**Minutes V1.1**

**231st CEOS SECRETARIAT MEETING**

Thursday 16th November 2017

Chaired by COM

**Participants**

**CEO:** Steven Hosford

**COM:** Mauro Facchini (Chair), Astrid-Christina Koch, Michael Berger,

Mark Dowell, Matthew Steventon, Stephen Ward

**ESA:** Ivan Petiteville

**EUMETSAT:** Robert Husband

**GA/SIT Vice-Chair Team:** Jonathon Ross

**GEO SEC:** Akiko Noda

**JAXA:** Osamu Ochiai, Koji Akiyama, Yukio Haruyama

**NASA:** Christine Bognar

**NOAA/SIT Chair Team:** Kerry Sawyer

**SEO:** Brian Killough

**USGS:** Eric Wood

**VAST:** Pham Anh Tuan

**WGCapD:** Nancy Searby

**WGClimate:** Jörg Schulz

**WGCV:**  Kurt Thome

**WGDisasters:** –

**WGISS:** Mirko Albani

1. **Welcome and Introductions, Review of Agenda, Action Status**

Mark Dowell (COM, CEOS Chair Team) welcomed everyone to CEOS SEC-231. Mark reviewed the agenda and asked for feedback/additional items. Mark noted two additions for AOB: ‘UNCCD Proposed Initiative at GEO Plenary’ and ‘Letter to Incoming GEO Secretariat Director’.

1. **CEOS Plenary Decisions and Actions Follow-up**

Stephen Ward (CEOS Chair Team) reviewed the table of actions from the 31st CEOS Plenary.

Mark Dowell (COM, CEOS Chair Team) noted a discussion from a recent LSI-VC call regarding the need for a top-down, coordinated approach to the review of the *Feasibility Study on Satellite Missions/Instruments Focused on Water Quality Measurements* (ref: CEOS-31-04). Currently, the report has only been shared in an *ad hoc* manner.

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| **231-01** | CEOS Chair Team to follow up with Alex Held (CSIRO) regarding the broader review of the *Feasibility Study on Satellite Missions/Instruments Focused on Water Quality Measurements*. | **30 November** |

1. **GEO-XIV Plenary Report**

Mauro Facchini (COM, CEOS Chair Team) reported on the recent GEO Plenary, noting that the efforts of CEOS were well recognized. Overall, there is room for improvement regarding the interactivity of the meeting.

Mauro recalled the announcement that Gilberto Câmara will serve as the new GEO Secretariat Director, beginning in July 2018.

Jonathon Ross (GA, SIT Vice-Chair Team) reported on the 41st and 42nd ExCom meetings:

*41st ExCom*

* GEO Programme Board (PB): New slate endorsed, with ESA joining the PB alongside CEOS. ExCom agreed that PB members should be relieved of their seats after missing two meetings (instead of three).
* One Participating Organization (PO) observer to ExCom will be elected over the coming weeks to replace Global Ocean Observing System (GOOS). CEOS will have a vote in that process.
* Trust Fund stability remains an issue – a key task is to communicate the value of GEO and of the GEOSEC in particular.
* Implementation of the GEO Communication Strategy: These activities are far more structured and strategic with a six stage process used to identify priority activities and actions aligned to the strategic priorities from GEO Plenary.
* Progress is being made on reporting and KPIs, although the KPI framework does not, as yet, address the ‘observing system’ layer, e.g., the number of gaps in observing systems. This task will be tackled over the coming year. GEOSEC now has an expert from Canada taking leadership of this topic.
* CEOS representatives also noted the complementarity of our Future Data Architectures (FDA) activity on statistics of data exploitation, with efforts by GEO to better assess how data is being used rather than just how much is being downloaded.

*42nd ExCom*

* The 42nd meeting of the GEO Executive Committee (ExCom) was chaired by the United States as the new co-lead, and took place the day after the GEO Plenary adjourned.
* Emphasis on priorities other than SDGs will be a key theme moving forward, including analysis of the Work Programme (WP) for Climate in the same fashion as for the SDGs.
* Will work to increase self-funded (i.e., not financed by a GEO member) commercial sector involvement in the WP and increase GEO engagement in downstream EO industry fora and events.
* Private sector roundtable (CEO level): good discussion, but a range of members noted that the attendees were primarily the ‘big guys’ from the upstream side, and less on the SME/downstream/value-added/end-user industry side. Further roundtables are possible.

Mark Dowell (COM, CEOS Chair Team) noted the GEO-CEOS sideline discussions from COP-23 on increasing the emphasis on COP-21/Paris Agreement follow up. The consensus was to hold a stakeholder meeting in Q2 2018. Osamu Ochiai (JAXA) confirmed that the PB will form a subgroup to organise a Paris Agreement workshop (on how GEO can support the agreement).

1. **GEO SEC Report**

Akiko Noda (GEO SEC) reported the following:

*GEO Week 2017* Outcomes

* Over 700 people from diverse geographies, sectors and technical areas came together to explore the use and applications of Earth observations for the benefit of humankind. The plenary was the largest yet, with 504 delegates in attendance, and was unique in its format, incorporating more participation from diverse areas, including the commercial sector and international funding agencies. It aimed to transition the GEO community from a data-centric to a user-centric approach.
* The GEO Secretariat has gathered feedback from participants in order to improve future GEO Plenaries and associated side events.
* GEO Week 2018 will be held in Kyoto, Japan.
* Presentation materials and the statements of GEO members are released on the GEO website.
* Gilberto Câmara was appointed as the next GEO Secretariat Director.

*GEOGLAM*

* Ian Jarvis, the new GEOGLAM coordinator at GEO, started this week.

*COP-23*

* GEO held an official side event with GCOS and RESTEC at COP-23 on the 8th of November. The side event, moderated by Stephen Briggs (ESA), underlined the role of integrated EO observations for mitigation and adaptation to climate change and advocated improved accessibility to data and information. The venue, with capacity for 100 people, was full and there were lively discussions.
* The GEO exhibition booth at COP-23 is open until November 16.
* GEO is forming a Carbon and GHG Initiative steering committee; CEOS will be invited to join. An official invitation letter will be sent to the CEOS SIT Chair shortly. The first steering committee meeting is planned for February 2.

Ivan Petiteville (ESA) reported that Pascal Lecomte (ESA) has volunteered to be the CEOS representative on the GEO Carbon and GHG Initiative steering committee. Kerry Sawyer (NOAA, SIT Chair Team) noted that we are waiting for an official letter calling for nominations (from GEO SEC) before the SIT Chair Team nominates Pascal.

Kerry noted that the only option for the next CEOS-GEO bilateral meeting would be the 30th of January, before the 8th Programme Board meeting. Akiko agreed.

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| **231-02** | SIT Chair Team to confirm a date for the next CEOS-GEO bilateral meeting. | **4 December** |

1. **CEO Report**

Steven Hosford (ESA/CNES, CEO) reported:

* An email proposing several choices of week for the *Freshwater from Space* workshop (May/June 2018) has been sent. Steven is awaiting replies.
* A review of the CEOS mailing lists is underway to make sure they are up to date and accurate.
* CEOS Work Plan (WP) 2018-2020: individual emails summarising current WP contents have been sent to all responsible parties. As of Monday, all WGs and VCs, the FDA-AHT, and SEO have been contacted. The SDCG, GEOGLAM, and individual agencies are yet to be contacted. Steven will be working to eliminate tasks with no responsible entity.
* Regarding the WP update, Steven sought SEC guidance on several proposals aimed at clarifying who specifically is responsible for each CEOS WP action/deliverable. This is an issue for:
  + CEOS actions/deliverables with several responsible entities. Proposal: have one responsible entity for each action, with other entities noted in the action/deliverable description.
  + CEOS actions/deliverables with CEOS member agencies as responsible entities. When CEOS member agencies are identified, no specific person is identified as responsible – this is not the case for CEOS entities who have named chairs/co-chairs. Proposal: put specific contact names into the CEOS Deliverable Tracker system when responsible entities are CEOS member agencies.

Mark Dowell (COM, CEOS Chair Team) supported Steven’s suggestions. Kerry Sawyer (NOAA, SIT Chair Team) noted that the original intent was to have only the lead entity/agency listed in the WP, with the specific POCs and additional entities to be listed in the online tracker. Christine Bognar (NASA) agreed, and noted that listing the lead agency on the WP and names for the online tracker has worked well in the past. If/when questions arise about which individual is currently responsible, the Agency Contact can inform CEOS leadership. She mentioned, for example that at NASA, more than 30 experts contribute to the work of CEOS. The individuals responsible for CEOS Actions on the online tracker occasionally change. She invited other agencies on the call to comment, and ended by saying that a single agency contact works best for NASA, given the number of people working on CEOS activities – the contact coordinates on the NASA side.

1. **SIT Chair Report**

Kerry Sawyer (NOAA, SIT Chair Team) reported on behalf of Steve Volz (NOAA, SIT Chair) due to a schedule conflict with the JPSS-1 launch:

* SIT-33 will be held April 23 (side meetings) and 24-25 (main meeting) in Boulder, Colorado. A ‘save the date’ will be shared with the CEOS community shortly. The COM-hosted FDA workshop will be held the day after – on April 26.

Osamu Ochiai (JAXA) reported that JAXA have followed up their SIT Technical Workshop actions related to the IPCC Guidelines refresh.

Akiko Suzuki (JAXA) has circulated an email announcing the release of the draft NIES GHG Guidebook. JAXA is seeking CEOS review, in particular from the AC-VC. Osamu reminded SEC to provide feedback to himself and Koji Akiyama (JAXA/RESTEC) before December.

Osamu also noted that Stephen Ward sent an email on behalf of JAXA regarding the upcoming expert review of the first order IPCC TFI document. JAXA encourages feedback from both CEOS (collectively) as well as individual agencies. JAXA will continue to keep CEOS informed on the process, and will work with COM on the consolidated CEOS comments.

1. **Working Group Reports**

**WGDisasters**

Simona Zoffoli (ASI, WGDisasters Chair) sent her apologies for being unable to attend. Simona submitted a written report for reference.

**WGClimate**

Jörg Schulz (EUMETSAT, WGClimate Chair) reported:

* The CEOS statement to SBSTA-47 was presented in the opening session and was well received. It specifically recognized the development of the ECV Inventory and its value for climate services.
* The ECV Inventory was reported on during an informal meeting with the SBSTA Chair. SBSTA indicated interest in looking into how the ECV Inventory could be used for adaptation and mitigation efforts.
* The WGClimate Chair and Ex-Chair participated in COP-23 side events. The WGClimate Chair provided an introductory presentation to the GHG monitoring event highlighting CEOS contributions. The WGClimate Chair participated in another side meeting organised by COM, EUMETSAT, and ECMWF on climate change monitoring and climate services, where the ECV Inventory was featured as an international coordination tool.
* WGClimate will update their CEOS Work Plan Tasks shortly, reflecting in particular new ways of working with the ECV Inventory.
* The WGClimate Chair Team has discussed, with the CEOS MIM Database Team, ways of utilizing the information in the MIM for the planned gap analysis to close cycle #2 of the ECV Inventory work. While the conceptual issues on the relation of measurement types in the MIM and GCOS ECV Product naming conventions in GCOS will not be resolved in short time, the October 2017 version of the MIM will be helpful in supporting gap analysis teams with the selected set of ECV Products. Discussions around harmonizing measurement types are ongoing.
* The ECV Inventory workshop at WMO has been rescheduled to 2-4 May, 2018.
* Upcoming meetings: WGClimate #9 is scheduled for 27-29 March, 2018, at WMO in Geneva. WGClimate #10 is planned to be held in Asia, between November 2018 and February 2019. CMA have been asked if they wish to host the meeting. WGClimate #11 is planned to be held in the U.S., approximately 8 months after WGClimate #10.

Mark Dowell (COM, CEOS Chair Team) added:

* Mauro Facchini (COM, CEOS Chair Team) has reported that the delivery of the CEOS statement to SBSTA went well, and there was a good synergy between the CEOS and GCOS statements.
* The informal meeting with the SBSTA Chair is very significant, and gave good visibility to the ECV Inventory and GHG measurement coordination efforts.

**WGISS**

Mirko Albani (ESA, WGISS Chair) reported:

* The Institute of Remote Sensing and Digital Earth (RADI) under the Chinese Academy of Sciences (CAS) has recently agreed to become a CWIC partner. This decision is a direct result of the WGISS-44 meeting held in Beijing.
* The WGISS Data Access System Level Team will start reviewing the ECV Inventory Version 2.0 to check the status of accessibility of datasets through the WGISS connected data assets infrastructure.
* A teleconference between WGISS Data Stewardship Interest Group (DSIG) and Earth Science Information Partners (ESIP) representatives was held in November. Possible cooperation areas between the two groups have been identified in the domain of data stewardship, and a way forward has been defined.
* The next series of technology exploration webinars is being planned.

**WGCapD**

Nancy Searby (NASA, WGCapD Vice-Chair) reported on behalf of Senthil Kumar (ISRO, WGCapD Chair):

* A successful WGCapD side event was held during CEOS Plenary, with the following outcomes: connections with WGISS shall be established next year, regarding building awareness of CEOS services (CWIC, COVE, etc.), coordination and collaboration with the Data Cube initiative (preparation of learning materials, including tutorials and videos); WGCV is still unclear about how to collaborate with WGCapD, though they agreed to further consider options; continuing to explore future options for providing portal-based access to capacity building and training resources; continuing to work towards a common calendar of events.
* The proposal for ROSES-2016 A.50 GEO Work Programme (NASA Grant), led by Alyssa Whitcraft (point of contact of GEOGLAM in CEOS), to support AmeriGEOSS has been selected. The project includes a Capacity Building Development plan and WGCapD will be involved in development of methods and guidance documentation for best practices around institutional capacity development.
* Preparations for the 7th annual WGCapD meeting at INPE (São José dos Campos, Brazil), March 6-8, 2018, are underway.
* Regarding the WGCapD role of supporting regional initiatives, the group started discussing ways in which they could contribute and get involved with AmeriGEOSS week (August 6-10, 2018, INPE, Brazil) and AfriGEOSS, which will be held April 25-27, 2018, in Libreville, Gabon.

Nancy asked for CEOS SEC’s help identifying a new SANSA representative for WGCapD, as well as representatives from UKSA and JAXA (interest indicated during the CEOS Plenary side meeting). Specifically, WGCapD is requesting help with communicating with the Principals/Contacts of these agencies.

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| **231-03** | WGCapD Chair/Vice-Chair to draft letters to agencies from which new WGCapD representatives are sought. Once received, the CEOS Chair Team will communicate the letters to agency Principals/Contacts. | **4 December** |

**WGCV**

Kurt Thome (NASA, WGCV Chair) reported:

* WGCV is following the example of other WGs and VCs and will start holding WGCV teleconferences. The first teleconference is scheduled for November 30 at 7am East Coast U.S. The frequency will be approximately every two months as a means to obtain updates from the WGCV subgroup leads, track progress on WGCV and CEOS Work Plan actions, and obtain updates on agency activities.
* A Vice-Chair candidate has stepped forward and the current Chair and Vice-Chair are working with the candidate and their agency to obtain the appropriate paperwork for their candidacy and vote at WGCV-44 (September 2018).
* RadCalNet (in response to CEOS Work Plan CV-09) will hold its second workshop of beta testers on November 30. Terms of Reference for a RadCalNet admissions panel are complete and will be discussed during the WGCV teleconference on November 30.
* The report from the Atmospheric Correction Intercomparison eXercise (ACIX) is complete and is under review by the participants. The effort is in response to CEOS Work Plan task CV-13, and closure is still expected by the end of 2017.
* WGCV-43 is planned as a joint meeting with WGISS-45 the week of April 9, 2018, hosted by INPE in São José dos Campos, Brazil.

1. **SEO Report**

Brian Killough (NASA, SEO) reported:

* Brian and Alex Held (CSIRO) will travel to Colombia from November 29-30 for a meeting at IDEAM focused on forest monitoring. They will have a dedicated session on Data Cubes and discuss their current progress and future plans. CSIRO and the SEO continue to support the Colombia team.
* The SEO team is working with the Open Data Cube team to plan the annual Data Cube Workshop (February 14-16, 2018, at Geoscience Australia).
* The SEO coordinated 4 dedicated side meetings and demonstrations at GEO Plenary on October 23-24, in Washington, D.C. Over 100 international participants attended these sessions which addressed Data Cube development plans and progress, reviewed the progress of its implementation in Australia, Colombia, Switzerland and Uganda, and conducted a hands-on training session.
* The SEO conducted a teleconference with the Global Partnership for Sustainable Development Data (GPSDD). GPSDD is a global consortium of over 200 organizations focused on capacity building in developing countries. GPSDD would like to facilitate development of a regional Africa Data Cube to support 5 countries: Kenya, Senegal, Sierra Leone, Ghana and Tanzania. They have funding and a number of connections to make this happen. We are currently exploring data requirements and computing options.

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| **231-04** | Brian Killough (NASA, SEO) to share a link to the Data Cube reports from countries represented at the GEO Plenary Data Cube side meetings. | **4 December** |
| **231-05** | All to ensure that Steven Hosford and Kim Holloway are aware of any events, so they can be reflected in the CEOS SEC and CEOS website calendars. | **SEC-232** |

1. **Brief Status Updates of *Ad Hoc* Initiatives**

**SDCG/GFOI**

Stephen Ward (SDCG Secretariat) reported:

* Since CEOS Plenary, the focus has been on securing leadership and resources.
* UKSA has confirmed that they have a nominee for the SDCG Co-Chair position. Joanne Nightingale of NPL has accepted the role with immediate effect. A formal letter is on the way to the CEOS Lead for GFOI and SDCG EXEC, and will be shared with CEOS SEC. We greatly appreciate the UK contribution and look forward to working with Joanne. Joanne was previously involved in WGCV and the CEOS Carbon Task Force.
* The CEO forwarded the jointly signed letter from the CEOS Chair and SIT Chair requesting CEOS Agencies consider capacity/funding support for SDCG SEC to ensure CEOS GFOI coordination continues optimally. This closes Plenary action 31-02. Per discussion, Stephen Ward confirmed that the SDCG Secretariat will find efficiencies in its existing support arrangements to provide the capacity needed for continuity to 2018 CEOS Plenary. Kerry Sawyer (NOAA, SIT Chair Team) suggested that the SDCG SEC prepare an annual budget that can be shared with CEOS to aid in the securing of resources in the future for the SDCG SEC. This proposal was agreed by SEC and an action was taken.
* The World Bank submitted an unsolicited request to join GFOI as a Lead organisation. This was warmly welcomed and seen as testament to the growing reputation of GFOI. UK and ESA Leads have also been confirmed recently; awaiting German confirmation.
* GFOI Plenary and SDCG-13 will be held in Bogota, Colombia, in the week of 11 March, 2018.

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| **231-06** | SDCG Secretariat to share a paper outlining the annual budget/resources required for SDCG management. | **SEC-232** |

**GEOGLAM**

Brian Killough (NASA, SEO) reported on behalf of Brad Doorn (NASA, CEOS-GEOGLAM *ad hoc* WG Co-Lead) and Selma Cherchali (CNES, CEOS-GEOGLAM *ad hoc* WG Co-Lead):

* GEOGLAM has a new governance structure that was the outcome of its 2.5-day meeting in June 2017. The important additions are two new “Thematic Coordination Groups” (formerly called “Components”) – RAPP, Monitoring Systems Enhancement, and GEOGLAM ICT & KMS (Knowledge Management System; this includes cloud computing, etc.). Other things to note are the important place of the regional networks, and the establishment of an ExCom.
* During SIT Technical Workshop, GEOGLAM and the *ad hoc* WG decided that to advance the requirements work, an operational user requirements workshop would be needed. Bettina Baruth of JRC has taken the initiative to host this meeting in the 2nd week of April 2018. Bettina, Ian Jarvis (AAFC), and Alyssa Whitcraft will begin the planning of this meeting with a teleconference on 21 November 2018. CEOS participation (in particular the SEO) would be useful.
* Ian Jarvis (AAFC) is the new GEOGLAM Program Director for GEO, with funding from Germany for a term of two years.
* GEOGLAM held a 3rd Advisory Committee (AC) meeting at GEO-XIV Plenary. The AC is also being reinvigorated with concrete financial and advisory requests made by the GEOGLAM ExCom.

Mark Dowell (COM, CEOS Chair Team) noted that the next joint LSI-VC/SDCG for GFOI/CEOS-GEOGLAM *ad hoc* Working Group meeting will be held in the week of September 3, 2018, at the European Commission’s Joint Research Centre in Ispra, Italy.

**Future Data Access and Analysis Architectures *Ad Hoc* Team (FDA-AHT)**

Eric Wood (USGS) noted that no written report has been submitted. Following CEOS Plenary, the FDA-AHT needs to determine its co-Lead structure for 2018.

**Sustainable Development Goals *Ad Hoc* Team (SDG-AHT)**

Eric Wood (USGS, SDG-AHT Co-Lead) noted that the SDG-AHT written report is yet to be submitted, but some key updates include:

* At GEO Week 2017, the SDG-AHT co-organised the side meeting *Earth Observations in Service of the 2030 Agenda for Sustainable Development* with GEO (EO4SDG team). The 4-hour meeting was structured around concrete updates and discussions in four distinct panel sessions, each one focused on a single Sustainable Development Goal (Goals 6, 11, 14, and 15). The SDG-AHT prepared and led the panel discussion for Goal 15.
* Participated in the face-to-face meeting of EO4SDG, which was held at the end of the GEO week. The half-day meeting aimed to draw lessons from the side meeting and develop a clear roadmap for 2018.
* Committed to send inputs to EO4SDG for the Global Sustainable Development Report (GSDR) showcasing some of our examples of EO for SDGs. It is an official input to the High Level Political Forum (HLPF).
* The SDG-AHT is providing comments/review for the CEOS EO Handbook on SDGs.

1. **AOB**

**UNCCD Proposed Initiative at GEO Plenary**

Mark Dowell (COM, CEOS Chair Team) reported that a new activity on land degradation was proposed as a GEO Initiative at GEO-XIV Plenary. Mark asked SEC to consider CEOS agency representation. NASA, ESA, CSIRO, and COM all expressed interest on the call in participating in discussions on and review of draft documents on the proposed activity.

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| **231-07** | CEOS Chair Team to consider next steps on CEOS involvement in the proposed GEO Initiative on land degradation. | **SEC-232** |

**Letter to Incoming GEO Secretariat Director**

A draft of the letter proposed to be sent by the CEOS Chair to the new GEO Secretariat Director, Gilberto Câmara, was recently sent to the CEOS SEC mailing list. No further feedback was received on the call, and it was agreed to proceed with the existing draft.

1. **Next Meeting and Adjourn**

No issues were identified with the proposed CEOS SEC teleconference calendar for 2018.

Mauro Facchini (COM, CEOS Chair Team) thanked everyone for attending and adjourned the meeting. CEOS SEC-232 will take place on December 14.