

Work Plan Management

Information Document

The present document accompanies the GEO 2009-2011 Work Plan

It is divided in three parts:

- I. The New Work Plan
- II. Evolving Role of GEO Committees
- III. Task Management

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WORK PLAN MANAGEMENT

The 2009-2011 GEO Work Plan provides the agreed framework for implementing the GEOSS 10-Year Implementation Plan (2005-2015). It is a living document that will be updated annually. In 2009, this update will be particularly important since it will take full account of the ongoing work on revising the GEOSS Targets and defining a GEOSS Performance Monitoring and Evaluation Framework.

I THE NEW WORK PLAN

The 2009-2011 Work Plan takes the GEOSS 10-Year Implementation Plan up to and beyond its mid-way point. While the first phase of GEOSS development, from 2005 to 2008, focused on building the GEO community and engaging countries and organizations, the next phase will increasingly focus on actually putting the components of GEOSS into place. As GEOSS takes shape over the next several years, connections will be realized between diverse observing, processing, data-assimilation, modelling, and information-dissemination systems. This will make it possible to obtain a dramatically increased range of data sets, products and services on the key aspects of the Earth system.

The 2009-2011 Work Plan was prepared according to a set of written guidelines reflecting the conclusions of the GEO-IV Plenary and Cape Town Ministerial Summit about how the Work Plan should evolve. It incorporates the proposals and comments (technical and official) received from the GEO community (including GEO Committees) during the period April to December 2008.

The 2009-2011 Work Plan differs from its 2007-2009 predecessor in three main ways: (i) it groups the Tasks into two thematic parts; (ii) it consolidates GEO activities developed in the first years of GEOSS implementation under a smaller number of overarching Tasks; and (iii) it enhances the role of users and Communities of Practice – taking full account of the IGOS transition into GEO. The latter marks the start of a reinvigorated effort to ensure that users are engaged with GEO, actively involved in implementing the Work Plan, and starting to realize the benefits of GEOSS through improved decision-making. In addition, the Work Plan proposes the present Work Plan Management section, including a description of the role of GEO Committees and the procedures for Task management.

(i) A Two-part Structure

The Work Plan has been organized into two major parts to provide a clear overview of GEO activities. Part 1, “Building an Integrated GEOSS”, features the fundamental, cross-cutting components of GEOSS, such as the GEOSS Common Infrastructure. Part 2, “The Nine GEOSS Societal Benefit Areas”, describes the services and end-to-end systems that will support decision-making in each of the Societal Benefit Areas (SBAs). These two parts are intimately linked and fully complementary; they can be seen as representing the two faces of the GEOSS coin.

(ii) A Smaller Number of Overarching Tasks

The Work Plan consists of a set of *Tasks* (and *sub-tasks*), each implemented by a *Task team* composed of *co-Leads* (GEO Members and Organizations), a *Point of Contact* (representing one of the Co-Leads) and *contributors* (further Members and Organizations).

Overarching Tasks, Sub-tasks and Coordination

The 2009-2011 Work Plan seeks to emphasize the added value that GEO brings to Earth observation. It links together Tasks from the 2007-2009 Work Plan that share a strategic objective – while at the same time ensuring the continuity of these individual efforts. As a result, the Work Plan contains just 42 strategic overarching Tasks, compared with 73 Tasks in the previous 2007-2009 Plan (details of how the 2007-2009 Tasks have transitioned into the new 2009-2011 Work Plan may be found in Annex I to the Work Plan document).

To facilitate implementation, most of the 42 overarching Tasks are divided into sub-tasks. This is because activities within a single overarching Task typically are too advanced or too different in nature to be implemented by a single Task team. In such cases, Task teams are created at the sub-task level and not at the Task level.

Such an approach requires efficient coordination between the various sub-tasks and this will be provided by the GEO Committees and Communities of Practice with support from the GEO Secretariat. Committees and Communities of Practice will encourage Task teams to interact with one another and will make recommendations as appropriate – ensuring that overarching Tasks move forward in a coherent manner. In this way, the overarching Tasks will promote synergies and cross-fertilization amongst their underlying sub-tasks and contribute to a more focused GEOSS implementation (see also Section II on the “Evolving Role of GEO Committees”).

More details on the coordination of overarching Tasks will be provided in the course of 2009. As agreed over GEO-V, suggestions from GEO Members and Participating Organizations, Committees and GEO Secretariat will be consolidated into a proposal to be reviewed by the Executive Committee in May 2009. This proposal will include an initial strategy for the sound implementation and coordination of the sub-tasks that will also ensure that, by 2015, the Tasks meet the strategic Targets foreseen. In addition the proposal will explore options for managing Tasks at the level of the overarching Task with the possibility of identifying coordinators and plans of activities to foster intra-Task interactions.

Distribution of Tasks: The Cross-Cutting Nature of GEOSS

GEOSS is inherently cross-cutting and so are the individual Tasks in the Work Plan. Each Task typically involves two or more transverse areas (Architecture, Data Management, Capacity Building, Science & Technology, User Engagement), Societal Benefit Areas (Disasters, Health, Energy, Climate, Water, Weather, Ecosystems, Agriculture, Biodiversity) or system types (such as observing, modelling, information). Therefore, Tasks may fit under more than one Area.

For example, many Tasks in the Work Plan strongly involve capacity building however not all of these Tasks are listed under Section 1.3 (Capacity Building) – see e.g. in Part 2 “The Nine GEOSS SBAs”: HE-09-03 (End to End Projects for Health), EN-07-03 (Energy Policy Planning), CL-09-01 (Environmental Information for Decision-making), WA-06-07 (Water Resource Management), WE-09-01 (High-Impact Weather Prediction), EC-09-02 (Ecosystem Vulnerability to Global Change), AG-07-03 (Global Agricultural Monitoring) and BI-09-01 (Biodiversity Observation Network).

In the Work Plan Part 2, the cross-cutting dimension of Tasks is made more explicit through (non-exhaustive) lists of “*Key related Tasks*” and “*Spider-web diagrams*”. These diagrams – to be regularly reviewed by Task teams and Committees – grade the relevance of each Task to all SBAs from a minimum of 0 to a maximum of 5 (note that in Part 1, Tasks are transverse and by definition relevant to all SBAs).

(iii) An Enhanced User-driven Approach

The 2009-2011 Work Plan reflects the input and engagement of the GEO Communities of Practice and former IGOS themes – which transitioned into GEO and Communities of Practice in 2008 (for a complete list of Communities of Practice, see Appendix A). These Communities of Practice strongly contribute to the implementation of the Work Plan (see cross-references in Part 2): engaging users and building partnerships; providing Leads and participants for many Task teams, offering strategic insights and fresh ideas, and promoting dialogue between users and providers of Earth observations.

Taken together, these changes to the Work Plan approach should make the vision of a cross-cutting and user-driven GEOSS clearer for all contributors and participants. By making the linkages between Tasks and components explicit, this more focused approach should help bring the 10-Year GEOSS Implementation Plan for 2005-2015 closer to realization.

II EVOLVING ROLE OF GEO COMMITTEES

With the growing maturity of GEOSS and the launch of 2009-2011 Work Plan, the importance of the four GEO Committees is set to increase. The Committees and their individual members will need to maintain the momentum of their existing efforts while tackling new challenges. While working within their existing terms of reference, the Committees will take additional measures to ensure that GEOSS progresses to the next level and that this progress is recognized by Ministers at the next GEO Summit.

(i) Guiding the Work Plan

As described in the GEO Rules of Procedure, the four GEO Committees “provide high-level review, advice, recommendations, and support in the ongoing development and implementation of the GEOSS 10-Year Implementation Plan”. The Committees also actively promote the implementation of GEOSS activities as described in GEO Work Plans. In particular:

* *The Architecture and Data Committee* supports “the Group on Earth Observations (GEO) in all architecture and data management aspects of the design, coordination, and implementation of the Global Earth Observation System of Systems (GEOSS) for comprehensive, coordinated, and sustained Earth observations.”

Consistently in the present Work Plan, the ADC oversees the Tasks dedicated to building a transverse GEOSS Common Infrastructure, organizing data management and implementing the GEOSS Data Sharing Principles. These are described in Sections 1.1 and 1.2.

* *The Capacity Building Committee* supports “the GEO in strengthening the capability of all countries, in particular developing countries, to use Earth observation data and products in a sustainable manner and to contribute observations and systems to GEOSS. The GEO capacity building strategy will follow the World Summit on Sustainable Development (WSSD) concept of a global partnership between those whose capacity needs development and those who are able to assist in the process, recognizing that activities have intertwined social, environmental, and economic impacts”.

The CBC, therefore, helps to define and review the five Tasks dedicated to building capacity for a transverse GEOSS (see Section 1.3). CBC members should also review the capacity-building components in all other Tasks (which are described in a dedicated capacity-building “box” in each Task Sheet) in order to promote synergies, reduce duplication and address gaps.

* *The Science and Technology Committee* engages “the scientific and technological communities in the development, implementation and use of a sustained GEOSS in order to ensure that GEO has access to sound scientific and technological advice”.

Accordingly, the STC supports the implementation of the Work Plan Science and Technology Tasks (Section 1.4). It ensures that all Tasks reflect the most up-to-date scientific and technological understanding of Earth systems and Earth observation tools. This responsibility includes developing, reviewing and periodically updating the GEOSS Science and Technology Roadmap. The Roadmap describes the major scientific and technological gaps that need to be addressed so that GEOSS can achieve its full potential. STC members also interact with the GEO Communities of Practice and other expert fora.

* *The User Interface Committee* engages “users in the nine societal benefit areas in the development, implementation, and use of a sustained GEOSS that provides the data and information required by user groups on national, regional and global scales. The User Interface Committee has a specific goal to address cross-cutting issues by coordinating user communities of practice, ensuring continuity and avoiding duplication”.

The UIC then supports the implementation of the User Engagement Tasks (Section 1.5). It also takes the lead in assessing the needs, requirements, and priorities of the end-users of Earth observations and

ensuring that user needs are reflected in the Work Plan Tasks. GEO recognizes that user groups need to be engaged actively in the design and construction of GEOSS so that GEOSS will deliver what users truly need. In conjunction with other Committees, the UIC supports the application of Earth observations to decision-making and to the realization of societal benefits. The UIC also develops methods and processes to engage a broad range of users in GEOSS.

In addition to the above responsibilities, the four GEO Committees jointly help to coordinate the various sub-tasks of each overarching Task by encouraging Task teams to interact with one another and by making recommendations as appropriate. Whereas the ADC primarily focuses on the transverse Tasks, the CBC, STC and UIC have more cross-cutting mandates; they too address transverse Tasks, but each one, based on its particular mandate, also identifies and guides a number of Tasks from the nine societal benefit areas in Part 2 of the Work Plan. To re-enforce coordination within and across overarching Tasks, a joint session of the four GEO Committees may be organized on an annual basis, possibly at the time of the GEO Plenary.

To carry out their work, Committees interact with Task Leads and review Task Sheets and progress reports issued periodically by the Secretariat. Committees recommend corrective actions when needed. Each Committee also plays an important role in helping to identify Leads and contributors for all Work Plan Tasks. Hence Committees provide expertise, ideas, contacts, recommendations and practical support to the Task teams.

(ii) GCI and Data Sharing: the Two Cornerstones of the 2009-2011 Work Plan

If the 2009-2011 Work Plan is to succeed in securing the foundations of GEOSS, the four Committees need to make an essential contribution to advancing two GEOSS cornerstones: the GEOSS Common Infrastructure (GCI) and the implementation of GEOSS Data Sharing Principles. The ADC plays a key role in guiding the construction of these two cornerstones, while other Committees provide additional insight from their particular perspectives.

The *GEOSS Common Infrastructure (GCI)* consists of web-based portal(s); clearinghouses for searching data, information and services; and registries containing information about GEOSS components and associated standards and best practices. Its implementation requires specific contributions from each Committee. The CBC contributes to the GCI by ensuring the proper development of the capacity-building components of the GEO Portal. In parallel, the STC ensures that the GCI reflects the best scientific knowledge and technology available. The UIC ensures that the GCI is providing the data sets, products and tools that users need.

During the first year of the Work Plan, the Committees will contribute via the GCI Initial Operating Capacity (GCI-IOC) Task Force. The GCI-IOC phase was launched in June 2008 and will continue for one year. Based on the experience of the GCI-IOC, the Common Infrastructure will evolve to become fully operational. The success of GEOSS over the long-term will be measured by the quality, number and diversity of datasets, services and components that can be accessed through the Common Infrastructure. Consequently, it is vital that each Task team that is developing an operational component registers this component with the GCI. Teams must also ensure that components incorporate the GEOSS interoperability standards and comply with the GEO data sharing principles.

Meanwhile the GEO Principals and the Committees will continue to explore ways and means for sustaining the operations of GEOSS, the Common Infrastructure and the various components. This could include efforts to mobilize resources and contributions from both donors and the private sector.

Developing and implementing the *GEO Data Sharing Principles* should also be a key priority for all Committees during the first two years of this Work Plan's implementation. The aim is to build consensus amongst GEO Members and Participating Organizations for adopting the Principles at the GEO-VII Plenary and Ministerial Summit in 2010.

(iii) Engaging the GEO Community

In addition to the responsibilities described above, the CBC, STC and UIC contribute to Work Plan implementation by engaging the users and producers of Earth observations and reaching out to resource providers and other interested groups. In particular:

The Capacity Building Committee ensures

A Coordinated and Effective Approach to Capacity Building – CBC members ensure that the GEO community maintains a coordinated and effective approach to capacity building throughout this Work Plan. CBC members support the analysis of national strategies for capacity-building and proactively seek to ensure that those strategies are coordinated and mutually supportive. The ultimate aim is to ensure that all countries have the capacity to use Earth observation data and products and to contribute observations and systems to GEOSS.

Resource Mobilization – The CBC helps to mobilize resources to foster the use and understanding of Earth observations, as described in the GEO Capacity Building Strategy (available on the GEO website). Committee members individually and collectively identify priorities and resource needs for addressing human, institutional and infrastructural capacity in Earth observation. They then seek to identify and engage donors and other providers of resources; see also Task CB-09-01.

The Science and Technology Committee works towards

Catalyzing Research and Development (R&D) Funding for GEOSS – STC members work with national governments and international organizations and encourage them to integrate the science and technology needs of GEOSS into their national, regional and international R&D programmes. STC members develop proposals and guidelines to assist R&D agencies to respond to GEO's needs, and dialogue with key decision-makers and funding entities. STC members also identify programmes relevant to GEO's scientific and technological priorities and encourage them to collaborate with one another; see also Task ST-09-01.

Engaging the Research Community in GEO – STC members support the research needs of GEOSS by reaching out to the world's diverse scientific and technological communities and making GEOSS more visible and attractive to them. To achieve this, STC members may organize a GEO presence at major symposia and other meetings, for example through plenary presentations or side events. They may contact universities and laboratories to involve them in GEOSS activities, form links with major scientific research enterprises in each Societal Benefit Area, and actively encourage relevant scientists and technical experts to contribute to GEOSS in a truly participatory way. The STC has already produced a document describing how GEOSS can benefit the research community ("The Role of Science and Technology in GEOSS" is available on the GEO website); see also Task ST-09-02.

The User Interface Committee focuses on

Engaging Communities of Practice – Communities of Practice (CoPs are listed in Appendix A) are contributing in essential ways to the GEO Work Plan and to identifying user needs. Some CoPs, however, still need to be introduced to and engaged by GEO, while others need to be better integrated into the Work Plan. The UIC – as well as other GEO Committees – interacts with the Communities of Practice in order to engage them in GEO Tasks and to identify the needs of the well-organized user groups that the CoPs represent; see also Task US-09-01.

Identifying Synergies between Societal Benefit Areas – The UIC identifies cross-cutting issues and data sets that could strengthen synergies between Societal Benefit Areas. It develops and maintains processes for identifying critical Earth observation needs common to more than one SBA by interacting with scientific and technical experts; see also Task US-09-01.

(iv) Coordination and Planning

While allocating differing responsibilities to each of the four Committees is a practical necessity, it is also essential that their work remains fully coordinated. The Committee Co-Chair Coordination (C4) takes responsibility for ensuring that the Co-Chairs of the various Committees share information and ideas on a regular basis. It may decide, as appropriate, to convene a joint session of the four GEO Committees on an annual basis, possibly as part of the GEO Plenary.

In addition, the work of the Committees is kept in synch by the master schedule adopted at GEO Plenary meetings. Under the current master schedule, each Committee meets twice a year within two general time slots (April-May and August-September). The exact dates are chosen in a manner that best supports the yearly Work Plan process and feeds into the meetings of the Executive Committee and GEO Plenary. In order to foster interaction and information exchange, the meetings are co-located when possible. In addition to these two meetings, Committees may choose to organize a third meeting at the time and location of the annual Plenary meeting.

III TASK MANAGEMENT

The 2009-2011 GEO Work Plan contains 42 overarching Tasks. Each Task or sub-task is implemented by a “Task team” with its own “Lead” or co-“Leads”, “Point of Contact” and set of “contributors”.

(i) Getting Engaged

The process starts with an informal “signing in” procedure through which representatives of GEO Members or Participating Organizations volunteer to lead or contribute to a Task or sub-task (this is typically done through an email addressed to the GEO Secretariat at secretariat@geosec.org). As work on the Task proceeds, additional Leads and contributors may join, thus ensuring wider participation. For Tasks focused on user needs, the Task Leads and contributors are encouraged to work with a related Community of Practice. Specific activities within each Task may be further refined with the agreement of the Leads and contributors.

(ii) Leading a Task (or sub-task)

When a Member or Participating Organization agrees to lead a GEO Task, it takes responsibility for ensuring, on a best-effort basis, that Task milestones are reached and deliverables are met. Ideally, more than one Member or Participating Organization should agree to lead a Task and share the work of implementation (the order in which co-Leads are listed in the Work Plan is alphabetical, with countries coming first and organizations second). In some cases, a Committee may invite an external organization to co-lead, or contribute to, a Task. Commitments to lead or contribute to GEO Tasks are entered into voluntarily in the spirit of advancing GEOSS under the terms of the GEOSS 10-Year Implementation Plan.

Although *Task Leads* and contributors are always entities (countries or organizations), the actual leadership comes from individuals who take up responsibility for the Task. Each individual should clarify and confirm that his or her country or organization agrees to lead or contribute to a GEO Task, and that he or she is the responsible party. In addition, Leads and contributors may invite other experts (either internal or external to their government or organization) to participate in the Task in their individual capacity as invited experts.

Task Leads organize the work of their Task in cooperation with other Task Leads and contributors and take steps to ensure that the work is carried out. Leads coordinate internally within their country or organization so that the appropriate competencies of all of its relevant agencies, divisions, or units are brought into the Task as necessary. Leads also provide any financial and in-kind resources necessary for implementing the Task, drawing on sources internal to their agency, institution or organization. Throughout Task implementation, Task Leads encourage other organizations and entities to participate on a best effort basis as contributing organizations in the Task, particularly from developing countries whenever possible.

For each Task, an individual volunteer must be identified from among the Task Leads to serve as the Task *Point of Contact*. The Point of Contact provides a single point of communication for all those involved in the Task and serves as a liaison with GEO Committees and the Secretariat. In addition the Point of Contact is responsible for reporting on progress to the GEO community by updating the detailed “Task Sheet” (see below).

Throughout this process, the GEO Secretariat regularly communicates with Task Leads and Points of Contact to facilitate and support their work. Supporting the work of the Committees, the Secretariat helps coordinate efforts across Tasks and sub-tasks and, where necessary, assists the Points of Contact to communicate with the Committees.

(iii) Contributing to a Task (or sub-task)

Contributors support the implementation of a Task through selected activities and projects indirectly providing financial or in-kind resources. This contribution is coordinated with the Task Leads. Contributors also assist in recruiting additional contributing organizations to the Task, particularly within their own country, region, or discipline, and provide other support to the Task Leads where possible. Contributors further provide advice and information to the Task Leads on user requirements and best practices and endeavor to engage user communities.

(iv) Informing and Reporting – Task Sheets

All information pertaining to a Task or sub-task is compiled into a document referred to as the *Task Sheet*. The Task Sheet contains information on achievements to date, contributors to the Task (contact details), and the work to be performed. Whereas Task Sheets already existed for the 2007-2009 Work Plan, new ones are being developed for the present Work Plan. Task Sheets will be improved throughout 2009 in line with progress on GEOSS performance indicators, thus providing an improved platform for monitoring and reporting progress on Task implementation. New Task Sheets will be easily accessed through hyperlinks to the on-line version of the present document (to be available in spring 2009).

Reporting on the progress being made by the Task teams occurs in two steps. First, the Points of Contact ensure that Task teams are fully informed of all developments and progress concerning the Task (or sub-task) and act as a single point of reporting for the entire team. Second, the Point of Contact updates the Task Sheet to reflect progress according to the agreed calendar.

Based on the Task Sheet updates, the Secretariat produces periodic Work Plan progress reports. These reports are presented to the Executive Committee several times a year, and an annual report is presented to the GEO Plenary. Progress reports are also circulated to Committees and Communities of Practice, as appropriate.

(v) Updating the Work Plan – Targets

Every year, the Secretariat prepares an update of the Work Plan based on consultations with GEO Members and Participating Organizations and inputs from Committees (Committees may propose updates and revisions to the Work Plan; see Section II.) This process allows for adjustments of various kinds and introduction of new activities. The update is then submitted to the GEO community for review and then to the GEO Plenary for review and acceptance as a living document.

In 2009, a special update process will be set up to take full account of the GEOSS Target revision and the definition of a GEOSS Performance Monitoring & Evaluation Framework. This will include a systematic linking of Tasks to Targets and hence an overall evaluation of the Work Plan's relevance to GEOSS implementation. This "reconciliation" process will be initiated in March at a meeting bringing together the Target Task Team (T3), the C4 and the Monitoring & Evaluation Working Group.