**Minutes V1.0**

**304th CEOS SECRETARIAT MEETING**

Thursday 16 February 2023

Chaired by GISTDA

**Participants**

**CEO:** Marie-Claire Greening

**CSA:** Éric Laliberté

**EUMETSAT:** Robert Husband

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

**GISTDA:** Pakorn Apaphant, Nuttavipa Thanthawewut, Tanita Suepa,

Atipat Wattanuntachai, Matt Steventon, Libby Rose, Riza Singh, Sutinee

**JAXA:** Osamu Ochiai, Yuko Nakamura, Yukio Haruyama, Satoshi Uenuma

**NASA:** Christine Bognar

**NOAA:** Katy Matthews

**SEO** Dave Borges

**WGCV:**  Philippe Goryl

**WGCapD:** Jorge Del Rio Vera

**WGClimate:** Jeff Privette

**WGDisasters:** Laura Frulla, Helene de Boissezon

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

Pakorn Apaphant (GISTDA, CEOS Chair) welcomed everyone to SEC-304. There were no further changes or additions to the agenda.

## CEOS Chair Report

Pakorn Apaphant (GISTDA, CEOS Chair) and Nuttavipa Thanthawewut (CEOS Chair team) reported:

GSTC Conference

* Pakorn has just returned from the Global Space and Technology Convention (GSTC) conference in Singapore, with almost 1000 participants related to space technologies and businesses.
* Many smaller space agencies from around the Asia-Pacific region were present, including Malaysia, Indonesia, and the Philippines.
* Also, many start-ups were present, from both downstream and upstream areas. The south-east Asian region is very active in this sector.
* Further information about GSTC will be circulated by the CEOS Chair team via email.

GISTDA-SilvaCarbon Workshop

* The workshop logistics are all confirmed and arranged.
* There will be about 300 participants at the opening seminar.

2022 CEOS Plenary Action Review

The status of the following actions with a due date of SIT-38 were reviewed:

* CEOS-36-02: *SIT Chair to raise with IMEO their perception of future needs, with a view to maintaining an ongoing discussion with IMEO at an appropriate level about considering their requirements in future designs of relevant missions.*
  + The SIT Chair has an ongoing dialogue with IMEO about requests for CEOS Agencies.
  + This action is in progress.
* CEOS-36-03: *SIT Chair Team to consider a WGCV agenda item for SIT-38 on the application and potential uses of the cal/val maturity matrix for CEOS engagement with the commercial sector / New Space, e.g., as a means for communicating data quality needs in a consistent manner.*
  + This topic has been included on the SIT-38 agenda. A draft agenda for SIT-38 was circulated earlier this week.
* CEOS-36-04: *CEOS members to review the proposed EOTEC DevNet Sustainability Plan and consider the outlined approaches to staffing, including in-kind support for the part-time positions of regional community of practice coordinators – in anticipation of further discussion at SIT-38.*
  + Jorge Del Rio Vera (UNOOSA, WGCapD Chair) reported that WGCapD is unsure if it will be delivered in time for presentation at SIT-38.
  + The EOTEC DevNet partners are meeting at the end of February 2023, where the sustainability plan will be discussed.
  + If prepared in time, the outcome of this discussion will be presented to SIT-38.
* CEOS-36-09: *SIT Chair to organise a dedicated session on the topic of CEOS engagement with standards organisations at SIT-38 and invite CEOS entities to present their experience and status, with the aim of creating a snapshot inventory.*
  + An item for discussion has been added to the SIT-38 agenda.
* CEOS-36-10: *WGISS is invited to propose an interoperability roadmap at SIT-38. Any CEOS member / entity wishing to contribute is invited to contact WGISS.*
  + The WGISS Chair, Makoto Natsuisaka organised a call on 15 February 2023. The action is progressing.
* CEOS-36-11: *CEOS members to consider nominating individuals to the ongoing WGCV / WGISS / LSI-VC effort to define a CEOS common dictionary of terms.*
  + This forms one part of the interoperability framework that was proposed at Plenary.
  + Peter Strobl (COM), Katrin Molch (DLR) and Emma Woolliams (NPL) are compiling a paper on the first phase of work which has been completed.
  + Action will be closed at SIT-38 but the group is still looking for more people to help advance the effort as a key part of CEOS interoperability discussions.
* CEOS-36-12: *WGCapD Chair and SEO to discuss training and capacity development opportunities for CEOS SDG work in the context of EOTEC DevNet.*
  + Dave Borges (NASA, SEO) will present at the upcoming WGCapD meeting on this topic. The hope is to identify some training opportunities for the CEOS SDG work.
  + The action can be closed at SIT-38.

1. **SIT Chair Report**

Ivan Petiteville (ESA, SIT Chair team) reported:

Carbon & Biomass

* The SIT Chair team attended the WMO Greenhouse Gas (GHG) event in Geneva and have solicited an update on the initiative from WMO at SIT-38.
* Awaiting news on the replacement for Jo Post at UNFCCC SEC in the Resource and Systematic Observations (RSO) role. This group manages the detailed technicalities of the parties for national implementation plans and is very important in terms of the Global Stocktake (GST).
* The ESA Earth Observation Handbook team is reaching out to relevant CEOS groups for a 2023 special GST edition. The team would greatly appreciate the support and contributions from CEOS colleagues.
* The biomass product harmonisation team is moving away from the concept of a single harmonised product, instead creating product harmonisation tools.
* The AFOLU Roadmap is progressing. The team met last week and will report their progress at SIT-38.

CEOS-Analysis Ready Data (CEOS-ARD)

* Open Geospatial Consortium (OGC) ARD Standards Working Group kick-off meeting will be held at ESA ESRIN on 21 February 2023. CEOS will be giving a presentation and have provided a package of CEOS-ARD materials for information.
* LSI-VC-13 will be held the week before SIT-38, also at ESRIN.
* CEOS-ARD has been identified as a headline topic by the New Space Task Team.
* The ARD Oversight Group is planning a SIT-38 side meeting to work through the latest version of the PFS template.

CEOS New Space Task Team

* The second teleconference of the New Space Task Team was held on 10 February 2023.
* A draft list of topics has been issued by the team and assigned to relevant CEOS working teams. The New Space Task Team has four topics assigned to themselves, which have been input into the CEOS Work Plan for 2023.
* A ‘Think Piece’ document has been started, with high level questions regarding CEOS and New Space. Task team members are contributing their thoughts for discussion. These topics will form a part of the discussion around CEOS and New Space to be held at SIT-38.
* Both documents will provide inputs into a white paper to be produced by the team for CEOS Plenary in November 2023.

SIT-38 Preparations

* A draft agenda for SIT-38 was shared earlier this week, along with a letter of invitation from the SIT Chair.
* Side meetings will be held on 28 March 2023, with the main days for SIT-38 on 29-30 March 2023.
* A social event will be held on Wednesday night (29 March 2023), following the first day of SIT-38.
* More information on the SIT-38 meeting will be posted on the meeting website as it becomes available: <https://ceos.org/meetings/sit-38/>
* CEOS Agency delegations are asked to register via the meeting [website](https://ceos.org/meetings/sit-38/) as early as possible to help with planning and logistics.
* Documents for decision should be submitted by 7 March 2023.
* A presentation template has been posted on the [website](https://ceos.org/meetings/sit-38/). Presentations should be submitted by 21 March 2023.
* There is an open invitation for Agencies to request short slots on the SIT-38 agenda to share relevant New Space experience. Three, 10-minutes presentation slots are available.
* The SIT Technical Workshop will be held from 17-19 October 2023 at ESA ESRIN (Frascati, Italy).

1. **CEOS Executive Officer Report**

Marie-Claire Greening (CEOS Executive Officer) reported:

CEOS-GEO Coordination Meeting

* The CEOS-GEO Coordination meeting took place in hybrid form on 6 February 2023. CEOS was represented in-person at the GEO SEC offices in Geneva by the SIT Chair (Ivan Petiteville), the SEO (David Borges), the Ecosystem Extent Task Team (Marie-Josee Bourassa) and the CEO (Marie-Claire Greening). The CEOS Chair (Pakorn Apaphant) attended remotely for the first half of the meeting, as did other experts who dialled in for specific topical sessions.
* Topics covered included the 2023 CEOS Chair theme, plans for the 2023 GEO Ministerial, the role of CEOS in the post-2025 GEO Strategy, capacity development and data democracy, and support to global challenges (Climate and Carbon, Sustainable Development Goals, Disaster Risk Reduction and Response, Biodiversity).
* 2023 is an important year for GEO as they are working towards the GEO Ministerial Summit in Cape Town in November. To prepare, the Post-2025 Working Group is continuing their work to define a vision for GEO going forward. The current plan is to include incubators into the post-2025 Work Programme structure. The post-2025 framework will be based around a series of demand-driven focus areas, including nature-based solutions, land to sea, and multi-hazard risk. At least one incubator will be linked to each area.
* The Post-2025 Working Group plans to meet regularly in 2023 as they map out the future for GEO for presentation at the GEO Ministerial later this year. Marie-Josee Bourassa is the CEOS rep to the Working Group, but several other CEOS members are also represented through their own institutions. The group will hopefully have something to report at SIT-38.
* Several staff brought in recently to the GEO Secretariat have more of a communications focus. A new fundraising campaign idea was presented both to CEOS and to the Programme Board, which was held the two days following the CEOS-GEO Coordination meeting. The proposed campaign aims to raise funds to support GEO Work Programme activities at a very ambitious level.
* Marie-Claire will share summary notes of the CEOS-GEO Coordination meeting shortly.

GEO Programme Board

* The 25th GEO Programme Board (PB) was held at the GEO SEC offices in Geneva on 7-8 February 2023.
* Topics of interest to CEOS included an update on the 2023-2025 GEO Work Programme and the proposal for Post-2025 Work Programme incubators, updates from each of the topical GEO working groups, and an update on the post-2025 strategy for GEO.
* Planning for the 2023 GEO Symposium was also discussed.

CEOS Work Plan 2023 – 2025

* Marie-Claire is currently following up with contributors who are yet to submit to the Work Plan.
* The aim for this year’s annual Work Plan update, which will become the 2023-2025 CEOS Work Plan, is that it be endorsed virtually just before SIT-38 at the end of March.
* The following is the schedule for review, update, and endorsement:
  + 17 February 2023: Full new draft of Work Plan to be sent out for final review by CEOS membership and entities.
  + 3 March 2023: Deadline for receipt of all final comments to the full Work Plan draft.
  + 6 March 2023: Final version of Work Plan to be sent out to CEOS Principals seeking their virtual endorsement ahead of SIT-38.
  + 20 March 2023: Virtual endorsement of the 2023-2025 CEOS Work Plan.
  + 27 March 2023: SIT-38 week.

Statement to UN-COPUOS STSC

* The 60th session of the Committee on the Peaceful Uses of Outer Space (COPUOS) Scientific and Technical Subcommittee (STSC) took place in Vienna, Austria, from 6 – 17 February 2023.
* CEOS provided a statement to the STSC, which was delivered by the CEOS Chair as a pre-recorded reading, as well as a written version for the meeting participants and for upload to the meeting website.
* The statement had an SDG focus and was delivered during session 5 (“Space technology for sustainable socio-economic development”) on 8 February 2023.

CEOS Presentation Slide Deck

* A general CEOS presentation slide deck was produced and distributed to the SEC for review on 25 January 2023.
* A few helpful comments have been received, and more comments would be welcomed. The comments received indicate the slide deck is a sound basis to work from.
* The proposal is for this slide deck to be enhanced by further useful content, which can come from any CEOS community member.
* The CEO will reach out to the CEOS community for additional content that can be included in this slide deck and make this resource available to all CEOS members.

1. **Working Group Reports**

**WGDisasters**

Helene de Boissezon (CNES, WGDisasters Chair) reported:

* WGDisasters has been busy following the recent Turkey and Syrian Earthquakes, working closely with the International Charter "Space and Major Disasters". WGDisasters community members have been sharing information and data for the region, and a Recovery Observatory (RO) may be activated by Post-Disaster Needs Assessment (PDNA) by PDNA tripartite agreement partners.
* In connection with the Geohazard Supersites and Natural Laboratories initiative (GSNL), there is also the possibility of establishing a supersite for the Southern Anatolian Fault.
* The RO may be mentioned in the annual report of UNOOSA. This is being discussed at UNOOSA’s suggestion and noting the strong support from UNOOSA for decision makers RO awareness activity.
* WGDisasters attended the second meeting of the New Space Task Team (NSTT) and will contribute to topic 10: *“Observation gaps, commercial opportunities to fill CEOS priority requirements for climate, SDGs and disasters”*.
* WGDisasters-19 and WGISS-55 will take place jointly from 18-21 April 2023 in Argentina at CONAE´s Main Receiving Station, Cordoba, at the invitation of CONAE.
* WGDisasters-20 will be held on 5-7 September 2023, with a field trip on 8-9 September 2023, in Yellowstone, USA, at the invitation of USGS (Yellowstone Volcano Observatory).

**WGClimate**

Jeff Privette (NOAA, WGClimate Chair) reported:

* The Greenhouse Gas (GHG) Task Team meeting was held on 2 February 2023 in Geneva following the WMO GHG Symposium. Wenying Su (NASA, WGClimate Vice Chair) participated in both meetings on behalf of WGClimate leadership.
* The agenda for WGClimate-18 has been finalised.
* WGClimate updates for the CEOS 2023-2025 have been submitted.
* Regular internal meetings have been initiated to restructure and simplify the ECV Inventory.
* Will identify full-time WGClimate representatives to various CEOS groups such as the CEOS-ARD Oversight Group, AFOLU Task Team, and the New Space Task Team at WGClimate-18.
* Jeff asked whether there are any other CEOS groups where representation from WGClimate would benefit, for example the Oceans Coordination Group.
* WGClimate-18 will be hosted by JAXA in Tokyo from 29 February to 2 March 2023. Expecting about thirty participants in hybrid format, with about half virtual. The group is working to further grow in-region participation within East Asia. Topics of discussion include GHG, Water, New Space, ARD, Normals, Global Climate Observing System (GCOS) and the Space Climate Observatory (SCO).
* WGClimate will participate virtually in SIT-38.
* CGMS-51 Working Groups will meet on 24-28 April 2023, and WGClimate will be participating virtually.

*Discussion*

* Ivan Petiteville (ESA, SIT Chair team) and Marie Claire Greening (CEOS Executive Officer) noted via chat that the Ocean Coordination Group would benefit from WGClimate representation.

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| **304-01** | WGClimate to identify a representative for the CEOS Ocean Coordination Group. | **ASAP** |

**WGISS**

No one from WGISS was present to report. A written report was provided in advance.

**WGCapD**

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

* The WGCapD annual meeting will be a hybrid meeting that will take place in Vienna from 1-3 March 2023.
* WGCapD will take advantage of the physical presence in Vienna to invite UN entities.
* Currently, there are fifty-six attendees registered, out of which twelve are UN entities.

**WGCV**

Philippe Goryl (ESA, WGCV Chair) reported:

* WGCV is establishing an SI-Traceable Satellite (SITSAT) coordination team. It is now envisaged to create a joint task team with WMO GSICS, which will be proposed at the GSICS Plenary at the end of February 2023. A Terms of Reference (ToR) for the SITSAT group has been created and is being reviewed by WGCV.
* Discussion on a Fiducial Reference Measurement (FRM) assessment process took place in February 2023, and a draft approach will be constructed based on the review of existing FRM projects. The approach will be reviewed by the end of March with the target to present it in a publication in the special issue journal *"Copernicus Sentinels Missions Calibration, Validation, FRM and Innovation Approaches in Satellite-Data Quality Assessment"*.
* WGCV have contributed to the CEOS New Space Task Team, with draft input provided to the white paper.
* Following and responding to the 2022 CEOS Chair priority, the activities related to the establishment of a network of Fiducial Reference Measurement (FRM) sites for thermal infra-red calibration and validation, TIRCALNET, is progressing under WGCV subgroups IVOS and LPV.
  + CNES has started work on uncertainty budgets over the La Crau (France) site, using a similar instrument to JPL in Lake Tahoe. In parallel, ESA will begin a study aiming at identifying other sites and setting up a network.
* Akihiko Kuze (JAXA) presented WGCV's contribution to the CEOS GHG Task Team meeting in February 2023. In particular, he presented the long-term analysis of GOSAT, GOSAT-2, OCO-2, OCO-3 and TROPOMI using common calibration datasets and radiative transfer models and the Railroad Valley (RRV) Cal/Val campaign results.
  + The data from the RRV Cal/Val campaign have been released and are available through the WGCV Cal/Val portal, pointing to the JAXA Cal/Val database. This contribution to the CEOS GHG Task Team meeting is also part of WGCV and AC-VC coordination efforts.
* WGCV provided inputs to the CEOS Work Plan.
* An invitation for WGCV-52 has been sent, and the Chair team is working to prepare the agenda.
* Climate is one of the important topics to be discussed at WGCV-52, in particular improving retrievals of uncertainties. Philippe will contact WGClimate to discuss this further.
* The Cal/Val Maturity Matrix will be presented at SIT-38 in coordination with the WGISS Maturity Matrix as potential tools for reporting and communicating with New Space.
* A CEOS WGCV virtual progress meeting is organised for 7 March 2023.
* CEOS WGCV TMSG and DEMIX Workshop plenary meetings will be held on 23 July 2023 together with the [geomorphometry workshop](https://geomorphometry.org/geomorphometry-2023/).
* The JACIE-23 workshop will be at USGS Headquarters in Virginia from 27-30 March 2023.

1. **GEO SEC Report**

No one from GEO SEC was present to report.

Marie-Claire noted the dates for the GEO Symposium, which will be held in Geneva from 13-14 June 2023.

1. **SEO Report**

Dave Borges (NASA, SEO) reported:

* The GEO Open Data Open Knowledge Workshop will be held in Geneva on 15-16 June 2023. The SEO has accepted a GEO Secretariat request to lead one of the sessions on Open Space-based Data and will be reaching out to the CEOS community for inputs.
* Dave Borges attended the CEOS-GEO Coordination meeting on 6 February 2023, presenting CEOS SDG Coordination Group 2022 accomplishments and 2023 planned activities and deliverables. SDG Coordination Group updates and deliverables have been submitted to the CEO for inclusion in the CEOS Work Plan update process.
* At the CEOS-GEO Coordination meeting, GEO Secretariat presented a follow-up report on the GEOSS Expert Advisory Group (EAG). A visual representation of the proposed GEO infrastructure based on the EAG Report options was shared. Pending ExCom approval, the GEO Secretariat will issue a call to renew the GEOSS Infrastructure Development Task Team (GIDTT), which CEOS was requested to join. SEO will monitor developments and consider joining the GIDTT to represent CEOS.
* At the CEOS-GEO meeting, the GEO Secretariat presented a zero draft of their new global campaign: *“8 Billion Hugs for the Planet”*. This initiative, if it proceeds, is a significant resource mobilisation strategy potentially leveraging celebrities and global brand partnerships. The SEO took an action to schedule a follow-up meeting to initiate increased coordination between the GEO Secretariat Communications Team and the CEOS Communications Team.
* The CEOS Communications Team continues to publish content on the CEOS website. Please reach out to Dave Borges and Libby Rose if there are any CEOS activities which should be promoted.

1. **AOB**

SIT-39 Dates

Osamu Ochiai (JAXA, SIT Vice Chair Team) reported:

* The incoming SIT Chair team is looking to secure dates for SIT-39 in April 2024, with the aim of presenting dates at SIT-38.
* The proposed dates are either the week of 8 April or the week of 22 April 2024. SEC is invited to raise any known issues with the JAXA SIT Vice Chair Team.

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| **304-02** | CEOS SEC to raise any known objections for the weeks of the 8th or 22nd of April 2024 with the JAXA SIT Vice Chair Team. | **SEC-305** |

## Next Meeting and Adjournment

Pakorn Apaphant (GISTDA, CEOS Chair) thanked everyone for attending CEOS SEC-304. SEC-305 will be held on 9 March 2023 at 7 AM US East.

The plan for CEOS SEC teleconferences/meetings leading up to the 2023 Plenary is as follows (typically Thursday):

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| SEC-305: March 9, 2023  SEC-306: March 28, 2023 (SIT-38)  SEC-307: April 20, 2023  SEC-308: May 18, 2023  SEC-309: June 15, 2023 | SEC-310: July 20, 2023  SEC-311: September 7, 2023  SEC-312: September 28, 2023  SEC-313: October 17, 2023 (SIT TW)  SEC-314: November 13, 2023 (CEOS Plenary) |

The start time for all teleconferences will be 7 AM US East. Face-to-face meeting times will be advised closer to the dates.