

Statement Reporting on Progress by the Committee on Earth Observation Satellites (CEOS) and Coordination Group for Meteorological Satellites (CGMS) on Coordinated Response to UNFCCC Needs for Global Observations

Conference of the Parties (COP23)/SBSTA-47,
6 - 17 November 2017, Bonn, Germany

The European Commission, on behalf of the Committee on Earth Observation Satellites (CEOS), is pleased to update the 47th session of the Subsidiary Body for Scientific and Technological Advice (SBSTA) on the coordinated response to the United Nations Framework Convention on Climate Change (UNFCCC) needs for global observations being implemented by CEOS and the Coordination Group for Meteorological Satellites (CGMS) Working Group on Climate.

CEOS and CGMS, international organizations of 60 Members and Associates and 15 Members, respectively, have had the honour to report on space agency activities to the UNFCCC on several previous occasions.

Space agencies and Earth Observation (EO) programme owners continue to evolve their systematic observation of the climate system, now over several decades, strengthening scientific knowledge on climate, supporting provision of knowledge-based information to climate services and to support decision making. Space agencies are doing this by implementing the Strategy Towards an Architecture for Climate Monitoring from Space, 2013 – developed by a team comprised of representatives from CEOS, CGMS, and the World Meteorological Organization (WMO). This architecture involves the identification of existing and potential future gaps in the provision of the climate data requested by the UN's Global Climate Observing System Programme (GCOS).

The consolidation of space agency and EO programme owners efforts through the establishment of the joint CEOS/CGMS Working Group on Climate has resulted in a significant increase in efficiency in responding to the needs of Systematic Observations as required by the Convention. In particular, this has led to three times as many climate data records submitted by agencies to the Essential Climate Variable (ECV) Inventory with respect to the first exercise implemented in 2015, with the current version having more than 900.

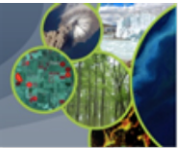
The synergistic relationship with the UN's GCOS Programme continues to strengthen. Here, CEOS and CGMS present a response to the 2016 GCOS Implementation Plan reiterating their commitment to address the Actions required for the implementation of the global observation system for climate.

CEOS and CGMS agencies have dedicated considerable efforts in recent years to the concerted analysis and development of innovative approaches to data structures and interfaces. These interfaces will, in particular, enable users interested in looking at climate adaptation issues at actionable scales to make a better use of long-term Earth observation datasets.

Space agencies and EO programme owners have been active in the UNFCCC context via SBSTA and have organized a coordinated response -- to the decisions in Paris at COP-21. They recognize that high quality greenhouse gas information will be essential to track progress toward the achievement of Nationally Determined Contributions (NDCs) and for stocktaking, and recognize a fundamental role for this information, integrated with ground based measurements and models in supporting a Monitoring and Verification System and the transparency framework. In this context, over the last year, space agencies and EO programme owners in CEOS and CGMS have started an activity to define a strategic architecture to meet the requirement of such a system, taking advantage of the competence of the current Virtual Constellation on Atmospheric Composition. This will build on the remarkable technical advancements shown by the several satellites already in operation which have accumulated synoptic greenhouse gas information for more than 8 years. Further to this, the advances made by the European Union in establishing its operational Earth Observation and Monitoring programme including both an Atmosphere service monitoring air quality and a Climate Change service should also be noted. These efforts fit into the broader context of the comprehensive CEOS Strategy for Carbon Observations from Space, which is pursuing additional relevant activities to better constrain the natural background carbon fluxes. In addition, space agencies and EO programme owners are actively engaging the refinement process of the IPCC TFI guidelines. This would ensure that space-based observations are appropriately represented as a significant contribution to the reporting process.

Finally, also on mitigation, CEOS continues to support the Global Forest Observations Initiative implementing the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation or REDD+.

* This report was delivered by the European Commission as the CEOS Chair Party.



CEOS Mission Statement

CEOS ensures international coordination of civil space-based Earth observation programs and promotes exchange of data to optimize societal benefit and inform decision making for securing a prosperous and sustainable future for humankind.

CEOS Agencies

(CGMS Agencies are asterisked)

Agencia Espacial Mexicana (AEM), Mexico	International Ocean Colour Coordinating Group (IOCCG)
Agence Gabonaise d'Études et d'Observations Spatiales (AGEOS), Gabon	International Society of Photogrammetry and Remote Sensing (ISPRS)
Agenzia Spaziale Italiana (ASI), Italy	MEXT (Ministry of Education, Culture, Sports, Science, and Technology/Japan Aerospace Exploration Agency (JAXA)*
Agensi Angkasa Negara (ANGKASA), Malaysia	Korea Aerospace Research Institute (KARI)
Australian Bureau of Meteorology (BoM)	Korea Meteorological Administration (KMA)*
Belgian Federal Science Policy Office (BELSPO)	National Aeronautics and Space Administration (NASA), USA*
Canada Centre for Mapping and Earth Observation (CCMEO)	National Oceanic and Atmospheric Administration (NOAA), USA*
Canadian Space Agency (CSA)	National Remote Sensing Center of China (NRSCC)
Centre National d'Études Spatiales (CNES), France*	National Satellite Meteorological Center/China Meteorological Administration (NSMC/CMA)*
Centro para Desarrollo Tecnológico Industrial (CDTI), Spain	National Space Agency of Ukraine (NSAU)
China Center for Resources Satellite Data and Applications (CRESDA)	National Space Research Agency of Nigeria (NASRDA)
Chinese Academy of Space Technology (CAST)	Netherlands Space Office (NSO)
Comisión Nacional de Actividades Espaciales (CONAE), Argentina	Norwegian Space Centre (NSC)
Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia	Russian Federal Space Agency (ROSCOSMOS)*
Crown Research Institute (CRI), New Zealand	Russian Federal Service for Hydrometeorology and Environmental Monitoring (ROSHYDROMET)*
Council for Scientific and Industrial Research (CSIR) South Africa	Scientific and Technological Research Council of Turkey (TÜBITAK-Uzay)
Deutsches Zentrum für Luft-und Raumfahrt (DLR), Germany	South African National Space Agency (SANSA)
Earth System Science Organisation (ESSO), India	Swedish National Space Board (SNSB)
European Commission (EC)	United Kingdom Space Agency (UKSA)
European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)*	United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)
European Space Agency (ESA)*	United Nations Educational, Scientific and Cultural Organization (UNESCO)
Geo-Informatics and Space Technology Development Agency (GISTDA), Thailand	United Nations Environment Programme (UNEP)
Geoscience Australia (GA)	United Nations Food and Agriculture Organization (FAO)
Global Climate Observing System (GCOS)	United Nations Office for Outer Space Affairs (UNOOSA)
Global Geodetic Observing System (GGOS)	United States Geological Survey (USGS)
Global Ocean Observing System (GOOS)	Vietnam Academy of Science and Technology (VAST)
Global Terrestrial Observing System (GTOS)	World Climate Research Programme (WCRP)
Indian Space Research Organisation (ISRO)*	World Meteorological Organization (WMO)*
Instituto Nacional de Pesquisas Espaciais (INPE), Brazil	
Intergovernmental Oceanographic Commission (IOC)*	
International Council for Science (ICSU)	
International Geosphere-Biosphere Programme (IGBP)	

*Denotes CGMS Agencies. In addition, China National Space Administration (CNSA), India Meteorological Department (IMD), and Japan Meteorological Agency (JMA) are CGMS Members.