**Minutes V1.0**

**310th CEOS SECRETARIAT MEETING**

Thursday 20 July 2023

Chaired by GISTDA

**Participants**

**CEO:** Marie-Claire Greening

**EUMETSAT:** Robert Husband

**ESA SIT Chair Team:**  Stephen Briggs

**GISTDA:** Pakorn Apaphant, Atipat Wattanuntachai, Poramet Thuwakham, Sutinee Sihirunwong, Matt Steventon, Riza Singh

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

**NASA:** Julie Robinson, Christine Bognar

**NOAA:** Charles Wooldridge, Paul Di Giacomo

**OSVW-VC:** Suchandra Aich Bhowmick

**SEO:** –

**WGCapD:** Jorge Del Rio Vera

**WGCV:**  Philippe Goryl

**WGClimate:** Wenying Su

**WGDisasters:**  Laura Frulla

**WGISS:**  Makoto Natsuisaka

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

Pakorn Apaphant (GISTDA, CEOS Chair) welcomed everyone to CEOS SEC-310. The CEOS Ocean Coordination Group and COAST *Ad Hoc* Team have been invited to present and will be the first item on the agenda, followed by the regular SEC meeting agenda.

## CEOS Ocean Coordination Group and COAST AHT Briefing

Charles Wooldridge (NOAA) presented the proposal for a COAST Virtual Constellation (VC):

* One of the key elements of the Ocean Coordination Group (OCG) discussions has been ensuring the activities of the COAST *Ad Hoc* Team are sustainable.
* The COAST *Ad Hoc* Team has operated for three years, and its term will conclude in November 2023, at the CEOS Plenary. The outcomes of COAST include the release of various products developed or enhanced by COAST team member efforts, such as shoreline mapping by Geoscience Australia and NOAA’s Coastline Evolution, ESA physical oceanography products for coastal regions, and NOAA and ISRO flooding products. The group is working on developing other products such as the Habitat Suitability Index, shallow water bathymetry, hypoxia, coastal eutrophication, and suspended particulate matter. The group has also engaged stakeholders through events and co-design activities, including a successful collaboration pilot using the CEOS EAIL (now known as CEOS Analytics Lab (CAL)) for Chesapeake Bay.
* The COAST *Ad Hoc* Team proposes the creation of a COAST Virtual Constellation (VC) as a mechanism to continue these types of activities. There is precedent in CEOS for such a VC, noting the examples of LSI-VC and AC-VC, which cover various properties / domains and utilise multiple measurement techniques.
* The proposed VC will continue the activities of the *Ad Hoc* Team, which is itself considered a deliverable of CEOS in service to the U.N. Ocean Decade.
* Potential activities of the proposed VC include finishing products in development and advancing new ones, including coastal blue carbon/habitat mapping, shoreline (e.g., UK coast); and stakeholder engagement events (co-designed) in new regions. Efforts would be managed to ensure complementarity with existing activities in other VCs and Working Groups and would utilise the CEOS Analytics Lab (CAL) where possible.
* Both NOAA and ISRO have expressed interest in co-leading the proposed COAST VC through the transition phase and in being included in the first round of leadership. The COAST *Ad Hoc* Team is discussing the possibility of a third co-lead.
* Input and feedback on the proposal is sought from the CEOS Secretariat today.
* Chuck noted that the proposal for the new VC will be developed in accordance with guidance in the CEOS VC Process Paper, in time for presentation and discussion at the SIT Technical Workshop in October, with the final proposal presented for decision at CEOS plenary 2023 or SIT-39. Broad consultation with the community will be done in September 2023.

Paul Di Giacomo (NOAA) presented an update from the CEOS Ocean Coordination Group (OCG):

* CEOS is entering a golden era for ocean observation from space, with the SWOT, GLIMR, CIMR, PACE and Aquawatch missions to name a few.
* The OCG was established in the context of CEOS support for the United Nations Decade of Ocean Science for Sustainable Development and identifying contributions and coordination opportunities.
* The OCG has discussed existing and future mission product development and where ocean coordination would be of use; conducted an initial collection of deliverables and outcomes related to those missions from all related CEOS entities; and conducted initial analysis and mapping of CEOS Work Plan activities that directly or indirectly benefit the Intergovernmental Oceanographic Commission (IOC) and the U.N. Ocean Decade of Ocean Science for Sustainable Development (also known as the UN Ocean Decade).
* For SIT Technical Workshop and CEOS Plenary the OCG aims to complete the work on two documents and provide them as the final outputs from the OCG:
	+ *Needs Assessment for Ocean Coordination Activities for Upcoming Satellite Missions.*
	+ *List of IOC and Ocean Decade Planned Deliverables from CEOS VCs/WGs/Ad Hoc Teams.*
* These documents will help inform CEOS about where increased coordination can benefit the Earth observation community as it seeks to address the ambitions of the U.N. Ocean Decade, and more generally, ocean observations.
* The OCG will not propose a new entity specific to overall ocean coordination in CEOS at this time. Instead, it will recommend the OCG end with these deliverables to the CEOS Plenary.

*Discussion*

* Stephen Briggs (SIT Chair team) suggested that it would be beneficial to include a slide in the proposal for a COAST VC highlighting how the proposal aligns with the CEOS VC Process Paper. This would reassure CEOS Principals that the proposal is consistent with the guidelines and make their assessment easier.
* Charles Wooldridge (NOAA) acknowledged the suggestion, stating that the COAST *Ad Hoc* Team has already been working to assess the proposal against the VC Process Paper.
* Pakorn Apaphant (GISTDA, CEOS Chair) suggested that thorough discussion at SIT Technical Workshop would ensure a robust proposal for CEOS Plenary.
* Christine Bognar (NASA) recalled that the SIT Technical Workshop is not a CEOS Principal-level meeting. The SIT Technical Workshop can serve as a forum to discuss, review, and gather community feedback, but the decision to create a new entity could be made at either CEOS Plenary (14-17 Nov. 2023) or SIT-39 (9-11 April 2024).
* Christine emphasised the importance of adhering to the elements outlined in the VC Process Paper for a streamlined process. Having a presentation that documents completion of each step would be beneficial. Julie Robinson has indicated that NASA will be supportive of a proposal for a COAST VC. Christine thanked Chuck Wooldridge and Paul Di Giacomo for their sustained efforts and coordination.
* Marie-Claire Greening (CEOS Executive Officer) suggested that the idea of a COAST VC is a pragmatic solution that aligns with existing governance and processes. She recommended targeting SIT-39 as the decision point for the COAST VC proposal since Plenary will be the first Principal-level meeting where the concept would be tabled. The proposal could be presented at the 2023 CEOS Plenary, with the aim of a final decision being made at SIT-39. This approach would ensure that Principals have sufficient visibility of the proposal and thus would have time to fully consider it before endorsing.
* Charles Wooldridge agreed that the two-phase approach to Principals, first presenting at CEOS Plenary and then SIT-39 for decision, would be practical.

## CEOS Chair Report

2023 CEOS Plenary

* Matt Steventon (CEOS Chair Team) shared the draft 2023 CEOS Plenary objectives prior to the SEC-310 meeting. The document is a work in progress.
* Emails were sent to all CEOS Working Group Chairs, Virtual Constellation Co-Leads, *Ad Hoc* Team leads and other CEOS groups requesting their support to identify decisional items that need to be noted in the statement of objectives. Only a few responses have been received, and SEC was asked to follow up a response from VCs and WGs if their agency happens to be leading one of these groups.
* The CEOS Chair Team is coordinating closely with the SIT Chair Team to ensure the SIT Technical Workshop agenda is aligned and supportive.

*Discussion*

Christine Bognar (NASA) requested inclusion of the decision point on potential endorsement of NASA for the role of SIT Vice Chair for 2024-2025 and subsequently SIT Chair for 2026-2027 in the working draft of the 2023 CEOS Plenary objectives.

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| **310-01** | CEOS Chair Team to add the decision point on potential endorsement of the NASA nomination for the role of SIT Vice Chair in 2024-2025, and subsequently, SIT Chair in 2026-2027 to the draft objectives of the 2023 CEOS Plenary.  | **COMPLETE** |

Poramet Thuwakham (GISTDA, CEOS Chair Team) reported:

* On CEOS SEC Action **309-01** *(CEOS Chair to send an official invitation to GEO Secretariat Director, Yana Gevorgyan, for the 2023 CEOS Plenary),* this action was completed. The invitation letter was sent on July 17, 2023.
* Advised SEC to use the provided [booking link](https://www.marriott.com/events/start.mi?id=1688128462076&key=GRP) to reserve hotel rooms for Plenary by mid-September 2023. Please contact the CEOS Chair team if there are any issues. A formal hardcopy invitation letter has been sent out to agencies that confirmed their mailing addresses.

Workshop on Carbon Accounting from Space

Pakorn Apaphant (GISTDA, CEOS Chair) reported:

* A workshop on carbon accounting from space is scheduled for November 14, 2023, the day prior to CEOS Plenary (the side meeting day). The workshop aims to demonstrate the state of the art for carbon accounting using space-based Earth observation data to local and regional decision-makers. GISTDA plans to invite key CEOS experts to share their experience and knowledge.

New Space Task Team White Paper

Atipat Wattanuntachai (GISTDA, CEOS Chair Team) reported:

* On CEOS SEC Action 308-01 *(CEOS Chair team to email the SEC summarising the status of their request for support with the New Space Task Team Working Document. SEC representatives are asked to please follow up their agency contacts, where applicable):*
	+ Atipat Wattanuntachai (GISTDA, CEOS Chair Team) emailed the status to the SEC mailing list on July 14, 2023. The action was completed.
	+ Inputs were received from all Working Groups and from some Virtual Constellations. SEC has been asked to follow up the remaining Virtual Constellation inputs.
1. **SIT Chair Report**

Matt Steventon (SIT Chair Team) reported:

Carbon & Biomass

* The recent CEOS-IMEO workshop has resulted in several *ad hoc* working groups being established under IMEO to follow up actions. CEOS Agencies are represented in all of them, coordinated by the SIT Chair Team.
* [The Smithsonian Tropical Research Institute (STRI) received a $12 million grant from the Bezos Earth Fund to support GEO-TREES](https://www.si.edu/newsdesk/releases/bezos-earth-fund-grants-12-million-smithsonian-support-major-forest-carbon-project).
* The Biomass product harmonisation team has received a three-year grant from NASA to support their *“Harmonising Biomass Maps With Policy Needs: Development of National Prototypes for the Global Stocktake”* project.
* Dr Joana Post, who for several years has held the UNFCCC Secretariat role of Research and Systematic Observation (RSO) representative, is moving to the Intergovernmental Oceanographic Commission (IOC).

CEOS Analysis Ready Data (ARD)

* Patrick Quinn of NASA was nominated and confirmed by vote as Co-Chair of the joint Open Geospatial Consortium (OGC) and International Organization for Standardization (ISO) Analysis Ready Data (ARD) Standards Working Group (SWG). For context, it is relevant to note that this SWG is not a CEOS entity, but rather an official working group contained within the OGC and ISO global standards organizations. Within CEOS, Patrick Quinn was added as a member of the CEOS-ARD Oversight Group. His SWG nomination and the voting process was supported by members of CEOS LSI-VC, the CEOS-ARD Oversight Group, and the SEO, who all serve as Charter Members of the OGC/ISO ARD SWG. CEOS will seek to ensure broad community representation in this SWG, including the commercial sector and New Space. It is critical that such a standard has broad buy-in and adoption.
* The SAR CEOS-ARD team led by Ake Rosenqvist (JAXA) is making good progress on their Harmonised SAR CEOS-ARD Product Family Specification (PFS).

CEOS New Space

* The New Space Task Team is developing its white paper for CEOS Plenary, with 15 agencies contributing content on their experiences with the New Space sector.
* Some topic-specific recommendations have been suggested, but the way forward for CEOS and New Space following Plenary remains unclear.
* New Space will be a key discussion topic at SIT Technical Workshop, to clarify the way forward following the current phase of the Task Team at CEOS Plenary.

2023 Earth Observation Handbook

* The written content and other materials are now with the design team. The SIT Chair Team is aiming for an October release as a dynamic scrolling website and the usual PDF document.

Upcoming meetings or events

* The 2023 SIT Technical Workshop will be held at ESA ESRIN on October 17-19, 2023. The draft agenda and objectives will be circulated to CEOS SEC soon.

**Ocean Surface Vector Wind Virtual Constellation (OSVW-VC) Report**

* Suchandra Aich Bhowmick (ISRO, OSVW-VC Co-Lead) provided an update on Oceansat-3 data, noting that it is currently in the calibration and validation phase. The data will soon be released to external users. Currently, it is being provided to internal users who are involved in calibrating the level 1 data of Oceansat-3. ISRO has prioritised Ocean Surface Vector Wind as a key focus area for this mission.
1. **CEOS Executive Officer Report**

Marie-Claire Greening (CEOS Executive Officer):

* Regarding SEC Action **309-01** (also reported above), Marie-Claire noted that CEOS Plenary is scheduled for the week following the GEO Plenary and Ministerial in Cape Town, South Africa. Though logistical challenges were anticipated, it is hoped that the GEO Secretariat Director, Yana Gevorgyan, will consider attending the CEOS Plenary in person. We are awaiting official confirmation. Yana would be invited to provide a presentation to CEOS Principals during the Plenary. While the invitation letter does not explicitly mention this, Marie-Claire requested the CEOS Chair include a placeholder for the GEO Secretariat Director's presentation in the Plenary agenda, assuming that Yana or her designee will accept the invitation.

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| **310-02** | CEOS Chair Team to add a placeholder for a presentation from the GEO Secretariat Director on the CEOS Plenary agenda. | **SEC-311** |

* Regarding SEC Action **308-02** (*CEOS Executive Officer to prepare a collective assessment of CEOS interactions with GEO via an analysis of CEOS Work Plan and interactions with CEOS entities*). There will be a dedicated session at SIT Technical Workshop and this action is in progress to support that.
* The GEO Executive Committee (ExCom) met on July 17-18, 2023. The CEO attended the meeting remotely for CEOS, recalling that CEOS has Observer status to the GEO ExCom.
	+ **GEO Post-2025 Strategy Document**: The Strategy is in its final drafting stage, and the final version should be delivered in approximately two weeks’ time. CEOS Members had the opportunity to provide final comments on this draft to the CEO (if they had not already done so through their Member State channel). All comments received were passed on to the GEO Post-2025 Working Group. After this final round of consultation with GEO Member States, Participating Organisations and Associates, the working group has focused on refining the remaining issues, including:
		- Concern over the seeming restriction on using the “Triple Planetary Crisis” as the main driver when other aspects steer the work of GEO. To overcome this, the wider context will be increased to show that these are not the only elements that will define GEO’s thematic priorities in the post-2025 era.
		- The use of the term “Earth Intelligence” in the strategy document, which many initially suggested, is now thought to be a term that Ministers may find objectionable because it lends itself for different interpretations, including the use of Earth observations for purposes other than civil and peaceful purposes. The working group has focused on providing a clear definition of the term.
		- The need to be explicit throughout the document and to re-emphasise that GEO is an intergovernmental forum and that this is a core strength of the organisation.
		- There were positive comments from the ExCom, including that the document is appropriately visionary. The strategy is also well-formulated in that it stresses the call for equity, a voice for all, and service delivery to the worldwide community at different scales (local, national, regional, etc.).
	+ **GEO Week 2023** will be held on November 6-10 in Cape Town, South Africa, and will include the GEO Ministerial, GEO Plenary and ExCom meetings. Registration is now open via the meeting [web page](https://www.earthobservations.org/geoweek2023.php). CEOS is currently formulating its delegation with in-person attendance expected from the CEOS Chair, CEO and SEO. The SEO is planning to host a CEOS booth during the event. Marie-Claire will check with the SIT Chair Team to confirm their plans for attendance.
	+ **2023 GEO Ministerial Declaration:** The dedicated working group drafting the declaration had the following priorities: setting a positive, optimistic tone; building on progress and being future-focused; and endorsing the post-2025 strategy without repeating it. The first draft is four pages long, but the ultimate plan is for it to be two pages in length. Comments on this first 4-page draft are currently being considered and incorporated into a second draft that is expected to be shorter.
	+ **GEO Programme Board (PB)**: There was a report from the PB on the recent GEO Symposium, GEO Open Data and Open Knowledge Workshop, the GEO Work Programme and its incubators, the GEO Working Groups, and the GEO Engagement Teams. Andiswa Mlisa (SANSA) recently stepped down as one of the three co-chairs of the PB. A virtual election was held to find a replacement and Amos Kabo-Bah of Ghana was recently announced as the new third PB co-chair, sitting alongside Evangelos Gerasopoulos (Greece) and Anthony Milne (Australia).
	+ **GEO Global Ecosystems Atlas:** The GEO ExCom was informed about the development of a proposal for seed funding for the project to cover a dedicated project manager and some expert consultant time, to fund meetings, travel, and the development of a use case demonstration. The eventual aim is for the Global Ecosystems Atlas to become a GEO Flagship.
	+ **GEO Urban Heat and Health:** This incubator project focuses on urban heat and health and is making good progress after collaboration with WMO on the formulation of a Global Heat Resilience Service concept. Martyn Clark, Urban Resilience Coordinator in the GEO Secretariat, is regularly attending CEOS SDG Coordination group meetings, so there is good communication with CEOS on this topic.
	+ **GEO Infrastructure Development Task Team (GIDTT):** The team is currently being re-established with the goal to assess the technical feasibility and requirements (institutional and financial resources, governance model) for the evolution of GEO’s infrastructure. The team is being convened, with the first meeting planned for September 2023. CEOS will be represented on the GIDTT by the SEO (Dave Borges, NASA).
	+ **GEO Secretariat Budget:** For 2024 and beyond, the expenditures to fulfil GEO’s ambitions appear to be outgrowing the expected contributions from its members. This would potentially impact near-term decisions, such as reducing the scope of initiatives or deferring them. Discussion time was spent during the ExCom on ways to attract more funding into the Trust Fund, and on avenues for potential funders to invest in specific projects with one or more tangible outcomes, which may be a more attractive proposition for financial backing.
	+ **GEO Website Revamp:** The GEO Secretariat has initiated a contract to develop a new structure and design for the GEO website.
1. **Working Group Reports**

**WGDisasters**

Laura Frulla (CONAE, WGDisasters Vice Chair) reported:

* The WGDisasters [web page](https://ceos.org/ourwork/workinggroups/disasters/wildfire-pilot/) was updated with some information on wildfire work and news about the end of the MODIS mission.
* A virtual meeting of the Recovery Observatory demonstrator was held on June 28, 2023. It was a productive meeting with some achievements, early conclusions, and paths forward for the next phase were reviewed.
* The Volcano Demonstrator group is preparing a proposal for an International Virtual Volcano Observatory for 2024 and beyond.
* The Landslide Demonstrator group is preparing a sustainability report for ongoing science and possible pre-commercial activity in collaboration with the insurance sector.
* The Seismic Demonstrator group will prepare a proposal for a seismic rapid response activity, as a continuation of a previously completed Demonstrator, given demands within the community for such products.
* WGDisasters will meet next on July 25, 2023. The focus of the meeting will be updates on the sustainability plans for the Recovery Observatory and Landslide Demonstrator among others, and preparation of the WGDisasters-20 meeting. WGDisasters-20 will be hosted by USGS from September 5-9, 2023, in Gardiner, Montana.
* WGDisasters participated in GEO Symposium panels (EO4DRM, GSNL) on June 13-14, 2023, in Vienna. During the symposium, the WG presented the EO4DRM GEO Initiative, highlighting the RO Demonstrator and the IVVO proposal. They also organised a panel on the operationalisation of EO-driven activities and shared their experience. GSNL also participated and presented their recent results. The Kahramanmaras Supersite garnered significant interest during the event.

**WGClimate**

Wenying Su (NASA, WGClimate Vice Chair) reported:

* WGClimate has appointed Dr. Darren Ghent as the permanent liaison to GCOS Terrestrial Observation Panel for Climate (TOPC). Albrecht von Bargen from DLR had been holding the position temporarily since last year. Darren's prior experience as a TOPC member will facilitate a smooth transition, which is crucial as WGClimate collaborates with GCOS on the Space Agency Response to the GCOS Implementation Plan.
* WGClimate presented 2023 Work Plan activities at CGMS-51 Plenary in Tokyo:
	+ The Plenary accepted WGClimate's revised approach to developing the Space Agency Statement to SBSTA and the proposed approach for gaining Plenary approval of the Agency Response to the GCOS IP. WGClimate had also requested a meeting with CGMS WG Chairs to advance planning for support to the second Global Stocktake.
	+ WGClimate raised concerns related to Greenhouse Gas issues such as insufficient ground observation and validation systems, the lack of direction and standards for New Space, and the importance of engaging with the new WMO Global Greenhouse Gas Watch to clarify roles and coordinate activities.
* Regarding the Space Agencies' Response to the GCOS IP (SARGIP), the team is still determining which actions will be addressed in 2023 or 2024. An online meeting with GCOS leadership is being planned to discuss the outcome of the GCOS Joint Panels meeting that was held in June.
* For the Statement to SBSTA at COP28, WGClimate is collaborating with Sara Venturini, Climate Coordinator in the GEO Secretariat. Poster topics for the Earth Information Day have been discussed and the draft Space Agency Statement to SBSTA should be ready by August 1, 2023.

*Discussion*

Christine Bognar (NASA) shared a link in the chat with additional information on [Dr Darren Ghent](https://www.nceo.ac.uk/wp-content/uploads/2022/01/NCEO-Corporate-Brochure-Edited-Jan-2022.pdf), who is now the WGClimate liaison to the GCOS Terrestrial Observation Panel for Climate (TOPC) and noted that Dr Ghent is with the U.K. National Centre for Earth Observation (NCEO).

**WGISS**

Makoto Natsuisaka (JAXA, WGISS Chair) reported:

* The Technology Exploration Interest Group had a monthly meeting and an *ad hoc* meeting regarding the Artificial Intelligence (AI) / Machine Learning (ML) white paper initiative. AI/ML experts from NASA and the UK in addition to WGISS members joined the latter meeting and discussed the context of the white paper.
* Agenda coordination for WGISS-56, which will be held in October 2023, has been initiated. A special session for cloud use might be planned, with invitations to CGMS and the SEO.
* The CEOS-ARD Oversight Group is working to determine how CEOS-ARD should be connected to the SpatioTemporal Asset Catalog (STAC), and how to manage extensions specific to CEOS-ARD. In parallel, WGISS is developing a STAC Best Practices document. Communication between these two efforts has been established to ensure close collaboration.
* The monthly meeting of the CEOS Interoperability Framework team was held on July 12, 2023. During the meeting, the names of focus areas (Factors) were updated as follows: Semantics (vocabulary); Architecture (structure); Data Formats (syntactic); Interfacing (accessibility); Quality; Policy.
* CSIRO has appointed Matt Paget (senior scientist in Earth observation data and systems) as its WGISS principal, in accordance with the WGISS message at SIT-36. Matt brings great experience with cloud computing systems, and it is hoped that this appointment will advance WGISS work in this important area for data interoperability.
* The WGISS-56 meeting will be hosted by CNES in Paris, France on October 24-26, 2023.

**WGCapD**

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

* An *ad hoc* group inside WGCapD is analysing options to improve the reusability of learning objects. The *ad hoc* group met on June 27, 2023, during which ISRO and NASA presented on data repositories and learning methods. The group aims to prepare a report with recommendations on how to best share and reuse learning objects.
* An EOTEC DevNet meeting on floods started yesterday and will continue today.

United Nations Needs Identification and Needs Response

* The WGCapD monthly meeting focused heavily on a document compiling needs from the presentations of U.N. entities, which took place during the joint UN-Space/WGCapD-12 meeting. The document is in progress and it is available [here](https://docs.google.com/document/d/1rodHrJ4cTJaUoK18b9nJT8ZXBDrz2XTk/edit). A form to identify resources to address the needs can be accessed [here](https://docs.google.com/forms/d/e/1FAIpQLSfU5cHdvhnXFQqAsSiHvV8jV3mWIhVlZsltFe5-_EOOcW-Ouw/viewform).

**WGCV**

Philippe Goryl (ESA, WGCV Chair) reported:

* A CEOS WGCV Land Product Validation (LPV) workshop was held the week after WGCV-52 at ESA ESRIN. The aim of the workshops is to regularly review the status of cal/val reference data (networks, sites, campaigns), cal/val best practices and tools. LPV focuses on the validation of satellite-derived land products, including albedo, biophysical variables (LAI, fAPAR), land surface temperature, soil moisture, land cover, biomass, fires, and snow products. The meeting was successful owing to:
	+ The number of contributions (50 presentations, 40+ posters), the number of participants (120+ registered of which 90% were in person), and strong international attendance.
	+ The outstanding quality of the presentations and the variety of EO thematic areas covered (see [agenda](https://nikal.eventsair.com/lpve-2023/agenda)), showing overall good progress in terms of technological solutions and scientific methods.
	+ The lively and inspiring discussion sessions, with a set of clear recommendations and needs identified by the conclusion, which are being synthesised into a communication paper to be submitted to [AGU’s EOS journal](https://eos.org/).
* The organisation of the Pre-Flight Calibration Workshop is progressing. The joint GSICS/WGCV organisation committee has resumed its activity. The tentative dates for the workshop are November 19-21, 2024, at ESA ESTEC in the Netherlands.
* The Terrain Mapping Subgroup (TMSG) held its plenary meeting in July 2023. Among others, the status of DEMIX was discussed. As a result of DEMIX, a [publication](https://doi.org/10.48550/arXiv.2302.08425) was authored, presenting approaches to intercompare a range of candidate digital elevation models (DEMs) based on predefined criteria and a statistically sound ranking approach.
* During the TMSG meeting, a database for Ground Control Points for Very High-Resolution sensors was discussed and identified as a potentially good contribution to New Space that should be captured in the New Space Task Team’s white paper. Similarly, a database for radiometric calibration and validation sites was also discussed with the WGCV Infrared Visible Optical Sensors (IVOS) subgroup. A prototype of the database will be presented at the IVOS meeting in September at DLR and then at the Very High-resolution Radar & Optical Data Assessment (VH-RODA) Workshop in Frascati in November, 2023.
* A new Terrain Mapping Subgroup (TMSG) co-chair is currently sought. Nominations are welcome.
* The tentative plan for WGCV-53 is to hold the meeting in Cordoba, Argentina, hosted by CONAE. The preferred dates for the meeting are March 4-8, 2024. This is currently being confirmed with CONAE.

Upcoming Meetings

* A WGCV IVOS meeting will be organised at DLR in Germany at the end of September, 2023. The WGCV SAR subgroup workshop will also be organised at DLR, in October 2023.
* The WGCV Atmospheric Composition subgroup will meet with the AC-VC at a workshop in Brussels in October, 2023.

*Discussion*

* Laura Frulla reported that CONAE supports the plan for WGCV-53, and they are currently arranging the meeting.
1. **SEO Report**

David Borges (SEO, NASA) was unable to report to SEC-310 due to his participation in person at the International Geoscience and Remote Sensing Symposium (IGARSS) conference held in Pasadena, California, USA. IGARSS is the main conference of the IEEE Geoscience and Remote Sensing Society (GRSS). A written report was provided, and SEC members were directed to it for the details.

1. **AOB**

X-Band SAR and 5G Frequency Allocation

Jorge Del Rio Vera (UNOOSA) presented some slides regarding an upcoming decision on the allocation of new frequency ranges to terrestrial 5G services planned at the 2023 World Radio Communication Conference (WRC-23) on November 20 - December 15, 2023, in Dubai, UAE. The organization’s website notes that: “World Radiocommunication Conferences (WRC) are held every three to four years to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits.”

At WRC 2023 there will be a decision on whether to allocate a special frequency band for terrestrial 5G applications that overlaps with X-Band SAR Earth observation frequencies. If this frequency is granted, X-band SAR will be affected, with resolutions expected to be halved. Jorge presented a call for action, originally from DLR:



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| **310-03** | SIT Chair Team to consider the most appropriate mechanism to raise awareness of the pending decision regarding the allocation of X-Band SAR frequency ranges to terrestrial 5G services with CEOS Agencies, including possibly via a 2023 SIT Technical Workshop agenda item. In the immediate term, an email to CEOS Members and Associates would be beneficial. | **SEC-311** |

## Next Meeting and Adjournment

Pakorn Apaphant (GISTDA, CEOS Chair) thanked everyone for participating in SEC-310. SEC-311 will be held on September 7, 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-311: September 7, 2023SEC-312: September 28, 2023 | SEC-313: October 17, 2023 (SIT Technical Workshop)SEC-314: November 14, 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.