

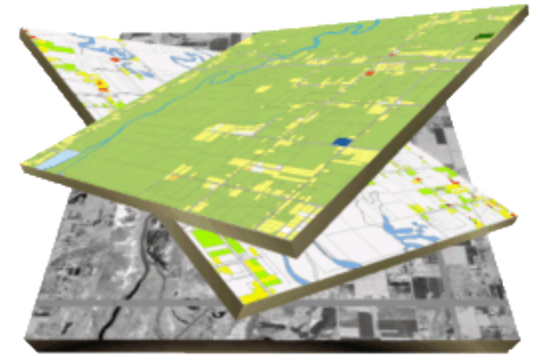
What is Metadata?

Introduction to Metadata

Westat

What is Metadata?

Data about Data



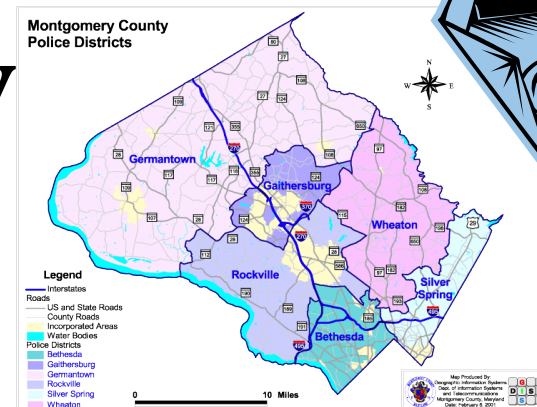
Goals of the Class

After this session students should be able to:

- ▶ **Explain the concept of metadata**
- ▶ **Describe metadata as the contextual component of the data set**
- ▶ **Explain the role of metadata in the National Spatial Data Infrastructure**

Metadata Examples

- ▶ Metadata in everyday objects
- ▶ Metadata about each other
- ▶ Metadata geospatially



Metadata as Data Reporting

Data Reporting

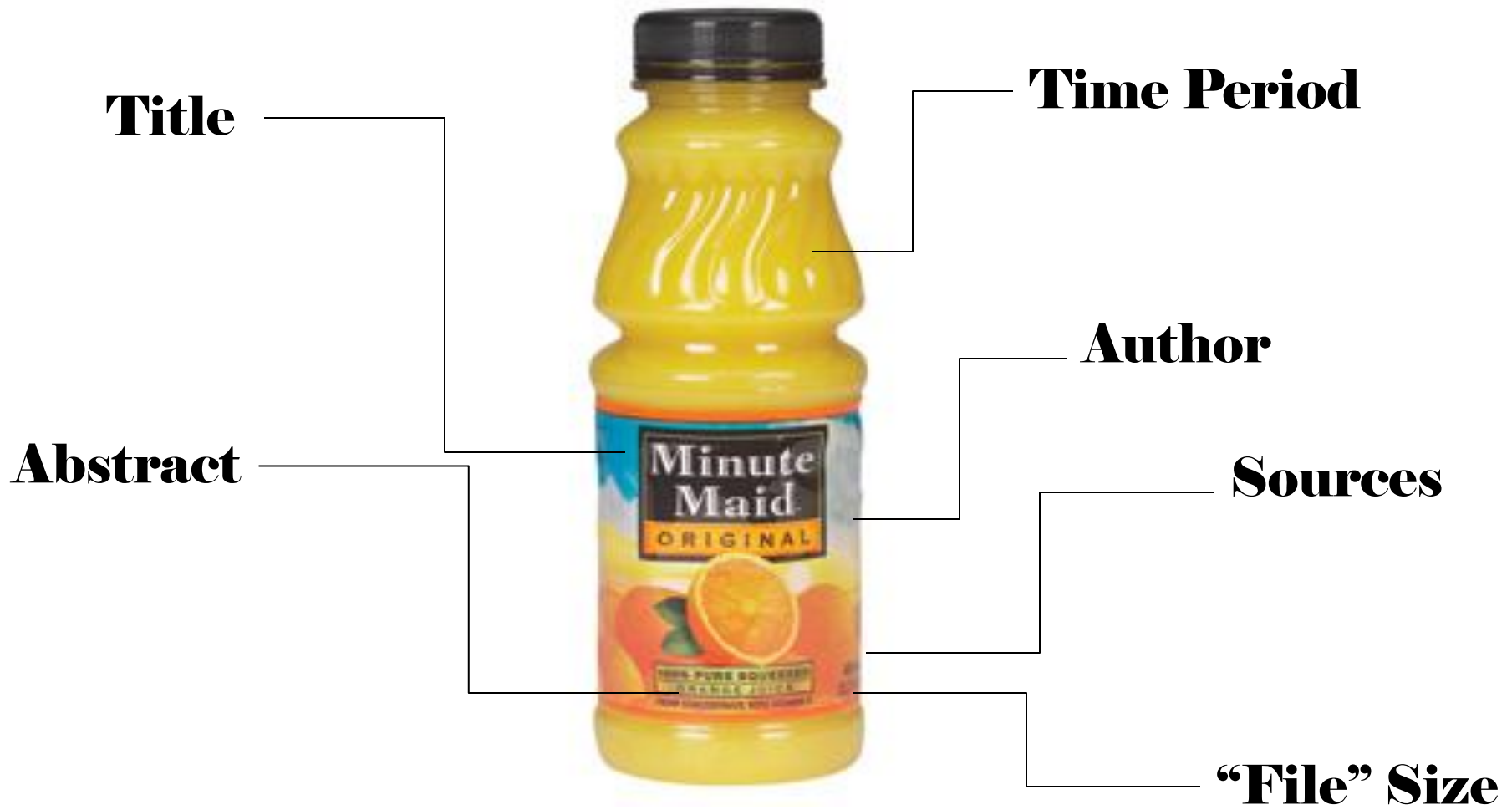
- ▶ **Who created the data?**
- ▶ **What is the content of the data?**
- ▶ **When was the data created?**

Metadata as Data Reporting

Data Reporting

- ▶ **Where is the data geographically?**
- ▶ **How was the data developed?**
- ▶ **Why was the data developed?**

Metadata Example



Metadata Example



Entity

Attributes

Nutrition Facts

Serving Size: 8 fl oz / 240 mL

Amount per Serving

Calories 110

Calories from Fat 0

% Daily Value *

Total Fat 0g 0%

Saturated Fat 0g 0%

Monounsaturated Fat 0g

Polyunsaturated Fat 0g

Cholesterol 0mg 0%

Sodium 15mg 1%

Potassium 450mg 13%

Total Carbohydrate 27g 9%

Dietary Fiber 0g 0%

Sugars 24g

Protein 0g 0%

Vitamin A 0%

Vitamin C 100%

Calcium 2%

Thiamin (B1) 10%

Metadata Example

- ▶ Who created the product or data?

Minute Maid



Metadata Example

- ▶ What is the content of the product?
- ▶ **The source is Orange Juice**



Metadata Example

- ▶ When was the product created?
- ▶ Bar code
- ▶ Time period
- ▶ Expiration date



Metadata Example

- ▶ Where is it geographically?
- ▶ Where was it bottled?



Metadata Example

- ▶ **Why was the product developed?**
- ▶ **Provide orange Juice**
- ▶ **Consumer needs**



Metadata Example

- ▶ How was the data developed?
- ▶ The list of attributes
- ▶ List of ingredients



Metadata Formats

► Documentation Type

- Text
- Xml

► Presentation Format

- Html
- xsl



Metadata Formats in ArcGIS

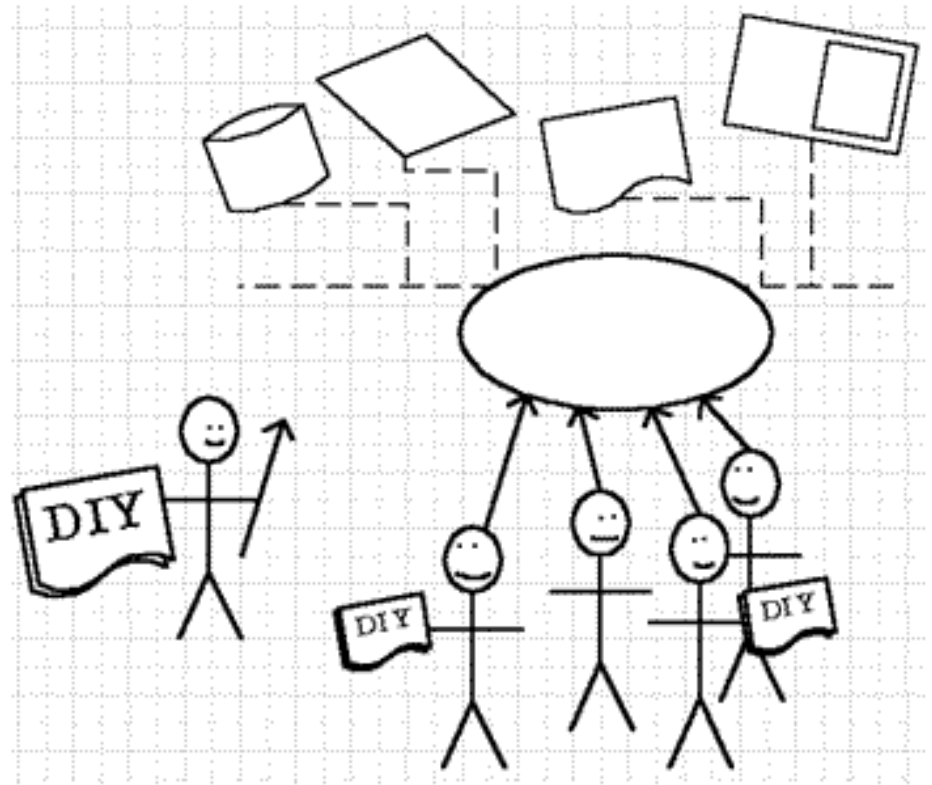
Description	Spatial	Attributes
Keywords Theme: REQUIRED: Common-use word or phrase used to describe the subject of the data set.		
Description Abstract REQUIRED: A brief narrative summary of the data set. Purpose REQUIRED: A summary of the intentions with which the data set was developed.		
Status of the data		
Time period for which the data is relevant		
Publication Information		
Data storage and access information		
Details about this document		

Why Do We Need Metadata?

► **Access**

► **Share**

► **Use**



Practice Exercise

- ▶ Create metadata about the person sitting next to you

Title:

individual name

Theme Keywords:

expertise (professional & personal)

Supplemental Information:

special skills, event, history, or quality that make makes him/her unique, why he/she is at this class

Geographic Metadata

Geospatial metadata document geographic digital data:

- ▶ **Geographic information system (GIS) files**
- ▶ **Geospatial databases**
- ▶ **Geospatial resources**

Geographic Metadata

► Geospatial resources

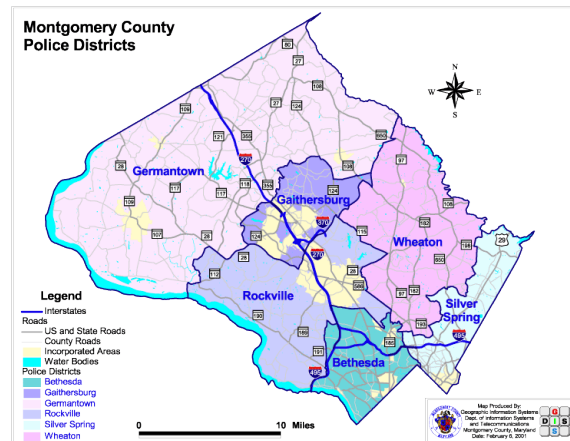
- ☐ Data catalogs
- ☐ Mapping applications
- ☐ Data models
- ☐ Related websites

Metadata as a GIS Data Component

DATA

Context

Content



Title
Originator
Purpose
Abstract
Geographic Extent
Time Period of Content
Sources Used
Process Description
Entities and Attributes

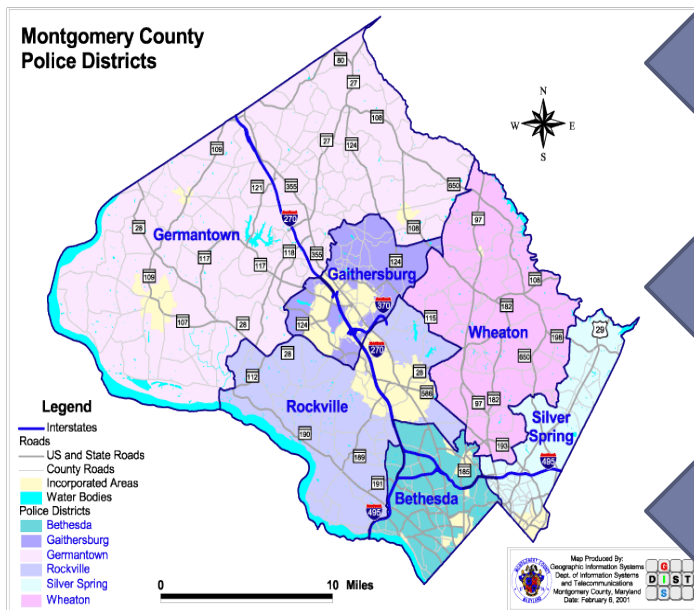
phenomena

map/database/image

metadata

Metadata as a Data Component

Content



ACCESS

- search
- download

SHARE

- describe
- publish

USE

- assess
- apply

Context

Title
Originator
Purpose
Abstract
Geographic Extent
Time Period of
Content
Sources Used
Process Description
Entities and Attributes

map/image/database

metadata

Where Did Geospatial Metadata Come From?

- ▶ **The Federal Geographic Data Committee (FGDC)**
- ▶ **The FGDC develops geospatial standards for implementing the NSDI**



Who is the FGDC?

- ▶ **The FGDC develops standards:**
 - ▶ **“In cooperation with State, local, and tribal governments, the private sector and academic community, and, to the extent feasible, the international community.”**

Who is the FGDC?

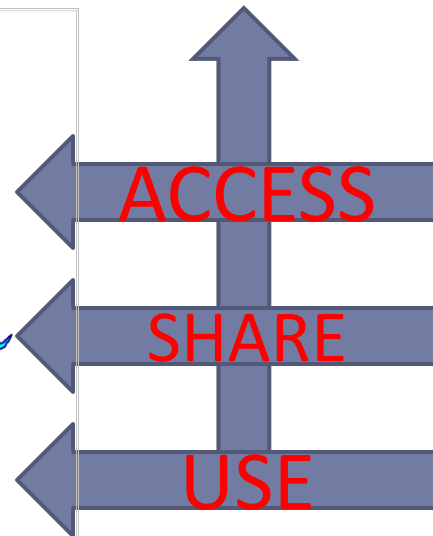
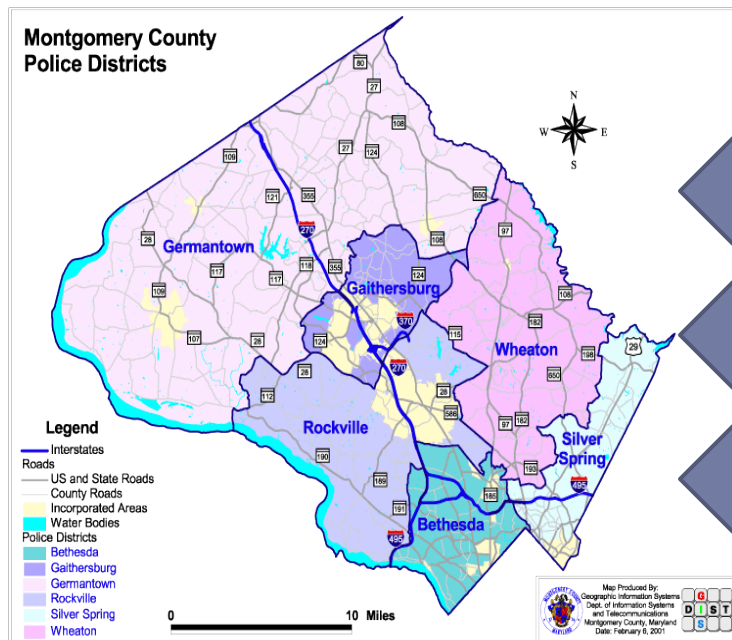
- ▶ **“The FGDC develops geospatial data standards only when no equivalent voluntary consensus standards exist, in accordance with OMB Circular A-119.”**

Who uses FGDC?

- ▶ **Dept. of Agriculture**
- ▶ **Dept. of Commerce**
- ▶ **Dept. of Defense**
- ▶ **Dept. of Energy**
- ▶ **Dept. of Health and Human Resources**
- ▶ **Dept. of Housing and Urban Development**
- ▶ **Dept. of Interior**
- ▶ **Dept. of Justice**
- ▶ **Dept. of State**
- ▶ **Dept. of Transportation**
- ▶ **Environmental Protection Agency**
- ▶ **Homeland Security**
- ▶ **General Services Agency**
- ▶ **Library of Congress**
- ▶ **National Archives and Rerecords Administration**
- ▶ **National Aeronautic and Space Administration**
- ▶ **Office of Management and Budget**
- ▶ **Tennessee Valley Authority**

Metadata: Building Block of the NSDI

NSDI Building Blocks



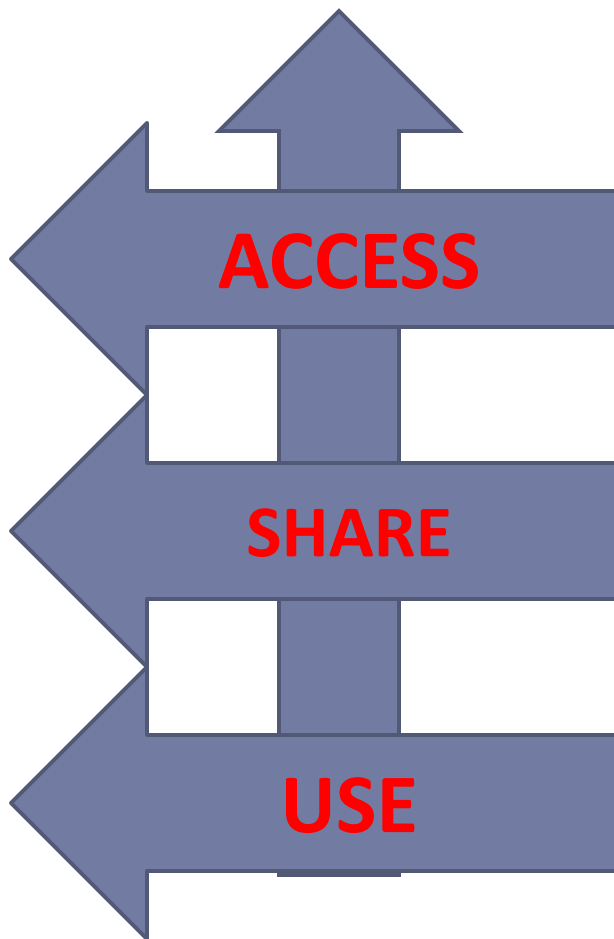
Title Originator
Purpose
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National Spatial Data Infrastructure

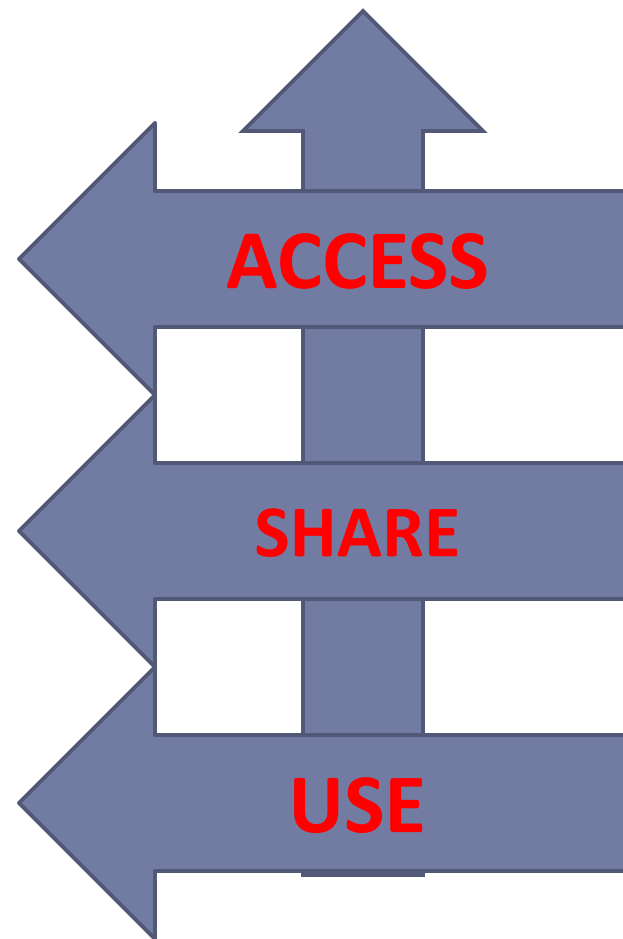
“... A set of actions and new ways of **accessing, sharing, and using geographic data that enables far more comprehensive analysis of data to help decision-makers choose the best course(s) of action.”**

NSDI Building Blocks

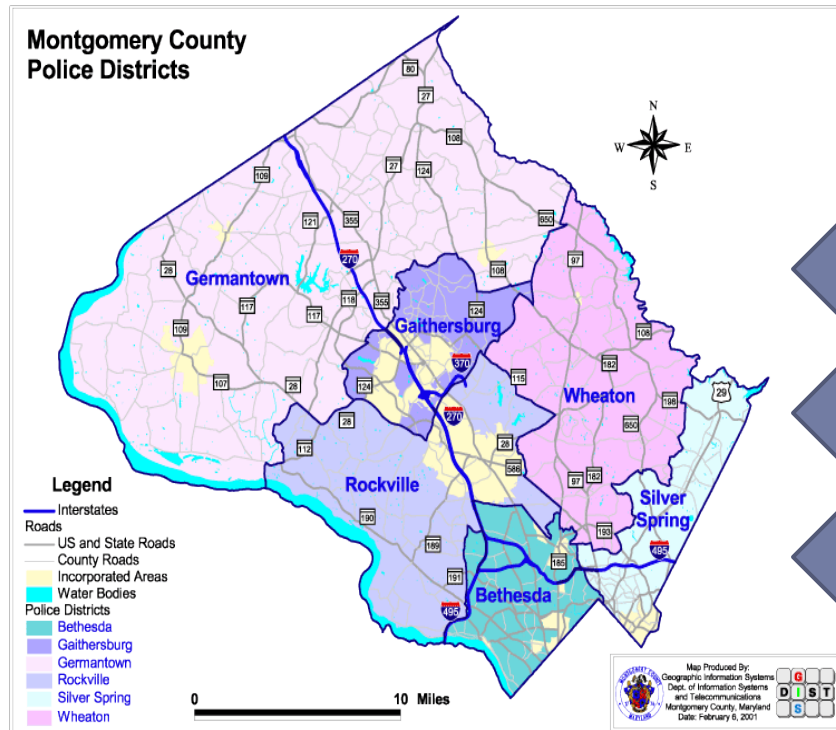
NSDI Building Blocks



My SDI



Metadata: Building Block of Your Own



MY SDI



Title
Originator
Purpose
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Geographic Extent
Time Period of Content
Sources Used
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FGDC Provides

- ▶ **Technology**
- ▶ **Policies**
- ▶ **Criteria**
- ▶ **Standards**
- ▶ **People**

**Promote
Geospatial
Data
Sharing**

FGDC Provides

- ▶ **All levels of government**
- ▶ **The private and non-profit sectors**
- ▶ **Academia**

Materials on Data Sharing

Why Use the National Spatial Data Infrastructure?

Provides a base or structure of practices and relationships among data producers and users that facilitates data sharing and use.

References

FGDC:

www.fgdc.gov/metadata

Discussion

Questions or Comments

