**Minutes V1.0**

**287th CEOS SECRETARIAT MEETING**

Thursday 16 December 2021

Chaired by CNES

**Participants**

**CEO:** Marie-Claire Greening

**CNES:** Selma Cherchali, Pierric Ferrier, Dorian Groll, Olivier Marsal

Matt Steventon

**ESA SIT Chair Team:** Ivan Petiteville, Stephen Briggs

**EUMETSAT:** Robert Husband

**GISTDA** Watanyoo Suksa-ngiam, Suwat Sreesawet, Warinthorn

**JAXA:** Osamu Ochiai, Yukio Haruyama, Koji Akiyama, Toshi Kamei

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

**SEO:** Dave Borges
**WGCapD:** Jorge Del Rio Vera

**WGClimate:** Albrecht von Bargen

**WGCV:**  Akihiko Kuze, Philippe Goryl

**WGDisasters:** Pierric Ferrier

**WGISS:** Makoto Natsuisaka, Tom Sohre

1. **Welcome, Agenda Review**

Selma Cherchali (CNES, CEOS Chair) welcomed and thanked everyone for attending SEC-287. Selma will have to disconnect halfway through the meeting, so will ask Olivier Marsal to take over as chair for this meeting.

Olivier Marsal (CNES, CEOS Chair Team) reviewed the agenda for SEC-287 and opened the floor for any comments and additions to the agenda. There were no further additions to the agenda.

It was noted that there will not be a GEO Secretariat report as Doug Cripe is unavailable. He sent his apologies in advance of the meeting.

1. **Action Review & Confirmation of SEC Schedule and Plenary Dates**

Olivier Marsal (CNES, CEOS Chair Team) reviewed the open CEOS SEC and Plenary action items highlighted on the agenda:

286-01: With the rescheduling of the 2022 CEOS Plenary to the end of November 2022, it was proposed to hold an additional SEC meeting between the already planned SEC-298 and SEC-299. November 10, 2022 was suggested and accepted by the SEC for the date of this additional meeting. The CEOS SEC meeting calendar was agreed:

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| SEC-288: January 13, 2022SEC-289: February 10, 2022SEC-290: March 10, 2022SEC-291: Late March (pre-SIT-37 meeting)SEC-292: April 14, 2022SEC-293: May 12, 2022SEC-294: June 9, 2022 | SEC-295: July 21, 2022SEC-296: September 1, 2022SEC-297: Mid-September (pre-SIT-TW meeting)SEC-298: October 13, 2022SEC-299: November 10, 2022SEC-300: Pre-CEOS-36 Plenary meeting |

286-02: The CNES CEOS Chair Team received no objections to the proposal to move the 2022 CEOS Plenary to November 29 to December 1. These dates are now final, and an email will be sent to the CEOS community confirming this tomorrow (Friday, December 17).

CEOS-34-06: Ivan Petiteville (ESA, SIT Chair Team) suggested that this action be closed, as it has been superseded by the CEOS Global Stocktake Strategy, in particular recommendations 1 and 2. Osamu Ochiai (JAXA) agreed. Later in the meeting, Albrecht von Bargen (DLR, WGClimate Chair) agreed to close action CEOS-34-06, and he noted that the upcoming ECV Gap Analysis Workshop will be a key opportunity to address recommendations 1 and 2 of the CEOS Global Stocktake Strategy.

1. **SIT Chair Report**

Ivan Petiteville (ESA, SIT Chair Team) reported:

GEO Executive Committee (ExCom) Meeting

* Held virtually on November 22. CEOS participated as an Observer and member of the GEO Programme Board. The GEO Secretariat has made good progress on disasters and climate, and has been cooperating with several stakeholders, in particular UN Agencies.
* For Disaster Risk Reduction, the GEO Secretariat has received an invitation from WMO and UNDRR to join a new “Centre of Excellence for Climate and Disaster Resilience”– conceived to accelerate knowledge exchange around risk. The GEO Secretariat has also been invited to join REAP – the “Risk-informed Early Action Partnership” (International Federation of Red Cross and Red Crescent Societies), which is a new partnership to expand early action financing and improve early warning systems and the capacity to act on the risks they identify.
* With respect to climate change, the GEO Secretariat has been very active at the time of COP26, despite the Secretariat not managing to become an observer at UNFCCC due to the lack of an independent legal personality for GEO. Prior to COP26, GEO organised the well-attended “GEO Climate Policy and Finance Workshop” (September 2021). In addition, the GEO Secretariat contributed to the 2021 State of Climate Services Report, launched on October 5 (a multi-agency report coordinated by WMO).
* The GEO Climate Coordinator, with the support of a climate consultant, has been coordinating the development of a joint report *“GHG Monitoring from Space: A mapping of capabilities across public, private, and hybrid missions”* on behalf of GEO, Climate TRACE, and the World Geospatial Industry Council (WGIC).
* Resilient Cities and Human Settlements has been accepted as the fourth GEO engagement priority after climate change, disaster risk reduction and the SDGs.
* The number of UN organisations engaged in GEO activities is increasing, including, for example UNCCD, UNDRR, UNFCCC, UN-Habitat and UNESCO. Cooperation on activities related to the Conventions (e.g., UN Convention on Biological Diversity, Ramsar and Minamata) is ongoing through GEO Work Programme activities, notably GEO BON, GEO Wetlands and GOS4M.
* The necessary substantial evolution of GEOSS in the future has been flagged in the mid-term evaluation report, and the principle approved by the ExCom. Integration of the GEO Knowledge Hub into the GEOSS Platform has been identified as a priority.
* The GEO Secretariat noted the ongoing cooperation between CEOS and GEO on Analysis Ready Data (ARD) through several GEO initiatives that span the GEO programme of work, such as AquaWatch.
* The ExCom has proposed a series of 13 actions in response to the 14 mid-term evaluation report recommendations.
* The GEO Secretariat informed ExCom of an increased interest from the private sector to partner with GEO to provide digital public goods to low- and middle-income countries. The Secretariat has also started to engage the finance sector about how to smartly leverage Earth observations to inform investments for sustainable development. A new strategy will be prepared for endorsement at the 2023 GEO Ministerial.

Working Teams

* With all VCs, WGs and AHTs reporting to the virtual CEOS Plenary, the SIT Chair Team has decided to schedule the next round of one-on-one calls late January / early February 2022. Feedback from the VCs, WGs and AHTs is that the informal approach has been productive, and the SIT Chair Team proposes to continue in this way.

Climate and Carbon

* The CEOS Global Stocktake (GST) Strategy was endorsed at CEOS Plenary, and the SIT Chair Team will continue to oversee implementation of the key actions and their integration into the next version of the CEOS Work Plan.
* The AFOLU Roadmap Team has started its work to develop a first draft AFOLU Roadmap for SIT-37 and welcomes Ben Poulter (NASA) as a new Co-Lead. The SIT Chair team will provide all necessary support and prime agenda time at SIT-37 to assist this important initiative.
* The CEOS GST Data Portal received great exposure at COP26, including through an article in *Science* magazine. The Portal will be updated in 2022 by the SIT Chair Team to track the progress of the GHG and AFOLU Teams.

SDGs

* The first meeting of the SEO-led SDG coordination team took place last week.
* The initial membership and roles and responsibilities within the group were discussed, and the focus on CEOS Deliverables as the organising elements for the group was discussed and confirmed.
* Planning is underway to update the contents of the website to more clearly and accurately communicate progress on Deliverables and support from CEOS. It was also agreed that Deliverables will be defined in much more modular chunks, i.e., smaller blocks that can be completed in 2 to 3 months rather than larger blocks that are drawn out over years.
* The group will meet again in January and is expecting to provide a substantive update on progress at SIT-37.

DRR

* The SIT Chair Team participated in the WGDisasters teleconference on 9 December 2021.

ARD:

* Ongoing iterations with the various CEOS entities identified in the CEOS ARD Governance Framework document to finalise the membership of the CEOS ARD Oversight Group.

Upcoming Meetings

* SIT-37 is scheduled for the week of 28 March 2022. The decision regarding in-person or virtual / hybrid format is yet to be taken, pending clarity on the pandemic circumstances locally and with CEOS Member agencies. If virtual, the meeting will be held from 29 to 31 March 2022.

Osamu Ochiai (JAXA) asked for further details on the development of the GEO Strategy 3.0. The current understanding is that the GEO ExCom will take a lead on development and may establish a working group to develop the strategy. Osamu asked whether there is any plan for CEOS to interact in the development of this strategy and suggested a potential action for the SIT Chair Team to consider how CEOS might connect. Ivan Petiteville (ESA, SIT Chair Team) clarified that as the space arm of GEO, CEOS has an important role in designing GEO 3.0. If CEOS has an opportunity to be a member of the team that will draft the strategy, it should take this opportunity. Osamu suggested the SIT Chair connect with the GEO Secretariat early in 2022 to discuss this. Ivan suggested this is a good topic for the CEOS-GEO Coordination Meeting.

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| **287-01** | SIT Chair Team to suggest a discussion for the CEOS-GEO Coordination Meeting regarding CEOS contribution to the development of the GEO Strategy 3.0. | **31 December 2021** |

1. **CEOS Executive Officer Report**

Marie-Claire Greening (CEOS Executive Officer) reported:

Planning for the CEOS-GEO Coordination Meeting

* Planning for the annual CEOS-GEO Coordination Meeting is underway. This will be a virtual meeting due to continuing COVID restrictions. The meeting will take place over two days, with no more than 3 hours of discussion time each day. Provisional dates are Tuesday 8th and Wednesday 9th February 2022.
* CEOS SEC members are asked to consider agenda items for this meeting that would benefit from focused discussion time with GEO. Marie-Claire called for agenda inputs by Friday the 31st of December 2021, so an agenda can be agreed with GEO in January.
* The first Troika meeting of the past (NASA), current (CNES), and future (GISTDA) CEOS Chairs will be held in mid-January 2022. Marie-Claire also asked for any suggestions for the agenda of this meeting.

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| **287-02** | CEOS SEC to consider agenda items for the CEOS-GEO Coordination Meeting, as well as for the Troika meeting. Suggestions are to be sent to Marie-Claire Greening. | **31 December 2021** |

CEOS Work Plan Update

* The CEOS Work Plan covers a forward-looking three-year period, and an annual review and update of the plan takes place at the beginning of each year. The aim is for the next annual update, which will become the 2022-2024 CEOS Work Plan, to be endorsed virtually just before SIT-37 at the end of March.
* In the New Year, focused calls will be sent out to CEOS entities to request update and review of both the Work Plan text and its associated deliverables. Marie-Claire welcomed any updates or new additions at any time, but by Friday 11th February 2022 at the very latest for them to be considered for inclusion into the 2022-2024 CEOS Work Plan.

GEO Week 2021

* GEO Week 2021 (22-26 November 2021) encompassed a very full agenda and included the GEO Plenary, a meeting of the GEO Executive Committee, Thematic Anchor Sessions, and a variety of focused side events. For CEOS, GEO Plenary was attended by the CEOS Chair; the SIT Chair and the CEO. The overall focus for the GEO Secretariat and their new director, Yana Gevorgyan, was to promote the idea of “nexus thinking” throughout the week and to encourage greater cooperation across the GEO thematic focus areas.
* The mid-term evaluation of the GEO Strategic Plan 2016-2025 was presented and endorsed at GEO Plenary, as noted in the SIT Chair’s report above.
* The activities of the GEO Work Programme were discussed in detail at GEO Plenary, and further expanded upon in the supporting anchor sessions and side events. The regional GEOs and the GEO Working Groups (Climate Action, Disaster Risk Reduction and Capacity Development) also provided updates, with CEOS participation in many of these evident if not fully recognised during all the presentations.
* At GEO Plenary, a fourth engagement priority on Urban Resilience and the New Urban Agenda was agreed. This will become a new policy driver for GEO going forward and will be an important watching brief for CEOS as it develops.
* The GEOSS data sharing principles were also discussed, and Digital Earth Africa was presented as an exemplar of one of the great successes in this endeavour. The continued importance of the GEO Knowledge Hub was unanimously agreed, and the new GEO Open Knowledge Statement, to support the efforts of the GEO Knowledge Hub, was endorsed.
* Marie-Claire encouraged all to visit the [GEO Week 2021 website](https://www.earthobservations.org/geoweek2021.php) for more details.

CEOS Representation to GEO for 2022

* The CEOS Principal for GEO is the CEOS Chair, so for 2022 Selma Cherchali is our Principal. As SIT Chair, Ivan Petiteville is the CEOS Alternate for GEO.
* CEOS is a member of the GEO Programme Board (PB), the term for which ends at the close of 2022. As the SIT Chair, Ivan will serve as the PB Principal for CEOS in 2022, with the CEO serving as Alternate.
* As a Participating Organisation to GEO, CEOS is eligible for self-nomination as observer to the GEO Executive Committee (ExCom), an Observer position being an annual commitment. CEOS participated as an Observer to ExCom in 2021, represented by the CSIRO/GA SIT Chair. CEOS has again self-nominated for 2022, and that nomination has just been accepted. Ivan, as SIT Chair, will be the principal Observer for the ExCom, with the CEO serving as alternate.

Marie-Claire encouraged the SEC to review the CEOS Calendar of meetings, attached to the SEC agenda. She asked all to contact her if any key meetings or events are missing from the calendar.

There were a series of awards presented at GEO Week, notably one being a personal award for Brian Killough (SEO, NASA) for his contributions to GEO activities. Marie-Claire and Ivan congratulated Brian. Two former CEOS WGISS members, Natalia Kussul (Ukraine) and Li Guoqing (China), also received awards.

1. **Working Group Reports**

**WGDisasters**

Pierric Ferrier (CNES, WGDisasters Chair) reported:

* The Recovery Observatory (RO) Demonstrator was specifically mentioned in the Space 2030 Agenda, at the UN General Assembly Resolution in October 2021. This is a strong endorsement of the work of the RO Team.
* WGDisasters-17 meeting has been scheduled from March 14 to March 18, hosted by the Université Côte d’Azur. The meeting is currently scheduled as in-person, however it is likely to be switched to virtual due to the pandemic.
* Geohazard Supersites and Natural Laboratories (GSNL) management structure will be split into a steering committee (strategy) and a management committee (day to day management).
* The vacant WGDisasters Data Coordination Team (DCT) position was accepted by CONAE. The Terms of Reference of WGDisasters will be amended to tie the DCT Chair role to the Vice Chair of the WG.
* A joint meeting was held in early December with the WGCapD Chair around capacity building and the Recovery Observatory Demonstrator. A joint WGCapD and WGDisasters action has been defined, co-led by CNES and ASI, with input from UNOOSA, to provide training to decision makers about the use of satellites for recovery. The preferred method of training is workshops, to be organised with civil protection and risk experts. A first event is expected in 2022 and two more in 2023, one in each major region where ROs are expected (Asia Pacific, Africa, Americas).
* WGDisasters has submitted several abstracts for the ESA Living Planet Symposium, to be held in Bonn, Germany, next year.

**WGClimate**

Albrecht von Bargen (DLR, WGClimate Chair) reported:

* WGClimate attended UNFCCC COP 26 as both a presenter at Earth Information Day (including several posters), and participant of the Structured Expert Dialogue Side Event (with one poster).
* The review process is ongoing for the Climate Data Record use cases, with around 7 finalised. New use cases have been submitted by ESA, with website publication by NOAA/NCEO of an additional 7 use cases expected by the end of 2021.
* WGClimate presented at the World Space Forum, organised by UNOOSA and Austria. This was a high-level meeting, introducing agencies and interested parties on climate related activities.
* The team has been focused on the preparation of the ECV Gap Analysis Workshop related to the Carbon Cycle, with an organisation committee formed. Members of the GHG Task Team and the AFOLU Roadmap Team will be attending. A series of mini workshops at different times will allow for higher attendance by catering to multiple time zones. The final day will summarise all the findings. Invitations will be issued to agency experts in January, based on the list of ECVs to be targeted (being finalised now). The workshop will be held on 22 to 25 February 2022.

Regarding action CEOS-34-06 discussed previously: Albrecht agreed to close action CEOS-34-06, and he noted that the upcoming ECV Gap Analysis Workshop will be a key opportunity to address recommendations 1 and 2 of the CEOS Global Stocktake Strategy.

Albrecht also noted WGClimate’s ongoing cooperation with GCOS, specifically regarding review of the ECVs.

**WGISS**

Makoto Natsuisaka (JAXA, WGISS Chair) reported:

* The results of the Jupyter Notebook Webinar, jointly organised and held by WGISS, WGCapD, and SEO, will be reported to the upcoming [ESA Living Planet Symposium](https://lps22.esa.int/frontend/index.php) by Esther Conway (STFC UKRI).
* Makoto Natsuisaka has been assigned as the primary WGISS point of contact for the CEOS ARD Oversight Group.
* The WGISS-53 meeting, in which a joint workshop with WGCV is planned, has been scheduled in March as an on-site meeting in Japan, however it may be difficult due to the spreading of the COVID-19 Omicron variant. The team will decide in early January whether to proceed and will hold discussions with WGCV.

**WGCapD**

Jorge Del Rio Vera (UNOOSA, WGCapD Chair) reported:

* WGCapD is holding monthly meetings every first Thursday of the month (except January, which will be held January 10). Jorge encourages participation of CEOS all members.
* The WGCapD annual meeting (WGCapD-11) will take place either in the last week of February or the first week of March. Final dates will be decided at the next WGCapD monthly meeting (10 January).
* As noted by Pierric Ferrier (CNES, WGDisasters Chair), WGDisasters and WGCapD have been discussing support for the Recovery Observatory.
* Jorge noted that the team has five deliverables ready to be closed by the end of the year. Regarding action CB-20-22, the coordination of a training in association with AOGEO has not progressed after several attempts, and WGCapD would like to close this deliverable.

**WGCV**

Akihiko Kuze (JAXA, WGCV Chair) reported:

* WGCV will support the CNES CEOS Chair term priority on Cal/Val initiatives.
* WGCV has nominated Philippe Goryl (ESA, WGCV Vice Chair) to be the CEOS ARD Oversight Group point of contact. Medhavy Thankappan (GA) will also join.
* SEC is asked to consider potential nominations for the WGCV Vice Chair role for October 2022 to October 2024.
* The Third GHG Sensor (OCO-TROPOMI-GOSAT) Calibration meeting is to be held January 7, 2022 (virtual). This is related to CEOS Deliverable CV-18-02 on interoperability standards.
* WGCV-50 is being planned to be held on March 21-24, 2022, in Tokyo, Japan (hybrid or virtual) and it is proposed as a joint meeting with WGISS. The meeting style (hybrid or virtual only) will be announced in early January.
* An abstract on the CEOS Cal/Val Portal was submitted for the 2022 ESA Living Planet Symposium.
1. **SEO Report**

Dave Borges (SEO, NASA) reported on behalf of Brian Killough (SEO, NASA):

* Dave has recently joined the SEO team. He has experience in CEOS with the Working Group on Disasters. Dave will be attending future SEC meetings and major CEOS meetings in this new role.
* The SEO is working closely with Digital Earth Africa to prepare critical AFOLU land cover datasets and develop sample analysis products to support the UNFCCC Global Stocktake (GST).
* The SEO hosted the first meeting of the new SDG Coordination Group on December 9. The group agreed on a path forward to complete key deliverables and organise information on the CEOS website. A formal report will be prepared for the SIT-37 meeting in early 2022.
* For the Disasters Charter, the SEO continues to work with the CEOS Working Group on Disasters to discuss the potential for the Open Data Cube (ODC) Sandbox to support flooding disaster activities. This tool would allow users to take advantage of Sentinel-1 radar data to view time series water extent and flooding recovery in the context of CEOS contributions to The International Charter: Space and Major Disasters.
1. **AOB**

**CEOS Newsletter Plan**

Toshi Kamei (JAXA) shared an update on the CEOS Newsletter:

* The CEOS Newsletter will now be available exclusively online. The new CEOS Newsletter website will be released in February 2022. There are two target audiences: users and stakeholders outside of CEOS and the CEOS community.
* Aim to publish around 12 articles per year (one per month). Proposals from CEOS members are welcomed. A yearly newsletter compiling the articles of the past year will also be released in PDF format (not hardcopy).



* The team will share specifications for articles with contributors to assist in the production of the content. The articles should be reader-friendly without technical terms, and the title should be attractive to the prime target audience outside CEOS. Articles should be approximately 400-500 words in length, and links to other sites are recommended for detailed and technical information. A long article might be divided into two or more separate articles and posts, and 3-4 pictures (with captions) should be included in the article (including the author's portrait). The release date for each article can be coordinated for the best timing.

Ivan Petiteville (ESA, SIT Chair Team), Karen St. Germain (NASA) and Olivier Marsal (CNES, CEOS Chair Team) noted that their respective agencies are happy to contribute as suggested.

1. **Next Meeting and Adjournment**

Olivier Marsal (CNES, CEOS Chair Team) thanked everyone for participating, and noted SEC-288 will be held on January 13, 2022, at the usual time of 7AM US East.

Olivier noted that this meeting will follow the Christmas/New Year break, and hence there may not be much to report. He suggested that a discussion to prepare for the CEOS-GEO Coordination Meeting in February be an agenda item for SEC-288. Ivan Petiteville (ESA) added that a report from Marie-Claire Greening (CEO) on the progress of the CEOS Work Plan should also feature on the agenda for SEC-288.

The plan for CEOS SEC teleconferences/meetings leading up to the 2022 Plenary is as follows (typically Thursday):

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| SEC-288: January 13, 2022SEC-289: February 10, 2022SEC-290: March 10, 2022SEC-291: Late March (pre-SIT-37 meeting)SEC-292: April 14, 2022SEC-293: May 12, 2022SEC-294: June 9, 2022 | SEC-295: July 21, 2022SEC-296: September 1, 2022SEC-297: Mid-September (pre-SIT-TW meeting)SEC-298: October 13, 2022SEC-299: November 10, 2022SEC-300: Pre-CEOS-36 Plenary meeting |

The start time for all teleconferences will be 7 AM US East. If there are face-to-face meetings, the times will be advised closer to the dates.