

2013 CEOS Work Plan

2 February 2013

Introduction

The 2013 CEOS Work Plan has been developed by the CEOS Executive Officer (CEO) under the guidance of the CEOS Chair (CSA), in consultation with the CEOS Strategic Implementation Team Chair (NASA), CEOS Secretariat, CEOS Working Groups, Virtual Constellations, the CEOS membership at large, and CEOS's external stakeholders. The purpose of the document is to set the priorities and outline the activities of CEOS during the 2013 calendar year. Given the anticipated implementation of recommendations from the CEOS Self Study (CSS), the expressed priorities and outlined activities of this Work Plan are expected to remain consistent over a three-year time frame. Therefore, this Work Plan is likely to need only minor revisions on an annual basis.

Overview

The mission of CEOS is to:

- Optimize benefits of spaceborne Earth observations (EO) through cooperation of its Members in mission planning and in development of compatible data products, formats, services, applications and policies;
- To serve as a focal point for international coordination of space-related EO activities; and,
- To exchange policy and technical information to encourage complementarity and compatibility of observation and data exchange systems.

These three elements of the CEOS mission have significant dimensions of internal, interagency coordination, and external consultation and coordination of outputs in response to the needs of key stakeholders. These stakeholders consist of national governments, including their participation in the Group of Eight (G8) and the Group of 20 (G20) Industrialized Nations, the intergovernmental Group on Earth Observations (GEO), and treaties and global programs affiliated with the United Nations.¹ CEOS works closely with these stakeholders and their constituent organizations to achieve common objectives.

CEOS Priority Objectives for 2013

As decided at the 2012 CEOS Plenary meeting in Bangalore, India, CEOS Agencies will continue to enhance their cooperation to support more effective societal decision-making in the areas of climate monitoring and research, carbon observations, including observations to support the effective monitoring and management of the world's forested regions, food security, disaster risk management, capacity building, and data availability and access. CEOS Working Groups and Virtual Constellations will expand their technical and scientific coordination to support these objectives, and improve the overall level of complementarity and compatibility of their

¹ These treaties, international organizations, and international programs include the UN Framework Convention on Climate Change (UNFCCC), the UN Commission on Sustainable Development (UNCSD), the UN Office for Disaster Risk Reduction (UNISDR), and the UN Convention on Biodiversity (UNCBD), among others.

Earth observation and data management systems for societal benefit. CEOS will consider other requests from external stakeholders and determine what, if any, support is possible and appropriate. CEOS will also continue its outreach and communications efforts. And concurrently with all these activities, CEOS will continue its consideration of 2011 CEOS Self-Study recommendations, with near-term (*e.g.*, 1-3 years) decisions anticipated on its organization, structure, decision-making processes, and stakeholder relations.

CEOS's internal and external coordination involves a considerable number of tasks supported by the full range of CEOS participants:

- the CEOS Chair and the CEOS Strategic Implementation Team (SIT) Chair;
- the CEOS Secretariat
- the CEOS Troika
- the Working Groups (Calibration and Validation; Information Systems and Services; Climate; and Capacity Building and Data Democracy);
- the Virtual Constellations (Atmospheric Composition, Land Surface Imaging, Ocean Surface Topography, Ocean Surface Vector Wind, Ocean Color Radiometry, Precipitation, and Sea Surface Temperature);
- the CEOS-GEO Societal Benefit Area (SBA) Coordinators;
- the CEOS Systems Engineering Office (SEO);
- CEOS membership at large; and,
- the CEOS Leadership Support Team (the CEO and DCEO)
- the *ad hoc* Working Groups on Space Data Coordination for Global Forest Observations Initiative, Disaster Risk Management, GEO Global Agricultural Monitoring, and Carbon Task Force.

This document is intended to provide overall guidance for CEOS on expected outcomes for CEOS and its stakeholders in 2013. To be comprehensive, the Plan addresses all related initiatives by CEOS Agencies and subsidiary groups at a general level of understanding. Specific details of support to these outcomes will be maintained by the respective actionees (*e.g.*, CEOS Agencies, standing and *ad hoc* Working Groups, Virtual Constellations, task teams, etc.), and reported as appropriate via updates to the on-line CEOS-GEO Action Tracking System (located at <http://ceos-actions.com:8080/CEOS/ceos? dm flow=user2& dm event=actions>).

For the GEO 2012-2015 Work Plan, CEOS Agencies will support a wide range of Tasks and Components. CEOS representatives will participate in GEO Implementation Boards and the GEO Data Sharing Working Group, to ensure progress and close alignment of CEOS and GEO priorities and objectives. CEOS representatives will continue their participation in GEO's Post-2015 Working Group to chart GEO's future development, and the role that CEOS may play in GEO. CEOS will also participate in the GEO Ministerial Summit Working Group, to review progress of implementation against the GEOSS Strategic Targets which will be reported at the GEO Ministerial Summit, to be held in conjunction with GEO-X Plenary.

SUMMARY OF EXPECTED OUTCOMES FOR 2013

The expected outcomes for 2013 reflect the ongoing and emerging priorities of CEOS, as reflected in its internal decision-making and its external commitments. They are intended to enable the development of the Global Earth Observation System of Systems (GEOSS), with a particular focus on improved Earth observation (EO) systems coordination and enhanced data access for key global programs and initiatives.

1. Climate Monitoring and Research

- 1.1 Development of Climate Data Records (CDRs) and related datasets addressing Essential Climate Variables (ECVs) established by the Global Climate Observing System (GCOS);
- 1.2 Continued cooperation with GEO, GCOS, the World Meteorological Organization (WMO), and the Coordination Group for Meteorological Satellites (CGMS) in the development of a space-based system to support climate information and adaptation;
- 1.3 Further alignment of the Virtual Constellations (VCs) objectives as building blocks of the space-based climate information strategy and as contributions to facilitating the observation of ECVs, as defined in the *CEOS Response to the Satellite Supplement of the 2010 GCOS IP*; and

2. Carbon Observations, including Observations to Support the Effective Monitoring and Management of the World's Forested Regions

- 2.1. CEOS leadership within and support to GEO Global Forest Observation Initiative (GFOI); and,
- 2.2. Publication of the *CEOS Strategy for Carbon Observations from Space*.

3. Food Security

- 3.1. Continued support to the Joint Experiments on Crop Assessment and Monitoring (JECAM) initiative.

4. Disaster Risk Management

- 4.1. Enhanced support for Disaster Risk Management (DRM); and
- 4.2. Continued support to the Geohazards Supersites and Natural Laboratories initiative

5. Capacity Building and Data Availability and Access

- 5.1. Advancement of CEOS Data Democracy activities;
- 5.2. Continued support to the development and operationalization of the GEOSS Common Infrastructure (GCI) and its CEOS-related elements; and,
- 5.3. Continued CEOS leadership of, and support to, the Quality Assurance for Earth Observations (QA4EO) initiative.

6. CEOS Support to Further Key Stakeholder Initiatives

- 6.1. Decision on whether and how CEOS Agencies may provide coordinated data acquisition support to the GEO Global Agricultural Monitoring (GEOGLAM) initiative;

- 6.2. Continued dialogue on potential CEOS contributions to Integrated Water Cycle products and services;
 - 6.3. Continued dialogue on potential CEOS contributions to the GEO Biodiversity Observation Network (GEO BON);
 - 6.4. Dialogue on potential enhanced CEOS-level coordination to support improved research and monitoring of the Earth's Polar Regions; and
 - 6.5. Determination of the level and scope of engagement of the four ocean-related Virtual Constellations in the GEO Blue Planet Task.
- 7. Continued and Enhanced CEOS Outreach to Key Stakeholders: GEO, UNFCCC, UN ISDR, UN CBD, G8/G20, and Others**
- 7.1. Engagement, attendance, and where appropriate, strategic involvement, reporting on CEOS achievements, and presentations at key meetings;
 - 7.2. Maintenance to CEOS online services such as the CEOS website and Missions, Instruments and Measurements (MIM) database; and,
 - 7.3. Publication of the CEOS Newsletter.
- 8. Adoption of Recommendations from the 2011 CEOS Self-Study**
- 8.1. Development of strategic guidance documents, stemming from participative analysis and options proposed by the CEOS Self-Study Implementation Initiative (CSSII).
 - 8.2. Plenary review and adoption of CSSII proposed options for refinement.

DETAILS OF EXPECTED OUTCOMES FOR 2013

1. Climate Monitoring and Research

- 1.1. Development of Climate Data Records (CDRs) and related datasets addressing Essential Climate Variables (ECVs) established by the Global Climate Observing System (GCOS):** Through its Working Group on Climate (WGClimate), CEOS Agencies will continue to support the following major activities: Analysis of CEOS contributions to the outputs for monitoring of ECVs and identification of multi-agency teams for each ECV; completion of an agency survey of current ECV datasets; establishment of an overall comprehensive planning and review process for consequent actions; and, maintenance of a link to the Intergovernmental Panel on Climate Change (IPCC) modeling community to facilitate the inter-comparison of model outputs and data.
- 1.2. Continued cooperation with GEO, GCOS, the World Meteorological Organization (WMO), and the Coordination Group for Meteorological Satellites (CGMS) in the development of a space-based system to support climate information and adaptation:** CEOS will support the enhancement of and updates to Component 2 of GEO Task CL-01 (*Accelerated Implementation of the Global Climate Observing System*) as an umbrella framework for improved coordination of space agency activities related to climate. As part of this framework, CEOS will continue its cooperation with

GEO, GCOS, WMO, and CGMS in the further definition and adoption of Agency implementation actions related to the *Architecture for Climate Monitoring from Space*. CEOS will also establish a closer relationship with CGMS, ensuring representation at key meetings. CEOS will also consider how to address the WMO's Global Framework for Climate Services (GFCS).

- 1.3. Further alignment of the Virtual Constellations (VCs) objectives as building blocks of the space-based climate information strategy and as contributions to facilitating the observation of ECVs, as defined in the *CEOS Response to the Satellite Supplement of the 2010 GCOS IP*:** Development of the Global Earth Observation System of Systems (GEOSS) space component requires coordination of EO systems and their data to deliver information which helps decision-makers detect, monitor, and understand Earth system change. For this purpose, CEOS Agencies have taken a commitment to provide the building blocks of the GEOSS space component. Virtual Constellations (VCs) are, by their own definition, ideal candidates for such building blocks. The objective of developing a strategy for climate monitoring from space offers the first and important opportunity for the VCs' practical application. VC teams, working in close consultation with the *Climate Monitoring Architecture* and CEOS's strategy to support it. This work is intended to ensure that EO information in support of the GCOS ECVs is retrieved in a mutually-consistent and beneficial cross-domain manner.

2. Carbon Observations, including Observations to Support the Effective Monitoring and Management of the World's Forested Regions

- 2.1 CEOS leadership within and support to GEO Global Forest Observation Initiative (GFOI):** Through its *ad hoc* Space Data Coordination Group (SDCG), CEOS will seek to demonstrate continued technical and organizational capacity to sustain the acquisition of wall-to-wall satellite data for the Earth's forested regions. This activity will support the further development of a CEOS global, operational system for acquiring satellite data. Objectives include repeat coverage of National Demonstrator (ND) sites; an increased focus on high resolution acquisitions over specified Verification Sites; and expanded coverage for an increased number of participating countries. Through the SDCG, CEOS will determine and help implement the needed data acquisition activities to support a systematic, global and operational framework for GFOI. A supporting GFOI Global Data Acquisition Strategy is expected to be finalized for CEOS review and confirmation of Agency resources by the time of the March 2013 CEOS SIT meeting.
- 2.2 Publication of the *CEOS Strategy for Carbon Observations from Space*:** The CEOS Carbon Task Force (CTF) has provided CEOS Agency representation in the development of the GEO Carbon Strategy Report and the establishment of the GEO Carbon Community of Practice (CoP). One of the first actions of the CoP was to develop the GEO Carbon Strategy, which can become a significant and defining document for the GEO community. The CTF will continue its development of the CEOS response to the GEO Carbon Strategy, in the form of the *CEOS Strategy for Carbon*

Observations from Space. The report will address the three domains -- atmospheric, oceanic and terrestrial -- and their interfaces. The final version of the report is scheduled for delivery by the end of May 2013.

3. Food and Water Security

3.1 **Continued support to the Joint Experiments on Crop Assessment and Monitoring (JECAM) initiative:**

JECAM was initiated in 2009 by the GEO Agriculture Monitoring Community of Practice (CoP) to enhance collaborative international research on agriculture through use of remotely-sensed EO. In 2011, CEOS initiated efforts to supply JECAM users with relevant remote sensing data through a coordinated EO data acquisition program of CEOS Agencies and commercial data providers. CEOS will continue its data acquisitions for support to JECAM research at selected sites for both Northern Hemisphere and Southern Hemisphere growing seasons. It is expected that these acquisitions will continue through the end of 2014 – the initially scheduled conclusion of the JECAM project. CEOS Agencies will liaise with the JECAM Project Office as it continues its research and development support for the GEO/G20 Global Agricultural Monitoring (GEOGLAM) initiative.

4. Disaster Risk Management

4.1 Enhanced support for Disaster Risk Management (DRM): CEOS Agencies will define a Global Satellite Observation Strategy for DRM, to include a detailed assessment of needs, gaps and definition of EO requirements. The strategy will focus first on three types of disaster: floods, earthquakes, and volcanoes. CEOS Agencies will also seek to define a DRM Baseline Dataset, which would consist of no-cost data for selected observations, disaster themes, and geographic areas. CEOS representatives will maintain a close dialogue with GEO and UN experts to ensure appropriate recognition for the use of space-based EO within the 2015-2025 Post-Hyogo Framework for Action (HFA). CEOS DRM activities are intending to include and leverage existing disaster-related efforts supported by CEOS Agencies, including work on the GEOSS disasters and risk management architecture conducted by WGISS. This activity will also take into account ongoing CEOS Agencies' regional pilot projects such as flood risk mitigation, warning, and recovery, and development of a more reliable warning tool for volcanic ash monitoring. An important parallel task to prepare the 2014 implementation activities will be the identification of the major stakeholders, including potential donors.

4.2 **Continued support to the Geohazards Supersites and Natural Laboratories initiative:**

The Geohazards Supersites and Natural Laboratories Initiative aims to improve our knowledge of geophysical processes posing geohazards, with an initial focus on earthquakes and volcanoes. The effort is led by a global partnership of scientists, satellite and *in situ* data providers (multi-sensor InSAR, seismic, GPS, etc.) and is compiling comprehensive data sets for a few selected sites of high priority intended to

be used in research in support of increased understanding of the hazards. In support of this initiative, a subgroup of the CEOS Disaster SBA Team, formally titled the Supersites Coordination Team (SCT), has liaised with GEO to formalize procedures for determination of sites which may be supported by CEOS Agencies' coordinated space-based EO data acquisitions. GEO-initiated proposals will be evaluated in accordance with the Supersites selection process agreed to by the 2012 CEOS Plenary. Related to 2.2. The subgroup will continue to review proposed Supersites and develop appropriate CEOS measures to coordinate data acquisition and provision for these sites.

5. Capacity Building and Data Access and Availability

5.1 Advancement of CEOS Data Democracy activities: In accordance with GEO's three-year (2012-2015) Work Plan, the Working Group for Capacity Building and Data Democracy (WGCapD) will work closely with GEO to enhance access to and application of space-based EO data. This will include WGCapD-coordinated access to and training for the use of high-resolution Digital Elevation Models (DEMs) on a country-by-country basis, beginning with selected African countries (South Sudan and Somalia) in 2013. WGCapD members will also launch a 180-hour e-learning course to teach university professors the benefits of incorporating space-based EO into their classes, with an initial focus on Nigeria, Kenya, and South Africa.

5.2 Continued support to the development and operationalization of the GEOSS Common Infrastructure (GCI) and its CEOS-related elements: Through the Working Group on Information Systems and Services (WGISS), CEOS Agencies will foster the implementation and enhancement of the GEOSS Common Infrastructure (GCI) through continued development and coordination of tools that improve discovery, interoperability, and access to satellite data such as the CEOS WGISS Integrated Catalogue (CWIC), the International Directory Network (IDN), and the Heterogeneous Missions Accessibility (HMA) protocol-based system. WGISS will investigate opportunities and obstacles for interoperability of HMA and CWIC, and make recommendations to CEOS leadership in the further coordinated development of both systems, including consideration for how to work with GEO. WGISS will also work with the CEOS Systems Engineering Office (SEO) to optimize the use of portals sponsored by CEOS Agencies, Virtual Constellations, and SBA Teams, to enhance dataset discovery and access by users.

5.3 Continued CEOS leadership of, and support to, the Quality Assurance for Earth Observations (QA4EO) initiative: The Working Group on Calibration and Validation (WGCV) will work closely with the GEO Secretariat to encourage widespread adoption of QA4EO principles (including quality indicators and confidence levels) within future and, where possible, current CEOS activities. Initial focus will be on QA4EO implementation in the areas of Forest Carbon Tracking, climate/ozone, and global

elevation data. Routine project facilitation and support to CEOS Agencies will be provided by a dedicated QA4EO Secretariat.

6. CEOS Support to Further Key Stakeholder Initiatives

6.1 Decision on whether and how CEOS Agencies may provide coordinated data acquisition support to the GEO Global Agricultural Monitoring (GEOGLAM) initiative:

In response to a request by GEO, an *ad hoc* CEOS Working Group on GEOGLAM has further developed the space-based EO component of the GEOGLAM Work Plan. Building upon the outcomes of ongoing CEOS-GEOGLAM user requirements and space data coordination activities, the Working Group will provide to CEOS leadership its analysis on further steps *vis-à-vis* the GEOGLAM initiative – including a plan for the pre-2015 outcomes. The March 2013 CEOS SIT meeting will determine if sufficient CEOS Agency resources exist for a phased implementation approach to space data acquisition to support GEOGLAM user requirements. This activity will include consideration of possible synergy between GEOGLAM and GFOI data acquisition activities, through close consultation with the CEOS SDCG for GFOI.

6.2 Continued dialogue on potential CEOS contributions to Integrated Water Cycle products and services:

The CEOS Water SBA Coordinator will work with CEOS Agencies to develop and coordinate Members' input on a draft GEO Water Cycle Strategy Report. CEOS will engage with GEO to identify specific ways in which CEOS can support improved water cycle products and services, including the Water Cycle Integrator (WCI), and through data portals (including CEOS Water Portal) and satellite data provision, validation, and capacity development for regional initiatives in Asia, Africa and Latin America.

6.3 Continued dialogue on potential CEOS contributions to the GEO Biodiversity

Observation Network (GEO BON): The CEOS Biodiversity SBA Coordinator will work with CEOS Agencies in close consultation with the GEO Biodiversity Observation Network (GEO BON) to better define GEO BON user requirements and assess related CEOS Agencies' observations capabilities in support of the 2020 targets for the UN Convention on Biodiversity (CBD). Using an approach similar to that which was implemented for ECVs, CEOS will consult with GEO BON and CBD representatives to better define CBD-related Essential Biodiversity Variables (EBVs) that may be supported by space-based EO. CEOS representatives will participate in ongoing data provider/user community consultations on this topic, to assess the potential level of CEOS support and make appropriate recommendations to CEOS leadership.

6.4 Dialogue on potential enhanced CEOS-level coordination to support improved

research and monitoring of the Earth's Polar Regions: CEOS Agencies will maintain a dialogue with GEO, CGMS, and the World Meteorological Organization (WMO) on their respective interests and coordination initiatives relating to Polar observations.

CEOS Agencies will consider the best means to interact with the WMO Polar Space Task Group (PSTG) to facilitate acquisition and distribution of fundamental satellite datasets for the development of specific information products for polar research and applications (e.g., cryospheric, atmospheric, etc.). Data acquisition will be done in 2013 to create a complete up-to-date map of Antarctic, Arctic, and Greenland ice sheets. Major glaciers will also be covered at high resolution to assess their evolution. In addition, CEOS will investigate the formation of a SAR data provision working group under CEOS leadership.

6.5 Determine the level and scope of engagement of the four ocean-related Virtual Constellations in the GEO Blue Planet Task: the Ocean Colour Radiometry, Ocean Surface Topography, Ocean Surface Vector Wind, and Sea Surface Temperature VCs, in collaboration with the WGClimate, will participate in a CEOS Oceans Summit to address key activities where CEOS entities can make significant contributions to the newly developed Blue Planet Task of GEO. Additionally, CEOS will consider how best to capitalize on the existence of the four ocean-related Virtual Constellations by reviewing and investigating the feasibility of creating an overarching entity for operational oceanography.

7. Continued and Enhanced CEOS Outreach to Key Stakeholders: GEO, UNFCCC, UN ISDR, UN CBD, G8/G20, and Others

7.1 Engagement, attendance, and where appropriate, strategic involvement, reporting on CEOS achievements, and presentations at key meetings: As a part of the development of CEOS deliverables, increased and improved connections between CEOS and its stakeholders are desired. Expanded linkages will be sought through CEOS leadership and the national delegations of CEOS Agencies, to inform ministers of CEOS Earth observation products and coordination efforts and to enlist appropriate G20/G8 support for enhanced Earth observation coordination. CEOS should highlight CEOS achievements in global change monitoring and significance of long-term satellite observation capabilities in statements to key high-level meetings. Key 2013 meetings identified for CEOS liaison include the GEO Plenary and Ministerial Summit, the UN Framework Convention on Climate Change 19th Council of the Parties (COP-19, December 2013), and the UN Global Platform for Disaster Risk Reduction (May 2013).

7.2 Maintenance to CEOS online services such as the CEOS website and Missions, Instruments and Measurements (MIM) database: The CEOS Missions, Instruments and Measurements (MIM) database is the only official consolidated statement of CEOS Agency programs and plans. The SEO has developed a number of analysis and visualization tools as the basis for application of this information in support of adequacy analyses. Together, these resources represent the cornerstone of CEOS capability to undertake informed coordination decisions. The continued development of these resources is planned for 2013, with a particular focus on engaging them for ECV development and observational gap analyses.

7.3 Publication of the CEOS Newsletter: CEOS will continue the publication of this valuable, long-standing communication tool. It will be issued twice per year.

8. Adoption of Recommendations from the 2011 CEOS Self-Study

8.1 Development of strategic guidance documents, stemming from participative analysis and options proposed by the CEOS Self-Study Implementation Initiative (CSSII):

Three documents will be prepared in 2013: Strategic Guidance Document (10-12 year longevity); CEOS Governance and Processes (5-7 year longevity); and Work Plan (3-year longevity, updated annually).

8.2 Plenary review and adoption of CSSII proposed options for refinement: The CSS, led by the NASA SIT Chair Team with strong participation from the CEOS community, was intended to facilitate the work of CEOS as it tackles the challenges and opportunities ahead in providing coordination of civilian space-borne observations of Earth. The Study identified CEOS's past successes, strengths, opportunities, and areas of challenge. Its strategic goal was to inform CEOS as it goes forward, through an analysis of lessons learned, input from CEOS Agencies, and assessment of current CEOS structure, achievements and challenges, and to provide recommendations for potential changes and potential new initiatives for the next 3-5 years. Five themes dominated the results of the CSS: CEOS objectives and achievements; decision-making, initiatives, and follow-through; CEOS structure, governance, and documentation; CEOS Member/Associate participation; and, meeting structure, objectives, and conduct. Throughout 2013, CEOS will review and further develop the recommendations and possible options associated with these topics, and decide upon their adoption/implementation at the 2013 CEOS Plenary.

RESOURCES AND RESPONSIBILITIES

	SIT Chair	VCs	Troika	SBA Coords.	CEOS SEC	CEO/DCEO	Chair	WGs	SEO	Lead Responsibility
1. CLIMATE MONITORING AND RESEARCH										
Development of CDRs and Related Datasets Addressing the GCOS ECVs				✓		✓	✓	✓	✓	WGClimate
Development of Space-Based System to Support Climate Information and Adaptation		✓						✓		WGClimate
Use of VCs for Space-Based Climate Information	✓	✓		✓		✓	✓	✓	✓	SIT Chair
2. CARBON OBSERVATIONS, INCLUDING OBSERVATIONS TO SUPPORT THE EFFECTIVE MONITORING OF THE WORLD'S FORESTED REGIONS										
CEOS Leadership/Support for GFOI	✓	✓			✓	✓	✓	✓	✓	SDCG for GFOI
CEOS Strategy for Carbon Observations from Space	✓				✓		✓	✓		Carbon Task Force
3. FOOD SECURITY										
Continued Support to JECAM	✓	✓		✓						Agriculture SBA Coordinator
4. DISASTER RISK MANAGEMENT										
Enhanced Support for DRM	✓			✓		✓	✓	✓	✓	<i>Ad hoc</i> DRM WG and Disaster SBA Coordinator
Continued Support to the Geohazards SSNL Initiative				✓				✓		Disaster SBA Supersite Coordination Team (SCT)
5. CAPACITY BUILDING AND DATA AVAILABILITY AND ACCESS										
Advancement of Data Democracy Activities	✓			✓			✓	✓	✓	WGCapD
GCI Development and Operationalization	✓							✓	✓	WGISS
Continued Leadership of and Support to QA4EO	✓	✓		✓				✓		WGCV
6. CEOS SUPPORT TO FURTHER KEY STAKEHOLDER INITIATIVES										
CEOS Decision on Phased Implementation of GEOGLAM Support	✓	✓		✓		✓	✓		✓	<i>Ad hoc</i> GEOGLAM WG
Continued Dialogue on Water Cycle Products and Services	✓	✓		✓			✓	✓	✓	Water SBA coordinator
Continued Dialogue on GEO BON	✓	✓		✓		✓	✓		✓	Biodiversity SBA Coordinator
Dialogue on CEOS Support for Improved Polar Research/Monitoring	✓			✓	✓	✓	✓			CEOS Chair
Ocean VCs and Blue Planet Task	✓	✓				✓	✓			Ocean VCs
7. CONTINUED AND ENHANCED CEOS OUTREACH TO KEY STAKEHOLDERS										
Attendance at/Liaison to Key Stakeholders' Meetings	✓	✓	✓	✓	✓	✓	✓	✓	✓	CEOS Chair
Maintenance of CEOS online Services						✓	✓		✓	SEO, ESA
CEOS Newsletter					✓					JAXA
8. ADOPTION OF RECOMMENDATIONS FROM THE 2011 CEOS SELF-STUDY										
Development of Strategic Guidance Documents	✓									SIT Chair
Adoption of CSS Recommendations	✓				✓		✓			SIT Chair
GENERAL ADMINISTRATION										
2013 CEOS Work Plan Management						✓	✓			CEOS Chair
2013 CEOS Implementation Plan Update	✓					✓				SIT Chair