

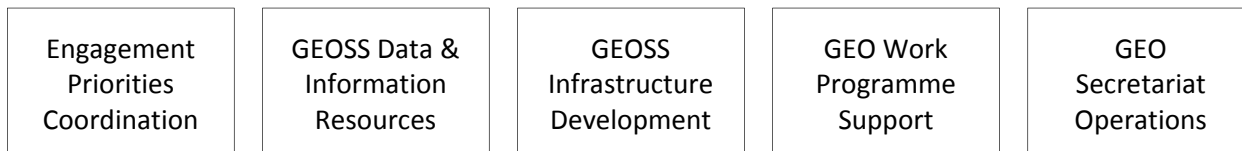
## Draft Foundational Task Descriptions for 2020-2022

*This document is submitted to the Program Board for discussion.*

### 1 INTRODUCTION

At the 12<sup>th</sup> meeting of the GEO Programme Board, the Secretariat presented a proposal for a revised and simplified structure of Foundational Tasks (FTs) as part of the development of the 2020-2022 GEO Work Programme. Following discussion within the Programme Board, the Secretariat returned with a modified proposal (see Diagram 1 below). This modified proposal received a tentative endorsement from the Programme Board, pending review of a detailed description of the terms of reference and components of each of the Tasks. Further, the Programme Board created a subgroup to work with the Secretariat prior to the 13<sup>th</sup> meeting to ensure that concerns raised by the Programme Board were addressed in the new document.

**Diagram 1: Modified Proposal for Foundational Tasks in the 2020-2022 GEO Work Programme<sup>1</sup>**



### 2 PROGRAMME BOARD SUBGROUP ON FOUNDATIONAL TASKS

#### 2.1 Membership of the Subgroup

Subgroup members are: European Commission (Stefano Nativi), Japan (Osamu Ochiai), South Africa (Andiswa Mlisa), United States (Ivan Deloatch), ESA (Ivan Petiteville), IEEE (Siri Jodha Khalsa) and the GEO Secretariat (Gilberto Camara and Craig Larlee).

The Secretariat prepared initial draft descriptions for each of the FTs and circulated the draft document to Subgroup members on 26 February. Comments from several subgroup members were circulated within the subgroup over the following week. Most of the comments and proposed changes related to the GEOSS Implementation FT, although there were also several questions and comments regarding the GEOSS Data and Information Resources FT. A teleconference of the subgroup was convened on 12 March, based on the responses to a poll of subgroup members.

The discussion at the teleconference focused primarily on the GEOSS Infrastructure Development FT. The key issues discussed were:

<sup>1</sup> The GEOSS Implementation FT was renamed GEOSS Infrastructure Development during the subgroup discussions.

- The terms of reference for the proposed coordinating body, currently named the “GEOSS Implementation Coordination Task Force”;
- The names and descriptions of the components and activities; and
- The future role of GEOSS Evolve.

In the course of the teleconference and the exchange of comments, it appears that there is convergence on most of the issues. The key remaining points of difference centre on the duties and membership of the Task Force. One view is that the Task Force should be a small, informal group that is directly engaged in software development and other technical matters. The other view is that the Task Force should have a broader mandate that addresses the future development of the GEOSS Infrastructure as a whole and thus should be able to draw on experts from across (or even external to) the GEO community.

### **3 RECOMMENDATIONS AND NEXT STEPS**

Comments from Programme Board members on any aspects of the Foundational Task descriptions are welcome. These comments may be provided during or after the 13<sup>th</sup> Programme Board meeting and will be addressed, to the extent possible, in the next iteration of the document.

The Secretariat recommends that the FT subgroup continue its discussions regarding the GEOSS Infrastructure Development FT, with the aim of reaching consensus on all outstanding issues.

## ANNEX A – DRAFT FOUNDATIONAL TASK DESCRIPTIONS

### ENGAGEMENT PRIORITIES COORDINATION

#### Overview

The Engagement Priorities Coordination Foundational Task leads GEO's efforts in engaging key stakeholders in supporting GEO's Mission and Vision and, more specifically, on GEO's engagement priorities: the UN Agenda 2030 on Sustainable Development; the Paris Agreement on climate change, and the Sendai Framework on disaster risk reduction. It is also responsible for coordinating engagement with UN agencies and other organizations, including those within the GEO community (that is, within GEO Member countries or Participating Organizations) and external organizations, in support of the broader mandate of GEO, including the GEO Work Programme.

#### Expected Outcomes

- Implementation of a consistent and coordinated GEO strategy for engaging external organizations, in particular with respect to the GEO engagement priorities, across the GEO community.
- Increased and stronger connections between GEO Work Programme activities and international policy organizations and with national ministries in GEO Member countries.
- Increased engagement of commercial sector organizations in the GEO Work Programme, especially small, medium and micro-sized enterprises (SMMEs).
- Broader awareness and understanding of GEO, its activities, and its results among users and potential users of Earth observations.
- Increased investment in the GEO Work Programme from non-traditional sources, including foundations and philanthropies.

#### Components and Activities

##### 1. GEO Engagement Priorities Coordination

Coordination of GEO's engagement with UN agencies and other organizations responsible for various components of the policy frameworks. Engagement with GEO Members, Participating Organizations and GEO Work Programme activities regarding their contributions toward implementation of projects and services, and use of EO in decision making, related to the engagement priorities.

##### 2. Commercial Sector Engagement

Identification of opportunities for commercial sector involvement in the GEO Work Programme, particularly of small, medium, and micro-sized enterprises (SMMEs), and communication of those opportunities to commercial sector organizations.

##### 3. Communications

Development and implementation of the GEO Communications Plan, including targeted communications messages, campaigns, content and products. Fostering press relations, support to event promotion and coordination of GEO events, promotion of relevant events, opportunities and media coverage with the GEO community. Facilitation of information flow within the GEO community, particularly through the GEO Communicators Network, liaison with GEO Work Programme activity leads, cross-promotion of activities and campaigns, promotion of brand standards, and dissemination of examples of Earth observation use and impact.

#### 4. Resource Mobilization

Development and implementation of a strategy for outreach to potential funders. Provision of guidance and support to GEO Work Programme activities and others regarding funding applications.

#### **Implementing Bodies**

- GEO Secretariat
- GEO Climate Working Group (pending discussion by Paris Agreement Subgroup)

## **GEOSS OBSERVATIONS, DATA AND INFORMATION RESOURCES**

### **Overview**

This Task will analyze the current state and trends, while analyzing needs and assessing gaps, with respect to Earth observing systems (both remotely-sensed and in-situ). It will also advocate open data sharing and curated data management, while exploring methods for facilitating access to data and developing information resources based upon latest advances in technologies.

### **Expected Outcomes**

- Promote sustainability of current Earth observing systems; advocate new fit-for-purpose systems based on needs assessments.
- Increase number of openly and freely accessible Earth observations datasets, in adherence to GEOSS Data Sharing and Management Principles.
- Lower barriers for uptake of Earth observations and open-source technology to produce applications for environmental monitoring.

### **Components and Activities**

#### **1. Satellite Observations:**

Support GEO efforts to promote Earth observations, by CEOS and others, by providing evidence of the unique, and complementary, value of satellite data to successful delivery of GEO Flagships and Initiatives. Coordinate uptake of satellite observations into data aggregators and cloud storage for use in analyses and global policy reporting, closely linked with the GEO Knowledge Hub.

#### **2. In-situ Observations**

Focus on coordination and access to data and provide various coordination opportunities in order to sustain and strengthen existing and planned ones, advocate new systems, and encourage integration and linkages to meet user requirements which will be closely linked with the GEO Knowledge Hub.

#### **3. Advancing GEOSS Data Sharing and Management Principles**

Promotion of free, full, open and timely access to Earth observation datasets, products and services. Maintain dialogue with governments and support the uptake and implementation of the GEOSS Data Sharing and Management Principles by GEO Members and Participating Organizations and raise awareness of the technical, organizational, and resource implications of their implementation.

#### **4. Open-source Solutions**

Support the use of open-source software, web services and cloud computing to enable low-barrier solutions for the development of applications making use of open and freely accessible Earth observations, especially for countries of the Global South.

#### **5. Advocacy for Radio Frequency Protection for Earth Observation**

Advocate for the protection of radio-frequency bands necessary to ensure proper operation of Earth observation instruments.

### **Implementing Bodies**

- CEOS (also WMO, CGMS?)
- GEOSS Data Sharing Working Group
- GEO Secretariat

## **GEOSS INFRASTRUCTURE DEVELOPMENT**

### **Overview**

The GEOSS Infrastructure Development Foundational Task leads the development and implementation of the common infrastructural elements that support the implementation of GEO Flagships, Initiatives and Community Activities, as well as the realization of the GEOSS Data Sharing Principles.

### **Expected Outcomes**

- Broad open access and re-use of the data, information and knowledge resources developed by GEO Flagships, Initiatives and Community Activities.
- Easy discovery and access to data and information resources made available by GEOSS data providers, including customization for particular user groups or communities.
- Documented user expectations and requirements regarding GEOSS services, expansion of the user base, an improved user experience, and increased user satisfaction.
- Continual improvement of GEOSS services to ensure they meet user needs and take advantage of new developments in technologies and standards.
- GEOSS platform architecture development, operation and evolution.

### **Components and Activities**

#### **1. GEOSS Platform Operation**

Continue to maintain the functioning (i.e. operating) of:

- GEOSS Portal as the public interface of the GEOSS Platform, with the data and information resources brokered through the GEO DAB.
- GEO DAB refining the ranking scheme used to prioritize discovery matching results and improving the online DAB statistics.
- Status Checker describing the QoS of the online services published by GEOSS data providers.
- GEO Yellow Pages service describing the GEOSS data providers and their brokering arrangements.

#### **2. Support GEO Community data and information needs**

Broker additional providers of data and other resources, addressing the request coming from the GEO Community (GEO Flagships, Initiatives, CA), in close synergy with the “GEOSS Observations, Data and Information Resources” FT.

#### **3. GEO Knowledge Hub Development**

Design and implement the GEO Knowledge Hub, as a new component of the GEOSS infrastructure. The Knowledge Hub is envisioned as a set of curated and linked documents that contain relevant information for Earth observation applications and which is integrated with the GEO website. It is intended to provide an authoritative and validated content for evidence-based policy and decision-making. Content for the GEO Knowledge Hub will be provided by GEO Flagships, Initiatives and Community Activities.

#### **4. GEOSS Platform Documentation**

Document the GEOSS Platform architecture, services, and APIs in order to facilitate interoperability and the growth of a GEO ecosystem.

#### **5. GEOSS Platform Evolution**

Advance the evolution of the GEOSS Platform architecture, based on analysis of the evolving landscape of information technology, changing patterns of production and use of Earth observation products and services, and the specific user requirements expressed by GEO Flagships and Initiatives. Main actions include:

- Design the implementation architecture of the evolved GEOSS Platform.
- Develop and test new GEOSS Platform functionalities, solutions and components (to address the new architecture), engaging the GEO Community.
- Prepare documentation and training materials describing the new components and solutions.

### **Implementing Bodies**

- GEOSS Implementation Coordination Task Force
  - Oversees the various activities and components within the Foundation Task, ensuring their connection and synergy. (See terms of reference below).
- GEOSS Platform Operations Team
  - Daily operations of the GEOSS Platform components (GEOSS Portal, GEO DAB, Status Checker and GEO Yellow Pages).
- GEOSS Platform Development Team
  - Responsible for proposing options for the future evolution of the GEOSS Platform, in coordination with the GEOSS Platform Operations Team.
- GEO Secretariat
  - Responsible for the implementation of the GEO Knowledge Hub.
- GEOSS Evolve Initiative
  - Dealing with the synergies and interoperability with the GEO Regional nodes and the regional platforms.

### **Definitions (to be completed)**

- GEOSS Infrastructure
- GEOSS Platform
- GEOSS Knowledge Hub
- GEOSS Services
- GEO Regional platforms

### **Terms of Reference of the GEOSS Implementation Coordination Task Force**

#### ***Purpose***

Ensure coordination, and integration as appropriate, among the various components of the GEOSS infrastructure for management and sharing of data, information and knowledge resources.

#### ***Duties***

- Design the overarching architecture of the GEOSS Infrastructure, along with their main components.
- Establish performance expectations for each component and means to measure their achievement.
- Monitor progress of each component at regular intervals against the performance expectations.

- Prepare a report on progress of the Foundational Task for inclusion in the annual GEO Work Programme Progress Report.

***Membership (to be approved by the Programme Board)***

- Representatives from GEO Member States and Participating Organisations that provide resources to the components of this Foundational Task.
- Representatives from the GEO Secretariat involved in this Foundational Task. Other Secretariat staff may attend meetings of the Task Force as observers.
- Other experts invited by the Programme Board on the basis of their of their scientific and technical expertise.

***Operating Procedures***

- The Task Force shall operate by consensus.
- The Task Force will select two co-chairs, one of whom will be the GEO Secretariat Director.
- There will be at least three meetings of the Task Force each calendar year.
- Meetings will generally be held as teleconferences unless there is agreement from members to hold an in-person meeting.
- Documents for decision by the Task Force should be distributed at least two weeks in advance of the meeting unless there are exceptional circumstances.



## **GEO WORK PROGRAMME SUPPORT**

### **Overview**

The GEO Work Programme is the primary coordination and planning instrument used by GEO to select and prioritize its activities. The GEO Programme Board is the governance body which is tasked with overseeing the development, implementation and monitoring of the GEO Work Programme. The purpose of the GEO Work Programme Support Foundational Task is to provide the operational capacity to advise the GEO Programme Board and to implement their decisions and recommendations.

### **Expected Outcomes**

- GEO Programme Board has the information, advice and other support required to fulfill its functions and duties.
- Decisions by GEO Members and GEO governing bodies are informed by analyses and reports based on regular collection of data and information on GEO Work Programme activities.
- Leads and participants of GEO Work Programme activities have the information, tools and support required to effectively implement their activities.

### **Components and Activities**

#### **1. Programme Board Support**

Preparation of Programme Board meeting agendas and documents, in consultation with the Programme Board co-chairs. Logistics, analysis and document support to Programme Board subgroups.

#### **2. GEO Work Programme Development**

Coordination of the development process for triennial GEO Work Programmes. Review of Implementation Plans for GEO Flagships, Initiatives and Community Activities. Drafting of Implementation Plans for GEO Foundational Tasks. Preparation of GEO Work Programme summary documents and updates.

#### **3. GEO Work Programme Monitoring**

Development and coordination of requests for data and information from GEO Work Programme activities. Maintenance of databases for GEO Work Programme monitoring. Analysis of monitoring data and preparation of reports on progress in the GEO Work Programme. Development and production of indicators derived from monitoring data.

#### **4. Liaison with GEO Work Programme Activities**

Implementation of regular contact with GEO Work Programme activity leads. Provision of guidance and assistance to GEO Work Programmes.

#### **5. GEO Work Programme Capacity Development**

Provision of targeted advice and assistance to GEO Work Programme activity leads and participants to enable them to design, implement and measure the effectiveness of co-design and co-production, user engagement and capacity development within their activities.

### **Implementing Bodies**

- GEO Secretariat
- Capacity Development Working Group

## **GEO SECRETARIAT OPERATIONS**

### **Overview**

The Secretariat Operations Foundational Task is intended to support sound management and administration of the resources of the GEO Trust Fund and to provide logistical support for GEO statutory meetings such as Ministerial Summits, GEO Plenary, GEO Executive Committee and GEO Programme Board.

### **Expected Outcomes**

- GEO Trust Fund resources are managed in accordance with Annex D of the GEO Rules of Procedure.
- Secretariat human resources are allocated and managed to support the highest priorities of GEO, within the framework of the staffing plan approved by GEO Executive Committee.
- Financial and in-kind resources to the GEO Trust Fund and Secretariat are available to support the activities of the Secretariat, as approved by the GEO Executive Committee.
- Effective and efficient conduct of GEO meetings.

### **Components and Activities**

#### **1. Management of the GEO Trust Fund**

Preparation of a draft Trust Fund Budget and financial income and expenditure accounts. Management of Secretariat mission travel planning and reporting. Management of incoming contributions. Management of extra-budgetary resources for specified activities and associated reporting requirements. Contract administration. Support to the Budget Working Group.

#### **2. Management of Secretariat Human Resources**

Preparation of staffing plans. Management of staff recruitment and performance review processes. Coordination of secondments and liaison with home institutions.

#### **3. Conference and Meeting Management**

Coordination with external meeting hosts. Preparation of Ministerial Summit, Plenary and Executive Committee documents. Participation on and support to working groups for the preparation of GEO Plenary meetings and Ministerial Summits. Management of registration processes and support to participants from developing countries.

#### **4. Relations with GEO Members, Participating Organizations and GEO Associates**

Maintenance of contact databases of GEO Members, Participating Organizations and Associates. Management of processes for review of Participating Organization and Associate applications. Implementation of activities to mobilize financial and in-kind resources for the GEO Trust Fund and GEO Secretariat.

#### **5. Coordination of GEO Evaluations**

Preparation of evaluation terms of reference and briefings for GEO governance bodies. Coordination of calls for nomination to evaluation teams and provision of support to evaluation teams.

### **Implementing Bodies**

- GEO Secretariat
- Budget Working Group
- GEO Week and Ministerial Summit Working Groups
- GEO Evaluation Teams