



GROUP ON  
EARTH OBSERVATIONS

## GEO-VII

3-4 November 2010

Forest Carbon Tracking and  
the Global Forest Observation Initiative (GFOI)

Document 12

As accepted at GEO-VII.



## **Forest Carbon Tracking and the Global Forest Observation Initiative (GFOI)**

GEO Members and Participating Organisations are asked to endorse the Concept Phase Report recommendations to develop a Plan for the Global Forest Observation Initiative, to be submitted to the GEO-VIII Plenary in 2011. They are invited to provide contributions for the staffing and funding of this Planning Phase as well as for the strengthening of the current GEO FCT Task.

### **1 INTRODUCTION AND BACKGROUND**

The Forest Carbon Tracking Project (Task CL-09-03 b) has been undertaken by GEO as part of the 2009-2011 GEO Work Plan with the main objective of helping countries in setting up national systems for forest carbon tracking, by demonstrating that coordinated Earth observations can provide reliable information of suitable consistency, accuracy and continuity to support forest carbon monitoring, reporting and verification; and by initiating and promoting the methods and protocols for comparability, interoperability in satellite observations and integration with ground measurements.

The task constitutes a framework for coordination: governments, space and forest agencies, research scientists, intergovernmental and international organisations, and early adopter countries, the National Demonstrators, progressively showing the elements and operations of a global system of systems.

The task has achieved considerable progress, defining source data and establishing a data portal, setting up national demonstrators, testing satellite sensor interoperability, and initiating methods and protocol documents, in 2009, and repeating coverage for national demonstrators, testing and refining methods and protocols, in 2010.

Intermediate achievements were communicated at GEO-VI and the need to consider how to move from the preliminary tasks to more comprehensive, consistent and continuous forest observations was stressed and a possible expansion of the GEO Forest Carbon Tracking Task was announced, but not discussed because of time constraints.

Since then, a Planning Group, working under the GEO Task, has developed the concept of what has been identified as Global Forest Monitoring Initiative (GFOI).

The concept was openly reviewed within the GEO Community, also through dedicated meetings in June 2010 in Geneva and July 2010 at FAO, in Rome.

The results of this process are contained in the enclosed “Report on the Concept Phase for developing a Global Forest Observation Initiative” (Enclosure 1), as well as a set of recommendations for GEO-VII Plenary to endorse.

### **2 CONCEPT PHASE REPORT**

The report is made of a main body and of three attachments.

The report first states the mission of the GEO Global Forest Observations Initiative (GFOI) and then shortly describes the framework in which the Initiative will be planned and developed, in order to meet the forest monitoring needs of a broad user community.

After having recalled key activities of the GEO FCT task, together with their progress, and how these activities should be strengthened as they constitute the foundation of the GFOI, the report identifies the operating context envisaged for the GFOI itself and its main components;

The report then provides a summary description of the GFOI planning phase, to take place in 2011, including organization, estimated resources and the final product, the GFOI Plan.

The report ends with recommendations to Plenary to ensure execution of the GFOI planning phase.

Report attachments are related to:

- Attachment 1: Other institutions and processes in global forest monitoring;
- Attachment 2: Scope and progress of the GEO FCT Task;
- Attachment 3: Proposed Governance arrangements for producing the GFOI Plan.

### **3 CONCEPT PHASE REPORT RECOMMENDATIONS**

The Planning Group recommends to the Plenary to:

- Take note of the significant progress made in the GEO FCT task during 2010;
- Support the strengthening of the GEO FCT task and development of a Plan for the Global Forest Observation Initiative in 2011;
- Support the establishment of a GFOI Task Force;
- Recommend that the Plan for the Global Forest Observation Initiative be submitted to GEO-VIII Plenary in 2011.

### **4 IMPLEMENTATION ASPECTS**

The activities related to the planning of this Global Forest Observation Initiative will be performed within the GEO FCT (task CL-09-03b) and this is reflected in the revised description of the subtask in the annual update of the GEO Work Plan 2009-2011 (Document 9).

The Planning Team identified in Attachment 3 will be part of the FCT task team, while the Task Force will oversee and steer the work and will be ultimately responsible for the development of the GFOI, somehow replicating arrangements for the Data Sharing Task Force.

In preparation for the next phase starting promptly after GEO-VII, the GEO FCT Task co-leads, in collaboration with the GEO Secretariat Director, will solicit nominations and contributions for the members of the Planning Team ahead of GEO-VII, in order to have the Team in place very early in 2011.

Status on nominations and contributions will be reported at GEO-VII.

**Enclosure**

**GEO GFOI Concept Report**



**The Group on Earth Observations  
Forest Carbon Tracking Task**

**Report  
on the  
Concept Phase  
for developing a  
Global Forest Observations Initiative**

**FINAL VERSION**

**3<sup>rd</sup> September, 2010**

**Prepared by a Planning Group under the GEO Forest Carbon Tracking Task  
(GEO Task CL-09-03b)**

## 1. Mission

The mission of the Group on Earth Observations (GEO) Global Forest Observations Initiative (GFOI) is to:

- a) foster sustained availability of satellite and ground observations in support of national forest information systems; and
- b) support countries in the use of observations for their national forest information systems – respecting national choices of data and tools.

In addition, the GFOI will support long-term observation needs of the United Nations Framework Convention on Climate Change (UNFCCC).

To realise the mission of the GFOI, GEO will engage with other key users, in particular the Food and Agriculture Organization of the United Nations (FAO) and the Intergovernmental Panel on Climate Change (IPCC).

The science is sufficiently developed that reliable reports of forest cover and forest cover change can be produced from satellite observations. Estimates of forest carbon stocks and carbon stock changes can be derived from the integration of satellite observations and ground data. Improvements in both data and methods will further reduce the uncertainties in forest cover change and forest carbon stock estimates.

## 2. Introduction

Forests play an important role in regulating the Earth's climate, conserving biodiversity and water resources, and influencing social and economic conditions. To understand the change in forests it will be essential to obtain comprehensive and continuous information on the state of the world's forests. Compared to the global networks which are the basis for atmospheric and oceanographic monitoring, the international coordination and coherence of terrestrial observations for forest monitoring is much less advanced.

Significant investments are already being pledged in support of the Paris-Oslo REDD+ process, recognising that deforestation is seen as a high priority for international action in the climate domain. The GEO activity offers the potential for efficiency in these investments in developing national forest information systems.

As can be seen from Attachment 1, there are several entities with a substantial interest in forest monitoring, but there has not so far been a systematic forest-focused coordination of effort. Developing appropriate information and map products would benefit from a more systematic approach and better coordination of effort given the fundamental methodological and organizational differences in these activities. GEO has taken the initiative in investigating how to improve the provision of satellite and ground data for forest monitoring, in the framework of a proposed GFOI.

Forest monitoring is receiving particular attention because of the potential to include more forest activities in future international climate change agreements. Robust observations of forests will be fundamental to such agreements. Forest monitoring also

remains an important issue to other UN Conventions (for example, Biodiversity and Desertification), international processes and targets (for example, the Millennium Development Goals and the Global Objectives of the United Nations Forum on Forests) and reporting processes (especially FAO's Global Forest Resource Assessments). The monitoring of forests is also an essential element of: the work of GEO in developing the Global Earth Observation System of Systems (GEOSS) and the societal benefit areas it will serve. The Global Climate Observing System (GCOS) and the Global Terrestrial Observing System (GTOS) will also find support in the GFOI.

The United Nations Framework Convention on Climate Change (UNFCCC) agreed at COP-13 (Bali in 2007) to begin negotiations on further inclusion of forests in post-2012 climate change agreements. The Bali Action Plan Decision 2/CP.13 highlighted the need for international action on forest monitoring. COP-15 (Copenhagen in 2009) made further progress and explicitly cited the need for national forest monitoring systems and for observations in support of these (Decision 4/CP.15), requesting developing country Parties to:

*“establish, according to national circumstances and capabilities, robust and transparent national forest monitoring systems and, if appropriate, sub-national systems as part of national monitoring systems that:*

- (i) Use a combination of remote sensing and ground-based forest carbon inventory approaches for estimating, as appropriate, anthropogenic forest-related greenhouse gas emissions by sources and removals by sinks, forest carbon stocks and forest area changes;*
- (ii) Provide estimates that are transparent, consistent, as far as possible accurate, and that reduce uncertainties, taking into account national capabilities and capacities;*
- (iii) Are transparent and their results are available and suitable for review as agreed by the Conference of the Parties;”*

The Kyoto Protocol accepted the importance of greenhouse gas emissions and removals from forests, with but mandatory reporting limited to afforestation, reforestation and deforestation for developed countries. This limitation occurred in part because of the challenge of providing sufficiently accurate information on forests.

The activities of the GEO GFOI are also motivated by the establishment of the REDD+ Partnership at the Oslo Climate and Forest Conference in May 2010. The REDD+ Partnership aims to build sustainable and robust REDD+ capacity. The GEO Initiative can contribute to the Partnership by providing support for the establishment of national monitoring systems in developing countries.

The GFOI will contribute to a broad suite of functions as identified above, including but not limited to forest carbon and REDD+, but it has these as a first focus. The activity will also assist other societal benefit areas such as biodiversity, and broader objectives of GEOSS.

While information on the extent and changes in forest cover and forest carbon stocks is crucial for monitoring the reduction of emissions from deforestation and forest degradation, more comprehensive information is needed for forest policy, programming, planning and management at national level.

GEO is playing a new and important role by working with governments, international institutions, and the private sector to coordinate data acquisitions and provide methods for integrating satellite data, ground measurements and models. The proposed activity will support national governments in developing their national systems. In addition, the initiative will contribute to the work of the FAO for its forest resource assessment activities; to the work of the IPCC in developing guidelines and good practice guidance for emissions reporting; and help to provide the long-term observations required by the UNFCCC.

The work of the GEO FCT on developing methods and protocols, and on national demonstrators is crucial to informing and guiding the development of national forest information systems. These activities will need to continue into the foreseeable future.

### **3. Current status and key activities of the GEO FCT task**

The GEO FCT initiative was set up in 2008, and so far has had a principal focus on:

- developing methods and protocols for data acquisition, processing, interoperability and accuracy assessment;
- setting up National Demonstrators (currently 10) as large-scale trials and proof of concept, and through the Committee on Earth Observation Satellites (CEOS) agencies stimulating coordinated acquisitions of satellite data for these demonstrator areas in 2009 and 2010; and,
- working to improve the flow of satellite observations and methods for integration with ground data.

GEO FCT is helping demonstrator countries set up national systems for forest carbon tracking via:

- access to long-term satellite, airborne, and ground data, and the associated analysis and prediction tools;
- a commitment by CEOS agencies to, provide cost-effective satellite data, tools and training for national wall-to-wall forest carbon tracking; and,
- providing guidance to countries on methods and protocols for data processing and processing support to produce required forest information products.

In all of these areas, significant progress has been made, and is presented in summary at Attachment 2.

At the GEO VI Plenary (Washington, November 2009) the FCT communicated these achievements and stressed the need to consider how to move from the preliminary tasks to more comprehensive, consistent and continuous forest observations. Indeed, the current lack of systematic and consistent monitoring of global forests is a problem. The GEO FCT work presented here, coupled with the complementary actions by others, can contribute to solving that problem.

The GEO work on forest observations will contribute to the GEOSS, following the Data Sharing and Interoperability Principles and interfacing with the GEOSS Common Infrastructure being established for the GEOSS. The tasks required are:

- coordinating the provision of observations;
- engaging users and national agencies;
- providing up-to-date technical guidance;
- contributing to capacity building;
- building bridges between the research and operational communities; and,
- maintaining linkages with other relevant activities such as the work on land cover dynamics by GOFCC/GOLD (Global Observations for Forest Cover and Land Cover Dynamics) under GTOS.

The work in developing the GFOI Plan must not jeopardise the vigorous continuation of the activities started under the original GEO FCT Task. On the contrary, the Task requires additional effort to ensure that the technical foundations for the GFOI are well established and that the National Demonstrator countries are given all necessary support.

#### **4. Operating Context**

The key users of data and information are the governments developing national systems. These governments will report into various international agreements and global assessments.

GEO will promote the coordination of data collection, and associated work of documentation, inter-calibration and interoperability. GEO will work with various organizations to ensure there is comprehensive coverage and continuity of data. GEO will facilitate the increased exploitation of observations.

The National Demonstrators (NDs) that have been set up within the GEO FCT task have been useful in identifying what additionally needs to be done to establish or to strengthen national operational capabilities. The arrangements for the National Demonstrators are on a voluntary basis. A transition from demonstration to operations at a national level would need to be done on a different basis, requiring a more robust suite of agreements and obligations than has been needed for the NDs. Dedicated research and development activities are required to provide continuous improvement to the evolving national operational systems.

#### **5. Key Components of the GFOI**

To support countries in preparing their national reports, the role of the GFOI will be consistent with the reporting requirements of the UNFCCC, such as consistency, comparability and transparency.

The key components of the GFOI are:

- *Support to national governments:* applying consistent and comparable methods is fundamental to building the individually developed and comparable national systems.
- *Observations and measurement:* regular and routine (systematic) observations and measurements are essential for effective reporting. Data acquisitions need to include satellite, periodic ground, and other measurements. Continuity of data supply will be needed to ensure maintenance of time series and consistent reporting. Achieving interoperability between observations from different satellite sensors over time is crucial to ensuring time series consistency.
- *Methods and protocols for data collection, processing and integration:* GEO should promote and encourage the development of methods and protocols for data collection, processing and integration.
- *Continuing research and development:* GEO should promote coordinated research and development needed for continuous improvement of national forest information systems.
- *National capacity building:* to help governments develop national forest information systems, GEO will work in collaboration with other providers such as the FAO.

## 6. Planning Phase

### GFOI Plan

The Concept Phase ends with the presentation of this document (the Concept Phase Report) to GEO VII Plenary in November, 2010, and proposes that a detailed GFOI Plan be developed in time for presentation to GEO VIII. The Plan should be developed in full consultation with future users and align with other relevant activities.

The principles on which the Plan will be based have been established during the Concept Phase. The Plan itself must be a detailed realistic technical and management proposal and it should *inter alia*:

- assess national capabilities for producing national forest information;
- identify strategies needed to improve national capabilities;
- identify potential sources of observations (satellite and in-situ) and associated data policies;
- provide a work plan with time lines and deliverables for the GFOI;
- identify recommendations to GEO Plenary 2011 and its participants for future action to implement the work plan; and,
- describe proposals for measuring success.

### Proposed Structure

The production of the more detailed and specific GFOI Plan will require a structured approach including a concentrated effort by full-time staff to provide the project management. Details of the proposed structure are contained in Attachment 3 of which the following is a summary of the essential points:

- The production of the GFOI Plan will be supervised by a GFOI Task Force established by the GEO Plenary VII (similar to the precedent established by the GEO Data Sharing Task Force).
- The membership of the GFOI Task Force will include senior representatives of the GEO FCT Task, FAO and CEOS. The IPCC should also be invited to provide a representative.
- A dedicated Planning Team of about five full-time persons, providing a satisfactory coverage of all the required expertise and disciplines, will be responsible for the essential project management for the production of the Plan, under the direction of the GFOI Task Force.
- The GFOI Task Force and the Planning Team will be supported by invited experts on specific topics of science, technical and policy issues as identified by the Task Force, making advice available to both the Task Force and the Planning Team during the development of the Plan.

### Resourcing

Costs associated with the work of the Planning Team are estimated at approximately USD 1 million over the 10-12 month period. This will in part be covered through in-kind contributions, as for example the provision of a full-time Planning Team member, but some of the funding will need to be provided through contributions to the GEO Trust Fund and specifically earmarked for the GFOI activities, for such essential activities as outreach and networking with stakeholders, including developing countries.

Contributions to, and expenditures from, the GEO Trust Fund for the GFOI, including for GFOI team contractors, should be reported separately in the GEO finances. No funds from the regular GEO Secretariat operating budget should be used.

## **7. Recommendations to Plenary**

GEO-VII Plenary is invited to:

1. Take note of the significant progress made in the GEO FCT task during 2010;
2. Support the strengthening of the GEO FCT task and development of a Plan for the Global Forest Observation Initiative in 2011;
3. Support the establishment of a GFOI Task Force;
4. Recommend that the Plan for the Global Forest Observation Initiative be submitted to GEO VIII Plenary in 2011.

## GFOI CONCEPT REPORT ATTACHMENTS

### Attachment 1: Other institutions and processes in global forest monitoring

**FAO:** The Food and Agriculture Organization (FAO) has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are based on national data that countries provide to FAO. The FRA heritage provides FAO with a comprehensive network of in-country contacts and access to a range of ground and forest inventory datasets, as well as knowledge of remote sensing techniques.

**IPCC:** In support of its more general advisory role to the UNFCCC, the World Meteorological Organization and United Nations Environment Programme (WMO-UNEP) Intergovernmental Panel on Climate Change (IPCC) established a Task Force on Greenhouse Gas Inventories. The Task Force has developed comprehensive guidelines for the preparation of national inventories of carbon stocks and emissions - including those from forests.

**UN-REDD:** The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) was launched in September 2008 to assist developing countries prepare and implement national REDD+ strategies. UN-REDD builds on the convening power and expertise of FAO, UNEP and UNDP. UN-REDD currently supports readiness activities in nine pilot countries - providing funds to support the development and implementation of national REDD+ strategies.

**The UN Environmental Conventions:** The three Rio-Earth-Summit-based UN environmental conventions (UN Framework Convention on Climate Change (UNFCCC), UN Convention on Biodiversity (UNCBD) and UN Convention on Desertification (UNCD)) include provision for the collection and exchange of Earth observation and related data in support of the needs of Parties and achievement of the international objectives of the conventions.

**Paris-Oslo process (Interim REDD+ Partnership):** In May 2010, following high level meetings in Paris and Oslo, 58 governments have entered into a voluntary, non-legally binding framework for an 'Interim REDD+ Partnership', within which the Partners may develop and implement collaborative REDD+ efforts. The objective is to serve as an interim platform for the Partners to scale up REDD+ actions and finance and to take immediate action, including improving the effectiveness, efficiency, transparency and coordination of REDD+ initiatives and financial instruments, to among other things transfer knowledge and enhance capacity.

**World Bank FCPF:** The World Bank Forest Carbon Partnership Facility (FCPF) assists developing countries in their efforts to reduce emissions from deforestation and forest degradation by providing value to standing forests. The FCPF has the dual objectives of building capacity for REDD+ in developing countries in tropical and subtropical regions, and testing a program of performance-based incentive payments in some pilot countries, on a relatively small scale, in order to set the stage for a much larger system of positive incentives and financing flows in the future.

**CEOS:** The Committee on Earth Observation Satellites (CEOS) has the mandate to serve as the space arm of GEO. It has already provided an undertaking to provide the necessary coordination of its Member agencies to address the space data requirements of the GEO effort, and to ensure that satellite Earth observations serve an appropriate role in coordination with ground observations.

**GTOS:** The Global Terrestrial Observing System (GTOS) is aimed at providing a comprehensive framework for international cooperation in standardisation, collection and exchange of a wide range of land surface, ecological, hydrological and cryospheric variables including some 17 terrestrial 'Essential Climate Variables' two of which are 'Land cover (including vegetation type)' and 'Above-ground biomass'.

**GCOS:** The Global Climate Observing System (GCOS) was established in parallel with the negotiation of the UNFCCC and is aimed, inter alia, at fulfilling the obligations of Parties for providing all the climate and climate-related observations needed for the purposes of the Convention. Its implementation is carried out by a wide range of governmental and non-governmental 'Agents of Implementation' in accordance with a regularly updated 'Implementation Plan for the Global Observing System for Climate in Support of the UNFCCC'.

**GLCN:** In 2004, FAO and UNEP, with the support of the Government of Italy, established the Global Land Cover Network (GLCN) for development of a globally coordinated approach to the provision of reliable and comparable land cover and land cover change data for use in local, national and international initiatives in support of the various international environmental treaties and programs.

**Related GEO Tasks and Activities:** The design and implementation of a GFOI under the auspices of the GEO FCT task will need to be carefully coordinated with a wide range of other forest and carbon-related tasks, sub-tasks and activities being carried out under the GEO Work Plan.

The most relevant of the forest-related tasks and sub-tasks are:

- AR-09-02(c) Virtual constellations
- AR-09-03(a) Global terrestrial observations
- DA-09-03(a) Global land cover
- US-09-01(b) Communities of Practice & partnership development (forests)
- DI-09-03(b) Implementation of a Wildland Fire Warning System
- EC-09-01 Ecosystem Observation and Monitoring Network
- AG-07-03 Global Agricultural Monitoring
- BI-07-01 Developing a Global Biodiversity Observation Network

The most relevant of the carbon-related tasks and sub-tasks are:

- EN-07-02 Energy Environmental Impact Monitoring
- CL-09-02(a) Key observations for climate
- CL-09-02(b) Key climate data from satellite systems
- CL-09-03(a) Integrated Global Carbon Observations (IGCO)
- CL-09-03(c) Global monitoring of greenhouse gases from space

Close coordination will also be needed with activities undertaken through the 'Carbon Cycle' and 'Forest' Communities of Practice as well as with general GEOSS planning under tasks:

DA-06-01	GEOSS Data Sharing Principles
DA-09-01	Data Management
CB-09-05	Infrastructure Development and Technology Transfer for Information Access.

## Attachment 2: Scope and progress of the GEO FCT Task

Section 3 of the Concept Phase Report provides a brief introduction to the scope of the GEO Forest Carbon Tracking task. This annex provides some more details of the task activities and their progress to date.

**Membership:** The Forest Carbon Tracking (FCT) task co-leads membership comprises representatives from government agencies in Australia, Norway, Canada and Japan and from the international organisations CEOS and FAO. Additional partners contributing space and forest research data and expertise are Brazil, France, the Netherlands, UK, USA, EC-JRC and GOFC-GOLD, and in 2010 ten early adopter countries as National Demonstrators being Australia (Tasmania), Brazil (selected Amazon), Cameroon, Colombia, DR Congo, Guyana, Indonesia (Borneo and Sumatra), Mexico, Peru and Tanzania).

The main activities to date within the task are addressed in turn below.

**Development of methods and protocols:** These include the following GEO-branded documents:

*Satellite Forest Information Product Specification* - specifying products to be routinely derived from satellite (optical and SAR) data acquired for the GEO FCT task - such as annual mid-resolution wall-to-wall time series for forest change assessments and information on areas undergoing forest degradation.

*Satellite Interoperability & Processing Methods* – to guide countries on methods for satellite data processing and tools and standards for producing verified forest information products including the potential for interoperable use of various satellite sensors

*In Situ Forest Measurements Standards and Protocols* – which outlines basic measurement standards, protocols and methodologies for in-situ forest assessments and sampling schemes, with a view for these datasets to be integrated with satellite data and forest carbon models.

*Linking of In Situ Forest Measurements, Remote Sensing and Carbon Models* – providing guidance by describing options available to countries in the combination of remotely sensed and in-situ data through carbon models to derive national carbon accounting information.

*Methods on Validation of Remote Sensing Data Products and Accuracy Metrics* - providing a set of principles and conceptual approaches for verification of map products produced by image processing methodologies that will have been accepted by a country for carbon accounting.

**National Demonstrators:** In 2009, the GEO FCT task initiated seven National Demonstrators (NDs) in collaboration with respective government counterparts, as large scale trials and proof of concept demonstrators. The NDs are initially being used to demonstrate the coordinated acquisitions and processing of satellite data for these areas in 2009 and 2010. As the technical effort progresses, the NDs are increasingly becoming engaged in the activities underlying the testing and application of the GEO

FCT methods and protocols relating to national practices for use of satellite and in-situ data and their linkage to carbon models for the derivation of emissions estimates. A large number of countries have indicated their interest in joining the task as an ND, and in 2010 a second round of NDs were confirmed: Colombia, DR Congo, Peru – and the inclusion of Sumatra within the existing Indonesia ND.

**Observations supply:** The Committee on Earth Observation Satellites (CEOS) has provided a commitment to provide, as possible, cost-effective satellite data, tools and training for national wall-to-wall forest carbon tracking. Wall-to-wall datasets were collected by multiple sensors from multiple satellites during 2009. In addition various other satellite datasets including very high-resolution satellite data have been acquired over selected verification sites in the NDs. Product Development teams were assembled for each of the NDs and charged with the development of forest/non-forest datasets during 2010. In parallel, CEOS agencies have undertaken to provide coverage of the NDs during 2010 including the new ND areas.

### **Attachment 3: Proposed Governance arrangements for producing the GFOI Plan**

This attachment supplements the information given in Section 6 of the Report.

#### **1. GFOI Task Force**

The GFOI Task Force is the central body responsible for the development of the GFOI. It will include representatives from the Co-leads of the GEO FCT Task, FAO, and CEOS who are committed to the vision of the GFOI and willing to see it through to success. The IPCC would also be invited to provide a representative. The Task Force would choose a chairperson.

The Task Force will meet at least twice per year and will have teleconferences as required. Two meetings would be required between GEO VII and GEO VIII Plenary. The composition of the Task Force will need to be agreed at GEO VII, in order that it can start its work before the end of 2010.

The GFOI Task Force and Planning Team may invite expert advice as required on science, technical, and policy issues.

#### **2. Planning Team**

In preparation for the next phase starting promptly after GEO VII, the GEO FCT Task co-leads, in collaboration with the GEO Secretariat Director, will solicit nominations and contributions for the five members of the Planning Team ahead of GEO VII. It will take time to assemble the right group and find the funding, and it is vital for them to be in post very early in 2011. In addition, there needs to be a member of the GEO Secretariat designated to assist this activity full-time.

A strong project management function needs to be established from the outset to ensure the necessary planning and progress.

The Planning Team will have a challenging task not simply to deliver a competent technical plan, but to garner support from stakeholder communities. The membership should represent a good discipline and geographic distribution. A balance will be needed between technical competence and knowledge of and credibility within the domains of international development and/or multilateral climate programs. It will be essential for the team to consist of full-time senior experts whose combined expertise will give the team experience in such aspects as project management, Earth observation (including in-situ measurements), and, carbon forest modeling. Other offers of part-time assistance can be incorporated once the team has been created.

The main skills required for the Team as a whole are: substantial project management experience; technical expertise relating to forest observations and carbon and emissions modeling; thorough understanding of the policy context related to forests and processes such as REDD+; experience in capacity building methods and approaches; experience of outreach and communication for international programmes.

#### **3. Resourcing**

The team members will be provided, either directly or through specific funding, by GEO Members or Participating Organizations leading or participating in the GEO FCT Task.

The sponsoring organization would be expected also to provide associated travel costs for its team member.

The sponsoring Member or Participating Organization may provide its team member with an assistant provided it assumes the associated costs. Hosting of major meetings or workshops and provision of travel support for developing country participants are further examples of possible in-kind contributions. Direct funding can be provided through contributions to the GEO Trust Fund and specifically earmarked for the GFOI activities.

#### **4. Working Arrangements**

Ideally, at least two of this dedicated team should be located in Geneva, but in any event, the team will need to come together at least five times, and possibly more, during 2011 to draft the GFOI Plan. All Members, wherever located, must be able to work full-time on the Plan.

The team will report regularly to the GFOI Task Force, which in turn will inform the GEO Executive committee as appropriate.