

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

***EXTRACT
WORKING GROUP IV***

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EUMETSAT HQ, Darmstadt, Germany
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Report prepared by the WGIV rapporteur

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PARALLEL WORKING GROUP SESSIONS

WG IV REPORT

Co-Chairs: *Kotaro Bessho, JMA & Natalia Donoho, WMO*

Rapporteur: *Simon Elliott, EUMETSAT*

1. Opening, objectives and expected outcomes / WGIV chair and rapporteur status

The meeting objectives and expected outcomes were presented verbally, and the group was reminded of the status of WGIV's co-chairs (Natalia Donoho, WMO and Kotaro Bessho, JMA) and rapporteur (Simon Elliott).

2. User-provider dialogue on regional/global scales

2.1 User-provider dialogue on regional/global scales

CGMS-54-WMO-WP-17 Regional Activities in Support of the EW4All Initiative: Summary of Regional Gap Analysis (Zoya Andreeva (virtually))

The Early Warnings for All (EW4All) initiative, launched by the United Nations, aims to ensure that every person on Earth is protected by life-saving early warning systems for hazardous weather, climate, and water-related events by the end of 2027. In support of this ambitious global goal, the World Meteorological Organization (WMO), in collaboration with key partners, is working to assist its members in strengthening their capacities to implement effective early warning systems.

As part of this effort, WMO conducted a Rapid Assessment to inform the planning phase of EW4All, providing baseline data and analysis to identify key capacity gaps across regions.

At its third session, the WMO Commission for Observation, Infrastructure and Information Systems (INFCOM) endorsed a set of priority activities to guide its contributions to EW4All. These include:

- Cataloguing and analysing existing gaps in satellite-based products and applications for priority hazards;
- and Supporting Members in improving access to satellite data and products, alongside capacity development through regional "train-the-trainer" initiatives focused on data access, processing, visualization, and interpretation.

To operationalize these priorities, INFCOM developed an action plan providing a strategic framework for addressing critical gaps. This plan encourages each WMO Regional Association (RA) to define and implement context-specific actions, recognizing that a one-size-fits-all approach is not suitable given the diversity of regional needs and challenges.

This working paper presents an overview of current efforts and progress across regions, led by WMO Regional Satellite Data Requirements Groups, in addressing identified gaps through the EW4All gap analysis.

Action: CGMS Members are strongly encouraged to continue to support multi-hazard early warning systems, including across the four pillars (disaster risk knowledge; detection, observations, monitoring, and forecasting; warning dissemination and communication; preparedness to respond) and to work with WMO Regional Satellite Data Requirements Groups to address specifically identified gaps through the EW4All gap analysis.

Kotaro Bessho thanked WMO for the comprehensive report covering all the regional associations.

WGIV agreed the following action:

| CGMS-54 ACTIONS - WGIV | | | | |
|------------------------|----------|--------------|--|-----------------|
| Actionee | AGN item | Action # | Description | Deadline |
| WGIV | 2.1 | WGIV/ A54.01 | CGMS Members are strongly encouraged to continue to support multi-hazard early warning systems, including across the four pillars (disaster risk knowledge; detection, observations, monitoring, and forecasting; warning dissemination and communication; preparedness to respond) and to work with WMO Regional Satellite Data Requirements Groups to address specifically identified gaps through the EW4All gap analysis | CGMS-55 2027 |

CGMS-54-CMA-WP-18 Main outcomes of the AOMSUC-15, 2025 (GAO Ling)

Overview: The conference was held in Qingdao, China, in October 2025. It was hosted by China Meteorological Administration (CMA). In total, 50+ countries were represented. The conference was held jointly with 2025 FengYun Meteorological Satellite User Conference, and enjoyed the largest geographic participation in in Asia-Oceania Meteorological Satellite Users Conference (AOMSUC) history

Major focus: The following themes were the main focus of the conference:

- Satellite data reception & processing infrastructure;
- AI/ML & emerging technologies;
- Operational meteorology & NWP;
- Disaster risk reduction & early warning, and
- Capacity building for developing countries.

RA II & RA V members strongly support EW4ALL. The Virtual Lab (VLab) and AOMSUC remain critical platforms for addressing these gaps.

CMA was thanked for hosting the 15th AOMSUC in October 2025 despite the logistical challenges. The 16th AOMSUC will take place from 6 to 11 December 2026 in Australia.

CGMS-54-EUMETSAT-WP-23 EUMETSAT's regional user support (Sally Wannop)

In the context of data access and training, EUMETSAT continues to support the extended WMO RA VI, the NMHSs outside of EUMETSAT Member States, and the WMO RA I community. Core focus in 2025 has been the ongoing transition from MSG to MTG for the 0° Meteosat service.

EUMETSAT has undertaken an initiative to provide the DAWBEE community, NMHSs within Western Balkans, Eastern Europe and Caucasus countries, with basic EUMETCast Europe reception equipment and MTG FCI visualisation software. The equipment and software will be rolled out in Q2/3 2026.

Working with the European Union and the African Union Commission, EUMETSAT has supported the roll out of new reception stations, PUMA 2025. Providing access and the visualisation of the MTG Africa data sent via the EUMETCast Africa service. In partnership with the European Union, ECMWF and African partners EUMETSAT is supporting the 4-year (2025-2029) "Strengthening Early Warning in Africa" (SEWA) project. EUMETSAT's activities include the provision of regional data processing capabilities (AMSAF) using nowcasting tools, related cloud infrastructure, upgrade to RARS (DBNET stations), and data application training support, including test beds.

Kotaro Bessho noted the collaboration between ECMWF/EUM/AUC and asked how this was coordinated. Sally explained that an EU project called SEWA manages the joint activities, and this framework takes care of coordination. ECMWF and EUM together work based on activities co-defined by the EU and AUC.

CGMS-54-GUEST-WP-06 User support for the transition to MTG in Africa (Sarah Kimani, Chair of RAIDEG (virtually))

User support for the transition to MTG in Africa presentation outlined Africa's coordinated efforts to support users in transitioning to the Meteosat Third Generation (MTG) satellite system, led through the RA-1 Dissemination Expert Group (RAIDEG) under the framework of the WMO and in collaboration with EUMETSAT. RAIDEG plays a central role in enhancing access to satellite data, improving dissemination systems, and strengthening user capacity across the African continent. Its mandate includes identifying user requirements, recommending data access solutions such as EUMETCast, guiding infrastructure development, and promoting the effective use of satellite-derived products for weather, climate, and environmental applications.

Preparations for MTG in Africa began as early as 2016, with structured planning, stakeholder engagement, and strategic milestones such as the Abidjan Declaration in 2018. These efforts led to the development of the MTG-Africa baseline and the concept of the African Meteorological Satellite Application Facility (AMSAF), aimed at maximizing the benefits of next-generation satellite capabilities.

A key component of the transition is the deployment of upgraded PUMA 2025 stations, designed to enable reliable access to MTG data across RA-I countries. The rollout, which began in 2024, targets installation in 49 countries and is supported by rigorous testing and validation processes to ensure

operational readiness. Equally important is capacity development. Comprehensive training programs, including Training of Trainers and regionally coordinated training sessions in both English and French, are being implemented to equip users with the skills needed to utilize MTG data and associated systems effectively.

With MTG now operational, Africa is entering a new phase focused on scaling infrastructure deployment, strengthening user engagement, and advancing the application of satellite data through continuous collaboration among national meteorological services, regional institutions, and international partners.

Overall, the transition to MTG represents a significant advancement in Africa's ability to monitor weather and climate, enhancing forecasting capabilities and supporting socio-economic resilience across the continent.

Vincent Gabaglio (EUMETSAT) noted that user engagement started more than 5 years prior to satellite launch, which was indeed necessary for a timely transition.

2.2 Implementation of coordinated satellite broadcast systems

CGMS-54-CMA-WP-11 The update of CMACast Services (LI Xiaoru)

The document described the status of the CMA data broadcast system (CMACast) system service. In the framework of GEONETCast, CMACast distributes data to Asia-Pacific users who use the Integrated CMACast system to receive, process data and make weather forecasts in last 2025. In addition, some parts of FY4C products will be broadcasted by CMACast to users in 2026. CMACast will keep providing meteorological data dissemination service for the users.

CGMS-54-CMA-WP-15 Update and plans of FengYun satellite data and application services (GAO Ling)

This document describes the data policy of FENGYUN satellite data, the status and plans of the FENGYUN satellite data distribution and services. Two new satellites were successfully launched in 2025, and the distribution information for new products from the previous FY-3F is updated. FENGYUN satellite data are open to NMSs and other international organizations and users free of charge via many ways. For real-time users, FENGYUN satellite data can be accessed via direct broadcasting station, CMACast, FY Satellite Data Download Toolkit Pro, Global Telecommunication System (GTS), and WMO Information System (WIS). For non-real-time users, FENGYUN satellite data can be accessed from the FENGYUN satellite data center website, download toolkits and offline data services. For emergency users, FENGYUN satellite emergency support mechanism (FY_ESM) is useful to National Meteorological Services (NMSs). The application platforms, FENGYUN Earth and SWAP are still provided to the international users. Meanwhile, MAZU-FENGYUN Satellite AI Toolbox, a comprehensive satellite application platform for EW4ALL, has been developed.

Concerning upcoming launches, CMA stated that the next launch will be FY-4D at the end of this year. FY-3J expected for the same time.

CGMS-54-JMA-WP-07 Update and plans on usage of cloud services, data dissemination and distribution of Himawari-8/9 (Kazuki Yasui)

JMA mainly distributes Himawari-8/9 data in two ways. One is the HimawariCast service, by which primary sets of imagery are disseminated as operational meteorological services via a commercial communication satellite. The other is the HimawariCloud service, by which full sets of imagery are delivered to National Meteorological and Hydrological Services (NMHSs) via a private Internet cloud service. JMA also distributes sets of Himawari-8/9 imagery and products to NMHSs via JDDS (the JMA Data Dissemination System). In conjunction with four Japanese institutions, provided Himawari-8/9 data distribution/archive services for research, development and education purposes. In addition to the private sector and other communities, JMA provides meteoroidal data including the Himawari-8/9 data via the Japan Meteorological Business Support Center. JMA's next-generation Himawari-10 satellite is currently under manufacture, with related data distribution also in planning (see CGMS-54-JMA-WP-05). The Agency is additionally considering the Himawari-10 imager data format and plans for the transition from Himawari-8/9 data.

Simon asked whether JMA would provide software for converting Himawari-10 data to HRIT format, as they have done for Himawari-8 and -9. JMA explained that this was currently under consideration.

CGMS-54-KMA-WP-08 KMA Report on the Update of GK2A Data Services (JEON Dae-gyeom)

- KMA has operated the GK2A satellite since 2019, providing high-resolution meteorological data
- Data is distributed through multiple channels, including satellite broadcasting, FTP, and API services
- The legacy Data Service (DataSvc) page has been discontinued; users are now required to access services via the NMSC portal
- APIs previously provided by NMSC have been integrated into the KMA API Hub, improving accessibility and unified data services
- KMA is preparing the next-generation GK5 (2031) to enhance observation capabilities and expand data services

Kotaro noted that this is the first time seeing channels for GKMI on GK5; he asked why this selection was made, especially in VIS. KMA stated that the GK5 instrument will be very similar to the Geostationary Himawari Imager (GHMI). Users and academics were consulted about the channel choice, and they wanted more water vapour information. As such, a 0.91 channel was added instead of the blue channel (0.51). Also, the blue channel can be replaced with simulated data. Kotaro noted that JMA also asked their researchers about channel selection, but in Japan they wanted to keep current selection.

2.3 Global or inter-regional data exchange and access, WIS

CGMS-54-WMO-WP-18 Status of satellite community's transition from GTS to WIS 2.0 (Simon Elliott)

In response to a question from CMA about constraints on the use of data formats, Simon explained that this topic was addressed in WGI under its item 4.2. Currently, core satellite data must be exchanged on WIS 2.0 in BUFR, GRIB or CREX. The proposal for WGI was to request WMO to update the technical regulations to allow the exchange of core satellite data in standard formats such as netCDF, subject to endorsement by CGMS.

2.4 Disaster support and EW4ALL**CGMS-54-CMA-WP-09** MAZU: CMA's Best Practice to support EW4ALL (YANG Shunan)

This presentation outlined CMA's best practice to support the UN's Early Warnings for All (EW4ALL) initiative: MAZU brand and its Cloud-based early warning support platform (CEWS).

CEWS is a cloud-based, co-developed, and lightweight platform, integrating AI, gridded forecasts, and multi-source data to provide global extreme weather warnings. It combines 5 NWP and 4 AI models with high-resolution FY satellite products, supporting impact-based warnings for health, agriculture, hydrology, et c.

CEWS has delivered customized tailed early warning solutions for Pakistan, Solomon Islands, and Ethiopia, serving over 40 countries with 160+ warnings in 2025. It has enabled international training, consultations, and real-event support such as Super Typhoon Yagi (2024) and heavy rain and snow process in Central Asia.

Looking ahead, CMA invites partners to co-develop AI solutions and join WMO pilot projects. The MAZU-FENGYUN Satellite Toolbox for EW4ALL is also under development.

In response to a question from KMA, CMA confirmed that the system was easy to configure, and that the cloud infrastructure used was the Huawei Cloud.

CGMS-54-CMA-WP-19 Status of FY-ESM and New Support for Disaster Monitoring (GAO Hao)

China Meteorological Administration (CMA) established the Emergency Support Mechanism of FENGYUN (FY) Satellite (FY_ESM) in 2018 for international user disaster prevention.

CMA will provide highly frequent observation of the target area covering a 2,000 km x 2,000 km area at an interval of up to 1 minute through FY_ESM.

Since 2018, 38 countries have registered as FY_ESM members, and more than 189 emergency support services have been provided to 60 countries worldwide.

CMA developed a tailor-made cloud platform, FengYun Earth CHARTER version, for a typical disaster monitoring application for end users (EU) of the Charter community in 2025.

This document presented the updated information of Rapid Scan Services under the Emergency Support Mechanism of FENGYUN Satellite (FY_ESM), including the satellite rapid scan service status, activation procedure, new support for disaster monitoring, and an overview of FY_ESM services in 2025.

CGMS-54-JMA-WP-08 Status of JMA Himawari Request service (Kazuki Yasui)

In January 2018, the Japan Meteorological Agency (JMA) launched a new international service “HimawariRequest”, in collaboration with the Australian Bureau of Meteorology. The service allows NMHS users (NHMSs) in Himawari8/9 coverage area to request Target Area observation covering a 1,000km x 1,000km area every 2.5 minutes.

Target Area observation supports JMA’s national/international services including the RSMC Tokyo - Typhoon Center and the Tokyo Volcanic Ash Advisory Centre.

In response to a recommendation made at the 2015 Joint RA II/RA V Workshop on the WMO Integrated Global Observing System (WIGOS) for Disaster Risk Reduction, JMA developed the service through the RA II WIGOS Project to Develop Support for NMHSs in Satellite Data, Products and Training.

As of 1 March 2026, JMA had taken registrations from 22 NMHSs in RA II and RA V, and 19 have completed preparation for their requests. There have been 355 international requests since the commencement of the service, among which 323 have been approved. Targets have included tropical cyclones in the South Pacific, extreme weather and bushfires in Australia, and volcanic activity in Indonesia. JMA plans to change the email based HimawariRequest service to a web-based system for improved operational efficiency and quicker response to user needs.

JMA expects the HimawariRequest service to support disaster risk reduction activities in the Asia-Oceania region based on the regional monitoring of extreme events such as tropical cyclones and volcanic eruptions using the Target Area observation.

As part of the RA II WIGOS Project, JMA has developed user-friendly map content displaying the locations of request-based high-frequency regional observations in real time for at-a-glance viewing. This content is now available on the RA II WIGOS Project webpage.

2.5 Support to the ocean user community

CGMS-54-EUMETSAT-WP-15 Marine user engagement and cross-organisational collaboration in support to multi-instrument applications (Ben Loveday and Hayley Evers-King)

This presentation provides an overview of the marine community and EUMETSAT's approach to user engagement within it. The community is highly diverse, spanning research, governance and regulation, service development, private enterprise, and the public, with each group having distinct perspectives and requirements for marine Earth observation. EUMETSAT supports these users at the application level, where the use case landscape is broad, and workflows typically integrate data from multiple sensors. Users are generally data-agnostic and value coordinated, synergistic approaches to training and engagement from operational agencies. In response, EUMETSAT delivers multi-partner training activities, contributes to the development of community standards, supports open-source collaborative tools, and aligns its efforts with wider strategic frameworks such as the UN Ocean Decade. It also provides a coherent and unified view of Copernicus and mandatory mission product suites (including via OSI SAF), aiming to make data and services accessible, consistent, and relevant to user applications.

CGMS-54-IOC-UNESCO-WP-02 GOOS: Ocean statement of guidance and emerging coastal requirements (WMO)

The presentation summarized recent efforts from the Global Ocean Observing Community (GOOS) and the CoastPredict UN Decade Programme to develop observational requirements to fit the needs of users of ocean observations for several application areas including NWP, climate and coastal hazards.

Those observational requirements set the basis for a gap analysis of the current observing system capacities, and the development of recommendations to fill in those gaps. Those are reflected in Statements of Guidance, made available to WMO Members to support decisions regarding upgrades of observational networks. GOOS has coordinated the Statement of Guidance for the Ocean. CoastPredict has followed a similar process focused on very high-resolution requirements for coastal applications.

WMO presented a synthesis of the main findings in terms of gaps which could be considered by the space agencies.

More detailed information can be found in the Oceanic Statement of Guidance, to be published in May (<https://doi.org/10.59327/WMO/ESDP/SOG/OCE>)

2.6 Support to Arctic observations

CGMS-54-WMO-WP-19 WMO updates on cryosphere activities (WMO)

The Task Team on Cryosphere and Polar Observation from Space (TT-CPOS) was established by the WMO Commission for Observation, Infrastructure and Information Systems (INFCOM) in 2025 at its Management Group meeting, with the proposed Terms of References. Membership and the selection of Co-Chairs have been approved by the President of INFCOM, based on nominations from selected WMO Members/partners, in consultation with the Chair of Advisory Group on Global Cryosphere Watch (AG-GCW) and the acting Chair of the Standing Committee on Earth Observing Systems and Monitoring Networks (SC-ON).

The fourteenth session of the WMO Executive Council Panel on Polar and High-mountain Observations, Research and Services (PHORS-2026) highlighted sustained monitoring and improved data sharing as essential, especially in polar and high-mountain areas where observing networks are limited and fragmented. The session requested the TT-CPOS to undertake a benefit analysis of satellites monitoring the cryosphere.

Under the framework of the WMO Integrated Global Observing System (WIGOS) Rolling Review of Requirements (RRR), the Statements of Guidance for Cryosphere Applications were developed for sea-ice and snow components, providing recommendations to National Meteorological and Hydrological Services (NMHSs), oceanic and cryospheric institutes, space agencies and the various coordination initiatives.

Action: CGMS to provide guidance to the Task Team on Cryosphere and Polar Observation from Space in delivering its mandates through expert engagement

Natalia noted that the action pertains to WGII, and the response should come from them.

WGIV agreed the following action:

| CGMS-54 ACTIONS - WGIV | | | | |
|------------------------|----------|-------------|---|--------------|
| Actionee | AGN item | Action # | Description | Deadline |
| WGII | 2.6 | WGIV/A54.02 | CGMS to provide guidance to the Task Team on Cryosphere and Polar Observation from Space in delivering its mandates through expert engagement | CGMS-55 2027 |

2.7 Support to observations using hyperspectral infrared instruments

CGMS-54-JMA-WP-05 Update on Himawari-10 and its hyperspectral infrared sounding mission (Kazuki Yasui)

In March 2023, the Japan Meteorological Agency (JMA) contracted the manufacture of the Himawari-10 satellite, equipped with the GHMI, the Geostationary Himawari Sounder (GHMS) and other equipment, as the successor to the Himawari-8/9 satellite. Initial operation is scheduled for JFY 2030. The Agency plans to unify Himawari L1 data from the currently provided Himawari-8/9 data format to NetCDF format, and to provide users with Principal Component Analysis (PCA) data rather than raw observation data from the GHMS.

CGMS-54-EUMETSAT-WP-19 Status of hyperspectral and IASI NG instruments (Dorothee Coppens)

IASI-NG and IRS L0/L1 commissioning activities are progressing very well and preparations for the L2 commissioning are already in place, even if not covered in this document- This is expected to enable timely early dissemination to Cal/Val partners and pre-operational dissemination to all users for both instruments.

The dissemination baseline was recalled at the end of the paper.

Mikael asked which would be the initial L2 products from IRS and Dorothee confirmed that they would be equivalent to the METOP IASI L2 products. There will also be 3D winds from the IRS. Kotaro asked about possible access to the IRS L1B radiance data. EUMETSAT explained that the datasets are large and will be available from the data store only.

2.8 Support to developing countries

CGMS-54-CMA-WP-17 Report on Establishing a Meteorological Satellite Application Center (WU Jingyan) Response to WGIV/A53.03

CMA delivered a report on bridging the gap in satellite data application, in which it proposed the establishment of Meteorological Satellite Application Centers. This report was formulated based on feedback from WMO Regional Associations (RA II and RA V) and an extensive survey of 239 users across 87 countries.

Amid rising climate-induced extreme weather events, meteorological satellites can play a vital role in achieving the UN's "Early Warnings for All" (EW4All) by 2027. However, a critical gap exists between vast satellite data and their operational use in disaster resilience, especially for resource-limited countries where the bottleneck is no longer data access but data application capacity.

CMA's report reveals a systemic "triple bottleneck": 70% of users find existing data insufficient for operational needs; 80% report inadequate local infrastructure; and over 90% of resource-limited country users urgently need ready-to-use, AI-driven solutions, not raw data. These findings highlight a "scissors gap" between big data generation and effective decision-making.

To bridge this gap, CMA proposes to establish Meteorological Satellite Application Centers to act as a transformative "middleware" layer. Focusing on demand tracking, customized solutions, lightweight tools, and rapid response service capabilities, these centers aim to provide ready-to-use services, not

just satellite data—an inclusive approach that enables more nations, especially resource-limited countries.

EUMETSAT welcomed the need analysis presented, which primarily applies to Least Developed Countries (LDCs) and noted that it is already undertaking some activities offering regional support, such as its Satellite Application Facility (SAF) network and the provision of the European Weather Cloud together with ECMWF.

CMA explained that the applications being developed are for all WMO members, but this presentation looks at the benefits of a Meteorological Satellite Application Center (MSAC) primarily from their perspective (they have a limited capability to use the data). All satellite operators were encouraged to support LDCs in their use of satellite data.

There remained some lack of clarity in the group about whether the intention was to establish one MSAC per satellite operator or one per region, and what criteria would need to be met to be considered an MSAC. CMA explained that a regional focus would allow the sharing of effort between agencies in the area. The hope is the LDCs would establish their own capabilities in due course, with initial support provided by regional MSACs.

CMA noted that the goal of the MSACs would be to ingest data from all providers and fuse them into a seamless API for the end users at LDCs. The focus has been put there because they have more limited infrastructure; centres would push out light weight APIs and use a central cloud infrastructure to carry the processing load. CMA also explained that there is a need to move beyond simple phenomenon description toward integrated satellite data analysis. By detecting precursor signals of cascading hazards, risk alerts can be issued to break the chain of disaster impacts — strengthening the role of satellite data in supporting EW4ALL.

In response to a question from WMO and NOAA about who is making the recommendation and who should be establishing an MSAC, CMA stated that the expectation at this stage is to first build consensus on the necessity of establishing MSACs.

EUMETSAT recalled that satellite operators or regional centres provide inputs to enable NMSs to make alerts and warnings. Alerting and warning remain a national responsibility. CMA explained that currently satellite data are mainly used for monitoring; but they want the satellite data to be able to do more *before* the disasters occur. It would be better for the LDCs to get key information in advance so that they can make a more precise forecast. This would be picked up in a deeper discussion of the MSAC Terms of Reference. CMA confirmed the desire to first establish regional MSACs and subsequently connect them together.

The co-chair recalled that there are many questions to be addressed. The results presented were clear, but the necessity to establish the MSACs was less obvious. The questions and opinions voiced by the group make it clear that further debate was needed. CMA reminded the group of the intention of confirming the need to establish the MSACs in the context of EW4All, but the number of open issues

and questions made it clear that further discussion was needed. CMA explained the wish to make better use of satellite data within the WMO framework, so that more can be done with satellite data irrespective of the data type or the group using them. The Co-Chair reminded the group that not all CGMS members are involved in forecasting services – he also identified the need to consider VLab and how that would fit with the MSAC concept.

NOAA indicated that if WGIV or CGMS came to the conclusion that there was a need, we would need to know how CMA is recommending the MSACs be implemented (e.g., is CMA recommending CGMS establish the MSACs? Or that CGMS would recommend WMO establish the MSACs?). The group stressed the need to avoid redundancy with ongoing efforts. NOAA went on to ask how the difference between CGMS members with and without forecast centres would be considered, and where the MSACs could fit from an organisational perspective? Noting that further discussions would be needed, NOAA asked about the need to link the timing to EW4All implementation period.

CMA outlined the following overall plan:

- agree that MSACs are necessary before the end of 2027, and in the scope of EW4All,
- work with CGMS members to understand how the MSACs can be implemented, and then
- implementation of the MSACs as a 3rd step.

EUMETSAT noted that satellite operators are already endeavouring to make their data available for EW4All, and that the MSACs could be part of this. Although the situation is somewhat straightforward in Europe, there is work to be done for the other regions to assess what this would mean. The group also noted that EW4All is not a WMO initiative - but rather part of the UN Secretary-General's Acceleration Agenda.

Noting the time constraints of the meeting and the importance of the topic, WGIV agreed to organise an extraordinary WGIV intersessional meeting to specifically address the CMA initiative on Establishing a Meteorological Satellite Application Center.

| CGMS-54 ACTIONS - WGIV | | | | |
|------------------------|----------|--------------|---|----------|
| Actionee | AGN item | Action # | Description | Deadline |
| WGIV rapporteur | 2.8 | WGIV/ A54.10 | Organise an extraordinary WGIV intersessional meeting to specifically address the CMA initiative on Establishing a Meteorological Satellite Application Centers | CGMS-55 |

3. Coordination of metadata (incl. standards within ocean communities)

Metadata matters

CGMS-54-WGIV-WP-17 Future of Meta data task group (Simon Elliott)

It was reported that the Task Group on Metadata had been running well and had played a constructive role supporting the definition of the WIS 2.0 topic hierarchy to be used for satellite and space weather data.

Currently the Task Group is establishing a new chairperson, and its activities are in abeyance until such time as that is concluded.

Action: WGIV leadership to finalise the appointment of a chairperson for the Task Group on Metadata.

WGIV agreed the following action:

| CGMS-54 ACTIONS - WGIV | | | | |
|------------------------|----------|-------------|---|--------------|
| Actionee | AGN item | Action # | Description | Deadline |
| WGIV leadership | 3 | WGIV/A54.03 | WGIV leadership to finalise the appointment of a chairperson for the Task Group on Metadata | CGMS-55 2027 |

4. Cloud services interoperability

CGMS-54-WGIV-WP-15 Way forward of the CGMS WGIV Cloud Service Expert Group (2025-2026) including the outcome and recommendations from the 3rd cloud technology workshop (Melissa Andersen Garcia, on behalf of Kumar Machado)

Over the years, members of the CGMS Working Group IV Cloud Service Expert Group met regularly to discuss Cloud Services and adoption. More recently attendance has decreased, probably due to conflicting priorities from members, and duplication between activities within Cloud Services and other working groups.

Recommendation: The Expert Group recommends sunsetting the group and re-evaluate in 2-year if the landscape has shifted significantly enough to warrant an update. There will be a dedicated agenda item for WGIV to enable members to report on their compliance with the Best Practices.

WGIV agreed the following recommendation:

| CGMS-54 RECOMMENDATIONS - WGIV | | | | |
|--------------------------------|----------|------------------|---|--------------|
| Actionee | AGN item | Recommendation # | Description | Deadline |
| WGIV leadership | 4 | WGIV/ R54.01 | The Expert Group recommends sunsetting the group and re-evaluate in 2 years if the landscape has shifted significantly enough to warrant an update. There will be a dedicated agenda item for WGIV to enable members to report on their compliance with the Best Practices. | CGMS-56 2028 |

5. Data preservation/data access

5.1 Long term data preservation - data access

CGMS-54-WGIV-WP-09 Direction of CGMS approach towards long term data preservation (Simon Elliott)

Simon noted the work with Dr Nitant Dube from ISRO in sense of coordination with CEOS WIGSS. Efforts will continue to foster communication and thus minimize overlap between the groups.

5.2 Long term data preservation – interoperability

Nothing salient to report.

6. User readiness for new satellite systems incl. training and VLab matters

CGMS-54-VLab-WP-02 Status and plans of the VLab (XIAN Di)

This working paper reported on recent activities of the WMO–CGMS Virtual Laboratory for Education and Training in Satellite Meteorology (VLab) and outlines planned actions for the coming period.

Since CGMS-53, VLab members have delivered a wide range of training activities, with a particular emphasis on capacity development related to new generations of satellite systems, identified by members as a major training priority. In addition, targeted training initiatives have supported the implementation of the Early Warnings for All (EW4All) initiative.

Sustained funding remains a critical issue for the VLab. While the VLab Trust Fund has historically benefited from regular contributions from several satellite operators, a recent decline in contributions has created challenges in maintaining the current level of support for coordination activities and training delivery. Continued and additional voluntary contributions from CGMS members are therefore essential to safeguard the long-term sustainability and effectiveness of the VLab.

During the recent period, a comprehensive review and update of the Guidelines on Satellite Skills and Knowledge for Operational Meteorologists was completed. CGMS members are invited to take note of the revised Guidelines on Satellite Skills for Operational Meteorologists and Specialists in Related Application Areas.

In addition, VLab members have initiated work to update the VLab Strategy for the 2028–2031 period, with the objective of submitting it for approval to INFCOM-4 in November 2026. A draft version of the strategy will be presented to the CGMS Plenary for information, while the final version will be circulated to CGMS members for endorsement via correspondence prior to INFCOM-4.

The VLab Management Group (VLMG) has continued to coordinate VLab activities and support training delivery through regular online meetings. A key milestone was the Eleventh VLMG Meeting, held in Muscat, Oman, from 20–23 January 2024, hosted by the Directorate General of Meteorology under the Civil Aviation Authority (CAA). The next VLMG meeting is planned for 2027, with the host organization and timing to be confirmed. CGMS members active in VLab are encouraged to attend VLMG-12 meeting in person.

Actions and notes to be taken:

1. CGMS members to contribute to the WMO VLab Trust Fund to ensure continued technical support (via the VLab Technical Support Officer) and the continuation of training activities, including travel support for WMO Members with limited resources.
2. CGMS members to take note of the revised Guidelines on Satellite Skills for Operational Meteorologists and Specialists in Related Application Areas.
3. CGMS members to take note of the planned update of the VLab Strategy (2028 2031) and its endorsement process prior to submission to INFCOM-4.
4. CGMS Members are invited to advertise their training events (in partnership with VLab Centres of Excellence) via the VLab Training Calendar and ensure that the relevant contact person information is kept up to date.
5. CGMS Members active in VLab are invited to ensure that a suitable representative is able to attend the 12th VLab Management Group (VLMG-12) meeting, preferably in person.

WGIV agreed the following actions:

| CGMS-54 ACTIONS - WGIV | | | | |
|--------------------------|----------|--------------|--|--------------|
| Actionee | AGN item | Action # | Description | Deadline |
| CGMS Satellite Operators | 6 | WGIV/ A54.04 | CGMS members to contribute to the WMO VLab Trust Fund to ensure continued technical support (via the VLab Technical Support Officer) and the continuation of training activities, including travel support for WMO Members with limited resources. | CGMS-55 2027 |
| CGMS Satellite Operators | 6 | WGIV/ A54.07 | CGMS Members active in VLab are invited to advertise their training events (in partnership with VLab Centres of Excellence) via the VLab Training Calendar and ensure that the relevant contact person information is kept up to date. | CGMS-55 2027 |
| CGMS Satellite Operators | 6 | WGIV/ A54.08 | CGMS Members active in VLab are invited to ensure that a suitable representative is able to attend the 12th VLab Management Group (VLMG-12) meeting, preferably in person. | CGMS-55 2027 |

CGMS-54-EUMETSAT-WP-18 Task Group on User readiness for new satellite systems – EUMETSAT (Sreerekha Thonipparambil)

The task group on user readiness reviews how the satellite agencies are implementing the “Best Practices for Achieving User Readiness for New Satellite Systems”. The task group also identifies if any updates or additions are needed for the Best Practises document and to explore ways for CGMS members to share their user readiness experiences.

The first meeting in December 2024 confirmed that the Best Practices document provides a solid foundation for user readiness activities, with agencies such as EUMETSAT, NOAA, and JMA applying it across their upcoming missions. The group also discussed the approach of commercial data providers and how they align with these practices through contractual agreements.

The second meeting in February 2026 reviewed JMA’s progress on Himawari-10 user readiness and EUMETSAT’s overview of user preparation activities for MTG and EPS-SG.

Kotaro thanked the Task Group for its work, especially for the summarised report of BPs for user readiness. The BPs have been very useful for Himawari-10 for many people, both internal and external to JMA. They are following the best practice manual.

7. Research to operations - Operations to research (R2O/O2R)

CGMS-54-NOAA-WP-20 Progress and plans of the R2O/O2R activities in the framework of CGMS (Vijay Tallapragada (virtually))

- NASA and NOAA co-championed the CGMS Futures 2022+ Research to Operations Pilot following the CGMS-51 Plenary in Tokyo.
- A 2024 survey of CGMS members highlighted diverse operational constraints and research priorities, emphasizing the need for a coordinated, adaptable R2O/O2R approach across the satellite community. We presented these findings at CGMS-53 in 2025.
- The R2O/O2R Pilot Kick-off Phase can be considered complete, and we recommend WGIV to continue this theme as a standing agenda item, consistent with the objectives to foster collaboration and knowledge sharing to enhance the transition of research into operations, while remaining flexible to each agency's needs.
- The group recognized Dr. Laurie Rokke (NOAA, retired) for her contributions and welcomed Jessica Shallcross (NOAA's NESDIS/OSPO/SPSD/SPB) in 2026.

A number of actions relating to R2O/O2R to be taken into account as part of the normal work of CGMS members were identified and explained in the document. There were no actions specifically directed at WGIV.

8. Future direction 2022+ initiative

CGMS-54-CGMS-WP-3wgiv 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 provided an overview and proposed way forward for each of the themes.

Action: CGMS members are requested to consider the closure of the initiation phase for the CGMS future direction themes, and to recommend the closure to plenary for endorsement.

WGIV agreed to recommend to plenary that the initiation phase of the Future Directives 2022+ could be considered closed.

9. Review of WGIV actions and recommendations

Review of WGIV actions and recommendations

CGMS-54-WGIV-WP-07 Status of CGMS-53 WGIV actions and recommendations (and any relevant plenary actions) (Simon Elliott)

The status of actions open at the time of the Working Group meeting were reviewed and updated as necessary. The full summary list of actions is available in **CGMS-54-WGIV-WP-07**.

CGMS-54-WGIV-WP-10 CGMS-54 WGIV actions and recommendations (verbal) (Simon Elliott)

A verbal summary of the actions raised during this meeting of WGIV was presented and agreed. Please see the list at the end of this report

10. CGMS High Level Priority Plan (HLPP)

Review and updating of the HLPP

CGMS-54-CGMS-WP-19 Status of implementation of CGMS High Level Priority Plan (2025-2029) (Mikael Rattenborg)

The WGIV leadership team addressed the status of the CGMS HLPP and its relationship to WGIV during dedicated side meetings. The proposed update to the HLPP will be presented to the CGMS 54 Plenary session.

CGMS-54-WGIV-WP-12 Identification of top priorities for WGIV. For discussion (no presentation)

This was discussed internally by the WGIV leadership team. See the preceding point.

11. Future CGMS WGIV meetings

Future WGIV session (incl. dates for future plenary and intersessional meetings, proposals for new agenda items)

CGMS-54-WGIV-WP-11 Decision on dates on WGIV intersessional activities in 2026-2027 (CGMS-54 to CGMS-55) (Simon Elliott) (for decision)

WGIV agreed the following dates and times for the intersessional meetings from CGMS 54 to CGMS 55:

- Intersessional Meeting #1: 09 September 2026, 12 UTC
- Intersessional Meeting #2: 01 December 2026, 12 UTC
- Intersessional Meeting #3: 02 March 2027, 12 UTC

CGMS-55 the dates are as follows:

- WG meetings: 19-23 April 2027 (pending plenary confirmation), likely hosted by EUMETSAT
- Plenary session: 1-3 June or as backup 15-17 June (pending plenary confirmation), tentatively to be hosted by IMD.

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

There is no change from the WGIV perspective.

12. Conclusions, preparation of the WGIV report for plenary

CGMS-54-WGIV-WP-14 Wrap-up time and report preparation by co-chairs and rapporteurs, preparing next steps for plenary

The draft report of WGIV will be available for review by the members in due time for the Plenary session in June 2026.

End of WGIV meeting

PRELIMINARY DRAFT

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LIST OF NEW WGIV ACTIONS

| CGMS-54 ACTIONS - WGIV | | | | |
|--------------------------|------------|--------------|--|-----------------|
| Actionee | AGN item | Action # | Description | Deadline |
| WGIV | 2.1 | WGIV/ A54.01 | CGMS Members are strongly encouraged to continue to support multi-hazard early warning systems, including across the four pillars (disaster risk knowledge; detection, observations, monitoring, and forecasting; warning dissemination and communication; preparedness to respond) and to work with WMO Regional Satellite Data Requirements Groups to address specifically identified gaps through the EW4All gap analysis | CGMS-55 2027 |
| WGII | 2.6 | WGIV/ A54.02 | CGMS WGII to provide guidance to the Task Team on Cryosphere and Polar Observation from Space in delivering its mandates through expert engagement | CGMS-55 2027 |
| WGIV rapporteur | 2.8 | WGIV/ A54.10 | Organise an extraordinary WGIV intersessional meeting to specifically address the CMA initiative on Establishing a Meteorological Satellite Application Centers | CGMS-55 |
| WGIV leadership | 3 | WGIV/ A54.03 | WGIV leadership to finalise the appointment of a chairperson for the Task Group on Metadata | CGMS-55 2027 |
| CGMS Satellite Operators | 6 | WGIV/ A54.04 | CGMS members to contribute to the WMO VLab Trust Fund to ensure continued technical support (via the VLab Technical Support Officer) and the continuation of training activities, including travel support for WMO Members with limited resources. | CGMS-55 2027 |

| | | | | |
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| CGMS Satellite Operators | 6 | WGIV/ A54.07 | CGMS Members active in VLab are invited to advertise their training events (in partnership with VLab Centres of Excellence) via the VLab Training Calendar and ensure that the relevant contact person information is kept up to date. | CGMS-55 2027 |
| CGMS Satellite Operators | 6 | WGIV/ A54.08 | CGMS Members active in VLab are invited to ensure that a suitable representative is able to attend the 12th VLab Management Group (VLMG-12) meeting, preferably in person. | CGMS-55 2027 |

PRELIMINARY DRAFT