Idaho State University's
GIS Training and Research Center
Data Sharing Policy

1. Executive summary

The GIS Training and Research Center's (GIS TReC) project activities involve the development of spatial and non-spatial databases on bio-physical and natural resource features within various project areas. Ensuring proper access to these data by project partners, collaborators and the general public is important for carrying out the mission of the GIS TReC. Therefore, a clear data sharing policy, facilitating access to data and their responsible use is necessary. This document provides policy guidelines for sharing different types of data acquired or generated by the GIS TReC along with the responsibilities of the custodians and end-users of these data, and serves as a guideline for proper documentation of data by GIS TReC personnel.

2. Introduction

The mission of Idaho State University's GIS Training and Research Center (GIS TReC) is to facilitate sound decision making through the use and application of geospatial technologies. While it is appreciated that results derived from geospatial analysis must not be applied as a comprehensive decision *making* tool, it is similarly recognized that these same results, and the data produced throughout the research/analysis process, are critical decision *support* tools. Consequently, a requisite for achieving the mission of the GIS TReC is data sharing.

3. Purpose of the data sharing policy

Data is widely recognized as a critical, essential, and valuable resource. The full potential of this resource can only be realized if it is discoverable, accessible and used appropriately by those who require it. Today, many projects involve a number of partners, national collaborators, national and international researchers who are all engaged in the collection and development of primary and secondary data within different thematic areas of a given study. Sharing and integration of these data is important to avoid duplication and wasted resources. This document outlines the policy adopted by the GIS TReC to facilitate data sharing within and outside project partners and the general public, as well as the responsibilities and rights of data custodians and end-users users.

4. Data types

As a result of the rangeland research efforts completed at the GIS TReC, various electronic data have been collected including various data types that may need specific management.

4.1 Vector spatial data

Spatial data includes data describing geographic and thematic layers (e.g., hydrography, land cover, and administrative boundaries) for use within a geographic information system (GIS). These data are usually large in quantity and need specialized software for viewing and manipulation.

4.2 Raster images

Remote sensing images from different satellite systems are frequently used for project activities and shared among the project partners and stakeholders. Similarly, other raster images (e.g., digital elevation models) are commonly used and shared. These data are usually large in size and like vector spatial data, require specialized software for viewing and manipulation.

4.3 Non-Spatial data
Data providing descriptions of spatial or aspatial features such as demography, research protocols, etc. and stored as non-spatial data in the form of tables. With the appropriate development of relationship classes these data may be linked as attributes of spatial data.

4.4 Documents
Other types of data associated with projects are in the form of documents such as manuscripts, publications, presentations, and posters which may be of interest to stakeholders as well as the general public.

4.5 Models
The GIS TReC has developed qualitative and quantitative models which will be of interest to scientists, researchers, and managers. Such models will be available as UML model diagrams or graphic file representations of the model.

4.6 Multimedia products
Multimedia products include videography, photography, and video files which may be of interest to stakeholders and the general public.

5. Data Categories
Depending upon the data sources and additional processing requirements, each data file, dataset, or database can be classified into the following categories.

5.1 Raw data
Throughout its research processes, the GIS TReC has collected large amounts of data through various sampling campaigns and measurement/monitoring activities. These data, as collected or acquired, require processing and analysis before being usable or meaningful in the context of the project. Once processed, they have the status of Primary source data

5.2 Primary source data
The data generated by each research project through field data collection or other methods are referred to as the primary source data once these data have been entered into an appropriate geodatabase structure with derivative calculations, relationship linkages, and geospatial metadata documentation.

5.3 Secondary data
In many cases, the data are compiled from existing sources which are in public domain or are acquired for the project through arrangements with other entities.

5.4 Value added products
These are data which are derived through processing and analysis of primary and secondary data. The processing involves value addition in terms of the information and knowledge generated from the underlying data set. For example, the development of NDVI and cNDVI raster data is produced through atmospheric correction and application of a simple band ratio to Landsat primary source data.

6. Metadata

Metadata is effectively data about data. It facilitates data sharing and use by providing information on the content, quality, and accessibility of each discrete data file or geodatabase. In turn, metadata provides the medium for data discovery by stakeholders, collaborators, and the general public. Different templates of metadata may be used for specific data types, though metadata produced at the GIS TReC is based on ISO standards for spatial data.

7. Data Sharing Policy

7.1 Data custodianship

The principal investigator or project team leader shall be the *custodian* of the data generated by the project including its collaborators. The *custodian* will be responsible to:

- Identify appropriate data category for each dataset (cf. section five above).
- Provide a metadata document for each applicable dataset in a format consistent with project specifications.
- Identify and document access rights to the data within the metadata.
- Ensure appropriate access restrictions have been applied to each dataset using electronic and physical data security measures as warranted.
- Ensure appropriate processes to maintain data integrity have been implemented.
- Ensure applicable copyrights are adhered to as set by the data producers/ distributors (e.g., satellite images, data from secondary sources)
- Ensure the privacy of individuals and that reasonable security measures are in place to unauthorized access, modification, and disclosure of personal data.
- Follow the GIS TReC Data Retention and Deletion Policy for backup and archiving of data (http://giscenter.isu.edu/gscc/toPDF/Retention and Deletion of Data_v7.pdf)
- Should the *custodian* leave the institution prior to completion of the project, it is the responsibility of the *custodian* to designate a replacement *custodian* prior to his/her departure. If this is not done, the GIS Director shall have the authority to seek and appoint a replacement *custodian*.

7.2 Data repository

A central data repository for GIS TReC project data has been established at the GIS TReC with physical records also maintained at that location. Each *custodian* will provide metadata to the GIS Director in accordance with section 7.1 above. They will also provide the data which they wish to share with partners, stakeholder and/or the general public. Access rights and restrictions must be made clear in the metadata. The metadata will be served on-line through the GIS TReC website available at http://giscenter.isu.edu with data request/download options dependent upon access rights of each particular dataset.

7.3 Data access

Access is a fundamental issue in the exchange of data. Information is valuable when it is discoverable and becomes accessible to the user. While data access should initially be unrestricted, it may differ based on user type (project team members, collaborators outside the university, and the general public) relative to data licensing agreements of acquired raw data (e.g., satellite imagery purchased from SPOT image corporation), for example:

The data access policy for each data set will be indicated in the metadata. As a general rule, the following policy will be followed:

7.3.1 Data access guideline based on data type:

- Primary datasets produced by the project will be made available following the policy described in the following section (7.3.2).
- Copyright and regulated datasets will not be distributed outside the rules set forth in the copyright or redistribution license/agreement but will be maintained. If the GIS TReC is not authorized to redistribute the requested data, the requestor may be provided with source information.
- Value added products should be made freely available unless otherwise precluded by an outstanding restriction.

7.3.2 Data access guideline based on purpose of data use:

- *For use within the project activities*: Data will be freely available to project partners and collaborators for use within project activities unless restricted by its source. However, if the partner or collaborator wishes to use the dataset for activities not related to the project, the conditions for purpose of data use will be applied as described below.
- *For humanitarian activities*: Data will be made freely available to requestors who wish to use it for humanitarian purposes such as rescue operation or disaster relief. In case of copyright and regulated data, conditions specific to the dataset are applicable.
- *For all other activities*: Data will be made freely available to requestors who wish to use it for non-commercial purposes. In case of copyright and regulated data, conditions specific to the dataset are applicable. Users are obligated to acknowledge the project and data sources as described in the metadata.

7.4 Data usage

Users, by virtue of receiving data from the GIS TReC, have specific responsibilities as follows:

- Users are expected to report errors found in the datasets to the *custodian* from whom they obtained the data/information.
- Users shall comply with the copyright requirements described in the metadata.
- If a user updates the obtained data, these updates shall be sent back to the *custodian* at no cost to the *custodian*.
- Proper acknowledgement should be given to the project when results are based on use of the acquired data.
- Users must abide by the requirements of the Privacy Act[1] and other relevant statutes

7.5 Breach of conditions

The GIS TReC expects partners, collaborators, and users to abide with the terms and conditions under which the data were collected and/or transferred to them. In case of any breach of conditions, attempts will be made to resolve the dispute through dialogue. If not resolved, legal solutions may be sought depending upon the severity of the breach.

8. Future strategy

This data sharing policy has been prepared in view of the GIS TReC's operational management which can be amended. Data custodianship and repositories after the close of the project follow the Data Retention and Deletion Policy (http://giscenter.isu.edu/gscc/toPDF/Retention and Deletion of Data_v7.pdf)

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[1] cf. http://www.justice.gov/opcl/privacyact1974.htm