



Geospatial Metadata Development

An Introduction to Metadata

Richard Garcia – Great Lakes Commission



May 2008

Introducing Geospatial Metadata ---1



What's Metadata?

What Metadata Is and Why You Need to Know About It

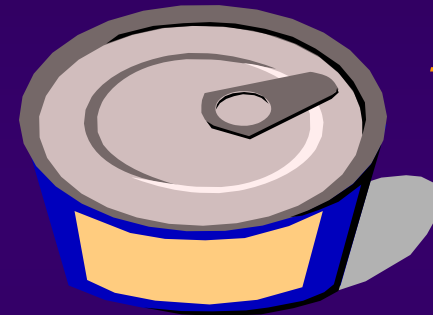




What's Metadata?

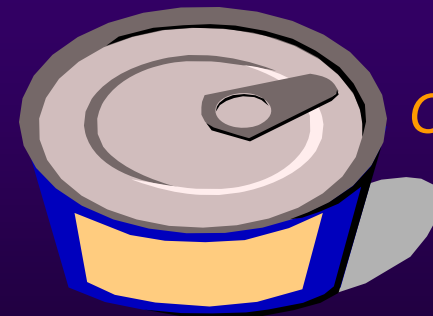
Metadata is information about data

If you had two cans without labels, which would you eat?



Tuna?

Without a label, how would you know which was tuna and which was cat food?



Cat Food?



*Don't
Duck*

Metadata



What's Metadata?

Metadata is information about data

*Metadata is simply information about data
Information that you need
to effectively:*

- *locate*
- *manage*
- *utilize*
- *internal and external data resources.*

*Creation of robust metadata is in your
OWN best interest!*

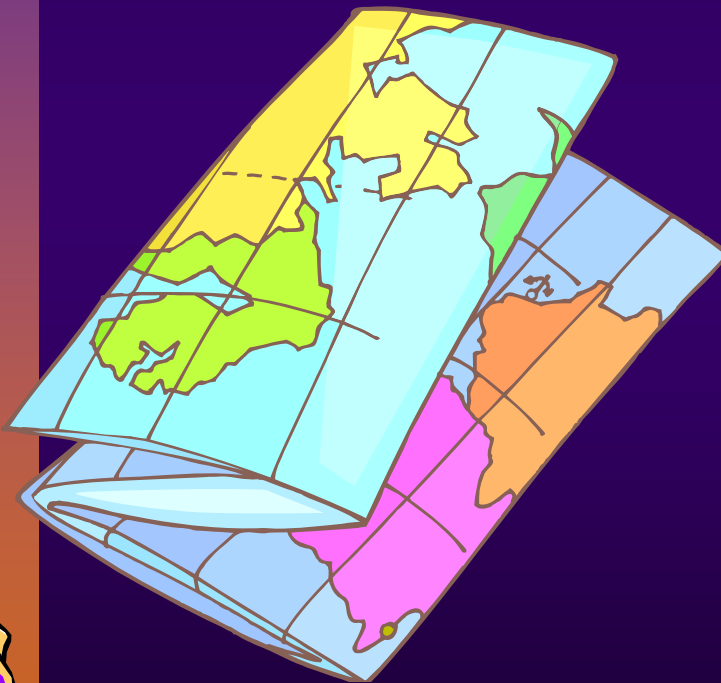


*Don't
Duck
Metadata*



What's Metadata?

A published map contains the elements of metadata...



- ***Publisher***
- ***Publication date***
- ***Type of map***
- ***Description***
- ***Spatial references***
- ***Scale and accuracy***





What's Metadata?

It's data about a data set

Metadata

Title

Scale

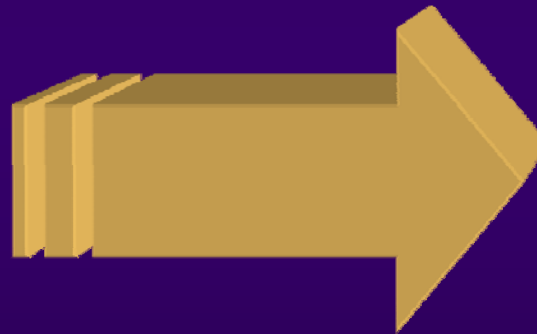
Source

Content

Location

Publication

Access



Data set

GIS files

Imagery

*Geospatial
databases*

GPS data



*Don't
Duck
Metadata*



What's Metadata?

Metadata helps those who need geospatial data find what they need and determine how to use it



Geospatial data: any data with a spatial component, including maps, charts, in situ data



*Don't
Duck
Metadata*



What's Metadata?

Metadata answers questions...

- *Who created and maintains the data?*
- *Why were the data created?*
- *What is the content and structure of the data?*



*Don't
Duck
Metadata*



What's Metadata?

Metadata answers questions...

- *When collected? When published?*
- *Where is the geographic location? Storage location?*
- *How were the data produced?*



*Don't
Duck
Metadata*



What's Metadata?

Metadata includes information you need to...

- *determine which data exist for a geographic location*
- *determine if a set meets your need*
- *acquire the set you identified*
- *process and use the set*



*Don't
Duck
Metadata*



Why Bother with Metadata?

Why Metadata Is Essential for the Long Term





Why Bother with Metadata?

*Documenting data is critical
to preserving its usefulness
over time*



*Don't
Duck
Metadata*

May 2008



Why Bother with Metadata?

For data users, metadata:

- *Facilitates understanding*
- *Focuses on key elements*
- *Enables discovery — inside and outside organizations*



Don't

Duck

Metadata

May 2008



Why Share Your Metadata?

Why Clearinghouses Are Necessary to Our Work





Why Share Your Metadata?

A metadata clearinghouse is a location — typically accessed through the Internet — to search for spatial data sets



*Don't
Duck
Metadata*

May 2008



Why Share Your Metadata?

*Clearinghouses make
metadata records easy to
find*



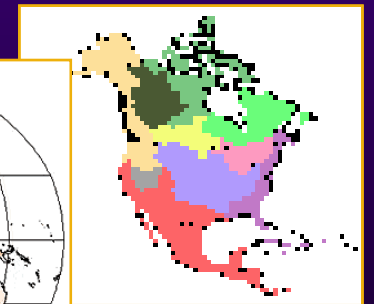
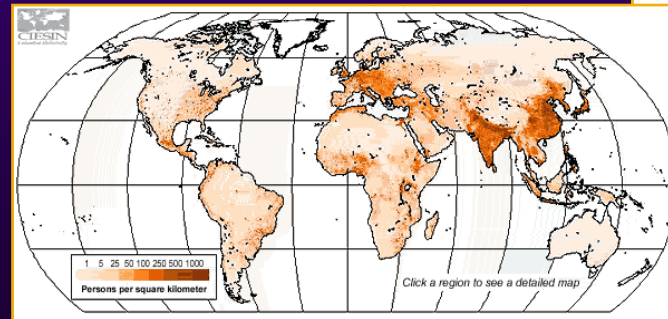
*Don't
Duck
Metadata*

May 2008



Why Share Your Metadata?

The National Geospatial Data Clearinghouse (NGDC) has more than 100 spatial data servers with digital geographic data



*Don't
Duck
Metadata*

May 2008



Why Share Your Metadata?

The clearinghouse includes federal, state, university, and vendor participants in the United States and abroad



*Don't
Duck
Metadata*

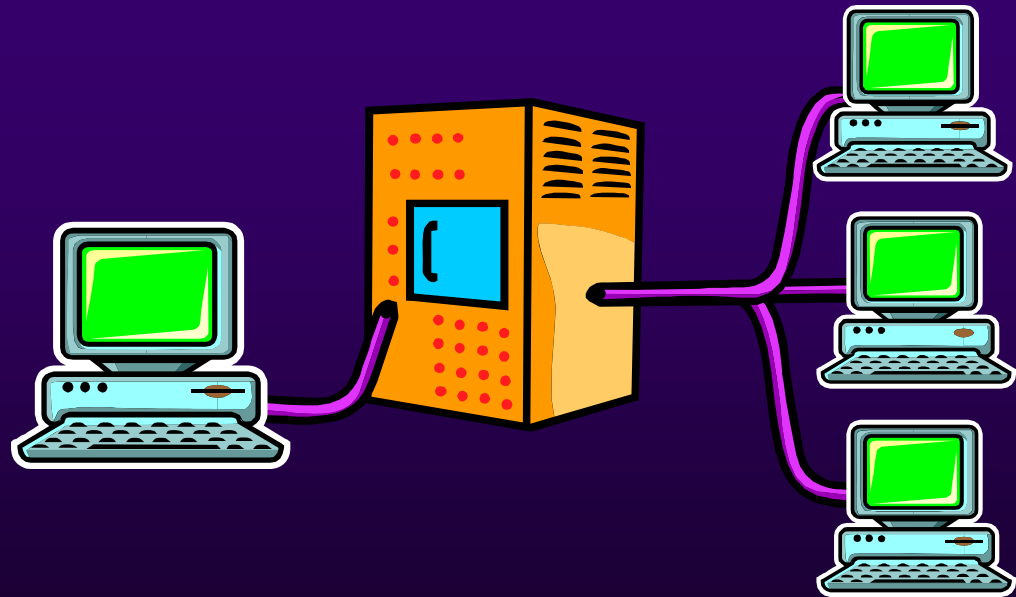
May 2008

Introducing Geospatial Metadata ---18



Why Share Your Metadata?

You can search all or part of the community in a single session



*Don't
Duck
Metadata*



Why Share Your Metadata?

*Help us keep metadata
accurate and up to date*



*Don't
Duck
Metadata*

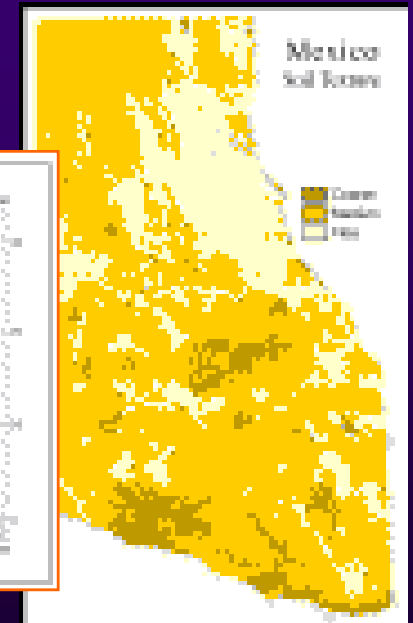
May 2008

Introducing Geospatial Metadata ---20



Why Share Your Metadata?

Make creating metadata part of the process of developing your data



Don't
Duck
Metadata

May 2008



Why Have a Standard?

What the CSDGM Standard Is and How It Helps Us All



***Don't
Duck
Metadata***

May 2008

Introducing Geospatial Metadata ---22



Why Have a Standard?



FGDC-STD-001-1998

National Spatial Data Infrastructure

Content Standard for Digital Geospatial Metadata

Metadata Ad Hoc Working Group
Federal Geographic Data Committee

Federal Geographic Data Committee

Department of Agriculture • Department of Commerce • Department of Defense • Department of Energy
Department of Housing and Urban Development • Department of the Interior • Department of State
Department of Transportation • Environmental Protection Agency
Federal Emergency Management Agency • Library of Congress
National Aeronautics and Space Administration • National Archives and Records Administration
Tennessee Valley Authority

The FGDC Metadata Workbook, Version 2.0 is free and can be downloaded

www.fgdc.gov/metadata/csdgm/



**Don't
Duck
Metadata**

May 2008

Introducing Geospatial Metadata ---23



Why Have a Standard?

Derived Standards built from the base...

- FGDC-STD-003 ~ Cadastral Data Content Standard*
- FGDC-STD-004 ~ Wetlands and Deepwater Habitats*
- FGDC-STD-005 ~ National Vegetation Classification*
- FGDC-STD-006 ~ Soil Geographic Data Standard*
- FGDC-STD-007 ~ Geospatial Positioning Accuracy*
- FGDC-STD-008 ~ Digital Orthoimagery*
- FGDC-STD-009 ~ Remote Sensing*
- FGDC-STD-010 ~ Utilities Data Content*
- FGDC-STD-011 ~ Standard for a U.S. National Grid*
- Public Review Draft ~ Coastal and Inland Waterways*



*Don't
Duck
Metadata*

www.fgdc.gov/metadata/csdgm/



Why Have a Standard?

Multiple International Standards

ISO – International Organization of Standards

Technical Committee 211 supports standardization of geographic information

ISO 19115 Geospatial Metadata

13 core element. The FGDC is currently leading the development of a US Profile of the (ISO) international metadata standard, ISO 19115.

North American Profile – US & Canada

Currently in review

*****FGDC** – Federal Geographic Data Committee

Charged with the leadership, development, implementation, and review of spatial data standards

Content Standard for Digital Geospatial Metadata

(version 2.0), FGDC-STD-001-1998



Don't

Duck

Metadata

May 2008

Introducing Geospatial Metadata ---25



Why Have a Standard?

The standard helps you determine:

- *if a set of geospatial data is available and fit for your use*
- *how to access and transfer the set*



Don't

Duck

Metadata

May 2008

Introducing Geospatial Metadata ---26



Why Have a Standard?

A standard helps to create:

- *Common terms*
- *Common definitions*
- *Common language*
- *Common structure*

Process
step
**Access
constraints**
entity
currentness
domain
attribute
Citation
lineage



*Don't
Duck
Metadata*



Why Have a Standard?

The standard...

- *establishes names of data elements and compound elements*
- *defines information about values provided for data elements*



Don't
Duck
Metadata

May 2008

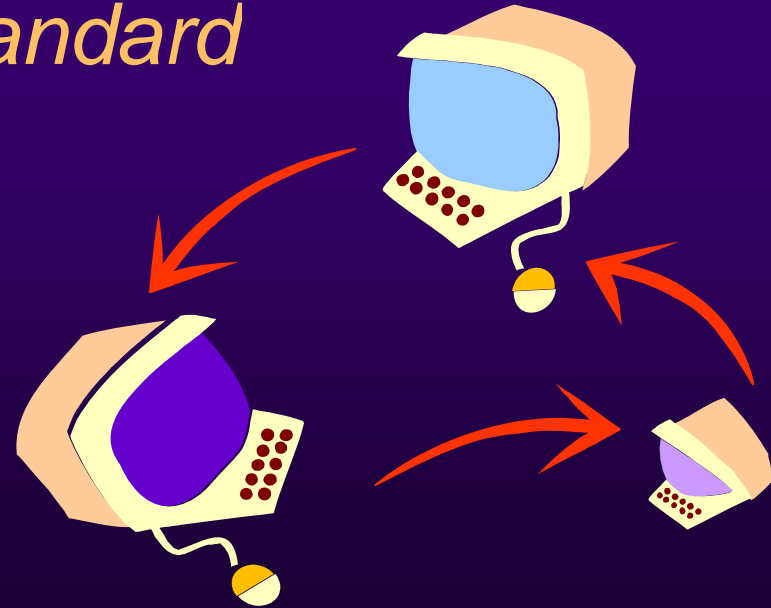
currentness
entity
Access
constraints
lineage
domain
attribute
Citation



Why Have a Standard?

Online systems rely on data being predictable in form and content

Predictability is assured only when we conform to a standard





Where Do You Go from Here?

Where to Find Help While You're Back at Work



*Don't
Duck
Metadata*

May 2008

Introducing Geospatial Metadata ---30



Other Resources

- *FGDC metadata website*
- *CSDGM Workbook (**The Green Book**), Version 2*





What Now?

- *Don't invent your own standard*
- *Consider data granularity*
- *Prioritize your data*
- *Document to preserve value within your organization*



Don't

Duck

Metadata

May 2008



What Now?

- *Use the standard*
- *Spread the word*



*Don't
Duck
Metadata*

May 2008



What Now?

Questions or Comments?

- *www.fgdc.gov*

Richard Garcia
rgarcia@glc.org



*Don't
Duck
Metadata*

May 2008