



GROUP ON  
EARTH OBSERVATIONS

## GEO-VII

3-4 November 2010

GCI Coordination Team Report

Document 8

For information.



## **GCI Coordination Team Report**

### **1 BACKGROUND**

The 2007 Cape Town Ministerial Declaration committed GEO Members and Participating Organizations “to explore ways and means for the sustained operations of the shared architectural GEOSS components and related information infrastructure.” Accordingly, the GEOSS Common Infrastructure (GCI) was created to ensure that end-users of Earth observation data have efficient, effective access to the full suite of Earth observation content provided through GEOSS, and to facilitate interoperability among all content contributed to GEOSS.

GEO-VI Plenary established the GCI Coordination Team (GCI-CT) in response to the final recommendations from the Initial Operations Capability Task Force. Its first task was the evaluation and selection of a single GEO Web Portal and a single GEOSS Clearinghouse. GCI-CT was also tasked to formulate recommendations concerning a suggested "Reserve Fund" and to assist in increasing resources registered in the GCI.

### **2 GCI-CT PURPOSE AND OBJECTIVES (PER TERMS OF REFERENCE)**

Purpose: GCI-CT is to oversee the development, implementation, and operation of the GCI in support of GEO.

Objectives:

- To provide guidance on the sustained operation of the integrated GCI and its components in light of known and evolving requirements, whilst adhering to agreed architecture standards and principles;
- To provide recommendations including provisions for resource needs, when appropriate, addressing sustainability and transparency of GCI operations; and
- To engage the GEO Members, Participating Organizations and component providers in assuring sustained and scalable operations of the GCI to realise the full potential of GEOSS;
- To facilitate collection of sufficient resources of documented quality in the GCI.

### **3 SINGLE GEO WEB PORTAL AND SINGLE GEOSS CLEARINGHOUSE**

In order to complete its first task of evaluation and selection of a single GEO Web Portal and a single GEOSS Clearinghouse, the GCI Coordinating Team established the detailed procedures for this evaluation and selection process, and adopted the 6 selection criteria recommended by the Initial Operations Capability Task Force (IOC-TF). In addition, the GCI Coordinating Team refined the GCI requirements document originally created by the IOC-TF. The GEO Executive Committee approved these evaluation procedures, selection criteria and requirements during its 18<sup>th</sup> Meeting in March 2010. The GCI-CT executed these approved procedures, with intense dedicated support from a team of testers contributed by the Joint Research Centre (JRC) of the European Commission, the Brazilian Institute for Space Research (INPE), and by the United States Environmental Protection Agency (EPA). The functional tests involved numerous interactive and machine-to-machine sessions, and the usability testing involved engaging a large number of participants from the user community during several workshops, including the 1<sup>st</sup> GEO Work Plan Symposium, where a record test participation of

70% of attendees was achieved. GCI Component providers were contacted to obtain their commitments towards sustained operations and, it must be stressed, collaborated very positively with the GCI-CT and team of testers during the selection phase. The application of the selection criteria to the test results and provider responses led to the selection of:

- the US Geological Survey (USGS) as the single provider for the GEOSS Clearinghouse, and
- the European Space Agency (ESA) / UN Food and Agriculture Organisation (FAO) as the single provider for the GEO Web Portal.

Full details on the results leading to this outcome have been reported to the GEO Executive Committee during its 19<sup>th</sup> Meeting in July 2010.

#### **4 PROPOSAL OF ALTERNATIVES FOR "RESERVE FUND"**

Before offering a recommendation to Plenary, GCI-CT will further refine the suggestion that GEO establish a special fund associated with the GCI. This refinement will take into account the particular component providers identified through the successful GCI selection process (USGS and ESA/FAO).

GCI-CT will explore:

What anticipated GCI needs require a special arrangement because they cannot be met by the commitments through 2015 already made by the selected GCI component providers?

What are the legal, policy, and existing GEO agreements that constrain whether and how a GCI fund could be established and administered in GEO?

Is it feasible to establish and administer a GCI Fund as suggested within the identified constraints, or are there other funding arrangements that could meet the anticipated GCI needs?

If funding arrangements are not feasible, would it be useful for GEO to pre-arrange with particular GEO Members and Participating Organizations to make a voluntary contribution of funds, or in-kind support, if and when a particular need manifests itself?

#### **5 REGISTERED RESOURCES IN THE GCI**

As of August 2010, the GEOSS Component and Service Registry had 233 registered systems (components) and 114 services, including 25 metadata catalogs. Over 24,000 EO resources from these catalogs can now be searched via the GEO Web Portal and GEOSS Clearinghouse. However, the number of EO systems, data sets, and services in the GEOSS Clearinghouse is a small fraction of those operated by GEO Members and Participating Organizations. Hence, there remains a pressing operational need to populate a comprehensive catalog of EO resources across GEO.

#### **6 GCI-CT FUTURE ACTIVITIES**

In addition to focusing on how to increase registered resources in the GCI, the GCI-CT presented to the 19<sup>th</sup> GEO Executive Committee its plan to address the following areas:

Enhancing connections and interactions with "Community Portals": these are Web-based information resources that have been developed specifically to meet the particular needs of specialised expert communities. Through creating standard Community catalogs, these Community Portals will communicate seamlessly with the GEOSS Common Infrastructure.

Formulation of best practices for GCI testing and functional testing of all GCI components against all consolidated requirements, to ensure suitability and performance of the overall GCI during its long-

term operational phase. This objective poses different requirements on the testing process to those of the original tests that were aimed purely at the selection of components.

Assessing whether the evolving and diverse needs of the GEOSS user community are and will continue to be met, and guiding the adaptation of the GCI to these needs. In order to achieve this, GEO communities will be consulted and a dedicated Usability testing plan for the operational phase will be developed. The GCI Coordinating Team will prioritize recommendations for improvements identified in the Usability Testing reports, and collaborate with the GCI Component providers to work towards their implementation.

Formulate policies for Configuration Management, backup,, redundancy, and risk management and oversee their implementation.

Evaluating the proposed requirements outlined in the Data Sharing Task Force Action Plan. These requirements may suggest the development of new GCI functions that can facilitate data sharing within the GEOSS.

Coordination with ADC and other GEO elements to communicate requirements of the operational GCI and to incorporate new developments into the GCI, (e.g., adoption of technologies from AIP and other GEO pilots, operational implementation for quality indication mechanisms, support to long term data preservation).