Experience from the Minnesota Geographic Metadata Guidelines

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FGDC Metadata Working Group meeting, July 8, 2015

Overview

- **Minnesota Geographic Metadata Guidelines (MGMG)**

  – What are they and why provide that option?

  – What's worked well? What hasn't?

- **Minnesota Geospatial Commons**

  – Clear business reason to create metadata

  – New recommendation for mandatory/desirable/optional elements

- **What's next - ISO?**

  – Similar approach to a simple ISO profile? North Carolina's?

  – Tool?

The **M**innesota **G**eographic **M**etadata **G**uidelines

Set things in order before there is confusion.

–Tao Te Ching

POWERED BY
metadata

What is MGMG?

- **Streamlined version of FGDC CSDGM standard**
  - Includes all mandatory FGDC fields
  - Seven sections, many fields simplified
  - Doesn't specify mandatory/optional
  - Simple HTML presentation

Section 1	Overview
Originator	Minnesota Department of Natural Resou
Title	Hillshade, LiDAR-derived, Minnesota
Abstract	The hillshade is a black-and-white image shining from the northwest.
Purpose	Hillshades make it easier to visualize char
Time Period of Content Date	
Currentness Reference	Hillshades were generated from a numbe /elevation/lidar.html
Progress	Complete

Why create MGMG?

- Provide a simpler standard that many people would actually use

- But still provide enough info so:
  - Users can assess fitness for use
  - Publishers can remember what they did
  - Balance between "lite" and "complex"

- And retain compatibility with FGDC

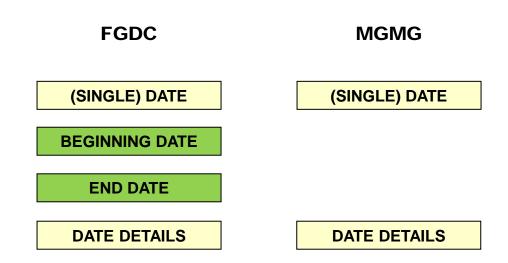- MGMG is an **option**, it is not mandated

Metadata Structure Examples
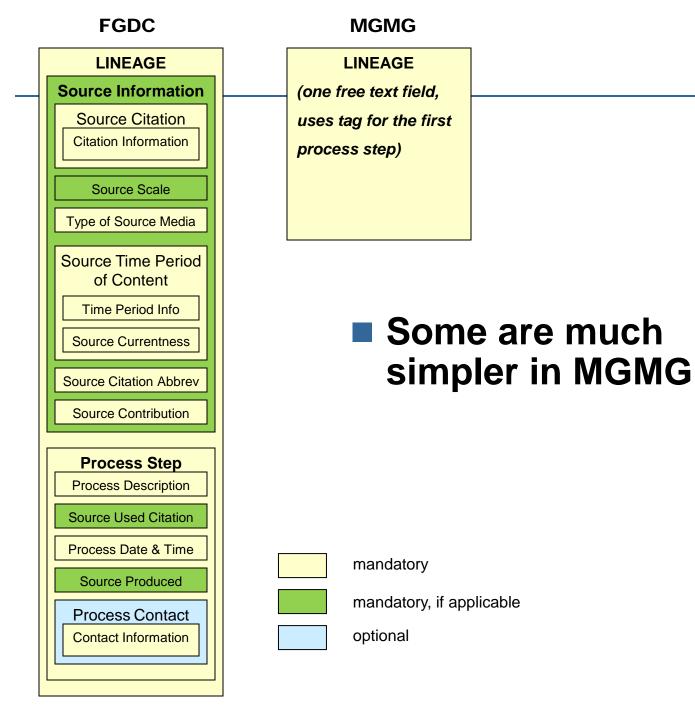
■ **Many of the elements are the same and use the same tags**

FGDC	MGMG
TITLE	**TITLE**
ABSTRACT	**ABSTRACT**
BOUNDING BOX COORDINATES	**BOUNDING BOX COORDINATES**

Metadata Structure Examples

■ **Some elements are simpler in MGMG**

FGDC	MGMG
(SINGLE) DATE	(SINGLE) DATE
BEGINNING DATE	
END DATE	
DATE DETAILS	DATE DETAILS

FGDC

MGMG

LINEAGE

Source Information

Source Citation

Citation Information

Source Scale

Type of Source Media

Source Time Period of Content

Time Period Info

Source Currentness

Source Citation Abbrev

Source Contribution

Process Step

Process Description

Source Used Citation

Process Date & Time

Source Produced

Process Contact

Contact Information

LINEAGE

(one free text field, uses tag for the first process step)

■ **Some are much simpler in MGMG**

mandatory

mandatory, if applicable

optional

Seven Sections of the Minnesota Geographic Metadata Guidelines

Minnesota State Guideline 17-1.2

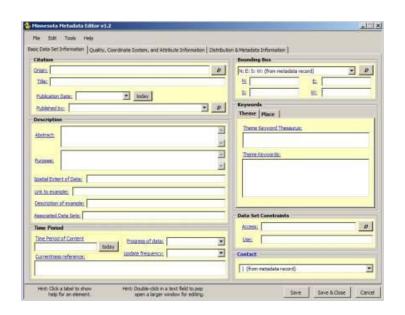| 1 Identification	2 Data Quality	3 Spatial Data Organization	4 Spatial Reference	5 Entity and Attribute	6 Distribution	7 Metadata Reference
Originator	Attribute Accuracy	Native Data Set Environment	Horizontal Coordinate Scheme	Entity and Attribute Overview	Publisher	Metadata Date
Title	Logical Consistency	Geographic Reference (Tabular)	Ellipsoid	Entity and Attribute Detailed Citation	Publication Date	Metadata Contact Information
Identifier (optional)	Completeness	Spatial Object Types	Horizontal Datum & Units		Distributor Information	Metadata Standard Information
Abstract	Positional Accuracy	Tiling Scheme	Resolution		Distribution Liability	
Purpose	Lineage		Altitude Datum & Units		Transfer Format	
Content Date	Source Scale		Depth Datum & Units		Transfer Size	
Currentness			If Raster		Ordering Instructions	
Progress			If Geographic		Online Linkage	
Maintenance and Update Frequency			If UTM			
Spatial Extent Description			If State Plane			
Bounding Coordinates			If County Coordinate			
Keywords			If User Specified Projection			
Constraints			If Other			
Contact Information						
Browse Graphic Information						
Associated Data Sets						

www.mngeo.state.mn.us/committee/standards/mgmg/metadata.htm

Implementation: Tools + Training

- **Tools then:**
  - DataLogr
  - Customized ArcCatalog Editor (v. 8 & 9)

- **Tools now:**
  - Minnesota Metadata Editor (MME), customized version of EPA's EME 3.1
  - Working on guidance for ArcCatalog v. 10 (FGDC)

- **FGDC CAP grants helped support training around the state and development of training materials available on our website**

MME: www.mngeo.state.mn.us/chouse/mme/

MGMG: What's worked well?

Keeping it simpler

- – Easy to explain

- – Focuses on what users most need to know and what publishers are most able to write

- – No one has asked for more detail, except for entities & attributes

- – HTML less cluttered

Providing tools + training

"Don't duck metadata" tag line!

MGMG: What hasn't worked well?

MGMG → FGDC goes well,
     but FGDC → MGMG can lose some info

Maintaining customized tools

– DataLogr: out-dated

– MGMG ArcCatalog Editor: no longer works with v. 10

– MME: need more resources to maintain

Metadata still often perceived as optional

That last point is changing with the
     Minnesota Geospatial Commons…
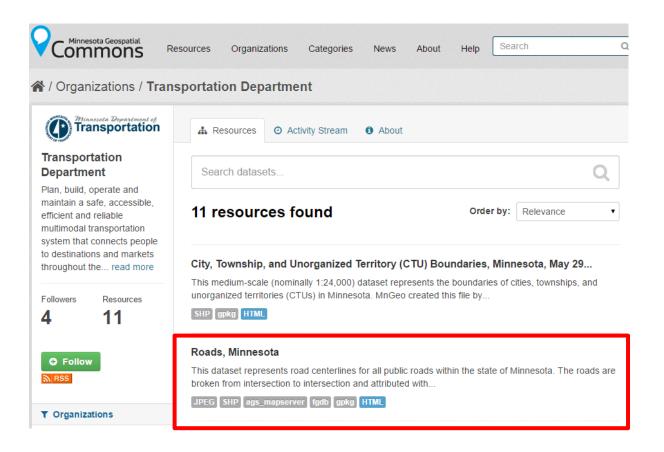
Minnesota Geospatial Commons

A collaborative website where publishers can share geospatial data, maps, services and applications and users can access these resources.
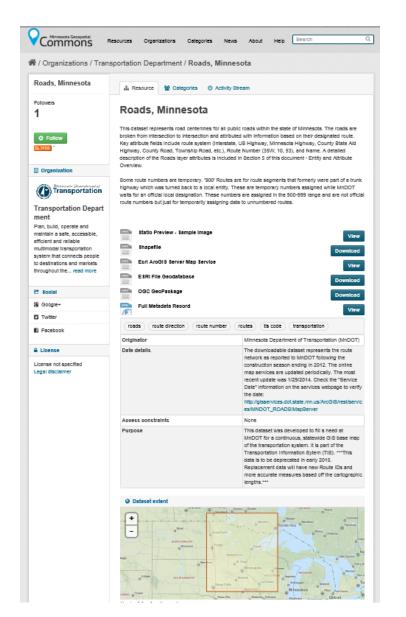
https://gisdata.mn.gov/

Metadata fuels the Commons

Initial search results:

Metadata fuels the Commons

More info:

Metadata fuels the Commons
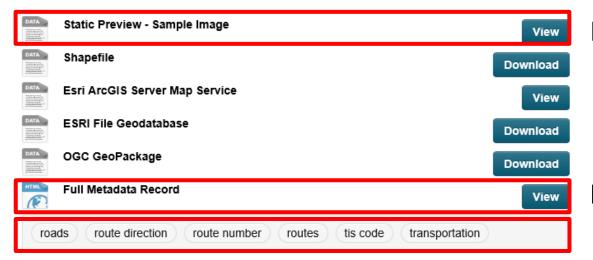
Roads, Minnesota

Title

This dataset represents road centerlines for all public roads within the state of Minnesota. The roads are broken from intersection to intersection and attributed with information based on their designated route. Key attribute fields include route system (Interstate, US Highway, Minnesota Highway, County State Aid Highway, County Road, Township Road, etc.), Route Number (35W, 10, 53), and Name. A detailed description of the Roads layer attributes is included in Section 5 of this document - Entity and Attribute Overview.

Some route numbers are temporary. '900' Routes are for route segments that formerly were part of a trunk highway which was turned back to a local entity. These are temporary numbers assigned while MnDOT waits for an official local designation. These numbers are assigned in the 900-999 range and are not official route numbers but just for temporarily assigning data to unnumbered routes.

Abstract

DATA	Static Preview - Sample Image	View
DATA	Shapefile	Download
DATA	Esri ArcGIS Server Map Service	View
DATA	ESRI File Geodatabase	Download
DATA	OGC GeoPackage	Download

Preview

| HTML | Full Metadata Record | View |

Full metadata

roads   route direction   route number   routes   tis code   transportation

Keywords

Metadata fuels the Commons

Originator	Minnesota Department of Transportation (MnDOT)
Date details	The downloadable dataset represents the route network as reported to MnDOT following the construction season ending in 2012. The online map services are updated periodically. The most recent update was 1/29/2014. Check the "Service Date" information on the services webpage to verify the date: http://gisservices.dot.state.mn.us/ArcGIS/rest/services/MNDOT_ROADS/MapServer
Access constraints	None
Purpose	This dataset was developed to fill a need at MnDOT for a continuous, statewide GIS base map of the transportation system. It is part of the Transportation Information Sytem (TIS). ***This data is to be deprecated in early 2015. Replacement data will have new Route IDs and more accurate measures based off the cartographic lengths.***

Originator

Date info

Access constraints

Purpose

Dataset extent

Map data © OpenStreetMap contributors

Tiles by MapQuest

Bounding box coordinates

Minnesota Geospatial Commons

- Making connection between metadata and a site people want to use to:
  - find, evaluate and access data
  - publish their data

- Bringing in new publishers who haven't created metadata before

Question

How much metadata do I need to write for the Commons?

Metadata Recommendation

- ■ **Goal**
  - – Which metadata elements are required for the Commons?
  - – Guidance on quality and quantity of information

- ■ **Criteria**
  - – *Curated site, resources should be worth finding*
  - – Needed for a user to determine fitness for use
  - – Needed to support a Commons function

Summary recommendation

SECTION 1 - Identification	Mandatory	Mandatory if applicable	Desirable	Optional
Originator	✓			
Title	✓			
Abstract	✓			
Purpose			✓	
Time Period of Content Date		✓		

Detailed recommendation for each element

MGMG Element *For definitions of the elements, click on the section title link*	What is Required	Comments *Related to the recommendation for each element, not intended to provide complete best practices or examples*
SECTION 1 - Identification		
Originator	Mandatory	Users need to know the name of the organization(s) or individual(s) that developed the data set. This element is displayed on the Commons summary page for a data resource.
Title	Mandatory	Best practice is to start with the topic, followed by the geography covered, followed by a date, followed by anything else, such as originator, that's needed to distinguish this data resource from other similar ones. This element is displayed on the Commons summary page for a data resource.
~~Minnesota Clearinghouse ID~~		Never used – drop this element. Not in the Minnesota Metadata Editor (MME).

Full recommendation:
www.mngeo.state.mn.us/councils/statewide/Commons_MGMG_element_requirements_recommendation.pdf

Implementation Options

- *Expectations for Publishers* document: https://gisdata.mn.gov/content/?q=help/publisher_expectations

- Update best practices materials

- Work with new publishers

- Validate anything that can be automatically tested

- Monitor user feedback

- Periodically remind publishers to check metadata for accuracy

- Provide improved tools

- If all else fails, suspend from publishing until comply with metadata requirements

Next Steps – ISO?

- Has been too complex so far

  - Would like to use the web services elements

- Evaluate North Carolina's ISO-based state government / local profile

  - Similar approach of a simpler profile

  - Collaborate on tools and training?

- Tools: customize EME 4 → MME 4?

Summary

- Option for simpler standard
  - main info most users need to evaluate data for fitness of use

- Need to provide a package: standard + tool(s) + training
  - eliminate as many roadblocks as possible

- Curated site (the Commons) provides a clear business reason to create metadata

- State/local ISO-based profile has promise

Questions?

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Don't Duck Metadata!