OBJECTIVES AND SCOPE

During the 2020-2021 SIT Chair Term, the CSIRO/GA SIT Chair has focused on fostering CEOS Principal-level discussion and decision making to bring resources to address the significant coordination challenges presented by the harmonisation of observing systems across space agencies. This is bookended by the SIT Technical Workshop, which focuses efforts on more detailed working-level task coordination and preparation for CEOS Plenary.

Accordingly, a series of sessions have been planned, with key objectives including:

- Supporting tangible progress of the CEOS Chair priorities for 2021 [SIT-36 update];
- Ensuring Working Team items related to Plenary are fully reviewed and discussed;
- Supporting new initiatives and activities arising from the Working Teams (e.g., CEOS-COAST);
- Supporting those activities related to CEOS partners and stakeholders (e.g., GCOS, UNFCCC, GEO and its activities);
- Sharing and understanding progress against the CEOS Work Plan 2021-2023;
- Progression of the three priority areas outlined in the CSIRO/GA SIT Chair 2020-2021 Prospectus:
  - Analysis Ready Data (ARD); Sustainable Development Goals (SDGs); Carbon and Biomass; and,
  - Providing overall assurance that matters are or will be ready for discussion, decision, and/or endorsement at CEOS Plenary 2021.

The 2021 Workshop will be divided into two weeks:

- **Week 1 commencing 6 September**: Informal time for groups to meet virtually, have discussions, and prepare materials on specific topics, largely “self-organised” by the groups themselves and providing maximum flexibility. SIT Chair Team and CEOS Chair Team representatives will join sessions if/when possible. Securing participation for these meetings is the responsibility of the meeting organiser(s).
- **Week 2 commencing 13 September**: Three 3-hour formal sessions focussing on items required for Plenary will be held 14, 15 and 16 September.

Because this year’s Workshop will again be held virtually, the formal sessions will be focused on crosscutting discussion, coordination, and preparation for the CEOS Plenary. Groups are encouraged to organise and host their own side discussions and meetings in preparation for the Workshop to progress their core business and Plenary preparations.

**Week 1: 7th-9th September 2021**

This week is designated for virtual thematic, topical focused self-organised meetings by various CEOS activities, groups, and initiatives. Where possible the SIT Chair Team will provide a representative, but this is
modelled after the ‘side meeting day’ for a typical workshop. The SIT Chair Team has created a shared table in which you can view and add your planned events for awareness should you desire. Click here to view.

Week 2: 14th-16th September 2021

<table>
<thead>
<tr>
<th>Time</th>
<th>Tuesday 14th</th>
<th>Wednesday 15th</th>
<th>Thursday 16th</th>
</tr>
</thead>
</table>
| 1030 - 1200 | 1.1: Opening TW Session [45 min]  
Introduction  
Review Open Actions  
CEOS Work Plan Update  
1.2: CEOS Chair Theme Session [15 min]  
Open Science Priority  
1.3 Impact of CEOS on Open Science: A Case Study [10 min]  
Digital Earth Africa impact  
1.4 ARD [20 min]  
ARD Beyond Land | 2.1 GEO Session [30 min]  
New GEO Secretariat  
Director Perspectives  
Update on GEO Week 2021 Preparation  
Highlights from the GEO Mid-Term Evaluation  
2.2: Carbon & Biomass Part 1 [60 min]  
GST & SO update  
GCOS Update  
CEOS GST Strategy  
Discussion: Optimising CEOS Agency GST contrib's | 3.1 Plenary Items TBA [55 min]  
Continuity of Working Groups  
WGCV Topics  
Update on WMO Data Policy  
3.2: Marine Science Session [35 min]  
Coordination of CEOS support to the Marine Science community |
| 1220 - 1350 | 1.4 ARD (cont'd) [20 min]  
CEOS ARD Strategy 2.0  
1.5 SDG AHT [70 min]  
Future Form and Governance | 2.3: Carbon & Biomass Part 2 [80 min]  
IMEO introduction  
Discussion: IMEO-CEOS AFOLU and GHG Roadmaps  
GHG-AFOLU Cooperation  
Biomass and GEO-TREES COP-26 and GST Comms  
2.4 Incoming SIT Chair Prospectus [10 min] | 3.3: SIT TW 2021 Final Review [90 min]  
Wrap-up from Session Leads  
Discussion  
Review of Actions to Plenary |

Session Timing

<table>
<thead>
<tr>
<th>Time</th>
<th>US East</th>
<th>UTC</th>
<th>Europe</th>
<th>India</th>
<th>Australia East</th>
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<tbody>
<tr>
<td>0630 - 0950</td>
<td>0630 - 0950</td>
<td>1030 - 1350</td>
<td>1230 - 1550</td>
<td>1600 - 1920</td>
<td>2030 - 2350</td>
</tr>
</tbody>
</table>
## Session Agendas

**Tuesday 14th September**

<table>
<thead>
<tr>
<th>Number: Title [duration/time]</th>
<th>1.1 Opening Technical Workshop [45 minutes from UTC 1030]</th>
</tr>
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<tbody>
<tr>
<td>Session Prep Lead</td>
<td>G. Dyke/SIT Chair Team</td>
</tr>
<tr>
<td>Session Chairs</td>
<td>A. Lewis/GA/SIT Co-Chair and A. Held/CSIRO/SIT Co-Chair</td>
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</tbody>
</table>

**Plenary outcomes to support:**
- All.

**Objectives for proposed TW session:**
- Framing of the Technical Workshop in preparation for the 2021 CEOS Plenary.
- Review of key open actions and the 2021-2023 CEOS Work Plan in preparation for Plenary.

**Agenda:**
1) Introduction (A. Lewis, A. Held) [20 min]
   - Workshop Objectives and Agenda Overview
   - Brief introductions (by delegations)
2) Review of Actions (M. Greening) [10 min]
   - Open Actions
   - Progress on implementation of the CEOS Work Plan
3) Discussion [15 min]

<table>
<thead>
<tr>
<th>Number: Title [duration/time]</th>
<th>1.2 CEOS Chair Theme Session [15 minutes]</th>
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<tbody>
<tr>
<td>Session Prep Lead</td>
<td>M. Steventon/SIT Chair Team</td>
</tr>
<tr>
<td>Session Chairs</td>
<td>TBA/CEOS Chair Team</td>
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**Plenary outcomes to support:**
- CEOS implementation of the 2021 CEOS Chair Theme.

**Objectives for proposed TW session:**
- Highlight examples that showcase CEOS impact and relevance.

**Agenda:**
1) Review of Open Science Theme (CEOS Chair Team)
2) Update on Open Science Priority Implementation Plan (B Killough TBC)
<table>
<thead>
<tr>
<th>Number: Title [duration/time]</th>
<th>1.3 CEOS’s Impact on Open Science: A Case Study [10 minutes]</th>
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<tbody>
<tr>
<td>Session Prep Lead</td>
<td>M. Steventon/SIT Chair Team</td>
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<tr>
<td>Session Chairs</td>
<td>A Lewis/SIT Chair Team</td>
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**Plenary outcomes to support:**
- Support discussion on ARD and SDG ways forward by providing an example of integration of CEOS’s capabilities to deliver impact.

**Objectives for proposed TW session:**
- To showcase how we can bring together different parts of the CEOS organisation to deliver impact.
- Inspire thinking for other similar future activities.

**Agenda:**
- Digital Earth Africa as a case study of how CEOS’s work is delivering impact on global agendas through space-based Earth observations for open science and decision support.

<table>
<thead>
<tr>
<th>Number: Title [duration/time]</th>
<th>1.4 Analysis Ready Data (ARD) [40 minutes]</th>
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<tbody>
<tr>
<td>Session Prep Lead</td>
<td>M. Steventon/SIT Chair Team</td>
</tr>
<tr>
<td>Session Chairs</td>
<td>A. Lewis/SIT Chair Team and E. Armstrong/SST-VC Co-Lead</td>
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</tbody>
</table>

**Plenary outcomes to support:**
- Endorsement of CEOS ARD Governance Framework (broad, beyond-land)
- Endorsement of CEOS ARD Strategy v2.0

**Objectives for proposed TW session:**
- Review progress on the first version of the CEOS ARD Strategy, which has guided the SIT Chair term on this topic
- Present CEOS ARD Strategy v2.0 for discussion and feedback
- Review progress to date on the first implementation of CEOS ARD (i.e., CARD4L)
- Present the CEOS ARD Governance Framework and accompanying barebones PFS template which is proposed to expand the work done under CARD4L
- Review and discuss the draft ARD Governance Framework prior to its presentation to CEOS Plenary 2021

**Agenda:**
1) ARD Beyond Land: CEOS ARD Governance Framework [20 min]
   - Presentation
   - Discussion

   **Day 1 Break [20 minutes]**

2) CEOS ARD Strategy v2.0 [20 min]
   - Presentation
   - Discussion
<table>
<thead>
<tr>
<th>Number: Title</th>
<th>1.5 Sustainable Development Goals Ad Hoc Team</th>
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<tbody>
<tr>
<td>Session Prep Lead</td>
<td>[70 minutes]</td>
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<tr>
<td>Session Chairs</td>
<td>G. Dyke/SIT Chair Team</td>
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<td>A. Held/SIT Chair Team and M. Paganini/AHT Co-Chair</td>
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<table>
<thead>
<tr>
<th>Plenary outcomes to support:</th>
<th>Agreement on next steps in the evolution of the Ad Hoc Team and future CEOS readiness to evaluate and process requests from the SDG community.</th>
</tr>
</thead>
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<table>
<thead>
<tr>
<th>Objectives for proposed TW session:</th>
<th>Review of the two options identified for the SDG Ad Hoc Team governance.</th>
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<tbody>
<tr>
<td></td>
<td>Discussion of governance in support of delivering a final recommendation to Plenary.</td>
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<thead>
<tr>
<th>Agenda:</th>
<th>1) Future Governance [50 min]</th>
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<tbody>
<tr>
<td></td>
<td>Brief review of SDG AHT governance process and reminder of the two options presented at SIT-36: “Option 1 Full Scale” (i.e. Working Group); and, “Option 2 Federated”.</td>
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<td></td>
<td>Discussion of the preferred option and agreement of actions to Plenary.</td>
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<tr>
<th>2) AHT Sub-Team progress [20 min]</th>
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<tr>
<td>Brief summary from SDG AHT Co-Chairs of recent AHT Sub-Team Progress</td>
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### Wednesday 15th September

<table>
<thead>
<tr>
<th>Number: Title</th>
<th>2.1 GEO Session</th>
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<tbody>
<tr>
<td>Session Prep Lead</td>
<td>[30 minutes from 1030 UTC]</td>
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<tr>
<td>Session Chairs</td>
<td>M. Greening/CEOS Executive Officer</td>
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<td></td>
<td>A. Lewis/GA/SIT Co-Chair</td>
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<table>
<thead>
<tr>
<th>Plenary outcomes to support:</th>
<th>Supporting Plenary’s engagement with GEO as a key stakeholder.</th>
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<table>
<thead>
<tr>
<th>Objectives for proposed TW session:</th>
<th>Hear views of the new GEO Secretariat Director.</th>
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<tbody>
<tr>
<td></td>
<td>Hear plans for GEO Week 2021</td>
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<td></td>
<td>Hear top-level outcomes from the GEO Mid-term Evaluation and have an initial CEOS exchange of views.</td>
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<table>
<thead>
<tr>
<th>Agenda:</th>
<th>1) GEO Update (C. Larlee/GEO Secretariat) [20 min]</th>
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<tbody>
<tr>
<td></td>
<td>Status of key GEO activities in relation to CEOS</td>
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<td></td>
<td>Perspectives of the new GEO Secretariat Director</td>
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<td></td>
<td>GEO Week 2021 Plans</td>
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<td>GEO Mid-Term Evaluation findings and recommendations</td>
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<thead>
<tr>
<th>2) GEO Mid-Term Evaluation (Discussion - All) [10 min]</th>
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<tr>
<td>Brief discussion</td>
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2.2 and 2.3: Carbon and Biomass [shared slide deck]
[60 minutes, 15 minute break, 85 minutes]
S. Ward/SIT Chair Team
A. Lewis/GA/SIT Co-Chair (Session 1) and A. Held/CSIRO/SIT Co-Chair (Session 2)

Plenary outcomes to support:
- Endorsement of the CEOS Strategy to Support the Global Stocktake of the UNFCCC Paris Agreement
- Readiness of the GHG and AFOLU datasets from CEOS for COP-26 and the GST 1 Process and their effective communication and distribution
- Consideration of the way forward for an AFOLU Roadmap by the key data provider agencies
- Debate on CEOS support to the requirements of the International Methane Emissions Observatory (IMEO)
- Consideration of implementation measures to support implementation of the CEOS Biomass Protocol and GEO-TREES
- Update on the key GCOS processes and documents and CEOS response

Objectives for proposed TW session:
- Update from UNFCCC SEC on the GST Process and the Systematic Observations Synthesis Report
- Refreshed input from GCOS and identification of any issues for Plenary
- Revisit of the Draft CEOS Strategy for the UNFCCC GST and preparation of Plenary discussion
- Introductory presentation from IMEO/UNEP and debate on how CEOS might mobilise coordinations in support of their requirements
- Update on the GHG Roadmap products for COP-26
- Update on the AFOLU Roadmap products for COP-26
- Discussion of any cooperation needed between GHG and AFOLU
- Update on the Biomass Protocol, its implementation and progress on GEO-TREES.
- Discussion of CEOS communications for the GST datasets release

Format, Session(s):
This session has a significant participation external to CEOS. Invitees include: UNFCCC SEC, GCOS, and IMEO/UNEP. Timing will be:

Session 1: 0700-0800 US East
15 mins break
Session 2: 0815-0930 US East

Agenda:

2.2 Session 1
1. Introduction (SIT Chair Team, 5m)
2. GST & SO Synthesis Process Update (UNFCCC SEC, 10m)
3. GCOS Process Update (GCOS, 10m)
4. Draft CEOS Strategy for Support to the GST (SIT Vice-Chair, 15m)
5. Discussion on optimising the space agency contribution to the GST [moderated by S. Briggs, 20m]

2.3 Session 2
6. Introduction to the IMEO (M. Caltagirone/UNEP, 10m)
7. Discussion of IMEO-CEOS cooperation [moderated by D. Crisp, 10m]
8. AFOLU product status & Roadmap next steps in 2022 (Ochiai/Seifert, 10m)
9. GHG product status (D Crisp, 10m)
10. GHG-AFOLU cooperation (GHG & AFOLU teams, 10m)
11. Biomass Dataset & GEO-TREES (L Duncanson, 10m)
12. COP-26 and GST Dataset Comms (SIT Chair Team, 10m)
13. Wrap up & Closing discussion time on all topics (15m)

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<thead>
<tr>
<th>Number: Title</th>
<th>2.4 Introduction of the Incoming SIT Chair Prospectus (Ivan Petiteville)</th>
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<tbody>
<tr>
<td>[duration/time]</td>
<td>[10 minutes]</td>
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<tr>
<td>Session Prep Lead</td>
<td>S. Ward/SIT Chair Team</td>
</tr>
<tr>
<td>Session Chairs</td>
<td>I. Petiteville/Incoming SIT Chair Team</td>
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<tr>
<td></td>
<td>Wrap up (SIT Chair, 5m)</td>
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</table>

**Thursday 16th September**

<table>
<thead>
<tr>
<th>Number: Title</th>
<th>3.1 Working Teams and Other Plenary Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>[duration/time]</td>
<td>[55 minutes]</td>
</tr>
<tr>
<td>Session Prep Lead</td>
<td>G. Dyke/SIT Chair Team</td>
</tr>
<tr>
<td>Session Chairs</td>
<td>TBA/Working Teams</td>
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</table>

**Plenary outcomes to support:**
- Continuity of leadership for Working Groups.
- Plenary outcomes as identified based on inputs from the Working Teams and others.

**Objectives for proposed TW session:**
- Review continuity of leadership for Working Groups.
- Discuss key items for Plenary decision originating from the Working Teams and others.

**Agenda:**
1) Working Group Leadership Review (CEOS Chair) [15 min]
   - WGCapD Chair (UNOOSA nominee)
   - WGCapD Vice Chair (TBD nominee)
   - WGDisasters Vice Chair (CONAE nominee)
   - WGISS Vice Chair (TBD nominee)

2) WGCV Topics (WGCV) [15 min]
   - Total and Spectral Solar Irradiance Sensor-1 (TSIS-1) as a reference
   - Vicarious calibration and intercomparison portal site for GHG sensors

3) Update on WMO Data Policy [15 min, A Rea]

4) Discussion [10 min]
## 3.2 Marine Science Session

- **Number:** Title
- **Duration/time:** [35 minutes]
- **Session Prep Lead:** M. Greening/CEOS Executive Officer
- **Session Chairs:** A. Lewis/GA/SIT Co-Chair

### Plenary outcomes to support:
- Coordination of CEOS support to the Marine Science community.

### Objectives for proposed TW session:
- Hear the latest on the UN Ocean Decade of Ocean Science for Sustainable Development.
- Identify issues and actions to be taken between Workshop and Plenary.

### Agenda:
1) Updates *(with a focus on a) the UN Decade and b) any thoughts on the need for a more defined CEOS Oceans (marine and estuarine) strategy)* from:
   - COVERAGE (V. Tsonotos/NASA) [5 mins]
   - COAST AHT (P. DiGiacomo/NOAA) [5 mins]
   - OCR-VC (E. Kwiatowska/EUMETSAT) [5 mins]
   - SST-VC (C. Whittle/CSIR) [5 mins]
2) Discussion (All) [10 mins]

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## Day 3 Break [20 minutes]

### 3.3 SIT Technical Workshop 2021 Final Review

- **Number:** Title
- **Duration/time:** [90 minutes]
- **Session Prep Lead:** G. Dyke/SIT Chair Team
- **Session Chairs:** A. Lewis/GA/SIT Co-Chair and A. Held/CSIRO/SIT Co-Chair

### Plenary outcomes to support:
- All.

### Objectives for proposed TW session:
- Review of main discussion points from the Workshop.
- Confirmation of actions between Workshop and the 2021 CEOS Plenary.

### Format:
Session leads to contribute to a shared slide deck which will be reviewed live.

### Agenda:
1) Introduction (A. Lewis, A. Held) [5 min]
2) Wrap Ups (Session Leads) [60 min]
   - Review of shared slide deck and discussion
3) AOB [10 min]
4) Review of Actions to the 2021 Plenary (SIT Chair Team) [10 min]
5) Closing Remarks (A. Lewis, A. Held) [5 min]
SIT Chair Prospectus Timelines

2020-2021 CSIRO/GA Australian SIT Chair Priorities Timelines

### CEOS ARD
- Draft Aquatic Reflectance and Nighttime Radiance FFS
- Support for Production of New CEOS ARD Products
- Enforce CEOS Paper on Private Industry Interactions with CEOS ARD
- CEOS ARD Work Webinar #5, Feb
- Review CEOS ARD Framework for Completeness, Suitability, and Looking at Changes for Non-land ARD
- CEOS ARD Webinar #5, Feb
- Assessment of CEOS ARD Production & Availability
- CARD44 Advisory Notes (e.g., File Format Suggestions)
- CARD44 Annual Review
- CEOS ARD Framework Revision

### Carbon & Biomass
- Biomes Protocol Endorsement
- AFOLU/GOSE product data & Roadmap update
- Biomes Reference System update
- CEOS ARD: Protocol update
- CEOS ARD: Strategy Paper for the Global Stocktake
- June: EC Workshop on Convention Engagement Sponsoring GBS Land Use & Forestry
- Prototype GHG & AFOLU products for GSTI
- 4R-GCOS Status Report
- Global Stocktake/Carbon Strategy discussion
- AFOUL Roadmap draft
- GSTL Products Reviewed
- GHG-AFOLU integration plan
- Global Stocktake/Carbon Strategy plan
- Convention engagement

### SDGs
- Principals Review Progress on Demonstrations and GPG Development
- SDG Future Mechanism Proposal to Principals
- Jan/Feb SDG Future Options Workshop
- 2021 CEOS Plenary
- 2021 CEOS Plenary
- CEOS Principal Endorsement of the Permanent Mechanism:
  ODC Sandbox Tools: Sample Algorithms for SDGs
- SIT TW: Detail Review of Recommended Future Mechanism
- Long Term Strategy for CEOS Support to SDGs

### Key Outcomes
- A comprehensive ARD strategy for CEOS.
- An agreed CEOS position on multiple aspects of the strategy between industry and CEOS ARD.
- Demonstrated real world benefits of CEOS ARD for both data providers and data users.
- A variety of CEOS ARD products being actively produced by numerous CEOS missions.
- Data hosts/aggregators hosting and promoting CEOS ARD on their platforms.
- CEOS ARD Specifications used as the basis for community standards.
- Additional CEOS ARD Specifications for new applications, greatly increasing the user base for and impact of CEOS ARD agency.
- Prototype GHG & AFOLU products for the Earth Global Stocktake.
- CEOS input to updated GCOS Requirements (GCOS P2 complete late 2022).
- New relationships with observation and inventory communities. More integrated and proactive engagement of UNFCCC & IPCC for CEOS.
- CEOS Strategy Paper for the Global Stocktake.
- Draft CEOS ARD Roadmap, AFOLU roadmap, and AFOLU protocol for GHG Roadmap.
- Accelerated policy relevance of CEOS biomass datasets, including best use of the SDG and GEOGLAM frameworks and through support for CEOS Biomass Protocol.