GEO Community of Practice for Forest Observations US-06-02

Societal Benefit Area: Agriculture (incl. forests and rangelands)

GEO User Interface Committee Meeting
22-24 September 2008, Boulder

Göran Boberg and Hakan Olsson, Sweden
Erkki Tomppo, Finland
Michael Brady, Canada
Martin Herold and Christiane Schmullius, GOFC-GOLD
Forest observations and GEO

• Forests are a key terrestrial ecosystem and habitat

• GEOSS reference plan:
  - Land cover and forests are important for all areas of societal benefit
  - Terrestrial observation domain least developed

• Forests and the environmental conventions:
  - Carbon and water cycle
  - Response to climate change
  - Continued deforestation and forest degradation
  - Biodiversity
Justification

• Combining remote and in situ / NFI type observations is under utilised
  ➢ *Essential for accounting and tracking of forest carbon (nationally and globally)*

• Engage user communities and networks not yet involved in GEO and earth observation

• Lack of co-ordinated long term observation plans

• Earth observation challenges:
  ➢ *varying user requirements*
  ➢ *observation continuity (satellite, in situ)*
  ➢ *move from research to operations*
  ➢ *harmonization of forest information*
  ➢ *data access issues (regional/national data sets, in situ)*
  ➢ *capacity building and outreach*
Objectives

1. Create a community of practice with broad representation of producers and users of forest data and information

2. Identify, gather, and seek agreement on user community requirements for forest observations, their present status and gaps to be filled

3. Advise the User Interface Committee, other CoPs and GEO on matters relating to forest observations and related societal benefits, and on cross-cutting issues of interest

4. Provide GEO with information about organisations and networks that could help carry out forest observation related GEO tasks

5. Support the forest observation community with information about activities and plans in the GEO process
Forest Observation User Communities

Membership determined by range of uses for forest observations and information

(1) Global Change Science

(2) Timber, Fuel and Fiber (incl. agro forestry)

(3) Watershed Protection

(4) Biodiversity and Conservation

(5) FCCC and other Environmental Agreements

(6) Recreation and Tourism

(7) Sustainable Forest Management

(8) Forest Perturbations and Protection (fire, insects, disease)
A role for GEO – land cover examples

- Engage user communities previously not or less involved in Earth Observation:
  - Communities of Practice (Forest observations)
- Addressing critical gaps needing facilitation:
  - Decadal Landsat-type survey (DA-07-03, DA-07-02)
- Develop international consensus for implementation
  - Specifications for fine-scale land cover change (DA-07-02)
- Linking global monitoring activities and national level implementation:
  - FAO-FRA 2010 RS survey (AG-06-04)
  - Technical guidance for UNFCCC (i.e. DA-07-02)
  - Related capacity building activities
- Data integration: in-situ and forest observations
  - AG-06-04 and Forest CoP
Work to Date

Define initial focus of FCoP:
- integrating in-situ and space based forest observations
- Involvement in planning process for upcoming global forest assessment (FRA 2010)

Identify and contact key forest organizations for involvement:
- UN Org, FAO Forestry Program, Forest Resource Assessment, UNFCCC, CBD
- Regional processes, MCPFE, Montreal process
- National Forest Inventories, ENFIN, NAFC, COST E43
- Regional (EC/ESA GMES, i.e. GSE forest monitoring)
- National agencies, CFS, USFS
- NGOs

*List in 09/11 WP Appendix not accurate!
Identify direct requirements for forest observations in GEO 2007/09 work plan tasks by eight communities of users:

- **24 tasks identified with need for forest observations**
- **Tasks in all SBAs**
- **Tasks linked to all user communities:**
  - Global Change Science – 10 tasks
  - Timber, Fuel and Fiber – 4 tasks
  - Watershed Protection - 2 tasks
  - Biodiversity and Conservation - 8 tasks
  - FCCC and other Environmental Agreements - 5 tasks
  - Recreation and Tourism - 1 task
  - Sustainable Forest Management - 3 tasks
  - Forest Perturbations and Protection (fire, insects, disease) - 10 tasks
Direct requirements for forest observations in GEO work plan tasks by 8 communities of users

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<th>Timber, Fuel and Forest</th>
<th>Watershed Protection</th>
<th>Biodiversity and Conservation</th>
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Work to Date

Ongoing work of Global Observation of Forest and Land Cover Dynamics:

- **GTOS/GOFC-GOLD – strategy reviews**
- **Activities of Regional Networks**
  - Progress in Africa, Latin America, East Asia
- **Activities of Implementation Teams:**
  - GEO land and fire tasks (forest assessment, fire early warning)
  - Workshop on fire early warning task, July 08
  - IGOL (IGOS-P land theme)
  - Conventions (reporting standards, REDD)
  - Land cover user needs assessment study for new LC map of Canada (June 08)
UIC Process

• During the August 2007 meeting of the UIC a 2-year process was agreed to identify user priorities and gaps in EO.

• The process is to identify critical Earth observation priorities common to many GEOSS SBAs:
  – involving scientific and technical experts,
  – taking account of socio-economic factors, and
  – building on the results of existing systems’ requirements development processes.

• Forest CoP is leading the Initiation of an Advisory Group for the forest portion of Agriculture SBA (working with Agriculture Monitoring CoP)

• Canadian Forest Service, as a contribution to the FCoP provided an analyst for an initial period of 4 months (January to April 2008)
9-Step UIC Process

1. For each of the nine GEO SBAs, UIC Members identify Advisory Groups & Analysts who identify/develop the following
2. Scope of topics for the current priority-setting activity
3. Existing documents on observation priorities
4. Analytic methods and priority-setting criteria
5. Priority observational needs from documents & interviews
6. Combine the information & develop a preliminary priorities report
7. Gather feedback on the preliminary report
8. Perform any additional analysis
9. Complete the report on Earth observation priorities
Current Activities

• Recruiting new members: USFS
• Populating GEO Registry: forest data and systems (CFS-Saforah land cover, CWFIS fire in process)
• Confirming forest related tasks in new work plan (resolve absence of forest tasks in AG)
• Planning for engagement with users to further the UIC Process:
  • GEOSS in the Americas symposium, Sep 08
  • GOFC-GOLD Land Cover Symposium, Oct 08
  • GEO Forest Symposium, Nov 08
• Developing generic UI process guide for upcoming events
• Initiation of the AAG: The AAG analyst and the FCoP are recruiting members for the AAG.
UIC Advisory Group for Agriculture SBA (AAG)

- Specialists (in user needs assessment) selected from:
  - GEO Forest Observations CoP
  - IGOL Theme (relevant parts)
  - GOFC-GOLD
  - Agricultural Monitoring Task AG-07-03
  - GEO Agricultural CoP

- Analyst: Part time at CFS, Canada
- Point of Contact: Michael Brady
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)
- GEOSS Reference Document, 2005
- Land Cover User Assessment Project Report, Canada, 2008
- GSE Forest monitoring user assessment
- …
The Second GEOSS Asia-Pacific Symposium
The role of Earth observations in tackling climate change
National Museum of Emerging Science and Innovation,
Tokyo, Japan

Summary Report (as endorsed on 16 April 2008)

As part of the implementation of the Global Earth Observation System of Systems (GEOSS) endorsed by the Group on Earth Observations (GEO), the Second GEOSS Asia-Pacific Symposium was held in Tokyo, Japan from 16 to 18 April 2008, at the invitation of the Ministry of Education, Culture, Sports, Science and Technology (MEXT), to discuss the role of Earth observations in tackling climate change and its related effects. People’s increasing concern over climate change has increased recently on a global scale. At the upcoming G8 Toyako Summit in July, climate change will be discussed in the main


Reducing Greenhouse Gas Emissions from Deforestation in Developing Countries: Considerations for Monitoring and Measuring

INTEGRATED GLOBAL OBSERVATIONS OF THE LAND

An IGOS-P Theme
2007

IGOS Report No. 8

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## Priority observational needs by user sub communities

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Next Steps

- Evaluation of 10-year targets for 2015 completion
- Planning for engagement with users to further the UIC Process:
  - GEOSS in the Americas symposium, Sep 08
  - GOFC-GOLD Land Cover Symposium, Oct 08
  - GEO Forest Symposium, Nov 08
- Expand participation in Forest CoP and Advisory group for UIC Process
- Encourage registration of forest data and EO systems
- Address task activities in new 2009-2011 GEO work plan
- Establish website (through GEO or GOFC-GOFC)
- Seek input and advice at joint CBC meeting at Boulder in Sep 2008
- Participate in planned Agriculture CoP events
Questions?

Point of contact:
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(mbrady@nrcan.gc.ca)