

CEOS SEC Report

(two pages max.)

Entity: CEOS Chair Team

Prepared By: Christine Bognar (NASA)

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- ❖ CEOS Chair will invite CNES to the Troika meeting on April 29, and thereafter to Sec meetings starting with Sec-279 on May 13.

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- ❖ As noted on the CEOS SEC-278 final agenda

Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

The following items demonstrate recent progress toward the objectives of the 2021 CEOS Chair Implementation Plan:

- ❖ The CEOS Branding Guidelines are completed and have been posted to the CEOS website.
- ❖ The Earth Analytics Interoperability Lab (EAIL) was released in March 2021. The EAIL is working on user training and access to begin targeted project support.
- ❖ The WGDisasters Flood Pilot team continues to work closely with WGISS, SEO and WGCapD to leverage the recently released EAIL for each Pilot Subgroup focus area, and to integrate efforts with EOTEC DevNet's initial thematic flood focus.
- ❖ The SEO has completed the first release of the Open Data Cube (ODC) Sandbox. Further work is needed to develop documentation and inputs for the GEO Knowledge Hub and SDG Toolkit.
- ❖ EOTEC DevNet was formally endorsed by CEOS at the SIT-36 meeting.
- ❖ The Biomass Validation Protocol was formally endorsed by CEOS at the SIT-36 meeting. This plan will advance global validation efforts, open sharing of data, and biomass product harmonization.
- ❖ A series of articles has been drafted for the CEOS website to demonstrate open data and open science.
- ❖ The Global Stocktake initiative is planning future website content to organize CEOS resources.

Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- ❖ Troika meeting on April 29
- ❖ Nov. 2-4, 2021 are the dates proposed for this year's CEOS Plenary, which will be virtual. We are looking into 3 hrs. per day over 4 days, instead of 4 hrs. per day over 3 days.

Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)



Implementation Plan for the 2021 CEOS Chair Theme: “Space- based Earth Observation Data for Open Science and Decision Support”

At the 2020 CEOS Plenary, the CEOS community welcomed NASA’s proposed theme for the 2021 CEOS Chair term: **“Space-based Earth Observation Data for Open Science and Decision Support”**. This document summarizes an implementation plan that will identify existing CEOS activities (in the 2020-2022 CEOS Work Plan) and other CEOS activities (not in the Work Plan) that directly align with this theme and advance the concepts of "Open Science".

Advancing Open Science will focus on three topical areas: **accessibility, transparency and reproducibility**. Accessibility promotes the concept of free and open data, tools and algorithms that are easily identified, usable, and preserve data integrity. Transparency promotes the concept of analyses and workflows that are clearly described and documented in order to improve the confidence of scientific results, their traceability and uncertainty, and their resulting decisions. Reproducibility promotes the concept that products can be reproduced now and into the future, and that users have the needed training and capacity building to understand, use, and apply the product production process.

Measures of Success

In 2021, identifying objectives and demonstrating the development, progress and accomplishment of the following activities will allow CEOS to measure its success toward this theme. References to related CEOS deliverables have been added at the end of several activities to highlight the connection to existing work. *This is a living document for which more CEOS community feedback is requested. Prioritization is not implied in the order of the list.*

- **CEOS Missions, Instruments and Measurements (MIM) Database** – Increase visibility of free/open datasets to promote and foster increased use and impact, targeting data user communities of users that are less familiar with satellite missions and instruments, but have a good knowledge of specific phenomena, of the associated applications (e.g., flood monitoring), and of the relevant measurements.
- **Open Science and Decision Support for Floods** – Develop a demonstration of a repository of data, methodologies and capacity building resources for open science and decision support for flood research and applications, ensuring relevance of outputs that can inform choices, support decisions, and guide actions using open science principles for disaster risk reduction through partnership efforts with CEOS WGCapD and stakeholder engagement. (DIS-20-06)
- **Biomass Validation Protocol** – Advance plans for a forest biomass reference network to promote global validation efforts, open sharing of data, and biomass product harmonization. (CARB-20-03)
- **Data Deployments in the Cloud** – Increase the number of free/open datasets in public computing clouds for improved access and use by identifying and prioritizing datasets of high

value to the Earth Observation user community for migration to public computing cloud architectures.

- **Analysis Ready Data (ARD)** – Develop and release ARD-compliant products from diverse domains (land, and potentially, ocean, atmosphere) for enhanced use of interoperable datasets. In addition, promote the use of CEOS ARD products for improved data integrity and confidence in scientific results through several virtual workshops. (VC-18-03, VC-20-12)
- **EOTEC DevNet** – Establish the Earth Observation Training, Education, and Capacity Development Network (EOTEC) DevNet and collect training resources that incorporate the use of EO to support national vulnerability assessments, disaster risk reduction plans, and climate adaptation and mitigation plans. (CB-20-05)
- **Global Stocktake** – Develop a high-level portal for relevant CEOS datasets and communication materials that support release of the integrated set of CEOS datasets and guidance. Ensure an effective release and uptake of the datasets provided for the 1st Global Stocktake in connection with COP-26 in the UK. Develop and implement a high-level strategy statement which identifies all the potential aspects and dimensions for CEOS engagement in the Global Stocktake process. (CARB-20-01)
- **“Use Cases” of Climate Data Records** – Demonstrate the value of space-based EO data for societal benefit and decision-making through “Use Cases” of Climate Data Records. (CMRS-20-01)
- **Training Webinars** – Conduct Jupyter Python notebook training webinars focused on Earth Observation (EO) applications that will allow more users to connect to open satellite datasets. Target diverse and developing populations to broaden participation in scientific research and its applications. (CB-20-04)
- **Earth Analytics Interoperability Lab (EAIL)** – Develop the first release of the EAIL to benefit several CEOS initiatives (e.g. COAST, Disasters, Asia-RiCE) by allowing users to combine multiple interoperable datasets from the land and ocean domains in an open and shared environment.
- **Open Data Cube Sandbox** – Release the first ODC Sandbox as a contribution to the Open Earth Alliance GEO Community Activity and the GEO Knowledge Hub to demonstrate global CEOS data access via computing clouds using a free/open programming framework. (FDA-17-02)
- **Sustainable Development Goals (SDGs)** – Contribute open data and tools to the SDG Toolkits to promote sharing of methods and improved capacity building. (SDG-20-07,08,09)
- **COVERAGE** – Advance plans for a next generation ocean observing data service infrastructure to support the UN Decade of the Ocean for Sustainable Development. (VC-20-29)
- **CEOS Identity and Communications** – Develop a 2021 CEOS Plenary Statement and a CEOS Annual Statement to the GEO Plenary that will include elements reaffirming the commitment of CEOS to open data principles for Open Science and decision support. Develop a CEOS presentation on “Space-based Earth Observation Data for Open Science and Decision Support” for use by CEOS presenters at stakeholder forums, by CEOS Agencies in their respective countries, etc.
- **CEOS Outreach** – Work with stakeholders (e.g., UNOOSA, GEO, FAO, etc.) to create more virtual opportunities to showcase CEOS Agency products to potential user communities in 2021.
- **CEOS Website** – Re-examine how we project the CEOS organization online and how it could better support "open science" and achieve greater impact. Avoid a focus on meetings and infrastructure and add a focus on data, tools, and capabilities to facilitate, enhance, and elevate science, research and decision-making.
- **CEOS Branding** – Develop clear branding guidelines to ensure more effective, frequent, and consistent, use of the CEOS logo, the CEOS tagline, the CEOS Mission Statement, and CEOS online links for different audiences. Complete and promote the CEOS-Branded Webinar Toolkit.

CEOS SEC-278 Report

Entity: SIT Chair Team

Prepared By: J. Ross (GA) & CSIRO

Updates on issues raised during the last CEOS SEC teleconference

- Nil.

Issues requiring discussion/decision during current CEOS SEC teleconference

SIT-36

- CEOS SIT-36 was held successfully as scheduled, with all agenda items being covered except for a single VC presentation missed as the presenter was a no-show.
- At most times there were over 100 on the line with peak attendance over 140. There was solid attendance from agencies not regularly seen at CEOS Meetings.
- The Draft Decisions and Actions were distributed to SEC with a deadline for comment by 8 April. None were received. Both the Draft Decisions and Actions and the Draft Minutes are now with the broader CEOS Community (and SIT attendees) for comment.

SIT TW 2021

- The plans for SIT TW 2021 were announced during SIT-36 (see below). If CEOS SEC have any issues or concerns with the timing or proposed approach please raise them as soon as possible.

Other highlights, activities, actions, projects, collaborations

Carbon & Biomass

- Building on discussions from SIT-36, the next call about development of a GST Strategy Paper and actions for CEOS will be held on Tuesday 27th April. 8am US East, 1pm UK, 2pm Europe, 9pm Tokyo, 10pm Canberra.
- The next AFOLU Roadmap telcon will be held on 19th April led by LSI-VC Forests and Biomass.

SDGs

- At SIT-36 it was agreed that the SDG *Ad Hoc* Team further develop the two most favourable future scenarios - full scale option (Working Group) and federated option (coordination of existing entities) - and bring a proposal for finalisation to Technical Workshop.

ARD

- A meeting was held on April 13, between LSI-VC, SST-VC, and other experts to review and discuss an overarching governance framework applicable to all CEOS ARD. This is part of the SIT-36-09 action and aims to ensure coordination and progress between the SIT Chair Team and other CEOS entities on ARD beyond land.

Upcoming meetings or events

- Technical Workshop 2021: Current plan is to be held as a virtual event over two weeks. The first week will have self-organised sessions with narrower thematic/topical focus and self organised. The second week will be more structured, debriefing from each thematic discussion.
 - o Week 1: 6th September
 - o Week 2: 13th September with three 2-2.5h sessions planned.

CEOS SEC-278 Report

Entity: CEO

Prepared By: Marie-Claire Greening

Updates on issues raised during the last CEOS SEC teleconference (Dot points)

274-01	CEOS Chair Team and CEO to review the <i>CEOS Governance and Processes</i> document, the <i>External Request Process Paper</i> , and the <i>New Initiatives Process Paper</i> to determine if and what changes may be needed in relation to the <i>CEOS Executive Officer Terms of Reference</i> .	OPEN <i>SEC-276: This action remains open pending a final revision of the Governance and Processes document</i>
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Action 274-01 complete: *CEOS Governance and Processes* document updated and put forward for SEC approval at SEC-276. The small editorial changes necessary were agreed to at SEC-276, with the additional agreement that one table be updated as some minor information contained within it is out-of-date. It was agreed at SEC-276 that these minor updates do not need require further SEC review. The updated *CEOS Governance and Processes* document will be put forward at CEOS Plenary 2021 for final approval. The *External Request Process Paper*, and the *New Initiatives Process Paper* do not require any updates.

CEOS-34-21	All CEOS Virtual Constellation Co-Leads, Working Group Chairs and Vice Chairs, and Ad Hoc Team Co-Leads to review CEOS website content and provide updated/revised content and information to the CEOS Systems Engineering Office (SEO) and the CEOS Executive Officer (CEO).	31 December 2020
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Action CEOS-34-21 complete: All update requests received thus far have been incorporated into the CEOS website. The CEO and SEO have an ongoing remit to ensure the website is kept up-to-date and relevant; discussions are continuing on how to improve internal and external communication.

Issues requiring discussion/decision during current CEOS SEC teleconference (Dot points)

- **CEOS 2021-2023 Work Plan**
 - The CEOS 2021-2023 Work Plan was approved virtually on 22nd March 2021.
 - The Work Plan is one of the CEOS governing documents and can be found here: <https://ceos.org/about-ceos/governing-documents/>

- Grateful thanks to all who provided their updates to both the Work Plan and the Deliverables it informs (<http://deliverables.ceos.org>).

Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

None

Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- 20-22 April: WGISS-21

Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

- Updated CEOS calendar of meetings / events attached to this report. If any key meetings or events are missing from the calendar, please contact Marie-Claire.

CEOS SEC Report

(two pages max.)

Entity: WGDisasters

Prepared By: David Green (NASA), Pierric Ferrier (CNES)

Updates on issues raised during the last CEOS SEC teleconference

- None

Issues requiring discussion/decision during current CEOS SEC teleconference

- None

Other highlights, activities, actions, projects, collaborations

(e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- Landslide Demonstrator IP successfully endorsed at CEOS SIT-36.
- Wildfire Pilot IP successfully endorsed at CEOS SIT-36. Co-lead team is actively developing content for a new Pilot subpage on the WGDisasters website. Co-lead team is also actively coordinating with GEO GSNL leadership.
- GEO GSNL Supersites Updates
 - CEOS acceptance letter distributed for new Nicaragua Supersite
 - Withdrawal of the CEOS licensed satellite data support to the Enceladus Supersite Support (due to lack satellite data request) letter sent last week
 - Renewal letters for Marmara and Etna supersites sent this week
 - Renewal letter for Hawaii and Campi Flegrei: in progress

Upcoming meetings or events

(e.g. meetings, conferences of relevance, visits)

- WGDisasters Telecon-29: May 2021 [TBD]
- WGDisasters Telecon-30: July 2021 [TBD]
- WGDisasters-16: 20 – 24 September 2021 [Tentative]

Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

CEOS SEC Report

(two pages max.)

Entity: WGClimate

Prepared By: Albrecht von Bargaen (DLR)

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- n/a

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- WGClimate requests for support in call for Use Cases which are based on ECV inventory data. The use cases can be scientific, but also institutional, commercial, and in relation to stakeholder needs. WGClimate wants to reach out with a detailed letter the different communities via the member agencies of CEOS. Therefore, WGClimate asked a distribution of such a letter (to be drafted) to the principles by CEOS.

Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- Virtual WG meeting on Tuesday March 16, 2021
 - GHG task team meeting separately
 - Concentrating on brief status reporting including the update cycle regarding the ECV inventory & gap analysis, the status of the “Use case” activity, interaction with GCOS, and UNFCCC-related topics
 - Information about the AFOLU roadmap and the CEOS GST strategy
- Virtual WG meeting on Wednesday April 14, 2021
 - Preparation of COP/SBSTA in 2021 in cooperation with UKSA
 - Update on Use Case approach
 - CGMS Working groups’ meeting & CGMS plenary preparation
 - ECV inventory gap analysis workshop planning
- Interaction with GCOS
 - Small-scale meetings with steering committee chair and GCOS director about requirements formulation adapted to specific applications
 - EUMETSAT and DLR are representing the space observation community in the Joint GCOS Study Team in order to survey the governance; first draft has been delivered to sponsors for feedback.

Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- 2nd Climate Observation Conference organised by GCOS & WCRP with support of EUMETSAT; August 30 – September 2nd, 2021; *virtual conference*

Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

CEOS SEC Report

(two pages max.)

Entity: WGISS (Working Group on Information System and Services)

Prepared By: Robert Woodcock – Chair (CSIRO)

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- N/A

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- N/A

Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- CEOS Earth Analytics Interoperability Laboratory – the WGISS/SEO team has been in discussions and registering users with CEOS Rice group, the WGDIsasters, CEOS COAST and DEMIX. The progress is slower than expected but reflects the WG pace and virtual meeting challenges. Some positive feedback was received from WGDIsasters on the materials available to get started on EAIL. These materials have also recently been updated and the USGS Landsat Collection 2 data available in EAIL over the eastern USA has been extended to the full time series starting with Landsat 5.

- WGISS 51 organisation is now in the final stages. The majority of presenters have registered and we hope to receive all the presentations and recordings by Friday 16th April. Registrations are strong as always. The current agenda can be found on the CEOS meetings website. It was noted in the recent WGISS Exec meeting that discussion and development of new initiatives and actions is waning with the lack of face-to-face coffee conversations with everything (not just WGISS 51) being virtual due to COVID. At this stage no one had a suggestion on ways to reduce this effect, just that it is noticed everywhere not just CEOS. WGISS will be seeking ways to address this if possible, in future events (e.g. virtual breakout room coffee?)

Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- WGISS 51 is next week (20-22 April)

Attachments

(e.g. pictures, figures, graphs, links – for use in overall CEOS reporting and as website resources etc.)

CEOS SEC Report

(two pages max.)

Entity: WGCapD

Prepared By: Nancy Searby (Chair/NASA) & Pham Thy (Vice Chair/VNSC)

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- WGCapD continues to consult with CEOS leadership and WGCapD Principals to identify a new incoming Chair by the CEOS Plenary in November 2021.

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- None

Other highlights, activities, actions, projects, collaborations

(Dot points, e.g. outputs, new products, papers, technical reports, media, pipeline and new projects, interactions, project status changes, new opportunities)

- WGCapD members are working on executing the 2021-2023 work plan that includes 33 deliverables (28 to be implemented in 2021 calendar year, 4 – in 2022, 1 – in 2023). Updates are captured monthly in the shared work plan document, with main developments reflected in the CEOS deliverables tracking tool.
- The [Advanced Multi-Lingual MOOC on Radar Backscatter](#) deliverable CB-18-06 was completed, and provides training in English, Spanish, French, and German.
- WGCapD-10 took place March 1-4 with over 170 participants from 30 countries joining working sessions, a [keynote](#) by Barb Ryan, panel discussions with experts [within](#) and [outside](#) of CEOS, as well as four regional exchanges focused on floods as a use case to identify how WGCapD members and partners could collaboratively advance capacity development in EO-informed flood management, early warning and response. WGCapD members were asked to prepare agency updates in advance of the annual meeting to enable more time for the discussions at the meeting itself. The video updates are available on CEOS YouTube [channel](#) and meeting materials are available at WGCapD-10 Meeting page at <https://ceos.org/meetings/wgcapd-10>. The final report is in review.
- The EOTEC DevNet Initiation Plan was endorsed at SIT-36 (Deliverable CB-20-05). WGCapD secretariat received supportive comments from those active in WGCapD, e.g. ESA, DLR, CRECTEALC, NOAA, USGS, UNOOSA, and WMO. We also received endorsements from agencies not currently engaged with WGCapD - GISTDA offered their ASEAN Research and Training Center for Space Technology and Applications (ARTSA) and Canada's Director General for the Canada Centre for Mapping and Earth Observation endorsed it with plans to work with CSA on ways to support the initiative.
- According to our plan to share with participating networks, the WGCapD Chair will present EOTEC DevNet to CGMS-49 WGIV (26-27 April) and it will be mentioned by both the US in our statement and EC in their presentation to the Scientific and Technical Subcommittee (STSC) of COPUOS (19-30 April).

Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- WGCapD Monthly Meeting on May 6, 2021
- EOTEC DevNet regional meetings are planned for June 2021

CEOS SEC Report

(two pages max.)

Entity: WGCV

Prepared By: Akihiko Kuze (JAXA) Philippe Goryl (ESA)

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

Input by the end of April, input from WGCV

ISO 19159 series of standards: the pre-launch cal/val of instruments

ISO 19124 series of standards the post-launch cal/val of remote sensing instruments/products

Other highlights, activities, actions, projects, collaborations

CEOS WGCV Report on Mach 29 at the Global Space-based Inter-Calibration System (GSICS) annual meeting. TSIS HSRS is recommended as the official solar spectra.

Upcoming meetings or events

(Dot points, e.g. meetings, conferences of relevance, visits)

- CEOS GST Strategy call: April 27
- CEOS LPV Plenary :May 27, 28
- WGCV-49: June 29-July 2 (virtual, 4-day, 2-hour each day)
- WGCV-50: Early 2022 (Tokyo, Japan)

CEOS SEC-278 Report – April 2021

Entity: SEO

Prepared By: Brian Killough (NASA)

Issues requiring discussion/decision during CEOS SEC teleconference

- None

Updates on issues raised during the last CEOS SEC teleconference

- None

Upcoming meetings or events

- The SEO is participating in the first of three workshops to support the Americas. The first workshop will be on **April 15 at 11am EDT**. These workshops, sponsored by CSIRO-Chile and the Australian Government, will identify the EO needs and challenges of the region and will advance the use of satellite data and Open Data Cube technologies. The workshops involve key local stakeholders (e.g. UNGGIM, AmeriGEO, INEGI, CEPAL) and country-level Government agencies and are consistent with the 2020 Aguascalientes Declaration objective to improve collaboration and the use of EO in the region.

Other highlights, activities, actions, projects, collaborations

- **Pacific Islands** - The SEO has been communicating with the South Pacific Consortium (SPC) to advance plans for a regional data cube. Stakeholders from several countries have been discussing EO needs and plans are moving toward a prototype to demonstrate impactful use-cases. The SEO recently completed a detailed data analysis that revealed significant issues with cloud contamination in available optical data. Therefore, radar is of high interest and there is a push to test these datasets and conduct local capacity building.