



# GROUP ON EARTH OBSERVATIONS

## **Charge to Thematic Groups**

GEO Forest Monitoring Symposium  
4-7 November 2008, Foz do Iguaçu, Brazil



# Symposium Goals

- Consolidate the GEOSS approach for a systematic and integrated Forest Monitoring System of Systems that should ensure coordination, facilitate and promote data sharing, interoperability, and improve the ability of forest monitoring to address relevant issues.
- Promote communication and collaboration among various communities working on different forest related themes, and to strengthen the focus on forest observation world-wide.
- Provide a forum where GEO Task teams and key Institutions worldwide can further their programmes of work as they relate to forest observation.
- Help participants achieve a greater understanding of the current status of, and requirements for, critical forest characterization and monitoring, including carbon and biomass, biodiversity, fire, water, fragmentation and degradation, and stress and damage.
- Key outcome will be to advance the integrated characterization, assessment and monitoring of forests.



# Schedule

## Day 2

- 3 Breakout sessions addressing specific themes and communities, active and working on different assessments and applications linked to the GEO forest-related tasks.
- Each theme is asked to discuss and consolidate a Report, prepared according to a recommended template and summarizing, from a User perspective, all the major elements of the requested observation tasks in each theme.

## Day 3

- The Morning will be devoted to preparation and presentation of thematic groups' reports to Plenary and to discussions amongst the groups according to the four common features of task implementation and integration in the GEOSS.
- The afternoon, before the planned Field Trip, will be used by appointed Rapporteurs to prepare the Synthesis Reports for presentation to Plenary.



## Concurrent Thematic Break-Out Groups

- 1 Biodiversity, Invasive Species, Forest Ecology and Protected Areas
- 2 Forest Biomass and Carbon
- 3 Forest and Land Cover Dynamics (including effects of fire and agriculture)



## **Thematic Groups to focus on 4 transverse aspects of the GEOSS**

- 1. User Interface**
- 2. Data and Architecture: Systems, Standards and Interoperability**
- 3. Methodologies, Products and Services**
- 4. Capacity Building: Gaps, Priorities and Opportunities**



# 1. User Interface

## **1 User Communities**

Who are the users? - Roles of industry, academia, international aid organizations, NGOs and national institutions

## **2 User Needs, Gaps and Priorities**

Relationship to the nine GEO Societal Benefit Areas (SBA's) and the GEO Communities of Practice (CoP's); Each group is asked to highlight the relevance of their theme for each of the nine GEO SBA's as well as existing coordination mechanisms and links with GEO CoP's

Cross-SBA activities and priorities (e.g. forests and climate)

## **3 Effective Outreach Approaches to Engage Users**

Lessons learned for effective engagement

Policy, Decision-making and Communication



## 2. Data and Architecture

### **1 Observing Systems - Status, Needs and Gaps of:**

- Satellite Systems
- Aerial Imaging Systems
- In situ Monitoring Techniques and Instrumentation

### **2 Data and Infrastructure of the Forest GEOSS**

- Access, Systems, Standards and Interoperability
- Status and opportunities to register forest observation components and services, and standards and protocols in the GEOSS registries

### **3 GEO Data Policy – implications for forest observations**



## 3. Methodologies, Products and Services

### **1 Research and Development Gaps**

- Research activities necessary for emerging Earth Observation systems
- Cross-cutting research activities

### **2 Linkages between products and services in global GEO forest tasks and associated regional and national activities**



## 4. Capacity Building: Gaps, Priorities and Opportunities

**1 Technical**

**2 Training**

**3 Funding**



# Symposium Summary

## Summary of Key Issues, Gaps and Priorities

### 1 Global and Regional Forest Observation Priorities

### 2 Integration of existing national or regional activities into global GEO forest tasks

### 3 Research and Development Gaps

- Research activities necessary for emerging Earth Observation systems
- Research activities necessary for earth observation capacity building
- Cross-cutting research activities

### 4 Plan of Action



# **Supplementary Slides on Observation Gaps and Priorities**



# Group on Earth Observations

## *Task US-06-01*

### **GEO Task US-06-01:**

**Establish a GEO process for identifying **critical Earth observation priorities common to many GEOSS societal benefit areas**, involving scientific and technical experts, taking account of socio-economic factors, and **building on the results of existing systems' requirements development processes.****



# Group on Earth Observations

*Task US-06-01*

## “Critical Earth Observation Priorities”

**Critical:** Fundamental & enabling; feasible

**Earth observations:**

Physical, Chemical, Biological, etc. parameters

**Priorities:** High impact; “Needs before Wants”;  
Those Common to Many SBAs

*All types of Earth Observations are included  
(ground, in situ, airborne, satellite, etc.)*



# Group on Earth Observations

## Task US-06-01

### *Current & Future States of Critical Earth Observation Priorities*

Critical Earth Observation Priorities		Currently Available	
		Yes	No
Available in Future	Planned	Good situation	In waiting
	No Plan	Possible crisis	Major gap



## Priority observational needs from documents & interviews: Examples

- GOFC-GOLD Strategy Document, 2005
- IGOL Report, 2007
- GEO Agricultural Monitoring Report, 2007
- UNFCCC requirements (reporting guidelines and standards)
- FRA 2010 Global Survey Document, 2008
- GEOSS Reference Document, 2005
- Land Cover User Assessment Project Report, Canada, 2008
- ESA Globcover User Needs Report, 2008
- GSE Forest monitoring user assessment
- Report of the 2nd West Africa Regional Network Meeting on Earth Observation and Environmental Change, Accra, 2007
- ...



# Group on Earth Observations

## Task US-06-01

### General structure:

An “Advisory Group” and an “Analyst” work together to analyze and report the priorities within each SBA.

#### Advisory Group (1 per SBA)

##### Functions:

- Will help to identify documents
- Comment on analytic methods and priority-setting criteria
- Review the analysts’ findings, priorities, and reports.

Approximately 12 people from developed and developing countries that represent experts in an SBA

#### Analyst (1 or multiple across the SBAs)

##### Functions:

- Will read and analyze the documents
- Develop an analytic method and priority-setting criteria
- Conduct the meta-analysis to identify common priorities within a SBA.

The analyst will be the primary coordinator and organizer of the activity to meet the schedules and deadlines.

Will interact with and utilize the Advisory Group for each SBA



# Group on Earth Observations

## Task US-06-01: Example of Input to Analysis

### GEO User Interface Committee - Task US-06-01

#### Example of Data Gathering from US-06-01 Analysis for a Generic SBA

Priority Earth Observation Parameter Geo/Phys/Chem/Bio	Report A	Report B	Report C
	<i>Characteristics</i>	<i>Characteristics</i>	<i>Characteristics</i>
Precipitation	10km every 12hrs.	50km every 3 hrs.	5km every 24hrs.
Sea Surface Temperature	±1°C at 1 deg. grid every 3days	±3°C at 1/4 deg. grid every day	Not mentioned
Land Cover	250m daily	Not mentioned	100m every 5 days
etc.	etc.	etc.	etc.

The Analyst and Advisory Group would identify the priority Earth Observations for the particular SBA.

The UIC would then do a meta-analysis across all the individual SBA priorities to identify those that are common.



# Group on Earth Observations

## *Task US-06-01 – Geographic Distribution*

### Geographic Regions (Proposed)

International

Africa

Europe

Oceania/Australia

Polar Region

Asia/Middle East

East Asia

North America

South/Central America

Need to have distribution across regions

- Advisory Group members
- Documents, reports, etc.

Also need to have developing countries represented



# Group on Earth Observations

## *Task US-06-01: Schedule*

November 2008 – GEO Plenary V (Romania)

- UIC Co-Chairs to announce kick-off of US-06-01
- GEO Secretariat letter to GEO Members & Participating Orgs. To request documents & ideas for advisory group members

February 2009 – GEO UIC Meeting (location TBD)

- Report progress to UIC

May 2009 – GEO UIC Meeting (Stresa, Italy)

- Suggested venue for Analysts to report progress & preliminary reports
- Held in conjunction with ISRSE Symposium

September 2009 – GEO UIC Meeting (location TBD)

- Proposed presentations by Analysts to UIC
- Discussion of analysis across SBAs

November 2009 – GEO Plenary VI

- Proposed delivery of SBA reports & common observations to plenary



# Group on Earth Observations

## *Task US-06-01 Contacts*

GEO UIC Task Lead:

Lawrence Friedl  
NASA Earth Science Division  
Washington, DC USA  
202-358-1599  
[LFriedl@nasa.gov](mailto:LFriedl@nasa.gov)