

CEOS SEC-292 Report

Entity: SIT Chair Team

Prepared By: SIT Chair Team

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

SIT-37

- SIT-37 was held virtually from 29-31 March. Attendance was again really strong with up to 125 attendees at any one time.
- In addition to the speakers from CEOS Agencies, three persons external to CEOS were invited to give informative presentations on the needs of their respective communities: Joanna Post (UNFCCC Secretariat); Steve Hamburg (International Methane Emissions Observatory) and Andy Gonzalez (GEO BON).
- The meeting was very productive considering the virtual format but we look forward to meeting in person in ESRIN in Sep 2022.
- The minutes are in intensive production and the draft decisions and actions have just been circulated for review.
- SIT Chair Team will progress the collaboration with IMEO/GHGSat and confer with our CEOS technical experts.
- Sustainability of the CEOS-ARD Oversight Group has been addressed via email. The Oversight Group has been formed as a structure to help manage a cross-VC collaboration, and the SIT Chair oversight of this group (through delegation of a lead) is consistent with the existing SIT Chair Terms of Reference. We accelerated the endorsement of the TORs since the group had started extremely well. We have leadership of the group, strong membership, and agreement from current and next SIT Chairs in terms of reporting. The SIT Chair team will support those agencies willing to invest in this activity.
- The New Space session generated a lot of interest and we will follow up on that at TW and at Plenary (CNES already agreed).
- An article on SIT-37 has been sent by the SIT Chair team to JAXA to be inserted in the CEOS Newsletter.

CEOS-ARD Oversight Group

- Met again following SIT-37.
- Heard from EUMETSAT Data Cube team on their atmospheric ARD efforts. Will explore self-assessment of some of these products, and perhaps use them as a basis to define PFS for new geophysical variables.
- Discussing domain-specific requirements for CEOS-ARD and adjustments needed to the PFS template to make it completely cross-domain.

Upcoming meetings or events

- SIT TW we hope will allow the first in-person CEOS meeting in more than 2.5 years. Currently we are planning for that outcome (Tue 13 - Thu 15 Sept).

CEOS SEC-292 Report

Entity: CEO

Prepared By: Marie-Claire Greening

290-01	Marie-Claire to lead drafting of a general CEOS statement for UN-COPUOS in June.	June 2022
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It was agreed at SEC-290 that CEOS would submit a statement to the UN Committee on the Peaceful Uses of Outer Space (COPUOS) at its 65th Session (1 – 10 June 2022). This would take the form of a general statement about CEOS, its activities, and where there are / could be complementarities with COPUOS. CEOS has been an observer to COPUOS since 2002 but is not now active in this role.

The CEO is leading the drafting of a CEOS statement with the plan to have a near-final version for review and discussion by the SEC at SEC-293. The final version would then be circulated to Principals for endorsement ahead of submission to COPUOS.

2022-2024 CEOS Work Plan

The 2022-24 CEOS Work Plan was endorsed by CEOS Principals on 22nd March 2022 and has been posted on the CEOS website:

https://ceos.org/document_management/Publications/CEOS_Work-Plans/CEOS_Work_Plan_2022-2024_v1.0.pdf.

All CEOS deliverables have also been updated both within the Work Plan and as more detailed entries in the CEOS deliverables tracking tool:

<http://deliverables.ceos.org/>.

A summary of the CEOS Work Plan updates for this year were communicated to Principals and the wider CEOS membership at SIT-37.

Working Groups

Prior to SIT-37, all CEOS Working Groups met together virtually:

- WGCapD-11 (23 – 25 February)
- WGDisasters-17 (15 – 17 March)
- WGClimate-17 (22 – 24 March)
- WGCV-50 (22 – 25 March)
- WGISS-53 (22 – 24 March)

All Working Groups contributed to the 2022-2024 CEOS Work Plan and the update of the CEOS deliverables. Reports from many key activities being undertaken across the Working Groups were made at SIT-37.

Upcoming meetings or events

- 2022 GEO Symposium (2 – 5 May)
- GEO Programme Board Meeting #23 (31 May – 2 June)
- UN COPUOS 65th Session (1 – 10 June)

An updated calendar of CEOS meetings / events, and some key external events that the community may find of relevance, is detailed in the following page. If any key meetings or events are missing from this calendar, or if any dates have changed since publication, please contact Marie-Claire.

CEOS and relevant key external Meetings and Events 2022

Start Date	End Date	Meeting/Telecon	Location
January			
23-Jan-22	27-Jan-22	2022 AMS Annual Meeting	Houston, USA & Virtual
February			
07-Feb-22	18-Feb-22	UNCOPUOS STSC 59th Session	Vienna, Austria
8-Feb-22	9-Feb-22	CEOS-GEO Coordination Meeting	Virtual
14-Feb-22	18-Feb-22	Ocean Carbon from Space 2022 Workshop	Virtual
22-Feb-22	24-Feb-22	GEO Programme Board Meeting #22	Virtual
23-Feb-22	25-Feb-22	WGCAPD-11	Virtual
March			
01-Mar-22	03-Mar-22	CEOS ARD STAC Working Group Workshop	Virtual
14-Mar-22	18-Mar-22	AC-VC 18th meeting	Virtual
15-Mar-22	17-Mar-22	WGDisasters-17	Virtual
15-Mar-22	16-Mar-22	GEO Executive Committee Meeting #57	Virtual
22-Mar-22	24-Mar-22	WGClimate-16	Virtual
22-Mar-22	25-Mar-22	WGCV-50	Virtual
22-Mar-22	24-Mar-22	WGISS-53	Virtual
28-Mar-22	28-Mar-22	1st SRIX4VEG Workshop	Virtual
29-Mar-22	31-Mar-22	SIT-37	Virtual
April			
04-Apr-22	07-Apr-22	37th Space Symposium	Colorado Springs, USA & Virtual
May			
02-May-22	05-May-22	2022 GEO Symposium	Virtual
18-May-22	20-May-22	WGClimate Gap Analysis Workshop	Darmstadt, Germany & Virtual
23-May-22	27-May-22	2022 Living Planet Symposium	Bonn, Germany
23-May-22	27-May-22	EGC General Assembly	Vienna, Austria & Virtual
31-May-22	02-Jun-22	GEO Programme Board Meeting #23	TBD
June			
01-Jun-22	10-Jun-22	UNCOPUOS 65th Session	Vienna, Austria
06-Jun-22	11-Jun-22	XXIV ISPRS Congress	Nice, France & Virtual
06-Jun-22	16-Jun-22	UNFCCC SBSTA-53	Bonn, Germany
15-Jun-22	17-Jun-22	CGMS-50 Plenary	Geneva, Switzerland & Virtual
20-Jun-22	21-Jun-22	1st workshop of ACIX-III Land, Aqua and CMIX-II	Frascati, Italy
22-Jun-22	24-Jun-22	EARSeI Workshop on Imaging Spectroscopy	Potsdam, Germany
27-Jun-22	01-Jul-22	UN Ocean Conference	Lisbon, Portugal
27-Jun-22	01-Jul-22	23rd GHRSS International Science Team meeting	Barcelona, Spain & Virtual
July			
12-Jul-22	14-Jul-22	GEO Executive Committee Meeting # 58	TBD
16-Jul-22	24-Jul-22	COSPAR 44	Athens, Greece & Virtual
17-Jul-22	22-Jul-22	IGARSS 2022	Kuala Lumpur, Malaysia & Virtual
August			
September			
06-Sep-22	08-Sep-22	GEO Programme Board Meeting #24	TBD
08-Sep-22	09-Sep-22	LSI-VC meeting	Frascati, Italy
12-Sep-22	12-Sep-22	AFOLU Roadmap meeting	Frascati, Italy
13-Sep-22	15-Sep-22	SIT 2022 Technical Workshop	Frascati, Italy
18-Sep-22	22-Sep-22	73rd International Astronautical Congress (IAC)	Paris, France
October			
04-Oct-22	07-Oct-22	4th Joint meeting: WGCV-51 / WGISS-54	Tokyo, Japan
17-Oct-22	19-Oct-22	2nd Climate Observation Conference	Darmstadt, Germany
23-Oct-22	27-Oct-22	Pecora Conference	Denver, Colorado, USA
31-Oct-22	04-Nov-22	GEO Week 2022/GEO-XVII and ExCom-59	Accra, Ghana
November			
07-Nov-22	18-Nov-22	UNFCCC COP-27	Sharm el-Sheikh, Egypt
29-Nov-22	01-Dec-22	36th CEOS Plenary and Associated Side Meetings	Biarritz, France
December			
12-Dec-22	16-Dec-22	AGU Fall Meeting 2022	Chicago, USA

Legend:

	CEOS leadership participation required
	For information; CEOS leadership participation optional

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)**

Issues requiring discussion during current CEOS SEC teleconference

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)

- 16th WGClimate meeting (virtual) in March 2022(22nd and 24th) addressing following topics
 - Vice-chair nomination procedure, ECV inventory status and evolution ideas, review of former gap analysis in the light of upcoming gap analysis workshop, use case status, GCOS implementation plan, etc.
- 17th WGClimate meeting planned for early June before CGMS plenary to
 - Nominate vice-chair
 - Summarize the gap analysis workshop results
 - Discuss the ECV inventory evolution plans
- WGClimate vice-chair nomination:
 - three agencies (ECMWF, ESA, NASA) did express their willingness to chair the WG; noted as an excellent sign
- Continuous update of Use Cases; review process ongoing and finalized for around 15 cases; website publication by NOAA/NCEI ongoing; organization team call shall be extended with additional agencies
- Gap analysis workshop related to Carbon Cycle
 - Workshop on May 18-20 at EUMETSAT (Darmstadt), but with capability of virtual attendance/contribution
 - Invitation to experts sent out, but open to last-minute nominations by agencies
- GCOS science conference (17-19 Oct 2022, Darmstadt, Germany, in person)
[2nd Climate Observation Conference \(eventsforce.net\)](https://eventsforce.net)
 - Opening of registration (deadline September 23rd) and abstract submission (until June 1st);
- GCOS implementation plan: submission to WGClimate is currently open

Upcoming meetings or events

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

- 18-20 May 2022: WGClimate gap analysis workshop wrt Carbon Cycle ECVs
Agencies invited to nominate experts: experts invited but invitation is open to further nomination
- Living Planet Symposium: Wednesday May 25th is “climate day”
- 2nd GCOS Science Conference (17-19 October 2022)
- WGClimate projected for June (in advance to CGMS plenary), virtually, and for October in person

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 Chair Team

Prepared By: Makoto Natsuisaka (JAXA), Tom Sohre (USGS)

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- None

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)

- WGISS-53 was virtually held in Mar. 22-24, 2022. The highlights of the meeting are as follows.
 - New CEOS chair initiative “Paths to Sustainability: from strategy to practical measures” was introduced.
 - CEOS Work Plan 2022-2024 was shared. Near-term plan, joint collaborations and information exchanges with other groups were summarized.
 - CEOS/IDN Collaborations, IDN Upgrades, and IDN Metric were reported. CEOS/IDN and FedEO initiated exchange of those registered metadata on daily basis.
 - ESA GSTP project demonstrated the advantage of Zarr format as a cloud-native access to hyperspectral data.
 - A parallel STAC implementation in CWIC was proposed.
 - The status on GEOSS Platform was reported. The platform brokers the CEOS/IDN catalogues.
 - The development status on “Service metadata and discovery best practices” was reported.
 - Concept of CEOS Jupyter Notebooks Best Practice and Exemplars and Jupyter Notebooks Approach at EUMETSAT were introduced.
 - A hands-on training on the “Jupyter Notebooks Day” at the end of June was proposed as a joint activity with WGCapD.
 - By considering the recent situation that data replication on the clouds is increasing, “Data Integrity and Authenticity on Cloud” session was organized. PID in the metadata, Hash Code in the metadata, watermark, KSI block chain were listed up as technical elements to assure data

integrity, data authenticity, provenance, and traced modification and the approaches of the member agencies were shared. The possibilities to use Filename Lookup, Hash Lookup, Provable Data, Possession Signed Hashes, Checksum, and Non-Fungible Token (NFT) were presented. Further discussions were requested.

- Common Online Dictionary Initiative, which is a joint activity with WGISS, WGCV, LSI-VC, and ISO/OGC, was introduced by the CEOS Common Terminology Group and called for more WGISS participation. Participant's vocabularies and glossaries were provided by WGISS as input to the group.
 - "Explore ARD with the Data Cube for Atmospheric Composition developed by EUMETSAT" was introduced.
 - The status on the developments of GEO Knowledge Hub and GEOSS plus were introduced.
 - Progress on ISO 19124-1 and the New Joint ISO-OGC Standard Initiative on Analysis Ready Data was reported.
 - The activities of WGDIsasters were introduced. The WGISS has relations with WGDIsasters for the Flood Pilot project and Recovery Observatory Demonstrator.
- Attended to the CEOS ARD Oversight Group #3 meeting on April 5.

Upcoming meetings or events

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

- A hands-on training on the Jupyter Notebook Day in June is planned.
- WGISS-54 is scheduled in Oct. 4-6 in Tokyo. Joint session with WGCV is planned on Oct. 5.

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: Jorge Del Rio Vera (United Nations Office for Outer Space Affairs)

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- Not applicable

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- Not applicable

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)

Deliverables for Q2-2022 already closed:

- CB-20-08: Establish a virtual EO Educators and Trainers Conference has been completed (report attached)
- CB-22-01: Webinar on Agricultural Crop Monitoring with SAR and Optical Remote Sensing (started on 12 April and ongoing for four weeks, every Tuesday). 512 registered participants when there were still two weeks for the training to take place.

During last WGCapD monthly teleconference there were the following presentations:

- Presentation on USGS activities for Capacity-Building: in WGCapD we started to collect members flash presentations, summarizing capacity-building activities. Members of CEOS are invited to contribute and a presentation during WGCapD monthly teleconference would be welcome (flash presentation template attached).
- Presentation on EOTEC DevNet Regional Communities of Practice Task Team meetings: Strong participation from Africa, Europe and Latinamerica, less engagement from Asia-Pacific. Information on EOTEC DevNet: <https://ceos.org/ourwork/other-ceos-activities/eotec-devnet/>
- Presentation on the ARD oversight group and ARD products
- Presentations on CB-20-01 (closed in Q1): 1200 participants. Request on additional training on urban adaptation and urban heat islands. Material and recordings are available on NASA ARSET Website: <https://appliedsciences.nasa.gov/join-mission/training/english/arset-earth-observations-toolkit-sustainable-cities-and-human>

Upcoming meetings or events

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

- EOTEC DevNet Regional Community of practice working groups for flooding on 20-21 April. Registration here:
<https://docs.google.com/forms/d/e/1FAIpQLScgguWOAEgNBem8je67apHba-bHPgO1ZilnhN8YQMutUSHwkg/viewform>
- Regional Community of practice task team meetings June 15 and 16. Registration here:
https://docs.google.com/forms/d/e/1FAIpQLSfOW70P3Ua_n8crZ1wclt5Vi8bHpl5YTLwI3E22dJF1kKTEOA/viewform

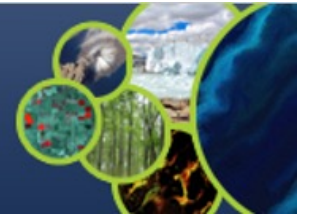
Attachments

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

- 1.- Flash presentation (one slide only)
- 2.- Report on CB-20-08



[NAME OF INSTITUTION]



Programmes

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Upcoming Activities

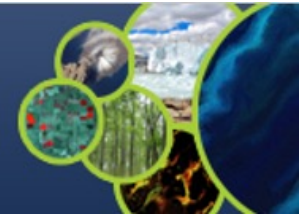
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Resources

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Example: United Nations Office for Outer Space Affairs



Programs relevant to Earth Observation

- **UN-SPIDER:** United Nations Platform for Space-Based Information for Disaster Management and Emergency Response. it aims at improving actions to reduce disaster risk or support disaster response operations through **knowledge sharing** and the **strengthening of institutions** in the use of space technologies. UN-SPIDER **also facilitates cooperation** between satellite data and information providers and users, such as policymakers, disaster risk managers or emergency responders.
- **Space for Water Portal:** to enable all stakeholders involved in the space and water communities to access data and knowledge, to be creative and to realize their full potential in contributing to a world in which the availability and sustainable management of water and sanitation for all has become a reality.
- **Space for Climate Action:** Project to raise awareness about the use of space to monitor and tackle climate action (SDG13)
- **Space for SDGs:** project to raise awareness about the use of space for the SDGs

Upcoming Activities relevant to Earth Observation

- UN/Ghana/PSPW 5th International Conference on the use of space technology for water resources management (10-13 May 2022 - Online)

Resources relevant to Earth Observation

- [UN-SPIDER Knowledge Portal](#): contains information, best practices, advisory supports and upcoming events
- [Space4Water portal](#): contains information about actors, resources, as well as thematic and regional focus areas
- [UNOOSA website](#): Contains information about Space for Climate Action, SDGs and GNSS

The First Working Group “EO Education“ was held in a virtual format on 10th and 11th February 2022. This was the first event of this kind, primarily designed to connect institutions involved in EO education within Germany. The event was organized in a flipped format, which means that the presentations were recorded and published at a dedicated website and all participants were asked to watch the presentations before the actual workshop. The sessions during the workshop therefore could be dedicated to discussion and exchange on the various topics - a fact that was positively received by the participants, who would like to see such formats more often in the future.

Main topics

How can we make ourselves and our matter visible and heard and which solutions do exist now?

In order to reach a wider audience with EO education, we should step in as early as possible. And this means that we should be committed to making EO concepts easily accessible, e.g. already to school children. The path to the students inevitably leads through the teachers, because they must be willing and able to incorporate this topic into their lessons. The teachers need to be convinced to invest extra time in getting familiar with the EO topic plus the knowledge and competences required to teach EO in schools. This is a challenging task, as education is in the responsibility of each federal state of Germany individually.

This activity can be supported by dedicated learning platforms that offer the theoretical background of EO, combined with hands-on, real world tutorials using EO data and other additional data. For this purpose, various software solutions with different functionalities are already available for the creation and maintenance of a learning platform. Some of them offer a wide range of individual configuration options. Most platforms can be extended via dedicated plugins. In addition, extensions of platforms developed and implemented by the content providers themselves exist. However, this multitude of individual options and extensions make it difficult – if not impossible – to develop content that can be easily shared between content providers and employed in each of the existing learning platforms. At present, there does not seem to be a trend towards the implementation of mutual standards in this respect. The participants agreed that it is desirable to give standardization, capability for exchange and the use of open formats, software and exchange mechanisms a high priority within future activities.

The choice of the operating system for which EO learning content is developed is closely linked to this issue. Today, classical office computers and notebooks running either Microsoft Windows, Apple OS or a Linux distribution compete with mobile devices, which either run Android or iOS. This makes it difficult to develop EO learning content that works

Committee on Earth Observation Satellites (CEOS)
Working Group for Capacity Building and Data Democracy (WGCapD)

in all environments without having to do extensive customization. Also here, the usage of open, platform-independent exchange formats was identified as necessary.

Sharing resources also touches the sphere of Intellectual Property Rights and Licensing. There was wide agreement among the workshop participants that content licensed using the open licensing schemes (e.g. Creative Commons) is to be preferred.

Another subject, which also has been identified as important during the workshop, is the capability of browser-based data processing. A very promising development in this regard, are Jupyter Notebooks. These can also be used to learn techniques that allow a shift from local data processing to cloud-based data processing and analysis. This is a recent trend, which is the consequence of the ever-growing increase of EO data in recent years and the near future. In this context, the necessity of offline access to learning content for specific use cases such as schools and institutions in the developing world – which might not have access to fast and stable internet connections – has been discussed extensively.

The development, implementation and the use of EO learning content together with the platform and tools used to publish it in the internet are usually funded by public project money. The question of how to ensure a long-term funding of all these EO learning activities including server costs and costs for maintaining the materials is still to be answered. Long-term funding of such learning opportunities was considered desirable by the workshop participants in any case, as many other groups of people could benefit from our work in addition to the classic target group of pupils and students. There are many people working with EO imagery or EO derived data in their professional life who were not taught how to handle EO data. They have to learn such skills in a short amount of time after their formal education at the beginning of their professional life. Here, a great demand for training opportunities for professionals is seen by the workshop attendees, which may be satisfied also by commercial providers of EO learning resources.

Based on the general agreements mentioned above, the participants agreed to repeat and perhaps formalize the collaboration within the German community of EO educators in the future. The idea of a mutual manifesto towards open exchange of learning resources and compliance to compatible technologies was discussed. This can be regarded as a potential step towards a more sustainable and long-term value of past, recent and future EO education efforts.

Appendix A Sessions and Presentations

Session 1: Web technologies

- **The Jupyter Notebook hub and their use in teaching**
(Julia Wagemann, Federico Fierli, Simone Mantovani, Hayley Evers-King, Ben Loveday)
- **Creating EO-Lessons for Schools and Beyond in a WordPress Environment**
(Henryk Hodam)

Session 2: Innovative Tools

- Teaching and learning at the intersection of Geography, Maths, and Computer Science using EO and Augmented Reality
(Claudia Lindner)
- Earth Observation Plugins for QGIS – the EnMAP-Box and the GEE Time Series Explorer for EO Education
(Andreas Janz, Sebastian van der Linden, Benjamin Jakimow, Fabian Thiel, Philippe Rufin, Patrick Hostert)
- Geo:spektiv2GO – From Space to Local Mobile Learning
(Mario Blersch, Johannes Keller, Christian Plass, Alexander Siegmund)

Session 3: Across the spectrum

- Building interactive spatio-temporal analysis portals with Geo Engine: A Digital teaching Tool for multi-spectral data
(Christian Beilschmidt, Johannes Dröner)
- HYPERedu – Overview, lessons learned and future perspectives of hyperspectral eLearning
(Saskia Foerster, Arlena Brosinsky, Charlotte Wilczok)

Session 4: International Infrastructure

- The Training Calendar infrastructure or how to share training opportunities with the global community
(Madalina Ungur, Mark Higgins, Martin Tykal)
- EO-CONNECT Promoting global networking in Earth observation training
(Robert Eckardt, Andreas Rienow, Stefanie Steinbach, Nesrin Salepci)

Presentations

All presentations can be watched under the following link:

https://science.eo-college.org/videos_ak_eo_education_2022/

CEOS SEC Report

(two pages max.)

Entity: WGCV

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

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)

- WGCV-50 Plenary Meeting: March 22-25, 2 hours each day
 - (1) Two potential nominations for the WGCV Vice Chair (October 2022 to October 2024). Presentation by candidates in WGCV-50, final vote and selection in October (WGCV-51).
 - (2) WGCV recommends the Total and Spectral Solar Irradiance Sensor-1 (TSIS-1) Hybrid Solar Reference Spectrum (HSRS) as the new solar irradiance reference spectrum noting that incremental updates will be forthcoming. It was announced from the CEOS CAL/VAL portal.
 - (3) WGCV Cal/Val Portal will be updated with the Direct 2.1 database (LAI and FAPAR sites) (LPV subgroup).

Upcoming meetings or events

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

- WGCV-51: October 3-6 2022, in Tokyo. The joint meeting with WGISS.

CEOS SEC-292 Report – April 2022

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

- None

Other highlights, activities, actions, projects, collaborations

- The SEO is planning to participate in the upcoming GEO WEEK. The GEO Knowledge Hub will be hosting a session on May 4 and the SEO will be presenting a demo of the Open Data Cube Sandbox ([HERE](#)). This tool is a great example of **open science** and the use CEOS **open data**. In late March, the SEO added several new Jupyter notebooks to its public GitHub ([HERE](#)) bringing the total number of application algorithms to 19. These applications use Landsat, Sentinel, ALOS, VIIRS, MODIS, and Copernicus Land Cover datasets.