

# COORDINATION GROUP FOR METEOROLOGICAL SATELLITES

- CGMS -

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Rapporteur

## The objectives of CGMS are formalised within its Charter:

- To provide an international forum for the exchange of technical information on geostationary and polar-orbiting meteorological satellite systems and research & development missions, such as reporting on current meteorological satellite status and future plans, telecommunications matters, operations, intercalibration of sensors, processing algorithms, products and their validation, data transmission formats and future data transmission standards.
- To harmonise meteorological satellite mission parameters (such as orbits, sensors, data formats and downlink frequencies) to the greatest extent possible.
- To encourage complementarity, compatibility and possible mutual back-up in the event of system failure through cooperative mission planning, compatible meteorological data products and services and the coordination of space and data-related activities, thus complementing the work of other international satellite coordinating mechanisms.

# Coordination Group for Meteorological Satellites - CGMS

## CGMS:

The Coordination on Geostationary Meteorological Satellites was initially created in 1972 to consider common interests relating to the design, operation and use of planned meteorological satellites.

The name was later changed to the Coordination Group for Meteorological Satellites to include low-Earth orbit satellites and the activities are governed by a Charter.

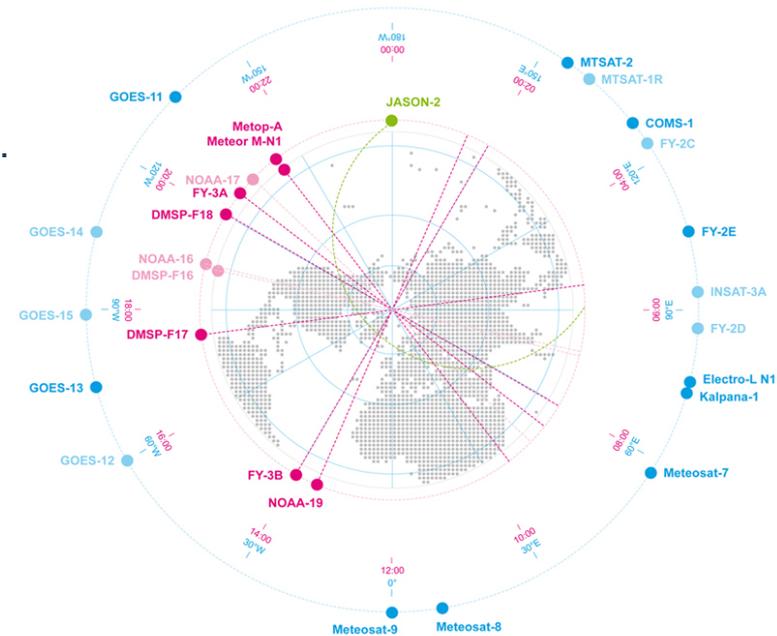
The CGMS meets in plenary session on an annual basis following meetings of four Working Groups on telecommunication, satellite data and products, operational continuity and contingency planning, and global data dissemination respectively.

## Members:

Members are those organisations and space agencies that are current and prospective developers and operators of meteorological satellites ; Space agencies operating R&D satellites contributing to WMO programmes; WMO, because of its unique role as representative of the world meteorological data user community.

### Current members:

CMA, CNES, CNSA, ESA, EUMETSAT (CGMS Secretariat since 1987), IMD, IOC/UNESCO, ISRO/JAXA, JMA, KMA, NASA, NOAA, ROSCOSMOS, ROSHYDROMET, and WMO



## Examples of CGMS achievements:

- Establishment of a global back-up framework (contingency planning) - the concept of **“helping thy neighbour”** e.g. manoeuvring an available satellite to a different location to support satellite observations. In the 1980s NOAA’s GOES-4 satellite successfully supported the Meteosat DCS that had run into difficulties. Later in the early 1990s, Meteosat-3 was moved to a position over the Western Atlantic to support NOAA to perform an operational imaging mission vital for hurricane observations. This established partnership continued in 2003 when NOAA supported JMA with GOES-9 to perform operational imaging after retiring GMS-5 and before the availability of MTSAT-1;
- The close cooperation of CGMS leads to an optimisation and coordinated enhancement of the WMO Global Observing System (GOS). CGMS operators inter alia adopted the WMO vision for the GOS to 2025;
- Standardisation of data dissemination formats and coordinated planning for the analogue to digital transition;
- Development of a common standard for the International Data Collection System (IDCS);
- **Early morning orbit discussion led to CMA decision to fly in early AM.**

- Development of an integrated strategy for data dissemination and data exchange (GTS, Internet, ADM, GEONETCast...);
- Coordinated activities toward protection of radio frequencies;
- Development of a coordinated approach to calibration and intercalibration (Global Space-based Inter-calibration System – GSICS);
- Promotion and development of a coordinated framework for generating climate data records from space observations (SCOPE-CM);
- Overarching framework for science development and the improvement and utilisation of satellite products through International Science Working Groups that interact with CGMS (the International TOVS Working Group - addressing satellite radiance measurements and retrievals in a broad sense; the International Winds Working Group addressing Atmospheric Motion Vectors (AMVs) and winds from satellites in general; the International Precipitation Working Group and the International Radio-occultation Working Group);
- Promotion of a common approach to archiving of data and products; and
- Promotion of training and the development of the Virtual Training Laboratory (VLab).





## The Coordination Group for Meteorological Satellites

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There are four CGMS Working Groups within the scope of CGMS: WGI on global issues on satellite systems and telecommunication coordination; WGII on satellite data and products; WGIII on operational continuity and contingency planning; and WGIV on global data dissemination.

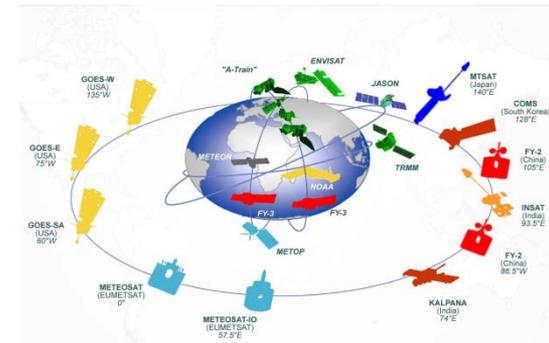
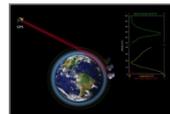
In addition, there are four Working Groups interacting with CGMS: The International ATOVS Working Group - ITWG; the International Precipitation Working Group - IPWG; the International Winds Working Group - IWWG; and the International Radio Occultation Working Group - IROWG. The last three Working Groups originate from CGMS WGII and plenary sessions.

- [Working group I \(WGI\): Global issues on satellite systems and telecommunication coordination](#) [ + ]
- [Working group II \(WGII\): Satellite data and products](#) [ + ]
- [Working group III \(WGIII\): Operational Continuity and Contingency Planning](#) [ + ]
- [Working Group IV \(WGIV\): Global data dissemination](#) [ + ]
- [International TOVS Working Group: ITWG](#) [ + ]
- [International Precipitation Working Group: IPWG](#) [ + ]
- [International Radio Occultation Working Group: IROWG](#) [ + ]
- [International Winds Working Group: IWWG](#) [ + ]

- **Working Groups**
  - Advanced Sounders
  - NWP
  - Climate
  - Radiative Transfer
  - Products and Software
  - International and Future Systems
- **Technical Subgroups**
  - Direct broadcast packages/RARS
  - RTTOV
  - CRTM

## More recent coordinating management tool - High Level Priority Plan (HLPP)

- CGMS reviews the HLPP on an annual basis, considering in particular new requirements and perspectives arising from interactions with the user and scientific communities, the development of applications, e.g. NWP, and relevant research activities. It ensures proper interaction with other space agencies and their relevant constituencies (e.g. CEOS including its working groups and virtual constellations).
- Enhancing CGMS as a forum offering the scope for detailed technical discussions required to coordinate meteorological satellite observing systems and maximise the overall benefits for the user community
- Enhancing the collaboration between CGMS and the international science working groups (ITWG, IPWG, IWWG, IROWG)



**CGMS**

# Coordination Group for Meteorological Satellites - CGMS

6	CGMS-45 WGII actions			
7	Actionee	AGN item	Action #	Description
11	IPWG	4	A45.04	IPWG to produce documentation on precipitation climate data record generation and related activities worldwide, including prospects for continuity
12	GSICS	4	A45.05	GSICS to produce annual state of the observing system report to be delivered at CGMS
13	CGMS agencies	4	A45.06	CGMS Agencies to implement Landing Pages on calibration events accessed via WMO-OSCAR.
18	CMA	7	A45.11	CMA to add Clear-sky Radiance as an FY-4A baseline product
19	CGMS-45 WGII Recommendations			
20	"Actionee"	AGN item	Rec #	Description
27	ISRO	7	R45.07	ISRO to consider adding a direct broadcast capability to future satellites.
28	ROSH, WG IV	7	R45.08	Roshydromet to explore steps with Working Group IV to enable global exchange of data from the MTVZA-GY instrument.
29	CGMS agencies	8	R45.09	CGMS agencies encouraged to document their products online, including ATBDs and validation reports, and link product page URLs to the WMO Product Access Guide following defined documentation criteria. (current agency focal points in WMO IPET-SUP: Sally Wannop (EUMETSAT), Natalia Donoho (NOAA), Chu-Yong Chung and Jin Woo (KMA), Xiang Fang (CMA), Shiro Ohmori (JMA))

	A	B	C	D
30	CMA		R45.10	CMA to add Clear-Sky Radiance as a FY-4A baseline product.
31	SCOPE-CM members	WGII/3	R43.01	SCOPE-CM to invite contributions to its next call for proposals, with particular regard to the sea ice, snow cover and land surface temperature communities, and others currently not represented.
32	CGMS members	WGII/3	R43.02	CGMS members to consider removing spectral gaps from future hyperspectral sounders to support GSICS intercalibration of IR imagers.
33	CGMS members	WGII/6	R43.03	CGMS members to consider include a water vapour channel and a CO2 channel to polar-orbiting imagers, to maintain accuracy and coverage of polar winds and cloud height retrievals achieved by MODIS.
34	CGMS space agencies	WGII/10	R43.07	CGMS agencies to make available a non real-time cache of satellite level 1 data over the previous 2-3 months, similar to the NOAA CLASS system.
35	ISRO	WGII/5	R43.10	ISRO is encouraged to implementing a multi-sensor precipitation estimate based on SAPHIR and INSAT-3D
44	CGMS space agencies	WGII/4	R44.08	All operators of next-generation GEO imagers to consider the implementation of routine full-disc 10-min (or better) scanning for nowcasting
45	CGMS space agencies	WGII/4	R44.09	CGMS Members to continue an operational constellation of conically-scanning microwave platforms to guarantee sustained support for the current level of capability.

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46	CGMS members	WGII/4	R44.10	At the request of IPWG, CGMS to improve cross-agency coordination of satellite assets into A-train-like convoys of instruments with sensitivities to distinct aspects of precipitation processes (e.g., CloudSat, EarthCare, GPM, etc.).
47	NOAA	WGII/4	R44.11	NOAA to ensure that both, equatorial and polar components of COSMIC-2 are fully funded and launched.
48	CGMS members	WGII/4	R44.12	CGMS agencies to target at least 20,000 occultations/day, at appropriate global distribution, to be made available to the operational and research communities, based on recent impact studies (NWP, climate and space weather)
50	CGMS space agencies	WGII/4	R44.14	CGMS agencies to maintain the constellation of at least three polar orbits (early morning, morning, and afternoon), each with full sounding capabilities (IR and MW). The overpass times of operational satellites with sounding capability (IR and MW) should be coordinated between agencies to maximize their value.
51	CGMS space agencies	WGII/4	R44.15	Future satellite programmes should include the provision of high temporal frequency MW humidity sounding radiances (alongside cloud and precipitation sensitive observations).

52	ROSH	WGII/4	R44.16	Roshydromet to develop and release a direct broadcast processing package for the Meteor-M N2 series, including level 1 processing for the MTVZA-GY microwave imager.
54	CGMS space agencies	WGII/4	R44.18	CGMS satellite operators to consider coordination of orbits for scatterometer instruments and to provide open and timely access to data in order to maximise independent coverage and benefits to nowcasting and NWP from assimilation of scatterometer wind data.
57	CGMS space agencies	WGII/6	R44.21	Operators to take into account in the planning of their data distribution systems the emerging stringent requirements on data latency from SRNWP
58	CMA	WGII/7	R44.22	CMA to make available data from FY-3D HIRAS and FY-4A GIIRS early in commissioning
59	CGMS space agencies	WGII/7	R44.23	CGMS agencies with operational direct broadcast needs are encouraged to attend the next ITWG sponsored Direct Broadcast Users Meeting in March 2017 hosted by CONAE, Argentina.
60	CGMS space agencies	WGII/7	R44.24	CGMS agencies to provide key documentation related to the quality of their products, to allow for informed uptake by users. These documents should include ATBDs, cal/val plans, and regular validation reports
61	CGMS space agencies	WGII/7	R44.25	For monitoring the Polar Regions, the Group stressed the importance of the deployment of HEO missions

# ITWG working group instructions

- Consider the ITSC WG priorities
- Consider the HLPP plan and mapping spreadsheet.
- Consider the CGMS-45 Recommendation and actions



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## CGMS-46

Meeting date **3-8 June 2018**  
 Meeting location **Bangalore, India**  
 Host **ISRO**

## Downloads

CGMS-46 will be hosted by ISRO, in Bangalore, India, on 3-8 June 2018

