**Minutes V1.0**

**224th CEOS SECRETARIAT MEETING**

Thursday 25th May 2017

7AM US East, 1PM Europe, 8PM Tokyo, 9PM Sydney

Chaired by USGS

**Participants**

**CEO:** Jonathon Ross

**COM:** Astrid-Christina Koch

**CSIRO/FDA-AHT:** Alex Held

**EUMETSAT:** Robert Husband

**JAXA:** Shizu Yabe, Yukio Haruyama, Koji Akiyama

**NASA:** Christine Bognar

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

**USGS:** Frank Kelly, Eric Wood, Matthew Steventon, George Dyke

**WGCapD:** Phila Sibandze

**WGClimate:** Pascal Lecomte

**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-224.*

1. **Welcome and Introductions**

Frank Kelly (USGS, CEOS Chair) welcomed everyone to CEOS SEC-224.

1. **Review of Agenda**

Frank Kelly (USGS, CEOS Chair) asked for feedback on the agenda/additional agenda items. Pascal Lecomte (ESA, WGClimate Chair) requested that a discussion on COP 23 be added to the agenda.

1. **Action Status**

Frank Kelly (USGS, CEOS Chair) noted that the updated SEC action record was included with the meeting agenda. He highlighted SEC action 223-02, which calls on SEC Agencies to identify to NOAA any hard conflicts for the weeks of the 9th, 16th, and 23rd of April 2018, in support of SIT-33 planning.

NOAA stated that the Space Symposium will be held the week of April 16 in Colorado Springs and proposed that SIT-33 be held either the week prior or the week after, in Colorado (Fort Collins is proposed). NASA indicated a conflict with the European Geosciences Union General Assembly in Vienna during the week of April 9. NOAA will take this, and any other conflicts, into consideration in finalizing the dates and location of SIT-33. SEC action 223-02 remains open, and CEOS SEC Agencies are asked to provide identified conflicts and challenges to NOAA by 31 May.

Astrid-Christina Koch (COM) supported NOAA’s proposal, noting however that COM have restrictions on the number of people that are able to participate in a mission, and the allocation for the Space Symposium will already be reserved for space policy staff, which might present a problem for the CEOS delegation.

Kerry closed by noting that the 2018 SIT Technical Workshop will take place from the 10th to the 14th of September 2018, hosted by EUMETSAT in Darmstadt. Steve Volz (NOAA, SIT Vice-Chair) thanked EUMETSAT for their assistance with the meeting.

1. **Working Group Reports**

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

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

* WGDisasters has identified a new Vice-Chair; NASA will assume the role at the 2017 CEOS Plenary.
* GEO-DARMA: The first regional mission in the Asia-Pacific facilitated a meeting with UNESCAP and the Asian Disaster Preparedness Center (ADPC). Discussions focused on user requirements.
* The Global Partnership on Space Technology Applications for Disaster Risk Reduction (GP-STAR) is holding a side event in Cancun on May 26th. CEOS will be one of the four panelists in the side event, and the CEOS representative will discuss CEOS activities and challenges. CEOS members have also been invited to participate in the ‘Market Place’.

Jonathon Ross (GA, CEO) reminded Stéphane that a nomination letter from NASA is required to go to the CEOS Chair, SIT Chair, and CEO before the Plenary. Christine Bognar (NASA) acknowledged the requirement, noting that she is coordinating a letter with David Green, Mike Freilich, and Lawrence Friedl.

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

Pascal apologized for being unable to send a written report, and noted the following:

* WGClimate remain focused on the ECV Inventory gap analysis and the CEOS response to the GCOS Implementation Plan. The collection of data for the gap analysis is complete, and the records are currently being verified/assessed. The gap analysis results are expected by mid-summer, and the work is on schedule. The GCOS IP response is well underway.
* There are two points to consider for COP 23: The Space Agency Statement to SBSTA 47 and the various side events. Pascal reported that ESA are planning to organise two side events: one on land cover (as a European Pavilion event), and another on support to small islands, as COP is being organized by Fiji (as a UN side event). He added that GCOS is also likely organizing a UN event, and he will follow up with Carolin Richter (WMO, GCOS) in regard to how CEOS and GCOS could cooperate.

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| 224-01 | *Pascal Lecomte (ESA, WGClimate Chair) to confirm with Carolin Richter (WMO, GCOS) whether GCOS is planning a COP 23 side event, and if so, to identify potential CEOS-GCOS collaborations in support, and notify CEOS SEC.* | SEC-225 |

* COM will be presenting the Space Agency Statement to SBSTA 47, and Astrid-Christina Koch (COM) confirmed that the first draft is on her to-do list. Jonathon Ross (GA, CEO) questioned whether it would be better for WGClimate to make a start on the draft. Jonathon also noted the SIT-32 action for WGClimate to provide a timeline for the production of the Statement, and recalled that the European Commission will have a long lead-time for its approval. An action was recorded for the discussion to be continued outside of SEC-224.

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| 224-02 | *WGClimate Chair, CEO, and Astrid-Christina Koch (COM) to organise a teleconference to discuss the specifics around the preparation of the Space Agency Statement to SBSTA 47.* | SEC-225 |

**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.
* At the request of AMERIGEOSS, the CEOS WGISS Integrated Catalog (CWIC) team participated in the USGS Community for Data Integration (CDI) Workshop/API Plugfest in Denver, Colorado, May 15-17. During the workshop, attendees used geospatial Application Programming Interfaces (APIs) from the GEO Data Access Broker (GEODAB), NOAA, NASA, USGS, FEMA, EPA, USDA and CEOS (CWIC) to provide various data and service resources of selected thematic areas (water, environment, agriculture and hazards/disasters) in the US Federal Geographic Data Committee (FGDC) Geoplatform.
* The 43rd WGISS plenary meeting was held April 3-6 in Annapolis, Maryland. There was a one-day technology exploration workshop on April 4th, focusing on Future Data Access and Analysis Architectures (FDA) and FDA-related cloud computing topics. There was also another one-day workshop on April 5th focusing on Global Earth Observation System of Systems (GEOSS) and WGISS interoperability, as well as a session on capacity building and data democracy. There were over 60 attendees present, representing 12 different international and national government agencies, plus 6 different EO organizations.
* WGISS was invited to present at the GEO Data Providers workshop (April 20-21) in Florence, Italy, on GCI-CEOS interoperability achievements. Richard Moreno (CNES) attended and presented on how WGISS has made over 300 million CEOS data resources accessible to GEO via recent developments in the WGISS interoperable standards architecture with FedEO, CWIC, and the IDN.
* WGISS-44 will be hosted by the Chinese Academy of Sciences (25-29 September 2017) in Beijing, China.

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

Phila reported the following points from the WGCapD written report:

* WGCapD is still seeking a nomination for the Vice-Chair position that will be vacant as of CEOS Plenary 2017.
* A collaboration between WGCapD and SAREDU resulted in a three-day ISRSE pre-conference SAR Training Workshop (Pretoria, South Africa, 4-7 May).
* A WGCapD SAR workshop will be held at the University of Costa Rica during AmeriGEOSS week (1-4 August 2017).
* The ‘Best Practices for Capacity Building’ document which was circulated to all WGs, VCs, and AHTs for their feedback is still under review.
* The AfriGEOSS Symposium will be held in Ghana (13-15 June 2017), and WGCapD has requested two of its members from South Africa and Gabon to represent the WG at the symposium.

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

Kurt thanked the USGS CEOS Chair Team for hosting last week’s WGCV meeting in Sioux Falls, noting that it was a great opportunity to hold discussions with EROS staff around FDA, LSI-VC, and the MRI initiative. Kurt also reported the following points from the WGCV written report:

* Results presented by the LPV subgroup demonstrated significant progress on the WGCV’s CARB-19 action in the CEOS Work Plan. The results are being formalized and are expected to allow closure of that action by September 2017.
* A set of proposed activities to be undertaken by WGCV related to moderate resolution interoperability have been forwarded to the MRI team for discussion during the team’s upcoming teleconference planned for early June. The activities will leverage work currently being done by WGCV subgroups that can be tailored for MRI.
* A description of the GSICS/WGCV IVOS proposed solar irradiance spectrum will be distributed to the WGCV membership for comment and approval as the WGCV accepted solar irradiance spectrum for distribution on the CEOS Cal/Val Portal. The spectrum is an update to the Thuillier Reference Spectrum 2003 that is currently on the Portal.
* A schedule that leads to the opening of the RadCalNet website to the public in November 2017 was outlined at the recent WGCV meeting. Tentative approval was given by the WGCV for a process to accept test sites into RadCalNet and for opening the website for general use. Final approval of the method is awaiting a formal Terms of Reference for a RadCalNet admissions panel.

1. **CEO Report**

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

**CEO Succession**

Jonathon reported that there has been some progress within one agency, and the process is looking positive.

**CEOS Work Plan 2017-2019**

The CEOS Work Plan 2017-2019 was updated following SIT-32 to reflect the inclusion of COVERAGE. The draft of the version 1.1 Work Plan has been circulated for review and feedback. Once the document is finalized, Kim Holloway (NASA, SEO) will make the final updates to the deliverables database. The SIT Chair Team will be asking VCs and WGs to update the database ahead of their next round of consultation teleconferences.

In response to the call for feedback on the draft v1.1 Work Plan, Kerry Sawyer (NOAA, SIT Vice-Chair Team) suggested that the COVERAGE actions be moved from Section 3.8 (Virtual Constellations) to Section 3.9 (Support to Other Key Stakeholder Initiatives) since that is where the explanatory paragraphs on COVERAGE currently reside. The suggestion was discussed on the call, and it was agreed that COVERAGE should be moved to Section 3.9, in its own subsection.

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

The CEO represented CEOS on behalf of the CEOS Chair, and presented two sessions on CEOS activities and the Open Data Cube initiative. Jonathon reported that it was a very strong conference, and there were many occasions where CEOS and GEO efforts were acknowledged. Steve Volz (NOAA, SIT Vice-Chair) noted that the need for capacity building was a common theme throughout the meeting.

**GEO Work Programme Symposium**

Attendance at the Symposium was light, however the discussions were very productive. The three GEO priorities (SDGs, disasters, and climate) were the focus.

**GEO Blue Planet Symposium**

Jonathon will be attending the meeting next week in Washington, D.C., on behalf of CEOS. One of the key goals is mobilizing the community to start providing ‘Data-Cube-ready’ code for users.

1. **SIT Chair Report**

George Dyke (SIT Chair Team) reported on behalf of the ESA SIT Chair Team:

* The second round of teleconferences between the SIT Chair Team and each of the Working Groups and Virtual Constellations will commence in early June. So far 3 groups (out of 12) have indicated their preferred date and time to the SIT Chair Team.
* The SIT Chair Team is working to prepare for the SIT Technical Workshop and its side-meetings (11-14 September 2017). A formal invite is expected to go out shortly.
* The draft SIT-32 decisions and actions have been circulated, and a more extensive review cycle is expected when the minutes are released. George noted the development finance and IFI discussion from SIT-32, and he reported that the SIT Chair Team are organising a follow-up session at the SIT Technical Workshop (11th of September), and will prepare a white paper and hold consultation teleconferences with Principals and others in preparation.
* There is currently no update on which agency might replace NOAA as SIT Vice-Chair when NOAA becomes the SIT Chair.

Kerry Sawyer (NOAA, SIT Vice-Chair Team) noted that the VC/WG Day of SIT Technical Workshop will be held on the 12th of September, however this conflicts with the WGClimate meeting. Kerry asked Pascal Lecomte (ESA, WGClimate Chair) whether WGClimate will therefore miss the VC/WG Day. Pascal confirmed that WGClimate will not be able to participate in the VC/WG Day; there is unfortunately no way to adjust the dates.

1. **GEO SEC Report**

Osamu Ochiai (GEO Secretariat) notified the CEOS Chair Team that he would not be able to join the teleconference due to a schedule conflict. Osamu provided a written report ahead of the call.

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

George Dyke reported on behalf of Brian Killough (NASA, SEO):

* The SEO team is preparing for the 2017 IGARSS Conference in Fort Worth, Texas, July 23-28. The SEO will be leading an Open Data Cube workshop on the first day (4 hours, free of charge) and will be hosting a CEOS exhibition booth with a focus on Data Cube activities. For further information, please contact Brian directly.

Jonathon Ross (GA, CEO) reported that the SEO, GA, and CSIRO are also planning a high-level Data Cube side event at GEO-XIV Plenary, to introduce the concept to senior government officials and to hold discussions around how the technology can be supported by national structures.

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

**SDCG for GFOI**

George Dyke reported that JAXA has nominated Ake Rosenqvist to become a member of the GFOI Methods and Guidance Advisory Board, which is responsible for shepherding the forest monitoring guidance that is feeding directly into UN climate processes. George noted that this is a very positive development and he thanked JAXA for their support. Shizu Yabe (JAXA) confirmed the nomination, noting that Ake’s extensive experience in the use of SAR for forestry makes him an excellent candidate.

George directed the Secretariat to the SDCG-GFOI written report for further updates.

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

George Dyke reported on behalf of Brad Doorn (NASA) and Selma Cherchali (CNES) – the CEOS *Ad-Hoc* Working Group on GEOGLAM Co-Leads:

* GEOGLAM’s Implementation Team will hold a 2.5-day meeting at FAO headquarters in Rome (hosted by AMIS) from the 19th to the 21st of June 2017. This working meeting is expected to result in the formalization of roles and responsibilities for the program, a plan for how to continue while nearly all partners’ funding situations are in flux, and will include a focused discussion on what GEOGLAM will aim to accomplish in the next 18-24 months. This will likely have some influence on activities with CEOS, including the commercial engagement strategy, and possibly data coordination requests as GEOGLAM potentially returns to a phased implementation approach (TBD).

George directed the Secretariat to the written report for further updates.

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

Alex Held (CSIRO, SDG-AHT Co-Lead) reported on behalf of the SDG-AHT Leads:

* Marie-Josée Bourassa (CSA) has stepped down as a Lead of the SDG-AHT; a new Lead from the Americas is anticipated, and further information is hopefully forthcoming. Steve Volz (NOAA, SIT Vice-Chair) took an action to follow up.

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| 224-03 | *Steve Volz (NOAA, SIT Vice-Chair) to follow up the open SDG-AHT Co-Lead position with Satya Kalluri (NOAA) and NASA (Christine Bognar and Lawrence Friedl).* | SEC-225 |

* The next edition of the CEOS Earth Observation Handbook will likely have an SDG theme; it is currently in the early planning stages.

1. **CEOS Chair Initiatives**

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

Alex Held (CSIRO, FDA-AHT Co-Lead) directed SEC to the written report and noted that the FDA-AHT is now working on the ‘how’ and ‘when’ aspects of the FDA strategy. He also reported some further Data Cube developments, noting that groups in Uganda, South Africa, and Kenya are interested in employing the technology.

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

Eric Wood (USGS, CEOS Chair Team) reported on behalf of Gene Fosnight (USGS, MRI Lead):

* The first complete draft of the MRI Framework document was distributed to the MRI team for review on May 9.
* A survey is being developed to learn more about the current state of interoperability research and development within the extended CEOS community.
* The WGCV meeting was held at USGS EROS from May 15th to 19th, during which a decision was made to focus on the development of methodologies to determine the uncertainties associated with Level-1 and higher-level products, to facilitate user assessment of multi-sensor data streams for specific applications.

1. **CEOS Plenary Preparation**

Frank Kelly (USGS, CEOS Chair) noted that *CEOS Plenary Preparation* will be a standing item on SEC agendas from now until the meeting, and will be used to keep the Secretariat informed of developments. Frank also noted that the draft Plenary objectives and meeting-at-a-glance was recently circulated to the CEOS SEC mailing list, for review and feedback. He encouraged everyone to share their thoughts on this early draft before June 15.

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| 224-04 | *CEOS SEC to provide feedback to the USGS CEOS Chair Team on the draft objectives and meeting-at-a-glance for the 2017 CEOS Plenary.* | June 15 |

Matt Steventon (CEOS Chair Team) reported that members of the CEOS Chair Team will be in contact soon with key POCs for each of the planned plenary sessions, to ensure that the objectives are on-target and the agenda meets expectations.

Kerry Sawyer (NOAA, SIT Vice-Chair Team) noted the absence of agency reports from the meeting-at-a-glance. Frank acknowledged the omission, and reported that this will be considered in the next version.

1. **AOB**

**CEOS Attendance at GEO-XIV Plenary**

Steve Volz (NOAA, SIT Vice-Chair) reported that he will be attending GEO-XIV Plenary. Jonathon Ross (GA, CEO) noted that it is still early, but he raised this AOB item to suggest that this be a standing agenda item until the meeting. Christine Bognar (NASA) reported that the NASA team will coordinate their attendance and report back to SEC in due course.

**Open CEOS Leadership Positions and 2019 CEOS Chair**

Frank Kelly (USGS, CEOS Chair) directed everyone to review the table in the agenda. This table will be tracked in SEC teleconferences up until the 2017 Plenary. All of the gaps highlighted in red have already been discussed under the appropriate headings above.

Frank reported that USGS sent a letter to VAST, encouraging them to participate in all upcoming CEOS meetings and to consider their further involvement in CEOS activities. A formal response was received, which: confirmed their intent to serve as 2019 CEOS Chair, included the definition of their proposed CEOS Chair Team, and confirmed that they will attend all of the key upcoming CEOS meetings.

Frank noted VAST’s interest in joining CEOS SEC teleconferences, and he proposed that VAST be invited to the next call. No issues were raised. The CEOS Chair Team will invite VAST to join CEOS SEC-225, and all teleconferences thereafter.

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| 224-05 | *USGS CEOS Chair Team to invite VAST to join CEOS SEC teleconferences, starting with CEOS SEC-225*. | June 10 |

1. **Next Meeting and Adjourn**

Frank Kelly (USGS, CEOS Chair) adjourned the meeting. He thanked everyone for attending and reported that CEOS SEC-225 will take place on the 22nd of June 2017.

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)
* 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)
* Future Data Access & Analysis Architectures *Ad-Hoc* Team (FDA-AHT)
* Moderate Resolution Sensor Interoperability Initiative (MRI)