

CEOS SEC-265 Report

(two pages max.)

Entity: CEO

Prepared By: Kerry Sawyer (NOAA)

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- None

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- CEOS 2020-2022 Work Plan
 - Expected virtual endorsement of the 2020-2022 Work Plan by 15 May but this will be delayed. Responses to individualized requests for updates to the descriptive paragraphs and proposed Deliverables have been slow, with just 8 of 20 responding by the 6 May due date.
 - Will begin to transfer the data collected in the master spreadsheet to the online CEOS Deliverables Tracking Tool beginning next week.
 - *Responsibilities and User Guide* will be prepared for the online Deliverables Tracking Tool.
- GEO Working Groups Status
 - CEOS Principal to GEO, Dr. DK DAS, sent an email to GEO Secretariat on 1 May nominating the following individuals to participate in the four GEO Working Groups on behalf of CEOS:
 - *Capacity Development Working Group (CD-WG):*
 - Primary: Dr. Nancy Searby, CEOS (NASA)
 - Alternate: Dr. Pham Thi May Thy, CEOS (VNSC)
 - *Climate Change Working Group (CC-WG):*
 - Primary: Jörg Schulz, CEOS (EUMETSAT)
 - Alternate: Dr. Wenying Su, CEOS (NASA)
 - *Disaster Risk Reduction Working Group (DRR-WG):*
 - Primary: Dr. David Green, CEOS (NASA)
 - Alternate: Mr. B. Ajay Kumar, CEOS (INCOIS)
 - *Data Working Group (Data-WG):*
 - Primary: Dr. Brian Killough, CEOS (NASA)
 - Alternate: Dr. V. S. Prasad, CEOS (NCMRWF)
 - We have not received any confirmation on our nominations to participate in the WGs; understand the GEO community has responded favourably to the request and there was significant interest in participating in the WGs.

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 has been invited to participate in the FAO-hosted three half-day online consultations on “Exploring new frontiers for terrestrial observation and monitoring” with particular focus on revitalizing the Global Terrestrial Observation System (GTOS), Global Land Cover database (GLC-SHARE) and upgrading the Global Agro-Ecological Zoning (GAEZ) from May 19 to 21, 2020. The SIT Co-Chair, Adam Lewis, will be presenting on CEOS and GTOS, with focus on CEOS Land Surface

Imaging Virtual Constellation, CEOS Analysis Ready Data Strategy, landcover mapping/monitoring, and overview of CEOS. The conference will be a Zoom Meeting, which means a number of CEOS Agencies are prohibited from participating.

Upcoming meetings or events

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

- See calendar

Attachments

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

CEOS SEC-265 Report

Entity: SIT Chair Team

Prepared By: J. Ross (GA) & CSIRO

Updates on issues raised during the last CEOS SEC teleconference

- **263-01:** Adam is following up with Chuck Wooldridge and Steve Volz to finalise the draft response to IOC on the Decade of Ocean Science, and will circulate it for review by CEOS SEC when ready.
- **SDG-AHT:** would still welcome another Agency to support CSIRO to co-lead the sub team on 15.3.1 (TORs now available to clarify responsibilities) at least until the Plenary. DLR in discussion; hopefully will confirm soon.
- **SIT-35-13:** NOAA provided the SIT Chair Team with the questionnaires compiled during the NOAA SIT Chair term.

Issues requiring discussion/decision during current CEOS SEC teleconference

- The review period for the SIT-35 minutes has now closed. Any final comments are requested in the 24 hours following the close of SEC-265, after which the record will be finalised.
- The SIT Co-Chair (Adam Lewis) will provide a presentation on CEOS's work, including in the land domain, to an FAO-hosted virtual meeting on GTOS and Land Cover scheduled for 19 May.
- CEOS Working Teams All Hands Call #2 (VCs, WGs, AHTs) will take place Tuesday 19 May 2020 (**agenda provided as attachment and sent via email to CEOS SEC**).
- VC chats will take place the week of 1 and 8 June.

Other highlights, activities, actions, projects, collaborations

Carbon & Biomass

- WGClimat will report on update from the GHG Roadmap team reported to their latest meeting. SIT-35 action (#35-4) anticipates the Roadmap document will be distributed soon to CEOS agencies.
- The proposed GHG-AFOLU workshop at JRC is unable to go ahead and the format and schedule is under review.
- On action SIT-35-3 (Anthony Rea (WMO) to provide a link to the TORs for the GCOS Study Group for CEOS reference): Anthony has been reminded to send the TORs.
- On action SIT-35-6 (SIT Chair Team to work with WGCV LPV Biomass Protocol team to prepare a simple business case to gauge support from CEOS Agencies at the SIT TW): SIT Chair Team has been in contact with the Protocol team and they have confirmed that a small ad-hoc group has been set up from the membership of the informal multi-mission group on biomass to tackle the production of the business case for support to implementation of the CEOS Biomass Protocol. Four volunteers will coordinate the effort: Laura Duncanson (UMD), Sassan Satchi

(NASA), Jerome Chave (Univ Toulouse III) and Klaus Scipal (ESA). The full team list is shown below. SIT Chair team has provided guidance on what might be features of a successful business case and asked for a progress report at end May. The group is aiming for a skeleton document before their next call on 1st June. *Full team: Laura Duncanson (UMD), Sassan Saatchi (NASA JPL), Jerome Chave (CNRS), Klaus Scipal (ESA), John Armston (UMD), Bruce Chapman (NASA JPL), Paul Siqueira (UMass), Mat Disney (UCL), Dmitry Schepaschenko (IIASA), Lola Fatoyinbo (NASA GSFC), Clement Albinet (ESA), Hank Margolis (NASA HQ), Kim Calders (Ghent University), Nicolas Labriere (CNRS), Shaun Quegan (U of Sheffield), Stuart Davies (Smithsonian), Oliver Phillips (Leeds U).*

- On action SIT-35-7 (JAXA and ESA will lead the development of the proposed CEOS AFOLU Roadmap): **Osamu Ochiai of JAXA** is asked by SIT Chair to provide a short update under the SIT Chair Report at SEC, including on agency representation in the volunteer team.

SDGs

- SDG updates on the CEOS Work Plan sent back to CEO
- SDG sub teams for 3 indicators + 1 (14.1.1 managed under COAST as a pilot project) are being set up with 1 or 2 co-leads confirmed.
- We had a call late April to organise the sub teams - next one is planned week of 18th of May (with all co-leads)
- We have received a few more nominations since last SEC call, so the SDG AHT would like to thank SEC members for their support (however some Agencies have indicated their interest but we need to get their confirmation with individual nominations)
- (Brief) TORs for SDG sub teams (one action from last SDG call): there was a need to clarify expectations and responsibilities of these subteams, so TORs have been drafted and submitted for comments/review to the SDG AHT
- SDG Data Supply Analysis & Strategy document: version 1 to be released soon if no further comments (might be added to the TORs as an appendix)
- Issues:
 - o still slightly different expectations around activities and goals (for CEOS in the SDG process as a whole) which include the Requirements table/template (main responsibility of these sub teams: analyse, design and complete the requirements in consultation with GEO), as well as providing relevant content (tools, data access) for the SDG Toolkits.
 - o On 15.3.1: only one lead at this stage, still awaiting an agency to help CSIRO (and also diversify the scope/views on this one!)
 - o Future of the team still needs to be addressed over the next few months to have a clear proposal to bring forward by SIT TW

ARD

- CEOS-Industry ARD workshop (now webinar)

- first webinar: mid-late June followed by 2 more in the following months - dates TBC
- webinars focusing on broader participation (initially the focus was Europe)
- CEOs ARD & private sector discussion paper (feedback & next step)
 - feedback received from NOAA, DLR and Catapult
 - CSA will provide comments in the coming weeks
 - next step: share the updated paper more broadly

Upcoming meetings or events

- CEOS Working Teams All Hands Call #2 (VCs, WGs, AHTs): Tuesday 19 May 2020, 7:00 am US East
- VC Tagups: Weeks of June 1 and 8.
- TW: virtual, weeks of 7 and 14 September 2020
- SIT-36: Week of March 22. We are seeking to lock in these dates early, however no decision has been made whether the meeting will be virtual or in-person, given the fluidity of the situation presently.

Agenda for CEOS Working Teams Call

Tuesday 19th May from 7am-8:30am US East

<https://global.gotomeeting.com/join/338274893>

- 1) **Introduction** (Jono/SIT Chair Team Coordinator, 5 minutes)
 - a. Welcome and call objectives

Note: please introduce yourself on the 'chat box' or on sli.do if you prefer
- 2) **SIT-35 Recap and CEOS Work Plan Update** (Kerry Sawyer/CEO, 15 minutes)
 - a. Main outcomes, decisions, and actions of relevance from SIT-35
 - b. Update on the 2020-2022 CEOS Work Plan
- 3) **Consistency in Thematic Observing Strategies across CEOS Working Team** (Stephen Ward/SIT Chair Team, 15 minutes)

Summary: The SIT-35 virtual meeting raised the question as to whether there is scope and benefit for greater consistency across the CEOS structure in the way we undertake, document, and present the various strategies for thematic coordination of CEOS agency observations.
- 4) **The CEOS Earth Analytics Interoperability Lab Proposal** (Rob Woodcock/WGISS, Brian Killough/SEO, 15 minutes)

Summary: See attached proposal.
- 5) **CEOS-COAST: Update on Pilots** (Paul DiGiacomo/COAST, 10 minutes)

Summary: Update on progress and pilot short-list.
- 6) **The "CEOS Analysis Ready Data – Involving the Private Sector" Paper** (Andreia Siqueira/SIT Chair Team, 15 minutes)

Summary: Part of the CEOS ARD Strategy, endorsed at the 2019 Plenary, this paper discusses how CEOS's work on ARD may link with the work of private sector satellite EO providers. v2.0 draft paper:

<https://drive.google.com/file/d/1eyWWDR5pzQXaseP-k3XOBh7ZbEvSxqfZ/view>
- 7) **SIT TW Update** (Jono, 10 minutes)
 - a. Format: Virtual sessions, over the weeks of 7th and 14th September
 - b. WT comments and discussion on sessions, format and approach
- 8) **AOB and Closing** (Jono, 5 minutes)
 - a. VC chats to take place in June with coordination to follow

CEOS SEC Report

(two pages max.)

Entity: OST-VC

Prepared By: Remko Scharroo (EUM) – Annick Sylvestre-Baron (CNES)

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)

- OSTST call (renewal of the OST Science Team for 2021-2024) released on Feb 14th 2020 for ROSES call (managed by NASA/NOAA) and on May 5th for TOSCA call (managed by CNES/EUMETSAT).
- ESA recently kicked off the Copernicus Next Generation Topography Constellation (NG-TC) Expert Team. Because of the large overlap with the activities considered for the writing of a White Paper on this by the OST-VC, it was concluded that the activities for the White Paper would best be delayed until the NG-TC activities have concluded (later 2020), and the scope of the OST-VC White Paper can be reassessed.

Upcoming meetings or events

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

- In person OSTST meeting in October cancelled – Alternate virtual solution to be organized.

Attachments

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

CEOS SEC-265 Report

Entity: SDG AHT

Prepared By: F. Kerblat (CSIRO) (on behalf of the co-leads ESA/CSIRO)

Updates on issues raised during the last CEOS SEC teleconference

- **SDG:** would still welcome another Agency to support CSIRO to co-lead the LDN sub team on 15.3.1 at least until the Plenary (TOR now available to clarify responsibilities of the sub-teams). Pending confirmation from DLR (Uta Heiden)
- TOR now available including a list of confirmed individuals for the sub teams: Agencies are invited to review them and add any suitable names (as active members)

Issues requiring discussion/decision during current CEOS SEC teleconference

- Leadership pending confirmation:
 - o 15.3.1 (LDN): only one lead at this stage, still awaiting for an agency to step up and help CSIRO (and also diversify the scope/views on this one) - might be DLR (to be confirmed soon)
 - o 11.3.1 (urban): SANSA might co-lead with NASA (awaiting confirmation)

Other highlights, activities, actions, projects, collaborations

- SDG updates on the CEOS 2020-2022 Work Plan sent back to CEO.
- SDG sub teams for 3 + 1 indicators (14.1.1 managed under COAST as a pilot project) are being set up with 1 or 2 co-leads confirmed.
- The SDG AHT had call late April to organise the sub teams - next one is planned on 20th May (with all co-leads)
- We have received a few more nominations since last SEC call. The SDG AHT would like to thank SEC members for their support (however some Agencies have indicated their interest but we need to get their confirmation with individual nominations)
- TOR for SDG sub teams (one action from last SDG call) has been sent to the AHT.
- SDG Data Supply Analysis & Strategy document: version 1 will be released in June (might be added to the TORs as an appendix)
- A few issues to be addressed soon:
 - o still slightly different expectations around sub-teams activities which include the Satellite Data Requirements and Analysis (main sub-team task to be done in consultation with the relevant GEO initiatives), as well as providing content for the SDG Toolkits (tools & platforms, capacity building, EO good practices).
 - o Future of the team still needs to be addressed over the next few months to have a clear proposal to bring forward by SIT TW
- GEO Toolkits starting to make tangible progress (see GEO call for EOI on 11.3.1).
- GEO EO4SDG 2019 Awards feedback requested to help prepare the 2020 edition.
- RSE Special Issue on SDG: high-level short communication finalised (Argyro K. NASA, F. Kerblat CSIRO and others) hopefully to be included in the final edition

Upcoming meetings or events

- SDG sub teams call on Wednesday 20th May

CEOS SEC-265 Report – May 2020

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 working with WGISS (Rob Woodcock) to develop plans for a new CEOS Earth Analytics Interoperability Lab. This new data testing and prototyping hub that will use Jupyter notebooks and the Open Data Cube. Initial plans are to support the COAST initiative and Jupyter notebook training (WGCapD deliverable).
- Brian Killough (SEO) completed a review of 4 GEO-Google proposals for the GEO Secretariat. There were a total of 48 proposals under evaluation.

CEOS SEC Report

(two pages max.)

Entity: WGDisasters Chair Team

Prepared By: NASA

Updates on issues raised during the last CEOS SEC teleconference

(Dot points)

- No updates

Issues requiring discussion/decision during current CEOS SEC teleconference

(Dot points)

- No issues

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)

- WGDisasters is working to update relevant Work Plan language and Deliverables at the request of CEOS CEO.
- WGDisasters was represented at EGU 2020 by Antonio Montuori (ASI) during the session titled, “NH6.1 Application of remote sensing and Earth-observation data in natural hazard and risk studies” on 07 May 2020. During the session, scientific work facilitated by WGDisasters was highlighted.
- WGDisasters is updating the CEOS Disaster Risk Management Observation Strategy document that led to the original endorsement of the establishment of the WG in 2013. The WG is holding monthly meetings to complete development of the paper and will submit the new document for review at SIT TW, and for endorsement at Plenary.
- GEO/LEO/SAR Flood Pilot continues development and will explore the feasibility of integrating LEO-GEO optical with multi-frequency and multi-sensor SAR flood observations. Pilot Co-Leads are conducting targeted and group outreach to finalize Pilot details including specific datasets, analysis methods and schedule.
- WGDisasters continues to attend and contribute to CEOS COAST telecons, focusing on anthropogenic impacts of coastal disasters, and identifying integration opportunities with the GEO/LEO/SAR Flood Pilot.

Upcoming meetings or events

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

- Global Flood Partnership Annual Meeting
 - Paris, France
 - 28-30 September 2020
- Understanding Risk Forum
 - Singapore
 - 30 Nov – 4 Dec 2020

CEOS SEC 265 Report

(two pages max.)

Entity: WGClimate

Prepared By: Jörg Schulz (EUMETSAT), Chair

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)

- The virtual WGClimate#12 meeting was held remotely on 5-7 May 2020 with 4-hour teleconferences on each day. Virtual meeting was very well attended with many more participants compared to a face-to-face meeting;
- Dr Jeff Privette (NOAA) was recommended for endorsement as new Vice-Chair by CEOS and CGMS plenaries;
- The delivery of the Cycle 3 Gap Analysis and Coordinated Action Plan has moved to June 2020 (due to COVID-19 impact on EUMETSAT contractor) and it was widely recognised that the workload associated with Gap Analysis is not sustainable in the medium-to-longer term. The WG identified some measures to make it more sustainable (e.g. by reducing the scope of the updates by applying intelligent restrictions on the activity).
- The Earth Information Day at COP/SBSTA was felt to be a very useful mechanism by the UNFCCC (Johanna Post of the UNFCCC attended the WGClimate meeting on 2 of the 3 days) for getting messages across from Space Agencies and it is likely to be a regular feature of future COP/SBSTA meetings - there will not be an Earth Information Day this year as the COP-26/SBSTA-53 has been cancelled (due to COVID-19);
- Joanna Post (UNFCCC) expressed a lot of willingness to facilitate a dialogue between the Parties of UNFCCC/SBSTA and space agencies on the possible contribution of EO data to the next Global Stocktake. Joanna Post also raised the possibility of space agency involvement in a SBSTA Ad hoc Group on Systematic Observations;
- The GCOS Secretariat (S. Eggleston) gave a presentation on the update of the GCOS requirements and the plans for the development of the next GCOS IP, which still does not accommodate application-specific requirements. WGClimate will write again to GCOS expressing the concerns and proposing ways forward;
- The GEO Secretariat gave a presentation on the new GEO Climate Change WG - participation looks to be over-subscribed and there are some overlaps with the mandate of WGClimate which need to be addressed. CEOS nominated delegates were accepted and a few more WGClimate members will be part of the GEO WG, so we can help to make this working;
- Use Cases for climate data records were discussed and there was a general feeling that this area needs to be given more weight, with a long-term action in the CEOS and CGMS

- work plans. There was a very good exchange of views on potential use cases. This could also be a mechanism for demonstrating the utility of application-specific requirements;
- The discussion on the GHG roadmap reviewed the current status, and tried to clarify the way forward in 3 areas:
 - User engagement (including with UNFCCC and GCOS): Concerning the GHG roadmap objectives it was clarified that we should move away from a sole focus on the Global Stocktake and engage with users to get more precise information about the routine monitoring needs;
 - CGMS involvement and parallel operationalisation of the GHG monitoring system: need the steps to be defined to a reasonable level of detail for reaching an operational system (to be verified that this is captured in Annex C) and then interact to see how to involve the standing CGMS WGs;
 - GHG Roadmap action harmonisation and refinement, in particular populating/refining Annex C of the roadmap (the actual work plan). This is still quite a big task and is necessary to have this refined to a reasonable level of detail before submitting the roadmap for endorsement by the CEOS and CGMS plenaries.

Upcoming meetings or events

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

- WGClimat#13 meeting is planned for in between the SIT TW and the CEOS Plenary most likely as another Virtual Meeting

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)

- WGISS 49 (April 21st-22nd) was very well attended with an average of 60 people connected to the virtual meeting. Presentations from <http://ceos.org/meetings/wgiss-49/>. Highlights:
 - Major improvements in FDA implementations at CEOS Agencies, particularly Cloud based access to EO data and analysis
 - Reports and changes to Cloud friendly metadata and distribution formats
 - Reports on the use of Jupyter Notebooks for EO analytics
 - Improvements to the Data Stewardship and Management Maturity Matrix and Persistent Identifier implantation at CEOS agencies
- One significant downside to the virtual meeting was the lack of “coffee break” conversations and a reduced set of new actions. Some approaches to rectify this are underway as part of WGISS Exec meetings and in the preparation for WGISS 50
- WGISS and SEO have jointly developed a proposal to launch a CEOS Earth Analytics Interoperability Laboratory to assist other WGs and CEOS projects working on different aspects of FDA interoperability. The inter-relationships are increasingly difficult to demonstrate and the Lab will support small scale practical experiments. This proposal has been tabled at WGISS49 for discussion and is proposed for inclusion in the upcoming CEOS WG All Hands Meeting.

Upcoming meetings or events

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

- N/A

Attachments

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

CEOS SEC-265 Report

(two pages max.)

Entity: WGCapD

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

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)

- Drafted and distributed the WGCapD-9 Annual Meeting report to participants for feedback.
- Space Capacity Development Advisory Board (SCDAB): developed statement of work summarizing the board's goals and establishing four key tasks to pursue; revised a spreadsheet outlining information to collect regarding existing activities within the nexus of EO and capacity development related to several SDGs (2 Zero Hunger, 7 Affordable and Clean Energy, 5 Gender Equality with 4 Quality Education, and 11 Sustainable Cities and Communities).
- Deliverable Work Plan: completed review of carry-over deliverables and newly planned deliverables for modifications to deadlines due to delays and coronavirus complications and in light of CEOS Executive Offer requests to review and update 2020-2022 work plan deliverables.
- Planning quarterly regional calls (Africa, Americas, Asia-Oceania, Europe) to discuss and coordinate around capacity building activities within each region and engage additional space agencies not yet involved in WGCapD.
- WGCapD leadership nominated to join the GEO Capacity Development Working Group.

CEOS SEC Report

(two pages max.)

Entity: WGCV

Prepared By: Cindy Ong (CSIRO), Akihiko Kuze (JAXA)

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

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

- WGCV is having it's WGCV46 'interim meeting' this week with a smaller number of attendees. The aim of this meeting is to hear the presentation from the vice chair candidate before voting, track progress of WGCV's workplan items and, decide on the dates of the WGCV47 virtual meeting and the face-to-face WGCV48 meeting in Tokyo next year.
- Progress on existing WP items and new WP items have now been submitted to the CEO.

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)

Upcoming meetings or events

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

- CEOS WGCV Plenary #46 will now be a virtual meeting. 11 & 15 May 2020
- CEOS WGCV Plenary #47 July 2020 (TBA depending on COVID-19 circumstances)
- CEOS WGCV Plenary #48 Jan/Feb 2021, Tokyo, Japan
- CEOS WGCV Plenary #49 September 2021, Sochi, Russia
- CEOS WGCV Plenary #50 March 2022, Caltech, Pasadena

Attachments

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