

## Terms of Reference

### Sub teams of the SDG AHT - Sustainable Development Goals

(Version of June 2020)

#### BACKGROUND

The 30<sup>th</sup> CEOS Plenary (2016) established a CEOS Ad-hoc team on Sustainable Development Goals (SDG AHT) with the objective to coordinate the efforts of the CEOS agencies in supporting the Group on Earth Observations (GEO) to advance the uptake of Earth Observation in the implementation of the 2030 Agenda on sustainable development.

The role of the CEOS is to **act as a “Space Enabler” to facilitate access and use of satellite data in the SDGs**. This is done by undertaking several activities that showcase the role of satellite observations for the full realization of the SDGs and facilitate their integration in national processes and systems. All SDG AHT activities are conducted in close collaboration with the GEO EO4SDG (“Earth Observation for Sustainable Development Goals”) initiative and the GEO Work Programme activities (flagships, initiatives and communities) related to SDGs.

The *Terms of Reference* of the SDG AHT are available for reference on the [CEOS website](http://ceos.org/document_management/Publications/Governing_Docs/AHT-SDG_Terms-of-Reference-v.4_Mar2017.pdf) (under the SDG AHT section:

[http://ceos.org/document\\_management/Publications/Governing\\_Docs/AHT-SDG\\_Terms-of-Reference-v.4\\_Mar2017.pdf](http://ceos.org/document_management/Publications/Governing_Docs/AHT-SDG_Terms-of-Reference-v.4_Mar2017.pdf))

The SDG AHT has recently streamlined its activities along the unique role that CEOS should play as a coordination body of the Space Agencies and to a level that is commensurate with the resources available in CEOS. The streamlining of the SDG-AHT activities also aimed at maximising impact by matching the CEOS activities on SDGs with the needs and expectations of the EO community on SDGs, including a clarification of the respective roles of CEOS, GEO and other EO entities, optimizing the collective resources available and avoiding any duplication of efforts.

The SDG-AHT has decided to organize its 2020 work plan essentially along 4 SDG indicators that are most ready to integrate EO in their processes but for which there are still some methodological and data availability issues:

- **SDG indicator 6.6.1 on water-related ecosystems:** "*Change in the extent of water-related ecosystems over*", led by the UN Environment Programme (UNEP) and the Ramsar Convention on Wetlands as co-custodian agencies.
- **SDG indicator 11.3.1 on sustainable urbanization:** "*Ratio of land consumption rate to population growth rate*", led by UN Habitat as custodian agency.
- **SDG indicator 14.1.1 on coastal pollution:** "*Index of coastal eutrophication and floating plastic debris density*", led by the UN Environment Programme (UNEP) as custodian agency.

- **SDG indicator 15.3.1 on land degradation:** "*Proportion of land that is degraded over total land area*", led by the UN Convention to Combat Desertification (UNCCD) as custodian agency.

### **Why FOUR indicators?**

While the original plan was to start with 3 primary SDG indicators (6.6.1, 11.3.1 and 15.3.1), the SDG AHT decided to add a fourth SDG indicator (indicator 14.1.1 on coastal pollution) in its 2020 work plan given its already well-advanced progress in other initiatives.

This 4th SDG indicator will benefit from the efforts of the EO community (essentially done through GEO Blue Planet) in advancing EO technology for coastal monitoring and in promoting its use in the context of the SDGs. This also comes with the creation of the new CEOS COAST initiative looking at coastal observations.

## **ORGANISATION OF THE WORK**

The SDG-AHT has put in place a light work organization with the creation of "**SDG sub-teams**" to reflect the focus of the SDG-AHT 2020 workplan on the 3 (+1) SDG indicators:

1. Sub-team on SDG indicator 6.6.1 (water-related ecosystems), hereby called "**SDG Water sub-team**", as a subgroup of the CEOS SDG-AHT.
2. Sub-team on SDG indicator 11.3.1 (sustainable urbanization), hereby called "**SDG Urban sub-team**", as a subgroup of the SDG-AHT.
3. Sub-team on 15.3.1 (land degradation neutrality), hereby called "**SDG Land Degradation sub-team**", as a subgroup of the SDG-AHT.
4. An additional Sub-team on SDG indicator 14.1.1 (coastal pollution), hereby called "**SDG Coastal sub-team**", as part of the "Land to Sea impact" pilot project of the COAST Study Team.

The SDG sub-teams will be in place until the 2020 CEOS Plenary. Should the SDG AHT be renewed or transformed into a permanent CEOS structure, these teams will remain in place after the 2020 CEOS Plenary. Should the SDG AHT be dismantled with a transfer of SDG activities to GEO, all sub-teams will be disbanded with a hand-over plan.

The SDG-AHT co-leads will be responsible for the overall implementation of the SDG-AHT 2020 work plan on SDGs and for reporting to CEOS SIT and Plenary on the progress of all SDG-related activities.

The activities on the 3 primary SDG indicators will be coordinated by the co-leads of the SDG AHT, and supported by an Executive Secretary (provided by CSIRO).

The 4th sub-team on SDG indicator 14.1.1 (coastal pollution) will be implemented by the COAST Initiative as a component of the "Land to Sea Impact" pilot project. The overall supervision of the SDG coastal sub-team will lie with the COAST team, in close coordination with the SDG AHT for the deliverables relevant to the SDG AHT workplan. A representative of the COAST Initiative will liaise with the SDG AHT and participate in SDG AHT meetings.

## **SUB-TEAMS CORE RESPONSIBILITIES**

The primary objective of the SDG sub-teams is, for their "core" SDG indicator, to mobilise the CEOS resources (available collectively within CEOS, and in the CEOS agencies separately) to facilitate the uptake of satellite observations in the SDG process (at UN and country levels).

All activities of the SDG sub-teams will be embedded within the GEO “Federated Approach” on SDGs, and in particular with the EO community efforts led by GEO EO4SDG to develop GEO SDG Toolkits. The SDG Toolkits will include all available EO assets (EO datasets, software tools, IT platforms, best practices examples, training material as well as national experiences) into practical guidance on EO approaches for SDGs, for an easier appropriation by countries. More information is available on GEO website.

In this context, the SDG AHT co-leads propose a few tasks to the SDG sub-teams including:

- **Task 1: Analyse the satellite data requirements** for the subject indicator (and sub-indicators) in close collaboration with GEO (i.e. GEO EO4SDG and the relevant GEO Work Programme activities related to SDGs).
- **Task 2: Analyse and the satellite data supply** from CEOS missions, for the subject indicator (and sub-indicators), reviewing the adequacy of historical, present and future satellite observations (including availability of Analysis Ready Data) to respond to the SDG data needs. This means **identifying observation gaps and discussing and proposing amendments to relevant CEOS agencies** about the mission operation baselines.
- **Task 3: Collect and document the EO enabling infrastructures** (software tools and IT platforms) available in CEOS (e.g. CEOS Data Cube) and in the individual CEOS Agencies, which can help countries leverage the collective value of satellite assets for the subject indicator (and sub-indicators).
- **Task 4: Coordinate the contribution of CEOS Agencies to Capacity Development programs** on "EO for SDGs", in close cooperation with the CEOS Working Group on Capacity Development (WGCapD), and upon request from GEO or other EO community partners.
- **Task 5: Collect Space Agencies' EO good practices** (including the development of global EO data sets and the involvement in national use cases) for the subject indicator (and sub-indicators) and provide on-request support to SDG custodian agencies on EO methodological guidelines.

To ensure consistency of approaches across teams (e.g. in the specification of the Satellite Data Requirements), all SDG sub-teams' activities will be aligned with agreed templates that would have been collectively defined within SDG AHT, and in close partnership with GEO EO4SDG.

The SDG sub-teams shall study how the wide expertise available within CEOS can be leveraged, reaching out to CEOS permanent bodies (VCs, WGs and SEO) when appropriate, in order to maximise benefits for SDG stakeholders.

## **SUB-TEAMS DELIVERABLES**

The SDG sub-teams shall produce the following deliverables as an output of their 2020 activities, for their "focused" indicators:

Primary Deliverables to be completed by end of 2020

- Consolidated **Satellite Data Requirements** with accompanying documentation;
- Analysis of the **Satellite Data supply** (including availability of ARDs);

Secondary Deliverables to be initiated in 2020.

- Inventory of **EO enabling infrastructures** (software tools and IT platforms);
- List of **EO good practices** (projects that involve national authorities or basic R&D development);
- **Cataloguing of EO training material/activities** for SDG Capacity Development.

#### PROVISIONAL SCHEDULE (towards 2020 CEOS Plenary)

| Action  | Responsible                                    | Due Date                                  |
|---|--|---|
| Creation of the SDG sub-teams   | SDG AHT co-leads<br>(in consultation with AHT) | 20 May                                    |
| SDG sub-teams Terms of Reference (ToR)  | SDG AHT co-leads<br>(in consultation with AHT) | 20 May                                    |
| Satellite Data Requirement Template (input to Task 1)   | SDG AHT co-leads<br>(in consultation with AHT) | End June 2020                             |
| Task 1: Reach out to GEO WP communities on satellite data requirements and request for inputs.  | Sub-teams co-leads                             | End June 2020                             |
| Templates for the collation of GEO SDG Toolkits inputs (input to Tasks 3 to 5).   | GEO EO4SDG<br>(in consultation with AHT)       | End June 2020                             |
| <b>Report on progress on Task 1 (satellite data requirements)</b>   | <b>SDG AHT co leads<br/>Sub teams co-leads</b> | <b>End June 2020<br/>(AHT conf call)</b>  |
| Task 1: Analysis of Satellite Data Requirements.<br>(input to Task 2)   | Sub teams                                      | End August 2020                           |
| Tasks 3 to 5: Collate CEOS Agencies contributions for the GEO SDG Toolkits.   | Sub teams                                      | End August 2020                           |
| <b>Report on completion on Task 1 (satellite data requirements) and on progress of Tasks 3 to 5 (input to SDG toolkits)<br/>Discussion on SDG AHT future.</b> | <b>SDG AHT co leads<br/>Sub teams co-leads</b> | <b>End August 2020<br/>(AHT confcall)</b> |
| Task 2: Analysis of satellite data supply.  | Sub teams                                      | Mid Sept 2020                             |
| Tasks 3 to 5 (continued): Collate CEOS Agencies contributions for the GEO SDG Toolkits.   | Sub teams                                      | Mid Sept 2020                             |
| <b>Report on Task progress and Discussion on SDG AHT future</b>   | <b>SDG AHT co leads<br/>Sub teams co-leads</b> | <b>SIT TW<br/>(AHT side meeting)</b>      |
| <b>Report to SIT TW on: satellite data requirements and analysis; inputs to SDG toolkits; proposed direction</b>  | <b>SDG AHT co-leads</b>                        | <b>SIT TW<br/>(SIT plenary)</b>           |

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| for the AHT after the Plenary) |  |  |
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## SUB-TEAMS ORGANISATION

Each sub-team will be co-led by two agencies when possible to broaden the perspectives and share the workload. It is understood that the sub-teams leadership will be confirmed by end of May 2020.

The AHT co-leads will call for any other members (individuals) to participate in the sub-teams. To ensure the SDG AHT remains active, a list of Agencies including names of individuals nominated by their Principals will be established in May 2020. All CEOS Agencies are welcome to nominate a contributor (technical level).

Each sub-team is expected to organize themselves to ensure they can deliver their key outputs on time. The SDG AHT will organize monthly calls/meetings (at the minimum) where all sub teams co-leads are expected to report on progress, raise all specific/technical issues, and discuss the next steps in a constructive and efficient way.

All sub teams will proactively reach out to their relevant GEO and users communities to ensure their work is collaborative and useful for both CEOS Agencies and SDG stakeholders.

## CURRENT SUB-TEAMS LEADERSHIP AND MEMBERSHIP (as of 15<sup>TH</sup> June 2020)

**People listed in red have expressed their interest but still to be confirmed**

All CEOS Agencies are welcome to nominate a contributor (technical level) at any time.

|  | Co-leads  | Active Members<br>(more to be added)  |
|--|---|---|
| <p>SDG Water sub-team</p> <p>6.6.1</p>  | <p><b>Marc Paganini</b> (ESA)<br/><a href="mailto:marc.paganini@esa.int">marc.paganini@esa.int</a></p> <p><b>Aurelien Carbonniere</b> (CNES)<br/><a href="mailto:aurelien.carbonniere@cnes.fr">aurelien.carbonniere@cnes.fr</a></p> | <p><b>Chu Ishida</b> (JAXA, GEO EO4SDG)<br/><a href="mailto:ishida.chu@jaxa.jp">ishida.chu@jaxa.jp</a></p> <p><b>Hwirin Kim</b> (WMO)<br/><a href="mailto:hkim@wmo.int">hkim@wmo.int</a></p> <p><b>Flora Kerblat</b> (CSIRO)<br/><a href="mailto:flora.kerblat@csiro.au">flora.kerblat@csiro.au</a></p> <p><b>Paul Briand</b> (CSA)<br/><a href="mailto:paul.briand@canada.ca">paul.briand@canada.ca</a></p> <p><b>Brian Killough</b> (NASA, SEO)<br/><a href="mailto:brian.d.killough@nasa.gov">brian.d.killough@nasa.gov</a></p> <p><b>Norman Mueller</b> (GA)<br/><a href="mailto:Norman.Mueller@ga.gov.au">Norman.Mueller@ga.gov.au</a></p> <p><b>Emily Smail</b> (NOAA, CEOS COAST, GEO Blue Planet)<br/><a href="mailto:emily.smail@noaa.gov">emily.smail@noaa.gov</a></p> <p><b>Argyro Kavvada</b> (NASA, GEO EO4SDG)<br/><a href="mailto:argyro.kavvada@nasa.gov">argyro.kavvada@nasa.gov</a></p> <p><b>Adrian Strauch</b> (University of Bonn, GEO Wetlands)<br/><a href="mailto:astrauch@uni-bonn.de">astrauch@uni-bonn.de</a></p> <p><b>Steve Greb</b> (University of Wisconsin, GEO AquaWatch)<br/><a href="mailto:srgreb@wisc.edu">srgreb@wisc.edu</a></p> |

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|---|--|--|
|   |  | <p><b>Alice Andral</b> (CNES, GEO GLOWS)<br/> <a href="mailto:alice.andral@cnes.fr">alice.andral@cnes.fr</a></p> <p><b>Douglas Cripe</b> (GEO Secretariat)<br/> <a href="mailto:dcripe@geosec.org">dcripe@geosec.org</a></p> <p>Others?</p>  |
| <p><b>SDG Urban sub-team</b><br/> 11.3.1.</p>              | <p><b>Argyro Kavvada</b> (NASA, GEO EO4SDG)<br/> <a href="mailto:argyro.kavvada@nasa.gov">argyro.kavvada@nasa.gov</a></p> <p><b>Nale Mudau</b> (SANSa)<br/> <a href="mailto:nmudau@sansa.org.za">nmudau@sansa.org.za</a></p>   | <p><b>Marc Paganini</b> (ESA)<br/> <a href="mailto:marc.paganini@esa.int">marc.paganini@esa.int</a></p> <p><b>Chu Ishida</b> (JAXA, GEO EO4SDG)<br/> <a href="mailto:ishida.chu@jaxa.jp">ishida.chu@jaxa.jp</a></p> <p><b>Alexander Baklanov</b> (WMO)<br/> <a href="mailto:ABaklanov@wmo.int">ABaklanov@wmo.int</a></p> <p><b>Peter Caccetta</b> (CSIRO)<br/> <a href="mailto:Peter.Caccetta@data61.csiro.au">Peter.Caccetta@data61.csiro.au</a></p> <p><b>Brian Killough</b> (NASA, SEO)<br/> <a href="mailto:brian.d.killough@nasa.gov">brian.d.killough@nasa.gov</a></p> <p><b>Mattia Marconcini</b> (DLR)<br/> <a href="mailto:Mattia.Marconcini@dlr.de">Mattia.Marconcini@dlr.de</a></p> <p><b>Thomas Kemper</b> (EC JRC, GEO Human Planet)<br/> <a href="mailto:thomas.kemper@ec.europa.eu">thomas.kemper@ec.europa.eu</a></p> <p><b>Yifang Ban</b> (KTH, GEO GUIO)<br/> <a href="mailto:yifang@kth.se">yifang@kth.se</a></p> |
| <p><b>SDG Coastal sub-team</b></p>                       | <p><b>Paul DiGiacomo</b> (NOAA, CEOS COAST)<br/> <a href="mailto:paul.digiacomo@noaa.gov">paul.digiacomo@noaa.gov</a></p> <p><b>Emily Smail</b> (NOAA, CEOS COAST, GEO Blue Planet)<br/> <a href="mailto:emily.smail@noaa.gov">emily.smail@noaa.gov</a></p> <p>(as part of the CEOS COAST Study Team – Land to Sea Impact Pilot project)</p> | <p>COAST members</p> <p>Membership of the SDG Coastal sub-team to be provided by the CEOS COAST Initiative</p>   |
| <p><b>SDG Land Degradation sub-team</b><br/> 15.3.1</p>  | <p><b>Neil Sims</b> (CSIRO, GEO LDN)<br/> <a href="mailto:neil.sims@csiro.au">neil.sims@csiro.au</a></p> <p><b>Uta Heiden</b> (DLR)<br/> <a href="mailto:uta.heiden@dlr.de">uta.heiden@dlr.de</a></p>  | <p><b>Flora Kerblat</b> (CSIRO)<br/> <a href="mailto:flora.kerblat@csiro.au">flora.kerblat@csiro.au</a></p> <p><b>Marc Paganini</b> (ESA)<br/> <a href="mailto:marc.paganini@esa.int">marc.paganini@esa.int</a></p> <p><b>Chu Ishida</b> (JAXA, GEO EO4SDG)<br/> <a href="mailto:ishida.chu@jaxa.jp">ishida.chu@jaxa.jp</a></p> <p><b>Norman Mueller</b> (GA)<br/> <a href="mailto:Norman.Mueller@ga.gov.au">Norman.Mueller@ga.gov.au</a></p> <p><b>Brian Killough</b> (NASA, SEO)<br/> <a href="mailto:brian.d.killough@nasa.gov">brian.d.killough@nasa.gov</a></p> <p><b>Argyro Kavvada</b> (NASA, GEO EO4SDG)<br/> <a href="mailto:argyro.kavvada@nasa.gov">argyro.kavvada@nasa.gov</a></p>   |

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