7TH CGMS RISK ASSESSMENT WORKSHOP
25-27 FEBRUARY 2025 (ONLINE)

SUMMARY MINUTES

Annex A: Participants
Annex B: List of 7th risk assessment actions
Annex C-D: List of CGMS-52 WGIII and plenary actions

1 OPENING OBJECTIVES AND EXPECTED WORKSHOP OUTCOMES

CGMS WGIII Co-chair Irene Parker (IP) (NOAA) welcomed everybody to the 7th Risk Assessment Workshop with opening remarks. She outlined the key objectives of the workshop:

- Producing a draft CGMS Risk Assessment that will be submitted for consideration in the March intersessional WGIII meeting.
- Conducting a comprehensive review and update of the CGMS Baseline, with recommendations to be presented at the upcoming plenary.
- Identifying necessary contingency actions to mitigate potential risks.
- Preparing for the CGMS WGIII meeting in China, ensuring that all relevant actions and decisions are documented and reviewed.

Following her introduction, Dr. Tang (TS) (CMA) as a co-chair welcomed all participants on behalf of WGIII, expressing gratitude for their time and contributions to the meeting.

Meeting was partially chaired by Mary Ann Kutny (MK) (NOAA) when IP was not available.

Inputs:

i) Updated draft risk assessment report (since the 6th risk assessment in 2024)
ii) Members' plans and risk assessment (based on current planning)
iii) WMO Gap Analysis 2025
iv) WGIII list of actions and recommendations

Expected outputs:

i) Updated risk assessment report
ii) Updated CGMS baseline document (as necessary)
iii) Identified contingency actions to be taken
iv) Established dates and agendas for any joint WG sessions (as necessary)
v) Updated WGIII actions and recommendations

2 CGMS MEMBER PLANS IMPACTING THE RISK ANALYSIS AND BASELINE

As per the agenda, members were invited to provide updates on their agencies' plans that might impact the risk assessment and CGMS Baseline. This year we did not have any open actions to Members to respond to issues impacting the risk assessment and baseline. IP noted that no formal presentations had been submitted for this section of the workshop. However, she encouraged any members who had relevant updates to share them. As no further contributions were made, the workshop proceeded to the next agenda item.

3 CGMS-52 ACTION UPDATES

Heikki Pohjola (HP) (WMO) provided a detailed progress update on two key actions under WGIII, emphasizing their connection to WGII inputs.

3.1 MW missions with different frequencies

(Ref. WGIII/A52.03: WGIII to recommend to WGII the need for articulating MW missions with different frequencies in the CGMS baseline and risk assessment in the future and how to visualise it in the flyout charts.)

- The action item was presented in the intersessional meeting of WGII, which has agreed to provide support for assessing requirements related to microwave imagery via IPWG.
- After that meeting with IPWG (Christian Kummerow) was organized where WMO presented the current status of the MW frequency requirements for NWP.
- IPWG will provide their MW instrument requirements for frequency bands, spatial resolution and polarization.
- Based on the input this will be implemented to the CGMS Risk Assessment and Baseline

3.2 SWIR missions for CH4 and CO2 missions

(Ref. WGIII/52.04: WGIII for WGII: GHG TT to indicate which SWIR missions for CH_4, and CO_2 should be added to the CGMS baseline and the risk assessment review in the future)

- The action item was presented in the intersessional meeting of WGII, which has agreed to provide support assessing requirements related to GHG missions.
- Wenying Su (NASA) was appointed to WGII focal point for this action.
- Follow up meeting to be organized.

3.3 Ground segment clarification

IP confirmed that this action was completed, and it was reaffirmed that ground segment risks would be documented in the CGMS Baseline and Risk Assessment Document. It will provide explicit assumption statements regarding commitments to user readiness, ground segment infrastructure, and operational continuity. After the proposed language additions, members will have an opportunity to review and suggest modifications. Related actions will be kept still open.

4 WMO GAP ANALYSIS AND ANY POTENTIAL IMPACTS ON THE CGMS BASELINE

On behalf of the WMO Heikki Pohjola (HP) and Roger Saunders (RS) presented the WMO Gap Analysis covering Earth observation and space weather observation gaps against WMO WIGOS Vision 2040. The basic inputs for this analysis were from the WMO OSCAR/Space database, which is continuously updated with the latest satellite status provided by the space agencies. The results are dependent on the lifetime of the satellites being accurate which is often not the case as dates can be extended subject to the payload's technical functionality and funding being available. The summary charts were presented together with the more detailed analysis of the recognized gaps related to the instrument types in the WIGOS sub-components 1 and 2 for the next decade. The gap analysis summarises 18 gaps for Earth observation and 7 gaps for space weather.

Table 1. Summary of the recognised gaps in WMO gap analysis for Earth observation.

01	*Hyperspectral IR sounders (GEO)*	*10*	*GNSS Reflectometry (LEO/Drift)*
02	*UV/VIS/NIR sounders (GEO)*	*11*	*Doppler Wind Lidar (LEO/Drift)*
03	*Day-night visible imagers (LEO)*	*12*	*Backscatter Dial Lidar (LEO/Drift)*
04	*Microwave Imagers (LEO)*	*13*	*Lidar and wide swath radar for Altimetry (LEO/Drift)*
05	*Low frequency microwave imager (LEO)*	*14*	*Limb sounder in IR and MW (LEO/Drift)*
06	*UV/VIS Nadir and Limb Sounders (LEO)*	*15*	*UV/VIS/NIR spectrometer (LEO/Drift)*
07	*Precipitation radar and cloud radar*	*16*	*High Temporal MW Sounders (LEO/Drift)*
08	*Total and spectral solar irradiance (LEO)*	*17*	*Multi-angle polarised radiometer (LEO)*
09	*Altimeter lidar (Drift)*	*18*	*SW Occultation limb sounder*

Table 2. Summary of the recognised gaps in WMO gap analysis for space weather observations.

01	*Solar wind, coronograph and magnetic field observations from L1 beyond 2033.*	*05*	*Solar heliospheric imagers from L1*
02	*Solar X-ray spectrograph observations from LEO.*	*06*	*Observations of electric, magnetic and radio wave fields from polar orbits (LEO, HEO)*
03	*Solar X-ray/UV/EUV spectrometers and imagers at L1.*	*07*	*Radio wave measurements from polar orbits (LEO, HEO)*
04	*Observations of magnetic fields from L1 and solar orbits*		

Action 7RAWS-1: WMO to provide a summary of the most critical gaps in WIGOS based on WMO Gap Analysis.

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.

5 RISK ASSESSMENT REVIEW/UPDATES

Melissa Johnson (MJ) (NOAA) introduced the risk assessment preparation and explained the process how data for flyout charts were collected. NOAA is requesting the updates from space agencies just before the risk assessment workshop to ensure that data reflects the most up-to-date situation related to the missions of the space agencies. MJ presented the lates version of the risk assessment slide set, which was coordinated between NOAA, satellite operators and WMO. MK thanked the input from all space agencies for the Risk Assessment.

The following updates were noted during the flyout chart review:

- FY-4D EOL moved to 2034
- FY-4E EOL moved to 2035
- FY-4F launch moved to 2029
- HY-2B EOL moved to 2025
- Sentinel mission EOLs now include 2.5 yr life extension
    - Sentinel-1A EOL moved to 2025
    - Sentinel-1C EOL moved to 2034
    - Sentinel-1D EOL moved to 2035
    - Sentinel-2C EOL moved to 2034
    - Sentinel-2D EOL moved to 2038
    - Sentinel-3C EOL moved to 2036
    - Sentinel-3D EOL moved to 2038
    - Sentinel-5P EOL moved to 2027
    - Sentinel-6A/MF EOL moved to 2028
- MetOp-B EOL moved to 2027
- MTG-I3 launch moved to 2033 and EOL to 2043
- INSAT-3DS EOl moved to 2034
- GCOM-C and GCOM-W EOLs moved to 2025
- GOSAT and GOSAT-2 EOLs moved to 2025
- GOSAT-GW launch moved to 2025 and EOL to 2032
- Himawari-10 launch moved to 2028
- GOES-18 EOL moved to 2040
- GEO-XO I1 launch moved to 2032 and EOL to 2040
- NOAA-15, 18 and 19 EOL moved to 2025
- NOAA-20 EOL moved to 2031
- NOAA-21 EOL moved to 2036
- JPSS-4 EOL moved to 2036
- JPSS-3 EOL moved to 2041
- ALOS-2 EOL moved to 2025
- ALOS-4 launch moved to 2024 and EOL to 2031

The flyout charts also reflect the following additional updates:

- GOES-16, GOES-17, Himawari-8 and INSAT-3D have now been listed as on-orbit spares for the appropriate observations
- GOES-U is now GOES-19
- AWS and EPS Sterna 1, 2 and 3 have now been added to the Microwave Sounder flyout
- GeoXO-I2 has now been added to the flyouts for GEO Imager, Lightning Mapper, and Narrow Band Visible & Near Infrared Imager
- FY-4D has been added to the flyouts for Hyperspectral Infrared Sounder, GEO Imager, Lightning Mapper, EUV Imager, and Energetic Particle Sensors in GEO (Low, High and Very High)
- FY-4E has been added to the flyouts for Hyperspectral Infrared Sounder, GEO Imager and Magnetometer in GEO
- FY-4F has been added to the flyouts for Hyperspectral Infrared Sounder, GEO Imager, and Lightning Mapper
- Metop-SG-B2 has been added to the flyout for Radio Occultation
- GK-2B removed from the flyouts for GEO Imager, Narrow Band Visible & Near Infrared Imager, and Visible/UV Spectrometer
- Added SWN L1-A and L1-B to the flyouts for Magnetometer at L1, Energetic Particle Sensor at L1, Plasma Analyzer, Coronagraph, and X-ray Spectrograph

Action 7RAWS-3: EUMETSAT to provide updated graphics of the RO profiles available per satellite mission vs time.

Action 7RAWS-4: NASA and JAXA to provide a coordinated additional information on possible GPM continuation mission.

Action 7RAWS-5: NASA on IMAP mission and if its data is compliant with CGMS Baseline criteria.

6 CGMS BASELINE DOCUMENT AND CONTINGENCY PLAN REVIEW/UPDATE

Anne Taube (AT) (EUMETSAT) presented CGMS baseline document update. The following updates were proposed:

Observations and orbits Section:

- Review with CMA the GEO slot range slots in the attributes and if they cover all CMA satellites.
- Radio occultation to have separate sensor type for Ionospheric Electron Density - to be discussed with SWCG and for SWCG to provide a recommendation to CGMS-53 WGIII or 8th risk assessment WS.
- A day-night visible channel in the LEO early morning and afternoon orbits are missing in the Risk Assessment
- IR dual-angle view imagery for high-accuracy SST (at least one am spacecraft) is missing in the Risk Assessment
- For VIS/UV and Narrow Band Imager sensors 128.2 deg GEO location was removed (GEMS not part of the baseline)

- For Coronagraph, Interplanetary Magnetometer and Plasma Analyser sensors, L5 was added as an orbit
- For Interplanetary Magnetometer and Plasma Analyser sensors, L5 as in-situ measurement was added as an attribute.

HP asked a question related to CGMS baseline and its fundamental basis on unrestricted and open data availability, and if there are risks related to the political situation in the USA and the continuation of its open data policy. He explained that here are lots of rumours and concerns at WMO and among the WMO members on that. MK responded that the administration is still very new. Dr Neil Jacobs has been nominated to be the NOAA Administrator. He worked for a very long time in the private weather enterprise, and it is expected that he has a strong proponent of having access not only to NOAA's data, but to all other data. There are no guarantees with the new administration, but there would be challenges to changing that policy at this time.

Anne Taube (AT) (EUMETSAT) presented CGMS Contingency Plan update. The following updates were proposed:

In the reference documents:

- Revised annually instead of every four years.
- WMO Gap Analysis reference to CGMS-52 version

Action 7RAWS-6: CMA to confirm if current GEO slots in the Baseline document are compliant with the locations of CMA satellites.

Action 7RAWS-7: 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.

Action 7RAWS-8: The SWCG to define how to add each satellite position in the attributes of the in-situ measurements of CGMS Baseline.

Action 7RAWS-9: NASA and ESA to confirm if the L5 JEDI mission and its data is compliant with CGMS Baseline criteria.

Action 7RAWS-10: ESA to (re)confirm if Vigil data is compliant with CGMS Baseline criteria, and if its instruments could be added to the plasma analyzer and interplanetary magnetometer measurement of the CGMS Baseline.

Action 7RAWS-11: WGII to investigate other capabilities for UV limb sounding to complement JPSS

7 PRELIMINARY REVIEW OF THE WGIII HLPP

Mikael Rattenborg (MR) (CGMS SEC) presented HLPP risk areas related to operational continuity and contingency planning.

1.1.1 Ensure continuity of passive microwave imager measurements:

- General situation for MW imagers is good, but concern remains for continuity of specific MW measurements. For low frequency conical scanning CIMR-A/B remains to be confirmed by ESA.

For precipitation identification of critical measurements is needed. There are related WGIII/II actions to mitigate more detailed application needs.

1.1.2 Ensure continuity of Scatterometer measurements:

- ISRO to confirm plans beyond OceanSat-3A.

1.2.4 Ensure continuity of Radio Occultation Measurements with required quantity, geographical coverage and temporal sampling for numerical weather prediction and
for ionospheric monitoring:

- There is a gap between available observations and the baseline commitment, which should be better characterized through actions on IROWG.

1.2.1 Work towards establishing optimum constellations for new observations introduced in the CGMS baseline:

Short Wave IR Spectrometers for monitoring of Greenhouse Gases (CO2 and CH4);SWIR; input from JWGClimate to establish which instrumetns are in the baseline

- Ongoing, input expected from JWGClimate

Multi-viewing, multi-channel, multi- polarisation imaging for aerosols;

- The main capability will be provided by 3MI on Metop-SG A. Requirements for more frequent observations have not been stated in WMO GA. Action could be considered closed.

UV limb sounding spectrometry for profiles of Ozone and trace gases;

- Critical measurement of detailed profiling of O3 and trace gases. Main UV limb sounding continuity provided by JPSS on PM orbit. Meteor and FY-3F were included in the Risk Assessment, but operational usage is unclear. Action on WG-II to look at the data and operational continuity.

Work towards operational observations of Top-of-Atmosphere Solar Irradiance

- This is new proposed target based on WMO Gap Analysis and should be considered by WGIII.

Work towards operational Cloud Radar observations

- This is new proposed target based on WMO Gap Analysis and should be considered by WGIII.

1.2.3 Work towards operational hourly daytime UV/VIS mapping of air quality from geostationary orbit

- Propose to change the status to yellow, as GEMS has now been removed from baseline and the UV GEO capability will only be provided by MTG-S1/Sentinel-4 for the foreseeable future.

1.2.4 Work towards ensuring optimised Hyperspectral IR measurements from LEO and GEO orbits to improve time sampling, spatial and spectral resolution and timeliness of observations, including the deployment of HSIR instruments across the GEO ring as per WIGOS vision 2040

- To be discussed with ITWG in preparation for ITSC in May 2025.

1.2.5 Work towards ensuring low frequency microwave imagery for all-weather SST and ice monitoring from at least 2 sun-synchronous orbits

- CIMR to be confirmed by ESA. Could then be considered achieved as the measurement will be provided from AMSR-3 (PM orbit) and CIMR (EM orbit).

1.2.7 Work towards increasing geographical resolution and coverage for altimetry measurements, including very high latitudes

- CRISTAL to be confirmed by EU/ESA. Regarding the general coverage of altimetry missions, very promising results are achieved by SWAT, but any operational mission in the future is unknown.

1.2.8 Advance the atmospheric Radio Occultation constellation, with the long-term goal of providing 20000 occultations per day with uniform spatial and local time coverage on a sustained basis

- ROMEX may provide new information on the RO saturation points, and this could result in an update to the target of 20000 daily occultations.

1.2.9 Work towards operational 3D wind profile observations from space-based lidar

- EPS-Aeolus is not yet confirmed

1.2.11 Work towards operational infrared/µwave limb sounding for climate monitoring and NWP applications

- Measurement will stop at Aura/MLS end of life. Science missions are being considered by NASA (SCRIBE) and ESA (CAIRT), but details, including data availability, are not yet available.

1.2.12 Establish the operational framework for the provision of magnetometer data from LEO orbit

1.2.13 Investigate continuous space weather observations from lunar orbit for terrestrial and future lunar space weather services as well as for heliophysics research, complementing the geostationary and L1 measurements.

1.2.14 Work towards auroral monitoring capabilities.

- SWCG input is needed

1.4.1 Support satellite impact studies, including in particular impact of data latency and the impact of the Early Morning orbit

- Impact workshop 2024 recognized the need for better consideration of data latency in impact studies.

1.4.2 Collect and make available to CGMS members SEB case studies of relevant satellite systems for the purpose of identifying common practices in the next phase.

- Compilation of undertaken SEB case studies ongoing and publication on the CGMS website. A survey will be undertaken starting in March 2025 to establish SEBs already undertaken, and if there are planned SEB to be undertaken by members. Preparing common or best practices is currently premature.

1.4.3 Explore with WMO and other agencies the possibility to develop a study on the SEB value of the space-based observing system responding to WIGOS 2040 in cooperation with CGMS, and to trigger collaboration with CGMS members

- WMO has previously indicated there is insufficient resources to do this. Item to be maintained if the scenario changes and in view of the WIGOS Vision 2050.

1.6.1 Identify/evaluate potential or future commercial Earth observation technologies – and share information on pilots/testbeds etc. to evaluate new commercial Earth observation technologies.

1.6.2 Assess the operational maturity of commercial observation technology.

- No progress

1.6.3 Develop best practices/templates for end user license agreements/procurements, for considering the value of public access and the additional costs of data sharing rights, including quality control considerations

- Initial version of Best Practices issued. Further actions TBD.

Action 7RAWS-12: WGII to study and report back to WGIII the need of top of the atmosphere spectral solar irradiance capabilities to be recorded in CGMS Risk Assessment and Baseline. (HLPP 1.2.1)

8 REVIEW OF WGIII ACTIONS AND RECOMMENDATIONS FROM CGMS-52

AT (presented actions recorded in EUMETSAT Confluence tool. The actions were reviewed, and status updates were recorded in Confluence. See Annex B and C.

9 PRELIMINARY REVIEW OF CGS-53 WGIII AGENDA

AT presented the CGMS-53 agenda. She concluded that meeting is two and a half days for WGIII. MK reminded to follow CGMS SEC set deadlines for the working paper submissions. AT added that recorded presentation might be possible if someone cannot attend. Instructions will be provided.

Anne asked to agency representatives to confirm and give feedback to proposed schedule for inter sessional and CGMS-54 meetings.

10 STATUS OF ACTIVITIES - CGMS FUTURE DIRECTION 2022+

Update on Relationship with the Private Sector theme

Mara Brown (MB) (NOAA) provided an update on CGMS Future Direction 2022+ Relationship with the Private Sector theme. She was outlining the key achievements:

- Best Practices for Commercial Data Purchases were developed and endorsed at CGMS-52.
- CGMS-52 endorsed WGIII's recommendation to have a standing agenda item on CGMS's members' private sector engagement.

This intersessional period the focus is on the mechanism how to engage with commercial sector and continue evaluating (e.g. CGMS WGII and IROWG) Earth Observation technologies that may be available to Members to supplement governmental observations.

Next step of the is to institutionalize a mutually beneficial partnership with WMO's Open Consultative Platform (OCP) and invite Public-Private Engagement Office annually to communicate their OCP plans. Also, it was recommended to sunset the Future Direction Project 2022+ relationship to the Private Sector theme and continue ongoing activities above through CGMS WGIII.

MK concluded that work is ongoing with WMO and PPE Office and their representative will be involved in WGIII meetings in the future. MR encourages MB to take a look related HLPP targets and to indicate their progress. AT clarified that CGMS Future Direction Project 2022+ will continue even if this specific task team will sun set.

Update on Socioeconomic Benefits (SEB)

Yasuhiko Sumida (YS) (JMA) presented the status and background of the ongoing task to assess SEB studies on satellite data. A survey will be conducted among CGMS members to gather insights on

existing SEB studies and expectations for future assessments. In addition, there is a plan to organize a workshop on SEB methodologies and impact assessment.AT concluded that the questionnaire will be published soon. She also presented CGMS website collecting available SEB studies related to satellite data. PR added that EUMETSAT invited chief economist of World Bank to give a presentation in the next EUMETSAT conference.

11 UPDATE ON WMO CORE DATA EFFORTS

HP presented updates on WMO's efforts on defining core and recommended satellite data for nowcasting and hydrology applications. He explained the background of defining core and recommended data sets and how they linked to WMO data policy. A workshop with satellite operators, nowcasting user community and WMO is planned (15-16 October 2025) to finalize and agree the core and recommended satellite data for nowcasting and finalize a workshop statement. Then, the datasets are added to the next version of WIGOS Manual and submitted to INFCOM-4 (Q3 2026) for Members' approval. TT-EHN is working with the same procedure to define core and recommended satellite data for hydrology application. The goal is to have proposal for additional datasets ready by end of 2025.

Simon Elliott (SE) (EUMETSAT) pointed out that from the satellite operator's perspective it does not make any difference which application is the end user of the core satellite data. HP did agree and concluded that this is why there is going to be only one single core satellite data table in WIGOS manual. The process was split to application areas to cover the different user needs of the application areas.

12 NEXT STEPS/MEETINGS

Next meetings

AT presented the next WGIII-related meetings. WGIII intersessional meetings are proposed to take place 25 Sep 2025, 12 Nov 2025, 21 Jan 2026 and 11 Mar 2026. WGIII agreed on the 8th Risk Assessment Workshop to take place 3-5 Feb 2026 (TBC if virtual only). She concluded that CGMS-54 plenary will take place in June 2026 in South Korea, and the CGMS-54 working groups will tentatively be held during the week from 13 April 2026 (location still TBD). AT will send a Doodle Poll for CGMS members.

13 AOB

There was no other business to be discussed.

14 WRAP-UP/CONCLUSIONS

On behalf of WG III co-chair, Irene Parker (NOAA), Mary Ann Kutny thanked all the participants for the well-coordinated risk assessment work, and especially Melissa Johnson (NOAA) who prepared the risk assessment charts from the inputs by the satellite operators.

Tang wanted to thank meeting participants and highlighted importance of NOAA their preparations, and how this meeting is important for the work of WGIII. He welcomed everyone to China to the CGMS Working Group meetings and thanked all for their contributions.

ANNEX A:

LIST OF PARTICIPANTS

Presence	First Name	Last Name	Organization
Virtual	Min	Guan	CMA
Virtual	Shihao	Tang	CMA
Virtual	Xian	Di	CMA
Virtual	Xu	Na	CMA
Virtual	Liu	Chang	CMA
Virtual	Juha-Pekka	Luntama	ESA
Virtual	Simon	Elliott	EUMETSAT
Virtual	Andrew	Monham	EUMETSAT
Virtual	Paolo	Ruti	EUMETSAT
Virtual	Sean	Burns	EUMETSAT
Virtual	Babu Govindha	Raj K	ISRO
Virtual	Osamu	Ochiai	JAXA
Virtual	Toshiyuki	Kurino	JAXA
Virtual	Yasuhiko	Sumida	JMA
Virtual	Kazuki	Yasui	JMA
Virtual	Dohyeong	Kim	KMA
Virtual	Eric	McVay	NASA
Virtual	Sid Ahmed	Boukabara	NASA
Virtual	Tsutomu	Nagatsuma	NICT
Virtual	Irene	Parker	NOAA
Virtual	Melissa	Johnson	NOAA
Virtual	Kalluri	Satya	NOAA
Virtual	Mara	Browne	NOAA/NESDIS
Virtual	James	Spann	NOAA NESDIS SWO
Virtual	Mary Ann	Kutny	NOAA/NESDIS
Virtual	Heikki	Pohjola	WMO
Virtual	Roger	Saunders	WMO
Virtual	Jesse	Andries	WMO
Virtual	Mikael	Rattenborg	CGMSSEC
Virtual	Anne	Taube	CGMSSEC

ANNEX B

7TH RISK ASSESSMENT WORKSHOP ACTIONS

7th Risk Assessment Workshop actions of 25-27 Feb 2025				
Actionee	**AGN item**	**Action #**	**Description**	**Deadline**
WMO	4	7RAWS-1	WMO to provide a summary of the most critical gaps in WIGOS based on WMO Gap Analysis.	CGMS-53 WGIII
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-53 SWCG
EUM	5	7RAWS-3	EUMETSAT to provide updated graphics of the RO profiles available per satellite mission vs time.	CGMS-53 WGs
NASA, JAXA	5	7RAWS-4	NASA and JAXA to provide a coordinated additional information on possible GPM continuation mission.	CGMS-53 WGs
NASA	5	7RAWS-5	NASA on IMAP mission and if its data is compliant with CGMS Baseline criteria.	CGMS-53 WGs
CGMSSEC		7RAWS-6	CGMSSEC to contact ESA to clarify EarthCare instruments and to which observations it should be included in the risk assessment.	CGMS-53 WGIII
CMA	6	7RAWS-7	CMA to confirm if current GEO slots in the Baseline document are compliant with the locations of CMA satellites.	CGMS-53 WGIII
SWCG	6	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-53 plenary/CGMS-54
SWCG	6	7RAWS-9	The SWCG to define how to add each satellite position in the attributes of the in-situ measurements of CGMS Baseline.	CGMS-53 SWCG
NASA/ESA	6	7RAWS-10	NASA and ESA to confirm if the L5 JEDI mission and its data is compliant with CGMS Baseline criteria.	CGMS-53 WGs
ESA	6	7RAWS-11	ESA to (re)confirm if Vigil data is compliant with CGMS Baseline criteria, and if its instruments could be added to the plasma analyzer and interplanetary magnetometer measurement of the CGMS Baseline.	CGMS-53 WGs/plenary
WGII	6	7RAWS-12	WGII to investigate other capabilities for UV limb sounding to complement JPSS	CGMS-54
WGII	7	7RAWS-13	WGII to study and report back to WGIII the need of top of the atmosphere spectral solar irradiance capabilities to be recorded in CGMS Risk Assessment and Baseline. (HLPP 1.2.1)	CGMS-53 WGII

ANNEX C

STATUS OF CGMS-52 WGIII ACTIONS

[Status as per 27 Feb 2025]

WGIII list of actions following CGMS-52						
Actionee	**AGN item**	**Action #**	**Description**	**Action feedback/closing document**	**Deadline**	**Status**
WMO (CGMSSEC, WGIII)	5	WGIII/52.01	WMO to write an invitation letter via CGMSSEC for CGMS WGIII to nominate representatives to the WMO task team on the WIGOS Vision 2040 update.	29 Nov 2024 Closure agreed on the occasion of WGIII IS#2 20 Nov 2024 Sid Boukabara NASA is chairing the scoping group, Sean Burns/EUMETSAT is currently representing the CGMS Secretariat. No additional letter needed. Propose to Sid presenting status update in WGIII intersessional meeting #3.	Q3/2024	**CLOSED**
WGIII	7.1	WGIII/52.02	WGIII to discuss the potential inclusion of ground segment status in the framework of the CGMS risk assessment.	27 Feb 2025 7th risk assessment: Ground segment aspect incorporated in the risk assessment charts (Agency commitment to mission assumes related user readiness and ground segment operationalisation). Action closed accordingly. 25 Feb 2025 Action numbering corrected (was erroneously 52.03) 29 Nov 2024 IS#2: It was agreed that ground segment risk assessment will be covered in the CGMS Baseline and Risk Assessment documents as an assumption statement that includes commitments for related user	29 Nov 2024	**CLOSED**

WGIII list of actions following CGMS-52						
Actionee	**AGN item**	**Action #**	**Description**	**Action feedback/closing document**	**Deadline**	**Status**
				readiness and ground segment activities. It is linked to the work of WGI and WGIV. 20 Nov 2024 Pending feedback after discussion on IS #1, and decision how to engage with other WGs. 08 Oct 2024 CMA presentation 09 Sep 2024 WGIII IS#1: To be added to the agenda of WGIII IS#2.		
WGIII & WGII	7.1	WGIII/52.03	WGIII to recommend to WGII the need for articulating MW missions with different frequencies in the CGMS baseline and risk assessment in the future and how to visualise it in the flyout charts	27 Feb 2025 7th risk assessment: Addressed with WGII. 21 Jan 2025 Recalled in CGMS WGII IS#3 to WGII who will address it at their IS#4 session on 24 Feb 2025. Chair of WGClimate to review. 29 Nov 2024 IS#2: Heikki Pohjola contacted WGII and presented the action in WGII intersessional meeting. WGII rapporteur Paolo Ruti (EUMESAT) confirmed that WGII is working on this action. Next WGII intersessional is on 21 Jan 2025. *Minutes of WGII IS of 19 Nov 2024: Support to WGIII, the need for articulating MW missions with different frequencies in the CGMS baseline and risk assessment in the future - need for considering the different types of microwave instruments and their applications. Discussion highlighted the need for a more detailed*	Q1/2026	**ON-GOING**

WGIII list of actions following CGMS-52						
Actionee	**AGN item**	**Action #**	**Description**	**Action feedback/closing document**	**Deadline**	**Status**
				representation of microwave missions in the CGMS baseline and risk assessment, considering different frequencies and their applications. *Next steps: Identification of 1-2 people from WGII to support WGIII in the analysis of microwave missions with different frequencies. This team should focus on identifying key frequencies and their applications and propose a method for incorporating this information into the CGMS baseline and risk assessment.* 20 Nov 2024 Addressed by Heikki/WMO at the WGII intersessional on 19 Nov 2024 09 Sep 2024 WGIII IS#1: Heikki/WMO to draft an input for sending to WGII leading entity.		
WGIII for WGII/GHG TT	7.1	WGIII/52.04	WGIII for WGII: GHG TT to review representation of SWIR missions for CH_4, and CO_2 in the CGMS baseline and the risk assessment	26 Feb 2025 7th risk assessment: Addressed with WGII. (Action rephrased at the 7th RAWS). 21 Jan 2025 Recalled in CGMS WGII IS#3 to WGII who will address it at their IS#4 session on 24 Feb 2025. simon.elliot@eumetsat.int 29 Dec 2024 IS#2: feedback from GHG TT still pending 20 Nov 2024 Heikki/WMO contacted GHG TT focal point (Simon Elliott) to communicate request to GHG TT.	Q1/2026	**ON-GOING**

WGIII list of actions following CGMS-52						
Actionee	**AGN item**	**Action #**	**Description**	**Action feedback/closing document**	**Deadline**	**Status**
				09 Sep 2024 WGIII IS#1: Heikki/WMO to draft an input for sending to the GHG TT and SWCG leading entities.		
WMO	11	WGIII/52.05	WMO to send an invitation letter to CGMSSEC with ToR and expectations of INFCOM MG for CGMS members to nominate candidates to participate in the INFCOM MG group	29 Nov 2024 Closed on the occasion of WGIII IS #2 20 Nov 2024 Sean Burns/EUMETSAT is currently representing the CGMS Secretariat	Q3/2024	**CLOSED**

ANNEX D

STATUS OF CGMS-52 PLENARY ACTIONS AND RECOMMENDATIONS *(FOR INFORMATION)*

CGMS-52 Plenary Actions						
Actionee	**AGN item**	**Action #**	**Description**	**Action feedback/closing document**	**Deadline**	**Status**
CGMS members	2	A52.01	**WIGOS Vision 2040 update:** CGMS members invited to nominate a CGMS representative to the WMO Task Team for the updating of the WIGOS Vision 2040. CGMS members are requested to send nominations to CGMSSEC@eumetsat.int by end June.	26 Nov 2024 WMO plans to provide a status report to WGIII IS#3 (by the Chair Sid Boukabara/NASA) 06 Nov 2024 The CGMS Secretariat is currently represented by Sean.burns@eumetsat.int 27 Jun 2024 NASA nominates Mike Seablom, Associate Director of the Earth System Technology Office in the NASA Earth Science Division (michael.s.seablom@nasa.gov)	30 Jun 2024	**CLOSED**
CGMS members	5	A52.02	**WG reports to plenary:** Members to provide nominations for the WGI co-rapporteur, WGII co-chair position, and WGIV co-chair in particular, as well as other open positions as per https://www.cgms-	26 Feb 2025 The SWCG co-chair Elsayed Talaat, NOAA, has stepped down as co-chair, with James Spann, NOAA, acts as interim. Nominations/elections to be held at the CGMS-53 SWCG. 12 Feb 2025 WGIV IS: WMO has nominated Natalia Donoho as co-chair of WGIV. If confirmed by plenary 53, there	30 Jun 2024	**OPEN**

CGMS-52 Plenary Actions						
Actionee	**AGN item**	**Action #**	**Description**	**Action feedback/closing document**	**Deadline**	**Status**
			info.org/Agendas/WP/CGMS-52-CGMS-WP-11p	will be a need for a new WGIV co-rapporteur (20 Nov 2024 The WGI co-chair, Dohyeong Kim, KMA, has informed the CGMS Secretariat he will need to step down as co-chair). Sean Burns, EUMETSAT, will support as acting WGI co-chair. 01 Oct 2024 WGII co-chair: Takuya SAKASHITA, JMA, has been nominated as the new co-chair for WGII and will replace Dr JV Thomas, ISRO, over the coming months. Nominations for WGI co-rapporteur and WGIV co-chairs are still outstanding.		
CGMS members	4, 8	A52.03	**WGClimate/G3W:** CGMS members to nominate two representatives to take the proposals in https://www.cgms-info.org/Agendas/PPT/CGMS-52-EUMETSAT-WP-13p forward. Following feedback, CGMSSEC will address next steps with WGClimate.	03 Jul 2024 Action superseded by events. Simon Elliott, EUMETSAT, nominated as the focal point of contact/lead on WGClimate/GHG TT/G3W/and CGMS operational matters. CGMS-52 plenary endorsed the nomination.	30 Jun 2024	**CLOSED**

CGMS-52 Plenary Actions						
Actionee	**AGN item**	**Action #**	**Description**	**Action feedback/closing document**	**Deadline**	**Status**
			(+ need for dedicated intersessional meeting between the CGMS WGs and WGClimate).			
CGMS members	8	A52.04	**AI-ML next steps: proposed use cases for CGMS** CGMS members to provide comments and feedback on the proposals in https://www.cgms-info.org/Agendas/PPT/CGMS-52-WGII-WP-04 CGMS members to nominate two focal points of contact as leading entity to pursue this activity. Following feedback, CGMSSEC will address next steps with WGI, WGII and WGIV leading entities.	25 Feb 2025 Important for members to come forward with nominations to drive this initiative forward.	30 Jun 2024	**OPEN**

CGMS-52 Plenary Recommendations				
Leading entities	**AGN item**	**Rec #**	**Description**	**Recommendation feedback/closing document**
CGMS members	WMO MATTERS FOR COORDINATION WITH CGMS SPACE AGENCIES	**R**51.01	Plenary recommended that CGMS members actively support and respond to the WMO strategic initiatives and resolutions, such as EW4ALL, G3W, and Unified Data Policy implementation; and asks CGMS space agency members to participate in the upcoming Core Satellite Data Workshop (4-7 December 2023) and WMO Consultative Meetings on High-level Policy on Satellite Matters (Feb 2024).	04 Jun 2024 https://www.cgms-info.org/Agendas/PPT/CGMS-52-WMO-WP-03p, https://www.cgms-info.org/Agendas/PPT/CGMS-52-WMO-WP-02p Recommendation carried over to CGMS-52 actions and recommendations 09 Apr 2024 Most CGMS members participated in the NWP core satellite data workshop, and CM-15 and provided their inputs to WMO.
CGMS members	WMO MATTERS FOR COORDINATION WITH CGMS SPACE AGENCIES (WGIV/6)	**R**51.02 (WGIV/(P)A50.01)	(Action to be monitored by WGIV) CGMS members are invited to contact WMO to provide contributions to the WMO VLab Trust Fund to ensure the continuation of technical support to the VLab through the VLab Technical Support Officer as well as to the implementation of VLab projects.	04 Jun 2024 https://www.cgms-info.org/Agendas/PPT/CGMS-52-VLab-WP-01p, https://www.cgms-info.org/Agendas/PPT/CGMS-52-GUEST-WP-03 Recommendation carried over to CGMS-52 actions and recommendations 23 Apr 2024 Addressed at CGMS-52 WGIV meeting. WMO expected to address this in detail at CGMS-52 plenary, **2023 11 July:** Noted as a recommendation by the CGMS Secretariat **2023 28 June:** Plenary endorsed the recommendation in the report by the VLab to plenary. The "action" still remains valid.

CGMS-52 Plenary Recommendations				
Leading entities	**AGN item**	**Rec #**	**Description**	**Recommendation feedback/closing document**
				2023 19 June: CGMS members are kindly requested to contribute to the VLab to secure the continuity of this valuable activity. 2023 2 June: Topic to be raised in the report of the WGIV CGMS-51-WGIV-WP-01 EXT and VLab CGMS-51-VLab-WP-02 EXT to plenary.