Lesson 7: Metadata

Definition: Metadata

Metadata is documentation about the data. It describes the content, quality, condition, and other characteristics of a dataset. Metadata allows data to be discovered, accessed, and reused.

What do you want others to know about data you PROVIDE to them?

What do you want to know about data you RECEIVE from others?

- Why were the data created?
- What limitations do the data have?
- What does the data mean?
- What are the gaps in the data?
- What processes were used in data creation?
- Is there a fee for the data?
- What do the values in the tables mean?
- What software is needed to read the data?
- What projection was used for GIS data?
- Can these data be given to someone else?
- How should the data be cited?

Creating robust metadata is in your OWN best interest!

The value of metadata

<table>
<thead>
<tr>
<th>To Creators</th>
<th>To Users</th>
<th>To Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>avoid duplication</td>
<td>easier to find data</td>
<td>ensures investment in data by allowing later reuse for other purposes</td>
</tr>
<tr>
<td>share reliable information</td>
<td>easier to evaluate data content and applicability</td>
<td>transcends people and time to offer data permanence and create institutional memory</td>
</tr>
<tr>
<td>promote contributions to field</td>
<td>provides info on how to acquire, process, and use data</td>
<td>advertises research</td>
</tr>
</tbody>
</table>

Metadata for data discovery

IDENTIFY
- keywords
- geographic location
- time period
- attributes

ASSESS
- use constraints
- access constraints
- data quality
- availability/pricing

ACCESS
- online access
- order process
- contacts

Metadata uses

- Data distribution, including discovery (see above), publication, and data portals
- Data management, including maintenance and updating, accountability, liability, and discovery and reuse
- Project management, including project planning, monitoring, coordination, and deliverables

Metadata standards

Metadata standards use common terms, definitions, and structure to provide consistency to data documentation.

Standards and tools vary. Select yours according to your data type, guidance from your organization, and your available resources.

Local contact information

From Michener et al 1997

Information entropy

Data Details

Time of data development

Specific details about problems with individual items or specific dates are lost relatively rapidly

General details about datasets are lost through time

Retirement or career change makes access to "mental storage" difficult or unlikely

Loss of data developer leads to loss of remaining information

Accident or technology change may make data unusable

Data Details

Time

From Michener et al 1997