

## Report of the Data Sharing Working Group

The GEO-VIII Plenary accepted the recommendation of the outgoing Data Sharing Task Force that a new Working Group on data sharing should be established, the Data Sharing Working Group (DSWG).

The GEO-VIII Plenary also accepted Document 21, Work Plan Management (for the GEO 2012-2015 Work Plan). This stated that: "The current Data Sharing Task Force will evolve into a new Data Sharing Task Team. (or into another body as recommended by Plenary, that is the Data Sharing Working Group), that will be fully in charge of implementing Task ID-01 and advancing the GEOSS Data Sharing Principles. The new Data Sharing Working Group will carry out specific actions, with a focus on promotion of the GEOSS Data Sharing Principles and the Data Sharing Action Plan."

This report outlines the actions undertaken by the DSWG through to the end of February 2012. It also seeks the approval of the Executive Committee (EXCOM) for the draft Terms of Reference for the DSWG and guidance from EXCOM on the draft task sheet for the task ID-01: Advancing the GEOSS Data Sharing Principles.

### 1 MEMBERSHIP OF THE DATA SHARING WORKING GROUP

The Director of the GEO Secretariat wrote to GEO Principals on 1 December 2011, asking them to nominate members for the DSWG.

The DSWG then held its first teleconference on 18 January 2012, at which time it was able to review the initial membership of the DSWG. The current membership of the DSWG is given in Annex 1.

The European Commission, the United States of America and the International Council for Science (ICSU/CODATA) were accepted as provisional Co-Chairs of the DSWG, subject to the formal approval of EXCOM.

Robert Chen (ICSU/CODATA) kindly agreed to stand as the Coordinator of the GEO Work Plan task ID-01: Advancing the GEOSS Data Sharing Principles. Alan Edwards (European Commission) and Greg Withee (United States of America) will share the role of representing the DSWG on the Implementation Boards.

The DSWG is pleased to note the participation of African GEO Members in the DSWG. The DSWG would encourage more African GEO Members to join the DSWG.

However, the DSWG would like to draw to the attention of EXCOM the absence of any participation in the DSWG from GEO Members in South America and the Confederation of Independent States. There is also rather limited participation from Asia / Oceania.

**The DSWG would ask the GEO Executive Committee to address the issue of the limited participation in the DSWG and to encourage more GEO Members and Participating Organizations to take part in the work and activities of the DSWG, and in particular to volunteer to serve as Co-Chairs.**

### 2 THE DATA SHARING WORKING GROUP DRAFT TERMS OF REFERENCE

The draft Terms of Reference as prepared by the DSWG are given in Annex 2.

The objectives shown in the draft ToR closely follow the Actions listed in the GEOSS Data Sharing Action Plan adopted by the GEO-VII Plenary in Beijing.

**The GEO Executive Committee is asked to endorse these Terms of Reference for the Data Sharing Working Group.**

### **3 THE DATA SHARING WORKING GROUP DRAFT TASK SHEET ID-01**

The draft Task Sheet for the task ID-01: Advancing the GEOSS Data Sharing Principles, is shown in Annex 3.

**The GEO Executive Committee is asked to provide guidance to the DSWG on the Outputs and Activities set out in the draft Task Sheet ID-01.**

## **4 INTERACTIONS WITH THE IMPLEMENTATION BOARDS**

### **4.1 The Infrastructure Implementation Board**

The first meeting of the GEOSS Infrastructure Implementation Board (IIB) took place from 23-24 January 2012. A number of actions that had been the responsibility of the previous Data Sharing Task Force were transferred to the IIB and certain of the Infrastructure Tasks within the 2012-2015 GEO Work Plan. This transfer was discussed in detail at this meeting of the IIB. The IIB readily agreed to work closely with the Data Sharing Working Group to ensure the continued and effective implementation of activities arising from the GEOSS Data Sharing Principles, Implementation Guidelines and Data Sharing Action Plan. In particular, with regard to the GEOSS Data-CORE, the IIB acknowledged that Data-CORE datasets have been pledged and that the data providers need to know the steps to follow to ensure that their data is visible in the GEOSS Data-CORE. The IIB agreed on a number of actions and identified the tasks and leads who would work on these actions.

### **4.2 The Institutions and Development Implementation Board**

The GEO-VIII Plenary gave the DSWG the responsibility to carry out the task ID-01: Advancing the GEOSS Data Sharing Principles. The DSWG has therefore interacted with the Institutions and Development Implementation Board (I&DIB) to ensure that data sharing activities can be promoted and coordinated across the various Implementation Boards and tasks within the 2012-2015 GEO Work Plan. (As the task ID-01 falls under the remit of the I&DIB, the DSWG is also represented on the I&DIB.)

## ANNEX 1

### MEMBERSHIP OF THE DATA SHARING WORKING GROUP AS OF 29 FEBRUARY 2012

| #  | Member               | Participating Organization                                   |
|----|----------------------|--|
| 1  | Bahamas              | Asia-Pacific Space Cooperation Organization (APSCO)          |
| 2  | Bangladesh           | Committee on Earth Observation Satellites (CEOS)             |
| 3  | Czech Republic       | Committee on Space Research (COSPAR)                         |
| 4  | European Commission* | European Environmental Agency (EEA)                          |
| 5  | France               | Global Spatial Data Infrastructure (GSDI) Association        |
| 6  | Germany              | Institute of Electrical and Electronics Engineers (IEEE)     |
| 7  | Italy                | International Association of Geodesy (IAG)                   |
| 8  | Japan                | International Council for Science (ICSU)*                    |
| 9  | Madagascar           | International Institute for Applied Systems Analysis (IIASA) |
| 10 | Netherlands          | International Institute for Space Law (IISL)                 |
| 11 | Nigeria              | International Society for Digital Earth (ISDE)               |
| 12 | United Kingdom       | International Steering Committee for Global Mapping          |
| 13 | United States*       | International Union of Geological Sciences (IUGS)            |
| 14 |                      | Open Geospatial Consortium (OGC)                             |
| 15 |                      | United Nations Office for Outer Space Affairs (UNOOSA)       |
| 16 |                      | World Meteorological Organization (WMO)                      |

\* Provisional co-chair

## **ANNEX 2**

### **GEOSS DATA SHARING WORKING GROUP TERMS OF REFERENCE**

#### **1 PURPOSE**

The GEOSS Data Sharing Working Group (hereafter referenced as “DSWG”) will support the Group on Earth Observation (GEO) in its goals to put into practice the GEOSS Data Sharing Principles, the Implementation Guidelines for the GEOSS Data Sharing Principles and the GEOSS Data Sharing Action Plan. It will have responsibility for executing the GEO 2012-2015 Work Plan Task ID-01.

#### **2 OBJECTIVES**

The DSWG is convened to work with GEO collectively, including the Implementation Boards and all other tasks in the Work Plan, to enable effective implementation of the GEOSS Data Sharing Principles by:

- Supporting and expanding the GEOSS Data Collection of Open Resources for Everyone (GEOSS Data-CORE), a distributed pool of documented datasets with full, open and unrestricted access at no more than the cost of reproduction and distribution;
- Ensuring that the framework for full and open access to data is addressed in the implementation of the GEOSS Common Infrastructure;
- Monitoring the use and impact of resources made available with full and open access;
- Promoting the efficacy of the Data Sharing Principles in delivering societal benefits;
- Evaluating the outcomes of the GEOSS Data Sharing Action Plan and recommending further actions, including promoting comprehensive data documentation and any mechanisms needed to further enhance the ability of the GEOSS architecture to provide access to data, metadata and products;
- Assisting GEO Members in establishing national coordinating mechanisms, with the support of relevant Participating Organizations, to promote and monitor engagement with the implementation of the GEOSS Data Sharing Principles and provide feedback to GEO;
- Supporting GEO Members in developing policy frameworks, with the support of relevant Participating Organizations, to further implement the GEOSS Data Sharing Principles and GEOSS Data Sharing Action Plan;
- Maximising the number of documented datasets made available on the basis of full and open access;
- Promoting to data providers the benefits of full and open access to data, in particular the benefits of the GEOSS Data-CORE.

#### **3 MEMBERSHIP AND WORKING ARRANGEMENTS**

- The DSWG was created by, acts on requests from, and reports to, the GEO Plenary;
- The DSWG will provide reports to, and request the guidance of, the Executive Committee, as required;

- The DSWG shall be composed of individuals nominated by GEO Members and Participating Organisations, in particular those with relevant expertise, with administrative support provided by the GEO Secretariat;
- Co-chairs of the DSWG shall be decided by the DSWG. There should be a minimum of four co-chairs with representation from both GEO Members and Participating Organizations. GEO Members and Participating Organizations may nominate co-chairs for consideration by the DSWG;
- The DSWG will meet at such times and places as determined by its members and work mainly through teleconferences and e-mail;
- Participation in GEO events is strongly encouraged;
- The DSWG will coordinate its work with that of the Implementation Boards during the Work Plan Symposium and Forum and other venues;
- The DSWG will coordinate with other international and regional initiatives and organisations working on data sharing issues;
- The DSWG will support developing country initiatives on data sharing;
- Specific research work or investigations may be assigned by the DSWG to sub-teams of individual experts to address identified issues at the appropriate level of detail and professional expertise.

#### **4 DURATION**

- The duration of these Terms of Reference shall be March 2012 through to the GEO Plenary in 2015.

## **ANNEX 3**

### **DRAFT TASK SHEET FOR ID-01: ADVANCING THE GEOSS DATA SHARING PRINCIPLES**

#### **1 INTRODUCTION**

**Area:** Institutions and Development

**Task Number:** ID-01

**Task Title:** Advancing GEOSS Data Sharing Principles

**Task Description** (objectives): Support GEO in its objective to put into practice the GEOSS Data Sharing Principles, the Implementation Guidelines for the GEOSS Data Sharing Principles and the GEOSS Data Sharing Action Plan and advance the Declaration of the Group on Earth Observations Ministerial Summit in Beijing, China (5 November 2010), which committed to:

- (i) Maximize the number of documented datasets made available on the basis of full and open access;
- (ii) Create the GEOSS Data Collection of Open Resources for Everyone (GEOSS Data-CORE), a distributed pool of documented datasets with full, open and unrestricted access at no more than the cost of reproduction and distribution; and
- (iii) Develop flexible national and international policy frameworks to ensure that a more open data environment is implemented.

#### **2 EXPECTED ACHIEVEMENTS BY 2015**

1. The implementation of the GEOSS Data-CORE, including user registration and data provider attribution capabilities;
2. Continued growth in the number of datasets made available on the basis of full and open access;
3. Expanded availability of detailed metadata, with no costs or restrictions attached to its use, to facilitate data and service discovery, assessment, access, and integration for decision support;
4. Recommendations for comprehensive data documentation on accuracy, stability, precision, and spatial and temporal sampling characteristics;
5. Expanded set of open access licenses and waivers used for data in the GEOSS Data-CORE, enabling rapid expansion of the volume and variety of GEOSS Data-CORE data;
6. Expanded set of open access licenses and waivers used for all GEOSS data, enabling more efficient access and use by GEOSS users;
7. Guidelines and recommendations on national and international policy frameworks and coordinating mechanisms in support of a more open data environment across GEOSS;
8. Establishment of national coordinating mechanisms to promote and monitor engagement with the implementation of the GEOSS Data Sharing Principles, including processes within countries to identify and reduce institutional, legal and technical barriers to full and open exchange of data, metadata and products;

9. Additional guidelines and recommendations aimed at furthering the implementation of the GEOSS Data Sharing Principles, e.g., in the areas of defining terms, identifying best practices, and promoting consensus on data sharing approaches and implementation steps in different societal benefit areas;
10. Assessments of the use and impacts of resources made available with full and open access;
11. Development of metrics to assess the impact and progress of data sharing, including clear performance indicators and milestones towards progress.

### **3 OUTPUTS AND ACTIVITIES**

#### **3.1 Infrastructure**

##### **Key Outputs**

Lists of open access licenses and waivers used within GEOSS and their key characteristics (updated at GEO Plenary, 2012-15).

##### **Key Activities**

Efforts to identify and characterize open access licenses and waivers used within GEOSS (released annually at GEO Plenaries), and to inform IN-05 for evolution of the GCI.

##### **Items registered in the GEOSS Common Infrastructure**

Open access licenses and waivers used within GEOSS.

### **4 INSTITUTIONS AND DEVELOPMENT**

#### **4.1 Data Sharing**

##### **Key Outputs**

Updated legal interoperability and legal liability white papers (2012 GEO Plenary and subsequently as needed).

Additional implementation guidelines and recommendations related to implementation of more open data environments (2013-15).

##### **Key Activities**

Continuation of legal interoperability and legal liability working groups (updates to white papers released annually at GEO Plenaries as needed).

Meetings of Working Group at least annually to develop guidelines and recommendations for consideration at GEO Plenaries.

##### **Datasets contributed to the GEOSS Data-CORE**

Promotion of data contributions and associated documentation by GEO Members and Participating Organizations.

#### **4.2 Capacity Building**

##### **Key Outputs**

Educational and training materials on open access licenses and waivers for data providers and users and other related issues, e.g., best practices for data citation and attribution (2013-15).

Documentation in support of establishing national coordinating mechanisms and developing policy frameworks by GEO Members (2012-15).

**Key Activities**

Establishment of subgroup and possible meeting in 2012-13 to develop education and training materials and documentation.

Possible side events or training sessions at GEO Plenaries in 2013 and 2014 and at other GEO symposia and workshops, especially aimed at developing country data users and providers.

**4.3 Science & Technology****Key Outputs**

Recommendations for comprehensive data documentation on accuracy, stability, precision, and spatial and temporal sampling characteristics (2012-13).

Recommendations and feedback to relevant S&T tasks concerning implementation of open access licenses and waivers and associated digital rights management technologies (2013-15).

**Key Activities**

Establishment of subgroup and possible meeting in 2012-13 to develop guidelines and recommendations concerning data documentation needs and approaches.

Working group discussion at annual meeting and other follow-up activities as needed.

**4.4 User Engagement****Key Outputs**

Recommendations on user feedback needed and review of user feedback received related to implementation of open access licenses and waivers and associated digital rights management technologies (2013-15).

**Key Activities**

Working group discussion at annual meeting and other follow-up activities as needed.

**Who are the main end users?**

Users of GEOSS data, who need to understand their rights and responsibilities regarding data obtained from or through GEOSS.

GEOSS data providers, who need to understand how best to provide access to their data via GEOSS to achieve desired societal benefits.

**4.5 Gap Analysis****Key Outputs**

Evaluation of the outcomes of the GEOSS Data Sharing Action Plan and recommendations for further actions, if needed (2014-15).

Identification of additional challenges in sharing or accessing GEOSS data and additional opportunities to further implement the GEOSS Data Sharing Principles (2014-15).

**Key Activities**

Working group discussion at annual meeting and other follow-up activities as needed.

## 5 SOCIETAL BENEFITS

### 5.1 Key Outputs

Recommendations on metrics that could be implemented in GEOSS to assess the impact and progress of data sharing and to enable monitoring of the use and impact of resources made available with full and open access (2012).

Assessments of the use and impacts of resources made available with full and open access and associated metrics (2013-15).

### 5.2 Key Activities

Participation in Benefits 2012 workshop (June 2012) and subsequent events.

Working group discussion at annual meeting and other follow-up activities as needed.

### 5.3 Resources Available for Implementation

Volunteered time and resources provided by Working Group members, including in-kind contributions from GEO Members and Participating Organizations represented on the Data Sharing Working Group and activities related to the European GMES Delegated Act on data policy and the INSPIRE Directive.

### 5.4 Issues and Gaps

Resources to ensure desirable levels of participation by developing country representatives in Working Group activities and desirable levels of outreach to developing country data users and providers.

### 5.5 Supporting Documents and Links

[http://www.earthobservations.org/geoss\\_dsp.shtml](http://www.earthobservations.org/geoss_dsp.shtml).

### 5.6 Participation

| Type            | Member or PO | Implementing Entity | Contact Name | Email Address             |
|-----------------|--------------|---------------------|--------------|---------------------------|
| Task Lead (PoC) | ICSU         | CODATA              | Robert Chen  | bchen@ciesin.columbia.edu |

See Annex 1 for current participation.