**Minutes V1.0**

**220th CEOS SECRETARIAT MEETING**

Thursday 2nd February 2017

7AM US East, 1PM Europe, 9PM Tokyo, 11PM Sydney

Chaired by USGS

**Participants**

**CEO:** Jonathon Ross

**EC:** Astrid-Christina Koch, Mark Dowell, Amanda Regan

**ESA/SIT Chair Team:** Ivan Petiteville

**EUMETSAT:** Robert Husband, Paul Counet

**GEO:** Osamu Ochiai

**JAXA:** Shizu Yabe, Yukio Haruyama, Koji Akiyama, Yoshinori Yoshimura

**NASA:** Christine Bognar, Brian Killough

**NOAA/SIT Vice-Chair Team:** Kerry Sawyer, Steve Volz

**USGS:** Frank Kelly, Steve Labahn, Eric Wood, Jenn Lacey, Matthew Steventon, Stephen Ward

**WGCapD:** Senthil Kumar

**WGClimate:** Pascal Lecomte

**WGCV:**  Kurt Thome

**WGDisasters:** Stéphane Chalifoux

**WGISS:** Andrew Mitchell

*The collection of written reports received ahead of the teleconference are attached in Appendix A. They present a thorough overview of the status and activities of the CEOS entities present at CEOS SEC-220.*

1. **Welcome and Introductions**

Frank Kelly (USGS, CEOS Chair) welcomed everyone to CEOS SEC-220.

1. **Review of Agenda**

Steve Labahn (USGS, CEOS Chair Team) raised an additional agenda item for discussion under AOB on the CEOS Chair’s Moderate Resolution Sensor Interoperability Initiative (MRI).

1. **Action Status**

Frank Kelly (USGS, CEOS Chair) noted that the updated SEC action record was included with the meeting agenda, and the status of actions will not be reviewed unless there is a specific request from one or more SEC members.

1. **Working Group Reports**

**WGDisasters (Stéphane Chalifoux, CSA, Chair)**

Stéphane directed CEOS SEC to his written report for a comprehensive update. He noted two points during the call:

* Following the discussion held at CEOS SEC-219 and the subsequent approval by CEOS Principals, the Recovery Observatory (RO) was triggered on December 22 to track and support recovery efforts in Haiti in the wake of Hurricane Matthew. Stéphane thanked all CEOS Agencies that responded, and noted that representatives of CNES and World Bank are meeting this week with partners in the field.
* WGDisasters members recently voted in favor of joining the Global Partnership on Space Technology Applications for Disaster Risk Reduction (GP-STAR), coordinated by UNOOSA. WGDisasters will contribute to a GP-STAR side event at the Global Platform for Disaster Risk Reduction meeting in May, ensuring that CEOS activities are well represented.

**WGClimate (Pascal Lecomte, ESA, Chair)**

Pascal reported that:

* The verification of the ECV Inventory continues. 722 entries are now recorded in the Inventory (524 existing data records, 198 planned data records), covering approximately 80% of the listed physical quantities (spanning 28 of the 29 ECVs identified in GCOS-154).
* WGClimate is coordinating the space agency response to the GCOS Implementation Needs. A writing team meeting will be held before WGClimate-7.
* WGClimate-7 will be held next week, from the 7th to the 9th of February in São José dos Campos. The first day will be dedicated to the space agency response to the GCOS IP, as requested by SBSTA.

**WGISS (Andrew Mitchell, NASA, Chair)**

Andrew reported on behalf of WGISS:

* WGISS leadership is awaiting a response from the CEOS Agency that expressed interest in putting forward a nominee for the WGISS Vice-Chair position. The role is a four-year commitment which would begin in November 2017. A second agency has also recently expressed interest.
* In the GEO 2017-2019 Work Programme, the GEO Foundational Task formerly known as GD-07 (GCI Development) has transitioned to a GEO Initiative titled ‘GEOSS EVOLVE’. WGISS has been reviewing and providing feedback to the various GEOSS Evolve work packages related to CEOS data system and access activities. As a GEOSS data provider, WGISS has been assigned to test functionalities of the GCI, the GEOSS data providers, and the GEOSS community portals needed to support the requirements.
* WGISS is continuing to work with the GEODAB (GEO Data Access Broker) team to identify and create best practices for GEO to connect to WGISS Connected Data Assets (FedEO, CWIC, and the IDN).
* WGISS-43 will be hosted by NASA in Annapolis, Maryland, USA, from April 3-7. The meeting will include a Technology Exploration Workshop (April 4) and a WGISS-GEOSS Interoperability Workshop (April 5). Andrew confirmed that all are welcome to attend, however WGISS-43 and its workshops are technology-oriented and not particularly suitable for CEOS Principal attendance.

**WGCapD (Senthil Kumar, ISRO, Vice-Chair)**

Senthil reported on behalf of WGCapD:

* Senthil noted the departure of Jane Olwoch from SANSA (and therefore WGCapD) and acknowledged the significant contribution she made to the WG and CEOS. Senthil suggested an action for the CEOS Chair to write to Jane thanking her for her efforts.

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| 220-01 | *CEOS Chair to send a letter of appreciation to Jane Olwoch, for her service to CEOS and WGCapD.* | SEC-221 |

* WGCapD has coordinated a number of successful workshops on SAR and SRTM, and also carried out ‘training the trainers’ meetings in collaboration with AmeriGEOSS. They plan to continue their program, and the next SAR workshop will be held from February 20-24 in Gabon.
* A draft version of the ‘Best Practices for Efficient Training’ has been finalised. The draft will be circulated to CEOS WGs, VCs, and *Ad Hoc* Teams to get their input.
* WGCapD-6 will be hosted by DLR, from March 27-29. Senthil extended an invitation to the CEOS Secretariat.

Jonathon proposed that SANSA’s offer for Jane Olwoch to be replaced by Phila Sibandze as WGCapD Chair for the remainder of Jane’s term be accepted. Jonathon noted that Phila has been active in the group, and that this course of action would enable Senthil to take over as WGCapD Chair at the 2017 CEOS Plenary as originally planned.

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| 220-02 | *CEOS Chair to write to the SANSA CEOS Principal thanking SANSA for addressing the WGCapD Chair continuity issue arising from Jane Olwoch’s departure, and acknowledging that Phila Sibandze will serve as WGCapD Chair until CEOS-31.* | February 17th |

**WGCV (Kurt Thome, NASA, Chair)**

Kurt noted the following points from the WGCV written report:

* The WGCV SAR Subgroup Lead is changing to Brian Johnson (NASA/JPL); a new Vice-Lead is now sought to fill the position left vacant.
* The WGCV LPV Subgroup is working on the actions identified in the *CEOS Strategy for Carbon Observations from Space*. It is expected that one or two of the actions will be completed ahead of the next CEOS SEC teleconference.

1. **CEO Report**

**CEOS *Ad Hoc* Team on Sustainable Development Goals (SDG-AHT)**

Jonathon Ross (GA, CEO) noted that following the completion of the *Concept Note for a CEOS Ad Hoc Team on Sustainable Development Goals,* the short-term objectives assigned to the CEO are now complete.

Leads for the SDG-AHT have now been confirmed: Maurice Borgeaud (ESA), Marie-Josée Bourassa (CSA) and Alex Held (CSIRO), and the team membership and TOR are being progressed. The SDG-AHT Leads will report on CEOS SEC teleconferences, as is the practice for all CEOS *Ad Hoc* Teams.

**CEOS 2017-2019 Work Plan**

Jonathon referred to the summary of inputs received to date for the CEOS 2017-2019 Work Plan, noting that since the written report was sent, inputs have been received from WGCapD. Jonathon will circulate version 0.5 in the coming days, as soon as input is received on the carbon actions and from WGCV.

The Work Plan will progress despite a lack of contact from OST-VC and OSVW-VC; the SIT Chair will follow-up during the forthcoming round of consultation teleconferences. Paul Counet (EUMETSAT) noted that OSVW-VC is currently undergoing a change of leadership, and EUMETSAT are holding internal discussions around a replacement for Julia Figa.

**Expression of Interest in CEOS Associate Status from The Partnership for Observation of the Global Oceans (POGO)**

The POGO Executive Committee agreed that it would be desirable for POGO to become a CEOS Associate. The POGO Secretariat has been advised of the procedure, however, following discussions held on the side of the GEO Programme Board, the application is not expected to progress; POGO and CEOS will instead likely seek to collaborate through GEO Blue Planet.

**WIGOS 2040 Vision**

The V1.1 draft of the *Vision for the WIGOS Space-Based Component in 2040* was forwarded to the CEOS SEC mailing list on the 24th of January 2017. The deadline for a response is the 15th of March 2017. Jonathon asked the Secretariat to consider how CEOS should respond to this request from WMO. It was proposed that any response should be developed by the CEOS Chair, SIT Chair and CEO in consultation with CEOS SEC, and sent by the CEOS Chair.

Jonathon asked CEOS SEC whether an email consultation with the CEOS community (all CEOS Agency Principals and Contacts) should be undertaken, and welcomed any feedback on the document content.

It was agreed that there is no need for the document to be circulated to all CEOS Agency Principals and Contacts; a review by CEOS SEC will be sufficient. Paul Counet (EUMETSAT) noted that the document is also being reviewed by CGMS.

Mark Dowell (EC) noted that these documents are becoming more explicit in highlighting sensor classes that are historically in the domain of CEOS. This is welcome, due to the operational and sustained context, and is consistent with the new application areas identified. He suggested that this evolution be acknowledged in the CEOS response.

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| 220-03 | *CEOS SEC members with feedback on the ’Vision for the WIGOS Space-Based Component in 2040’ to provide comments to the CEOS Chair, CEO, and SIT Chair.* | February 17th |
| 220-04 | *CEOS Chair, CEO, and SIT Chair to prepare a CEOS response to the ’Vision for the WIGOS Space-Based Component in 2040’ and share it with CEOS SEC for feedback ahead of its submission by March 15th.* | February 28th |

**Leadership Changes**

Jonathon closed by noting that a significant number of leadership changes are expected at the 2017 CEOS Plenary (various WG Chairs, SIT Vice-Chair, CEO) and these should be managed at CEOS SEC meetings throughout 2017.

1. **SIT Chair Report**

Ivan Petiteville (ESA, SIT Chair Team) reported on behalf of the ESA SIT Chair Team:

* The SIT Chair Team is working on preparations for both SIT-32 and the next CEOS-GEO Coordination Meeting (February 3), taking into account the decisions and actions from the 2016 CEOS Plenary and GEO-XIII Plenary.
* The first round of teleconferences between the SIT Chair Team and the 12 CEOS Working Groups and Virtual Constellations for 2017 will take place in February.
* It has been confirmed that CEOS will continue to sit on both the GEO Programme Board (PB) and the GEO Executive Committee (ExCom) as an Observer until the end of 2019.
* The SIT Chair Team and CEO are participating in the ongoing 5th GEO Programme Board meeting. Support to the SDGs and the 2017 GEO Work Programme Symposium are two of the main points to be discussed.
* During the CEOS-GEO Coordination Meeting, CEOS and GEO will discuss the strategic, rather than programmatic, dimensions of cooperation on the SDGs, water, climate, carbon (including the GEO CARBON initiative), disaster risk reduction, future data architectures, and requirements analysis.
* The first GEO ExCom meeting of 2017 will be held from March 9-10 in Geneva.
* The 32nd CEOS SIT meeting (and side meetings) will be hosted at ESA Headquarters in Paris from April 25-27. Registration is now open at: <http://ceos.org/meetings/sit-32/>

**CEOS Nomination for GEO Blue Planet Governance**

Kerry Sawyer (NOAA, SIT Vice-Chair Team) recalled action 30-1 from CEOS Plenary, which called on the CEO and SIT Chair Team to understand potential CEOS contributions to the governance structure of GEO Blue Planet. A proposal was put forward that CEOS consider nominating the SIT Vice-Chair to represent CEOS on the GEO Blue Planet Advisory Board. She invited SEC feedback on the proposal and asked whether this might set a precedent regarding CEOS involvement in other Advisory Boards emerging within GEO Flagships and Initiatives, that is: could the SIT Vice-Chair be defined as the CEOS representative to all Advisory Boards that might arise in the future?

* Steve Labahn (USGS, CEOS Chair Team) asked for confirmation that the responsibility would be tied to the SIT Vice-Chair position, rather than the most suitable candidate at the time the request is received. Kerry confirmed that the proposal is that the role would be tied to the position.
* Ivan Petiteville (ESA, SIT Chair Team) did not support the proposal to assign all Advisory Board responsibilities to the SIT Vice-Chair, suggesting that the work load will become too great and that it would be more effective to assign specific experts to each Advisory Board at the time of request.
* Jonathon Ross (GA, CEO) noted that CEOS has effectively managed the GEOGLAM Advisory Committee and GFOI representatives in an *ad hoc* fashion and asked CEOS SEC to consider why the responsibility should be given to a SIT Vice-Chair, and why Blue Planet should set this precedent. He added that the idea of a standing responsibility for the SIT Vice-Chair to be the CEOS representative to all Advisory Boards is unsustainable.
* Steve Volz (NOAA, SIT Vice-Chair) supported the standard practice of identifying interested and experienced senior individuals on an *ad hoc* basis.
* Ivan Petiteville (ESA, SIT Chair Team) agreed, and suggested that NOAA might be the most appropriate agency to represent CEOS on the GEO Blue Planet Advisory Board.
* Kerry noted that GEO Blue Planet is the first of many new GEO Advisory Boards that appear to be emerging, and this prompted the discussion. She agreed that placing the responsibility for all Advisory Boards on the SIT Vice-Chair would be too great a burden.
* Mark Dowell (EC) supported the idea of senior-level CEOS representation in GEO Blue Planet, as it is an example of using an opportunity presented through GEO to engage more closely with agencies that have become distanced from CEOS (e.g., GOOS).

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| 220-05 | *SIT Chair Team to include on the agenda for SIT-32: a broader discussion around CEOS representation in Advisory Boards/Committees, and whether the responsibility should be systematically assigned at organisation-level or whether assignments should continue to be made on an ad hoc basis.* | SIT-32 |

* Jonathon noted that the closing date for Blue Planet Advisory Board nominations is before SIT-32. He suggested that CEOS submit a nomination of ‘NOAA/SIT Vice-Chair’ and further deliberate the approach at SIT-32. Frank Kelly (USGS, CEOS Chair) and Steve Volz (NOAA, SIT Vice-Chair) supported this strategy.

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| 220-06 | *CEOS Chair, in consultation with the SIT Vice-Chair, to submit a nomination of ‘NOAA/SIT Vice-Chair’ for the Blue Planet Advisory Board.* | February 16th |

1. **GEO SEC Report**

Osamu Ochiai (GEO Secretariat) reported the following:

* The 5th GEO Programme Board meeting is currently ongoing. The meeting was attended by the GEO Lead Chair Robert-Jan Smits (Director-General of DG Research and Innovation, European Commission).
* The 9th GEOSS Asia-Pacific Symposium adopted the ‘Tokyo Statement’ under the theme of “Earth Observations Supporting the Implementation of the SDGs in the Asia Pacific Region”.
* The GEO Secretariat recently announced opportunities for GEO-associated funding for H2020 and NASA ROSE.
* All GEO Secretariat staff are expected to attend ISRSE-37 and the following GEO Work Programme Symposium in Tshwane, South Africa.

1. **Systems Engineering Office (SEO) Report**

Brian Killough (NASA, SEO) reported:

* He will be visiting the University of Geneva and UNEP-GRID on February 14th to discuss the Switzerland Data Cube pilot project progress. A meeting will also be held with GEO on February 15th to give a report on CEOS Data Cube plans and Analysis Ready Data (ARD).
* The SEO team will travel to Australia from February 27th to March 3rd to meet with CSIRO and GA regarding a number of CEOS Data Cube topics. The SEO, GA and CSIRO are actively involved in several Data Cube pilot projects. This annual face-to-face meeting of the three groups has been critical to their planning and sustained progress.
* The SEO Data Cube development team visited SERVIR (Huntsville, Alabama, USA) on January 24-25 to train the SERVIR team on the installation and operation of Data Cubes, and to explore potential SERVIR Data Hub collaborations, with an emphasis on Vietnam and the Mekong Delta region. The team identified five specific tasks that it will pursue in the coming year to evaluate the use of Data Cubes to support SERVIR applications.
* The SEO visited World Bank on February 1st to give them a briefing on the recent progress of the CEOS Data Cube initiative. Several small prototype Data Cubes have been developed for Togo (Africa), Tonga (Pacific Islands) and Cortijo (Colombia) to demonstrate how the data management technology can uniquely support their international projects. A report will be given at SIT-32.
* The SEO continues to make progress on the core Data Cube technology. The new cloud-based (Amazon Web Services) user interface is now open to the public for testing (<http://ec2-52-201-154-0.compute-1.amazonaws.com/>) and includes features for NDVI anomaly analysis and landslides (SLIP). Work continues on the development of a prototype coastal erosion algorithm, a QGIS Data Cube plugin, and change detection (CCDC).

1. **Brief Status Updates of *Ad Hoc* Initiatives**

**SDCG for GFOI**

Stephen Ward (SDCG Secretariat) reported on behalf of the SDCG for GFOI:

* The GFOI Leads and Office are busy developing the concept of GFOI Phase 2, which includes a broadening of the donor base and a shift of focus to country engagement. The SDCG Secretariat will share more information with CEOS SEC in due course.
* GFOI Plenary and SDCG-11 will be held in Ho Chi Minh City, Vietnam, in the week of April 10th. With VNSC possibly taking on the 2019 CEOS Chair role and the progress on a Vietnam Data Cube pilot, this is a very timely opportunity.
* The SDCG Secretariat took the initiative to progress the discussion around consolidation of LSI thematic strategies into the LSI-VC structure, including GFOI and GEOGLAM. An outline concept for a trial meeting in September (the week before SIT Technical Workshop at ESRIN) has been circulated. More feedback is needed from stakeholders. A copy was provided with the written report and comments are welcome from CEOS SEC.

**CEOS *Ad Hoc* Working Group on GEOGLAM**

Brian Killough (NASA, SEO) reported on behalf of Brad Doorn (NASA) and Selma Cherchali (CNES) – the CEOS *Ad Hoc* Working Group on GEOGLAM Co-Leads:

* The GEOGLAM *Ad Hoc* Working Group strongly supports the proposed joint LSI-SDCG-GEOGLAM meeting in September, and would like to suggest a planning call with representatives from GEOGLAM, SDCG, LSI-VC, and ESRIN, if possible prior to SIT-32, to start laying the groundwork for the meeting.
* The May 2017 GEOGLAM EO requirements meeting at ESRIN is no longer being considered. The meeting was meant to happen alongside a Sen2Agri/SIGMA/JECAM session that was to be held during the week of May 19th, but it was postponed. A firm date for the Sen2Agri meeting is yet to be identified.
* Inputs for the GEOGLAM EO requirements review are still slowly trickling in from JECAM sites. The focus is on ensuring the quality of the requirements; the nominal target remains CEOS Plenary 2017. In addition, the scope of the process has grown to take advantage of interest expressed by the community to consider the development of some GEOGLAM ‘best practice’ guidance (along the lines of the GFOI MGD).
* Inputs for the JECAM Annual Report are currently being gathered.
* Potential linkages between an Asia-RiCE activity in the Mekong Delta, VNSC, CSIRO, and the CEOS Data Cube are being considered, but coordination remains preliminary.
* Ian Jarvis (JECAM Co-Lead) is tentatively planning to attend SIT-32 in Paris on behalf of the GEOGLAM Secretariat, pending AAFC approval and necessity.
* A GEOGLAM RAPP workshop focused on grassland observations (optical and SAR) is planned for May 16-17 at ESRIN.
* There will be a GEOGLAM session at both ISRSE-37 and the Brazilian Remote Sensing Symposium (both in May 2017). The latter will include a 1-day training session on the Crop Monitor and GLAM systems.
* There will be an all-hands GEOGLAM Implementation Team meeting from June 19-21, followed by AMIS IG (June 22-23 at FAO in Rome).
* The possibility of a joint Asia-RiCE/JECAM meeting for rice monitoring activities hosted in Taiwan by TARI/NCU in the Q1/Q2 2018 timeframe is being discussed. The meeting will be focused on science, but CEOS should be aware.

**Future Data Access & Analysis Architectures *Ad Hoc* Team (FDA-AHT)**

Steve Labahn (USGS, FDA-AHT Co-Lead) reported on behalf of the *ad hoc* team:

* The FDA-AHT held their most recent teleconference on the 23rd of January. The team is focused on several primary areas:
  1. Preparing for a Strategic Assessment meeting (February 14) by considering, in the context of FDA:
     + What should CEOS agencies do together?
     + What should CEOS encourage that individual agencies do better on their own (e.g., best practices, etc.)?
     + What should be considered ‘out of scope’ for CEOS?
  2. The SEO is confirming specific pilot locations and data needs (five pilots and several possible contributing data sets). The pilots and responsibilities are as follows: Colombia (SEO, Brian Killough), Vietnam (CSIRO, Alex Held), USA (USGS, Brian Sauer), Europe (ESA, Mirko Albani), and Australia (CSIRO, GA; Adam Lewis).
  3. The LSI-VC is working toward CARD4L product generation in support of the pilots. The FDA-AHT and the five pilots continue to have a significant schedule dependence on LSI-VC for the stewarding of the trial production of CARD4L products. The FDA-AHT stresses the need for LSI-VC to continue its great work and encourage agencies to support this critical initiative.
  4. WGISS is working on a technical and architectural insights report (best practices and lessons learned).
  5. Preparations for SIT-32, including the FDA side meeting (April 25).

**CEOS *Ad Hoc* Team on Sustainable Development Goals (SDG-AHT)**

The SDG-AHT Leads were not present at CEOS SEC-220; however, a written report was submitted.

Kerry Sawyer (NOAA, SIT Vice-Chair Team) noted that a 2-day SDG-AHT meeting is planned for March 8-9 in Washington, D.C.

1. **AOB**

**CEOS Strategy for Carbon Observations from Space**

Mark Dowell (EC) reported that no feedback was received on CEOS Plenary action 30-5, and he is now operating under the assumption that the way forward presented at CEOS Plenary is accepted.

Mark asked whether there was any follow-up on CEOS Plenary actions 30-6 and 30-7, regarding the AC-VC *Satellite Carbon Report*, noting that these actions have implications on the way forward. Steve Labahn (USGS, CEOS Chair Team) confirmed that the CEOS Chair Team wrote to Mark seeking clarification on the text to be sent to both AC-VC and CGMS, however no response was received. The CEOS Chair Team will follow up actions 30-6 and 30-7 with Mark via email.

Mark will attend WGClimate-7 next week, where there will be opportunities to discuss some specific studies and assess progress on the actions. He added that WGCV is communicating with him via email on their specific actions, and he will also attend LSI-VC-3 in March.

Mark summarised by noting that there are a series of meetings over the coming months in which the individual actions will see progress.

**Moderate Resolution Sensor Interoperability Initiative (MRI)**

Steve Labahn (USGS, CEOS Chair Team) noted that the CEOS Chair Initiative on Moderate Resolution Sensor Interoperability is being led by Gene Fosnight (USGS) through the LSI-VC. Gene has prepared a white paper, which is now being reviewed by the LSI-VC. It will be circulated to CEOS SEC next week and all are encouraged to respond. A kick-off teleconference is planned for late February.

1. **Next Meeting and Adjourn**

Frank Kelly (USGS, CEOS Chair) adjourned the meeting. He thanked everyone for attending and reported that CEOS SEC-221 will take place on the 2nd of March 2017.

1. **Appendix – Written Reports**

Please see the attached document for the written reports submitted by:

* Working Group on Disasters (WGDisasters)
* CEOS/CGMS Working Group on Climate (WGClimate)
* Working Group on Information Systems and Services (WGISS)
* Working Group on Capacity Building and Data Democracy (WGCapD)
* Working Group on Calibration and Validation (WGCV)
* CEOS Executive Officer (CEO)
* Strategic Implementation Team Chair (SIT Chair)
* GEO Secretariat (GEO SEC)
* CEOS Systems Engineering Office (SEO)
* Space Data Coordination Group for the Global Forest Observations Initiative (SDCG-GFOI)
* CEOS *Ad Hoc* Working Group on GEOGLAM (CEOS-GEOGLAM)
* Future Data Access & Analysis Architectures *Ad Hoc* Team (FDA-AHT)
* CEOS *Ad Hoc* Team on Sustainable Development Goals (SDG-AHT)
* Moderate Resolution Sensor Interoperability Initiative (MRI)