

Report of the Paris Agreement Subgroup

This document is submitted to the Programme Board for discussion.

1 INTRODUCTION

The purpose of this document is to inform Programme Board members of the outcomes of the Paris Agreement Subgroup, established by the Programme Board at its 7th meeting (30-31 August 2017), and to seek guidance on further steps. The Subgroup was charged with the task to support the planning and execution of a workshop aimed to enhance the understanding of how the Earth observation (EO) community can support the implementation of the Paris Agreement, and to discuss a more integrated approach to climate across the GEO Work Programme.

Climate change cuts across all areas of GEO's work, as highlighted in the GEO Strategic Plan which emphasizes the crucial role that EO can play in addressing climate change and supporting the work of the United Nations Framework Convention on Climate Change (UNFCCC). The Paris Agreement calls on Parties to "strengthen scientific knowledge on climate, including research, systematic observation of the climate system and early warning systems, in a manner that informs climate services and supports decision-making" (Article 7.7c).

The workshop was motivated by the current gap between the GEO Work Programme and the needs emerging from the Paris Agreement. Despite the great potential of GEO activities to support areas in the Paris Agreement such as adaptation and loss & damage, a systematic process to tailor the activities to the climate policy needs and align them with other ongoing efforts is lacking. Further, it remains unclear how well the GEO Work Programme is currently positioned to provide direct support to concrete areas in the Paris Agreement, and to immediate opportunities.

Four teleconferences were held by the Subgroup. Japan was selected as its lead. Several Subgroup members supported the process with individual tasks. The GEO Secretariat was actively involved in the planning of the workshop to ensure the engagement of GEO's key climate partners and the needs of the broader climate community.

The Subgroup developed a [concept note](#) for the workshop. A two-stage approach was proposed, including a first workshop in 2018 focusing on the EO community with guidance from organizations within the UN, such as the Global Climate Observing System (GCOS), the Intergovernmental Panel on Climate Change (IPCC), the World Meteorological Organization (WMO), the UNFCCC, and other key stakeholders involved in national policy processes related to Nationally Determined Contributions (NDCs) and National Adaptation Plans (NAPs). A second event in 2019 was planned to follow the first workshop, with a focus on a broader, more policy-relevant audience.

2 MAPPING EXERCISE

In preparation for the workshop, relevant articles in the Paris Agreement were identified to which EO can make a significant contribution. These articles were grouped into a set of pillars acknowledging the fundamental role of Earth observations including science and research as a basis (Fig. 1).

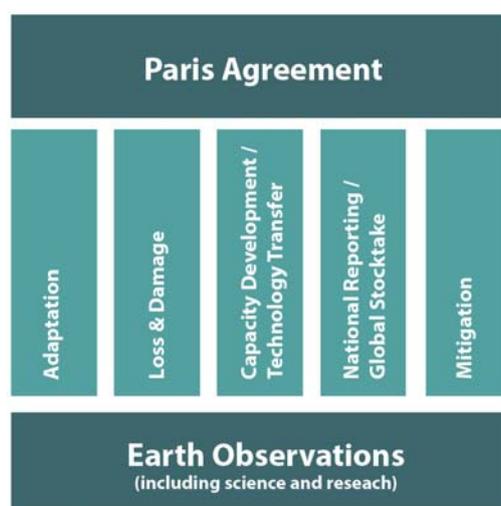


Figure 1. Pillars relating to articles in the Paris Agreement to which Earth observations are foundational.

In advance of the workshop, a mapping exercise was carried out to identify potential contributions to the Paris Agreement across the GEO Work Programme. The subgroup developed a template that was comprised of two parts. In the first part, activities were asked to indicate their level of contribution to the different pillars. The second part was a short questionnaire to reveal more details.

The template was sent out to all 4 Flagships, 24 Initiatives and 10 selected Community Activities. Feedback was received from 19 of the 38 activities (of which 4 stated that the request was not applicable to their activity). Annex 1 provides an example of the input received. Reminders were sent to individual activities; 11 activities committed to provide feedback but have yet to do so, 8 activities did not respond to any email. Table 1 below shows the response rate in more detail.

	Total	Response	N/A	still working	no answer
Flagships	4	3	1	1	-
Initiatives	24	13	3	5	6
CAs	10	3	-	5	2
	38	19	4	11	8

Table 1. Status of feedback to the mapping exercises.

In total, 15 activities indicated their intent to contribute to at least one pillar, noting that most activities are contributing to more than one pillar. Figure 2 gives an overview of the level of contribution to the five pillars. Climate adaptation is the area where most activities indicated to be able to “potentially contribute” to. This is in line with the expectation that the greatest potential within GEO to support the Paris Agreement is around adaptation. Interestingly, a considerable number of activities indicated their intent to contribute to the loss & damage mechanism, which

includes actions to develop early warning systems. Within the mitigation space, there is robust work going on within GEO.

Refer to Annex 2 for a full list of activities that have provided input.

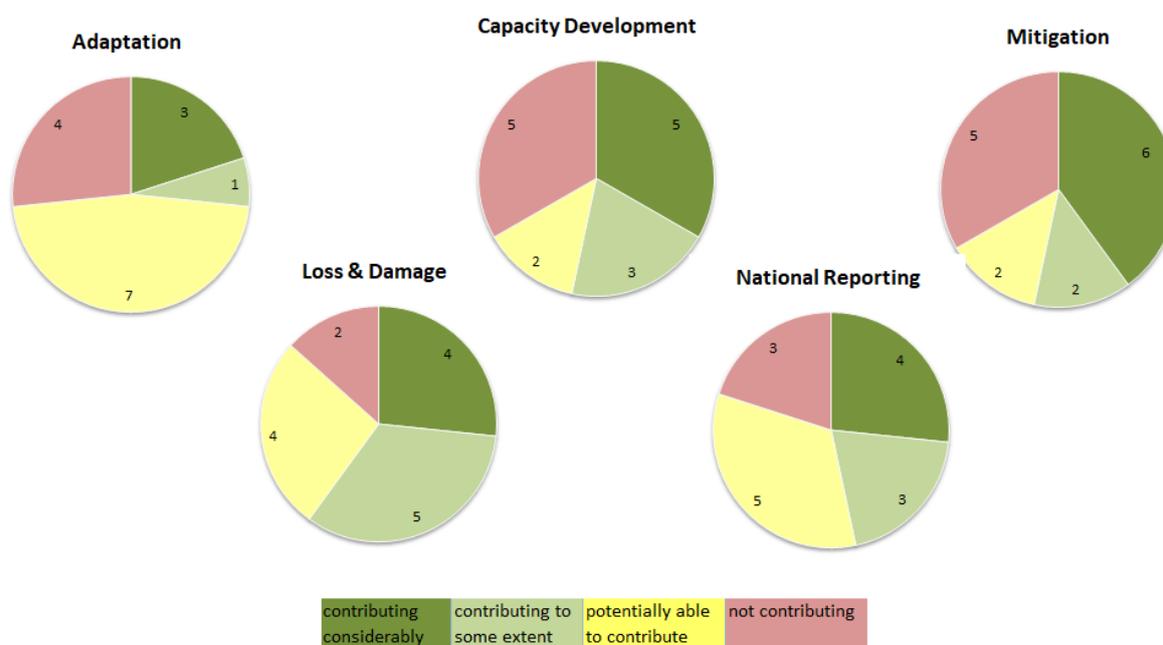


Figure 2. Contribution of activities to the five pillars.

3 WORKSHOP OUTCOMES

The workshop was attended by over 100 participants and brought together representatives of relevant GEO activities, international organizations (to give guidance/advice and ensure policy linkages) and national representatives (to bring the perspective on needs for adaptation and loss & damage).

During the GEO Symposium, a climate session was held to lay the basis for the workshop on the following day. In this session, speakers from UNFCCC, IPCC, GCOS, WMO, the Committee on Earth Observation Satellites (CEOS) / Coordination Group for Meteorological Satellites (CGMS), the World Climate Research Programme (WCRP) and the International Union of Geodesy and Geophysics (IUGG) shared current needs and discussed opportunities for GEO in supporting the political process. Concrete action areas for GEO were articulated as follows:

- Identify needs, gaps and support access to data (sustained observations, early warning);
- Support actions on mitigation, adaptation and loss and damage;
- Work towards integrated approach with SDGs, Sendai Framework and other Rio Conventions;
- Engage with national stakeholders (e.g. in National Adaptation Planning);
- Support IPCC processes: 2019 Refinement of 2006 IPCC Guidelines on National GHG Inventories, Sixth Assessment Cycle;
- Respond to actions in the GCOS Implementation Plan; and
- Enhance use of climate data records for a variety of application areas.

UNFCCC presented a list of entry points for GEO in the climate policy process for the different areas (refer to Annex 3).

The workshop on the following day was opened by GEO Secretariat Director Barbara Ryan, recalling the pillars emerging from the Paris Agreement and the needs expressed on the previous day.

The first session was dedicated to the perspectives of countries and regions, reporting on their involvement in climate policy processes, the extent and purpose of using EO data and activities that would benefit from coordination through GEO. Ghana, Japan, Switzerland and the UK shared the country perspectives. GCOS reported on an adaptation workshop held in Fiji and the think tank Climate Analytics brought the perspective from the Small Island Developing States, with a focus on loss & damage.

The second session took stock of the current assets in the GEO Work Programme, including the work of key organizations, such as GCOS, who presented a draft report on climate observations for the Paris Agreement. Lightning talks were given by selected GEO Work Programme activities including the Global Forest Observation Initiative (GFOI), GEO Carbon and Greenhouse Gas Initiative (GEO-C), Oceans and Society: Blue Planet Initiative, GEO Agricultural Monitoring Initiative (GEOGLAM), GEO Global Water Sustainability Initiative (GEOGLOWS), GEO Human Planet Initiative, Copernicus Climate Change Service and GEO Vision for Energy (GEO VENER).

All presentations from these sessions can be accessed [here](#).

The afternoon was dedicated to discussions organized around four clusters. The relevant outcomes are as follows:

- a) **Programmatic Gaps** - *What are areas not sufficiently addressed by the EO community?*
 - GEO through its convening power can help to reach higher national levels in a diversity of ministries
 - Data provision beyond met/climate domain → terrestrial areas (e.g. ecology, permafrost and glaciers)
 - High-res data/local data to support adaptation, additional requirements (try to follow GCOS Guidelines on climate-quality data)
 - Data themes: Climate impact measurements (e.g. ecosystems, crop yields, health, ocean biology); Products for Exposure and Vulnerability
 - Making National delegates aware of international EO efforts and programmes
 - Efforts on carbon/GHG need to focus on developing operational capacities
 - Data rescue especially for climate data beyond those coming from NMHSs

- b) **Missed Opportunities** - *Where is untapped potential where GEO can provide added value?*
 - Lots of synergies still to be exploited on data sharing → joint advocacy
 - Data access to in situ data from WMO needed to make effective use within GEO
 - GEO community to take advantage of OSCAR database and ECV Inventory
 - Integration between weather/climate data and other geospatial and socio-economic data (e.g. population, land use, borders)
 - Risk assessments to guide adaptation measures
 - Assessing progress on adaptation; provide supplementary guidance to the adaptation process on the use of EO

- c) **Coordination** - *Is there a need for an additional coordination mechanism internally in GEO?*

- Develop case studies within GEO activities how the entire value chain is being addressed (observations > dataset > applications > decisions)
- Develop concrete Pilots to address adaptation issues
- Opportunities for coordination across different GEO activities: Sea level rise; flooding; e.g. interfaces between Blue Planet and EO4Health
- A cross-cutting climate coordination mechanism should be established by nominating focal points for each activity

d) **Partnerships** - *Which external partnerships need to be built to add value?*

- No duplication of existing coordination efforts needed (good partnerships exist with UNFCCC/SBSTA, GCOS, WMO...)
- UNFCCC has Constituted Bodies in areas such as Adaptation, Loss&Damage, CapD → build interfaces between these stakeholder groups and GEO
- Documents on specific needs by Parties are available → make connection with GEO activities
- Hold regional workshops with stakeholders

4 KEY RECOMMENDATIONS

The GEO Climate Workshop was a significant milestone in GEO's efforts to engage key organizations, especially UNFCCC, IPCC, WMO, GCOS, CEOS and others. The workshop called for a more integrated approach to climate across the GEO Work Programme, in particular to address emerging areas where GEO is expected to add value such as adaptation, and loss & damage. Participants recommended the development of dedicated tasks within the GEO Work Programme to address adaptation. Further, it was identified that the GEO community can play an important role in providing supplementary guidance material to national adaptation planning processes on the use and potential of EO data and information. The specific recommendations emerging from the workshop discussions are as follows:

Recommendation 1: Establish a coordination mechanism for climate across the GEO Work Programme. The following options can be considered:

Option 1: Nominating focal points by activities to deal with specific focus/policy areas e.g. adaptation. Focal points to participate in climate-related transversal discussions/activities ("cross-cutting climate working-group").

Option 2: Establishing a Foundational Task on "Climate Coordination", noting that the engagement between GEO and UNFCCC is mainly done between the respective Secretariats.

Option 3: Developing a dedicated WP activity to deal with cross-cutting topics, e.g. a GEO Initiative on climate adaptation ("EO4Adaptation").

Recommendation 2. Develop pilots for dedicated tasks within the existing activities e.g. on climate adaptation (initially case studies to demonstrate uptake and information flow through the end-to-end value chain).

Recommendation 3. Consider as a mid-term target for GEO to formulate supplementary guidance report to the National Adaptation Plan process on the use and potential of EO.

5 WAY FORWARD

The Subgroup will continue to work to consider and implement the recommendations above. The Subgroup will also work towards a second workshop presumably in 2019, engaging with stakeholders responsible for the implementation of the Paris Agreement (e.g. Environmental Ministries).

ANNEX 1. Example of input to the mapping exercise (from GEOGLAM)

		MAPPING EXERCISE GEO Work Programme Activities vs. Paris Climate Agreement					
		Adaptation	Loss & Damage	CapD/Technology Transfer	National Reporting /Stocktake	Mitigation	
PART I. Mapping Please indicate the level of contribution of your activity to the respective pillar. <i>Note: an explanation of the five areas is given on the second</i>		1 - potentially able to contribute	3 - contributing considerably	2 - contributing to some extent	3 - contributing considerably	1 - potentially able to contribute	
PART II. Questionnaire What kind of activities are you conducting in the selected areas? What relevant datasets or information does your activity develop? Are you already working with UNFCCC, or has your activity been represented at UNFCCC sessions (COP, SBSTA etc.)? If yes, please specify. Do you have engaged with stakeholders at the national level in one of the indicated areas? If yes, please specify. What is the most relevant policy framework for your activity? What would you describe as gaps between your activity and the Paris Agreement? Do you need more information to better understand the usefulness of your activity for the Paris Agreement? If yes, please specify. Do you see potential in addressing the areas above in conjunction with other GEO activities? If yes, please specify.		GEOGLAM assimilates satellite based earth observation data with insitu expert observations to produce near real time assessments of crop conditions throughout the growing season. Underpinning the operational monitoring is a strong capacity within season crop monitoring assessments, including: The Crop Monitor for the Agricultural Market Information System (AMIS http://www.amis-outlook.org/amis-monitoring/crop-monitor/overview/en/), The Crop Monitor for Early Warning (CMAEW https://cropmonitor.org/); and national systems like Uganda's crop monitor which feeds into the Prime Ministers Multi-Hazard					
		No					
		Together the GEOGLAM crop monitors cover 136 countries, 55 for the AMIS monitor, and 81 for the CMAEW. Of this there are 28 nations and 16 international organizations directly engaged and contributing to GEOGLAM. More information on coverage and participation can be found at the cropwatch.org website.					
		Agenda 2030 - Sustainable Development Goals					
		GEOGLAM produces fundamental information on crop conditions within growing seasons. This information provides insight in to the impact of adverse climate events on agricultural production (drought, excess heat, cold, wetness, pests, etc). This same fundamental information could be tracked between seasons and over time (i.e. decadal) to understand the longer term impact of					
		Yes, to date there has been little dialogue between the drought/climate communities and GEOGLAM. While GEOGLAM understands they can make a significant contribution, further discussion is required to develop this further, and define new (spin-off) activities to meet the specific needs for climate, and to provide a cost/benefit business case for GEOGLAM to expand their policy mandate and contribute.					
		Climate is a cross-cutting issue and as a result the GEO community requires an integrated approach. Consequently, yes, we see potential in working with the community in a more coordinated way.					

ANNEX 2. Input from GEO Work Programme activities to the mapping exercise, indicating level of contribution to the different pillars derived from the Paris Agreement

	Adaptation	Loss & Damage	CapD/Technology Transfer	National Reporting /Stocktake	Mitigation
GEO FLAGSHIPS					
GEOGLAM	1	2	2	2	1
GFOI	0	0	0	2	2
GOS4M	0	0	0	0	0
GEO INITIATIVES					
AOGEOSS	2	2	2	2	0
EO4SDG	1	1	1	1	1
GEO-C	1	1	2	2	2
GSNL	0	0	0	0	0
GEO-GNOME	1	2	0	2	2
GEOGLOWS	1	2	2	1	0
GEO Human Planet	2	2	2	2	2
GEO-VENER	0	0	0	0	2
GEO Wetlands	1	2	1	1	2
GDIS	0	2	0	0	0
GUOI	0	0	0	0	0
Blue Planet	0	2	2	0	0
COMMUNITY ACTIVITIES (selected)					
Acces to Climate Data	2	1	0	2	2
EO4Health	1	1	2	1	0
GEO-CRADLE	2	2	2	1	2

3 - contributing considerably
2 - contributing to some extent
1 - potentially able to
0 - not contributing

ANNEX 3. Entry points for GEO in the UNFCCC process (presented by the UNFCCC Secretariat)

Article	Constituted Body	Activity
Adaptation (Article 7)	Least developed countries expert group (LEG) Adaptation Committee (AC)	<ul style="list-style-type: none"> • Open NAP process • NAP Expo (global and regional) • Nairobi work programme <ul style="list-style-type: none"> • Become a stakeholder / Pledge action / Attend focal point forums @ COP • Regional data gaps identified by Lima Adaptation Knowledge Initiative • Technical expert meetings (TEM-A) • Local communities and indigenous peoples knowledge • Climate action days at COP • Adaptation Committee workshops and meetings (e.g. workshop on indicators)
Loss and damage (Article 8)	Executive committee of the Warsaw International Mechanism for Loss & Damage (WIM ExCom)	<ul style="list-style-type: none"> • Approaches to address loss and damage, including: <ul style="list-style-type: none"> • WIM Excom work plan • Expert database
Capacity building	Paris Committee on Capacity Building (PCCB)	Capacity building portal
Technology (Article 10)	Technical expert committee (TEC)	Climate technology centre and network (CTCN)
Mitigation (Article 4)		<ul style="list-style-type: none"> • National reporting (IPCC guidelines) • Technical expert meetings (TEM-M)
Global stocktake (Article 14)		<p>Input to include:</p> <p>Communicated information</p> <ul style="list-style-type: none"> • NDCs, NAPs, National communications, <p>Reported information</p> <ul style="list-style-type: none"> • Information on CC, impacts, risks etc, Good practices • IPCC reports • Transparency framework (Technical review, multilateral facilitative consultations)