**Minutes V1.0**

**222nd CEOS SECRETARIAT MEETING**

Thursday 30th March 2017

7AM US East, 1PM Europe, 9PM Tokyo, 10PM Sydney

Chaired by USGS

**Participants**

**CEO:** Jonathon Ross

**EC:** Astrid-Christina Koch

**EUMETSAT:** Robert Husband

**GEO:** Osamu Ochiai

**JAXA:** Shizu Yabe, Chu Ishida, Koji Akiyama

**NASA:** Brian Killough, Christine Bognar

**NOAA/SIT Vice-Chair Team:** Steve Volz, Kerry Sawyer

**USGS:** Frank Kelly, Jenn Lacey, Matthew Steventon, Stephen Ward

**WGCapD:** Phila Sibandze

**WGCV:**  Kurt Thome

**WGDisasters:** Stéphane Chalifoux

**WGISS:** Andrew Mitchell

*The collection of written reports received ahead of the teleconference are attached in Appendix A. They present a thorough overview of the status and activities of the CEOS entities present at CEOS SEC-222.*

1. **Welcome and Introductions**

Frank Kelly (USGS, CEOS Chair) welcomed everyone to CEOS SEC-222.

1. **Review of Agenda**

Frank Kelly (USGS, CEOS Chair) asked for feedback on the agenda/additional agenda items. Nothing was raised and the agenda was adopted.

1. **Action Status**

Frank Kelly (USGS, CEOS Chair) noted that the updated SEC action record was included with the meeting agenda. The status of actions will not be reviewed unless there is a specific request from one or more SEC members.

1. **Working Group Reports**

**WGDisasters (Stéphane Chalifoux, CSA, Chair)**

Stéphane directed the Secretariat to his written report for a complete update, noting two specific points for the attention of CEOS SEC:

* WGDisasters is in the process of identifying a new Vice-Chair, and discussions are being held with a number of candidate agencies.
* The 7th meeting of WGDisasters took place from March 14 to 16 at the Italian Space Agency. 30 people, including a new representative from ROSKOSMOS, attended (3 by teleconference). Draft final reports for the Disaster Risk Management (DRM) pilot initiatives on floods, seismic hazards and volcanoes were presented at the meeting. They will be presented for feedback at SIT-32, ahead of their final presentation at the 2017 CEOS Plenary.

**WGClimate (Pascal Lecomte, ESA, Chair)**

Pascal reported to the USGS CEOS Chair Team that he would not be able to attend the meeting and sent his apologies.

**WGISS (Andrew Mitchell, NASA, Chair)**

Andrew reported the following select points from the written report on behalf of WGISS:

* WGISS leadership is awaiting a response from the CEOS Agency that expressed interest in putting forward a nominee for the WGISS Vice-Chair position. The role is a four-year commitment which would begin in November 2017.
* WGISS-43 will be hosted by NASA in Annapolis, Maryland, USA, from April 3-7. Around 40 people are currently registered. Discussions around the FDA Pilots and a GEOSS-WGISS Interoperability Workshop are two of the highlights.
* WGISS had a productive meeting with Mark Dowell (EC/JRC) and Stephen Plummer (ESA) on the CEOS Carbon Actions assigned to WGISS, most notably the Carbon Portal. This teleconference initiated the effort to define requirements for facilitating the discoverability and accessibility of ECV Products and space-based CDRs relevant to the actions via WGISS interoperability systems and standards (FedEO/CWIC/IDN, OpenSearch).

**WGCapD (Phila Sibandze, SANSA, Chair)**

Phila was in attendance at CEOS SEC-222, but unable to speak due to technical difficulties. Jonathon Ross (GA, CEO) noted that he attended the recently concluded WGCapD-6 meeting in Oberpfaffenhofen, Germany. He reported that the Working Group is building good momentum, particularly around Data Cube support and the establishment of more linkages between GEO and CEOS capacity building efforts. Jonathon directed everyone to the written report for Phila’s update.

**WGCV (Kurt Thome, NASA, Chair)**

Kurt highlighted the following points from the WGCV written report:

* The results of the RadCalNet Beta testing were presented at the WGCV/IVOS meeting on March 13. The RadCalNet team received valuable input on how to improve the data format, web access, and communication uncertainties. Results from the beta testers confirmed the current estimates for the network’s uncertainties. It is hoped that RadCalNet will be opened for general use in Q4 2017.
* Results of the atmospheric correction intercomparison (as part of the ACIX Task Team) will be presented at a workshop hosted by ESA ESRIN in April. 14 atmospheric correction teams took part in the intercomparison. Kurt clarified that the exercise will not ‘pick a winner’, but rather present lessons learned from each approach.
* The WGCV Chair and Vice-Chair participated in the initial teleconference of the Moderate Resolution Sensor Interoperability (MRI) Formulation Team. The WGCV Vice-Chair (Cindy Ong, CSIRO) is serving as a co-Lead of this CEOS Chair Initiative for 2017. Kurt gave the WGCV IVOS subgroup an update on the progress of the MRI team and also attended an MRI side meeting that was held following the recent LSI-VC-3 meeting. WGCV is collaborating with the MRI team on the development of a framework for the initial case studies.

1. **CEO Report**

Jonathon Ross (GA, CEO) directed the Secretariat to his written report for a full update.

**CEOS Work Plan 2017-2019**

Jonathon reported that v1.0 of the CEOS Work Plan 2017-2019 has now been released. He thanked everyone for their inputs and noted that a 1.1 revision might be released following SIT-32, if any meeting developments necessitate an update (e.g., in relation to CEOS Ocean Variables Enabling Research and Applications for GEO (COVERAGE)).

**WIGOS 2040 Vision Response Letter**

Jonathon noted that the CEOS WIGOS 2040 Vision response letter has been sent to the WMO Secretariat and it was clearly well received, based on their feedback.

**68th International Astronautical Congress 2017, 25-29 September 2017, Adelaide, Australia**

A Plenary Event proposal prepared by GA, CSIRO, NASA and NOAA on “satellite technology in support of sustainable development” has been accepted. This session will have a focus on the critical importance of getting Earth observation data from “up there” used “down here”, and the value that the uptake of data will have in catalysing future investment in advanced technologies. In addition, a Highlight Lecture (also in plenary) on the use of satellite remote sensing for the Great Barrier Reef was selected. Proposals for sessions on CEOS activities and the Open Data Cube initiative have also been submitted.

**37th International Symposium on Remote Sensing of Environment (ISRSE-37)**

The CEO will represent CEOS on behalf of the CEOS Chair, and will present two sessions on CEOS activities and the Open Data Cube initiative.

**Advisory Committee Representation**

Frank Kelly (USGS, CEOS Chair) has been invited to sit on the GEOGLOWS Steering Committee, or to nominate a representative to do so. GEOGLOWS has been noted as an emerging ‘reference point’ for CEOS water-related activities. The term is initially for two years, and the first meeting is in May in the United States. Jonathon sought advice from the Secretariat on the CEOS response to the invitation.

Kerry Sawyer (NOAA, SIT Vice-Chair Team) reported that Paul DiGiacomo (NOAA) has been briefed and is happy to serve as the CEOS representative. Steve Volz (NOAA, SIT Vice-Chair) confirmed Paul’s offer; Astrid-Christina Koch (EC) and Frank Kelly (USGS, CEOS Chair) supported the proposal.

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| 222-01 | *CEOS Chair and CEO to draft a response to the GEO Secretariat nominating Paul DiGiacomo (NOAA) as the CEOS representative for the GEOGLOWS Steering Committee.* | SEC-223 |
| 222-02 | *CEO to follow-up with Barbara Ryan to get an idea of other potentially forthcoming GEO Advisory Committee roles.* | SEC-223 |

**Open CEO Position**

Jonathon closed by noting that a new CEO is yet to be identified, and he welcomed all agencies to put forward a nomination.

1. **SIT Chair Report**

Stephen Ward (SIT Chair Team) reported on behalf of the ESA SIT Chair Team:

* Preparations for SIT-32 are currently the priority for the SIT Chair Team. Future Data Architectures (FDA) related items have recently been moved to the first day of the meeting.
* Around 70 people are registered to attend SIT-32. Stephen recalled the side meeting poll sent with the latest agenda, and requested that everyone fill the poll with their planned side meeting attendance – to assist planning.

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| 222-03 | *All SIT-32 attendees to fill the following poll with their planned side meeting attendance:* [*http://doodle.com/poll/ges53vu6dugz9w3a*](http://doodle.com/poll/ges53vu6dugz9w3a) | 7th April 2017 |

* The SIT Chair (Stephen Briggs, ESA) represented CEOS at the 39th meeting of the GEO Executive Committee (ExCom) on the 9th of March. During the meeting, the ExCom approved the GEO Engagement Implementation Plan 2017-2019, and in particular agreed to focus on three priorities: The 2030 Agenda for Sustainable Development, Climate Change (specifically greenhouse gas monitoring), and Disaster Risk Reduction.

Stephen closed by noting that the submitted written report includes further details and updates.

Jonathon Ross (GA, CEO) asked Steve Volz (NOAA, SIT Vice-Chair) whether the GEO Engagement Implementation Plan 2017-2019 was formally approved at the recent ExCom meeting; the meeting minutes did not make this clear. Steve reported that, to his recollection, the Plan has been approved, following a long discussion during the meeting. Steve took an action to seek clarification from the GEO ExCom Chair.

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| 222-04 | *SIT Vice-Chair to confirm with the GEO ExCom Chair that the GEO Engagement Implementation Plan 2017-2019 was formally approved during the recent ExCom meeting.* | 7th April 2017 |

Shizu Yabe (JAXA) reported that JAXA will organise a SIT-32 side meeting on April 25th on engaging with the UNFCCC and IPCC on greenhouse gas Earth observations from space. In addition to the side meeting, it would be appreciated if agency representatives could reach out to JAXA (perhaps during lunches/breaks) to share ideas on engaging with the UNFCCC and IPCC.

**LSI-VC Update**

Jenn Lacey (USGS, LSI-VC Co-Lead/CEOS Chair Team) reported a brief update on the activities of the LSI-VC, in particular the key outcomes from the recent LSI-VC-3 meeting. She noted the strong attendance, and the good progress made on the Product Family Specifications (PFS) for CEOS Analysis-Ready Data for Land (CARD4L) – notably for SAR. The LSI-VC also met with Mark Dowell (EC/JRC) to chart the next steps on the CEOS Carbon Actions assigned to LSI-VC. LSI-VC-3 was followed by a half-day meeting on the MRI CEOS Chair Initiative.

1. **GEO SEC Report**

Osamu Ochiai (GEO Secretariat) reported the following key points from the 39th GEO ExCom meeting:

* Robert-Jan Smits (2017 GEO Co-Chair) chaired the meeting.
* The selection process for the new GEO Secretariat Director was discussed, and the vacancy notice and recruitment timeline were agreed.
* The Program Board report highlighted the need to showcase select examples of where EO has contributed to the achievement of the SDGs.
* On the GEO Engagement Strategy:
  + The Commercial Sector Report noted the need for: further work on identifying the ‘who’ and ‘how’ (modus operandi), an advisory committee, and exploration of the UN-GGIM CS network;
  + Examples of successful engagements will be showcased at GEO-XIV Plenary;
  + Climate adaptation, with an emphasis on the Paris Agreement, will be considered;
  + A COP23 side event is planned in collaboration with key partners (e.g., UNFCCC, IPCC, CEOS, GCOS); and,
  + In-country collaborations will be encouraged.
* GEO Legal Status Update
  + A new WMO-Swiss agreement acknowledges GEO will become a UNFCCC Observer and member of the GFCS PAC (Global Framework for Climate Services Partnership Advisory Council).

1. **Systems Engineering Office (SEO) Report**

Brian Killough (NASA, SEO) reported:

* The SEO team will be traveling to Vietnam in early April. The team will meet with local representatives in Hanoi to train them on Data Cube installation and operation. The team will also support the SDCG and GFOI meetings in Ho Chi Minh City.
* The SEO team met with CSIRO and GA in Australia in early March. This annual face-to-face meeting of the three groups has been critical to project planning and sustained progress. One key objective of the meeting was to develop a governance plan for the open source Data Cube software. The name of the initiative was also changed to "Open Data Cube". A website will soon be populated with links to the open source software, documentation, training content, and a summary white paper.
* The SEO continues to make progress on the core Data Cube technology. The cloud-based (Amazon) user interface is now open to the public for testing (<http://tinyurl.com/datacubeui>). The interface includes 14 sample Data Cubes and 7 applications. Additional work continues on the creation of sample Cubes for SERVIR and Vietnam, and on the evaluation and testing of the CCDC change detection algorithm.

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

**SDCG for GFOI**

Stephen Ward (SDCG Secretariat) reported on behalf of the SDCG for GFOI:

* Last week, Stephen participated in the LSI-VC-3 meeting to discuss the rationalization of CEOS land surface imaging activities, in particular the proposed September joint meeting of the LSI-VC, SDCG for GFOI, and CEOS-GEOGLAM *ad-hoc* WG. The presentation he gave at the meeting was circulated to CEOS SEC with the written reports for SEC-222. He referred CEOS SEC to the slides for further details. The trial joint meeting is fixed for September 6-8 at ESA ESRIN.
* SDCG-11 will be taking place April 9-10, followed by GFOI Plenary (April 11-12) in Ho Chi Minh City, Vietnam. More information is available at: <http://ceos.org/meetings/sdcg-11/> The main priority is ensuring that GFOI Phase 2 is properly defined so that CEOS’ investment and interests in GFOI are protected. Changes to the GFOI Data Component are expected, with a broader focus being considered to encompass more applications and tools to help countries uptake and apply data. There is the possibility that new leadership will emerge in GFOI Phase 2 (e.g., UK, Germany, World Bank).

**CEOS *Ad-Hoc* Working Group on GEOGLAM**

Brian Killough (NASA, SEO) reported four select points from the written report on behalf of Brad Doorn (NASA) and Selma Cherchali (CNES) – the CEOS *Ad-Hoc* Working Group on GEOGLAM Co-Leads:

* The CEOS *Ad-Hoc* Working Group on GEOGLAM supports the proposed joint meeting of the LSI-VC, SDCG for GFOI, and CEOS-GEOGLAM *Ad-Hoc* WG in September.
* Inputs for the GEOGLAM EO requirements review are still slowly trickling in from JECAM sites. The focus is on ensuring the quality of the requirements and the nominal target remains the 2017 CEOS Plenary.
* Ian Jarvis (JECAM Co-Lead) is tentatively planning to attend SIT-32 on behalf of the GEOGLAM Secretariat, pending AAFC approval and necessity.
* A GEOGLAM RAPP workshop focused on grassland observations (optical and SAR) is planned for May 16-17 at ESA ESRIN.

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

The SDG-AHT was not represented at CEOS SEC-222, however a written report was submitted and is included in the attached compilation.

1. **CEOS Chair Initiatives**

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

Jenn Lacey (USGS, CEOS Chair Team) directed SEC to the written report and noted the following points on behalf of the FDA-AHT Co-Leads:

* The FDA-AHT continues to work with the SEO on the implementation of the FDA Pilots.
* There will be a two-hour SIT-32 side meeting held on April 25th. All are encouraged to attend.

Jonathon Ross (GA, CEO) noted that Andy Mitchell (NASA, WGISS Chair) has taken the lead on preparing the team’s materials for SIT-32. After SIT-32 the ‘what’ of the CEOS FDA Strategy will be decided, and attention will then turn to the ‘how’.

**Moderate Resolution Sensor Interoperability Initiative (MRI)**

Jenn Lacey (USGS, CEOS Chair Team) reported on behalf of Gene Fosnight (USGS, MRI Lead). The first face-to-face meeting of the MRI team was held just after LSI-VC-3, and was very well attended. Many opportunities and existing activities in this space were identified. The first meeting resulted in a clear understanding of the target achievements for SIT Technical Workshop and CEOS Plenary.

1. **AOB**

**CEOS Plenary 2018**

Astrid-Christina Koch (EC) reported that the 2018 CEOS Plenary will be held in Brussels, Belgium, from the 16th to the 18th of October. This timing avoids a conflict with the GEO Plenary taking place late October/early November in Japan.

1. **Next Meeting and Adjourn**

Frank Kelly (USGS, CEOS Chair) adjourned the meeting. He thanked everyone for attending and reported that CEOS SEC-223 will take place on the 25th of April 2017, at ESA Headquarters in Paris, France, ahead of SIT-32.

1. **Appendix – Written Reports**

Please see the attached document for the written reports submitted by:

* Working Group on Disasters (WGDisasters)
* Working Group on Information Systems and Services (WGISS)
* Working Group on Capacity Building and Data Democracy (WGCapD)
* Working Group on Calibration and Validation (WGCV)
* CEOS Executive Officer (CEO)
* Strategic Implementation Team Chair (SIT Chair)
* Land Surface Imaging Virtual Constellation (LSI-VC)
* GEO Secretariat (GEO SEC)
* CEOS Systems Engineering Office (SEO)
* Space Data Coordination Group for the Global Forest Observations Initiative (SDCG-GFOI)
* CEOS *Ad-Hoc* Working Group on GEOGLAM (CEOS-GEOGLAM)
* CEOS *Ad-Hoc* Team on Sustainable Development Goals (SDG-AHT)
* Future Data Access & Analysis Architectures *Ad-Hoc* Team (FDA-AHT)
* Moderate Resolution Sensor Interoperability Initiative (MRI)