

General presentation of CGMS, the Coordination Group for Meteorological Satellites

CGMS coordination model: membership, governance, mandate

CGMS origins & membership

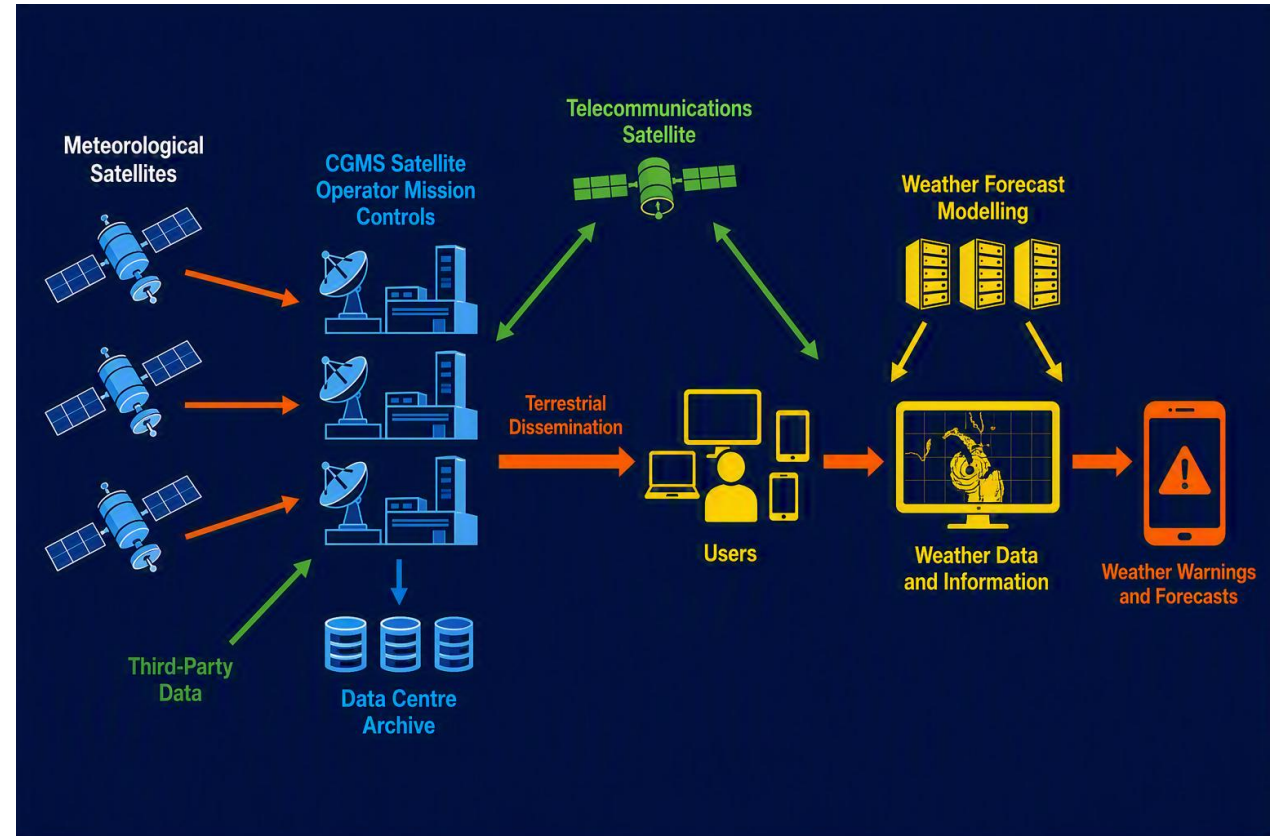
- Initiated in 1972 by the US, Japan and Europe; WMO participates since 1974
 - Today, 16 members:
 - **14 institutional space agencies** from China (CMA, CNSA), Europe (CNES, ESA, EUMETSAT), India (IMD, ISRO), Japan (JAXA, JMA), Rep. of Korea (KMA), Russian Federation (ROSCOSMOS, ROSHYDROMET), USA (NASA, NOAA) → **the space-based observational “backbone” for the WMO**
 - **2 global user community entities:** WMO and IOC-UNESCO (+IMD)
 - **6 observers:** CSA, ECCC, GCOS, KARI, KIOST, NSOAS
- A forum spanning operational agencies, R&D agencies and intergovernmental user representatives



- **EUMETSAT is the permanent Secretariat of CGMS** since it joined in 1987 (one year after its foundation)
 - The primary coordination interface for CGMS Members and any third parties
 - Coordinates all contributions to CGMS activities, ensuring decisions, recommendations, actions and outcomes are appropriately communicated and followed up

CGMS value & scope (1/2)

- CGMS value is to turn independent satellite programmes into a **coordinated, operational** system:
 - Make **systems complementary and compatible**
 - Expose **future gaps** early
 - Organise **mutual support** when continuity is threatened
 - **Exchange knowledge** and learn from each other
- CGMS has a **global, end-to-end** scope: Mission planning; Operations; Calibration; Data & products; Contingency & continuity; Data access & User Readiness; Space Weather; Climate



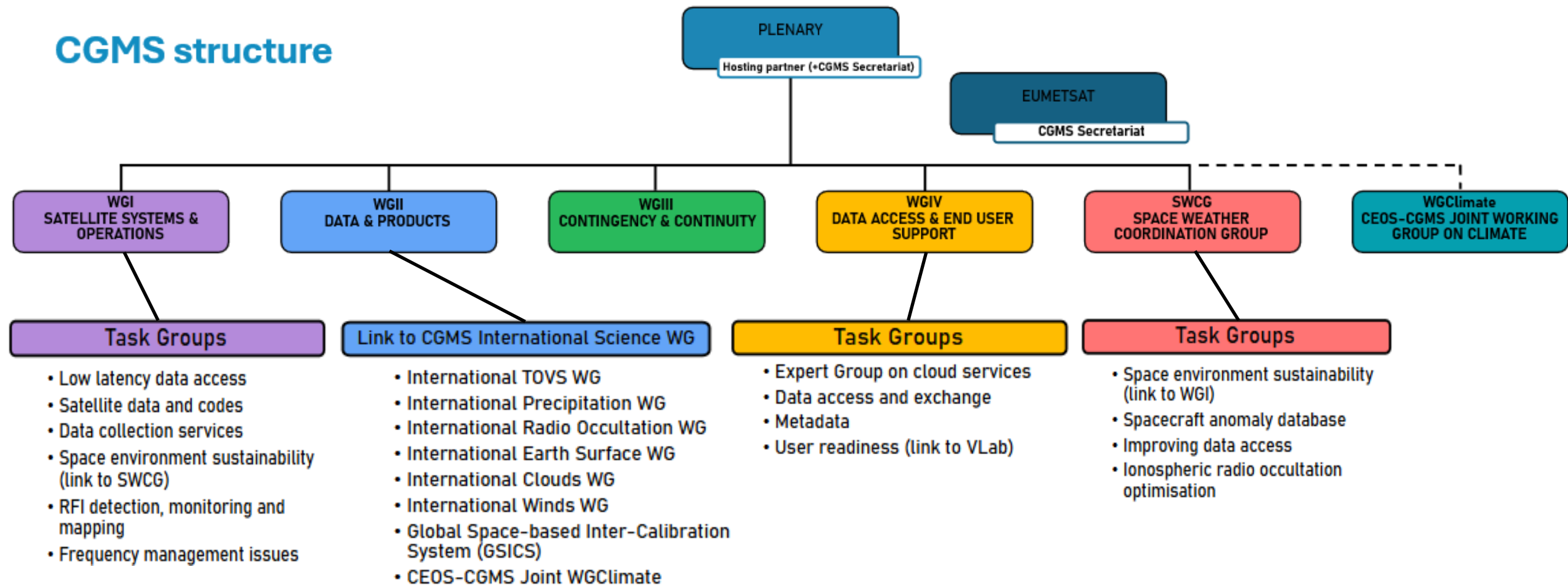
A schematical representation of the operational value chain, from coordinated meteorological satellites to end users

CGMS value & scope (2/2)

- CGMS has an **annual, cyclic** working rhythm:
 - **Intersessional meetings** monitor actions and prepare issues throughout the year.
 - **Risk Assessment Workshop** reviews WMO gaps, the CGMS baseline and contingency needs.
 - **Working Groups sessions** develop recommendations for Plenary (specialists, bottom-up).
 - **Plenary meeting** involves Heads of Delegations and endorses recommendations, reaching coordination decisions

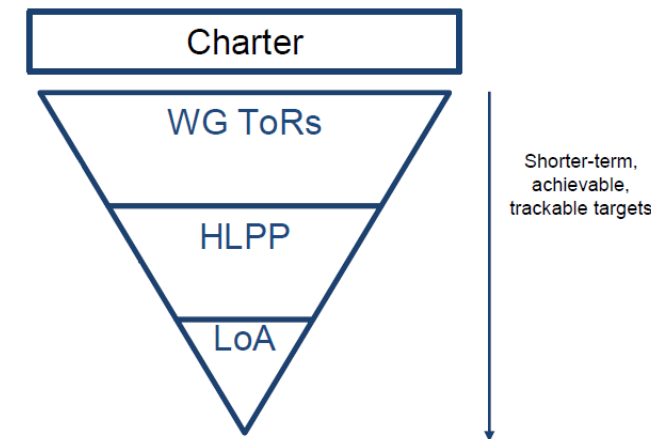
→ **Members implement agreed actions through their own missions, services and bilateral arrangements on a best effort basis.**

CGMS structure



CGMS governing framework & mandate (1/2)

- **Governed by the [Charter](#)**, in response to the WIGOS – mandate and rules
 - Defines CGMS mandate, rules, objectives, membership, organisation and procedures
 - Establishes technical exchange, harmonisation, complementarity and mutual backup.
 - Provides the foundation for all other governing documents.
- **[Working Group Terms of Reference \(ToR\)](#) assign responsibilities** and are reviewed at least every four years
- **Guided by the [High-Level Priority Plan](#)** – strategic direction
 - Converts the Charter into a rolling **five-year set of priorities and targets**.
 - Covers continuity, systems, data access, product quality, climate, space weather and training.
 - Reviewed annually to reflect changes
- **Lists of actions**, translating priorities into tracked delivery.



CGMS governing framework & mandate (2/2)

- **Sustained contributions to the Global Observing System:**
 - **Baseline** and **Contingency Plan** – operational commitments
 - The **Baseline** records members' planned observations, measurements and services (based on **WMO Rolling Review of Requirements (RRR)** and **WIGOS Vision**)
 - The **Contingency Plan** defines how risks to the Baseline are identified, mitigated and managed.
 - The **annual Risk Assessment** and **WMO gap analysis** keep documents updated.

Recurrent review of governing framework:

- *Align the Charter, ToRs and HLPP while eliminating duplication.*
- *Strengthen both top-down priority setting and bottom-up Working Group input.*
- *Introduce periodic long-term strategic reviews to shape future priorities.*

CGMS: Protection of radio frequencies – Extract from the HLPP

2.2.1 Facilitate an effective preparation of national and ITU-R regional groups' positions for the World Radiocommunication Conference (WRC) 2027 favourable for CGMS-related issues, in particular but not exclusively with regard to:

- Establish protection for passive microwave sensors in the bands 50.2-50.4 GHz, 52.6-54.25 GHz and in bands above 86 GHz from unwanted emissions from active services in neighbouring frequency bands (WRC-27 agenda items 1.1, 1.3, 1.8 and 1.18).
- Establish possible new primary frequency allocations to EESS (passive) in the bands 4200-4400 MHz and 8400-8500 MHz for Sea Surface Temperature (SST) measurements to complement the SST measurements in the 6/7 GHz range (WRC-27 agenda item 1.19).
- Establish protection of the frequency bands 7450-7550 MHz, 7750-7900 MHz and 8025-8400 MHz, used for the downlink from Meteorological and Earth Observation satellites, from possible future frequency usage by International Mobile Telecommunications (IMT) (WRC-27 agenda item 1.7).

CGMS achievements

- Developed a global contingency framework through which **Members provide satellite backup**:
 - Between NOAA and EUMETSAT in the 1980s and 1990s, both ways supporting among others the Data Collection Systems (DCSs) and hurricane observations;
 - With NOAA supporting JMA in 2003 for operational imaging.
- CMA reconfigured its FY-3E for the early-morning orbit to **maintain essential observations** and **limit impact on global numerical weather prediction** when the end of a US satellite series threatened a critical gap, while EUMETSAT guaranteed CMA continued access to morning-orbit data.
- The Global Space-based Inter-Calibration (GSICS) was created to provide a coordinated approach to **satellite inter-calibration** and improve the **consistency of observations** across missions.
- **Standardisation of data dissemination formats** and coordinated planning for the transition from analogue to digital;
- Development of **common standards** for the International Data Collection System (IDCS);
- Development of an integrated **strategy for data dissemination and data exchange** based on GTS/WIS, Internet, DVB-based satellite broadcast as well as terrestrial multicasting;
- Advanced **climate monitoring** and coordinated data archiving for **long-term climate records** through the Joint CEOS-CGMS Working Group on Climate (see [Climate Data Record inventory](#) and [Greenhouse Gas Satellite Missions Portal](#))
- Training in meteorological satellite data usage with the development of the Virtual Training Laboratory (VLab).
- Supporting KMA in developing its operational meteorological satellite system

Further information

- **CGMS website** (hosted by EUMETSAT)
<https://cgms-info.org/>
- **CGMS plenary meetings** (agenda, presentations, working papers)
<https://www.cgms-info.org/agendas/Plenaries.aspx>

Thank you for your attention!

Any questions?