

# The National Spatial Data Infrastructure

**R. Douglas Ramsey**  
**Department of Geography and Earth Resources**  
**Utah State University**  
**Logan, Utah, 84322-5240**

## Introduction

On April 11, 1994, President Bill Clinton signed an [Executive Order](#) to "coordinate geographic data acquisition and access". This executive order set in place the **National Spatial Data Infrastructure (NSDI)**. The NSDI is designed to "support public and private sector applications of geospatial data ... in such a way to avoid wasteful duplication of effort and promote effective and economical management of resources by Federal, State, local, and tribal governments".

The NSDI is a significant advancement in data delivery and standardization using the Internet and World-Wide-Web (WWW) to deliver databases to users globally.

The administrative body of the NSDI is the [Federal Geographic Data Committee \(FGDC\)](#). This committee consists of policy level representatives from government agencies and is chaired by the Secretary of Interior or his appointee.

The FGDC is responsible for coordinating various surveying, mapping, and spatial data activities of federal agencies. The FGDC is also charged with coordinating geospatial data related activities with other levels of government and with public, private, and academic sectors.

## Structure of the NSDI

The NSDI connects a series of "clearinghouses" distributed throughout the WWW that deliver certain types of data. The following list are examples of clearinghouses developed and supported by various federal agencies. The NSDI will be developed using resources of federal, state, local, academic, and private agencies to help users locate and access geospatial information.

- [USGS NSDI Clearinghouse - Digital Orthophoto Quadrangles](#)
- [USGS NSDI Clearinghouse - Digital Satellite Images](#)
- [USGS NSDI Clearinghouse - Geographic Names Information System \(GNIS\)](#)

- [USGS NSDI Clearinghouse - Digital Line Graphs \(DLGs\)](#)
- [USGS NSDI Clearinghouse - Hydrologic Unit Maps](#)
- [USGS NSDI Clearinghouse - Upper Mississippi and Lower Missouri Database](#)
- [USGS Node of NSDI Clearinghouse - digital products](#)
- [USGS Node of NSDI Clearinghouse - themes](#)
- [USGS Node of NSDI Clearinghouse - Best Sellers](#)
- [USA Corps of Engineers National Geospatial Data Clearinghouse Site](#)
- [USGS Node of National Geospatial Data Clearinghouse](#)
- [NRCS Node to NSDI](#)

## **Metadata**

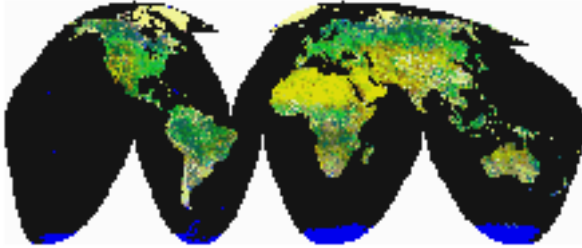
Metadata is concisely defined as "data on data". A longer definition of metadata is information that describes characteristics of a database so that users can understand and have confidence in data that has been compiled by a third party. In general metadata files document data source (origin), projection, precision, accuracy, and potential uses. Here is an example of metadata developed for [7.5-minute digital elevation models \(DEM\)](#)

The NSDI will bring together a vast array of data sources from an equally vast array of data producers. In order to maintain some consistency, the FGDC has instigated [metadata standards](#) required for any data source before it is included in the NSDI.

Here are some additional links to the FGDC-NSDI:

- [The National Spatial Data Infrastructure](#)
- [FGDC Manual of Federal Geographic Data Products](#)
- [FGDC Manual - NAWQA](#)
- [FGDC Manual - National Uranium Resource Evaluation \(NURE\) Data](#)
- [FGDC Manual - National Water Summary](#)
- [FGDC Manual - Water Information](#)
- [FGDC Manual - Geologic Data](#)
- [FGDC - Prototype Spatial Data Discovery System](#)
- [USGS - Spatial Data Discovery System](#)

- [Geospatial Information and Resources at the U.S. Bureau of Reclamation \(USBR\)](#)
- [Guide on USBR Implementation of the National Geospatial Data Clearinghouse](#)
- 



### **Image Processing On The Internet**

Remotely sensed images are becoming more available for access through the WWW. An excellent example is the Global Land 1-KM AVHRR Data Set Project supported by NOAA and the USGS. This is an attempt to acquire remotely sensed images worldwide and make available through the WWW cloud-free mosaics of AVHRR data for sequential two week periods. Through the Global Land 1-KM AVHRR Data Set Project home page, you are given access to other databases worldwide that deliver AVHRR products.

The delivery of AVHRR data through the internet is currently the only operational on-line data delivery service for world-wide data. Most other remote sensing datasets identify available data that can be ordered and delivered using the regular surface mail system. With the growth of the NSDI, more remotely sensed data should be made available for download. The amount and variety of images and data available for download or order is extremely varied. The links below make contact with some data suppliers and catalogs. However, one of the best ways to access remotely sensed information on the net is by using available search engines.