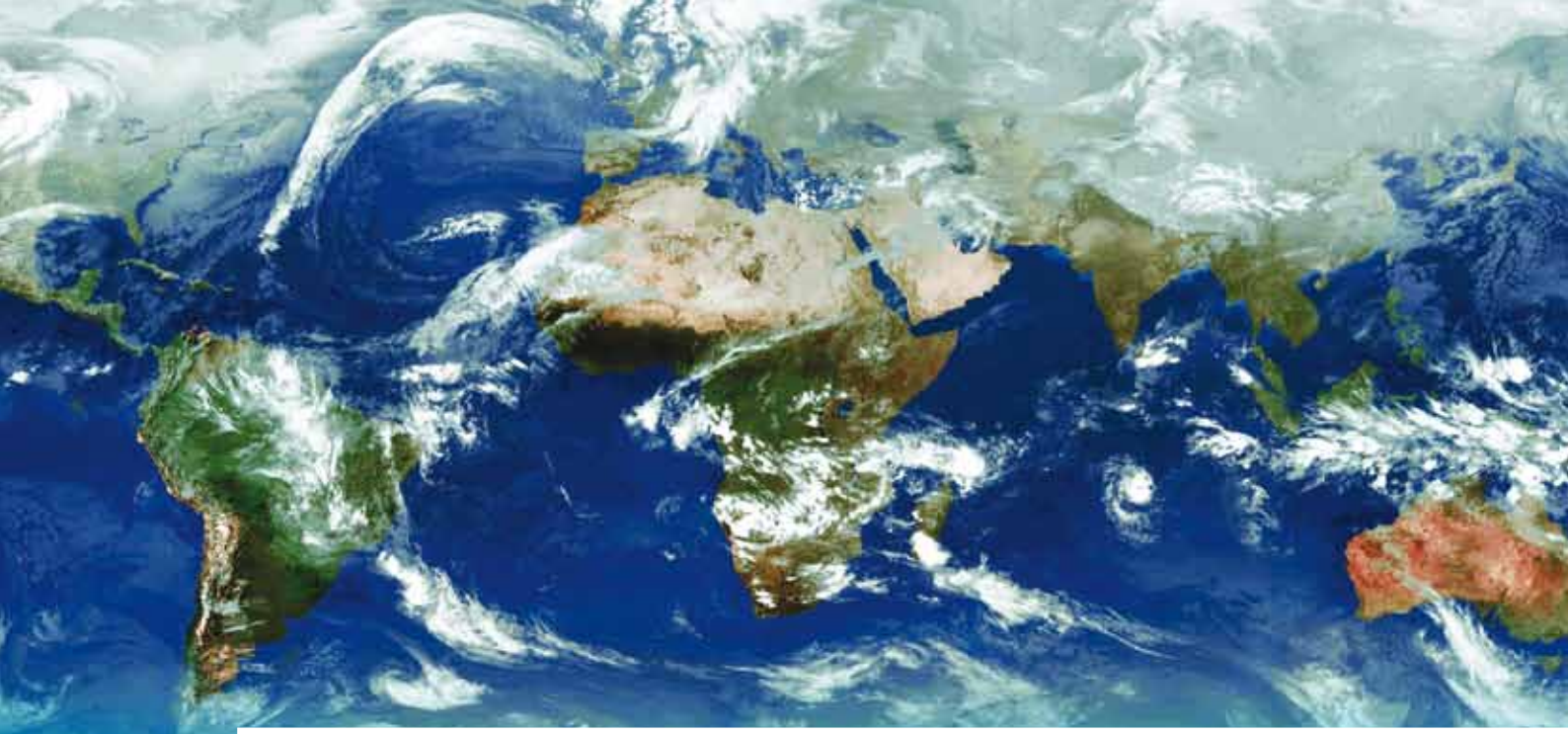
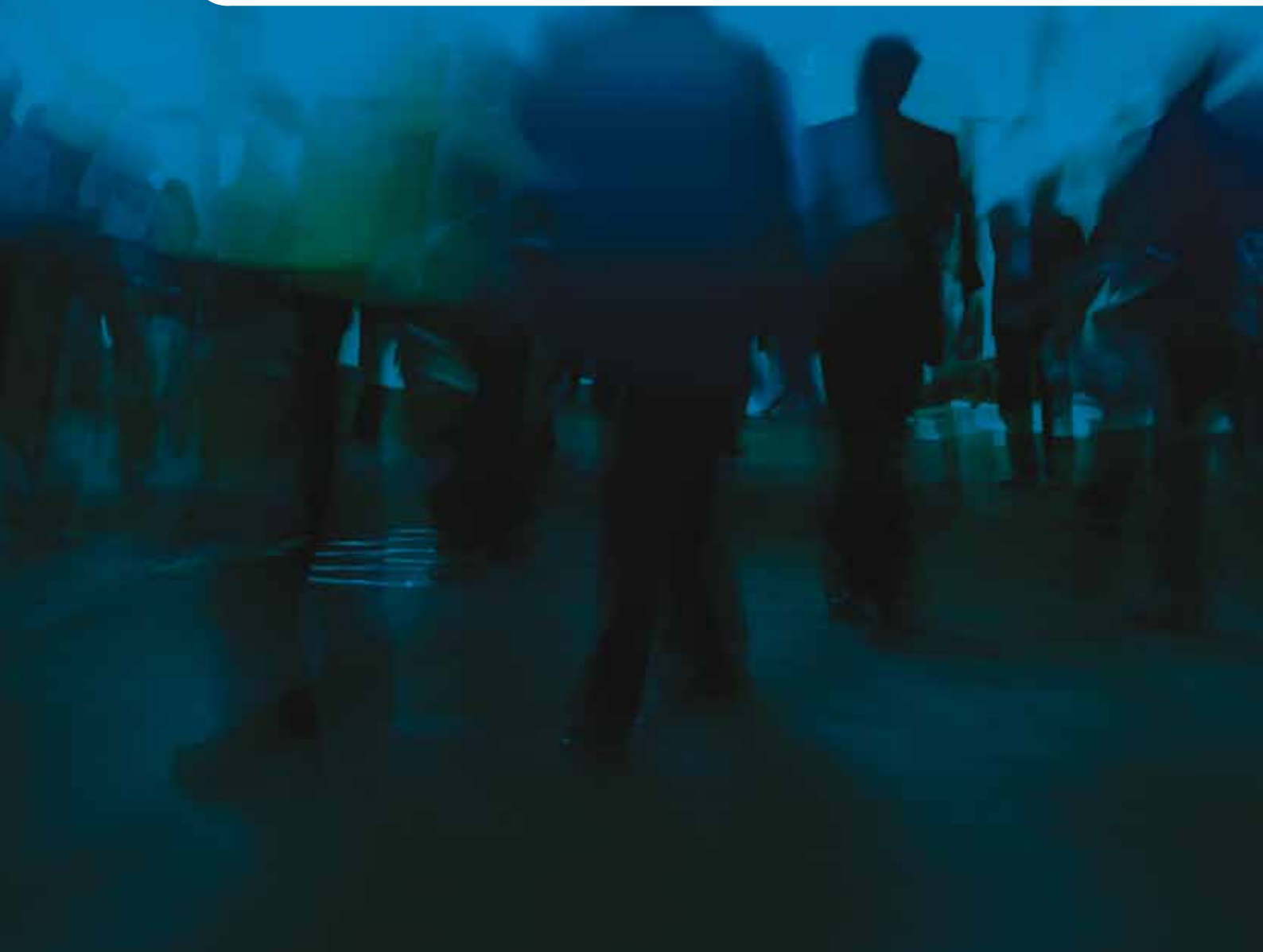


Bringing Benefits Through Global Coordination

The Coordination Group for Meteorological Satellites

CGMS



The main objective of CGMS is to coordinate long-term, sustainable satellite systems relevant to weather and climate, to which both operational and research and development space agencies contribute, while responding as far as possible to the requirements and related programmes of the World Meteorological Organization.

CGMS

Bringing Benefits Through Governance

CGMS: Bringing more benefits through global coordination of meteorological observations

The Coordinated Group for Meteorological Satellites (CGMS) was created on 19 September 1972 by Europe, Japan, USA, and the World Meteorological Organization (WMO) to consider common interests relating to the design, operation and use of planned meteorological satellites. Today, there are 15 members including operational and research and design space agencies developing and operating meteorological and climate application satellites and missions. WMO is also a CGMS member as it has a unique role as representative of the world meteorological data user community.

Governed by its Charter, the objectives of CGMS are:

- To coordinate long-term and sustainable satellite systems relevant to weather and climate to which both operational and research and development space agencies contribute;
- Through close interaction with the WMO, to respond as far as possible to WMO's requirements and related programmes (e.g. WIGOS, IOC/UNESCO, and GCOS);
- 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 (the concept of "help thy neighbour"), 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;
- To provide a forum for the exchange of technical information on meteorological satellite systems and missions, such as reporting on the meteorological satellite status and future plans, telecommunications matters, operations, intercalibration of sensors, processing algorithms, products and their validation, archiving, data transmission formats and data transmission standards.

By nature, CGMS is a group were technical discussions on the previous items are taking place and relevant coordination decisions made. CGMS holds its plenary session on an annual basis and the discussions are organised along the following items:

- Global issues on satellite systems and telecommunication coordination;
- Satellite data and products;
- Operational continuity and contingency planning;
- Global data dissemination;
- Enhancing utilisation and improving quality of satellite products.

CGMS attaches considerable importance to enhancing the utilisation and improving the quality of satellite products in two particular areas; satellite soundings and satellite-derived winds.

Two international scientific working groups are supported by CGMS: The International TOVS Working Group (ITWG) focuses on satellite soundings and the International Winds Working Group (IWWG), established under the auspices of CGMS, addresses Atmospheric Motion Vectors (AMV) derivation algorithms and quality monitoring. These groups have made numerous contributions to improving the quality of sounding products and satellite-derived winds, and their deliberations are regularly reviewed at CGMS plenary sessions.

More recently, CGMS has prompted the establishment of two other international science groups which are highly important fora for discussing satellite-based rainfall estimates: The International Precipitation Working Group (IPWG); and the contribution of the radio-occultation technique to observing the atmosphere: The International Radio-Occultation Working Group (IROWG).

40 years | CGMS Achievements | 1972-2012

A number of concrete achievements have been made resulting from CGMS interactions over the years.

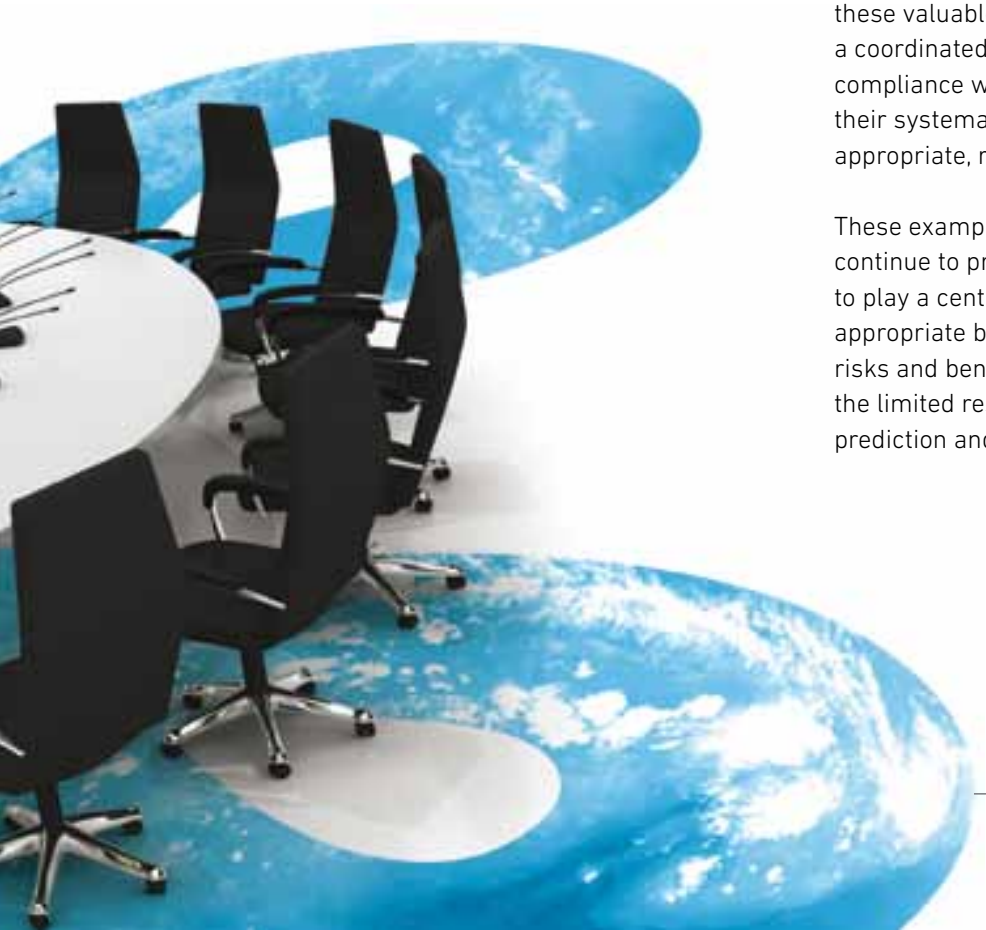
1. Establishment of a global baseline for geostationary coverage
2. Establishment of a global back-up framework/contingency planning ("help thy neighbour")
3. Optimisation of the Global Observing System (GOS) and response to the WMO vision for the space-based GOS in 2025
4. Standardisation of data dissemination formats and coordinated planning for the analogue to digital transition
5. Development of a common standard for the International Data Collection System (IDCS)
6. Development of an integrated strategy for data dissemination (GEONETCast)
7. Coordination of radio frequency allocations and protection of radio frequencies
8. Development of a coordinated approach to calibration and inter-calibration (GSICS)
9. Promotion and development of a coordinated framework for generating climate data records from space observations (SCOPE-CM)
10. Development of a framework for improving the quality of sounding products and atmospheric motion vectors
11. Facilitation of a common approach to archiving of data (essential for climate monitoring applications)
12. Promotion of training in the use of meteorological and other satellite data and the development of the Virtual Training Laboratory (VLab)

Bringing Benefits Through Vision

Looking ahead

Populations and economies around the world are becoming ever more sensitive to the impact of weather, and this has resulted in steadily increasing demands being placed on meteorological services from a variety of sectors (e.g. transport, insurance, health and defence). One component in this increased demand is the need for more accurate weather forecasting for the protection of life, property and infrastructure, including within the context of weather-related disasters, as well as for a wide range of commercial and private activities. Another component is the need for improved data in support of climate services (e.g. the Global Framework for Climate Services) to better understand and predict climate change and variability, and thereby support climate impact assessments and adaptation measures.

As satellite observations are now the dominant source of observational data for Numerical Weather Prediction Models, and are also essential for climate monitoring, meteorological services have responded to this evolving demand by placing more stringent requirements on meteorological satellite systems.



The deployment of new generations of meteorological satellite systems, which will have a much higher impact on forecast accuracy than predecessor systems, needs to be carefully coordinated in order to reap the maximum benefit for users from their more capable instrument complements, whilst minimising the overall costs.

Indeed, the operational and research and development systems of CGMS members are such that it should be possible to guarantee timely access to meteorological satellite data on a global scale through a combination of international coordination and cooperation, which represents a particularly valuable asset in the current difficult economic circumstances.

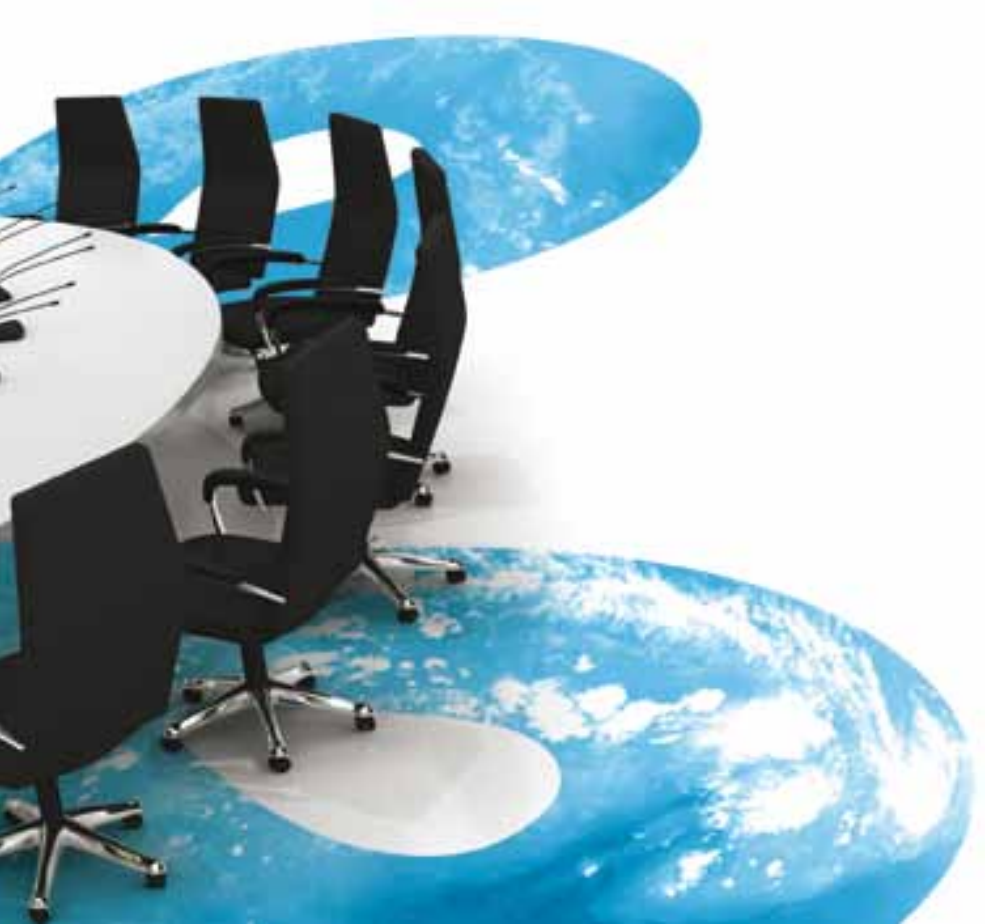
From a climate monitoring perspective, a fundamental building block for the provision of climate services will be the architecture for climate monitoring from space, and its associated repository of climate data records. CGMS members, with their holdings of long series of satellite observations (from which climate data records are derived) and their long-term programmatic perspective, are uniquely placed to make a substantial contribution to this architecture. To ensure that the maximum benefit is taken from these valuable observations for decision-making, a coordinated approach is required to ensure their compliance with GCOS requirements, as well as their systematic cataloguing, exposure and, where appropriate, re-processing.

These examples underscore the need for CGMS to continue to promote international cooperation and to play a central coordination role by striking an appropriate balance between affordability, operational risks and benefits to provide optimum value from the limited resources for both numerical weather prediction and climate services.

Bringing Benefits Through Representation

CGMS Secretariat

EUMETSAT, Europe's meteorological satellite organisation, is the Secretariat of CGMS since joining the group in 1987. The CGMS Secretariat represents CGMS Members in a number of international bodies such as the Committee on Earth Observation Satellites (CEOS) and its related Earth Observation International Coordination Working Group (EO-ICWG), Group on Earth Observation (GEO), and the Space Frequency Coordination Group (SFCG).



CGMS

Contact details
CGMS Secretariat c/o EUMETSAT
EUMETSAT-Allee 1
64295 Darmstadt, Germany

T: +49-6151-807 4190
F: +49-6151-807 6150
E: cgmssec@eumetsat.int
W: www.cgms-info.org