

Sub-task Number: CB-09-04a

Sub-task Title: Identifying Best Practices, Gaps and Needs

Overarching Task: Capacity Building Needs and Gap Assessment

Area: CAPACITY BUILDING

Relevant Committee: CBC

Related Targets: (to be included in 2009)

Sub-task Definition (as given in the 2009-2011 Work Plan):

Through the engagement of user and expert networks, build registry and database content for the existing components, services and best practices registries of Task AR-09-01. This content will include current and planned capacity building activities, best practices, and identified gaps and needs. Moreover this will include, as needed, observation, modeling and implementation of best practices. Best practice examples will for instance relate to open-content courses, e-learning material, and downloadable data & products that support the use of GEOSS and capacity building. Develop and disseminate, for each societal benefit area, specific capacity building outreach material reflecting best practices. Enable access to the above through the GEOPortal (AR-09-01a) and GEOSS Best Practices Registry (AR-09-01c).

Leads (GEO Member or PO, Entity carrying out the work, Contact: e-mail):

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Motivation/Background

The purpose of this task is to create conditions and the enabling environment for engaging the EO global user base with capacity building providers and developers. This purpose will serve the bigger goal of improved efficiency of GEOSS capacity building support, and its application to the nine societal benefit areas of GEO. Special emphasis will be laid on bridging gaps with developing nations, and to generate *in situ* human resources capacity for deploying GEOSS in those regions.

Outputs

In view of the very wide and ambitious range of outputs which can be defined under this task heading, certain activities will be of a generic character, applicable to all regions and societal benefit areas. Besides these, a number of planned outputs can be mentioned, which will be executed as project-based actions during 2009-2011 (see also below under project procurement and resources):

Planned:

The planned output of this sub-task can be described as follows:

- Identification of CB needs in EO at both a generic and global level, but with emphasis on target regions (e.g. developing countries or other regions of interest defined by major GEO stakeholders).
- Identification of resource providers in the various regions
- Development of a mechanism to facilitate interaction between users (stakeholder requests) and providers
- Dissemination activities
- Install monitoring and evaluation mechanisms for user needs and provider performance.

Produced (current status):

Up to the end of 2008, a number of outputs have been achieved by the task contributing organizations. These can be summarized as follows:

- Initial CB surveys: two initial surveys were conducted by the GEO secretariat and task team during 2006-2007 and were already analysed and documented extensively at meetings.. We refer to the CBC 4-7 meeting reports for these products.
- Identifying Gaps & Needs through dissemination events and CB hands-on workshops in the regions. In 2008, within the framework of this task, two events were organized: GEO ITC executive workshop on Earth Observation for improving Integrated Water Resources Management in Africa (Sep, 22-24, Enschede, NL) and the GEOSS User and Architecture workshop XXIV (as AARSE2008 pre-event), dedicated to Water security and Governance in Africa (Oct, 24-26) in Accra, Ghana. Document summaries of these workshops are available.
- Participation in other int'l events: ISPRS2008 Beijing (July) and FOSS4, (Sep 2008, Capetown) demonstrating open source downstream solutions linked to the Geonetcast satellite data dissemination system.
- Development of Best Practices (education & training) using the GEONETcast data dissemination system of GEO, coupled to open source and web-based technologies for data analysis and interpretation. The ITC GEONETcast toolbox is currently being developed for this purpose (ref. Maathuis, Mannaerts et al, 2006;2007;2008). The ITC Geonetcast Toolbox was awarded best presentation award at the AARSE2006, Cairo (initial version and setup of a first African low cost receiving station and data analysis facility at the CGIS/NUR (National University of Rwanda); and the 3th bronze medal price at the large global ISPRS 2008 CATCON5 computer-aided teaching contest.
- Funded support project procurement: search of necessary financial resources for supporting this task (and other CB subtasks) are currently being attempted by the task lead, other task contributors and consortia using the EU framework projects (FP7) funding mechanism and project calls related to support of the GEO process (e.g. ENV.4.1.4.1 project call for supporting the GEO CB process; closing date 08-01-2009). This is an open call and competitive consortia can bid for the project.

Activities

Planned 2009:

- *Task overall support:* It is foreseen, that a substantial support project will kick-off during 2009 (4th semester) to tackle the core elements of this task, using a funded project-based model and consortium in close cooperation with the GEO secretariat and other capacity building sub-tasks.
- *Identification of BP's using funded projects:* Within the framework of several on-going funded projects, dissemination of Best Practices in Earth Observation data use through Capacity building is further scheduled in 2009. We can refer amongst others to the EU funded Aida and Devcocast projects (led by VITO/Belgium), ESA/Tiger activities, recent deployment of SERVIR in East Africa, and scheduled dissemination actions. Also dissemination activities from stakeholders like e.g. INPE and CBERS2b for Africa are foreseen.
- *BP dissemination and gaps and needs analysis through conferences & symposia:* Cont'd identification of Best Practices and Gaps & Needs assessment will be conducted through short dissemination and mini training events, linked to major conferences. Some examples of dissemination and gaps & needs analysis workshops and activities already scheduled are: IGARSS Conf. July 2009, Cape Town, SA; AfricaGIS, Oct 2009, Kampala, Uganda. These will be jointly conducted by several contributors.
- *GEO task links to int'l professional and scientific networks:* Exploring further links of GEO task CB-09-04a with ISPRS COM VI on Education & Outreach. More especially develop exchanges (networks) and cooperation with the respective Working Groups WG VI-1 Web based Education, WG VI-2 E-delivery of educational services, WG VI-5: promotion of (RS remote sensing) profession to young people and WG VI-6: technology transfer caravan. In the framework of ISPRS TC VI, a number of meetings and workshops are planned in 2009. A tentative list related to this task can be made as follows:
 - o WG VI-1/2 on Web-based education & E-delivery: workshop, Jun 08 in Potsdam, Isprs in cooperation with the Deutsche Dachverband fur Geoinformation (DDGI)
 - o E-learning sessions a the RSPS Conference (Remote sensing and Photogrammetry Society Conference, Leicester, UK, Sep,8-11 08.

- WG VI-5 Promotion of RS profession to young people (social and cultural events around the SELPER meetings (Central and Latin America's);
- ISPRS council meeting (Sep, 4-6 2009): the issue of best practices in capacity building like open source content, e-learning mode, etc.) will be on the agenda of TC VI during the Ipsrs council meeting, held at the ITC, Enschede, NL.
- Several more events are tentatively scheduled. Information will become available early 2009 and updated via the task sheet and other channels (ISPRS website, etc.).

Planned 2010:

- June, 2-4 2010 (ITC, Enschede, NL): A major symposium event is being planned by the task lead and partners, related to the ISPRS TC-VI Education & Outreach and also commemorating the 60th anniversary (1950-2010) of the ITC institute. The theme of int'l education (networks, web-based and e-delivery, best practices, recognition and quality assurance issues, ref. Also task cb-09-02a) and others will be high on the meeting agenda. It is proposed to have this coinciding with a GEO 2010 CBC committee meeting.

Progress (current status):

Resources

Task lead (ITC) provided human resource capacity, as well as financial support for a number of GEO workshops in 2008 i.e.: GEO ITC executive seminar on Earth Observation for improving Integrated Water Resources Management in Africa (Sep 22-24, Enschede), and the GEOSS User & Architecture XXIV workshop (total approx. 50 k€). Other organizations like ISPRS, IEEE, AARSE, INPE and others also contributed with some financial resources or in kind (staff support) to the workshops.

Necessary financial resources for supporting this task (and other CB subtasks) and the GEO CB process in general are currently being explored by tasklead and consortia, under the European framework projects (FP7) funding mechanism and more specifically in the project calls related to the Environment (e.g. ENV.4.1.4.1 project call for supporting the GEO capacity building component; closing date 08-01-2009).

Architecture and Data Component

1) Please briefly describe any task-related Earth observation resources (data set, system, website/portal) and any related Web Service interfaces that are contributed to GEOSS. State whether these items are or will be registered with the GEOSS Component and Service Registry for access via the GEO Web Portals, and whether any associated standards or other interoperability arrangements will be registered in the Standards and Interoperability Registry.

2) Please also describe what data and information your activity/system needs that you would request to be accessible through the GEOSS Common Infrastructure.

Capacity Building Component

Within this task, several short training events, summer schools are planned, and organized by a variety of GEO members and/or institutions or related organizations. A list will be progressively become available and updated early 2009, and continuously, whenever factual notice and evidence becomes available from the organizers.

User Engagement Component

End users are engaged primarily through 1> distance learning (e-learning mode) or 2> using the dissemination events, where EO data providers, capacity building experts meet face-to-face with end users and application people in target regions (example the GEOSS User workshop, held in Accra, Ghana (24-26

Oct). Other methods for user engagement which can be used are web-based survey instruments (as previously used for the CB 2006-2007 surveys).

Science and Technology (S&T) Component

1) Please briefly describe the elements of scientific research or technological development contained in this Task.

2) In relation to the S&T component(s) of this task, please describe gaps, priorities, continuity needs, barriers, scientific expertise and additional resource needs (this information will be used for developing a gaps and needs assessment in Task ST-09-01)

Members and POs' Contributions to Outputs and Activities above:

(Input is optional. This section gives the chance to Members and POs to provide more details (3-5 lines) on their individual activities, making a clear connection with the Outputs and Activities outlined above).

Germany

Deutscher Wetterdienst (DWD): GCOS German Coordinator.

Japan

University of Tokyo: Help evaluate best practices. Improve Best Practice Wiki for more user-friendly interface and value added uses.

GCOS

Follow-up on Regional Workshop Programme 2000-2006 which identified key gaps and deficiencies in observing systems for climate in developing countries.

ISPRS

ISPRS WG VI-2: Contribution to workshops and other activities to complete task.

Participation (Table to be filled in 2009): (to be re-edited and filled in)

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