



GEOSS Data Sharing Activities

Workshop on legal aspects of geographic data and spatial data infrastructures

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GEOSS Data Sharing Activities

Acknowledgements:

Members, GEOSS Data Sharing Task Force (DSTF)

Alan Edwards, European Commission and DSTF Co-Chair



GEOSS Data Sharing Activities

Presentation Outline

- Background on Group on Earth Observations (GEO) and the Global Earth Observing System of Systems (GEOSS)
- Introduction of the GEOSS Data Sharing Task Team and GEOSS Data Sharing Task Force
- Overview of GEOSS Data Sharing Principles (DSP), the DSP Implementation Guidelines, and the Data Sharing Action Plan
- Current legal work on IPRs and licensing by Legal Interoperability Sub-Group



GEOSS Data Sharing Activities

According to the *GEOSS 10-Year Implementation Plan (2005)*:

“The purpose of GEOSS is to achieve comprehensive, coordinated and sustained observations of the Earth system, in order to improve monitoring of the state of the Earth, increase understanding of Earth processes, and enhance prediction of the behavior of the Earth system. GEOSS will meet the need for timely, quality long-term global information as a basis for sound decision making, and will enhance delivery of benefits to society in the [nine] initial areas.”



GEOSS Data Sharing Activities

GEO Members – 85 countries plus European Commission;
61 Participating Organizations; 7 Observers

GEO Organization – annual Plenary meetings with
decisions by consensus; Ministerial every 3 years; Executive
Committee meets 3 times/year; Secretariat hosted by WMO

Committees – Architecture and Data; Capacity Building;
Science & Technology; User Interface; Data Sharing Task
Team/Task Force



GEOS Data Sharing Activities

The nine societal benefit areas of GEOS:

- Reducing loss of life and property from natural and human-induced ***disasters***;
- Understanding environmental factors affecting ***human health*** and well-being;
- Improving management of ***energy resources***;
- Understanding, assessing, predicting, mitigating, and adapting to ***climate variability and change***;
- Improving ***water resource management*** through better understanding of the water cycle;
- Improving ***weather*** information, forecasting, and warning;
- Improving the management and protection of terrestrial, coastal, and marine ***ecosystems***;
- Supporting sustainable ***agriculture*** and combating desertification;
- Understanding, monitoring, and conserving ***biodiversity***.



GEOSS Data Sharing Activities

The *GEOSS 10-Year Implementation Plan*, further states that:

The societal benefits of Earth observations cannot be achieved without data sharing

**...and then goes on to set out the GEOSS
Data Sharing Principles**



GEOSS Data Sharing Activities

GEOSS Data Sharing Principles (2005)

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



GEOSS Data Sharing Activities

GEOSS Data Sharing Task Team:

- In 2006 GEO established the 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 inter-disciplinary committee of the International Council for Science (ICSU)
- The Task Team produced:
 - The Data Sharing Principles White Paper, which provided a broad review of existing guidelines and data sharing barriers, and was published as *Toward Implementation of the GEOSS Data Sharing Principles* (2009), *Journal of Space Law*, and *Data Science Journal*
 - The initial draft of Data Sharing Implementation Guidelines



GEOSS Data Sharing Activities

To reinforce the principle of data sharing within the GEOSS, the 2007 Cape Town Ministerial Summit recognized 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”

Further:

“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 (2010)”



GEOSS Data Sharing Activities

- In response to the Cape Town Declaration, the 2008 GEO-V Plenary in Bucharest then established the GEOSS Data Sharing Task Force (DSTF), to build upon the initial work of the Task Team
- DSTF Terms of Reference: Objectives (selected)
 - Submit an updated draft of Implementation Guidelines for the GEOSS Data Sharing Principles to Plenary 2009
 - Prepare an Action Plan to implement the Data Sharing Principles and to enable the development of working procedures for data sharing within GEOSS
 - Produce (supporting) documentation (including assessments on the actions to be taken; some representative costs and benefits; and responsibilities for the proposed data sharing processes)



GEOSS Data Sharing Activities

Data Sharing Task Force Co-Chairs:

- **China** - Goufu Wang
- **European Commission** – Alan Edwards
- **India** – V. S. Hegde
- **Japan** - Chiyoshi Kawamoto
- **USA** – Helen Wood (was Linda Moodie, until February 2011)
- **DA-06-01 Task Team** – Robert Chen / Joanne Gabrynowicz / Paul Uhler



GEOSS Data Sharing Activities

Data Sharing Implementation Guidelines accepted by the GEO-VI Plenary, Washington, DC, 2009:

- Promoting implementation of the **principle of full and open exchange of data** according to GEOSS Data Sharing Principles
- Enabling GEOSS users to **reuse and re-disseminate** shared data, metadata and products
- Ensuring consistency in the implementation of the GEOSS DSP with relevant **international instruments and national policies and legislation**
- Implementing **pricing policies** consistent with GEOSS DSP
- **Reducing time delays** for making data available through GEOSS
- **Promoting research and education uses** of GEOSS data, metadata and products



GEOSS Data Sharing Activities

- When endorsing the Implementation Guidelines the GEO-VI Plenary accepted that in the context of the GEOSS DSP, **“full and open exchange”** means:

“...that data and information made available through the GEOSS are made accessible with minimal time delay and as few restrictions as possible, on a nondiscriminatory basis, at minimum cost for no more than the cost of reproduction and distribution”



GEOS Data Sharing Activities

- The Implementation Guidelines also confirm that:

“GEO welcomes all data contributions into the GEOS. When registering data in GEOS, the contributor should present any restrictions arising from relevant international instruments and national policies and legislation, and the duration of each restriction, that is applicable to the exchange of the data, metadata, and products submitted”.



GEOSS Data Sharing Activities

GEO-VII Plenary and Ministerial in Beijing in 2010 accepted the GEOSS Data Sharing Action Plan for the Implementation of the GEOSS Data Sharing Principles:

- The Data Sharing Action Plan builds upon the crucial concept of the full and open exchange and on the Implementation Guidelines accepted by the GEOSS Plenary
- Notes that the achievement of full and open exchange of, and access to, key datasets will require actions by:
 - **GEO collectively**
 - **Members and Participating Organizations individually**
 - **GEOSS tasks and cross-cutting activities**



GEOSS Data Sharing Activities

The GEOSS Data Sharing Action Plan:

- Recognizes that GEOSS is composed of voluntarily contributed systems and data, which are governed by pre-existing laws, policies and practices that may not, at this time, be fully compatible with the concept of full and open exchange of data, metadata and products
- Acknowledges that GEO welcomes all data contributions into GEOSS, including data with restrictions based on legitimate reasons, with data providers identifying these restrictions when registering data in GEOSS



GEOSS Data Sharing Activities

GEOSS Data Sharing Action Plan Supporting Documents:

- Implementation Guidelines for the GEOSS Data Sharing Principles
- Benefits of Implementing the Data Sharing Principles
- Considerations for the GEO community
- Considerations Arising from the Data Sharing AP for the GCI
- Case Studies (ARGO Floats, ASTER Global Digital Elevation Model, CBERS Satellite Imagery, Forest Carbon Tracking, Global Biodiversity Information Facility, International Polar Year, Landsat)
- Glossary



GEOSS Data Sharing Activities

The 2010 GEO Ministerial Declaration

Committed GEO Members to:

- (i) maximize the number of documented datasets made available on the basis of full & 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, thus putting into practice actions for the implementation of the GEOSS Data Sharing Principles.



GEOSS Data Sharing Activities

Basic Framework for the implementation of the Action Plan during 2011*

- **Three data categories will be used initially, (i.e., until at least GEO VIII):**
 - **geossDataCore;**
 - **geossNonCommercial;**
 - **geossOther.**
- * Decisions taken by the DSTF are for the purpose of enabling the DSTF and other parties to carry out the initial work related to the implementation of the GEOSS Data Sharing Action Plan. Based upon this work, the DSTF will make Recommendations to the GEO-VIII Plenary for decision by Plenary. Hence, any decisions taken by the DSTF do not constitute the formal position of GEO. They merely provide a framework within which the GEO Community can work during 2011.



GEOSS Data Sharing Activities

User Registration

- It is likely that many data providers who contribute data to the GEOSS Data-CORE will have a user registration requirement in order to allow users access to their data;
- The DSTF had foreseen that the proposed User Registration approach would be tested within the 4th Architecture Implementation Pilot (AIP-4). However, following revisions to AIP-4, User Registration may now not be implemented in AIP until 2012;
- **However, any delay in implementing User Registration could be detrimental to the implementation of both the GEOSS Data-CORE and the capability to access data using the GCI.**



GEOSS Data Sharing Activities

Attribution

- **Attribution is not considered a “restriction” for data in the GEOSS Data-CORE**
- **The data provider is responsible for putting attribution requests and requirements in the metadata;**
- **The process should allow for attribution requests as well as requirements;**
- **The DSTF report to the GEO-VIII Plenary will include a section on attribution.**



GEOS Data Sharing Activities

Legal Interoperability Sub-Group

- The DSTF has created two Legal Sub-Groups, one to help advise the DSTF on IPR and licensing issues and the other on legal liability issues.
- The Legal Interoperability Sub-Group will be involved in drafting a high-level functional requirements paper. This Sub-Group will put together a draft high level document for the July Executive Committee articulating the general problem, issues and benefits of adopting existing or other schemes of licensing, in order to present options.



GEOSS Data Sharing Activities

Legal Interoperability Sub-Group (2)

- Proposals in this area would not oblige US federal data contributed to the GEOSS to be covered by a license.
- The Plenary will decide whether a licensing structure should be introduced into GEOSS and what form that structure should take, if a licensing scheme is adopted.
- The DSTF will provide a report to Plenary describing various options and their respective ramifications, and it may also make recommendations.



GEOSS Data Sharing Activities

Legal Interoperability Sub-Group Members:

Paul Uhler, CODATA, Sub-Group Leader

Joanne Irene Gabrynowicz, Int'l Institute of Space Law

Harlan Onsrud, Global Spatial Data Infrastructure Assoc.

Glenn Tallia, NOAA, USA

Jeff Heninger, NASA, USA

Puneet Kishor, Creative Commons

Kevin Pomfret, Open Geospatial Consortium

Daniel Quintart, European Commission







Miles Gabriel, United Kingdom

[Others may be added]



An example of a possible license map using Creative Commons.

(Please note, this is an example, NOT A PROPOSAL.)

Discovered Dataset	Type of License	Suggested Specific License ¹	GEOSS Script Status
1.	U.S. Federal Government Data Set No Legal Status Information Provided - terms controlled by statute		
2.	Dedication to the Public Domain (cc 0)		
3.	Attribution License (cc by)		
4.	Attribution Non-Commercial License (cc by-nc)		
5.	Standard Industry-wide License: User Selection of Applicable Conditions		



GEOSS Data Sharing Activities

Some Legal Interoperability Issues

- Types of acceptable licenses for different types of data
- Costs and benefits of licenses, including effects on users' data integration, reuse, and re-dissemination activities.
- Validity of any proposed licenses across jurisdictions and sectors
- Monitoring compliance and enforcement
- Incentives for adoption of least restrictive options