

METADATA DETAILS



Why Standards for Data?



The Characteristics of Data Standards

Goals of this topic



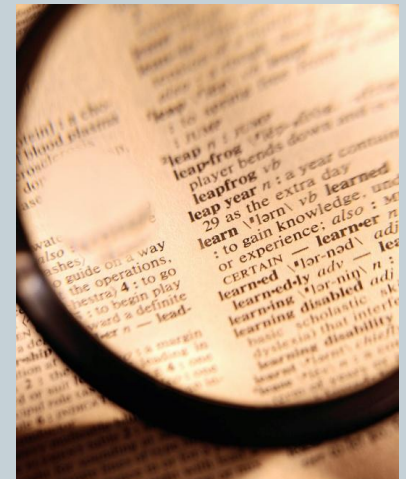
- **What is a Standard**
- **Issues with Geospatial Data**
- **What is included in the metadata standard**

Standards Defined



Webster's Definition

- An acknowledged measure of comparison for quantitative or qualitative value;
- A criterion widely recognized as a model of authority or excellence



What is a Standard?

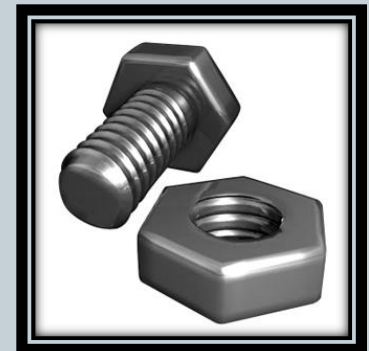


- **International Standards Organization (ISO)**
 - Standards are documented agreements
 - Contain technical specifications or other precise criteria
 - Used consistently as rules, guidelines, or definitions of characteristics

What is a Standard?



- **International Standards Organization (ISO)**
 - Ensure consistency in materials, products, processes and services
 - Ensure that these are fit for their purposes



Why You Need Standards



- **You need to understand these to be able to determine if data are suitable for specific applications**
 - Especially if you are managing data

Why You Need Standards



- **This is particularly important if you are combining data from different sources**
- **Quality and accuracy are essential for rigorous analysis**

Kinds of Standards



- **Official standards**
 - Those that are established by broad agreement
- **De facto standards**
 - Those that are established by broad implementation or use



Kinds of Standards



“The nice thing about standards is that there are so many of them to choose from”

**Andrew Tanenbaum,
in *Computer Networks***

The Reason for Standards



- **Data may come from a variety of sources**
- **Data come under a variety of conditions**
- **Data have been developed under different circumstances and standards**

Importance of Standards with Spatial data

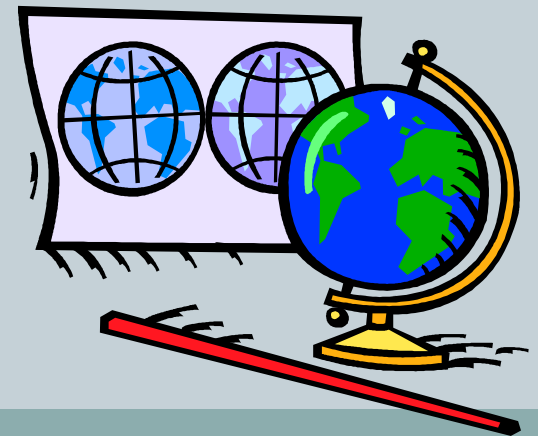


- **Provide consistent collection, accuracy, and precision**
- **Provide expectation of content**
- **Reduce redundancy of data**
- **Allow temporal consistency and comparability**
- **Enable meaningful description, utilization and sharing of data**




Types of Geospatial Data Standards

- **Data content**
- **Data classification**
- **Data documentation**
 - **Content Standard for Geospatial Metadata**
- **Data symbology or presentation**
- **Data transfer**
- **Data usability**



Geospatial Metadata Sections

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- **Identification**
 - **Data quality**
 - **Spatial data organization**
 - **Spatial reference**
 - **Entity and attribute**
 - **Distribution**
 - **Metadata reference**

Identification Information



- **Provides Basic Information:**
 - Title
 - Abstract
 - Geographic area covered
 - Date created
 - How to access data

Data Quality Information



- **Provides an assessment of the quality of the data set:**
 - Positional and attribute accuracy
 - Completeness
 - Consistency
 - Sources of information
 - Methods used to produce the data



Spatial Data Organization

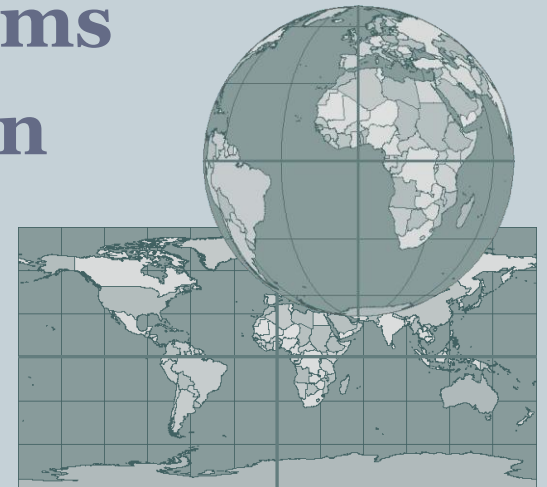


- **The mechanism used to represent spatial information in the data set**
 - **Methods used to represent spatial positions directly**
 - ✦ **Data Model**
 - **Methods used to represent spatial positions indirectly**
 - ✦ **Addresses, FIPS, etc.**

Spatial Reference



- **Description of the reference frame:**
 - Name of map projects
 - Parameters for map projects
 - Grid coordinate system
 - Horizontal and vertical datums
 - Coordinate system resolution



Entity & Attribute Information



- **Information about the content of the data set:**
 - Name and definitions of features
 - Attributes
 - Attribute values
 - Attribute type
 - Valid values
 - Coding schemes

Distribution Information



- **Information about obtaining the data set**
 - **Contact for the distributor**
 - **Available formats**
 - **Information about how to obtain data sets**
 - ✦ **Online**
 - ✦ **Physical media**
 - **Fees for the data**
- **Liability**



Metadata Reference Information



- **Information on the currentness of the metadata information and the responsible party**



Problems with Data



- **When standards aren't followed**
- **Spatial data are collected**
 - At different scales
 - By different standards
 - Redundantly
 - With gaps in extent or scale
- **Spatial data are not stored consistently**
- **Spatial data are not shared effectively**

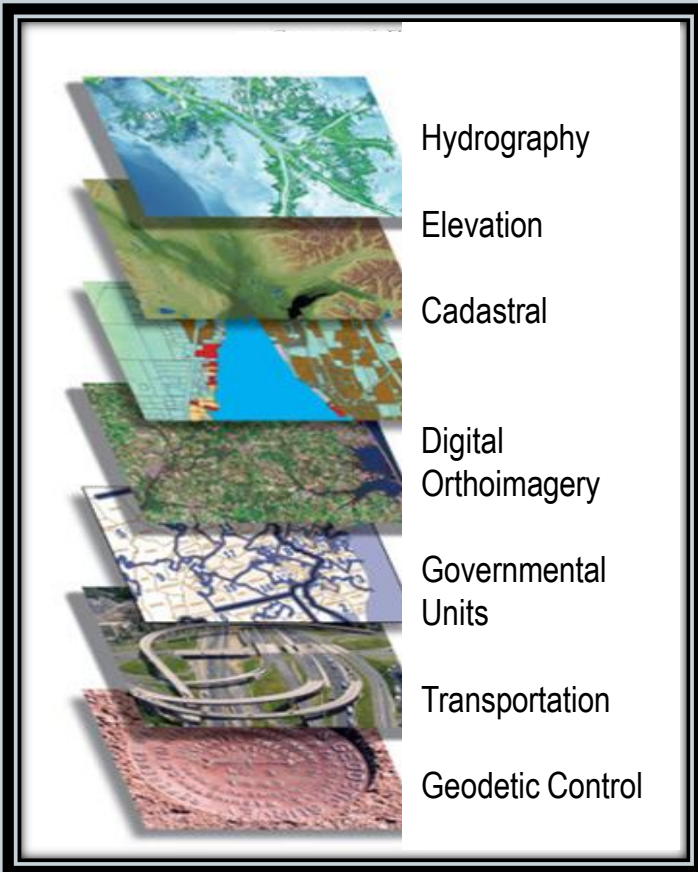
Practice Exercise



- **Explore Metadata**
 - Work with a partner to answer questions about the SSURGO Soils Metadata
 - Answer the questions on the Getting to Know Metadata worksheet

Build a National Spatial Data Infrastructure (NSDI)

• Establish “Framework” Data



- Standardized, trusted geospatial framework
- Base map data to meet minimum needs of large number of users
- Datasets at multiple resolutions and scales

Role of the NSDI



- **Data and process certification**
 - Full documentation of data processing
 - Ability to recreate analysis
 - Use of measure of uncertainty indices

Role of NSDI



- **Clearinghouse function**
 - Provide Standards and technology permitting discovery
 - Establish information infrastructure to disseminate geospatial data

References



FGDC

www.fgdc.gov/metadata

www.fgdc.gov/nsdi/nsdi.html

Discussion:



**Questions
or
Comments**

