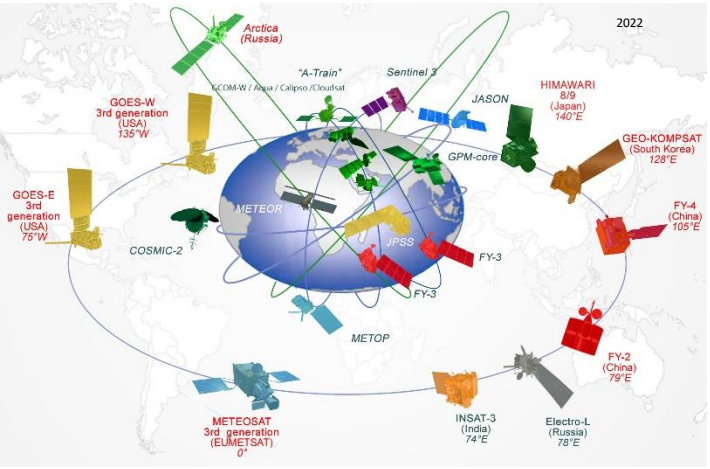

Data access and end user support - report WGIV

Presented to CGMS-49 Plenary session, agenda item 4

Coordination Group for Meteorological Satellites

CGMS

Key issues of relevance to CGMS:

- Global and Inter-regional Data Access, WIS, Big Data
- User Readiness, Capacity building
- Cloud Services
- Cyber Security

Summary of WG IV - coordinated communication satellite broadcast systems

CMACast will be complement in 2021 with land based services using meteorological broadband networks and internet. In 2022, the coverage of CMACast satellite broadcast will be further expanded to West Asia, the Middle East and Africa.

JMA provides Himawari-8/9 data via its complementary HimawariCast and HimawariCloud systems, with improvements in data access and online satellite imagery improved in February 2021.

The GEONETCast Americas broadcast has further evolved with a larger user community, additional NOAA GEO ad LEO products and more external data providers. The migration to the DVB-S2 standard in 2020 allowed to increase the throughput. NOAA still maintains its partnership with INPE/Brazil, which has been instrumental in end user outreach and the open source visualization software suite.

Conclusion: Satellite broadcast systems partially reaching capacity limits and are complemented by terrestrial Services using high speed networks and the internet. GEONETCast Americas is expanding and benefits from the migration to DVB-S2.

Summary of WG IV session - Global or inter-regional data circulation and access, WIS

Presentations by IMD, IRSO, KMA, EUMETSAT, ROSHYDROMET and CMA demonstrate that a variety of new terrestrial data access methods are being explored and implemented for data exchange between providers and to end users.

A large range of methods and protocols is being used, from ftp-like and WEB based download services to APIs and cloud native solutions. The common goal is to provide increasing data volumes to users at low latency, interactive and automated.

WEB visualisation services using WEB browser become a standard following the concept of bringing the user to the data and thus unloading the network.

The new services are increasingly associated with an open data policy, seen as a positive trend by the Working group.

Overall there is a rich and diverse evolution of data access methods going on without a clear favourite at this moment.

Summary of WG IV – Widening of data access

A gap exists in the coordination of the efforts to strengthen sustained capacity and use of Earth observations (EO) to meet user needs in support to the sustainable development agenda. Currently, multiple global networks contribute to EO capacity development.

CEOS recently endorsed the EOTEC DevNet initiation plan, which includes using a network of networks approach between CEOS WGCapD, GEO CD-WG, CGMS VLab, WMO, and UNOOSA.

Building off of the recent WGCapD-10 Annual Meeting regional discussions, EOTEC DevNet will focus on floods as the initial case study for coordination across networks.

- Action / Recommendation
  CGMS members to participate in the next EOTEC DevNet regional discussions planned in June.

Summary of WG IV – Disaster Support

CMA and JMA reported on the use of their rapid scan request services, the Emergency Support Mechanism of FENGYUN Satellite and the HimawariRequest service, respectively.

The targets of the requests have included dam breaks, wildfires, flash floods, and tropical cyclones, extreme weather and bushfires, and volcanic activities.

CMA and JMA will strengthen capabilities, in cooperation with CMA, JMA and KMA.

ISRO presented a processing platform to support the International Charter on Space and Major Disasters. The Web based platform for Disaster Data Analysis is intended for project managers (PM), Value Adders (VA) and members, allowing creation and visualization of the reports from an increasing number of satellites and products.

Summary of WG IV – Data Formats and Standards

WMO examined the identification of satellites in products exchanged within the context of the WMO Integrated Global Observing System (WIGOS). The use of Common Code Table C-5 from the WMO Manual on Codes is explained, together with the concept of WIGOS Station Identifiers (WSI) and their applicability for satellites.

The paper identifies a number of points where the CGMS Task Force on Satellite Data and Codes can work together with WMO to clarify and improve the use of WSIs for identification of satellites

- Action / Recommendation
  CGMS Task Force on Satellite Data and Codes to work with WMO on addressing the use of WIGOS Station Identifiers (WSI) for satellites.

Summary of WG IV – Coordination of Metadata

The Task Force on Metadata Implementation (TFMI) chair reported on the completion of the open actions regarding improvements of the WIS Catalogue, and support for creation of Space Weather Metadata by pointing to the published and online available guidance documents.

After a long period of being active in this role, Guillaume Aubert will step down as chair of TFMI.

The working group members expressed their appreciation of the long lasting work and achievements that Guillaume has actively been supporting in his role as chair of the TFMI.

- Action: CGMS members are requested to provide nominees for the vacant TFMI Chair

Summary of WG IV – User readiness for new satellite systems

NOAA presented an Overview of GeoXO's User Engagement Process, Findings and Next Steps. The Geostationary and Extended Orbits (GEO-XO) Program follows the GOES–R Series and Space Weather Follow-On (SWFO) missions in the 2030-2050 timeframe. A GEO-XO User Engagement Plan will be published in Spring 2021 explaining the user engagement strategies and the GEO-XO Pathfinder program.

The Vlab report was presented. Since CGMS-48, Vlab members have offered a variety of training opportunities addressing the new generation of satellites, which continues to be the major training need identified by VLab members. Furthermore, stronger collaboration and coordination of efforts between VLab members resulted in increased opportunities for user training during the past year.

NOAA has nominated Ms Bernadette Connell to the position of the VLab Co-Chair

- Recommendation to Plenary: WGIV has recommended Ms Bernadette Connell (NOAA) as next VLab Co-Chair for endorsement by CGMS-49 Plenary

Summary of WG IV – Cyber security towards end users

On 17th March 2021 the first meeting of the newly created WG IV Cyber Security Expert Group was held. The focus of the first meeting was to create and review the Terms of Reference. The subsequent meetings will address the cyber security topics as proposed by the members.

- Recommendation: The WGIV Cyber Security Expert Group welcomes any other members who are not yet represented in the group, and to propose new security related topics to be addressed by the group

Summary of WG IV - Cloud Services interoperability

CMA reported on their experience by using public cloud service for FengYun satellite data service. NSMC/CMA provided a new solution for the users to obtain satellite data. The performance of the website has been improved by using Cloud services.

The Cloud Expert Group was established in July 2020 and is comprised of members from NOAA, EUMETSAT, KMA, CMA, JMA, ISRO, and WMO. The group was formed to share cloud lessons learned and develop a set of best practices for each organization to maximize interoperability. The Cloud Expert Group's vision is to enable an interoperable cloud services environment for the transmission and sharing of meteorological satellite data. The cloud expert group has focused on agency best practices, cloud optimized data formats, and how the group's cloud work aligns with WMO's Information System (WIS) 2.0 Strategy.

- Recommendation: The Cloud Expert Group welcomes any other members who are adopting cloud services to discuss best practices, exchange information, and identify emerging coordination opportunities.

Summary of WG IV – HLPP

The HLPP was updated following review of WG IV related matters:

3.2.1 “User Readiness for New Meteorological Satellites…” was refined to reflect the lessons learnt from the experience gained so far

3.11 “…space weather data ..” was refined following a proposal from SWCG

3.12 to 3.14 were revised to match the objectives of WGIV

Two new items were added:

3.17 Develop Best Practices for Operational User Notifications

3.18 Develop Best Practices for Cloud Services Interoperability

- The revised HLPP will be presented to plenary for endorsement.

Coordination Group for Meteorological Satellites

CGMS

To be considered by CGMS:

- WGIV has recommended Ms Bernadette Connell (NOAA) as next VLab Co-Chair for endorsement by CGMS-49 Plenary
- CGMS members are requested to provide nominees for the vacant CGMS-WMO Task Force on Metadata Implementation Chair
- CGMS members are requested to provide nominees for the vacant WGIV rapporteur