Task Number: ST-09-01
Task Title: Catalyzing Research and Development (R&D) Resources for GEOSS

Area: SCIENCE AND TECHNOLOGY
Related Community of Practice: all
Relevant Committee*:* STC
Related Targets: TBD

Task Definition *(as given in the 2009-2011 Work Plan):*

Encourage national governments and international organizations to address GEOSS Science and Technology needs in their R&D programmes. As stated in "The Role of Science and Technology in GEOSS"[1], it should be a priority for GEO Members and Participating Organizations to involve research institutions and resource agencies in GEOSS implementation. To this end, GEO Members and Participating Organizations will be encouraged to: (i) plan and conduct R&D activities in support of GEOSS implementation; (ii) Contribute relevant R&D activities (planned or ongoing) to GEOSS implementation; (iii) Identify and earmark potential sources of funding or other resources for those activities; and (iv) promote GEOSS throughout the process.
Related activities will include: Develop proposals and guidelines to assist R&D agencies in addressing GEO needs. Engage a dialogue with decision makers and resource agencies. Identify programmes relevant to GEOSS Science and Technology needs and encourage them to collaborate with one another.

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

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ESA

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Motivation/Background

Worldwide still only few organizations with available resources and other resources make explicit reference to GEO and GEOSS in their programs. It limits then the engagement of the scientific and technological communities in the realization of GEOSS. Therefore it becomes crucial that the funding and other resource providers dealing with earth observation and the SBAs are becoming more aware of GEO and proactive towards GEOSS.
State of the art: the GEO S&T Committee has produced a document identifying a number of programs relevant to GEOSS and there are already some R&D resource bodies who have flagged activities in their WP (EC etc…). The task should start from those initial steps.
There are existing organizations at the international level that explicitly address providing resources and other resources for relevant scientific efforts in Earth observations, such as the International Group of Funding Agencies for Global Change (IGFA). In addition, there are many examples of individual Member contributions of funding and other resources to GEO and GEOSS-related efforts. Fostering the conversation that may lead to increasing funding and other resources of all kinds targeted to scientific and technology needs, that will inform the work of applications users and providers, is at the heart of this task.

Outputs *(e.g. products and services which result from the activities of the Task/sub-task; outlined in the form of deliverables with timelines)*

Planned:

1. Identified set of key Science and Technology programmes needed in the context of the development of GEOSS as well as targeted funding and other resource mechanisms (mid 2009)

[1] Document available at http://www.earthobservations.org/ag_stc.shtml

2. Identified set of key commercial/industry companies with substantial science, technology, or applications interests in GEOSS or datasets of broad scientific value (end 2009)
3. Report on S&T gaps, priorities, and continuity needs to support GEO (2010 Summit);
4. Establishment of effective forum/network of resource agencies, Members and POs supporting key Science and Technology programmes to exchange views on current actions and discuss overcoming S&T gaps, priorities and continuity needs (early 2010);
5. Response to S&T gaps, priorities and continuity needs by this forum, including describing Best Practices in responding to these (e.g. by a workshop report)

Produced (current status): …

***Activities** (operations or work processes through which resources are mobilized to produce specific outputs; outlined in the form of milestones including timelines)*

Planned: [note – the Activities below are numbered according to the evolving STC Roadmap]

1. Bring together a group of experts knowledgeable about key relevant programs and funding and other resource mechanisms to identify those programs and mechanisms and existing forums/networks of resource and other funding agencies supporting key S&T programmes (e.g. IGFA-International Group of Funding Agencies for Global Change Research, ERA-Nets) and build on these existing initiatives; this should include input from relevant activities within the CBC, ADC, UIC

   Activity 2f: Identify key industry partners. Many commercial companies are using capabilities, knowledge and observational means provided by the S&T communities. These could also benefit from improved observational means, products and services and might therefore be interested in providing resources for certain S&T developments in this context. Moreover, many relevant datasets are produced by such companies, and are of interest for GEOSS users. Therefore, an attempt should be made to have these data sets registered when they become publicly available.

2. Compile database of key commercial/industry companies with substantial science and technology interests in GEOSS or datasets of broad scientific value.
3. 3a. Collect from the Task leads the answers to the following questions from the task sheets: "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)

   Activity 1a: Work Plan Review. One objective of the STC is to ensure that the evolving GEO Work Plan is and remains scientifically and technologically sound and contributes to answering relevant questions in the SBAs. This will be achieved through a revolving scientific review of each Work Plan, starting with the current work plan for 2009-2011. The outcome of this review will be an assessment report of the Work Plan against the outstanding questions and challenges in each of the SBAs. This assessment may recommend changes to objectives and scope of existing Tasks or propose new Tasks to respond to any identified deficits or overlaps. The recommendations may also identify opportunities for cooperation between Tasks, suggest inclusion of specific activities from outside GEOSS, or motivate the definition of new ones. The scope of the Work Plan Review also includes reviewing the completeness of the nine Societal Benefit Areas.

   3b. Invite science groups (such as former IGOS-P theme leads and ICSU) and application groups to contribute to analysis of the feedback from task leads.

   Activity 1e: Responding to S&T needs. Identify concrete deficits and gaps that hinder the full implementation of GEOSS or its effectiveness. In order to address these deficits and gaps efficiently, an attractive platform must be established for broadly agreeing on priorities. GEO should set up a process for coordinating scientific priorities in Earth observation and report them in a way that stimulates appropriate responses from GEO Members and Participating Organizations. This analysis may uncover gaps in component continuity, research, technologies, or other areas.

3c. Analyze all feedback gathered from the task leads and from the science and application group feedback.

4. Bring together an effective forum/network that can discuss regularly GEO S&T issues and programming and publish forum notes that document the outcome of the forum.

Progress (current status): …

***Resources** (indication of resources – e.g. financial, human – contributed by GEO Members or Participating Organizations to produce outputs)*

UK: NERC (BGS): S.H.Marsh: shm@bgs.ac.uk: Influence NERC funding schemes to support GEOSS implementation

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

(capacity building is defined to include the development of capacity related to: (i) Infrastructure and technology transfer (Hardware, Software and other technology required to develop, access and use EO); (ii) Individuals (education and training of individuals to be aware of, access, use and develop EO) and (iii) Institutions – building policies, programs & organizational structures to enhance the value of EO data and products).

1) In accordance with the above definition does this Task have a capacity-building component? If so, please provide a short description of this component including a description of end users.

This task supports the development of programs and organizational structures to enhance the value of EO data and products through the forum activity.

2) Have any additional CB needs for this Task been identified? Please provide a short description.

This information may come from the analysis activity.

User Engagement Component

(please briefly describe to what extent end users are engaged in this Task and influence the nature of the outputs produced)

Users are key to this effort; the application community is an essential element of the data gathering, analysis, and forum activities. One of the proposed products is a report on gaps, needs, and other issues in the science, technology, and applications communities gleaned, in part, from the task leads.

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).

UK
NERC (BGS): Influence NERC funding schemes to support GEOSS implementation.

EC
EuroGEOSS will contribute to the analysis of GEO S&T needs as identifed by GEO Task leads.

ESA
ESA will suppport EC in this task.

Participation *(Table to be filled in 2009):*

Type	Member or PO	Representing	Contact Name	EmailAddress
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