

Subgroup 2 - Foundational Tasks structure review and recommendations for the 2017-2019 WP

Synthesis

- The Programme Board (PB) has been asked to review the Foundational Tasks (FT), one of the mechanisms for implementation of GEO Strategic Objectives¹
- Subgroup 2 of the PB was formed after the first PB meeting in Geneva, February 2-3, 2016 to start the FT review process.
- A review of this magnitude requires careful consideration of the criteria used to develop recommendations and the process to reach consensus. This report proposes a list of criteria to be used and starts the review process.
- The report provides initial observations regarding FT priorities, the means to streamline secretariat resources and revised ways to implement the GEO Strategic Objectives.
- Secretariat Operations (SO) tasks dominate GEOSEC staff time; aligning GEOSEC resource utilization ignoring the SO tasks would be very difficult. Additional information will be required to carefully review SO tasks.
- To complete its task, Subgroup 2 also requires additional information regarding GEOSEC staff allocations for GD and CD tasks. Discussion with the task leads regarding their needs can be started during the GEO Symposium in early May.
- Understanding the needs of Community Activities (CAs), Initiatives and Flagships from GEOSS is critical. It is important to determine how they can support the FTs and what FTs are critical for their success. Discussion with the CA and Initiative leads can be started during the GEO Symposium in early May.

¹ The Core Functions that define the scope of actions needed for the attainment of GEO's Strategic Objectives range from substantial global activities with multi-facetted, long-term objectives and complex stakeholder communities, to single-focus activities in smaller groups. These different types of activities contribute to GEO's Strategic Objectives in various ways, but all make valuable contributions. GEO will implement these activities through four Implementation Mechanisms: Community Activities, Initiatives, Flagships, and Foundational Tasks.

Introduction

During the first meeting of the newly appointed GEO Programme Board on February 2-3, 2016 in Geneva, Switzerland a Subgroup was formed to review Foundational Tasks. The subgroup is composed of the following members:

Francisco Chavez (POGO, lead)
Ivan Petiteville (CEOS)
David Halpern (COSPAR)
John Matuszak (USA)
Mark Reichardt (OGC)
Jonathon Ross (CEOS)
Siri Jodha Khalsa (IEEE)
Max Craglia (European Commission)
Arona Diedhiou (WDS)
Marie-Josée Bourassa (Canada)
Lars Peter Riishojgaard (WMO)

The PB requested a report by April 15th. Given the magnitude of the request, the present report focuses on the criteria that will be used by the subgroup to develop recommendations, the background and process the subgroup will follow to reach consensus recommendations, a request for additional information that the subgroup needs to complete the review process, and initial observations and proposals by members of the subgroup. The subgroup requests feedback from the PB to ensure a productive path forward.

The criteria used to develop recommendations

- Streamline use of secretariat resources, with focus on highest priorities
- Optimize Member and PO engagement to drive outcomes
- Efficient management with focus on implementation feasibility of Foundational Task
- Support the success of GEO CAs, Initiatives and Flagships
- Build GEOSS with greater efficiency and effectiveness
- Enhance the visibility and use of GEO resources
- Identify and prioritize the gaps and critical elements that GEO should pursue
- Increase synergy and reduce duplication/overlap between Foundational Tasks

Process

Routine telecons were convened every two weeks (March 14th, March 29th and April 11th) and together with e-mail used as forums for discussion of topics. Minutes from the telecons are found in Appendix 2. The subgroup considered:

- 1) Prioritization of the FTs;
- 2) Merging of the FTs;
- 3) Streamlining organizational activities to reduce dependency on GEOSEC staff;
- 4) New or revised implementation mechanisms.

The subgroup focused their initial review and assessment on the Foundational Tasks as described in the 2016 Work Programme (Appendix 1) and grouped in three elements: Secretariat Operations (SO), Community Development (CD) and GEOSS Development and GCI Operations (GD). The Foundational Task list (from the 2016 Work Programme) maps ongoing efforts onto the GEO Strategic Plan.

The GEO Secretariat should be commended for their careful job in scoping and estimating the effort required to carry out the FTs. Within this analysis Secretariat staff allocates 71.2% of their time to SO tasks, 22.7% to GD tasks and 6.1% to CD tasks. The proportion of GEOSEC staff time, relative the total allocation (including secondments and external contributions), allocated to the FTs is 65.9% SO, 22% CD, and 7.7% GD.

Initial observations and proposals by members of subgroup

Secretariat Operations - The subgroup ranked SO tasks of high importance but it was impossible for the subgroup to determine if the appropriate level of resources are being forecasted / allocated given the information available to the subgroup. Given the lack of detailed resource allocation information, the subgroup could not conduct a more detailed assessment of SO tasks (in particular SO-01) but could if ExComm and the PB want this level of scrutiny and additional break down of resource allocations are provided. The subgroup noted that close to half of the total Secretariat staff time (46%) is allocated to SO-01 (Management and Support). Subgroup members suggested that staff time could be reduced on SO-02 (Communication and Engagement) by increasing the participation by members and Participating Organizations (POs). There was a suggestion to outsource SO-03 Monitoring or Evaluation and to provide only support for SO-03 and SO-04 (Resource Mobilization) again with greater involvement of members and POs. The subgroup noted that aligning GEOSEC resource utilization ignoring the SO would be very difficult. Additional information will be required to carefully review SO tasks.

Community Development - The subgroup felt that CD tasks CD-01 and CD-02 (Capacity Building Coordination and Reinforcing engagement at national and regional level) were of high importance but that staff involvement in CD-02 could be offset by contributions from members and POs. CD-03 (Assess the benefits from EOs and their socio-economic value) was considered a lower immediate priority.

GEOSS Development - The subgroup spent most of their time discussing GD tasks. Discussion focused on prioritizing and merging tasks. There was no consensus

among the subgroup but a few observations and proposals were provided and described below.

1) There was significant discussion on the merits of creating a single Earth Observation (EO) task by merging GD-05 and GD-06, satellites and in-situ. Both pros and cons of this option were considered. There was unanimous agreement that in-situ and satellite observations are equally important to support globally integrated Earth system science and its applications. However, it is suggested that going forward GEO should give priority to the in-situ observations because they are more complex, unevenly distributed in space and time, heterogeneous and less organized. Satellite observations are currently well-organized thanks to the POs (e.g. CEOS, COSPAR). Given that in-situ and satellite observations are intimately related and dependent, a proposal was put forth for GEO to consider the formation of a new oversight committee with 4 co-leads from Participating Organizations (POs) with expertise in satellite (2) and in-situ (2).

2) There was a proposal to structure (but not necessarily merge) the technical activities (GD) around four core tasks: Needs, Data, Infrastructure and Coordination. The needs are presently developed under GD-08 and GD-09 (SBA process: user needs and Knowledge base). A proposal is for this development to be carried out by the Community Activities (CAs), Initiatives and Flagships with minimal Secretariat support. Practically this could be done using 2 to 3 CAs or Initiatives at a time. Utilizing the CAs, initiatives and flagships needs to drive system development in general resonated among the subgroup members since it allows for lessons learned and a smaller up front investment. The Data (or Observations) core task would include GD-05 and GD-06, Infrastructure would include GD-02, GD-04, and GD-07, and Coordination GD-01, GD-03, GD-10 and GD -11.

3) A more aggressive proposal but using a very similar set of core tasks was also put forth. The proposal started with the premise that the primary responsibility of the FTs is to enable improved predictions of phenomena important to the Societal Benefit Areas. The proposal argued that in-situ and satellite observations be integrated in a single FT with a governance structure as above. The oversight committee would work closely with Community Activities, Initiatives and Flagships to assess their needs and those of their users eliminating the need for GD-08 and GD-09. In support of the integrated earth observation system a new FT on "data" was proposed which would encompass essential elements of GD-01, GD-03, GD-04, GD-07 and GD-11. The new FT could be governed by co-leads from data sharing, dynamic data storage, data preservation and data transmission. The GEOSS Common Infrastructure (GCI) should be designed and developed to operate and maintain a system to discover and access GEO resources. The (software) development needs to be managed separately. Once developed it would be subsumed into the data FT.

The need for more information

The subgroup agreed with the need for additional time to gather more information. This could be partly done at GEO Symposium in early May when subgroup members could meet with FT task leads to get a clearer indication of their need for GEOSEC staff and how the secondment and outside contributions contributed to the FTs and how they were managed. A similar discussion with CAs and Initiatives would provide information on how they could support the development of user needs and what they consider the most important contributions from the FTs.

GD	GEOSS Development and GCI Operations
GD-01	Advancing GEOSS Data Sharing principles
GD-02	GCI Operations
GD-03	Global Observing and Information Systems
GD-04	GEONETCast Development and Operations
GD-05	GEOSS satellite Earth Observation Resources
GD-06	GEOSS non-space based Earth Observation Resources
GD-07	GCI Development
GD-08	SBA process: Systematic determination of user needs / observational gaps
GD-09	Knowledge Base development
GD-10	Radio-frequency protection
GD-11	Communications Networks
CD	Community Development
CD-01	Capacity Building coordination
CD-02	Reinforcing engagement at national and regional level
CD-03	Assess the benefits from EOs and of their socio-economic value
SO	Secretariat Operations
SO-01	Management and Support
SO-02	Communication and Engagement
SO-03	Monitoring and Evaluation
SO-04	Resource Mobilization

Appendix 2 – Meeting notes from teleconferences

Meeting notes from March 14th call

Participants
Francisco Chavez
Ivan Petiteville
David Halpern
Max Craglia

John Matuszak
Giovanni Rum
Arona Diedhiou
Marie-Josée Bourassa

Agenda:
Review of marching orders
Approach to task
Logistics

Review of marching orders

John Matuszak provided guidance from GEO ExCom. In addition to the longer term 2017-2019 Work Plan review and recommendations of Foundational Tasks ExCom would welcome guidance on 2016 WP. This is motivated in part by a mismatch in available resources and the resources projected to accomplish the Foundational Tasks in the 2016 WP.

The subgroup has started with the 2016 WP Foundational Task list and was working on prioritizing and if possible consolidating tasks. The new request is in line with this approach.

There was discussion of short and long-term priorities. Max Craglia will provide some examples of what should be done in the short term and what can be postponed. Look at where members and participating organization can step in, e.g. GEOSS portal where ESA is already taking on more responsibilities.

Secretariat reminded us that the current list of foundational Tasks was developed directly from the Strategic plan. The Secretariat will provide documentation to help us with the review in particular tables that synthesize resource allocations by task.

The subgroup is encouraged to provide recommendations on regional approach/engagement.

Approach to task

Comments primarily from the lead.

The report might be organized as follows.

- 1) Description of the review process
- 2) Big picture recommendations (encouraged to think outside the box)
- 3) Detailed recommendations

Logistics

Need to produce a preliminary report by mid April. At May meeting may decide to continue subgroup.

We agreed to have telecom every two weeks. Next telecom on March 28 (March 29 for Australia). Request from Australia to schedule them at 5 am Canberra time. That

would be 11 am US Pacific and 6 pm Europe (daylight savings time for both location – Europe changes on March 27).

Meeting notes from March 29th call

Participants:

Francisco Chavez
Ivan Petiteville
David Halpern
John Matuszak
Mark Reichhardt
Jonathon Ross
Siri Jodha Khalsa
Douglas Cripe

Talking points for the meeting extracted from documents provided:

- 1) Foundational tasks (FTs) will be performed as a joint effort by the GEOSEC and the GEO Community.
- 2) The GEOSEC is expected to use the totality of the GEO Trust Fund resources to implement the FTs.
- 3) The GEOSEC has done a tremendous job in developing a resource map and plan for the FTs, however what is missing is an assessment of which FTs underpin GEO and which do not lie in a critical path.
- 4) This assessment is needed given that resources to fully implement the FTs are lacking (60-70% available?).
- 5) The GEOSEC should concentrate on a limited range of critical activities that it can fully implement as opposed to tackling everything at a very superficial level.
- 6) GEOSEC should support (but not lead or “coordinate”) GCI operations and development, GEOSS satellite and non-space based EO resources, Data Sharing or Radio Frequency advocacy.
- 7) The Programme Board needs to rank FT priorities “down to a basic level of funding for the GEOSEC” and also come to a reasoned judgment to drop a few or trim many.
- 8) The GEOSEC staff effort (hours) among FTs is 71.2% on SO, 22.7% on GD and 6.1% on CD. The proportion of GEOSEC staff to the FTs (considering secondments and external contributions) is 65.9% SO, 22% CD, and 7.7% GD.

Action Items for subgroup 2 members to complete prior by April 7:

- 1) Fill out attached spreadsheet providing input on priority of each task, appropriate level of GEOSEC staff involvement, merging of tasks and general comments
- 2) Provide in list format your view of the priority tasks and others that can be deferred, reduced.
- 3) Give your view of the most important GEO activities, what are the gaps and how can they be accelerated.

- 4) Thinking outside the box please provide ideas for new and more effective ways to organize GEO activities to accomplish its major goals.

Meeting minutes

Discussion revolved around how to prioritize or trim tasks to ensure successful and timely completion of critical tasks. It became clear that the subgroup does not have the detailed information needed to make recommendations regarding the level of GEOSEC staff involvement in tasks.

The GEOSEC staff has made best guesses regarding the hours needed to support tasks. The subgroup recommends that task leads determine what is needed from their perspective, minimizing the involvement of the GEOSEC staff in organizing meetings, taking notes, etc.

There was discussion about merging tasks. Two views: 1) Merge and reduce the level of GEOSEC staff support; 2) Keep the tasks and reduce the level of GEOSEC support. It was decided that we should circulate a spreadsheet to the entire subgroup requesting input on priority of each task, appropriate level of GEOSEC staff involvement, merging of tasks and general comments

Significant discussion on GD 05 (satellite EO) and 06 (in situ EO). To merge or not to merge. Either way it was generally recognized that GD 06 was a very high priority.

Mark Reichhardt suggested that the level of GEOSEC staff involvement in SO-02 could be reduced by having external contributors assume a greater role (OGC could take on some of this).

The subgroup has been encouraged to think outside the box regarding the 2017-19 WP and implementing GEOSS. Discussion revolved around using an initiative or CA to carry out an end-to-end effort rather than building the full system. Take lessons learned and improve and expand. Concern that this would take significant time, perhaps the first step is to do an end-to-end paper study. Another approach might be to start by looking at the major goals of GEO and taking a fresh look at implementation.

Report outline

- 4) Description of the review process
- 5) Big picture recommendations (encouraged to think outside the box)
- 6) Detailed recommendations

Logistics

Need to produce a preliminary report by mid April. At May meeting may decide to continue subgroup.

Telecoms

Every two weeks. Next telecom on April 11 (April 12 for Australia) at 5 am Canberra time, 11 am US Pacific and 8 pm Europe. Call info below.

Meeting notes from April 11th call

Participants:

Francisco Chavez
Ivan Petiteville
David Halpern
Mark Reichhardt
Jonathon Ross
Siri Jodha Khalsa
Max Craglia

The discussions centered around the report and on what should be included. There was concern by some members that the subgroup was not ready to provide significant recommendations given incomplete information and the fact that a full set of criteria to develop recommendations had been outlined. A list of the criteria were developed and included:

- Build GEOSS with greater efficiency and effectiveness
- Improve the success of GEO CAs, Initiatives and Flagships
- Enhance the visibility and use of GEO resources
- Identify the critical elements that GEO should pursue and the gaps
- Streamline secretariat resources, with focus on highest priorities
- Optimize member and PO engagement to drive outcomes
- Increase synergy / reduce overlap of existing Foundational Tasks

There was also some discussion of the process to develop recommendations but no clear consensus was reached. It was decided that no consensus subgroup recommendation would be provided but some of the suggestions provided in spreadsheets and text would be included in the report as observations and proposals.

The subgroup agreed with the need for additional time to gather more information. This could be partly done at GEO Symposium in early May when subgroup members could meet with FT task leads to get a clearer indication of their need for GEOSEC staff and how the secondment and outside contributions contributed to the FTs and how they were managed. A similar discussion with CAs and Initiatives would provide information on how they could support the development of user needs and what they consider the most important contributions from the FTs.