**Minutes V1.0**

**251st CEOS SECRETARIAT MEETING**

Thursday 13 June 2019

Chaired by VAST-VNSC

**Participants**

**CEO:** –

**COM:**  –

**ESA:** –

**EUMETSAT:** Robert Husband

**GEO SEC:** Akiko Noda

**ISRO:** Raj Kumar

**JAXA:** Yukio Haruyama

**NASA:** Christine Bognar

**SIT Chair Team:** Steve Volz, Kerry Sawyer

**SEO:** Brian Killough

**SIT Vice-Chair Team:** Adam Lewis, Jonathon Ross, Andreia Siqueira

**VAST-VNSC:** Pham Anh Tuan (Chair), Linh Phan, Truong Thanh Nguyen, Lam Dao Nguyen, Matthew Steventon, Stephen Ward

**WGCapD:** Nancy Searby

**WGClimate:** –

**WGCV:**  Cindy Ong

**WGDisasters:** Simona Zoffoli

**WGISS:** Mirko Albani

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

Pham Anh Tuan (VAST-VNSC, CEOS Chair) welcomed everyone to CEOS SEC-251.

1. **Action Status**

Pham Anh Tuan (VAST-VNSC, CEOS Chair) noted that most open actions will be covered during the course of the meeting, but he called for any additional updates now. None were raised.

1. **Draft 2019 CEOS Plenary Objectives**

Pham Anh Tuan (VAST-VNSC, CEOS Chair) presented the draft objectives of the 2019 CEOS Plenary, which were circulated to CEOS SEC ahead of the call. He called for feedback, and nothing was raised. Further feedback via email is welcome.

The CEOS Chair Team will now reach out to key people responsible for the various sections of the CEOS Work Plan to ensure their thoughts and priorities are reflected appropriately.

Dr. Tuan also informed SEC of the change in Plenary venue (from Deawoo Hanoi Hotel to Pan Pacific Hotel). More details will be shared via email and the meeting website shortly.

1. **CSIRO/GA SIT Chair 2020-2021 Priorities**

Adam Lewis (GA, SIT Vice-Chair Team) presented the for-consultation prospectus for the CSIRO/GA SIT Chair term of 2020-2021. The PPT summarises the principles of the proposed approach and identifies draft outcomes and milestones under each of the three themes (CEOS ARD, Carbon & Biomass, SDGs). The proposed approach is to:

* Evoke the original vision for SIT – putting CEOS Principals to work on significant challenges to be addressed by coordination and observing system harmonisation;
* Focus on a few priorities – reflecting major thrusts across civil EO programmes and priority needs; and,
* More debate and decision by CEOS Principals towards the outcomes.
  + All meetings cannot provide reporting of all CEOS business.
  + Offline opportunities for broad updates – ideas welcome.

Adam showed timeline graphics for each of the priority threads, which show the trajectory for each theme and possible accomplishments for each of the major meetings from now until the end of 2021.

Adam welcomed comments from CEOS SEC, and the following points were raised:

* Steve Volz (NOAA, SIT Chair) commended the approach. He asked for clarification on the separation between the team’s role as SIT Chair and the individual’s roles in the activities themselves. The overlap and having people with multiple hats can be tricky. Adam acknowledged the need to manage this.
* Christine Bognar (NASA) suggested the need to keep in mind how these tasks link to those in the three-year CEOS Work Plan. Adam noted that most of the tasks highlighted are already established and progressing, and the intention is to use the SIT Chair role to help these progress, i.e., elevating strategically important topics for attention.

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| **251-01** | CEOS SEC representatives to consult with Principals and relevant technical programme experts and provide comments on the planned CSIRO/GA SIT Chair 2020-2021 outcomes and milestones. | **June 28** |

1. **CEO Report**

Steven Hosford (ESA/CNES, CEO) was absent from SEC-251. SEC was referred to his written report for an update.

1. **SIT Chair Report**

Kerry Sawyer (NOAA, SIT Chair Team) reported:

* The SIT-34 minutes have been finalised and shared. The minutes are also available on the SIT-34 website.
* 2019 SIT Technical Workshop: 11-12 September in Fairbanks, Alaska (September 10 for side meetings and September 9th for VC/WG/AHT(AHWG) Working Day (by invitation)). The invitation letter was sent on June 7 and the logistics package will follow shortly. The registration link should be active by the end of next week.
* The VC/WG/AHT–SIT Chair consultation teleconferences are planned for 30/31 July and 5/7/8 August. These will be of the same structure as in July 2018, with thematically combined teleconferences held for 90 minutes each. Kerry will send out emails requesting timing preferences next week.
* Working Group Study Team (WGST) and Ocean Virtual Constellation Merger Study Team (OVCMST) Status: Kick-off teleconferences for each Study Team took place on June 6. The WGST has 17 members and the OVCMST has 11 members. These were both good teleconferences, with all participants expressing their desires as to why they are participating on the teams. It was agreed to break up the work of the Study Teams, and all participants were requested to indicate which action they wish to contribute to completing. There is also an action on the SIT Chair Team to prepare an outline/template of the final report to share by the end of this week. The next teleconferences are proposed for next week.
* Review of SIT-34 Actions:
  + Kerry reminded everyone of SIT-34 Actions 34-01 and 34-08 (VC/WG/AHT Leads to provide updates for the CEOS website; Agencies to notify the SDG-AHT of their ability to support specific SDG Indicators (6.6.1, 11.3.1, and 15.3.1)). Brian reported that he has responded to Marc Paganini and Flora Kerblat (SDG-AHT) regarding the SEO’s work on the SDGs.
  + 34-12: The SIT Chair Team is working on the language for the proposed VC leadership rotation, and this will be shared by June 30.

Pham Anh Tuan (VAST-VNSC, CEOS Chair) asked whether there are any specific objectives related to the WGST and OVCMST that should be reflected in the 2019 CEOS Plenary objectives statement. Steve Volz (NOAA) noted these will be a focus of the SIT Technical Workshop, and so specificity in the objectives for Plenary won’t be available until after the Technical Workshop discussion, however, a spot on the Plenary agenda is requested to present the results and any recommended path forward.

1. **GEO SEC Report**

Akiko Noda (GEO Secretariat) reported:

* 2019 GEO Symposium (27-29 May, Geneva): Approximately 110 people attended the Symposium. 28 candidate Work Programme activities and 4 Regional GEOs made presentations. New formations of GEO Foundational Tasks and the GEO Knowledge Hub were discussed. The Symposium had a few breakout sessions to promote interactive conversation among participants. There remains a challenge around how to coordinate similar efforts among some activities.
* 2020-2022 GEO Work Programme development: The first draft of the GEO Work Programme for 2020-2022 became available on the GEO website on May 16. The summary document contains short descriptions of each of the activities. In addition to this summary document, the full implementation plans for each proposed activity can be downloaded. 55 plans (27 for Flagships and Initiatives, 25 for Community Activities, and 3 Regional GEO) have been received by June 11. After the 14th GEO Programme Board Meeting, the second version will be released in early July.
* GEO gains IPCC Observer status: At its 49th Session in Kyoto this week, the Intergovernmental Panel on Climate Change (IPCC) recognised GEO as an official Observer.
* Results of GEO-AWS Cloud Credits Programme: GEO and AWS announced on June 11 that 21 projects from 17 developing countries will be awarded $1.5 million USD worth of cloud services, grants and technical support from Amazon Web Services through the Earth Observation Cloud Credits Programme.
* GEO Secretariat staff: Mr. Florian Franziskakis joined the GEO Secretariat as *In Situ* Data Management Specialist in May. Ms. Theadora Mills was selected as a new Communications Officer and started her work from June 3. Guo Man (JPO from China) and Akiko Noda are leaving the GEO Secretariat in June.

Pham Anh Tuan (VAST-VNSC, CEOS Chair) thanked GEO for their effort on the GEO-AWS initiative, noting that Vietnam was awarded a grant through this process.

Steve Volz (NOAA, SIT Chair) thanked Akiko for her service to GEO and for being an effective and helpful GEO point of contact for CEOS.

Kerry Sawyer (NOAA, SIT Chair Team) noted there are many connections for CEOS in the 2020-2022 GEO Work Programme. Steven Hosford (ESA/CNES, CEO) and Kerry will be reviewing the document and notes from the Symposium and will share thoughts with the CEOS community in the next few weeks.

Akiko noted the deadline for Key Side Events for GEO Week 2019 is June 15. Jonathon Ross (GA, SIT Vice-Chair Team) noted that one CEOS-related proposal is in the works around CEOS Analysis Ready Data. Jonathon noted there are three types of ‘events’ at GEO Week, and while the deadline for Key Side Events (flagships; hundreds of participants; not parallel) is this week, there is still the opportunity for Targeted Side Event (more traditional style of side meeting; 20-40 people; parallel) applications. The third option is booking a slot on the Ideas Stage for a 10-minute open presentation (no specific deadline at this stage, but applications are encouraged as soon as possible).

1. **SEO Report**

Brian Killough (NASA, SEO) reported:

* Action SIT 34-02: *The SEO, in consultation with SEC, will establish a working team to scope and develop content for the proposed CEOS presence at GEO-XVI Plenary.* The SEO has submitted a proposal for a CEOS exhibition booth. Volunteers are sought to support the booth through content or in-person attendance.
* After consulting with various people, Brian has concluded that there is no desire to do a dedicated CEOS side event. CEOS is however involved in numerous activities that will likely have side events (Digital Earth Africa, Analysis Ready Data) and therefore CEOS contributions will still have an opportunity to be presented. It was agreed that there is no need for a dedicated CEOS informational side meeting (e.g., on what CEOS is) and that it would be more effective for CEOS to be involved in the targeted side events.
* Action SIT 34-04: *CEOS Agencies to submit proposals to SEO for possible CEOS video to be shown at the GEO-XVI Plenary.* CEOS will not have a speaking slot at the GEO Plenary. Therefore, a specific video or presentation is not needed. It is suggested that CEOS consider content for the CEOS Exhibition Booth (previous action) or submit talks (10-20 minutes) for the Ideas Stage. This might be a good opportunity for CEOS projects to showcase their work and its relevance to the GEO audience.
* Brian, Steven Hosford (ESA/CNES, CEO), Adam Lewis (GA, SIT Vice-Chair Team), and Steve Labahn (USGS) provided feedback to GEO on May 15 on the 24 received proposals for the GEO-Amazon project. 16 of 24 proposals plan to use CEOS satellite data. Five of the proposals plan to use the Open Data Cube. Brian will share details of the additional Ethiopian project once received from the GEO Secretariat. The level of CEOS support required is yet to be seen.
* Brian will attend the Harvest meeting in Washington, D.C., June 25-26. The meeting is directly connected to GEOGLAM and will have an Africa component that will cover the Africa Regional Data Cube.
* Brian Killough (SEO), Analytical Mechanics Associates (AMA) and the Global Partnership for Sustainable Development and Data (GPSDD) conducted a 3-day Africa Regional Data Cube training in Accra, Ghana, May 22-24. The meeting was outstanding and helped move three countries (Ghana, Sierra Leone, Senegal) forward toward solving their key issues. The primary focus was illegal mining which is an ideal application solved with time series data (Landsat and Sentinel-1) in a Data Cube.
* CEOS Plenary Action 32-08: *NASA SEO to confer with the CEOS Chair to establish a small brainstorming group to explore possible CEOS Agency contributions to the Digital Earth Africa initiative.* The SEO has reached out to Adam Lewis and Trent Kershaw (GA). It is believed the primary need from CEOS Agencies is ARD from Landsat, Sentinel and ALOS. Brian has also connected with Steven Hosford and Albrecht Schmidt (ESA) regarding possible support for ARD production to support Digital Earth Africa initialisation. The SEO has completed processing of the ALOS-PALSAR mosaics (7 epochs) for all of Africa. Adam Lewis noted that one of the goals for Digital Earth Africa is to provide feedback to CEOS on ARD, and so there will be a need for a sustained activity connecting CEOS and Digital Earth Africa.

1. **Working Group Reports**

**WGDisasters**

Simona Zoffoli (ASI, WGDisasters Chair) noted the following points for SEC attention:

* CNES has offered to serve as WGDisasters Vice-Chair for the period 2019-2021 and then Chair over the period 2021-2023.
* WGDisasters agreed to review their terms of reference considering, as a reference, the Sendai Framework for Disaster Risk Reduction. A draft has been circulated and it was discussed at the last WGDisasters teleconference on May 27. The new terms of reference will be presented to SIT Technical Workshop in September.
* CSIRO has joined WGDisasters, and CSA has also announced they are returning to the group.
* The sessions at LPS and WRC were successful. The joint Disaster Risk Reduction session with GEO had over 100 attendees and was co-chaired by the GEO Executive Director. The recovery session was also well attended and CNIGS presented on the Haiti Recovery Observatory. At the Global Platform, CNES chaired a session on EO for inclusive recovery, and the session summary was reported to the plenary as one of the main outputs of the WRC.
* Landslide Pilot: Activities are progressing well and a progress meeting with about ten people was held during the EGU in Vienna in April. It was felt that a one-year extension within the existing quotas would be a good solution to fulfil all the activities. The schedule foresees a status update report for the WGDisasters September meeting and a final report by October 2020.
* Recovery Observatory (RO): There was a mission to Haiti in early May with a local workshop in Jeremie and a national workshop in Port-au-Prince. The RO is progressing with growing stakeholder engagement. There was also a validation field mission with ASI and CNES participating, as well as CNIGS and SERTIT. The Haiti RO activity was also presented at the Copernicus User Workshop and lauded for its end user involvement. The GRO *ad hoc* team has almost completed the Advocacy Paper that documents existing experience using EO for recovery and drafts a generic RO concept. The Advocacy Paper will be published by GFDRR.

**WGClimate**

Jörg Schulz (EUMETSAT, WGClimate Chair) sent apologies for being unable to join the call. SEC was referred to his written report for an update on the activities of WGClimate.

**WGISS**

Mirko Albani (ESA, WGISS Chair) noted the following points from his written report:

* Rob Woodcock (CSIRO, WGISS Vice-Chair) has been identified as the WGISS representative to participate on the GEOSS Infrastructure Development Foundation Task/Implementation Coordination Task Force, closing action SIT-34-03.
* The second version of the WGISS Carbon Portal was demonstrated at WGISS-47 and is now open for comments/feedback from the user community. A further major release is planned before the WGISS-48 meeting, which will incorporate feedback received. A Carbon Portal demonstration will be organised at the occasion of the next WGClimate meeting in September. Support to the 2019 CEOS Chair Forest Monitoring Initiative is being explored in cooperation with VNSC.
* The Open Source Software Inventory has been finalised and is ready for deployment on the WGISS website. The same structure/approach will be used to implement on the WGISS website the FDA elements inventory resulting from CEOS Work Plan Action FDA-08.
* A report on how the Google Dataset Search Tool allows discovery of CEOS Agencies’ data has been prepared with contributions from DLR, ESA and NASA. The report is being reviewed and will be made available to CEOS by the end of June.

**WGCapD**

Nancy Searby (NASA, WGCapD Vice-Chair) noted the following points from the written report:

* CB-37 (*White paper describing approaches for capacity building networks, e.g. UN's, to work together*): The paper presented to SIT-34 is still open for review. In the meantime, a journal version is being worked by members of WGCapD (will be presented to ISPRS today; aiming to submit the article by the end of next week).
* CB-39: WGCapD/CNES provided hands-on training for AEM (Mexico) as well as for CONAFOR and CONACYT, at the end of February in Guadalajara, Mexico, with the participation of ONF (Office National des Forêts) and ONF-I (international branch of ONF). Many topics on forest management were covered including forest fire detection, post-fire damage assessment, and on the use of change detection using remote sensing data sets. The training report is being prepared.
* CB-32: A regional science meeting followed by training is being organised in Johar Bahru, Malaysia, with the participation of NASA, ISRO, JAXA, and VNSC, among others. The training will be conducted July 25-27, 2019. A three-day hands-on training session for young researchers will focus on the use of remote sensing and geographic information systems for land cover/land use change applications including atmospheric impact studies using SAR, MODIS, Landsat, Sentinel, and other remote sensing datasets.
* The dates and location for WGCapD-9 have been finalised: March 9-13, 2020, in Mountain View, CA, USA.

**WGCV**

Cindy Ong (CSIRO, WGCV Chair) noted the following points from her written report:

* The WGCV Microwave Subgroup Chair met with the Ocean Surface Topography VC Chair at the IOVWST meeting in Maine, USA in May 2019 to discuss collaborative efforts. The objective of the collaborative efforts are to develop guidelines for calibration of ocean surface wind satellite, and selection and collection of reference *in situ* and satellite data.
* The Atmospheric Composition Subgroup (ACSG) held two teleconferences in preparation for the Working Meeting on Defining the Roadmap for Space Agency Coordination on Greenhouse Gas Monitoring – a joint effort between WGClimate, AC-VC, and WGCV. The meeting on June 9 was held as part of the CEOS AC-VC meeting (June 10-12) in Tokyo and was attended by the ACSG Chair and the Vice-Chair of the WGCV. The implementation of a constellation architecture for monitoring carbon dioxide and methane from space and a timeline framework for the roadmap was discussed. The next steps will be presented at the SIT Technical Workshop in September.
* The ACSG Chair and the Vice-Chair of WGClimate are now in the process of planning the logistics of the ACSG meeting on Level-2 GHG calibration (October 2019).
* [The Importance of Consistent Global Forest Aboveground Biomass Product Validation](https://link.springer.com/epdf/10.1007/s10712-019-09538-8?author_access_token=gXlPKlZdVxjt8cprj0cgr_e4RwlQNchNByi7wbcMAY5QA1w_H63d9gSUfTGlLpkbSv_1lQBYInXaBBSD3MYUJpfY0sIQt0ExmInx-d8VdCYfMq0Jf4_wm2LzrvkPuCxgaNBlSYnOPE0VJ6SSZd1gVQ%3D%3D) has now been published in Surveys in Geophysics. This is an outcome of the Land Product Validation Subgroup’s work for CARB-16-2018-2.
* The Land Product Validation Subgroup held their meeting during the ESA Living Planet Symposium in Milan in May. The LPV strategy for the 2019-2022 period was discussed, with every focus area group presenting their activities and main plans. The outcome of the meeting is an action plan and roadmap for the LPV Subgroup between mid-2019 and mid-2022.

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| **251-02** | Cindy Ong (CSIRO, WGCV Chair) to connect Raj Kumar (ISRO) with the WGCV Microwave Subgroup Chair regarding the collaborative efforts with the Ocean Surface Topography VC. | **June 14** |

1. **AHT Reports**

There were no reports from the *Ad Hoc* Teams.

1. **AOB**

**2019 CEOS Chair Initiative Update**

Lam Dao Nguyen (VAST-VNSC) reported:

* Extra Landsat data has been requested from USGS to expand coverage to the four target countries.
* Sentinel-1 data is being downloaded and processed to ARD by CNES/CESBIO for VNSC.
* JAXA/RESTEC have provided ALOS-2 ScanSAR data for the four target countries.
* Forest Monitoring Initiative: VNSC and CESBIO are testing methods for central Vietnam. The best algorithm will be chosen based on these initial results and scaled up for whole country analysis on the Vietnam Data Cube.
* Rice Monitoring Initiative: CESBIO and JAXA are working with VNSC to develop rice monitoring algorithms. These have been validated for the Red River and Mekong Deltas, and they will be ported to the Vietnam Data Cube soon.

**ISRO 2020 CEOS Chair Priorities**

Raj Kumar (ISRO) presented the preliminary ideas the 2020 ISRO CEOS Chair Team has as priorities for their term:

* Real constellation building with CEOS partners;
* Geoprocessing tools for disaster applications;
* Data Cube for SAARC (South Asian Association for Regional Cooperation);
* Study on renewable energy from a CEOS perspective.

Steve Volz (NOAA, SIT Chair) thanked ISRO for the input and suggested further discussion via email on the ‘real constellation’ point.

**CEOS Newsletter #53 Update**

Yukio Haruyama (JAXA/RESTEC) reminded CEOS SEC that inputs for CEOS Newsletter #53 are due June 15. To date, articles have only been received from the SIT Chair, CEO, and LSI-VC. Akiko Noda (GEO Secretariat) confirmed that the GEO Secretariat article will be submitted early next week.

**CEOS Mailing Lists**

Brian Killough (NASA, SEO) reported that a new CEOS email system is being procured to replace the existing system. This will address the issues some people are having with bounced emails from the CEOS mailing lists. He expects this to be in place very soon and will follow up on the current status.

1. **Next Meeting and Adjourn**

Pham Anh Tuan (VAST-VNSC, CEOS Chair) thanked everyone for attending, noted that CEOS SEC-252 will be held on July 18, and closed the meeting.