

## CEOS SEC-319 Meeting Written Report

CEOS Entity: CSA – CEOS Chair

Prepared by: Eric Laliberté

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- 1) Following up on December 20<sup>th</sup>, 2023 meeting with UNCBD & GEO BON to initiate formal collaboration, CSA CEOS Chair team hosted a second meeting to discuss next steps and timelines. It was suggested that the list of core participants be expanded to a wider group of parties interested in a better coordination of the biodiversity ecosystem – namely GEO, FAO and UNSEEA).
- 2) CSA CEOS Chair team is awaiting feedback on an updated Dialogue proposal before reaching out to the organisations (see V5 document attached to this report – feedback welcome!), including potential areas of cooperation among participating organisations:
  - *Exploring how existing and future space assets can be mainstreamed to address needs related to monitoring and understanding biodiversity change at all levels (global, regional, national).*
  - *Supporting the development and engineering of EBVs defined by GEO BON to unify, harmonize, and standardize biodiversity monitoring and reporting (deriving EBVs from EO measurements).*
  - *Development of processing and validation standards for biodiversity-relevant EO products, with specific focus on satellite-based EBVs.*
  - *Showcasing and promoting the contribution of satellite assets to biodiversity monitoring and conservation.*
  - *Provide guidance to national governments on how to the access, process, and analyse satellite data streams, proposing solutions for countries to access and develop tools*
  - *Supporting the development of EO capabilities for biodiversity monitoring by countries.*

Additional points (for written reference only):

- The end goal of this exercise is to enhance coordination between participants on biodiversity matters. How the general agreement to such coordination will be agreed to by participants remains to be confirmed. Various options are considered: joint statement, Letter of intent, exchange of letters?

Upcoming meetings and events (for written reference only):

- As discussed during the second meeting highlighted above, the idea to organise a workshop with UNCBD and GEO BON in late April 2024 seems to be too ambitious.
- Rather, it was agreed that leads would be identified for each area of collaboration. Each lead will then organise and host a workshop on how the area can be best explored, and by whom (between now and June 2024).
- Once all areas will have been discussed by interested experts, CSA CEOS Chair team plans to host a “Biodiversity Dialogue” in late September 2024, during which recommendations stemming from each individual workshop will then be confirmed and included in one generic document – to be agreed upon by all participants.
- Such document would be used as content for the agreement to link CEOS with all other interested parties hoping to better coordinate biodiversity activities – to be presented to CEOS members during 2024 Plenary for review.

## Dialogue Proposal: Biodiversity collaboration - CEOS, UNCBD, GEO BON, GEO, FAO and UNSEEA

This document is meant to present a proposal for a Joint workshop between CEOS, UNCBD & GEO BON, to be led by the CSA acting as 2024 CEOS Chair. The overarching question these organisations will seek to answer is “***How can spaceborne Earth Observation have more impact to help protect and conserve biodiversity, with particular focus on supporting GEO BON in addressing the goals and the targets of the UNCBD Global Biodiversity Framework<sup>1</sup>?***”

Capitalizing on the exchanges between the UNCBD and the CEOS carried out in 2018<sup>2</sup>, efforts will be made to outline a pathway to a well-grounded status for biodiversity within CEOS, to help support a better cooperation between the CEOS and its agencies, GEO BON and the UNCBD. The aim is to jointly address the common challenges and potential areas of cooperation, with a view to maximize the utilization of Earth Observation data by the Parties of the Convention and other biodiversity-related conventions.

***\*Proposed discussion items and workshop outcomes are outlined in the annexes***

### Context:

The Kunming-Montréal Global Biodiversity Framework (KMGBF) lays out a set of global goals and targets to halt and reverse biodiversity loss by 2030 and put the world on a path to living in harmony with nature by 2050. The Parties to the UNCBD are obligated to report on progress made towards the biodiversity targets they have committed to achieve and are expected to update their National Biodiversity Strategy and Action Plans to reflect implementing the KMGBF domestically. *Nature Serve* suggests considering the framework example found in this paper: <http://dx.doi.org/10.32942/X2130Z>, as it outlines the *Biodiversity Indicators Program* used to design national biodiversity monitoring and reporting frameworks in other countries.

EO datasets, collected by satellites and other remote sensing technologies, have become indispensable in this regard. Space-based Earth Observation data generated by CEOS agencies are a key source of information for tracking progress of many of the Biodiversity Targets and represent a major incentive for countries to invest in using EO to monitor their biodiversity.

A formal cooperation framework between UNCBD, GEO BON, GEO, FAO, UNSEEA and CEOS (and its agencies) would help the Convention and its Parties to maximize the use of Space-based Earth Observation data for biodiversity monitoring, benefitting all countries, including those with limited capacity that require assistance to meet reporting expectations.

<sup>1</sup> CEOS has the following criteria for a new initiative: 1) alignment with CEOS strategic goals; 2) Benefit to internal and external holders; 3) Feasibility and affordability

<sup>2</sup> Letter of the Executive Secretary of UNCBD to CEOS (SCBD/OES/PPP/DC/RH/87529), August 13, 2018; Letter of the CEOS SIT Chair to UNCBD (2018-2019), December 4, 2018.

Such formal cooperation would significantly facilitate the communication of EO needs (observations, products, and tools) of the biodiversity community to space agencies and thus enable the development of high-quality EO solutions that would enable Parties to the Convention to integrate effectively EO in their policies and processes. This will greatly benefit Parties by enabling them to better track progress towards their biodiversity targets, thus helping them to meet both their biodiversity conservation goals and their reporting obligations.

According to the 2018 *Letter of the Executive Secretary of UNCBD to CEOS*, accurate data, monitoring, and analysis tools are needed to protect and conserve biodiversity effectively. Despite the great potential of Earth Observation satellites for biodiversity monitoring, their exploitation by the Convention Parties is undermined by several challenges that need to be jointly addressed, such as:

- data access,
- the availability of analysis ready data and fit for purpose products,
- integration of products so that, together, they can be used to inform decision makers about changes in biodiversity at national and global levels,
- limited capacity available in emerging user countries

CEOS could help solve these critical barriers which, if not addressed properly, can undermine the full use of satellite data products by the Parties to the Convention.

#### **Proposed Workshop Objectives:**

- Understanding at the outset the biodiversity EO needs of the CBD and its members
- Identify specific priority collaboration areas between CEOS, UNCBD, GEO BON, GEO, UNSEEA, FAO that will contribute to support national members with national reporting on biodiversity
- Identify potential capacity building initiatives (ex: BON in a Box, reporting toolkit, inventory of available public & commercial data, etc)
- Agree of a mechanism which crystallizes the working relationship between participants.

#### **Proposed Workshop details:**

- **Dates:** Late May or early June 2024?
  - *These dates would allow time to organize, define the agenda, objectives, and garner participation from the desired audiences, which seem to include experts and non-experts in remote sensing and biodiversity. Clarification on this point is key for presenters and development of the workshop agenda.*
- **Location:** To be determined.
  - *Could GEO BON or UNCBD host in their Montreal location?*
- **Targeted audience:** By invitation only: CEOS, UNCBD experts committee, UNCBD MS Representatives, GEO BON working groups Representatives, relevant international organisations: FAO, UN Stats division, GEO
- **Format:** To be determined. Hybrid in-person and online format,
  - *Full-time over 2 days?*
  - *Multiple sessions over a longer period of time?*

- **Structure:** Based on EBVs, the following questions could be addressed
  - *What are the main challenges?*
  - *How could this collaboration advance some of the identified challenges?*
  - *Are there already case studies that we can highlight?*
  - *How do we build a partnership that is sustainable and supports monitoring?*

#### **Next steps:**

1. **Quickly agree on workshop dates** – Essential to start logistical planning.
2. **Understanding the objectives** - Jointly define what we aim to achieve with this workshop, including tangible outcomes, intangibles outcomes and levels of participation
3. **Identifying the target audience** - Understand who will be participating in the workshop - their needs, interests, and goals will influence the type of content we create.
4. **Create the agenda** - Assemble the activities into a coherent flow (add timing to each block to manage time effectively).
5. **Developing a communication plan** - 1) Determine what participants should know about the workshop in advance; 2) Create a description of the workshop to communicate its unique value; 3) Decide how participants will enroll in the workshop and how they can find out more.

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## ANNEXES

### ***Annex A: Possible Long-term expected outcomes for CEOS:***

- Compile and curate a wide range of EO datasets that are relevant to biodiversity protection and conservation including satellite imagery, climate data, land-use data, etc.
- Showcase the application of EO data in monitoring and managing biodiversity, including habitat mapping, species distribution, and ecosystem health assessments.
- Provide guidelines and best practices for researchers, conservationists, and policymakers on using EO datasets for biodiversity protection and conservation efforts.
- Foster collaboration and knowledge exchange among scientists, protection and conservation organizations, and government agencies in the realm of biodiversity protection.
- Highlight success stories and case studies from CEOS members that demonstrate the effectiveness of EO data in biodiversity protection and conservation.
- Confirm the establishment of a sustained formal role for biodiversity within CEOS structure

### ***Annex B: Potential areas of cooperation among CEOS, the CBD Secretariat, GEO BON (as highlighted in 2028 UNCBD letter):***

- Exploring how existing and the future space assets can be mainstreamed into biodiversity monitoring at all levels (global, regional, national).
- Reviewing the biodiversity observation requirements to address unmet needs related to monitoring and understanding biodiversity change.
- Supporting the development and engineering of EBVs defined by GEO BON to unify, harmonize, and standardize biodiversity monitoring, and in particular deriving EBVs from EO measurements.
- Developing processing and validation standards for biodiversity-relevant EO products, with specific focus on satellite-based EBVs.
- Showcasing and promoting the contribution of satellite assets to biodiversity monitoring and conservation.
- Facilitating the access, processing, and analysis of large satellite data streams, proposing solutions for countries to access data and developing exploitation tools that can be integrated into regional and national Biodiversity Observation Network (BONs)
- Supporting the development of EO capacities for biodiversity monitoring by the Convention Parties.

### ***Annex C: Proposed discussion items:***

\*\*\*While specific, the proposed list of topics below is meant to trigger discussions in preparation for the workshop\*\*\*

- Earth Observation awareness – How can we ensure that UNCBD Parties are aware of the capabilities and limitations of spaceborne Earth observation and how GEO BON researchers use Earth observations to support EBV and indicator calculation?
- EO Datasets for Biodiversity in support of Global Biodiversity Framework goals and targets – through participation by representatives from CBD MS, seek to understand what types of EO datasets might best address their needs and then explore potential sources of needed EO data products:
  - What is needed from Earth observation to help nations meet their obligations under the Global Biodiversity Framework (GBF) and report on their progress towards the GBF goals?
  - What is the importance and role of in situ data for using satellite Remote Sensing for biodiversity monitoring?
  - Investigate the potential for EO to provide Essential Biodiversity Variables (EBVs) in support of GBF goals and targets at national and global levels
- Case studies – use-case examples of how EO datasets have been used for biodiversity protection and conservation, featuring projects from different regions and ecosystems:
  - CEOS Ecosystem Extent Task Team demonstrators are being developed through CEOS agencies and are funded beyond 2024. They can serve as pathfinders:
    - ECCC Demonstrator - Hudson Bay Lowlands
    - Demonstrator in Australia
    - Demonstrator in Costa Rica
- Biodiversity information gaps: What are they and how can EO help fill them?
  - “Gaps” to the biodiversity community usually refers to spatial or temporal gaps in data and products. While the biodiversity community often talks of the many data/knowledge gaps, discussions would be helpful, such as “*how can EO fill spatial or temporal gaps where other data are limited?*” This touches on the question of “*Is some data better than no data?*”
- Needed Biodiversity Indicators: What pathways can we enable to support their production?
  - Most indicators are L3 or L4 products (*such as those in the KMGBF Monitoring Framework*). (*BON in a Box has a role here.*)
  - Product generation:
    - Overview of typical product generation workflows
    - Explanation of L1, L2, L3, L4 products
  - Product toolkits: BON in a BOX and ESA toolkits:
    - What are they and how to use them
  - Possible approach to make more derived products available:
    - Agency R&D to support derived product algorithm/software development, and then availability of that software in toolkits like BON in a BOX
- Future Collaboration and Partnerships – information on collaborative initiatives, platforms and organizations working in the field of EO and biodiversity protection and conservation:
  - Country level: many feel they do not have access to technical resources: *pilot BON in a Box within CEOS?*

- How to improve accessibility and usability of the data?
- CEOS website, a gateway into information (country/type of data sets)?
- Agree on the scope of the future relationship between CEOS, UNCBD, GEO Bon, including the timeline and the recommended pathways to formalize the relationship.
- Future trends – exploring emerging technologies and trends in EO that hold promise for enhancing biodiversity protection and the establishment of a Global Biodiversity Observation System (GBIOS).

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## CEOS SEC-319 Meeting Written Report

CEOS Entity: SIT Chair Team

Prepared by: JAXA SIT Chair Team

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- Follow up to action **318-04** (*SIT Chair Team to share details of the LSI-VC-15 / CEOS-ARD commercial engagement session with CEOS SEC for information*).
  - Details of the workshop can be found [here](#).
- The SIT Chair team attended the workshop on the development of internationally recognised standards for satellite-derived methane products (26-28 February 2024), sponsored by the UKSA and hosted at NPL in the UK. Several CEOS agency experts were in attendance and a side meeting on GHG observation matters was held in the margins. This will be followed up with a side meeting at SIT and of course a substantial agenda item at SIT-39 on GHG observations.
- Multiple calls have been held with our nominated speakers for the SIT-39 agenda. These have been extremely helpful in establishing the scope and objectives for the meeting and we are very grateful to all these speakers. Several external voices will be invited including IPCC TFI and IGES.
- We invite all in person and virtual attendees of SIT-39 to register ASAP: <https://ceos.org/meetings/sit-39/>
- Side meeting proposals are also needed soon if meeting room space is to be supported. The agenda is already very tight.
- We thank all reviewers of the SIT-39 agenda who have been in touch and recognise the agenda is improved thanks to your efforts. We would like to have fewer, longer agenda items at SIT-39 and encourage active Principal contributions.
- Working Group chairs are asked to take this final opportunity of SEC-319 to flag any requests for the SIT-39 agenda.
- VC catch-ups are underway, with only OSVW remaining (scheduled for March 27).

Additional points (for written reference only):

- The SIT Chair Team is supporting the COAST VC process. Have reviewed the Full Proposal, Implementation Plan and Terms of Reference against the requirements of the process paper. Some flexibility needed due to the scope of COAST vs traditional 'parameter-based' VCs. But it is clear the COAST VC leadership are paying close attention to the process paper and templates, etc. The final documents for SIT-39 consideration were distributed by the SIT Chair on March 19.

Upcoming meetings and events (for written reference only):

- SIT-39 will be held 9 - 11 April in Tokyo. A draft agenda will be shared with the SEC in mid-February before going to CEOS in early March.
- SIT TW will be held 17 - 19 September in Sydney.

## CEOS SEC-319 Meeting Written Report

CEOS Entity: CEO

Prepared by: Steven Ramage, 19 March 2024

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

1. CEOS Work Plan will be shared for initial review on 19 March.
  - a. Pending contributions relating to 3.1 Climate Monitoring, Research and Services, 3.2 Carbon Observations in support of Climate Science and Policy, 3.3 Observations in Support of the Global Stocktake of the UNFCCC, and 3.4 Observations for Agriculture, notably future deliverables.
2. Attended GEO Programme Board (PB) 5-7 March with Osamu Ochiai representing the SIT Chair and Marie-Claire Greening was also there representing ESA. First day was a facilitated meeting (called a retreat) relating to the role of and success criteria for the GEO Programme Board. Days two and three were the PB meeting, mainly focused on the development of the Post-2025 GEO Work Programme (WP). The content included the development roadmap and the proposed focus areas, structure and WP model. There will be formal PB meeting notes issued, which will be shared if permitted.
  - a. There were separate presentations on the new GEO Member Services team being led by Sara Venturini (a recruitment process will find a replacement for Sara for biodiversity and climate action). As part of this new team, there is also work underway for national coordination mechanisms. Seven countries fed into the original thinking, those were Canada, China, Greece, Japan, South Africa, UK and USA (the agencies involved weren't shared). Most of the feedback was that they should work more with Participating Organisations and regional GEO bodies.
  - b. There was a presentation on a possible PB Subgroup on Artificial Intelligence (AI) by Prof. Yifang Ban from the KTH Royal Institute of Technology in Sweden. This was an extremely broad ranging presentation and it was not clear about the focus. More work and revisions to the thinking are pending following feedback; it was also shared that CEOS has been working on AI via the Working Group on Information Systems and Services and the Technology Exploration Interest Group.
  - c. There will be some temporary changes made to the GEO Working Groups (WGs) (capacity development, climate, data, disasters and resilient cities), this is only from now until end of 2024. There will be a new approach for WGs in 2025. There is an open call now until 29 March for new WG members.
  - d. The GEO Symposium will be 23-26 September in Hangzhou, China, just after CEOS SIT TW in Sydney, Australia. This will focus on greater collaboration across

the GEO WP, as well as continued development of the Post-2025 Strategy. There will be one day on Open Data and Open Knowledge with a PB meeting on 27 September. They are currently determining how to improve Monitoring, Evaluation, Accountability and Learning (MEAL) and devising a framework before the end of August 2024.

- e. The CEO has volunteered to be part of the PB Taskforce for the Post-2025 GEO WP development, this is one of the four pillars of the Implementation Plan for the GEO Post-2025 Strategy. There is an open call for a consultant to address the other three pillars, the full modus operandi of the consultant is not yet clear.
  - f. The CEO also responded to the renewed call for PB Observers to the GEO Executive Committee, if accepted JAXA will be CEOS Principal and the CEO as the Alternate to the Principal. Observers should be informed by 22 March. The next Executive Committee meeting is in Geneva on 16-17 April 2024.
3. Ongoing work to support SIT-39, notably supporting WMO and the development of their thinking around the content of their SIT-39 presentations.
  4. Attended the GEO Land Degradation Neutrality (LDN) Principals meeting in Bonn, Germany. SEO is already in discussions with technical staff at UNCCD about satellite data for land cover for Small Island Developing States (SIDS), for example in the Caribbean and Pacific regions. There are 37 countries that are SIDS as well as Parties to the UNCCD.
    - a. Barron Orr, the Chief Scientist at UNCCD is happy to provide a formal letter from UNCCD to CEOS outlining their requirements for satellite data long-term.
    - b. UNCCD is also considering how to support Targets 1 and 2 of the Global Biodiversity Framework working in collaboration with UN CBD.
    - c. There are also strong ties here to the SDGs, particularly 15.3.1 and 15.4.2
  5. CEO provided update report at WGISS-57 and WGCV-53 meetings, as well as joining WGCapD and WG Disasters meetings. Also supporting SEO on open standards, as well as the Sustainable Development Goals (SDGs).
  6. Working with SANSA and WGCapD to set up calls with Kenya Space Agency, Rwanda Space Agency, Ghana Space Agency, as well as with AEM on Paraguay Space Agency and others in the LatAm region.
  7. The Chair of the OGC Board of Directors contacted the CEO to discuss closer collaboration with OGC and CEOS. SEO joined the discussion and explained areas of existing overlap around ARD, geospatial reporting indicators and other areas. Next steps are unclear at present, OGC will respond with their ideas in the coming weeks.
  8. Testimonial shared by World Food Programme (WFP) on their use of CEOS resources.
  9. Participated in consultation with FAO and UNOOSA about their *Report on Leveraging Space Technology for Agriculture and Food Security*. Recommended they speak with SEO and GEOGLAM for additional input.

## Upcoming events/invitations

### **GEO BON Advisory Board Meeting**

First online meeting with the new board members. CEO will join.

25th March 2024, online

### **Open Geospatial Consortium (OGC) Board Meeting**

CEO has been invited to join OGC board members as a guest (invitation to join in person was declined and all contributions will be made online). Links to work of WGISS, WG CV, and SEO. OGC is interested in a closer working relationship with CEOS.

27th March 2024, online

### **Geospatial Summit policy roundtable**

Invitation from the national geospatial coordination body in the UK, they are also developing a national EO Data Hub including satellite data from CEOS agencies, as well as the private sector. The UK Space Agency (UKSA) may be there, but the CEO has been invited as an international participant (representing external views). Good opportunity to meet with UKSA, as well as other UK stakeholders, e.g. the Met Office, Defra, and the National Centre for Earth Observation (NCEO). 26-27 March 2024, London, UK.

### **UNOOSA 6th conference on space technology for water management (no decision)**

The meeting is focused on water and the water-food nexus, it's an open invitation for someone to attend in person or remotely (initially invited the CEO). Need to confirm alignment with CEOS Work Plan, e.g. biodiversity, COAST, and sustainable development goals (SDGs).

7-10 May 2024, Costa Rica.

### **World Biodiversity Forum (no decision)**

Organised by leading bodies in biodiversity, including GEO BON who are on the organising committee. Some of the Ecosystem Extent Task Team demonstrator team from Environment and Climate Change Canada may also attend.

16-18 June Davos, Switzerland

### **67th Session of the Committee on the Peaceful Uses of Outer Space (COPUOS)**

CEO will attend the first few days of COPUOS 2024 in Vienna to present the CEOS statement, including the results of the mapping of the CEOS Work Plan against the Space 2030 Agenda. 19-28 June 2024, Vienna, Austria

### **OGC Innovation Days** (no decision)

The Open Geospatial Consortium, the global geospatial standards body is holding a 2-day workshop on climate and disaster resilience, as well as One Health. The goal is to bring together policy makers with scientists and technologists to discuss the issues.

1-2 July 2024, Tartu, Estonia

### **International Geoscience and Remote Sensing Symposium - IGARSS 2024**

The CEOS Systems Engineering Office (SEO) is hosting a CEOS booth during IGARSS and the CEO has been invited to join the team at IGARSS.

7-12 July 2024, Athens, Greece

### **7th High-Level Forum of United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM)** (no decision)

Early to mid-October 2024 in Mexico City, this international forum will bring together national statistical, mapping, and space agencies, the programme is being developed in the coming months. This links closely to the SDGs, as well as the World Data Forum. A key goal would be the inclusion of satellite data in the Integrated Geospatial Information Framework (IGIF).

### **World Data Forum** (no decision)

This is closely linked to the work of UN-GGIM and also bringing together the statistical and mapping community with space agencies. CEO was invited to be included in two submissions. Firstly, from FAO for a panel session on Earth Observations, Crop Statistics, and Food Security. Secondly, Britta Ricker, Professor from the Copernicus Institute of Sustainable Development, Utrecht University invited CEOS (via the CEO) to be part of their panel on Sustainable Development Goals and Earth observations.

18-21 Nov, Bogota, Colombia

## Online meeting calendar

### CEOS

#### SIT

- [SIT-39](#) : 9-11 April, 2024 | Tokyo area, Japan
- [2024 SIT Technical Workshop](#) : 17-19 September, 2024 | Sydney, Australia

#### Plenary

- [38th CEOS Plenary](#) : October, 2024 | Montreal, Canada

#### Working Groups

- [WGDIsasters-21](#) : WGDIsasters 21 will be held virtually from 19 to 21 March 2024. Links and times are provided in the agenda.
- [WGISS-58](#) : October 15th - 18th, 2024 | Sioux Falls, SD, USA
- [Workshop on Pre-flight Calibration and Characterisation of Optical Satellite Instruments for Earth Observation](#) : ESA-ESTEC | November, 2024

#### Virtual Constellations

- [LSI-VC-15](#) : Tokyo, Japan | April, 2024

### External

- [2024 UN Ocean Decade Conference](#) : April 10th - 12th, 2024 | Barcelona, Spain
- [EGU General Assembly](#) : April 14th - 19th, 2024 | Vienna, Austria
- [EUSAR-2024](#) : April 23rd - 26th, 2024 | Munich, Germany
- [Geolignite](#) : May 14th - 16th, 2024 | Montreal, Canada
- [SatSummit 2024](#) : May 16th - 17th, 2024 | Washington DC, USA
- [National Forum on Earth Observation](#) : May 28th - 30th, 2024 | Montreal, Canada
- [CGMS-52 Plenary](#) : June 4th - 6th, 2024 | USA
- [Understanding Risk Forum 2024](#) : June 16th - 21st, 2024 | Himeji, Hyogo Prefecture, Japan
- [3rd World Biodiversity Forum](#) : June 16th - 21st, 2024 | Davos, Switzerland
- [UN COPUOS 67th Session](#) : June 19th - 28th, 2024 | Vienna, Austria
- [IGARSS 2024](#) : July 7th - 12th, 2024 | Athens, Greece
- [COSPAR 45](#) : July 13th - 21st, 2024 | Busan, South Korea
- [IPWG-11](#) : July 15th - 18th, 2024 | Tokyo, Japan
- [GPM 10th Anniversary Symposium](#) : July 19th, 2024 | Tokyo, Japan
- [ARD24](#) : July 22nd - March 25th, 2024 | San Francisco, USA
- [Advancing Earth Observation Forum \(AEO24\)](#) : September 9th - 13th, 2024 | Adelaide, Australia
- [GEO Symposium and GEO Open Data and Open Knowledge Workshop](#) : September 23rd - 26th, 2024 | China
- [GEO Programme Board Meeting #29](#) : September 27th, 2024 | China
- [EUMETSAT Meteorological Satellite Conference](#) : September 30th - October 4th, 2024 | Würzburg, Germany
- [75th International Astronautical Congress \(IAC\)](#) : October 14th - 18th, 2024 | Milan, Italy
- [International Coordination Group for Spaceborne SAR workshop](#) : November 6th - 8th, 2024 | Ureshino, Japan
- [UNFCCC COP-29](#) : November 11th - 24th, 2024 | Baku, Azerbaijan

All events (CEOS and external) now in a single, shared place online, i.e. on the CEOS website. CEO can update and edit events online, as well as work directly with CEOS communication/SEO. The Excel spreadsheet is still maintained separately by the CEO to show where CEOS leadership involvement is expected or required.

## CEOS and relevant key meetings and events 2024

Start Date	End Date	Meeting/Telecon	Location
<b>January</b>			
23.Jan.24	24.Jan.24	16th European Space Conference	Brussels, Belgium
28.Jan.24	01.Feb.24	2024 AMS Annual Meeting	Baltimore, USA
29.Jan.24	09.Feb.24	UNCOPUOS STSC 61st Session	Vienna, Austria
<b>February</b>			
06.Feb.24	07.Feb.24	WMO consultative meeting on high-level policy on satellite matters	Geneva, Switzerland
13.Feb.24	16.Feb.24	AGU Chapman on Remote Sensing of the Water Cycle	Honolulu, USA
<b>March</b>			
04.Mar.24	07.Mar.24	WGISS-57	Sydney, Australia
05.Mar.24	06.Mar.24	GEO Programme Board Meeting #28	Geneva, Switzerland
05.Mar.24	08.Mar.24	WGCV-53	Córdoba, Argentina
06.Mar.24	07.Mar.24	Earth Observation for Soil Protection and Restoration workshop	Frascati, Italy
11.Mar.24	14.Mar.24	JACIE 2024	Reston, Virginia, USA
12.Mar.24	14.Mar.24	UN-SPIDER space technologies and early warning systems	Bonn, Germany
19.Mar.24	22.Mar.24	WGDisasters-21	Buenos Aires, Argentina
25.Mar.24	27.Mar.24	WG CapD	Mexico City, Mexico
<b>April</b>			
03.Apr.24	05.Apr.24	LSI-VC-15	Tokyo, Japan
09.Apr.24	11.Apr.24	SIT-39	Tokyo, Japan
10.Apr.24	12.Apr.24	2024 UN Ocean Decade Conference	Barcelona, Spain
14.Apr.24	19.Apr.24	EGU General Assembly	Vienna, Austria
16.Apr.24	17.Apr.24	GEO Executive Committee Meeting #63	Geneva, Switzerland
23.Apr.24	26.Apr.24	EUSAR-2024	Munich, Germany
<b>May</b>			
14.May.24	16.May.24	Geolignite	Montreal, Canada
16.May.24	17.May.24	SatSummit 2024	Washington DC, USA
28.May.24	30.May.24	National Forum on Earth Observation	Montreal, Canada
<b>June</b>			
04.Jun.24	06.Jun.24	CGMS-52 Plenary	USA
16.Jun.24	21.Jun.24	Understanding Risk Forum 2024	Himeji, Hyogo Prefecture, Japan
17.Jun.24	20.Jun.24	3rd World Biodiversity Forum	Davos, Switzerland
19.Jun.24	28.Jun.24	UN COPUOS 67th Session	Vienna, Austria
<b>July</b>			
07.Jul.24	12.Jul.24	IGARSS 2024	Athens, Greece
13.Jul.24	21.Jul.24	COSPAR 45	Busan, South Korea
15.Jul.24	18.Jul.24	IPWG-11	Tokyo, Japan
19.Jul.24	19.Jul.24	GPM 10th Anniversary Symposium	Tokyo, Japan
22.Jul.24	25.Jul.24	ARD24	San Francisco, USA
<b>August</b>			
		TBD	
<b>September</b>			
09.Sep.24	13.Sep.24	Advancing Earth Observation Forum (AEO24)	Adelaide, Australia
17.Sep.24	19.Sep.24	SIT Technical Workshop and Associated Side Meetings	Sydney, Australia
23.Sep.24	26.Sep.24	GEO Symposium and GEO Open Data and Open Knowledge Workshop	China
27.Sep.24	27.Sep.24	GEO Programme Board Meeting #29	China
30.Sep.24	04.Oct.24	EUMETSAT Meteorological Satellite Conference	Würzburg, Germany
<b>October</b>			
14.Oct.24	18.Oct.24	75th International Astronautical Congress (IAC)	Milan, Italy
22.Oct.24	24.Oct.24	38th CEOS Plenary and Associated Side Meetings	Montreal, Canada
<b>November</b>			
06.Nov.24	08.Nov.24	International Coordination Group for Spaceborne SAR workshop	Ureshino, Japan
11.Nov.23	24.Nov.23	UNFCCC COP-29	Azerbaijan
19.Nov.24	21.Nov.24	Workshop on Optical Space Sensor Pre-flight Calibration and Characterisation	Noordwijk, Netherlands
<b>December</b>			
<b>Legend:</b>			
CEOS leadership participation required			
For information; CEOS leadership participation optional			

## **CEOS SEC-319 Meeting Written Report**

**CEOS Entity:** Working Group on Capacity Building and Data Democracy

**Prepared by:** Daniel A. Matsapola, WGCapD Chair

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- *WGCapD held its March Monthly meeting on March 14, 2024, to discuss CEOS Work Plan 2024 – 2026 inputs due to the CEO Support Team and the 13<sup>th</sup> Annual Meeting to be held virtually during 25 – 27 March 2024.*

Additional points (for written reference only):

- Request for CEOS CEO to invite other CEOS Working Groups to Day 1 for presentations to CEOS WGCapD Community to identify synergies.

Upcoming meetings and events (for written reference only):

- CEOS WGCapD presentation at WGDIsasters Meeting 21 at 09h15 Argentina time by WGCapD Chair
- EOTEC DevNet Europe March 21, 2024, 14h00 – 15h15 UTC on Zoom platform.
- CEOS WGCapD Annual Meeting March 25<sup>th</sup> – 27<sup>th</sup>, 2024. (draft agenda attached)



# CEOS WGCapD-13

## Draft Meeting Agenda and Protocol

25-27 March 2024

Online

## Meeting and Protocols

CEOS WGCapD-13 meeting will be held from 25 to 27 March 2024. The meeting will take place in virtual format.

### Registration

Participants are requested to register using the link <https://forms.office.com/e/5iyqwvcGGp>

### Online participation

Webex will be used to host the meeting. Online participants are requested to include their organization name and their name, e.g. SANSA Dan Matsapola

Online participants are requested to turn their microphones on only when intervening, having cameras on is strongly recommended.

### Presentation submission and templates

A template for the presentations in Day 1 and Day 2 has been made available in the link hereafter: <https://drive.google.com/drive/folders/1qg7TaFaZXYIqDTOKZKAmrhjGzSdcwKl1?usp=sharing>

Presentations should be submitted before the session starts. Store it in the folder reserved to the day in which you are presenting. To that aim, a presentation folder containing a folder per day is available to upload the presentations. The link can be found hereafter:

[https://docs.google.com/presentation/d/1O1JWhjoJ5Qb8g5oTfgSbPrc58h2QrzXS/edit?usp=drive\\_link&oid=101442450556142068613&rtpof=true&sd=true](https://docs.google.com/presentation/d/1O1JWhjoJ5Qb8g5oTfgSbPrc58h2QrzXS/edit?usp=drive_link&oid=101442450556142068613&rtpof=true&sd=true)

Please use the following naming convention: [Session Number]\_[Organization]\_[Speaker Surname]. E.g. 2\_SANSA\_Matsapola

## Introduction

The Committee on Earth Observation Satellites (CEOS) focuses on validated requirements levied by external organizations, works closely with other satellite coordinating bodies, and continues its role as the primary forum for international coordination of space-based Earth observations. Over the past three decades, CEOS has significantly contributed to the advancement of space-based Earth observation community efforts.

The overarching goal of the CEOS Working Group on Capacity-Building and Data Democracy (WGCapD) is to build capacity for the effective use of Earth observation data and provide wider and easier access to those data.

## Goals

The annual meeting is an opportunity to exchange information at global, regional and national levels, will gather information from Members and relevant actors concerning priorities, activities, barriers and opportunities in 2024 in the focus areas of:

- Education and training
- User uptake
- Software tools
- Data Access
- Infrastructure

## Agenda at Glance

### DAY 1

#### **Welcome Remarks and Setting up the scene**

Presentation to set up the tone of the discussions that will follow.

#### **Session 1: Presentations from Members and Emerging Space Agencies**

The four regions considered are Asia-Oceania, Africa, Americas and Europe.

#### **Session 2: Synergies with other CEOS Working Groups**

Presentations from other CEOS Working Groups to discuss potential synergies and areas of cooperation.

### DAY 2

#### **Session 1 and 2 Continued: Additional presentations from members and CEOS Working Groups**

#### **Session 3: Global actors**

Presentation from non-CEOS actors in the field of capacity-building with the aim of identifying areas of cooperation.

#### **Session 4: Regional actors**

Presentation from non-CEOS actors in the field of capacity-building with the aim of identifying areas of cooperation.

### DAY 3

#### **Session 5: Agreements and Commitments towards the WGCapD Workplan**

This session provides an opportunity to match participants needs and activities and identify areas for partnership taking stock of the presentations that took place the previous day.

#### **Session 6: Challenges and opportunities for collaboration**

#### **Closing session: Closing remarks**

Detailed Agenda (Times are in UTC)

Monday, 25 March 2024 (from 13:00-17:00 UTC)

Meeting Link for Day 1: <https://ceos.my.webex.com/ceos.my/j.php?MTID=mfa78aa2124dd2b4734a54ae0bd4ec1>

Time	Title of Presentation	Speaker	Organisation
<b>OPENING CEREMONY</b>			
13:00 – 13:05	Opening remarks by Host		Director, Mexican Space Agency
13:05 – 13:10	Opening remarks by Chair	Dan Matsapola	SANSA
13:10 – 13:15	Opening remarks by Vicechair	Julio Castillo	Mexican Space Agency
<b>SETTING THE SCENE</b>			
13:15 – 13:30	The CEOS context	Steven Ramage	Executive Officer, CEOS
<b>SESSION 1: GLOBAL + REGIONAL ASIA/OCEANIA</b>			
13:30-13:40	UNOOSA		Jorge Del Rio Vera
13:40-13:50			
13:50-14:00			
14:00-14:10		Discussion (all)	
<b>10 minutes Break</b>			
<b>SESSION 1: REGIONAL AFRICA</b>			
14:10-14:20			
14:20-14:30			
14:30-14:40			
14:40-14:50		Discussion (all)	
<b>20 minutes Break</b>			
<b>SESSION 1: REGIONAL EUROPE</b>			
14:50-15:00			
15:00-15:10			
15:10-15:20			
15:20-15:30		Discussion (all)	
<b>10 minutes Break</b>			
<b>SESSION 1: REGIONAL AMERICAS</b>			
15:40-15:50			
15:50-16:00			
16:00-16:10			
16:10-16:20		Discussion (all)	
<b>SESSION 2: SYNERGIES WITH OTHER CEOS WORKING GROUPS</b>			
16:20-16:30			
16:30-16:40			
16:40-16:50			
16:50-17:00		Discussion (all)	
<b>END OF DAY 1</b>			

Tuesday, 26 March 2024 (from 13:00-17:00 UTC)

Meeting Link for Day 2: <https://ceos.my.webex.com/ceos.my/j.php?MTID=m993780d493b3079f8b661e3c13b29e2d>

Time	Title of Presentation	Speaker	Organisation
<b>SESSION 1 AND SESSION 2: CONTINUATION</b>			
13:00-13:10	Welcome to Day 2		Dan Matsapola
13:10-13:20			
13:20-13:30			
13:30-13:40			
13:40-13:50	Discussion (all)		
<b>10 minutes Break</b>			
<b>SESSION 3: GLOBAL ACTORS</b>			
14:00-14:15	EOTEC DevNet		Yasha Moz
14:15-14:30	GEO		Ernest Acheampong (TBC)
14:30-14:45	UN Space		TBC
14:45-15:00	Discussion (all)		
<b>20 minutes Break</b>			
<b>SESSION 4: REGIONAL ACTORS</b>			
15:20-15:35			
15:35-15:50			
15:50-16:05			
16:05-16:20			
16:20-16:35	Discussion (all)		
<b>END OF DAY 2</b>			

Wednesday, 27 March 2024 (from 13:00-15:00 UTC)

Meeting Link for Day 3: <https://ceos.my.webex.com/ceos.my/j.php?MTID=me8ae61720b9824298a5bd930c37987a6>

DAY 3			
<b>SESSION 5: AGREEMENTS AND COMMITMENTS TOWARDS THE WORKPLAN</b>			
13:00-13:10	Opening of Day 3		Dan Matsapola
13:10-13:50	Workplan Discussion (all)		
<b>10 minutes Break</b>			
<b>SESSION 6: CHALLENGES AND OPPORTUNITIES FOR COLLABORATION</b>			
14:00-14:00	Activity Introduction		
14:10-14:50	Discussion (all)		
14:50	Closing Remarks		
<b>END OF DAY 3</b>			

END OF MEETING

## **CEOS SEC-319 Meeting Written Report**

**CEOS Entity:** Joint CEOS-CGMS Working Group on Climate (WGClimate)

**Prepared by:** Jeff Privette (NOAA), Wenying Su (NASA)

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- WGClimate-20 planning and preparations complete -- ready for Boulder March 26-28
  - Key sessions
    - Space Agency Response to GCOS IP
    - Completion of Inventory Gap Analysis Report
      - Delivering Draft for Review at SIT-39
  - Work Plan will be finalized and submitted
- WGClimate received one nomination for its next Vice-Chair (ECMWF)
  - Members will officially nominate at WGClimate-20

Additional points (for written reference only):

- Continuing planning for a WGClimate Side Event at COP-29

Upcoming meetings and events (for written reference only):

- WGClimate-20, March 26-28th, Boulder (Jeff, Wenying travel)
- CEOS SIT-39, 9-11 April 2024, Tokyo (Jeff virtual, Wenying travel)
- CGMS-52 Working Group II, 22-26 April 2024, Darmstadt (Jeff, Wenying travel)
- CGMS Plenary, June 4-6: Washington DC (Jeff travel)
- CEOS SIT Tech. Workshop. September 17-19, Sydney, Australia (Jeff travel)
  - may schedule WGClimate-21 alongside
- CEOS Plenary, Oct. 22-24, Montreal (Jeff travel)
- COP-29, Nov. 11-24, Azerbaijan (TBD)

## **CEOS SEC-319 Meeting Written Report**

**CEOS Entity:** Working Group on Calibration and Validation (WGCV)

**Prepared by:** Philippe Goryl, WGCV Chair, ESA

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- WGCV-53 was held in Córdoba, Argentina from 5-7 March 2024. Attendance: 18 participants attended in-person with an additional 25 joining virtually.
- WGCV-53 discussed supporting the CEOS Chair's priority on Biodiversity. A follow-up discussion with the EETT Demonstrators lead is planned.
- WGCV Terrain Mapping Subgroup (TMSG) is seeking nominations for the TMSG Co-chair, which remains open.
- Philippe will represent WGCV at the WMO 1st CIPM STG-CENV event on 16-18 September 2024, to discuss potential collaborations between CEOS and BIPM-WMO. Identified contributions discussed at WGCV-53 include the FRM Framework, CEOS Interoperability Framework, etc.
- The 2024 WMO GSICS Annual meeting was hosted by EUMETSAT in Darmstadt, Germany on 11-15 March 2024. This meeting discussed inter-calibration algorithm developments and results as well as pertinent calibration-related topics. The WGCV Chair delivered a presentation on CEOS WGCV activities. Nigel Fox and Jack Xiong contributed with discussions on SITSat Task Team and Pre-flight Calibration Workshop.
- WGCV will present their activity at the next WGClimate meeting at the end of March, and in particular how to respond to the GCOS IP in terms of FRM.

Additional points (for written reference only):

- Progress on potential WGCV Vice Chair for the term 2025-2026 - update will be provided in due course.
- A dedicated page for the SITSat Task Team is currently being established within the CEOS WGCV Cal/Val Portal.
- SRIX4VEG-II took place during the week of 11 March.

Upcoming meetings and events (for written reference only):

- WGCV-54 meeting will be held in USGS, Sioux Falls, South Dakota, USA from 15-18 October 2024. A joint WGCV-WGISS session for more than half a day is being planned.
- Workshop on Pre-flight Calibration and Characterisation of Optical Satellite Instruments for Earth Observation will be held at ESTEC, Noordwijk, The Netherlands from 19-22 November 2024.

## CEOS SEC-319 Meeting Written Report

CEOS Entity: WG on Disasters

Prepared by: L.A. Frulla, Lorant Czaran, Andrew Eddy

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- *The WG CAL/VAL meeting number 53 was at CONAE Receiving Station in Córdoba Province (Argentina) from March 5 to 8.*
- *SANSA and the Mexican Space Agency added participants to the WGDisasters.*
- *Dr. Arijit Roy from ISRO contacted us to set up a discussion between the leads of the WG pilots and demonstrators, with a view to understanding which WG activities might be of most interest to ISRO as well as to understand which activities could benefit from access to ISRO satellite data. Topics like droughts, forest fires and cyclones are of their particular interest and have a wide variety of data acquired from different types of satellites. It was a very productive meeting and ISRO will contact WGDisasters DCT in order to collaborate with WGDisasters with their data.*
- *Since February, CONAE handed over the Data Coordination Team leadership to ASI.*
- *In order to start a new pilot project on Droughts, the WG on Disasters asked to the CEOS Executive Officer for support to reach out to the CEOS community and identify potential participants (from at least two different institutions) interested on presenting a pilot project on this topic. Additionally to this, the idea is to expand to other possible topics considering the links that the Working Group has with other CEOS Working Groups and Biodiversity. This will discuss in the next meeting of the Working Group number 21.*
- *In support of the links among the CEOS Working Groups and the topics of common interest with respect to the WGDis activities, WGCapD, WGISS and WGClim were invited to present their activities in the next meeting of the WGDis number 21. Gary Geller and Marc Paganini, have been invited to present an overview of Biodiversity and its role in CEOS and to discuss potential areas where WGDis can support this topic.*
- *At WGDisasters 21, a new Seismic Demonstrator will be proposed, led by ESA and INGV.*

Additional points (for written reference only):

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Upcoming meetings and events (for written reference only):

- *WG Disasters 21 will be in Buenos Aires from March 19 to 22. This time the meeting will be virtual rather than in person due to a combination of factors (health, other meetings, personal commitments, distance, etc.) that led projected in person participation in the Buenos Aires meeting to be low.*



## CEOS SEC-319 Meeting Written Report

**CEOS Entity:** Working Group on Information Systems & Services (WGISS)

**Prepared by:** Tom Sohre, WGISS Chair

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- No topics for discussion from WGISS.

Additional points (for written reference only):

- WGISS-57 was held March 4-7 in Sydney AU. The meeting was hosted by Geoscience Australia and CSIRO. Welcome and opening remarks were provided by Alison Rose, Chief of the Space Division at Geoscience Australia. Over 55 participants during the week, in-person and virtual. 12 WGISS Principles represented, CEOS SEO and CEO participation. The meeting included several informative presentations and productive strategic discussions. Specific topics included:
  - WGISS Work Plans (including updates to Terms of Reference, website, outreach/communications).
  - Agency status reports from GA, NOAA, ISRO, and USGS as well as an ISO TC 211 status.
  - Interoperability Framework Plans including Demonstrator activities.
  - AI/ML work status as well as Demonstrator activities.
  - Discovery and Access utilizing STAC and draft STAC Best Practices.
  - Updates on CEOS EO Data Access via Connected Data Assets.
  - Updates on AVHRR Recovery Project.
  - Archive Technologies as well as Data Stewardship and Maturity Matrix.
  - Dataset Collection Management and potential Best Practice.
  - Overview of Biodiversity and Ecosystems Extent Task Team activities with discussion on WGISS participation.
  - *Note: Presentations along with full meeting notes will be posted on the WGISS Meetings page.*
- WGISS overview to be provided at WG Disasters 21.
- Based on Lessons Learned at LSI-VC Commercial Engagement Workshop in April 2024, WGISS looks to work with WGCV Chair to map out an outline for a Commercial Engagement Workshop at WGISS-58 / WGCV-54 this Fall.
- WGISS will be updating the existing WGISS Terms of Reference (last updated 2015), specifically to address outdated stakeholder section.
- WGISS will be coordinating with SEO regarding use of centralized repository for Best Practices document reviews/publishing.
- WGISS will continue to work closely with the ARD-OG on activities supporting the 2024 CEOS-ARD Strategy.
- WGISS will continue to gather volunteers from across CEOS WG's / VC's to participate in development of Handbook 2.0.

- WGISS Exec will discuss how WGISS might be best involved in Biodiversity activity based on WGISS-57 briefings.
- WGISS will be coordinating with GEO POC to provide GEO data topics (incl. GIDTT status) at WGISS-58.

Upcoming meetings and events (for written reference only):

- WGISS-58 is planned for 15-18 October 2024 in Sioux Falls, South Dakota, USA. This will be a joint meeting with WGCV.

## CEOS SEC-319 Meeting Written Report

CEOS Entity: SEO

Prepared by: Dave Borges

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New updates, particularly those that would benefit from CEOS SEC awareness, discussion, help and/or guidance:

- As part of CEOS Communications Strategy implementation, the Communications Team has developed a production timeline for CEOS 40<sup>th</sup> Anniversary video, with formal request guidance to be distributed to CEOS Principals/Contacts end of April (after SIT-39) and final video shared publicly prior to CEOS Plenary in October.
- Malaysian Space Agency (MYSA) has contacted SEO and indicated interest in increasing engagement throughout CEOS. CEOS Chair, SIT Chair, and SEO will meet with MYSA at end of April to understand new interests.
- Chile Science, Technology, Knowledge and Innovation Ministry (Minciencia) has indicated interest in potentially joining CEOS as an Associate Member. SEO and CEO are providing responses to questions which may lead to a membership request at CEOS Plenary.
- CEOS Chair and SEO met with Open Geospatial Consortium (OGC) Board Chair Prashant Shukle and discussed the potential for increased coordination between CEOS and OGC.
- SEO is planning a training event during SatSummit conference with Radiant Earth Foundation, focused on cloud native geospatial topics that highlight practical applications and benefits of CEOS-ARD.

Additional points (for written reference only):

- Three papers co-authored by SEO have been accepted for inclusion by the IGARSS 2024 Program:
  - *A Generative AI Framework for Earth Observation Analysis*
  - *The CEOS Analytics Lab and Insights to enabling Interoperability with Commercial Data*
  - *Cloud Native Geospatial: Realizing the Digital Earth Vision*
- SDG Coordination Group (CG) maintains monthly coordination meetings in 2024 and has submitted updated CEOS Work Plan language and confirmed Deliverables.

Upcoming meetings and events (for written reference only):

- SatSummit 2024, Washington D.C., 15-17 May
- IGARSS 2024, Athens Greece, 8-12 July [CEOS Exhibition Booth]