

## **Concept Note for a Second GEO Climate Workshop**

*This document is submitted by the Climate Change Working Group to the Programme Board for information.*

### **1 RATIONALE**

The GEO Climate Change Working Group (CC-WG) has been tasked with several discrete duties identified in its Terms of Reference, including following up on the outcomes of the first GEO Climate Workshop, organized by the former Paris Agreement Subgroup in 2018, and hosting a second GEO Climate Workshop that would involve a broader policy-relevant audience.

Two specific suggestions for further engagement of GEO were outlined in the Discussion Paper on Climate Action prepared for the Canberra Plenary in 2019. These are: 1) promotion of the use of Earth observations (EO) through public climate finance and private investments and 2) providing EO that support national commitments and strategies for climate adaptation and mitigation.

While the organization of a separate Climate Finance Workshop is being considered to address the first suggested theme, the CC-WG is currently planning the second GEO Climate Workshop around the theme of “Earth Observations for Climate Action” for the fall of 2021. The overarching goal of this workshop is to demonstrate the value that GEO can bring to the question of climate action, in general, and the Paris Agreement process under the United Nations Framework Convention (UNFCCC) in particular. This second Workshop will build upon the outcomes and recommendations from the first Workshop held in 2018 and the results of mapping of GEO Work Programme activities undertaken in 2020/2021.

The CC-WG is considering several options and strategies for organizing sessions to achieve the targeted objectives.

### **2 OBJECTIVES**

1. Present results of the Climate Change Working Group (CC-WG)’s 2021 mapping of climate-related activities in the GEO Work Programme; spotlight examples of work, case studies and best practices for uptake by policy makers;
2. Foster collaboration with key partners in the Earth Observation enterprise and climate domain, for example, with CEOS, UNFCCC, GCOS, IPCC, and/or WMO/WCRP;
3. Identify what is missing / what the synergies are there in terms of EO for climate action, with an emphasis on meeting the needs of policy makers and key partners;

4. Initiate a path forward for climate-related activities in the GEO Work Programme that achieve the goals established at the 2019 GEO Ministerial Summit in Canberra, aimed at filling the identified gaps and taking advantage of synergies, scaling up and connecting relevant activities to decision makers thus contributing to the implementation of the UNFCCC Paris Agreement.

### **3 EXPECTED OUTCOMES**

- Increased awareness of the contribution of GEO Work Programme activities to support national and global climate action;
- Increased uptake by policy makers of Earth observation-based data and products generated by the GEO Work Programme activities to fulfil their commitments under the Paris Agreement;
- Increased collaboration with GEO partners on relevant activities identified; and
- Preliminary identification of gaps / synergies in the GEO Work Programme that will form the basis of the report on the way forward that the CC-WG will be presenting to the Programme Board in the second quarter of 2022.

### **4 TIMING**

Late September or early October 2021 (note: GCOS meets on Oct 12-14, COP 26 is Nov 1-12, and GEO Week has been set for Nov 22-26).

### **5 VENUE**

Geneva/GEO premises, if travel is permitted, but part or all of the workshop should be held virtually so that more of the GEO community can attend.

### **6 TARGET AUDIENCE**

- GEO WP activity leads and experts
- Key international partners in the EO / climate domain: UNFCCC Secretariat, IPCC, CEOS, WMO, GCOS, WCRP...
- Key stakeholders: GEO members

The objectives of the workshop call for expertise from mid-level and senior managers of GEO WP activities with climate elements or a climate focus, subject-matter experts, representatives of key international organisations in the EO and climate domain, and representatives of national climate-relevant ministries with particular focus on Small Island Developing States and African countries.

### **7 PROPOSED WORKSHOP TOPICS AND STRUCTURE**

The structure and specific sessions for the 2021 event will be determined through interaction among the four Subgroups of the CC-WG. The following options are being considered:

- Structure day 1 around what GEO is doing and devote day 2 to climate action (for a policy audience);
  - Day 1: present the outcomes of the mapping of GEO WP activities undertaken in 2020/2021; consider organizing the presentation of current GEO climate-related work around human and natural systems (for example, oceans/small islands/coasts, terrestrial environments, cities/urban areas, agriculture and food security, human health, high elevation/cryosphere, etc.);
  - Day 2: consider organizing presentations and discussion panels around specific climate action topics such as mitigation (with CEOS as co-lead on GHG tracking), adaptation, loss, and damage, the Global Stocktake, national reporting, capacity building and technology transfer;
- Allow time for an overview of results and recommendations from the July 2021 CEOS workshop on GHG and AFOLU observations that support climate action;
- Allow time for an overview of the National Adaptation Plan (NAP) guidance document (to be developed by CC-WG starting in the first quarter of 2021 and finalized by the third quarter of 2021);
- Consider other topics emerging from the planned work of the CC-WG, for example, GEO-UNFCCC twinning programme, briefing to UNFCCC Party delegations about EO offer to support climate action; discussions from meetings in the first part of 2021 (possibly the GEO Climate Finance Workshop).

## 8 BUILDING UPON THE OUTCOMES OF THE FIRST GEO CLIMATE WORKSHOP

From the 2018 GEO Climate Workshop, which focused specifically on the Paris Agreement, recommendations were delivered to the GEO Programme Board, in no particular order:

- Establish a coordination mechanism for climate across the GEO Work Programme.<sup>2</sup>
  - Focal points nominated by activities.
  - May have specific focus/policy area, for example, adaptation.
- Develop Pilots for dedicated tasks within the existing activities, for example, on adaptation.
  - Initially, case studies would demonstrate uptake and information flow through the end-to-end value chain.
- Mid-term target: GEO to formulate supplementary guidance report to NAP process on the use and potential of Earth observations.

At the GEO Plenary in Kyoto, Japan, the Paris Agreement Workshop participants further agreed the following, also in no particular order:

- GEO should strengthen involvement in the UNFCCC process as the global response strengthens.
- A coordination mechanism is required across the GEO Work Programme in the areas of Mitigation, Adaptation, Loss and Damage, National Reporting and Global

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<sup>1</sup> Note that there will be a dedicated validation workshop for the NAP guidance, but this should happen in the second quarter of 2021 and thus well before the GEO Climate Workshop.

<sup>2</sup> The coordination mechanism is expected to be the CC-WG itself.

Stocktake, and Capacity Development and Technology Transfer (including infrastructure support).

- Mapping the potential of Earth observation to provide informed decisions is the first step. Now pilots should be developed to demonstrate information flow across the value chain.
- Terrestrial ecosystems and oceans provide important sinks but are also vulnerable to climate change. Adaptation needs to consider these ‘services’ by nature and Earth observation is a key instrument to guide measures to preserve them.
- GEO members: your national contribution to GEO is to strengthen the existing in-situ observational capacities, whether national agencies or in research infrastructures, and encourage them to provide FAIR and open data. In return, you will receive knowledge through those observations to guide your national action plan.

All these recommendations are being addressed by the current work of the CC-WG, notably through the planned activities under each of the CC-WG subgroups’ work plans:

- Subgroup 1 – Coordination of climate issues across the GEO Work Programme & Synergies with key partners (including WMO);
- Subgroup 2 – Engagement with UNFCCC and IPCC;
- Subgroup 3 – Enhancing the use of EO for Mitigation; and
- Subgroup 4 – Enhancing the use of EO for Adaptation and Loss & Damage.

Therefore, the second GEO Climate Workshop is expected to be a moment of recognition of the progress achieved since 2018, which will pave the way for further outcomes of the CC-WG’s work that support climate action by GEO Members and partners.

## **ANNEX A – Planning Team**

GEO Climate Change Working Group Co-Chairs and members of the second workshop planning committee:

- Virginia Burkett, USGS
- Kamila Kabobah, UENR - Ghana
- Pat Cummens, Esri
- Michelle McClure, NOAA

GEO SECRETARIAT:

- Sara Venturini, Climate Coordinator

## **ANNEX B – Background and context**

The Canberra Declaration, endorsed by the Ministers of the GEO-member nations in November 2019, highlighted the need for GEO to be proactive and responsive to Members' needs for Earth observations that help them achieve their respective goals. The Canberra Declaration affirmed GEO's engagement in areas that support the Paris Agreement, but it also challenged the GEO community to support climate action more broadly. Climate change has been acknowledged as one of the biggest challenges facing the world, and also one of the challenges where use of Earth observation can make the most difference. Earth observations are vital for effective policy compliance and decision making in the context of climate change mitigation and adaptation.

Two months prior to the 2019 Ministerial Summit in Canberra, the GEO Programme Board proposed the creation of a Climate Change Working Group in GEO's 'Engagement Priorities Coordination' Foundational Task, which would supersede the Paris Agreement Subgroup established by the Programme Board in 2017. The proposed GEO Climate Change Working Group was envisioned to developing an integrated mechanism for coordination of climate matters across the GEO Work Programme. The proposed working group would develop and implement an overall GEO climate strategy to advance the use of Earth observations in support of climate action.

In February 2020, the GEO Executive Committee approved the Terms of Reference for a new Climate Change Working Group with the following statement of purpose:

The Climate Change Working Group (CC-WG) is convened to develop and implement a comprehensive GEO climate change action strategy to advance the use of Earth observations in support of climate adaptation and mitigation, including as relevant and appropriate, actions related to the pillars of the Paris Agreement adopted under the United Nations Framework Convention on Climate Change (UNFCCC). In this way, the Working Group will support the translation of the Canberra Declaration into concrete actions within the GEO Work Programme.

Several discrete roles were identified in the Terms of Reference, including follow up on the outcomes of the first GEO Climate Workshop that was hosted by the former Paris Agreement Subgroup in 2018. The new Climate Change Working group was also tasked with hosting a second GEO Climate Workshop that would involve a broader policy-relevant audience.

## APPENDIX C – Glossary

*Sources: IPCC / UNFCCC*

### **Adaptation**

Adaptation is the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. In Article 7 of the Paris Agreement, Parties recognize the importance of support for and international cooperation on adaptation efforts. Each Party shall, as appropriate, engage in adaptation planning processes and the implementation of actions, including the development or enhancement of relevant plans, policies and/or contributions, including the process to formulate and implement national adaptation plans (NAPs).

### **Loss & Damage**

In Article 8 of the Paris Agreement, Parties recognize the importance of averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, and the role of sustainable development in reducing the risk of loss and damage.

Areas of cooperation and facilitation to enhance understanding, action and support may include: (a) Early warning systems; (b) Emergency preparedness; (c) Slow onset events; (d) Events that may involve irreversible and permanent loss and damage; (e) Comprehensive risk assessment and management; (f) Risk insurance facilities, climate risk pooling and other insurance solutions; (g) Non-economic losses; and (h) Resilience of communities, livelihoods and ecosystems.

### **Capacity Development**

According to Article 11, capacity-building under the Paris Agreement should enhance the capacity and ability of developing country Parties, to take effective climate change action, including, inter alia, to implement adaptation and mitigation actions, and should facilitate technology development, dissemination and deployment, access to climate finance, relevant aspects of education, training and public awareness, and the transparent, timely and accurate communication of information.

### **Technology Transfer**

Technology transfer includes a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change among different stakeholders. According to Article 10 of the Paris Agreement, Parties share a long-term vision on the importance of fully realizing technology development and transfer in order to improve resilience to climate change and to reduce greenhouse gas emissions.

### **National Reporting**

According to Article 4 paragraph 2 of the Paris Agreement, each Party shall prepare, communicate, and maintain successive nationally determined contributions (NDCs) that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of

achieving the objectives of such contributions. Each Party shall communicate a nationally determined contribution every five years. Article 13 outlines the framework for transparency of action. Parties need to regularly provide (a) a national inventory report of anthropogenic emissions by sources and removals by sinks of greenhouse gases, prepared using good practice methodologies accepted by the IPCC and agreed upon by the COP and (b) information necessary to track progress made in implementing and achieving its nationally determined contribution.

### **Global Stocktake**

According to Article 14, Parties shall periodically take stock of the implementation of the Paris Agreement to assess the collective progress towards achieving the purpose of the Agreement and its long-term goals (referred to as the "global stocktake"). It shall do so in a comprehensive and facilitative manner, considering mitigation, adaptation and the means of implementation and support, and in the light of equity and the best available science.

### **Mitigation**

In the context of climate change, a human intervention to reduce the sources or enhance the sinks of greenhouse gases. Examples include using fossil fuels more efficiently for industrial processes or electricity generation, switching to solar energy or wind power, improving the insulation of buildings, and expanding forests and other "sinks" to remove greater amounts of carbon dioxide from the atmosphere. Article 5 of the Paris Agreement calls on Parties to take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases, including forests (reducing emissions from deforestation and forest degradation).