**Minutes V1.0**

**266th CEOS SECRETARIAT MEETING**

Thursday 25 June 2020

Chaired by ISRO

**Participants**

**CEO:** Kerry Sawyer

**ESA:** Ivan Petiteville

**EUMETSAT:** Robert Husband

**GEO SEC:** –

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

**JAXA:** Yukio Haruyama, Koji Akiyama

**NASA:** Karen St. Germain, Sandra Cauffman, Christine Bognar

**NOAA:** Chuck Wooldridge, Albert DeGarmo

**LSI-VC:** Steve Labahn

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

Siqueira, Stephen Ward

**SEO:** Brian Killough

**VAST-VNSC:** Linh Phan

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

**WGClimate:** Jörg Schulz, Albrecht von Bargen

**WGCV:**  Cindy Ong

**WGDisasters:** Dave Borges, 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.

Sandra Cauffman (NASA) introduced the new CEOS Principal for NASA and new NASA Earth Science Division Director, Dr. Karen St. Germain. Raj welcomed Dr. St. Germain to the CEOS community.

Dr. St. Germain thanked Sandra and Raj for the welcome and remarked that she is looking forward to learning more and working with the CEOS team.

1. **CEOS Executive Officer**

Raj Kumar (ISRO, CEOS Chair Team) noted the most recent round of emails sent to CEOS on this topic. CEOS SEC noted the generally positive feedback from CEOS Principals on the concept of resource pooling to support the critical CEO role. The Secretariat noted that the GEO Trust Fund seems to be the most viable mechanism for pooling of funds. However, agencies need more specific information regarding the amounts requested and the trust fund process.

Raj also noted that there is still no nomination for an agency representative, despite the promise of funding for the role. SEC noted that most of the agencies would prefer an agency staff member, but a few were also comfortable with a contractor. The SEC noted that, despite these preferences, if no agency puts forward a staff member, it may become necessary to engage a contractor to ensure this critical function is performed.

Sandra Cauffman (NASA) noted that NASA has identified a qualified contractor, Marie-Claire Greening, Ph.D. Sandra added that Josef Aschbacher (ESA CEOS Principal) supports the nomination and has offered to host Marie-Claire at ESA ECSAT for the duration of her term as CEOS Executive Officer. Unless a CEOS Agency puts forward another nomination, Sandra proposes CEOS SEC consider Dr. Greening.

Raj welcomed the nomination, but suggested another round of consultation, making an explicit call for contractor nominations (in addition to any agency staff nominations). Adam Lewis (GA, SIT Co-Chair) suggested that a transparent process is important in light of the collaborative international nature of CEOS. It was noted that were CEOS Principals to be asked to nominate staff and/or contractors, on the basis that a pool of funds could be available to support salary and/or travel, they may be more inclined to suggest names.

Chuck Wooldridge (NOAA) noted that a number of agencies had responded favourably to resource pooling but were opposed to the idea of a contractor being in the role. He agreed that CEOS needs to be consulted again with this approach made explicit. He also noted that use of a contractor would be setting a precedent and the CEOS governing documents would need to be changed to accommodate a contractor going forward. CEOS SEC noted that this would require consultation with, and approval by, CEOS Principals.

Ivan Petiteville (ESA) noted that while some opposed the contractor approach, they were not forthcoming with alternative options. Ivan supported Marie-Claire’s nomination as well as a final round of consultation, calling for both agency and contractor nominations.

Ivan agreed that the terms of reference will need to be revised. He suggested that CEOS SEC maintain oversight over the role, making decisions on travel, meeting attendance, etc.

Sandra supported the final round of consultation suggested by Raj, making it clear that the pooling of resources will go ahead and asking agencies to nominate in that light.

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| **DECISION** | The CEOS Secretariat notes that CEOS Agencies support the idea of resource pooling to fund a CEOS Executive Officer. CEOS SEC also notes a preference for an agency staff member, but noting that it may not be possible, it may be essential to nominate a contractor. CEOS Agencies will therefore be invited to nominate staff members and/or contractors for consideration. |
| **266-01** | CEOS Chair to write to all CEOS Principals:* Advising them of CEOS SEC’s view that the pooling approach seemed viable based on the survey responses;
* Asking them to identify (within two weeks) the names and qualifications of staff members and/or contractors they could support as CEO (pending availability of the funding pool) for the 2021-2022 period.
 | **June 30** |
| **266-02** | Upon receipt of the names from **266-01**, the CEOS Chair and incoming CEOS Chair (NASA) will review the candidates to determine which of them would be suitable against the Terms of Reference for the office of the CEO. The CEOS Chair and incoming CEOS Chair will share the results of this with the CEOS Secretariat no later than July 14. | **July 14** |

Raj and Ivan suggested that we also need to indicate the budget allocated for the CEO. It will provide guidance to CEOS Agencies regarding the amount that needs to be contributed to the trust fund. CEOS SEC also needs to decide the way funds will be contributed (e.g., fixed amount, as much as possible, funding of specific components, etc.).

The Secretariat discussed the rough budget required to support the CEO role for a year, with the amount in the range of $250,000 USD/year (including the overhead mentioned below and a small buffer). The general feeling was that this would be an achievable amount to pool, based on the responses received to the CEOS Chair’s survey.

It was noted that more details are needed regarding the operation of the trust fund, that is, how the pooling mechanism works, how the money is distributed/accessed, potential GEO influence, how unused funds are redistributed/recovered, etc. Brian Killough (NASA, SEO) has discussed with the GEO Secretariat and GEO Secretariat Director and is confident in the operation and processes, based on past implementation for both GEOGLAM and Digital Earth Africa. An appropriate contract will need to be drawn up to avoid any issues. Kerry Sawyer (CEO) asked what percentage of funds is required as overhead to utilize the GEO Trust Fund and Brian noted that there is an approximately 15% overhead with the GEO trust fund (split between WMO and GEO). The mechanisms and specifics need to be agreed by the CEOS Secretariat.

Christine Bognar (NASA) noted that we are trying to resolve an ongoing problem that has developed over the past five years, where when the current model worked successfully, there was a CEO that had a DCEO to share the burden. At the moment what we are trying to do is agree to try and identify a CEO, but this reserve fund is expected to be something that could help us resolve both problems going forward. This may not be resolved in the first cycle but is a first step. Christine thanked everyone for their input on this issue.

It was suggested that a small group of the CEOS Secretariat be convened to advance the various outstanding aspects. Kerry Sawyer suggested that an out-of-cycle Secretariat telecon be scheduled. It was agreed that a meeting of this group will be targeted for around two weeks’ time. The CEOS Chair Team will aim to find a suitable time.

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| **266-03** | CEOS Chair Team to convene an extra teleconference of the CEOS Secretariat before SEC-267 dedicated to discussing the following (and other items) regarding the CEOS Executive Officer issue:* Identifying the changes to CEOS governance that may be required were the role to be filled by a contractor, e.g., ensuring independence, managing any reputational risk to CEOS, etc.
* Working through the precise arrangements that would be needed to pool resources using the GEO Trust Fund, including overheads, level of control for CEOS, flow of money from the Trust Fund to the agency hosting the CEO, and what would happen were there to be funds left over in a given year.

The CEOS Chair will present a short report on the issues and options at SEC-267 so that the CEOS Secretariat can discuss the outcomes and determine next steps, including any potential ‘virtual endorsements’ that may be required to make any necessary changes to CEOS’s governing documents. | **ASAP** |

1. **CEOS Executive Officer Report**

In the interest of time taken to discuss the previous CEO topic, Kerry Sawyer (NOAA, CEOS Executive Officer) directed CEOS SEC to her written report for updates on the CEOS Work Plan.

Kerry highlighted that CEOS has been invited to co-host (sponsor) a web-conference (Global Networking Forum) with the International Astronautical Federation (IAF) / International Astronautical Congress (IAC) Earth Observation Committee that would focus on how Earth observations are showing changes (atmospheric, but others as well) due to the Coronavirus. The working title is: *Corona-Crisis! -- A Space-Eye View on How it is Impacting Global Climate and Ecosystems -- Early Results*. Kerry confirmed that there is no financial obligation tied to co-sponsoring the event. It was noted that while CEOS as an entity does not have any COVID-19 activities, there are many agency activities that could be highlighted through such an event.

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| **266-04** | Kerry to propose a CEOS response to IAF/IAC regarding their invitation to co-host a Coronavirus-focused web-conference. The draft response will be sent to SEC via email for review and approval/disapproval. | **COMPLETE** |

1. **SIT Chair Report**

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

* 263-01 (correspondence to the IOC Decade of Ocean Science):​ Adam requested guidance from CEOS SEC on the response he authored with the support of Chuck Wooldridge and Steve Volz of NOAA. The letter was sent to Marie-Elaine Boivin of UNESCO on Thursday, June 25. The response signalled that CEOS will make an effort to compile and provide information on CEOS Agencies’ relevant activities (underway) and encouraged IOC to be engaged with CEOS, noting that IOC is already a CEOS Associate member. Adam noted that the action called for the letter to be reviewed by CEOS SEC before sending, however this was overlooked. He offered to retract the letter to allow for a review period should CEOS SEC deem it necessary. No feedback supporting a retraction and review of the letter was received during the meeting, so no further action will be taken.
* SIT Technical Workshop (weeks of 7 and 14 September 2020):
	+ The deadline for comments on the proposed format for the SIT Technical Workshop has passed. Feedback was overall positive for the approach. Thank you to those agencies that responded.
	+ The SIT Chair Team has clarified that the individual ‘focus sessions’ will be centrally coordinated and part of a master schedule. The SIT Co-Chairs and SIT Chair Team will participate in all ‘focus sessions’, although the identified session leads will be responsible for the content and reporting.
	+ The SIT Chair Team and CEOS Chair are coordinating on topics for the Technical Workshop, noting the criticality of preparing items for Plenary. The CEOS Chair’s themes and first draft agenda will be a key input.
	+ The SIT Chair Team has received suggestions for a session on COVID-19. The SIT Chair Team welcomes feedback from the SEC on this proposal. At least one CEOS Agency (COM) has already expressed a willingness to organise such a session.
	+ The SIT Chair Team will now proceed to prepare a draft outline of the focus and all-hands sessions.

Adam clarified that the COVID-19 session for SIT Technical Workshop will be focused on agency efforts with regard to the pandemic, rather than its impact on the functioning of CEOS. Agencies will be contacted for inputs on this and other sessions in the coming weeks.

Ivan Petiteville (ESA) noted the approach of the GEO Symposium with pre-recorded presentations and archiving on YouTube. Adam agreed that this was useful, but the pre-recording required a very large overhead.

1. **Land Surface Imaging Virtual Constellation (LSI-VC) Report**

Steve Labahn (USGS) reported updates on behalf of the LSI-VC Co-Leads (himself, Adam Lewis of GA, and Zoltan Szantoi of EC/JRC):

* Endorsed and published the following CARD4L Product Family Specifications (PFS) on [ceos.org/ard](http://ceos.org/ard/):
	+ Normalised Radar Backscatter (NRB) v5.0 (update)
	+ Polarimetric Radar (POL) v5.0 (new)
	+ Surface Reflectance (SR) v5.0 (update)
	+ Surface Temperature (ST) v5.0 (update)
* Awaiting official WGCV peer review feedback on USGS Surface Reflectance and Surface Temperature and ESA Surface Reflectance CARD4L PFS self-assessments. The LSI-VC Leads would like to thank our WGCV colleagues, in particular Medhavy Thankappan who has served a dual role across both teams, for their assistance with the peer reviews of the CARD4L self-assessments – a critical step in ensuring consistency, accuracy and objectivity in the process.
* Working toward endorsement of a new Aquatic Reflectance (AR) PFS, targeted for completion later this year.
* Engaged with industry (latest being Planet) on CEOS ARD feedback and next steps. Industry contacts have expressed interest in assessing their products against the CARD4L PFS. LSI-VC is also increasing engagement in VH-RODA, JACIE, and IVOS meetings.
* The first CEOS ARD webinar will be held on July 1, 2020. Over 400 participants are expected from over 55 countries.
1. **GEO SEC Report**

Doug Cripe (GEO Secretariat) was not present for the meeting. A written report was received along with a notice regarding the possibility of missing the meeting due to a schedule conflict.

1. **SEO Report**

Brian Killough (NASA, SEO) reported:

* The SEO is working with WGISS (Rob Woodcock) to develop plans for a new CEOS Earth Analytics Interoperability Lab. This is a new data testing and prototyping hub that will use Jupyter notebooks and the Open Data Cube (ODC). Initial plans are to support the COAST initiative and WGDisasters.
* The SEO team is working with George Dyke to update the core ODC application notebooks and to prepare training videos. This work will support a deliverable for Jupyter notebook training and release of the Landsat Sandbox later this year. The team has also been testing ODC notebooks with Sentinel-1 and Sentinel-2 data with good success.
* CEOS Website: We have experienced some issues with the website in the past few months. These issues were related to older software versions and security flaws. We have made a number of changes and the resolutions are nearly complete. Most functions of the website are now working as expected; however, meetings can only be viewed and not edited due to an issue with a plugin, which is still being fixed.
* Sub-domains of the CEOS website have been established for a number of CEOS activities. Please contact the SEO team should you wish to set up a website tied to ceos.org.

Kerry Sawyer (NOAA, CEOS Executive Officer) reported that the CEOS Agency list on the website is undergoing an update.

1. **Working Group Reports**

**WGDisasters**

Dave Borges (NASA, WGDisasters Secretariat) noted the following:

* The CEOS WGDisasters Chair Team initiated outreach to the United Nations (UN) Global Geospatial Information Management (GGIM) Working Group on Geospatial Information and Services for Disasters (WG-Disasters). GGIM WG-Disasters Co-Chair Shoichi Oki confirmed that the idea of collaboration between the two Working Groups would be beneficial. WGDisasters Secretariat Dave Borges will serve as CEOS Liaison to GGIM WG-Disasters.
* The Generic Recovery Observatory Demonstrator Team continues to meet regularly. The Team is developing a Demonstrator proposal for review at SIT Technical Workshop.
* The GEO/LEO/SAR Flood Pilot Team continues to meet regularly. The Team is developing a Pilot proposal for review at SIT Technical Workshop. The Flood Pilot Team is also working closely with COAST and WGISS leadership to identify integration opportunities and shared geographical focus areas.
* The CEOS SIT Chair Team has requested that WGDisasters consider a new Wildfire Pilot effort. An exploratory meeting was held on June 24 to bring together interested parties and discuss feasibility. Next steps are to be determined.

**WGClimate**

Robert Husband (EUMETSAT) communicated Jörg Schulz’s (EUMETSAT, WGClimate Chair) apology for having to leave the call and directed CEOS SEC to the written report for an update on the activities of WGClimate.

Jörg communicated via the chat window before leaving that a handful of WGClimate members participated in the UNFCCC/SBSTA SBSTA Chair information event with the scientific community on May 8. This was mostly about how COVID-19 is affecting science in the broadest sense, i.e., challenges and opportunities, including some observational evidence of effects on the climate system. David Crisp (NASA/JPL) gave a short presentation addressing apparent changes in atmospheric trace gases.

Albrecht von Bargen (DLR, WGClimate Vice Chair) added that this week the European Commission held a two-day workshop on the Greenhouse Gas and CO2 monitoring and verification system.

**WGISS**

Robert Woodcock (CSIRO, WGISS Chair) reported:

* WGISS, SEO, WGDisasters and CEOS-COAST representatives have met several times to discuss the CEOS Earth Analytics Interoperability Laboratory and its potential to enhance these projects and advance the CEOS ARD Strategy and FDA interoperability. The activity is progressing well, and further details can be found in the written report.

**WGCapD**

Nancy Searby (NASA, WGCapD Chair) noted:

* WGCapD’s deliverables are being progressed, including through virtual training sessions.
* The WGCapD-9 Annual Meeting report is now available on the CEOS website [here](http://ceos.org/document_management/Working_Groups/WGCapD/Meetings/WGCapD-9-2020/WGCapD9_AnnualMeetingReport_FinalDraft.pdf).
* An Advanced Practitioner Experts on Radar Backscatter MOOC will be released on July 1 in four different languages.
* ISRO recently conducted a crop monitoring course/webinar with approximately 5000 participants.
* Five LCLUC webinars featuring South/Southeast Asia Research Initiative (SARI) projects have been held between April 16 and June 4, 2020. Webinars are recorded and available [here](https://lcluc.umd.edu/content/lcluc-2020-webinar-series). A sixth webinar will be held on June 25, 2020.
* The WGCapD Chair and Vice Chair participated in the first round of the GEO Working Group for Capacity Development (CD-WG) meetings. The WGCapD Chair will serve through 2022 as Co-Chair of the sub-group focused on dissemination events and monitoring, evaluation, and impact assessments.

**WGCV**

Cindy Ong (CSIRO, WGCV Chair) reported:

* WGCV is working with LSI-VC to undertake peer reviews of the very first CARD4L self-assessments. The process is moving along well.
* The dates for WGCV-47 have been set as 14-17 July 2020.
1. **AOB, Next Meeting, Adjourn**

*55th CEOS Newsletter*

Yukio Haruyama (JAXA) reported that only three articles have been received for the 55th CEOS Newsletter so far (SEO, LSI-VC, and Earth Observation for COVID-19). Articles are due by the end of this week.

*2020 CEOS Plenary Draft Objectives*

Raj Kumar (ISRO, CEOS Chair Team) noted that the first draft of the objectives for the 2020 CEOS Plenary were circulated to CEOS SEC with the agenda for this meeting. He welcomed SEC feedback via email before July 8, after which the draft objectives will be sent out to the CEOS mailing lists for broader feedback.

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| **266-05** | CEOS SEC to provide feedback on the first draft of the objectives for the 2020 CEOS Plenary to the CEOS Chair Team before July 8, after which the draft objectives will be sent out to the CEOS mailing lists for broader review and feedback. | **July 8** |

CEOS SEC noted that matters related to both GEO Plenary (and GEO in general) as well as UNFCCC COP should appear on the agenda and possibly also the statement of objectives. It was noted that COP has been postponed by one year. The plan for GEO Plenary has not been announced.

*2022 CEOS Chair*

The CEOS Chair has asked the European permanent CEOS Secretariat agencies for their guidance regarding a nomination for the 2022 CEOS Chair, which based on the usual geographic rotation is expected to come from the Europe/Africa region.

This contact was acknowledged by Ivan Petiteville (ESA). He noted that the European agencies have been discussing the issue but are not yet ready to send a formal reply. This will be followed up shortly.

*Meeting Close*

Raj Kumar (ISRO, CEOS Chair Team) thanked everyone for attending. CEOS SEC-267 will be held on July 16. The plan for CEOS SEC teleconferences/meetings leading up to the 2020 Plenary is as follows (typically Thursday):

SEC-267: July 16, 2020

SEC-268: August 27, 2020

SEC-269: September 2020 (alongside the 2020 CEOS SIT TW)

SEC-270: October 1, 2020

SEC-271: October 2020 (alongside the 34th CEOS Plenary)