

# **GEOSS Data Sharing Implementation Guidelines**

**from a presentation of:**

**Linda Moodie**

**Co-chair/United States**

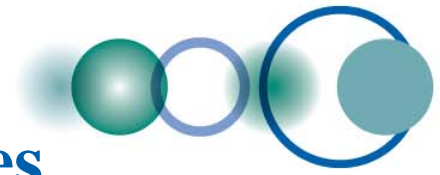
**On behalf of the GEO Data Sharing  
Task Force**

**GEO Joint Task Workshop**

**Washington, DC**

**11-12 November 2009**



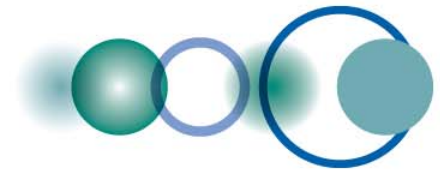


# GEOS Data Sharing Principles

## Section 5.4 of *GEOS 10-year Implementation Plan (2005)*

- There will be **Full and Open** exchange of data, metadata, and products shared within GEOS, recognizing relevant international instruments & national policies and legislation
- All shared data, metadata & products will be made available with **minimum time delay and at minimum cost.**
- All shared data, metadata & products being **free of charge** or no more than cost of reproduction will be encouraged **for research & education.**





# Task DA-06-01 on Data Sharing Principles

In 2006 GEO established task DA-06-01 to:

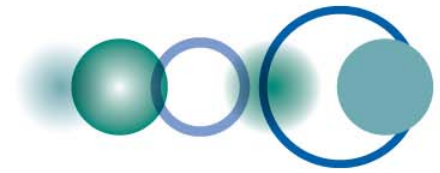
**“Further the Practical Application of the Agreed GEOSS Data Sharing Principles”.**

The **DA-06-01 Task Team** is led by the **Committee on Data for Science and Technology (CODATA)**, an interdisciplinary committee of the International Council for Science (ICSU)

This Task Team has produced the following deliverables, downloadable from [http://www.earthobservations.org/geoss\\_dsp.shtml](http://www.earthobservations.org/geoss_dsp.shtml):

- **Data Sharing Principles White Paper** – broad review of existing guidelines and data sharing barriers
- **Data Sharing Guidelines** – recommendations for data sharing implementation in GEOSS

It also organised a Data Sharing Side Event at the 2009 GEO Plenary

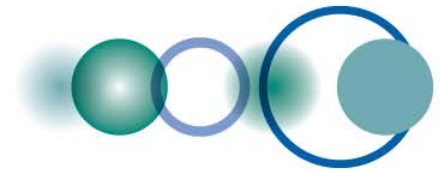


## 2007 Cape Town Declaration

The GEO Ministerial Summit in Cape Town stated:

**“We support the establishment of a process with the objective to reach a consensus on the implementation of the Data Sharing Principles for GEOSS to be presented to the next GEO Ministerial Summit.”**

**The GEO-V Plenary** in Bucharest then **established** the Data Sharing Task Force (**DSTF**).



## DSTF Task Force

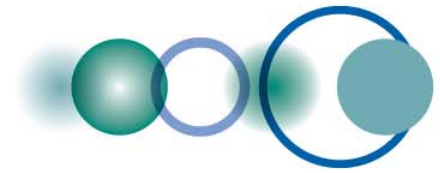
- Call for Participation issued in early 2009
- First meeting in Geneva end of May 2009
- Since then, it has held biweekly teleconferences

### **Task Force Co-Chairs:**

- **China** - Goufu Wang
- **India** – V. S. Hegde
- **European Commission** – Alan Edwards
- **Japan** - Chiyoshi Kawamoto
- **USA** - Linda Moodie
- **DA-06-01 Task Team** – Paul Uhlir/Robert Chen/Joanne Gabrynowicz

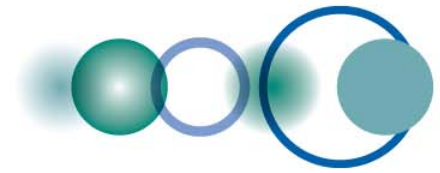
The DSTF runs from 27 May 2009 through to the 2010 Ministerial Summit

**The DSTF remains OPEN to Additional Members**



## Data Sharing Task Force Terms of Reference

- **Purpose**
- The DSTF will support the GEO in its objective to reach a consensus at its 2010 Ministerial Summit on the practical steps to implement the GEOSS Data Sharing Principles.
- This reconfirms the Cape Town Declaration that “the success of GEOSS will depend on a commitment by all GEO partners to work together to ensure timely, global and open access to data and products.”

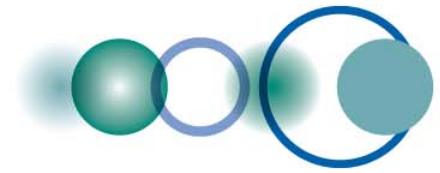


# DSTF - Terms of Reference

- **Objectives**

The DSTF is convened to:

1. Submit an updated draft of *Implementation Guidelines for the GEOSS Data Sharing Principles* to Plenary 2009.
2. Interact with **GEO Committees and Task Teams** on their **data sharing opportunities** and needs and work to **promote harmonization** of data sharing procedures consistent with the Data Sharing Principles.
3. Prepare an **Action Plan** to implement the Data Sharing Principles and **to enable** the development of **working procedures for data sharing** within GEOSS.



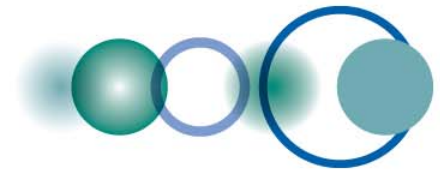
## DSTF - Terms of Reference

- **Objectives (continued)**

The DSTF is convened to:

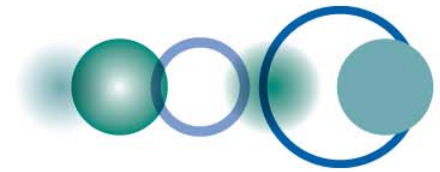
4. Produce documentation (including assessments on the actions to be taken; some representative costs and benefits; and, responsibilities for the proposed data sharing processes) to support adoption of the *Implementation Guidelines* and the action plan by the 2010 GEO Ministerial Summit.
5. Consider possible recommendations to improve the principles for data sharing within GEOSS.





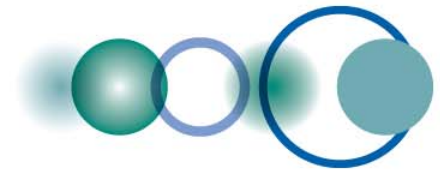
## Ideas in Motion

- Promote understanding of **responsibilities by both providers and users** of GEOSS data products and services with regard to data dissemination, access, use, and reuse.
- Begin the process to formalise **data sharing practices and procedures for major GEO initiatives** such as: Global Carbon Monitoring; GEO Biodiversity Observation Network (GEOBON); etc.
  - Take into account the proposed data sharing guidelines.
  - Ensure consistency in data sharing procedures across GEOSS communities
  - Enable cross-disciplinary, cross-community data use
  - Avoid development of a confusing patchwork of inconsistent procedures



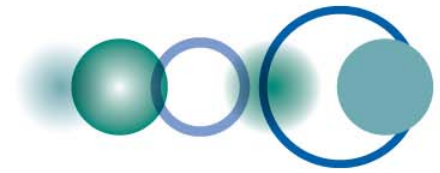
## Ideas in Motion

- **GEOSS Common Infrastructure (GCI) could begin** the developments needed to incorporate **tools** enabling the implementation of data sharing policies and procedures. (See also the IOC-TF long-term GCI operations recommendations.)
- Some sections of September 2008 draft Implementation Guidelines have been moved for consideration in development of the **“Action Plan”**, for example:
  - **Develop metrics and indicators for GEOSS data sharing activities.**
  - **Develop effective coordination and outreach mechanisms for implementing the GEOSS Data Sharing Principles.**



## Interaction with GEO Committees, CoPs, Experts

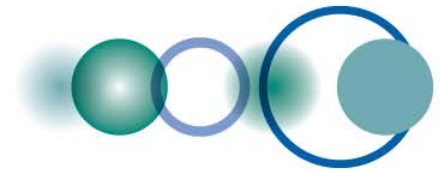
- Melbourne co-located GEO Committee meetings provided an **opportunity** for the DSTF to:
  - Communicate its needs and activities
  - Interact with Committees to identify:
    - their needs for improved data sharing arrangements
    - GEO tasks or activities that could be used to demonstrate a way forward for enhanced data sharing
- Early experience in these activities will provide **important feedback** from GEOSS elements and users on practical implementation approaches for GEOSS data sharing policies and procedures



## Interaction with GEO Committees, CoPs, Experts

### Objectives include:

- Exchange information on Data Sharing practices, needs and barriers
  - A **Communique with questionnaire** sent to all Committees and GEO experts for further dissemination to Task Team leads and Communities of Practice
- Work with the Architecture and Data Committee to identify:
  - Existing activities that could contribute to **technical implementation** of enhanced data sharing arrangements
  - Any areas of potential and **unnecessary overlap** with DSTF planned activities – which should be avoided



# DSTF Milestones

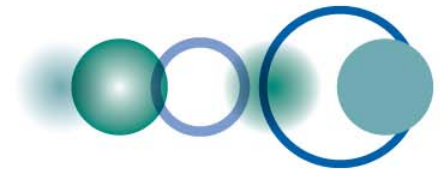


## Preparation and revision of the draft guidelines

Assessment of the potential impact of the Implementation Guidelines on Members and PO. Discussion and consensus-building activities. Discussion of possible additions to the guidelines

## Discussion/Acceptance of the guidelines

Comments by GEO Members and PO on their data policies in relationship to the proposed guidelines and associated implementation issues and plans.



# DSTF Milestones

2010



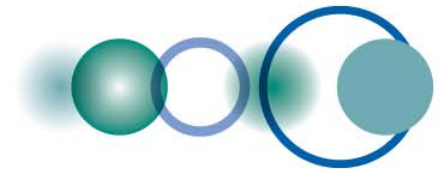
## Development of Action Plan and Revision of Implementation Guidelines (if appropriate)

Identification and implementation of specific actions and plans to improve consistency with the principles.

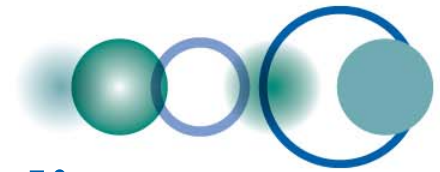
## Adoption of Implementation Guidelines and Action Plan

Consider possible recommendations for improving the principles for data sharing within GEOSS

Once the Task Force has completed its mandate and reported to the GEO Ministerial in 2010, the Task Team will continue to lead the implementation of the Data Sharing Principles through the GEO Work Plan and its associated activities.



- **The Success of GEOSS is contingent upon implementation of the GEOSS Data Sharing Principles**
  - **Within the individual elements of GEOSS and by GEO Members**
  - **And by Establishing overarching strategic policy goals**
- **Implementation Guidelines for GEOSS Data Sharing Principles**
  - **Facilitate the provision of data and products for application by diverse users in the SBAs**
  - **Consistent with the GEOSS Data Sharing Principles**
- **No single set of rules will apply to all types, sources, and uses of data**
  - **Clear set of guidelines, definitions, and minimum expectations will help to improve the sharing of data within GEOSS**
- **Action Plan for Sharing Data and Products**
  - **Designed to facilitate the development of clear, balanced, and workable data sharing procedures**
  - **Consistent with Implementation Guidelines and Data Sharing Principles**

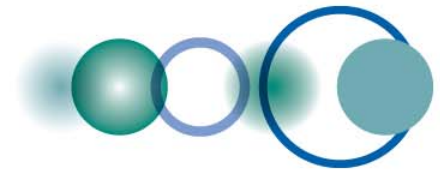


# Data Sharing Implementation Guidelines

## (Draft of September 2009)

- *Promoting the implementation of the principle of **full and open** exchange of data in accordance with the GEOSS Data Sharing Principles.*
1. For GEOSS to realize its vision and potential, it is essential to promote the **full and open** exchange of metadata, data and products in accordance with the Data Sharing Principles.

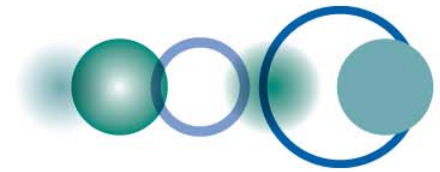




## Data Sharing Implementation Guidelines – 09/09 Draft

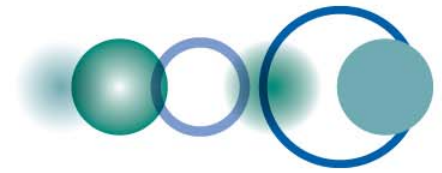
- *Enabling GEOSS users to **reuse and re-disseminate** shared data, metadata, and products.*
- 2. The **full and open** exchange of data called for in the Data Sharing Principles should apply to GEOSS data, metadata, and products **even after such shared information is disseminated** to users.

Users need to be able to integrate, reuse, and re-disseminate the shared information with **minimal restrictions in order to achieve maximum results** in the GEOSS Societal Benefit Areas.



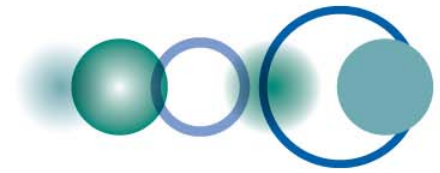
## Data Sharing Implementation Guidelines – 09/09 Draft

- *Encouraging GEOSS users to **reuse and re-disseminate** shared data, metadata, and products (continued)*
- 2.1 GEO should encourage all GEOSS components that are developed and operated by **governmental, public-sector organizations** to provide robust and well-understood data, metadata, and products without any reuse or re-dissemination restrictions.
  - 2.2 To meet the full range of user needs identified as priorities by GEO, **private-sector or hybrid public-private systems, or public-sector organizations that are partly publicly funded**, should be encouraged to contribute at least a useful subset of their data and products on a full and open basis, with minimum restrictions as to reuse and or re-dissemination.



## Data Sharing Implementation Guidelines – 09/09 Draft

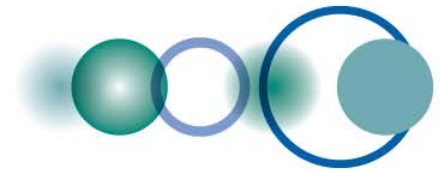
- *Encouraging GEOSS users to **reuse and re-disseminate** shared data, metadata, and products (continued)*
- 2.3 **Attribution requirements** should include recognition of all significant data sources or authors, as well as the GEOSS component that enabled access to and delivery of the data.



## Data Sharing Implementation Guidelines – 09/09 Draft

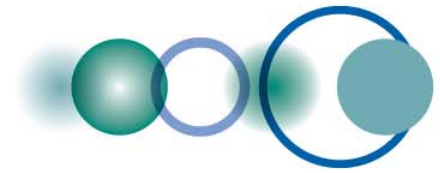
- *Ensuring consistency in the implementation of the GEOSS Data Sharing Principles with relevant **international instruments and national policies and legislation.***
- 3. Many GEO Members and Participating Organizations have various specific **restrictions on the dissemination and use** of certain data, metadata, and products based on international instruments and national policies and legislation.

Such restrictions pertain mainly to concerns regarding the **protection of**: national security, financial viability, proprietary interests, privacy, confidentiality, indigenous rights, and conservation of sensitive ecological, natural, archaeological, or cultural resources.



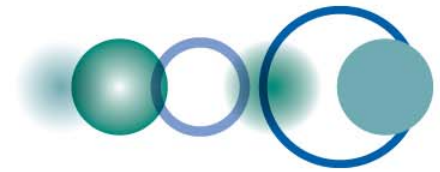
## Data Sharing Implementation Guidelines – 09/09 Draft

- *Ensuring consistency in the implementation of the GEOSS Data Sharing Principles with relevant **international instruments and national policies and legislation (continued)***
- 3.1 GEO Member States and Participating Organizations with reuse and re-dissemination restrictions based on legitimate **concerns of data misuse or alteration** should be encouraged to a more enabling data sharing culture, reviewing and wherever possible revising restrictive policies, as practical solutions to these barriers are found.



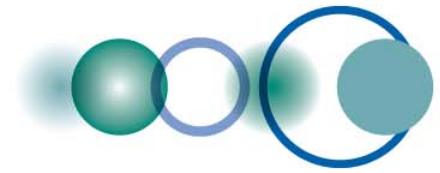
## Data Sharing Implementation Guidelines – 09/09 Draft

- *Reducing the **time delays** for making data available through GEOSS.*
5. GEO should promote **“minimal time delay”** to data within GEOSS, depending on the type of data and application and the need for appropriate quality control, and data should be transmitted **on a real-time basis whenever necessary or practicable.**



## Data Sharing Implementation Guidelines – 09/09 Draft

- *Reducing the **time delays** for making data available through GEOSS (continued)*
- 5.1 **For operational systems**, time delays should be minimized through automated quality control procedures.
  - 5.2 **For research data**, time delays may need to include a limited period of quality control and exclusive use by the data provider. These should reflect the norms of the relevant scientific communities or data processing centers.

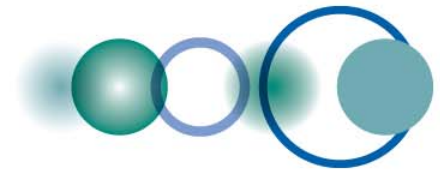


## Data Sharing Implementation Guidelines – 09/09 Draft

- *Implementing **pricing policies** consistent with the **GEOSS Data Sharing Principles**.*
4. The pricing of GEOSS data, metadata, and products should be based on the premise that the data and information within GEOSS is a **public good for public-interest use** in the nine Societal Benefit Areas.

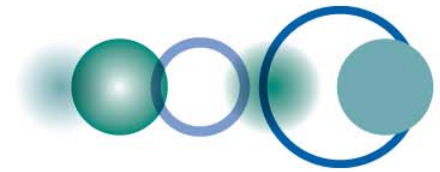
GEO, together with its GEOSS data providers, should work to **set standards for “minimum cost” based on this premise.**





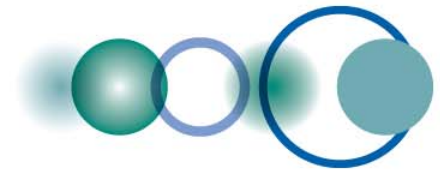
## Data Sharing Implementation Guidelines – 09/09 Draft

- *Implementing **pricing policies** consistent with the **GEOSS Data Sharing Principles** (continued)*
- 4.1 The **costs of data collection and system development and integration** into GEOSS should be considered a previously incurred cost and an **unallowable** part of cost recovery.
- 4.2 Although the Data Sharing Principles in theory can allow for the recovery of minimum costs for access to metadata, in practice, **metadata** should generally be made **available openly at no cost**, to enable users to discover sources of data and information without restriction.



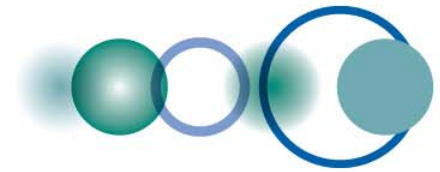
## Data Sharing Implementation Guidelines – 09/09 Draft

- *Implementing pricing policies consistent with the GEOSS Data Sharing Principles (continued)*
- 4.3 GEO should encourage development of **flexible, online cost recovery mechanisms that allow** different types of users to **understand their access costs.**
  - 4.4 GEO should encourage cost recovery models that **waive or reduce** to no more than the cost of reproduction **for developing country users and** for applications **for non-commercial, environmental use for public benefit** not covered by the research and education Data Sharing Principle.
  - 4.5 Cost recovery approaches and licensing arrangements for data and products contributed to GEOSS that require **payments for reuse** of data and products already acquired by users are **not consistent with the GEOSS Data Sharing Principles.**



## Near-term DSTF Actions

- Updating the draft *Implementation Guidelines for the GEOSS Data Sharing Principles*,
  - Originally prepared by GEO Task DA-06-01
  - Revised version submitted to EXCOM 16
  - Will be presented at the GEO-VI plenary in November 2009
- Preparing an **"Action Plan"** aimed at implementing the Data Sharing Principles and enabling the development of working procedures for data sharing within GEOSS.
  - Will be presented to the GEO Ministerial Summit in 2010
  - Takes into account the proposed data sharing guidelines
  - Works toward consistency in data sharing procedures across GEOSS communities
  - Enables cross-disciplinary, cross-community data use



## Data Sharing Implementation Guidelines – 09/09 Draft

- *Promoting **research and education** uses of GEOSS data, metadata, and products.*
- 6. GEO should develop and adopt **clear definitions** of “research” and “education.”
  - 6.1 **Cost reductions** provided for research and educational activities (and for support of developing country users and applications for non-commercial, environmental use for public benefit, consistent with section 4.d) should be **documented**, if possible.
  - 6.2 Users receiving data at reduced or no cost should be strongly encouraged to provide **impact metrics** and information **regarding their use of the GEOSS data**, metadata, and products.