**Minutes V1.0**

**244th CEOS SECRETARIAT MEETING**

Thursday 15th November 2018

Chaired by VAST-VNSC

**Participants**

**CEO:** Steven Hosford

**COM:**  Mark Dowell

**ESA:** Ivan Petiteville

**EUMETSAT:** Robert Husband

**GEO SEC:** –

**JAXA:** Yukio Haruyama

**NASA:** Christine Bognar

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

**SEO:** Brian Killough

**SIT Vice Chair Team:** Jonathon Ross

**USGS:** Jenn Lacey

**VAST-VNSC:** Pham Anh Tuan (Chair), Linh Phan, Thanh Nguyen Truong, Lam

Dao Nguyen, Vu Anh Tuan, Nguyen Thi Mai Thu, Stephen

 Ward, Matt Steventon, Luke Smith

**WGCapD:** –

**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-244 and welcomed any additions to the agenda.

1. **Action Status**

Matt Steventon (CEOS Chair Team) noted the following action to be closed:

*241-01: Pham Anh Tuan (VAST-VNSC) to provide a nomination for the team tasked with identifying a new DCEO/CEO.*

* Pham Anh Tuan (VAST-VNSC, CEOS Chair) reported that Linh Phan (VAST-VNSC, CEOS Chair Team) has been appointed to work with Steven Hosford (ESA/CNES, CEO) and the team to identify a new CEO, and the action can be closed.
1. **CEOS Plenary Draft Minutes and Actions**

Pham Anh Tuan (VAST-VNSC, CEOS Chair) welcomed discussion on the draft CEOS Plenary minutes and actions. He highlighted the following actions with near-term due dates.

*CEOS-32-03: SIT Chair to lead the drafting of a CEOS letter to CNES suggesting the approach required for CEOS to consider information on the SCO, its scope, and relevance to existing activities.*

* Steve Volz (NOAA, SIT Chair) reported the letter to CNES is in draft, and will be circulated to CEOS SEC by SEC-245 in December.

*CEOS-32-07: SIT Chair and SIT Vice Chair to collaborate on an interim paper, as a communication tool for use by CEOS Agency and stakeholder representatives, that clearly articulates: 1) a succinct definition of ARD; 2) a brief summary of our ARD accomplishments to date; 3) a brief overview of existing plans for the next two years; and 4) the designated points of contact within CEOS.*

* Kerry Sawyer (NOAA, SIT Chair Team) noted the action is due in November, and that the Plenary minutes include a first draft version of the slides. An updated version will be shared with the CEOS community shortly. The SIT Chair Team will be working with Alex Held (CSIRO, SIT Vice Chair) and the SIT Vice Chair Team to develop the interim paper.
1. **GEO-XV**

Pham Anh Tuan (VAST-VNSC, CEOS Chair) welcomed feedback from those present at the GEO-XV Plenary week. The following outcomes relevant to CEOS were noted:

* Steve Volz (NOAA, SIT Chair) reported that the GEO community agreed to create a definition of regional GEOSS, to better define what they mean in terms of exercising GEO functions through these regional GEOSS’. He suggested that CEOS consider how these regional GEOSS could be leveraged in support of our various initiatives, supplementing the support of the GEO Secretariat.
* Steven Hosford (ESA/CNES, CEO) noted some other key points of GEO-XV. There was a proposal (conditionally accepted, with an assessment ongoing) to establish a GEO Associate category to facilitate commercial company participation in GEO activities and the GEO trust fund. Kerry Sawyer (NOAA, SIT Chair Team) elaborated that a GEO working group has been created for the assessment, which will also look into including “non-participating” Participating Organizations in the GEO Associates category.
* Steven reported the results-oriented GEOSS proposal was accepted by GEO Members, though questions still remain regarding the proposed “centralised” approach for handling *in situ* data as proposed by GEO SEC.
* CEOS participants had a roundtable lunch discussion on how to progress CEOS actions on the SDGs and the future of *ad hoc* teams.
* Mark Dowell (COM) noted that the Space Climate Observatory (SCO) was accepted as a Community Activity within GEO. He doesn’t recall this being communicated by CNES during CEOS Plenary, and suggested that this is an additional example of how the communication on these activities at the international level could cause confusion with other stakeholders. Kerry and Jonathon Ross (GA, SIT Vice Chair Team) recalled some mention at Plenary, and noted that the thinking behind becoming a Community Activity was to rectify the SCO being disconnected. Discussions will continue regarding how to structure the SCO so that it is an additive activity. Jonathon suggested that this topic be covered at the CEOS-GEO bilateral meeting in January 2019.
* Jonathon welcomed feedback from CEOS on the recent GEO Plenary – to help shape the 2019 meeting, which will be hosted by Australia. Thoughts on what could be improved are welcome and are requested to be sent to the SIT Vice Chair Team and CEOS GEO ExCom representative.
1. **CEO Report**

Steven Hosford (ESA/CNES, CEO) reported that he is currently at the Freshwater from Space Workshop, with around 40 other participants. There has been a substantial place for break-out discussions in the format, which is challenging from an organizational point of view, but rewarding in terms of the discussions generated. Overall, the workshop has been very productive and the outlook is positive. A meeting report will be posted online, and the follow-on from the workshop will be covered at SIT-34.

On CEO continuity, Steven will organise a teleconference with the tiger team in early December.

Finally, there has been interest from the Hungarian Space Office regarding becoming a CEOS Associate. The individual participating in CEOS is a historic contributor to WGISS, and a recent reorganisation within the Hungarian space community has seen the official establishment of a space office, prompting this interest in CEOS Associate status.

Steven noted that the CEOS terms of reference state that decisions regarding membership can only be made during a plenary session, however it is not clear whether this is referring to CEOS Plenary or any plenary session, such as a plenary session that may be organized during a SIT meeting. He noted consensus among those consulted that membership matters would be best limited to the annual CEOS Plenary, but would like to confirm that CEOS SEC agrees with this. He noted that if this was the case, an update to the CEOS terms of reference to clarify this point would be necessary.

Christine Bognar (NASA) noted the Terms of Reference paragraph under “Members” currently notes the “next scheduled Plenary session”, and she suggested it could be changed to say “next annual CEOS Plenary Meeting”. She also suggested listing the steps to apply for CEOS membership on the CEOS website. Kerry Sawyer (NOAA, SIT Chair Team) agreed with this suggested approach.

CEOS Chair notes a consensus in CEOS SEC to propose that CEOS TORs are updated to clarify that CEOS membership matters are considered only at the annual CEOS Plenary meeting.

1. **SIT Chair Report**

Steve Volz (NOAA, SIT Chair) reported that the SIT Chair Team has been working with the CEO to develop a response to the GEOGLAM, CBD, and GEO BON letters, and will share them by November 30 to complete action **243-01**. He requested that the due date for **243-01** be updated to November 30.

A side meeting on SDGs and AHTs was held at the GEO Plenary, and there remains a need for further discussions on the way forward for the CEOS AHTs in general.

The discussion on the SDG-AHT (attended by CSIRO (Alex Held) and ESA (Ivan Petiteville)) resulted in an action for that group to better define how it will reach a level of maturity by the 2019 CEOS Plenary. The SIT Chair Team will follow up regarding the plan forward for the SDG-AHT at SEC-245.

Brian Killough (NASA, SEO) noted that there was an action from CEOS Plenary regarding the way forward for the SDG-AHT (**32-11**).

Brian and Jenn Lacey (USGS) noted also that there was a way forward developed and agreed for the SDCG-GFOI AHT and the CEOS-GEOGLAM AHWG by the stakeholders involved in these teams, and this was presented at the CEOS Plenary. A decision was recorded in the Plenary minutes that the LSI-VC, SDCG-GFOI, and CEOS-GEOGLAM AHWG would develop, for presentation to SIT-34, an updated LSI-VC terms of reference that incorporates the SDCG-GFOI and CEOS-GEOGLAM AHWG into the LSI Virtual Constellation. While there was a decision, no specific action was recorded in the draft minutes of the meeting. Kerry Sawyer (NOAA, SIT Chair Team) had proposed an action be added to the CEOS Plenary minutes during SEC review of the minutes but due to communication issues, the comments were not received by the COM CEOS Chair Team. This will be rectified in the final revision of the CEOS Plenary minutes.

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| **SEC-244-01** | Jenn Lacey and Steve Labahn (USGS) to work with the LSI-VC Leads and the 2018 CEOS Chair and SIT Chair Teams to draft an action regarding the way forward for LSI-VC, SDCG-GFOI, and CEOS-GEOGLAM – for inclusion in the 2018 CEOS Plenary minutes.  | **ASAP** |
| **SEC-244-02** | Jenn Lacey and Steve Labahn (USGS) to organise, with the other LSI-VC Leads, a phone discussion with the SIT Chair Team regarding the way forward for the LSI-VC, ahead of the CEOS-GEO Bilateral Meeting in January 2019. | **ASAP** |

1. **GEO SEC Report**

Akiko Noda (GEO SEC) sent her apologies to the CEOS Chair Team ahead of the call. Due to being on leave, Akiko was unable to submit a written report or join the teleconference.

1. **SEO Report**

Brian Killough (NASA, CEOS SEO) reported the CEOS exhibition booth at GEO went well, with many visitors during break periods despite the poor location relative to the main meeting. Visitors to the booth were particularly interested in ARD and the Data Cube.

Brian attended the UN World Data Forum in Dubai. The SEO demonstrated some new Data Cube algorithms that directly address the UN-SDGs for water, urbanization and land degradation. The SEO will be proposing a CEOS Work Plan Task (with the SDG-AHT) around reviewing and formalizing these algorithms, and to think about how they can be better utilized and integrated in the SDG process.

In the margins of the UN World Data Forum there were also discussions about a new Latin America Data Cube with interest from Mexico, Colombia, Costa Rica, and Dominican Republic. There have been initial discussions with the GEO Secretariat and AmeriGEOSS about a Latin America Cube also.

Mark Dowell (COM) noted there was recently a UNEP hosted meeting on SDG 6.6 in Bellagio, Italy, which was attended by ESA, NASA and COM. There was significant interest in space-based products.

Mark also reminded Brian of the CEOS Plenary action regarding identifying a team of agency points of contact for the Digital Earth Africa (DEA) initiative. Brian has already identified that CEOS Agency help will be needed to establish the necessary archive of Landsat and Sentinel ARD products for DEA. This will be an initial topic of discussion for that group.

Christine Bognar (NASA) urged that INPE and CONAE be included in the discussions regarding the Latin America Cube. She offered to make the connection if necessary.

Brian recommended that DEA and Latin America Cube be on the agenda for the CEOS-GEO Bilateral Meeting in January 2019.

1. **Working Group Reports**

**WGDisasters**

Simona Zoffoli (ASI, WGDisasters Chair) noted that WGDisasters are proceeding with **DIS-12**, the CEOS deliverable on Recovery Observatory outcomes and results. A face to face meeting will be held on December 4 in Washington to take stock of satellite data availability for recovery activities. The other note is the start of work on the new CEOS Work Plan deliverables. Finally, a request has come from CONIDA (Peru space agency) to participate in WGDisasters. They will be invited to participate in the next WGDisasters meeting.

**WGClimate**

Jörg Schulz (EUMETSAT, WGClimate Chair) informed the CEOS Chair Team ahead of the call that he would be unable to attend, and communicated the following updates via email:

* The ECV Inventory will reopen next week. Targeted emails will be sent to focal points of agencies and responders from the last cycle. In addition, WGClimate will work with the VCs to support the Inventory population and verification process. The population phase will be quite short, with a closing date of 15 January 2019.
* Regarding SEC action **237-03,** Jörg had a first meeting with the SST-VC to agree CEOS 2019-2021 Work Plan actions that will address all coordinated actions related to sea surface temperature. WGClimate will continue this approach with other VCs.
* AC-VC, WGCV, and WGClimate had a teleconference to discuss the outcomes of CEOS Plenary, and agreed the way forward on the implementation of GHG monitoring activities in WGClimate. The mapping of recommendations from the AC-VC white paper to CEOS and CGMS bodies is now extended by real activities from AC-VC and WGCV. Another teleconference to assess the status is planned for the last week of November.
* WGClimate-10 is now firmly planned for 18-22 March 2019 in Marrakech, Morocco, and will be a joint meeting with GCOS and the WCRP/DAC.
* Preparations for SBSTA-49/COP-24 are ongoing, with contributions to the SBSTA chair report to be finished tomorrow.

Mark Dowell (COM) reported on the call on behalf of Jörg, noting the teleconference with AC-VC and the WGClimate-10 location and date.

**WGISS**

Mirko Albani (ESA, WGISS Chair) reported:

* WGISS-46 was hosted by DLR in Oberpfaffenhofen (Munich, Germany) on 22-25 October with about 30-35 participants (several from DLR). A joint session was held on WGISS-GEOSS Future Data Architectures (FDA) and interoperability aspects.
* A WGISS presentation was held during the GEOSS-EVOLVE side event at the GEO-XV Plenary held in Kyoto at the end of October 2018.
* New WGISS brochures were approved during WGISS-46 and distributed at the CEOS booth at the GEO-XV Plenary. Brochures will be used as outreach materials in all upcoming events with WGISS participation.
* WGISS will prepare inputs for the CEOS 2019-2021 Work Plan to address the mandate on Future Data Architectures (FDA) and other WGISS related activities. The WGISS terms of reference will be updated accordingly.
* A collaboration with the WMO International Expert Group on Climate Data Modernisation (IEG-CDM) will be discussed, including the possibility of a joint session at WGISS-47.

Rob Woodcock (CSIRO, WGISS Vice Chair) will be the GEO Expert Advisory Group representative for CEOS. Kerry Sawyer (NOAA, SIT Chair Team) will send the letter confirming this to the GEO Secretariat shortly.

**WGCapD**

The WGCapD Chair and Vice Chair apologised for their absence on the teleconference, but submitted a written report. The written report confirms the completion of CEOS SEC action **240-02**, with INPE confirming Alessandra Gomes as the replacement for Hilcea Ferreira as their WGCapD representative.

**WGCV**

Cindy Ong (CSIRO, WGCV Chair) reported:

* The ACIX2 (Atmospheric Correction Inter-comparison eXercise) Cloud Mask Inter-comparison eXercise (CMIX) held its first meeting in October 2018. There has been a three-fold increase in participation in this exercise (35 teams in total from the U.S., Europe, and Australia). This is seen as a testimony of the success of the first exercise and the value of this exercise to the community.
* A joint meeting between WGClimate, AC-VC, and WGCV was held on 5 November 2018 (via teleconference and in person) to discuss collaboration on the CEOS GHG activities. WGCV is now working with WGClimate and AC-VC to define WGCV’s potential contributions, which may draw upon several of WGCV’s subgroups.
* Good progress has been made on the joint WGCV pre-flight optical calibration workshop. A flyer has been drafted and organising committee members are now being selected.
1. **VCs/AHTs – Curated Reports**

Matt Steventon (CEOS Chair Team) explained the logic behind this proposed change in structure for the CEOS SEC teleconferences. The idea was to increase consistency in reporting across the WGs, VCs, and AHTs; reduce repeat reporting; and provide more time for SEC to focus on decisions and discussions. It has since been pointed out that this is inconsistent with the terms of reference for the CEOS Secretariat, and as such there will be no change to the Working Group reports. With that said, in the interest of inclusiveness and consistency in reporting, the CEOS Chair Team would like to proceed with the curated report item and invite VC and AHT Leads to submit written reports, make verbal interventions as needed (to be requested for inclusion on the agendas), and to attend the SEC teleconferences if they wish. Matt welcomed feedback from the CEOS Secretariat on this revised proposal.

Steve Volz (NOAA, SIT Chair) stressed that Working Groups should continue to report on the CEOS SEC teleconferences, consistent with the terms of reference. He is not sure that the VCs need to be invited to do the same.

Kerry Sawyer (NOAA, SIT Chair Team) noted that VC reports generally come via the SIT Chair report. She suggested that the SIT Chair Team should coordinate updates and reports with the VCs ahead of the CEOS SEC teleconferences and report them via the SIT Chair report, welcoming direct VC Lead participation via invitation from the SIT Chair as needed.

Christine Bognar (NASA) agreed that VC reports should come through the SIT Chair, and that VC Leads could, on an as-needed basis, be invited to attend.

Mark Dowell (COM) supported the suggestions of Kerry and Christine regarding VC reporting at CEOS SEC.

In summary:

* There will be no change to Working Group reports.
* The SIT Chair Team will coordinate any VC inputs to CEOS SEC teleconferences, which could include inviting VC representatives to join CEOS SEC teleconferences on an as-needed basis. The SIT Chair Team will send the VC Co-Leads an email ahead of each SEC teleconference with a call for inputs.
* The process for the AHTs will remain unchanged. AHTs will be invited to submit a written report and join the SEC teleconferences as needed/desired.
1. **SDCG-GFOI Update**

Stephen Ward (SDCG Secretariat) reported on behalf of Osamu Ochiai (JAXA, CEOS Lead for GFOI):

* SDCG EXEC has noted the schedule for the new CEOS Work Plan and has started discussions with the WGCV LPV subgroup around new joint targets related to biomass measurement missions and activities promoting their uptake and relevance across GFOI countries. This is a new kind of collaboration across the CEOS structure and will take some time. The subject is complex also. SDCG has flagged to the CEO that we may sketch some broad targets for inclusion as markers in the new Work Plan version – with plans to flesh them out in due course.
* USGS EROS and SilvaCarbon have identified funding to be able to support the placement of a USGS representative back in SDCG. Tom Maiersperger has been nominated and confirmed that he is willing to serve as a Co-Lead alongside ESA and UKSA – which is essentially a means for sharing the load around SDCG Work Plan tasks, teleconferences, and meetings. SDCG enthusiastically welcomed Tom to his first teleconference last month and look forward to working with him.
* FAO and World Bank have both stepped up to be identified as Co-Leads for the GFOI Data Component. What this means in practice is TBD. FAO is keen to promote their SEPAL tool for countries. World Bank is starting a new Forest Remote Sensing programme. Data issues are assuming increasing prominence within GFOI generally.
* World Bank responded extremely positively to an invitation to help formulate the SDCG biomass activities, including helping to ‘accelerate the policy relevance of the new generation of biomass missions’ (SDCG’s headline objective).
* SDCG-15 will be hosted by the NASA SEO in Virginia on 27 and 28 March. The day prior will include WGCV LPV people (from Goddard) and will be dedicated to the formulation of our biomass cooperation. The World Bank has also been made aware of the event.
1. **AOB**

**2019 CEOS Chair Initiative Update**

Vu Anh Tuan (VAST-VNSC) presented an update on the 2019 CEOS Chair initiative. The project will cover Vietnam, Laos, Cambodia, and Thailand. Landsat and Sentinel-1 data for Vietnam is already being ingested into the VNSC Data Cube. VNSC is yet to acquire data for the other three countries, and support is requested. From June to October 2019, the project will be extended to the full Mekong Delta region. Algorithms are being developed for use in Northern Vietnam initially, and will be applied to other regions afterwards.

VNSC will be signing an MOU with the Mekong River Commission (MRC) on November 28. MRC will be a key partner on the user side of the initiative and also for *in situ* data collection.

CESBIO and CNES are providing support through the supply of processed data (analysis ready) as well as algorithms for both rice and forest applications.

Capacity building activities are being coordinated in collaboration with WGCapD. A series of SAR related workshops are planned, and details will be shared shortly.

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| **SEC-244-03** | Brian Killough (NASA, SEO) to share a suggested deliverable/action for the CEOS Work Plan regarding the 2019 CEOS Chair Initiative | **ASAP** |
| **SEC-244-04** | VAST-VNSC to provide a written summary of the status of the 2019 CEOS Chair Initiative. Details of what is planned and when; existing gaps in data, capacity building, cal/val, and verification data; and any desired contributions would be very helpful. | **ASAP** |

**Ha Long Bay Technical Tour**

Pham Anh Tuan (VAST-VNSC, CEOS Chair) confirmed that a technical tour to Ha Long Bay will take place on 17 October 2019, the day following the 2019 CEOS Plenary. He asked that everyone please save the date.

**CEOS Newsletter #52**

Yukio Haruyama (JAXA) reported that he has shared the plan for the 52nd CEOS Newsletter. Over the coming few days he will be reaching out to request contributions. The plan is for articles to be submitted by December 15, with editing and printing to take place in the new year, with the final release targeted for February. The CEOS Chair and SIT Chair both confirmed that they will contribute articles as outlined.

1. **Next Meeting and Adjourn**

In response to CEOS SEC Action **243-02**, an additional SEC meeting has been scheduled for 29 August 2019. Kerry Sawyer (NOAA, SIT Chair Team) thanked VAST-VNSC for accommodating this request. She also noted that due to the moving forward of the 2019 CEOS Plenary, the October 2019 SEC meeting also needs to be moved to the 14th. The following schedule was confirmed as the final CEOS SEC schedule through to the 2019 Plenary.

~~SEC-244: November 15, 2018~~SEC-245: December 13, 2018
SEC-246: January 17, 2019
SEC-247: February 21, 2019
SEC-248: March 14, 2019
SEC-249: April 1-5, 2019 (at CEOS SIT-34)
SEC-250: May 9, 2019
SEC-251: June 13, 2019
SEC-252: July 18, 2019

SEC-253: August 29, 2019
SEC-254: September 2019 (at the 2019 CEOS SIT Technical Workshop)
SEC-255: October 3, 2019
SEC-256: October 14, 2019 (at the 33rd CEOS Plenary)

Pham Anh Tuan (VAST-VNSC, CEOS Chair) thanked everyone for attending and adjourned the meeting.