



Minutes from the

CEOS Actions Workshop

14 – 15 February 2012

in

Embassy Suites, Crystal City,
Arlington, USA

**Compiled by Marie-Claire Greening
Greening Consulting Ltd**

Version 1.0

1 WELCOME AND OPENING REMARKS; WORKSHOP OBJECTIVES

Timothy Stryker (USGS; CEOS Executive Officer [CEO]) welcomed those present to the meeting. Michael Freilich (NASA; CEOS Strategic Implementation Team [SIT] Chair) thanked the CEO and Deputy CEO, Kerry Sawyer (NOAA) for all their work in preparing for the workshop. Freilich also thanked Brian Killough (NASA; CEOS Systems Engineering Office [SEO]) and his team for the logistical planning.

Freilich explained that the plan for the workshop was to map out the CEOS actions that would be presented to external stakeholders and that define what CEOS as an organisation is doing. He stressed that all agencies have to take active and participatory roles in defining these activities to ensure coordination. The Water, Disasters and Health Societal Benefit Area (SBA) teams had held productive meetings the previous day, and Freilich thanked the people who led those meetings. Kiran Kumar (ISRO), Freilich, Stryker, Sawyer, and Christine Bognar (NASA) recently met with José Achache (Director, Group on Earth Observations [GEO] Secretariat) and with Barbara Ryan (future Director, GEO Secretariat) to discuss overlapping CEOS and GEO priorities and ways CEOS can support GEO in 2012, especially the new 2012-2015 GEO Work Plan. Internally, CEOS is moving forward after completion of a recent self-study, with other advancements planned over the next few years.

Stryker thanked Freilich for his time and guidance, and for NASA's continued support. He thanked the SEO for all their assistance, both in general and specifically at this meeting. Stryker explained that the ensuing dialogue at this meeting would be largely interactive and inputs were welcomed at any time from the floor.

Stryker also provided an overview of the Workshop objectives:

- Review the proposed 2012 CEOS Work Plan
- Close-out / remap remaining 2011 Actions
- Review CEOS support to the GEO 2012-2015 Work Plan
- Develop / document 2012 CEOS-GEO Actions
- SIT-27 preparation

A tour de table was undertaken.

2 GEO SECRETARIAT REPORT

Espen Volden (GEO Secretariat) presented the new GEO 2012-15 Work Plan and outlined some of the relevant 2012 GEO priorities for CEOS. Volden outlined the GEO Task Teams and the roles of the designated points of contact (PoCs). The vision for GEO's Global Earth Observation System of Systems (GEOSS) is "a world where decisions and actions are informed by coordinated, comprehensive and sustained Earth Observations". A new global agricultural monitoring initiative was launched by G20 to enable global and regional monitoring to support commodity price stability, and strengthen national decision-making capacities.

Lawrence Friedl (NASA) asked if the GEO Secretariat had any plans to recognise those Component Leads that have really made contributions to the completion of their Tasks and to GEO. Volden responded that there are currently no plans for reward but agreed that this would be an inspiring idea. Killough reported that CEOS would like to ensure a link with the CEOS online action tracking approach and with the online GEO Task Sheets. Volden explained that 31 January 2012 had been the original deadline for completion of the GEO Task Sheets (also referred to as Component Sheets) and that updates could be made thereafter as often as required. CEOS is Component POC for four Tasks and therefore responsible for completing four Task Sheets.

The GEO Work Plan Symposium, to be held 30 April – 2 May 2012, is the next major event in the definition and agreement of the Work Plan and its Tasks. During this Symposium, each of the 26 Tasks of the Work Plan will be addressed in 30-minute blocks. This will include presentation of the Task and then discussion to identify synergies with other Tasks to ensure “cross-fertilisation” – this is a key focus for the Symposium. Through these discussions it is also hoped to define progress monitors and to identify gaps and issues. There will be opportunities around the main meeting times for the three implementation boards and for the Task Teams to meet.

Ivan Petiteville (ESA) suggested that it should be clear how the CEOS / GEO actions would be updated within the main GEO Task Sheets. In the past, the linkage has been lacking between the Task Sheets and the CEOS Actions. Petiteville also stressed the importance of ensuring that the CEOS contribution is highlighted in the Task Sheets.

Volden reported that the major GEO priorities for the next few years are:

- Forest Carbon Tracking (FCT) / Global Forest Observations Initiative (GFOI)
- Food security (JECAM, GEO-GLAM)
- Supersites
- GEO BON / Biodiversity
- Water cycle
- GCI and data availability

Specifically for these, data provision is crucial and so it is important for CEOS to be heavily involved. Petiteville suggested that these priority areas had been very successful because of the active presence of major stakeholders and players, such as the World Bank and major international aid organisations. It may be a lesson to learn for future topics to ensure that the right key players become involved to ensure success.

3 OVERVIEW OF THE CEOS 2012 WORK PLAN

Stryker presented the CEOS Work Plan for 2012. The Plan is orientated towards outcomes and focuses on improved coordination of the space agencies in relation to climate. Progress is geared towards the established CEOS / GEO priorities and considers the CEOS support to further key GEO priority initiatives. The Work Plan aims to continue and enhance CEOS outreach to key stakeholders such as GEO, COP, UNFCCC, SBSTA and G8 / G20.

4 CLOSEOUT OF 2011 CEOS-GEO ACTIONS & REMAPPING OF OPEN 2011 CEOS-GEO ACTIONS TO 2012-2015 GEO WORK PLAN

Sawyer lead the discussion through the closeout of the 2011 CEOS / GEO Actions. These were updated in real-time during the meeting in the online CEOS-GEO Action Tracking System. Those Actions that were not closed were remapped into 2012 Actions.

It was identified that updating the relevant fields within the CEOS-GEO Action Tracking System would be required more often than had been undertaken during 2011. Petiteville suggested the need to impose more authority for requiring an update. He suggested sending an (automatically generated) email once a month or so to remind people to update their information. Following further discussion, Killough agreed to investigate ways to auto-generate email reminders (*Action 1*).

All parties were asked to provide updates on all 2011 Actions to the CEO / DCEO as soon as possible, but by the end of February 2012 at the latest (*Action 2*).

5 REVIEW OF CEOS CONTRIBUTIONS TO GEO WP TASKS AND COMPONENTS

Sawyer outlined the CEOS participation within the GEO Work Plan management structure, and highlighted the CEOS Task and Component Leads.

IN-01-C2 (Development and Coordination of Space-Based Observing Systems): Bogner explained that NASA is beginning an information gathering and coordination effort with the Constellation teams, working towards a portfolio of actions to be placed under IN-01-C2. Greg Stensaas (USGS; CEOS Working Group on Calibration and Validation (WGCV) Chair) added that coordination issues had been discussed within the WGCV. The Land Surface Imaging (LSI) Constellation had also come across these issues and it would be good to have an action that addressed this. Patricia Jacobberger-Jellison (NASA; SIT team) explained that, at SIT-27, there would be dedicated time to discuss these issues further.

IN-01-C3 (Promotion and Coordination across Surface-based and Space-based Observing Systems): Jacobberger-Jellison explained that coordination throughout *in situ* networks is being looked at in the United States. This could feed in through the USGEO and the global change research programme.

IN-02-C1 (Advances in Life Cycle Data Management): John Faundeen (USGS) explained that activities undertaken within the CEOS Working Group on Information Systems and Services (WGISS) are addressing long term data preservation issues, which support a GEO priority action under IN-02-C1. Stensaas added that the calibration and/or validation of the datasets should also be included in this work, so there is probably some overlap between the two Working Groups.

IN-02-C2 (Development of Regional/Global Information and Cross-Cutting Datasets): Stensaas reported that there had been a recent proposal for a Digital Elevation Model (DEM) interoperability task, focused on global elevation monitoring of shoreline areas.

IN-03-C1 (Evolution and Enhancement of the GEOSS Common Infrastructure [GCI]): Satoko Miura (JAXA, CEOS WGISS Chair) reported that this action had already been generally defined, but would be refined after the WGISS-33 meeting to be held in April 2012.

IN-03-C2 (Operations and Maintenance of GCI Components): No CEOS involvement in this Component was foreseen.

IN-04-C2 (GEONETCast): Brent Smith (NOAA) suggested that CEOS had a role to play in GEONETCast as this involved fundamental efforts to look at products that could be distributed to developing countries. Smith suggested that CEOS should connect better with GEONETCast, specifically related to capacity building. Jacob Sutherlun (NOAA; CEOS Working Group on Capacity Building and Data Democracy (WGCapD) Vice-Chair) explained that an agenda item had been placed at the upcoming WGCapD meeting in Ilhabela, Brazil. Sawyer added that it is a priority action for GEO to expand interaction with networks of users, so CEOS should support this.

ID-01-C1 (Advancing GEOSS Data Sharing Principles): Stryker reported that the SEO is to conduct an inventory of data availability and accessibility. This could form an element of the data information sharing initiative for GEO. Sawyer added that agencies were being encouraged to submit their datasets and to make sure that they are Data-CORE compliant. This is already a priority CEOS action, and CEOS can support this GEO priority action. Sawyer is participating for CEOS within the Data Sharing Working Group. John Bates (NOAA; CEOS Working Group on Climate Vice-Chair) suggested that NOAA and NASA could make SUOMI/NPP datasets available to the user community as open to the public. Killough proposed that a new action would be created under C1 of this Task and he requested WGISS involvement. Faundeen agreed and suggested that involvement would be from WGISS, the LSI and/or the Space Data Coordination Group. Killough also proposed a new action under C2 of this Task relating to the assessment of the data registration in GCI. This would involve WGISS and ties in with the GEOSS WGISS Integrated Catalogue (CWIC). Miura agreed to WGISS involvement in this.

ID-02-C1 (Institutional Development): Sutherlun agreed that this GEO Component covers the activities the WGCapD will be focusing on and is in-line with what the Working Group is trying to achieve.

ID-03 (Science and Technology in GEOSS): No CEOS involvement in this Task was foreseen.

ID-04-C1 (GEOSS-Wide Activities for a User-Driven GEOSS): Petiteville suggested that the update to the EO Handbook be considered as a CEOS Action for this Component.

ID-05 (Catalysing Resources for GEOSS Implementation): No CEOS involvement in this Task was foreseen.

SB-01-C1 (Global Ocean Information Coordination and Access): Mark Dowell (JRC; CEOS WGClimate Chair) is listed as a CEOS lead on this Component. The Ocean Colour Radiometry Constellation (OCR) was not represented at this meeting and further input was required from them to establish any actions.

SB-01-C2 (Operational Systems for Monitoring of Marine and Coastal Ecosystems): Peter Regner (ESA) is the CEOS lead on this Component. Petiteville reported, on behalf of Regner, that an ocean colour assessment action had been proposed. A white paper is planned by the end of 2012, with a first draft available in April 2012.

SB-02 (Global Land Cover): Sawyer suggested that there could be interaction with the terrestrial Essential Climate Variable (ECV) teams and that the WGClimate could further engage in developing actions for this Task. Bates responded that the WGClimate intends to capture these types of items, although it was not clear how this would be placed into an additional action. The WGClimate is due to meet in April 2012 and could be discussed at that meeting. Stensaas added that Joanne Nightingale (NASA; WGCV Land Product Validation Subgroup Chair) planned to attend the WGClimate meeting to discuss ECV issues.

SB-03 (Global Forest Observation): This Task relates to FCT and is already being addressed well within CEOS. Petiteville recommended making sure that the action included the necessity for data provision under the 2012 requirements for FCT and GFOI.

SB-04 (Global Urban Observation and Information): Richard Eckman (NASA; Atmospheric Composition Constellation Co-Lead) explained that the ACC could be relevant within the air quality component of this Task. More discussions were needed to establish this.

SB-05 (Impact Assessment of Human Activities): No CEOS involvement in this Task was foreseen.

DI-01 (Informing Risk Management and Disaster Reduction): Guy Séguin (CSA) explained that six actions relating to disaster management and Supersites had been defined under Task Components C1 and C2. Activities under C3 were planned, but related activities on tsunamis would be presented under C1. Discussions with GOFCC-GOLD would be undertaken to identify any role for CEOS under C4 (wildland fires). Proposed agency participation is CSIRO, USGS, and NOAA. Séguin reported on the need to establish a contributor from CEOS for C3 and C4. A mistake within the Work Plan was identified under C5 – the Component POC is Stuart Frye (NASA) on behalf of CEOS.

HE-01-C3 (Vector-borne Diseases): Murielle LaFaye (CNES; CEOS SBA Health Coordinator) reported that at the SBA Health meeting held prior to this meeting, the GEO Work Plan had been addressed. An EO handbook update for health had also been discussed. Information gathering for vector-borne diseases is beginning, with

the first issue of a vector-borne diseases document planned for completion in September 2012. At that point, the plan would be to launch a similar type of study for water-borne diseases and risk. This second document would be completed in early 2013. After that, the focus would be air-borne diseases. The audience for these reports would be the GEO and CEOS communities and, more importantly, the users. LaFaye reported that it is quite new for CEOS to get the health users involved in the start of the loop. A meeting is planned for April 2012 and will be linked to the GEO health meeting.

EN-01 (Energy and Geo-Resources Management): Eckman reported that no specific CEOS involvement in energy is seen at present. The GEO / CEOS energy community of practice has not been very active over the last few years, although the GEO Secretariat has been working on trying to restart its activities. This is an area where a number of space agencies are participating, but not yet in a coordinated manner. It may be that a CEOS coordinated action could be formed in the future. Volden suggested that there was no value in keeping CEOS in as a lead on this Component given the current status. Stryker and Eckman agreed that CEOS should be removed as a lead on this Component.

CL-01-C1 (Extension and Improvement of the Climate Record): Bates explained that the WGClimate was working on two new actions under this Component, including possible involvement with the ACC.

CL-01-C2 (Accelerated Implementation of GCOS): Mitch Goldberg (NOAA) reported that 59 actions had been set out in response to GCOS in 2006. An update to UNFCCC had been provided in 2010 and now the focus is the new CEOS response to the GCOS Implementation Plan, working with a template *pro forma*. Most of the templates had been submitted and the deadline for outstanding contributions had now passed. The report was now being written, with the first version due out in May 2012. New actions will address the new CEOS response to the GCOS IP. The whole strategy for implementation will be facilitated through the WGClimate.

CL-02-C1 (Integrated Global Carbon Observation and Analysis System): Osamu Ochiai (JAXA; CEOS Water SBA Coordinator) reported that 2011 Actions had been remapped into this Component. A Carbon Task Force side meeting is scheduled at SIT-27 in La Jolla, USA (29 – 30 March 2012). The ACC and WGCV would also to be involved. Killough explained that CEOS was already involved in methane and CO₂ reporting activities under this Component.

WA-01-C1 (Integrated Watery-cycle Products and Services): Ochiai reported that this Component related to water cycle and water resource management. There would be a good opportunity to work with real stakeholders for water resource management. Stryker suggested a connection between this and the WGCapD. Sutherlun agreed and reported that he planned to discuss this at the next WGCapD meeting. Two new actions were proposed under Components C1 (with CNES involvement) and C5. Petiteville stressed the need to separate the infrastructure from the capacity building. Volden asked CEOS to consider additional contributions under C4, which concerns water quality. Petiteville responded that the TIGER project is already addressing water quality. Ochiai added that there are already water quality aspects to C1. No additional action under C4 was thought necessary. Steven Neeck (NASA;

Precipitation Constellation Co-Lead) reported that the Water SBA team was interested in establishing links to the precipitation portal to allow single access to Precipitation Constellation data. This idea is being reflected upon in the light of the SEO study on portals undertaken in 2011.

AG-01-C1 (A Global Operational Monitoring System of Systems for Agricultural Production, Famine Early-warning, Food Security, and Land-use Change): JECAM and potential development for GEOGLAM are both priority actions within the GEO Work Plan and CEOS involvement will continue in this task.

Sawyer summed up by reviewing the actions and status. All parties were asked to provide their finalised actions to the CEO / DCEO as soon as possible, but by the end of February at the latest (*Action 3*).

6 2012 GEO WORK PLAN SYMPOSIUM

Volden presented details of the GEO Work Plan Symposium agenda. The symposium will be held in Geneva from 30 April – 2 May 2012. Each of the 26 Tasks would be addressed systematically within the agenda. Opportunities for Task Team meetings would be facilitated around the main meeting on the Monday morning, Wednesday afternoon, Thursday and Friday. A common board meeting is planned so that all three boards can come together and talk. Stryker agreed to forward this information out to the CEOS community, including the agenda (*Action 4*). Petiteville and Séguin reported that they planned to attend the symposium. The presentations from the Task Leads or their representatives would be 15 minutes long, with an additional 15 minutes put aside for discussion.

7 CEOS SIT-27

Freilich reported on the preparations for CEOS SIT-27, to be held from 27 – 28 March 2012 in La Jolla, USA, at the Scripps Institution of Oceanography. The plan for the meeting is to spend time talking about the issues rather than reporting on what had been done. There would be four sessions. The self-study would be discussed throughout all the sessions as it contains aspects that affect each session. The structure and governance for CEOS would be discussed in the first session, with a focus on the mapping of responsibilities and structure, thereby gaining better ideas on the governance. The general plan is to preserve the remaining three half-day sessions as substantive discussions on the self-study, Working Groups and Constellations. Stryker encouraged people to register for SIT-27 as soon as possible to assist planning. Jacobberger-Jellison added that hotel reservations should also not be left to the last minute as the meeting is being held during spring-break week, a busy time in La Jolla.

8 OTHER KEY MEETINGS IN 2012 FOR COORDINATED GEO-CEOS PARTICIPATION

Sawyer presented the CEOS calendar for 2012. The next SIT workshop is planned for 11 – 13 September 2012 in Washington DC. Sawyer asked that requests for calendar entries be sent to her. Also, if anyone is to attend a meeting, this information should be sent to Sawyer so that CEOS representation at relevant meetings can be assured and tracked.

9 WRAP-UP AND CLOSING REMARKS

Stryker thanked those present for their input throughout the meeting. The time and effort from all CEOS participants, who provide their services voluntarily, is always greatly appreciated. Freilich closed by thanking Stryker and Sawyer for all their hard work and efficiency.

10 ACTIONS

		<i>Responsible</i>	<i>Due Date</i>
1	Investigate ways to auto-generate email reminders from the Actions Tracking Tool	Killough	SIT-27
2	Provide updates on all 2011 Actions to the CEO / DCEO as soon as possible	All parties	29-Feb-12
3	Provide finalised Actions for 2012 to the CEO / DCEO as soon as possible	All parties	29-Feb-12
4	Forward information on the GEO Work Plan Symposium and its agenda to the CEOS community	Stryker	SIT-27

AGENDA

Tuesday, February 14, 2012

Time	Agenda Item	Who
9:00 – 9:10	Welcome and Opening Remarks; Workshop Objectives	SIT Chair CEO
9:10 – 9:15	Logistics	SEO
9:15 – 9:20	Introduction of Participants	All
9:20 – 9:50	GEO Secretariat Report <ul style="list-style-type: none"> ▪ 2012-2015 GEO Work Plan and 2012 GEO priorities for CEOS ▪ Related contributions requested from CEOS Space Agencies 	GEO Secretariat representative CEO/DCEO
9:50-10:30	Overview of the CEOS 2012 Work Plan <ul style="list-style-type: none"> ▪ Review and discussion of CEOS priorities for 2012 ▪ Identify synergies between CEOS and GEO 2012 priorities 	CEO/DCEO
10:30-10:45	Coffee Break	
10:45-11:15	Closeout of 2011 CEOS-GEO Actions <ul style="list-style-type: none"> ▪ Review of final deliverables and milestones of 2011 CEOS-GEO Actions ▪ Review of CEOS 2011 Implementation Plan 	CEO/DCEO
11:15-11:30	Remapping of Open 2011 CEOS-GEO Actions to 2012-2015 GEO Work Plan	All
11:30-12:00	2012 CEOS-GEO Actions Process <ul style="list-style-type: none"> ▪ Description of process to provide CEOS input to GEO WP Tasks and Components and to participate in further GEO WP coordination ▪ Description of the 2012 process to define and conduct CEOS Actions in support of GEO 	CEO/DCEO

12:00-12:30	<p>Review of CEOS Contributions to GEO WP Tasks and Components</p> <ul style="list-style-type: none"> ▪ Review of documented CEOS representation in Tasks/Components (as of December 21, 2011) ▪ Proposed CEOS contributions to Tasks/Components where CEOS is not already identified as a Component Lead ▪ CEOS-GEO on-line actions tool ▪ Detailed presentation of CEOS input and discussion ▪ Discussion of how best to define CEOS actions to support the GEO Tasks and Components 	<p>CEO/DCEO</p> <p>All CEOS POCs (incl WG, VC and SBA Leads)</p> <p>SEO</p>
12:30 – 14:00	Lunch Break	
14:00 – 16:30	<p>Review of CEOS Contributions to GEO WP Tasks and Components (cont'd)</p> <ul style="list-style-type: none"> ▪ Detailed presentation of CEOS input and discussion ▪ Discussion of how best to define CEOS actions to support the GEO Tasks and Components 	<p>All CEOS POCs (incl WG, VC and SBA Leads)</p>
16:30 – 16:45	Coffee Break	
16:45 – 18:00	<p>Review of CEOS Contributions to GEO WP Tasks and Components (cont'd)</p> <ul style="list-style-type: none"> ▪ Detailed presentation of CEOS input and discussion ▪ Discussion of how best to define CEOS actions to support the GEO Tasks and Components 	<p>All CEOS POCs (incl WG, VC and SBA Leads)</p>
18:00	Wrap-up	CEO/DCEO

Wednesday, February 15 2012

Time	Agenda Item	Who
9:00 – 10:30	Review of CEOS Contributions to GEO WP Tasks and Components (cont'd) <ul style="list-style-type: none"> ▪ Detailed presentation of CEOS input and discussion ▪ Discussion of how best to define CEOS actions to support the GEO Tasks and Components 	All CEOS POCs (incl WG, VC and SBA Leads)
10:30 – 10:45	Coffee Break	
10:45 – 12:00	Review of CEOS Inputs to GEO WP Tasks and Component (cont'd) <ul style="list-style-type: none"> ▪ Detailed presentation of CEOS input and discussion ▪ Discussion of how best to define CEOS actions to support the GEO Tasks and Components ▪ Conclusion of Actions Documentation 	All CEOS POCs (incl WG, VC and SBA Leads) CEO/DCEO
12:00 – 13:30	Lunch Break	
13:30 – 14:00	2012 GEO Work Plan Symposium: Goals and Objectives Expectations for CEOS Contribution <ul style="list-style-type: none"> ▪ CEOS analysis, input, and support ▪ CEOS Agency participation 	GEO Secretariat representative CEO/DCEO
14:00 – 14:15	Other Key Meetings in 2012 for Coordinated GEO-CEOS Participation	DCEO GEO Secretariat representative
14:15 – 14:45	CEOS SIT-27 Presentation <ul style="list-style-type: none"> ▪ Objectives ▪ Agenda ▪ Preparatory work ▪ Desired CEOS Agency participation 	SIT Chair Representative

14:45 – 15:30	Wrap-up and Closing Remarks <ul style="list-style-type: none"> ▪ Overview of updated CEOS Actions Table for 2012 ▪ Way Forward/Next Steps ▪ Meeting Summary/Actions Review 	CEO/DCEO
15:30	Adjourn	
15:30 – 17:30	[Open time for any further follow-up side discussions]	

PARTICIPANTS

Name	Agency Affiliation	CEOS Affiliation	Address
Shelley Stover	NASA	SEO	shelley.k.stover@nasa.gov
Kim Keith	NASA	SEO	kim.e.keith@nasa.gov
Timothy Stryker	USGS	Executive Officer	tstryker@usgs.gov
John Faundeen	USGS	WGISS, FCT/GFOI, SDCG, LSI	faundeen@usgs.gov
Satoko Miura	JAXA	WGISS	miura.satoko@jaxa.jp
Marie-Claire Greening	Greening Consulting	SEO	marie-claire@greeningconsulting.co.uk
(David) Brent Smith	NOAA	NOAA	Brent.Smith@noaa.gov
Brian Killough	NASA	SEO	brian.d.killough@nasa.gov
Christine Bognar	NASA		Christine.M.Bognar@nasa.gov
Guy Seguin	ASC-CSA.GC.CA		guy.seguin@asc-csa.gc.ca
Patricia Jacobberger-Jellison	NASA	SIT Chair	p.j.jellison@nasa.gov
Christopher Blackerby	NASA	SIT Chair	c.blackerby@nasa.gov
Michael Freilich	NASA	SIT Chair	mhf@nasa.gov
Vivek Singh	Indian Space Res. Org,		cisro@indiagov.org
Marcia Alvarenga	INPE	International Cooperation Advisor	marcia@dsr.inpe.br
Julio D'Alge	INPE	Director of Earth Observation	julio@dpi.inpe.br
Ivan Petiteville	ESA	Director Earth/Observation Svc.	Ivan.Petiteville@esa.int
Kerry Sawyer	NOAA/NESDIS	DCEO	kerry.sawyer@noaa.gov
Jean Parcher	USGS POC	International Specialist	jwparcher@usgs.gov
Greg Stensaas	USGS EROS	WGCV Chair	stensaas@usgs.gov
Steven Neeck	NASA	Precipitation Constellation	steven.neeck@nasa.gov
Richard Eckman	NASA	ACC co-lead	Richard.s.eckman@nasa.gov
Osamu Ochiai	JAXA	Water SBA Coordinator	ochiai.osamu@jaxa.jp
Lawrence Friedl	NASA	NASA	Lfriedl@nasa.gov

Name	Agency Affiliation	CEOS Affiliation	Address
Eric Lindstrom	NASA Headquarters	Co-Chair OST constellation	eric.j.lindstrom@nasa.gov
Ana Medico	CONAE	contact	amedico@conae.gov.ar
Conrado Varotto	CONAE	Principal	varotto@conae.gov.ar
Shizu Yabe	JAXA	Contact	yabe.shizu@jaxa.jp
Murielle LaFaye	CNES	SBA Health	murielle.lafaye@cnes.fr
John Bates	NOAA/NCDC	Climate Working Group	john.j.bates@noaa.gov
Robert Hamilton	NASA GSFC PPS/Wyle	CEOS PC	Robert.v.Hamilton@nasa.gov
Jacob Sutherlun	NOAA	WGCBDD	jacob.sutherlun@noaa.gov
Espen Volden	GEO Secretariat		evolden@geosec.org
Andrew Eddy	CSA	Disaster SBA	andrew.eddy@athenaglobal.com
Garick Gutman	NASA	WGCV, LSI	ggutman@nasa.gov
Frank Lindsay	NASA	Disaster SBA lead	francis.lindsay-1@nasa.gov
Karen Moe	NASA	WGISS/Disaster	karen.moe@nasa.gov