**Minutes V1.0**

**270th CEOS SECRETARIAT MEETING**

Thursday 1 October 2020

Chaired by ISRO

**Participants**

**CEO:** Kerry Sawyer

**ESA:** Ivan Petiteville

**EUMETSAT:** Robert Husband

**GEO SEC:** Doug Cripe

**ISRO:** Raj Kumar (Chair), Nitant Dube, Matthew Steventon

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

**NASA:** Sandra Cauffman, Christine Bognar

**NOAA:** Chuck Wooldridge

**SIT Chair Team:** Adam Lewis, Jonathon Ross, Flora Kerblat, Andreia Siqueira

**SEO:** Brian Killough

**VAST-VNSC:** Linh Phan

**WGCapD:** Nancy Searby, Lauren Childs-Gleason, Christine Mataya

**WGClimate:** Jörg Schulz

**WGCV:**  Cindy Ong

**WGDisasters:** David Green, Pierric Ferrier

**WGISS:** Robert Woodcock

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

Raj Kumar (ISRO, CEOS Chair Team) welcomed everyone to the call and reviewed the agenda. The status of the following action was reviewed.

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| **SIT-TW-2020-14** | CEOS Chair to coordinate the virtual endorsement by CEOS Principals of the updated CEOS Executive Officer Terms of Reference with support provided by Kerry Sawyer (CEO). | **ASAP** |
| *Rationale: Aiming to complete virtual endorsement to allow Plenary participation by the incoming CEO and overlap with the current CEO, Kerry Sawyer.* |

Raj reported that there has been a unanimously positive response to the new Terms of Reference. One minor correction was suggested by NASA regarding the possibility that the CEO may be invited to Troika meetings at the discretion of the CEOS Chair. As this edit is consistent with past practice whereby the CEOS Chair can, at its discretion, invite observers and CEOS entities to meetings of the Troika, the suggested edit can be absorbed.

Kerry Sawyer (NOAA, CEOS Executive Officer) asked if another email needs to be sent to the CEOS community confirming that the Terms of Reference have been endorsed with the minor modification noted above. No interventions were heard and as such it was agreed that the Terms of Reference will be considered endorsed as per the process already communicated and the revised document will now be uploaded to the CEOS website.

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| **270-01** | Kerry Sawyer to work with the SEO to update the CEOS website with the updated Terms of Reference for the CEOS Executive Officer. | **ASAP** |

1. **SIT Chair Report**

Adam Lewis (GA, SIT Co-Chair) reported:

* The SIT Chair Team shared the process for development and endorsement of a CEOS Statement to GEO Week 2020. The SIT Chair Team preference is for the formal statement text to be endorsed by the CEOS Plenary. Once the first draft statement is transmitted for SEC review (around 2 October), comments must be returned to the CEOS Executive Officer by 7 October.
* The final Outcomes and Actions document from SIT Technical Workshop has been circulated to attendees and the broader CEOS community. The term ‘Outcomes’ has been used in place of ‘Decisions’ in the final version to better reflect the role of the SIT Technical Workshop in CEOS governance and operations. Considerable input was received, and the SIT Chair Team has reviewed the meeting record to arrive at the text in the document. If there are any remaining questions or concerns on this document please contact Jonathon Ross directly to discuss. Adam thanked all who contributed feedback.
* The draft SIT Technical Workshop minutes have been circulated to attendees. Comments are requested prior to October 13 so that a final record can be available prior to the CEOS Plenary.
* A [survey](https://forms.gle/m2v9pmp9DxsnUY86A) has been created and distributed to SIT Technical Workshop attendees. SEC participants are particularly encouraged to contribute responses.
* To aid CEOS Agency planning, the SIT-36 meeting (week of March 22) has been confirmed as a primarily virtual meeting. Although it seems highly unlikely, if some face-to-face component becomes possible, consideration will be given at the time. Any inclusion of a face-to-face component would not change the fact that SIT-36 will be planned as a primarily virtual meeting.
* The next Working Team All Hands Call has been confirmed for November 10. A formal call for topics will be issued after CEOS Plenary, to ensure the call provides a forum to discuss topics and actions arising from Plenary.
* Carbon & Biomass:
	+ The full carbon and biomass day of the SIT Technical Workshop was most productive and made the most of our guests from UNFCCC SEC, GCOS, GFOI and GEO WGClimate. David Crisp, Osamu Ochiai and Jörg Schulz were confirmed as our focal points for the new UNFCCC *Ad Hoc* Working Group on Systematic Observations for the Global Stocktake.
	+ The CEOS Biomass Protocol is out for public review. Endorsement will now be sought at SIT-36 instead of CEOS Plenary.
	+ The Agriculture, Forestry and Other Land Use (AFOLU) White Paper is progressing well and Principals will be asked to consider development of a full Roadmap and resources for it at CEOS Plenary.
* Sustainable Development Goals (SDGs):
	+ The SDG-AHT met on September 28 to reflect on the outcomes from the SIT Technical Workshop and to chart the next steps to CEOS Plenary. A key input to Plenary is the 2021 Roadmap, which is being developed.
	+ The SDG-AHT Data Supply Analysis and Strategy has been posted on the CEOS website for information.
	+ The SDG-AHT subteams continue to develop their own deliverables, including the Earth Observation Support Sheet and the Satellite Data Requirements statement).
* Analysis Ready Data (ARD):
	+ The CEOS Analysis Ready Data – Involving the Private Sector paper was well received at SIT Technical Workshop and will be tabled for endorsement at CEOS Plenary (ARD Strategy task 2.4).
	+ The CEOS Interoperability Terminology Report will also be tabled for endorsement at CEOS Plenary (ARD Strategy task 1.4).
	+ The SIT Chair Team will work with Ed Armstrong (NASA, SST-VC) on a proposal to CEOS Plenary for Principals to support a small team to review the ARD Framework and consider adjustments that will make it amenable to additional Product Family Specifications (PFS) for other domains.

Jonathon Ross (GA, SIT Chair Team) clarified that the endorsement of the CEOS Biomass Protocol has been pushed back to SIT-36 to provide more time for CEOS Agency review and any subsequent edits.

1. **Working Group Reports**

**WGCV**

Cindy Ong (CSIRO, WGCV Chair) reported:

* The WGCV LPV Biomass Validation Team has submitted the CEOS Biomass Validation Protocol for peer review. An email will be sent to the CEOS community clarifying the revised process for endorsement (i.e., at SIT-36).
* WGCV IVOS have restarted discussions with industry contacts on a review of the CARD4L Specifications.
* ISO has requested WGCV contributions to a new cal/val standard currently being developed. Cindy expects a draft will be provided for review by November 13. Anyone interested in contributing can contact Cindy.

**WGDisasters**

David Green (NASA, WGDisasters Chair) reported:

* Three WGDisasters documents were submitted for review by the CEOS community at SIT Technical Workshop 2020 and are included in the 2020 CEOS Plenary agenda for endorsement:
	+ Strategic Paper: Promoting Space Data for Disaster Risk Management;
	+ Recovery Observatory Implementation Plan;
	+ GEO/LEO/SAR Flood Pilot Implementation Plan.
* WGDisasters continues the scoping process for a new Wildfire Pilot. A Pilot Implementation Plan is expected to be presented for review at CEOS SIT-36.

**WGClimate**

Jörg Schulz (EUMETSAT, WGClimate Chair) reported:

* WGClimate-13 (13-14 October 2020): a detailed agenda will be sent next week. All are welcome to participate.
* SBSTA-52: will not be taking place and can be removed from the CEOS Calendar.
* Earth Information Day 2020: awaiting further information from the UNFCCC Secretariat.
* A talk presented by David Crisp (NASA) has been added to the CEOS Plenary agenda. David will speak about the products proposed to be submitted by CEOS Agencies for the first UNFCCC Global Stocktake.
* The ECV Inventory Gap Analysis Report is progressing, but slower than anticipated. It is now expected that endorsement of the report will take place after the CEOS Plenary, through the virtual endorsement mechanism.

**WGCapD**

Nancy Searby (NASA, WGCapD Chair) reported:

* Completed a workshop held on August 24 and 26-28 with Thailand’s Pollution Control Department (PCD) and Geo-Informatics and Space Technology Development Agency (GISTDA) officials. The training provided details on the application of NASA resources to decision-making activities related to air quality monitoring, forecasting, smoke/fire and PM2.5 monitoring, image interpretation, and data access.
* WGISS and WGCapD have developed and circulated a survey to obtain community input on approaches for conducting Deliverable CB-20-04 (Jupyter Notebooks Awareness Webinar, due Q1 2021).
* Delivered a presentation at the CEOS SIT Technical Workshop on CEOS-branded webinar plans. WGCapD is now developing a related paper to be delivered at the 2020 CEOS Plenary.
* Recently completed the second round of four quarterly regional capacity development calls. These calls generated an encouraging amount of communication between regions and participation has been growing.
* The WGCapD Vice Chair presented WGCapD’s recent e-learning experiences on September 30 at the 2020 ESA Phi Week Education Side Event: *E-Learning: The Fifth Dimension of the Education Space-Time.* Nancy thanked ESA for their leadership of the event.

**WGISS**

Nitant Dube (ISRO, CEOS Chair Team) reported on WGISS-50:

* There were good discussions covering the Earth Analytics Interoperability Laboratory (EAIL) proposals and a review of inputs for the CEOS Plenary. There were a number of discussions on Python Notebooks and consideration of the interoperability of packages between different Future Data Architectures, such as Data Cubes.

Robert Woodcock (CSIRO, WGISS Chair) added:

* WGISS-50 was held 22-24 September using an alternate format with pre-recorded presentations and three 2-hour video conferences for Q&A and discussion.
* Although presentations were available in advance, the video conference still attracted around 60 attendees to listen and contribute to the discussions, demonstrating the strong interest in WGISS activities and direction.
* The new format was far less taxing on participants and promoted greater discussion as hoped. This led to the identification of some additional WGISS actions and an updated Interoperability Strategy is being discussed to aid in coordinating several initiatives across WGISS interest groups and their engagement with other CEOS projects. The WGISS Exec will be working to refine these outcomes over the coming months.
1. **CEOS Executive Officer Report**

Kerry Sawyer (NOAA, CEOS Executive Officer) reported:

* Polish Space Agency CEOS Associate Membership: only positive responses have been received from CEOS Agencies following the CEO’s email regarding the application of POLSA for CEOS Associate membership. As a result, Kerry will now confirm with POLSA that they are invited to the 2020 CEOS Plenary and she will work with them to prepare the necessary inputs/presentation to support the request and decision at the meeting.
* CEOS Inputs to GEO Week 2020: the CEOS Statement is due to the GEO Secretariat by October 15. CEOS SEC should discuss how this can be achieved ahead of CEOS Plenary, noting that the Statement requires endorsement by CEOS Agencies. CEOS Agencies are also invited to provide impact statements/quotes to accompany the Statement. CEOS will likely not be providing a pre-recorded video message.

Doug Cripe (GEO Secretariat) noted that if the CEOS Statement to GEO Week 2020 needs endorsement by CEOS Plenary before submission, the GEO Secretariat can accommodate this timeline.

1. **GEO SEC Report**

Doug Cripe (GEO Secretariat) reported:

* The GEO Secretariat reviewed the minutes, outcomes and actions from the 2020 SIT Technical Workshop and concurred with the meeting record.
* Doug will be connecting with WGISS, Robert Woodcock (CSIRO, WGISS Chair) and Adam Lewis (GA, SIT Co-Chair) shortly to discuss connections to commercial cloud service providers.
* CEOS-GEO Bilateral: planning will commence soon for this January/February meeting. Doug will work with Jonathon Ross (GA, SIT Chair Team) in the first instance.
1. **SEO Report**

Brian Killough (NASA, SEO) presented an Open Earth Alliance (OEA) briefing (in response to Action **SIT-TW-2020-01**):

* The Open Data Cube (ODC) is an open source geospatial data management and analysis framework that was initiated in 2017 and evolved as a community activity. The six ODC Partners are GA, CSIRO, CEOS-SEO, USGS, UK Catapult, and Analytical Mechanics Associates (AMA). The ultimate goal is to grow the global satellite user base and increase the impact of EO. To date, the ODC has impacted many global users and has reached 100+ countries. The funds and contributions from the ODC Partners have been critical to the initial success of the ODC, but more resources will be needed to maximise the global impact.
* CEOS and the ODC are not formal entities that can receive funds or cloud credits. The Open Earth Alliance (OEA) was created by the ODC Partners to expand the impact of the ODC, support the concept of a regional network of Data Cubes, allow more agility to explore other open source solutions, and attract external funds and cloud credits from interested donors.
* Having the OEA linked to GEO as a Community Activity will increase the visibility of the ODC and its impact on global users through GEO governments and other organisations. Also, donors could contribute funds or cloud credits to OEA through the GEO Trust Fund.
* CEOS can/will\* contribute to the OEA by:
	+ Supporting new implementations of Open Data Cube (ODC) solutions as they emerge;
	+ Contributing to the new ODC User Forum;
	+ Developing a new ODC Algorithm Hub;
	+ Developing a new ODC Analysis Hub (AWS and Google Sandboxes).

\* Task (a) is supported when possible as it requires CEOS Agency / SEO budgets; Tasks (b, c, d) are already planned by the ODC Partners; Tasks (c, d) are also contributions to the GEO Knowledge Hub.

This report on OEA will also be presented to the 2020 CEOS Plenary.

Brian added that the annual IGARSS conference was held virtually from September 28 to October 2. The SEO and GA led a session on Open Data Cube (ODC) and Analysis Ready Data (ARD). Eight papers were presented, including from various CEOS Agency contributors.

Kerry Sawyer (NOAA, CEOS Executive Officer) thanked Brian for the report and for clarifying the role of the Open Earth Alliance.

1. **2020 CEOS Plenary**

Raj Kumar (ISRO, CEOS Chair Team) reviewed the latest draft agenda for the 2020 CEOS Plenary, noting that a number of changes have been made since SIT Technical Workshop and in response to feedback received since the last draft was circulated. Some further comments were noted during the SEC-270 meeting:

* A nomination for the 2022 CEOS Chair is actively being worked by the European permanent members of the CEOS Secretariat. It is hoped that a name will be available in time for Plenary. Should this not be possible, CEOS will need to decide a course of action at Plenary and SEC should be prepared for this scenario. SEC-271 presents an opportunity to prepare for this eventuality.
* It was suggested that, if possible, some more time be allocated to the discussions on CEOS Chair 2022 and the External Request and New Initiative Process Papers on the first day of the meeting.

GoToMeeting will be the primary technology used for the teleconference as well as chat/text interventions (connection details are on the final page of the agenda). The CEOS Chair Team is also exploring backup technology such as Webex/BlueJeans.

1. **Next Meeting, Adjourn**

Raj Kumar (ISRO, CEOS Chair Team) thanked everyone for attending. CEOS SEC-271 will be held on October 19, 2020 (alongside the 34th CEOS Plenary). The start time for the teleconference will be 7 AM US East.