made in TG.	CGMS-54	OPEN	

SWCG CGMS-53 list of actions							
Actionee	AGN item	Action #	Description	Action feedback/closing document	Deadline	Status	HLPP ref
SWCG	4	7RAWS-2	The SWCG to review WMO space weather gap analysis and inform WMO on missing or incorrect (NRT) data availability indicated in the WMO Gap Analysis document.	CGMS-54: ON-GOING (see WMO presentation) CGMS-54-WMO-WP-10	CGMS-53 SWCG	OPEN	
SWCG	7th risk assessment WS	7RAWS-8	The SWCG to make a recommendation to WGIII how to separate RO and Ionospheric Electron Density profiles in the CGMS Baseline and the risk assessment documents.	CGMS-54: Update presented and agreed (Baseline update proposed)	2026 (CGMS-54)	Closed	
SWCG	8th risk assessment WS	8RAWS-4	Define clearly the quantitative threshold between High and Very High (and Extremely High) Energy Electrons and Protons.	CGMS-54: Update presented and agreed. (Baseline update proposed)	2026 (CGMS-54)	Closed	
SWCG, WGII	CGMS-53 Plenary 6	53.07iv	Space weather AI readiness: SWCG and WGII to jointly hold 2–3 online meetings in order to address the prediction of solar flares and coronal mass ejections (CMEs), as well as tackling the challenges associated with real-time forecasting.	CGMS-54: Ongoing Workshop to be held before Plenary.	May 2026	OPEN	
WGI SESTG & SWCG	Joint WGI-WGIV - SWCG/5	SWCG/A 53.08	Assess possibility to share satellite orbit data to estimate thermospheric drag.	CGMS-54: Close in favour of new action based on Irfan's and Myrto's presentations	CGMS-54	Closed	

The following actions are managed by WGI in the framework of the Space Environment Sustainability Task Group, but require input from SWCG.

WGI CGMS-53 Actions involving SWCG

Actionee	AGN item	Action #	Description	Action feedback/closing document	Deadline	Status	HLPP ref
WGI SESTG & SWCG	Joint WGI-WGIV - SWC G/5	WGI/A53 .04	Define the requirement for supplying owner/operator orbit and manoeuvre information to TraCCS and identify steps for implementation	CGMS-54: Input from NOAA presented in WGI SESTG report	CGMS-54	Closed	
WGI SESTG & SWCG	Joint WGI-WGIV - SWC G/5	WGI/A53 .05	Identify steps to coordinate modelling of thermospheric density impacts and perform inter-comparison of model results	CGMS-54: Inputs into table needed.	CGMS-54	OPEN	
WGI SESTG & SWCG	Managed in WGI	WGI/A53 .08	Review current usage of space weather data for spacecraft operations and goals for improvement.	CGMS-54: See SES TG report presented both in WGI and SWCG. On-going	CGMS-54	OPEN	
WGI SESTG & SWCG	Managed in WGI	WGI/A53 .09	Produce a report of space weather observation requirements for improved STC services and space sustainability.	CGMS-54: See SES TG report presented both in WGI and SWCG. On-going.	CGMS-54	OPEN	

The following new SWCG actions were raised during the CGMS-54

SWCG CGMS-54 New Actions							
Actionee	AGN item	Action #	Description	Action feedback/closing document	Deadline	Status	HLPP ref
SWCG	Agenda 4		Review terminology consistency for WIGOS Vision, OSCAR and CGMS baseline. Provide feedback to WMO		September 2026 (WMO INFCOM)		

SWCG CGMS-54 New Actions							
Actionee	AGN item	Action #	Description	Action feedback/closing document	Deadline	Status	HLPP ref
SWCG	Agenda 6		Review OSCAR space-based gaps and identify which ones may be covered by ground-based sensors.		September 2026		
SWCG	Joint WG AOB		Review and reorganise the joint meetings..scope for effectiveness and efficiency		SWCG-IS#2		
SWCG Anomaly TG	Joint		CGMS Members operating satellites to suggest measures to enable satellite anomaly data supply.		SWCG-IS#1		
SWCG Anomaly TG	Joint		CGMS Members operating satellites to supply Functional anomalies and EDAC events over two/three historical time periods to be defined within the Task Group and organise analysis.	3 periods correspond to: <ul style="list-style-type: none"> - Quiet conditions at solar min - Quiet conditions at solar max - Active conditions at solar max 	SWCG-IS#1		
SWCG Anomaly TG	Joint		CGMS Members to decide whether SPARK should become the baseline repository of CGMS anomalies, define access preferences (centralised vs federated)		SWCG-IS#1		
SWCG Anomaly TG	Joint		CGMS Members to identify source of further SPARK funding.	Half FTE needed, 100K/year based on Alec's estimate for pure maintenance of current design baseline.	SWCG-IS#1		

SWCG CGMS-54 New Actions							
Actionee	AGN item	Action #	Description	Action feedback/closing document	Deadline	Status	HLPP ref
SWCG	Joint		SWCG to coordinate for cross-verification and data sharing of POD for thermospheric density application	Note Irfan's suggestion to hold a workshop.	CGMS-55		

11. Future CGMS SWCG meetings

CGMS-54-SWCG-WP-02 Decision on dates on SWCG intersessional activities in 2025-2026 (CGMS-54 to CGMS-55) (Andrew Monham)

CGMS-55 date proposals:

- intersessional sessions: 24 Sep 2026, 24 Nov 2026, 28 Jan 2027, 18 Mar 2027 (12 UTC)
- 9th WGIII RAWs: 24-26 Feb 2027
- WG meetings: 19-23 Apr 2027; Location: EUMETSAT
- Plenary session: 1-3 Jun or 15-17 Jun 2027; Location: (Tentatively India)

12. SWCG organisational matters

CGMS-54-CGMS-WP-14swcg Status of co-chairs, rapporteurs, and representatives at meetings (CGMS, ISWGs, VLAB...)

Dr. Nagatsuma is being reassigned to other activities in NICT and therefore has to step down from his CGMS SWCG responsibilities. A nomination for a replacement Co-Chair from CMA has been received: Dr. Zong Weigou.

SWCG agreed to recommend to the Plenary that Dr. Zong Weigou takes the role of Co-Chair of the SWCG.

It was noted that the co-rapporteur, Dr. Jesse Andries has left WMO and had to step down from his SWCG duties. A replacement co-rapporteur is not currently sought.

SWCG thank Dr. Nagatsuma and Dr. Andries for their valuable contributions to CGMS SWCG activities.

13. Any other business

None

14. Conclusions, preparation of the SWCG report for plenary

The Chairmen thanked the SWCG for the constructive discussion and progress.

End of meeting

ANNEX 1: LIST OF WORKING GROUP PARTICIPANTS

CGMS-54 SWCG List of Participants			
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