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 (COP22)/SBSTA-45,
7 - 18 November 2016, Marrakech, Morocco

The United States of America, on behalf of the Committee on Earth Observation Satellites (CEOS), is pleased to update the 45th 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 honor to report on space agency activities to the UNFCCC on several previous occasions.

At the 21st session of the Conference of the Parties (COP) to the UNFCCC in 2015, at its 43rd session, the SBSTA noted the joint report of CEOS-CGMS on progress made by the space agencies providing global observations on their coordinated response to relevant needs of the Convention. It also urged relevant organizations to provide input and contribute to the review of the 2016 Global Climate Observing System (GCOS) Implementation Plan.

Space agencies continue to evolve their systematic observation of the climate system, strengthening scientific knowledge on climate and 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 GCOS. This effort includes coordination and optimization of the planning of future satellite missions and constellations, as well as activities to improve delivery of climate data.

Space agencies recognize that high quality greenhouse gas information will be essential to track progress toward the achievement of Nationally Determined Contributions (NDCs) and for stocktaking. Space agencies are considering how their data collection efforts can provide key greenhouse gas information for the Paris Agreement. Space agencies acknowledge the need to integrate satellite and in-situ Earth observations with advanced data assimilation techniques to improve techniques to quantify GHG sources and sinks at various scales. Implementation of the comprehensive CEOS *Strategy for Carbon Observations from Space* is guiding these efforts.

Space Agencies are further exploring avenues for countries to access and utilize satellite data to support adaptation and mitigation measures. This includes the implementation of the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation or REDD+.

As requested by SBSTA, CEOS and CGMS have actively supported the preparation of the GCOS 2016 Implementation Plan. CEOS and CGMS have commenced planning to prepare a comprehensive space agency response to the updated GCOS IP by the end of 2017, and will provide a status update to future SBSTA meetings, as invited by SBSTA.

* This report was delivered by the United States of America as the CEOS Chair country.

Committee on Earth Observation Satellites

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

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

Meteorological Agency (JMA) are CGMS Members.