



The Next Generation of Metadata in Minnesota

Curating Content for the Geospatial Commons
Mike Dolbow, Nancy Rader, Susanne Maeder

Minnesota Geospatial Information Office

A Program Area of MN.IT Services



Not your ordinary metadata talk

- No Rehash
- New Reasons
- No More Excuses





About the Geospatial Commons



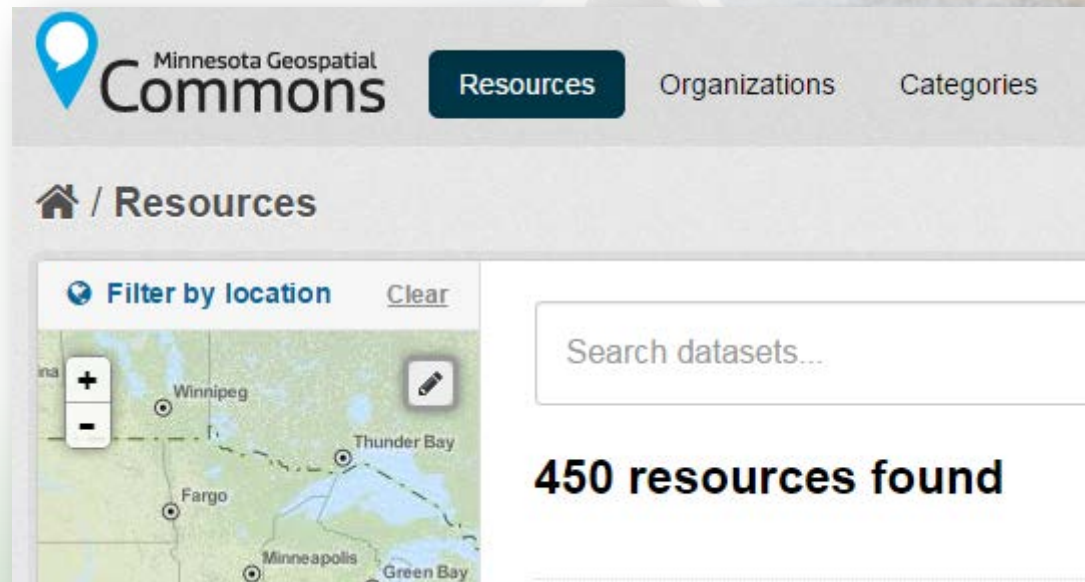
A collaborative place for users and publishers of geospatial resources in Minnesota



gisdata.mn.gov

What are “resources”?

- Data
- Maps
- Applications
- Services
- A collection of above



The screenshot displays the Minnesota Geospatial Commons interface. At the top, the logo and navigation menu are visible, with 'Resources' highlighted. Below the navigation, the breadcrumb path shows 'Home / Resources'. A 'Filter by location' section includes a map of the region with markers for Winnipeg, Fargo, Minneapolis, Green Bay, and Thunder Bay. To the right of the map is a search input field labeled 'Search datasets...'. Below the search field, a bold notification states '450 resources found'.





10/1/2015

Data

County Boundaries, Minnesota

This is the standard Minnesota state agencies. It is maintained by the Minnesota State

Please read at the accuracy appropriate for your application






-  **Static Preview - S**
-  **OGC GeoPackag**
-  **ESRI File Geodat**
-  **Shapefile**
-  **Full Metadata Re**

Metropolitan Parks and Open Space Commission Districts (MPOSC)

This layer defines the district boundaries for the Metropolitan Parks and Open Space Commission (MPOSC)

NOTES:

- The boundaries for the MPOSC district are based on current Metropolitan Council Districts, which were enacted in 2013.

-  **ESRI File Geodatabase** [Download](#)
-  **Shapefile** [Download](#)
-  **Esri ArcGIS Server Map Service** [View](#)
-  **OGC GeoPackage** [Download](#)
-  **Full Metadata Record** [View](#)

More Data

School Program Location 2015

The point locations of school programs are a result of program locations where Food and Nutrition Services is in the Minnesota Department of Education (MDE). Building locations provided by the school districts and District buildings are annually updated but there may be locations and the frequency with which they move from

The records in this shapefile cover all school program format. Beginning in SY2009-10, separate files for different (charter, and public school district center) were combined to distinguish the school types. Note that multiple programs represented as separate points. For example, a junior building, but each has a separate record and point in



Static Preview - Sample Image



Shapefile



OGC GeoPackage

Geologic Atlas of Ramsey County, Minnesota

A County Geologic Atlas is a systematic study of a county's geologic and ground water resources. Geologic studies include both near-surface deposits and bedrock. Ground water studies include flow systems, aquifer capacity, and ground water chemistry. In some areas sand and gravel deposits, sinkholes, or other features are studied. Interpretation of sensitivity to pollution is also part of an atlas. The information is organized, analyzed, and displayed using geographic information technology.



MGS County Geologic Atlas Program (Part A)

[View](#)



Download from U of MN Digital Conservancy

[View](#)



Full Metadata Record

[View](#)

bedrock geology

bedrock topography

ground water levels

pollution sensitivity

quaternary geology

surficial geology

water table contours

wells

Additional Info

Access constraints	None
Date details	Geologic linework delineated based on data available in 1991-1992.
Originating organization	Minnesota Geological Survey (MGS)
Purpose	County Geologic Atlas and Regional Hydrogeologic Assessment information is used in planning and environmental protection efforts at all levels of government. Wellhead protection and well-sealing programs are examples of local programs that need geologic and ground water information. The information is also used by businesses and the general public.

Maps

State Funded Conservation Easements (RIM Reserve)

Conservation easements are a critical component of the state's efforts to improve water quality by reducing soil erosion, phosphorus and nitrogen runoff, and sedimentation. Easements help in restoring wetlands, adjacent native grasslands, and riparian areas. In cooperation with county Soil & Water Conservation Districts, the state compensates landowners for granting easements on economically marginal, flood-prone

Minnesota Cities, Townships, and Counties Reference Map

This map of Minnesota cities, townships, and counties was published by MnGeo in November 2013. The primary data set for the map is the "Cities, Townships, and Unorganized Territories" (MnCTU) data maintained by the Minnesota Department of Transportation. Other reference data on the map include County Seats and Other Cities, County Boundaries, Interstate, US Trunk, and State Trunk Highways, Major Rivers, Lakes, County and State Boundaries. The download is a PDF file with embedded layers that can be printed at E-scale (36" x 48").



Printable Map



Static Preview - Sample Image

View



Printable Map

Download



Full Metadata Record

View

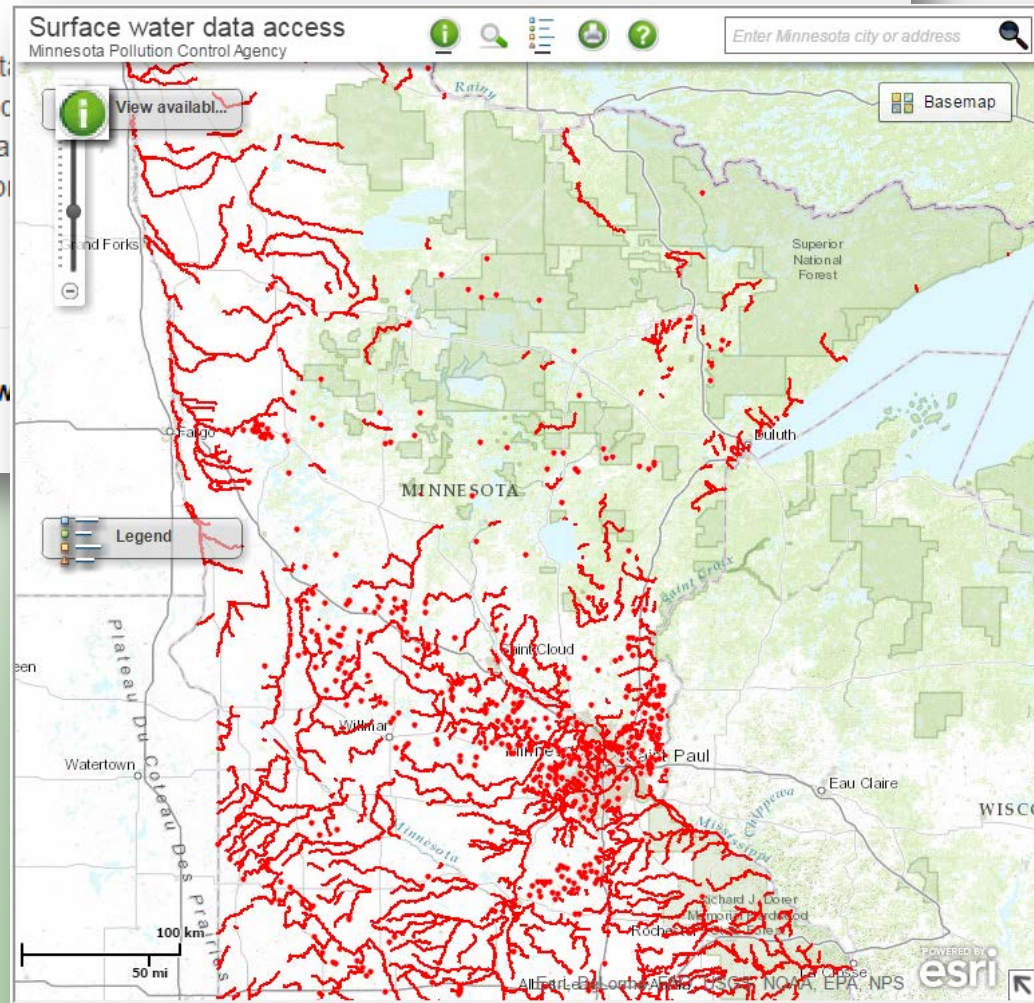
Applications

MPCA Impaired Waters Viewer

Under the federal Clean Water Act, streams that do not meet water quality standards and are designated as Impaired Waters. The MPCA Impaired Waters Viewer provides access to this data.



MCPA Impaired Waters View



Services

Minnesota Original Public Land Survey Plat Maps, Digital Images, Geo-referenced

Minnesota's original public land survey plat maps were created between 1848 and 1907 during the first government land survey of the state by the U.S. Surveyor General's Office. This collection of more than 3,600 maps includes later General Land Office (GLO) and Bureau of Land Management maps up through 2001. Scanned images of the maps are available in several digital formats and most have been georeferenced.

The survey plat maps, and the maps for real estate in Minnesota; are an essential resource for surveyors and historians of European settlement. Finally, under very challenging conditions,

The deteriorating physical copies (and the need to produce more) are increasingly impractical. To meet the needs of the Minnesota Historical Society Archives of the Minnesota Historical Society (MnDOT), MnGeo (formerly the Minnesota Association of County Surveyors) collaborated in a digitization project which produced high quality (300 dpi), 24-bit color images of the maps in standard TIFF, JPEG and PDF formats - nearly 1.5 terabytes of data. Funding was provided by MnDOT.

In 2010-11, most of the JPEG plat map images were georeferenced. The intent was to locate the plat map images to coincide with statewide geographic data without appreciably altering (warping) the image. This increases the value of the images in mapping software where they can be used as a background layer.



Static Preview - Sample Image

[View](#)



Esri ArcGIS Server Map Service

[View](#)



GLO Historic Plat Map Retrieval System

[View](#)



Bulk PDF Downloads by County

[View](#)



Full Metadata Record

[View](#)

Combinations

Emerald Ash Borer Detection

This suite of data is a collection of layers that describe the distribution and response to Emerald Ash Borer (EAB) in Michigan.

More information can be obtained at: <http://www.michigan.gov/eab>

Follow the links below to the individual metadata pages.

Emerald Ash Borer Introduction Risk: [eab_introduction_risk.html](#)

Quarantine Boundaries: [eab_quarantine_boundaries.html](#)

Traps: [eab_traps.html](#)

Trees: [eab_trees.html](#)

Bio Control: [eab_bio_control.html](#)



Static Preview - Sample Image

[View](#)



Unnamed resource

[View](#)



Esri ArcGIS Server Map Service

[View](#)



Shapefile

[Download](#)



OGC Web Map Service

[View](#)



OGC Web Map Service - Sample

[View](#)



JSON File

[Download](#)



ESRI File Geodatabase

[Download](#)



OGC GeoPackage

[Download](#)



GeoJSON File

[Download](#)



Full Metadata Record

[View](#)

Growth

- <https://gisdata.mn.gov/stats>

Statistics Menu

Total Number of Datasets

Dataset Revisions per Week

Top Rated Datasets

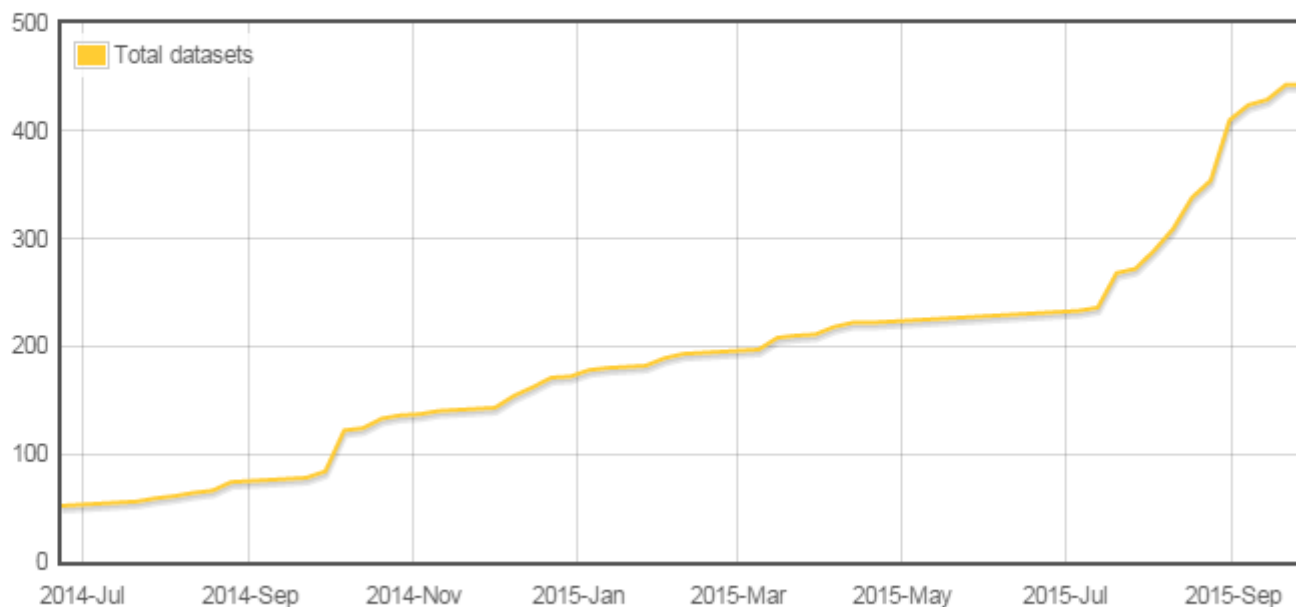
Most Edited Datasets

Largest Categories

Top Tags

Users Owning Most Datasets

Total number of Datasets



Authoritative Publishers



University of Minnesota, Twin Cities

Driven to Discover through research, education, and outreach.

0 Resources



Minnesota Geological Survey

Serving the people of Minnesota by providing systematic geoscience...

24 Resources



Dakota County

Dakota County is the third-most populous county in the U.S. state of...

20 Resources



Lake County

Lake County is located in the Arrowhead Region of Northeastern Minnesota...

3 Resources



Transportation Department

Plan, build, operate and maintain a safe, accessible, efficient and reliable...

11 Resources

120 Resources



Education Department

The Minnesota Department of Education serves a wide range of customers:...

3 Resources



Metropolitan Council

The Metropolitan Council is the regional policy-making body, planning agency,....

51 Resources



Geospatial Information Office

Division of MN.IT responsible for policy related to GIS and geospatial...

64 Resources



Health Department

Protecting, maintaining and improving the health of all Minnesotans.

5 Resources

MINNESOTA REVENUE

Revenue Department

The Minnesota Department of Revenue manages the state's revenue system and...

2 Resources



Minnesota Pollution Control Agency

Pollution Control Agency

Working to protect and improve our environment and enhance human health.

18 Resources

11 Resources



Agriculture Department

Our mission is to enhance Minnesotans' quality of life by ensuring the...

19 Resources



MetroGIS

MetroGIS is a regional geographic information systems initiative serving...

1 Resource



Natural Resources Department

Working with citizens to conserve and manage the state's natural resources.

120 Resources





Who can publish?

- Must be organizations, not individuals
- Must have one or more registered users, identified by real name and by the organization they represent

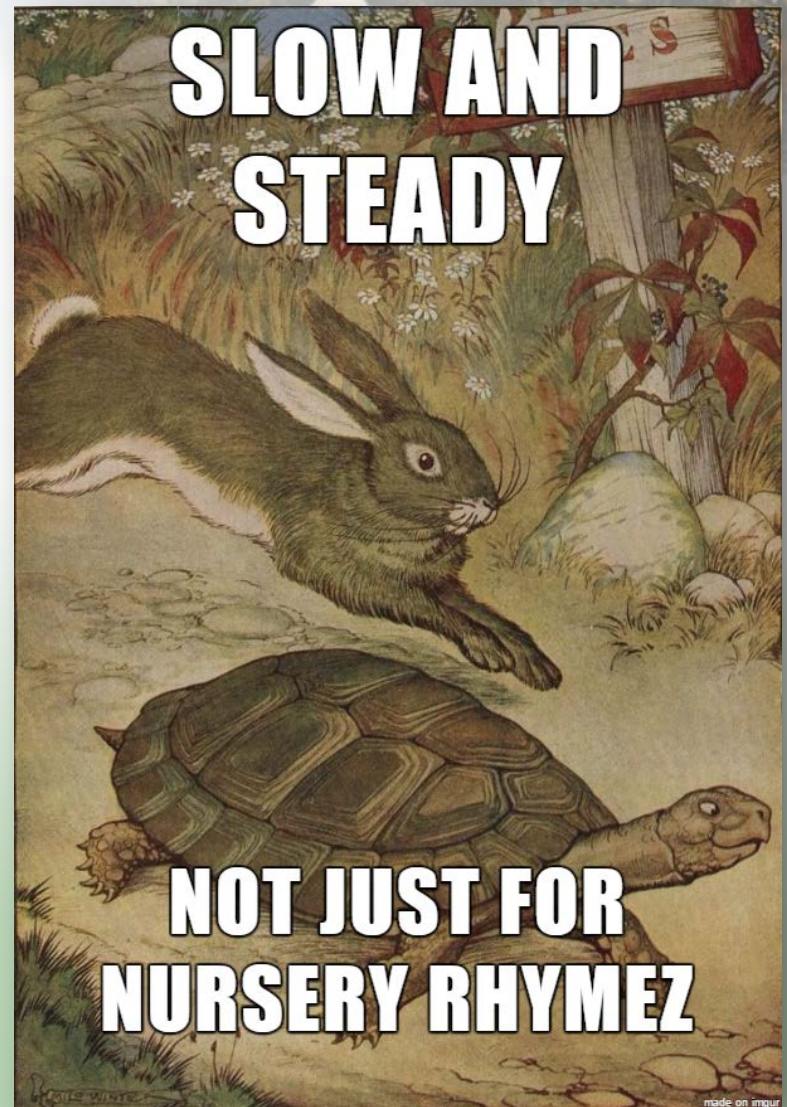


What can be published?

- Free and open data, or a link to a separate distribution
- Must cover at least part of Minnesota
- Non-geospatial data OK if:
 - Has a foreign key directly relatable or joinable to a published geospatial dataset.
 - Contains geographic coordinates or geocodable data like a street address.
- Data resources hosted by the Commons may be limited due to file size

What's Different?

- Focus on Minnesota
- Two-way communications
- Balance of Quality with Quantity



Curated Content

Resource Categories Activity Stream

Annual Average Daily Traffic, Traffic Segments, Minnesota, 2013

This dataset represents the most current AADT (Annual Average Daily Traffic) in a particular given year. AADT is a theoretical estimate of the total number of cars per year divided by 365 and is developed using factors such as road segment, week, and vehicle type. This information is displayed using the road centerline layer is a subset of the State of Minnesota BaseMap which data layers originally digitized from USGS 7.5-minute quadrangles, and local input.

Additional Info

Access constraints	None
Date details	Year in which the most recent count data was collected.
Originating organization	Minnesota Department of Transportation/Office of Transportation Systems Management/Traffic Forecasting and Analysis Section
Purpose	Determine general estimates of location-specific, annual average daily traffic (AADT) on the entire trunk highway system every two years to support the department's activities to facilitate passenger vehicle, bus and commercial truck travel. Determine general estimates of location-specific AADT for all county state aid highways (CSAH), other county roads (CR) and municipal state aid system (MSAS) roadways to assist in the annual allocation of state aid to local government for roadway maintenance and construction. Counts are taken on portions of this system each year so complete coverage for a given jurisdiction is accomplished on a two or four year cycle. More information about the Traffic Volume Program can be found at: http://www.dot.state.mn.us/traffic/data/

Static Preview - Sample Image

Shapefile

Traffic Mapping Application - Web Map

OGC GeoPackage

PDF Maps, by Municipality or County, and Reports

Full Metadata Record

aadt traffic counts traffic volumes

Compare to Data.gov

tiger centerlines


Order by:

Datasets ordered by Relevance

You are searching in the list of datasets. Show results in [entire Data.gov site](#).

Filter by location

Enter location...



Map data CC-BY-SA by [OpenStreetMap](#)
Tiles by [MapQuest](#)

Topics

- A-Z
- 1-9

AAPI (11)

Local Government (4)

Climate (1)

Topic Categories

- A-Z
- 1-9

Employment/Labor (7)

Workforce Diversity (7)

Pacific Islands (5)

County (4)

Native Hawaiian (4)

504 datasets found for "tiger centerlines"

TIGER Roads 2014

State of North Dakota – The TIGER/Line shapefiles and related database files (.dbf) are an extract of selected geographic and cartographic information from the U.S. Census Bureau's Master...

Road and Street Centerlines - MO 2009 TIGER Line Roads (SHP)

NSGIC GIS Inventory (aka Ramona) – The TIGER/Line Shapefiles are an extract of selected geographic and cartographic information from the Census MAF/TIGER database. The Census MAF/TIGER database...

Road and Street Centerlines - MO 2000 TIGER Roads (SHP)

NSGIC GIS Inventory (aka Ramona) – All roads included in the TIGER 2000 Redistricting line files for the state of Missouri.

Road and Street Centerlines - MO 2005 TIGER Line (SHP)

NSGIC GIS Inventory (aka Ramona) – ArcInfo Coverage of TIGER line 2005

Census Bureau Planned Acquisition: street centerline data

US Census Bureau, Department of Commerce – The Census Bureau updates and maintains street centerline data to support the correct allocation of population and housing for censuses and surveys. Boundaries,...

State

State

State

State

Federal

Compare to (Unnamed) Portal

SGravityMain sde

DESCRIPTION

Uploaded 11/10/2014

DATASET ATTRIBUTES

SYMBOL Number	min: 400 max: 408 avg: 400 count: 9,379
FEATURE_ID Number	min: 0 max: 175,433 avg: 44,415 count: 9,379
SUB_TYPE Text	(9378), MixedMat (1)
DIAMETER Number	min: 4 max: 48 avg: 9 count: 9,379

Open Data

Wilmington
105,641 Locations

GISQUERY.SDE.address

TAGS

sewer | pipes | sde

DATASET FOUND IN



City of Denton Texas Open Data



Minnesota Geospatial
Commons



Metadata!

Our old friend, helping curate our content for the Commons.



Documentation is Everything



Eric Holscher
@ericholscher



Follow

"I can't say I'm self taught. I've been taught by the people who wrote the documentation." [#writethedocs](#)

RETWEETS
204

FAVORITES
169



8:24 PM - 13 Apr 2015



Ken Doman
@raykendo



Following

Past me should be glad time travel isn't possible, because I would knock him around for the lack of project documentation he provided.

9:33 AM - 3 Jun 2015

Metadata fuels the Commons

Roads, Minnesota

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.

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

[roads](#) [route direction](#) [route number](#) [routes](#) [tis code](#) [transportation](#)

Title

Abstract

Preview

Full metadata
Keywords

Minnesota Geographic Metadata Guidelines (MGMG)

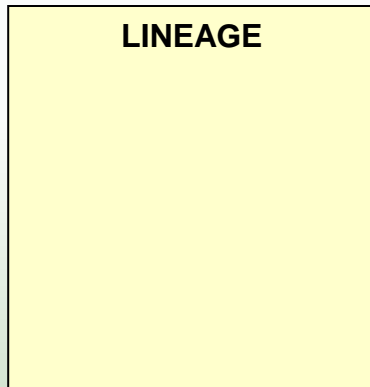
LINEAGE

Source Information

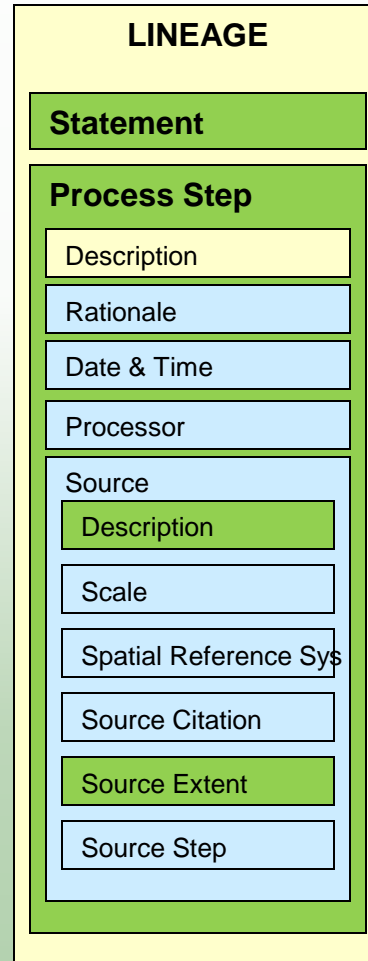
Source Citation

Citation Information

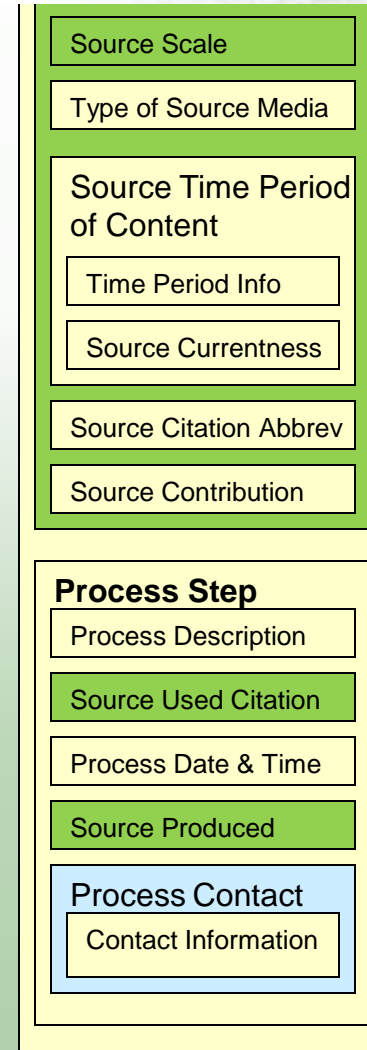
MGMG



ISO



FGDC -
CSDGM





NEW

Recommendations

Clarifying expectations for metadata content

Mandatory

- Required in order to make the Commons function
- Data resource won't be published without
 - “unknown” valid when necessary
- Example:
Bounding
Coordinates



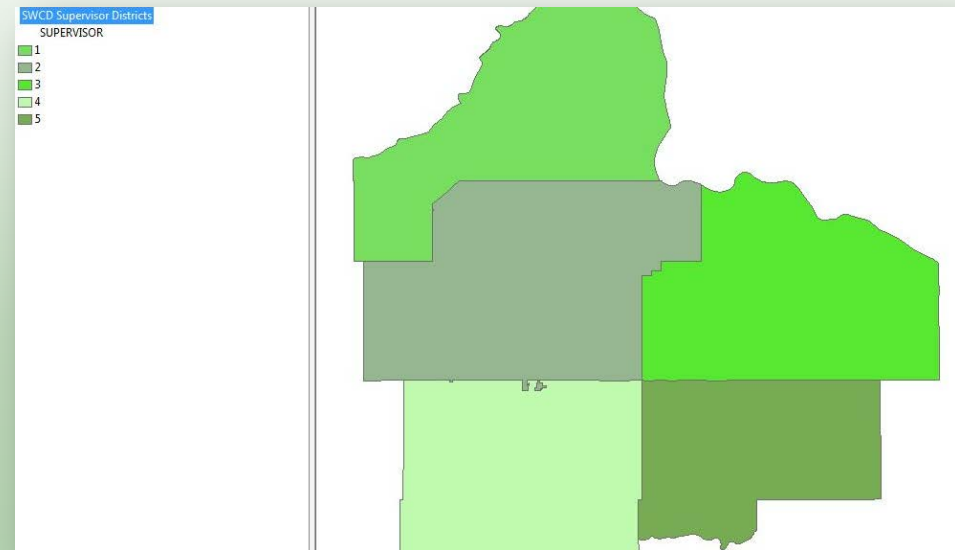


Mandatory if applicable

- Data resource won't be published without – if the element applies
 - If the element does not apply, then it can be left blank
- Example: Cell Width/Height – only applicable for raster formats

Desirable

- Data resource can be published without - but best practice indicates that it should be filled in to inform users
- Example: Browse Graphic





Optional

- Data resource can be published without – publisher decides whether or not to use
- Example: Associated Datasets

Summary recommendation

- “Quick guide” of elements and requirements in a table

SECTION 1 - Identification	Mandatory	Mandatory if applicable	Desirable	Optional
Originator	✓			
Title	✓			
Abstract	✓			
Purpose			✓	
Time Period of Content Date		✓		
Currentness Reference		✓		
Progress	✓			
Maintenance and Update Frequency	✓			
Spatial Extent of Data			✓	
Bounding Coordinates	✓			
Place Keywords	✓			
Theme Keywords	✓			
Theme Keyword Thesaurus				✓
Access Constraints	✓			
Use Constraints	✓			
Contact person			✓	
Contact organization	✓			
Contact position			✓	
Contact address				✓
Contact city				✓

Detailed recommendation

Maintenance and Update Frequency	Mandatory	Fixed domain choices and open text options cover any situation, including “irregular” and “unknown”.
Spatial Extent of Data	Desirable	Some indication of geographic area should be provided to help Commons users quickly see whether or not a dataset covers their area of interest. Geographic area is most commonly found in: <i>Title</i> ; <i>Spatial Extent of Data</i> ; <i>Bounding Coordinates</i> ; and <i>Place Keywords</i> . <i>Spatial Extent of Data</i> is a useful element since it can accommodate a text description of geography that doesn’t fit well into keywords.
Bounding Coordinates (4 separate fields)	Mandatory	Required for the Commons in order to support displaying a map extent and using the map to perform geographic searches. Must be provided in decimal degrees (latitude/longitude). Use http://bboxfinder.com/ for help.
Place Keywords	Mandatory	Helpful to support the filter-by-tag function of the Commons.
Theme Keywords	Mandatory	Required to support the filter-by-tag function of the Commons.
Theme Keyword Thesaurus	Optional	ISO 19115 Topic Category could be a default entry since publishing in the Commons requires that the publisher select a main ISO category (although the metadata doesn’t need to contain the ISO category). We’re not aware of other thesauri, but there could be some topic-specific ones.
Access Constraints	Mandatory	Users need to know whether or not there are constraints.
Use Constraints	Mandatory	Users need to know whether or not there are constraints.



Full Document

https://gisdata.mn.gov/content/?q=help/become_publisher

How much metadata is required to publish my dataset?

While we haven't defined the minimum number of metadata fields that must be completed for a dataset to be published on the Commons, our goal is to define a level and quality of required metadata that will provide enough information for a user to evaluate a dataset while not making the documentation task too much for the data publisher. Toward that goal, we developed a recommendation that identifies those elements that are **mandatory** to participate in publishing data resources to the Commons, those that are **desirable** because their inclusion improves the quality and value of the metadata document, and those that are **optional** and thus left to the publisher's discretion. **This draft recommendation** was approved by the Statewide Geospatial Advisory Council on June 24, 2015 and is currently awaiting final approval by the Geospatial Technology Committee. Metadata quality will also be maintained by periodically reminding publishers to check their records and via user feedback. The Commons uses the Minnesota Geographic Metadata Guidelines (MGMG).

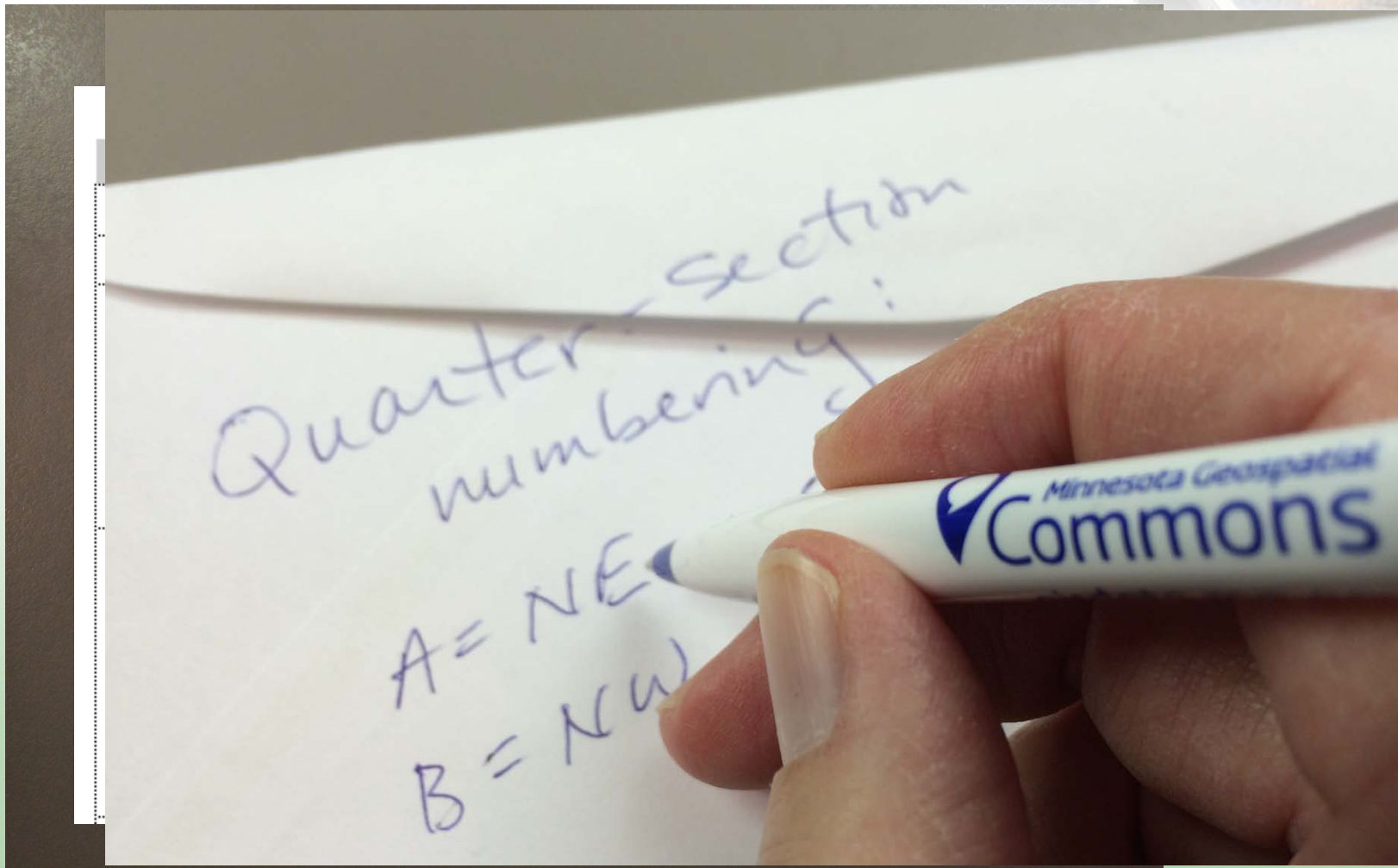


Metadata Tools

Nancy Rader and Susanne Maeder



Metadata Tool Formats



(Geo)

progr
cation
unty,
t. Th

ftwa
publi
0-sca
show
ble el

XML and HTML formats

- XML

```
<n><citeinfo><origin>Minnesota Geospatial Information Office</origin>  
<title>Public Land Survey API Service, Minnesota</title>  
<nro><publish>Minnesota Geospatial Information Office</publish>
```



- HTML

Public Land Survey API Service, Minnesota

The PLS (public land survey) API (application programming interface) service provides public land survey descriptions, UTM coordinates, and some place names for point locations...

JPEG HTML

Title	Public Land Survey API Service, Minnesota
Abstract	The PLS (public land survey) API (application programming interface) service provides public land survey descriptions, UTM coordinates, and some place names for point locations. The PLS API homepage links to the interactive PLS API service.
Purpose	PLS API partially replaces the SECTIC-24K soft corners of Minnesota as recorded on the most recent section corner locations shown on the public land survey maps. It also provides NAD27 <-> NAD83 translations as SECTIC-24K does not.
Time Period of Content Date	
Currentness Reference	The API uses section corner data as recorded on the most recent public land survey maps from the late 1970s.



Tools: MME

Nancy Rader





MN Metadata Editor (MME)

- Stand-alone software
 - Uses Microsoft Access to edit contact info
- Customized from the EPA's Metadata Editor (EME)
 - Credits: Metadata Workgroup; Jim Gonsoski
- Free download from the Commons:
<https://gisdata.mn.gov/dataset/minnesota-metadata-editor>



MME: Pros

- Stand-alone
- Simple interface, customized for MGMTG
- Output XML & HTML is Commons-ready
 - HTML
 - easy to create
 - uses MGMTG template
 - auto-creates hyperlinks
- Contact info re-usable
- Spellcheck

Data Quality

See: http://www.mngeo.state.mn.us/chouse/pls/pls_api.html

Phone: 651-201-2467

Fax: 651-296-6398

Email: gisinfo.mngeo@state.mn.us



MME: Cons

- Not within ArcGIS
 - does not keep metadata with data
 - does not auto-populate any fields
- Doesn't create FGDC-format metadata
- Access tables are clunky
- Currently, no dedicated maintenance
 - Next version of EME...?

Get Help

- MME Help

- Tutorial
- FAQ

- www.mngeo.state.mn.us

- General meta

MINNESOTA METADATA EDITOR TUTORIAL



The purpose of this tutorial is to introduce you to viewing and creating metadata records using the [Minnesota Metadata Editor](#) tool (MME). MME is customized for the [Minnesota Geographic Metadata Guidelines](#) (MGMG), a streamlined version of a national metadata standard.

OVERVIEW OF THE TUTORIAL

PART 1: GET STARTED

- Open the Minnesota Metadata Editor (MME) and find the main tabs and buttons
- Open an example metadata record

PART 2: EDIT A RECORD

Metadata Resources



Don't Duck Metadata!

*useful with any
metadata creation tool*

- www.mngeo.state.mn.us/chouse/meta_help.html



MME Demo





Tools: ArcCatalog

Susanne Maeder



ArcCatalog Default Metadata

- ArcCatalog default metadata style (“Item Description”), and native XML tags do not meet the needs of the Commons
- Commons requires the “FGDC-CSDGM” Metadata style and associated FGDC XML tags

```
- <idCitation>  
  <resTitle>Electric Utility Service Areas, Minnesota</resTitle>  
- <presForm>  
  <PresFormCd value="005" />  
  </presForm>  
</idCitation>  
- <spatRpType>  
  <SpatRepTypCd value="001" />  
  </spatRpType>  
- <dataExt>  
  - <geoEle>  
    - <GeoBndBox esriExtentType="search">  
      <exTypeCode>1</exTypeCode>  
      <westBL>-97.269855</westBL>  
      <eastBL>-89.393164</eastBL>  
      <northBL>49.404341</northBL>  
      <southBL>43.435673</southBL>  
    </GeoBndBox>  
  </geoEle>  
</dataExt>  
<idPurp>The purpose of the project was to convert
```

```
- <citeinfo>  
  <title>Electric Utility Service Areas, Minnesota, 2014</title>  
  <geoform>vector digital data</geoform>  
  </citeinfo>  
</citation>  
<descript>  
  <abstract>This dataset shows electric utility service area bound  
    drawn on county highway maps. The maps were scanned and  
    utilities were then given an opportunity to review and corre  
    (eDockets) were also reviewed to update the areas.</abstra  
  <purpose>The purpose of the project was to convert existing e  
    provide a statewide view of the service areas. Public Utilitiy  
    dataset.</purpose>  
</descript>  
<spdom>  
  - <bounding>  
    <westbc>-97.269855</westbc>  
    <eastbc>-89.393164</eastbc>  
    <northbc>49.404341</northbc>  
    <southbc>43.435673</southbc>  
  </bounding>  
</spdom>
```



FGDC Metadata and the Commons

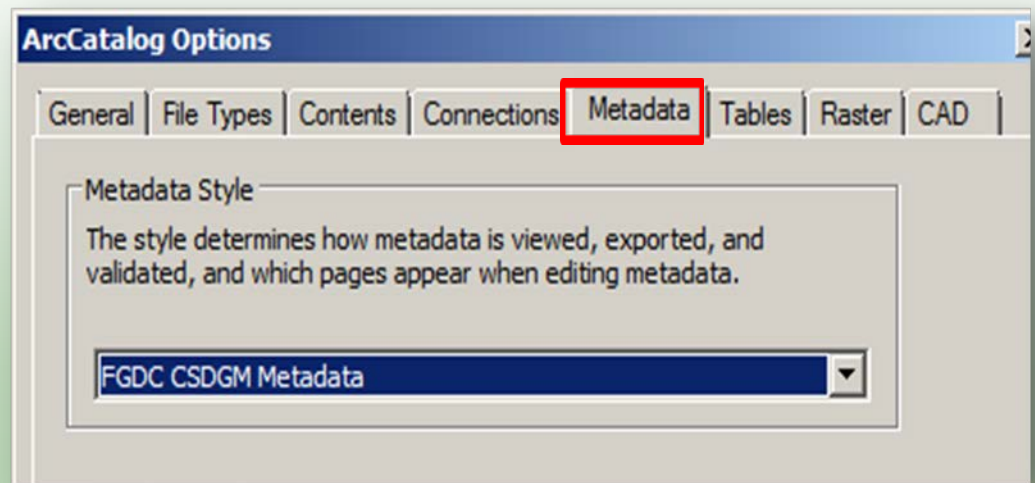
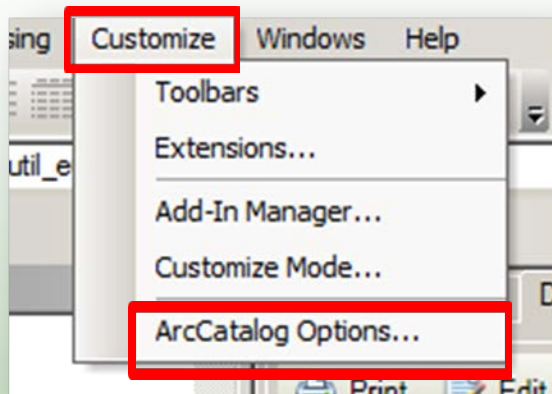
The Commons requires FGDC-style metadata

- In theory it should be easy
 - MGMG content is a subset of FGDC CSDGM content
 - MGMG uses FGDC XML tags
- In practice it gets harder
 - Metadata input screen (ISO) is complicated
 - Some FGDC tags are used differently in MGMG (Lineage, Keywords)
 - One of multiple FGDC options was chosen (Time Period of Content, Contact Information).
 - Conversions are necessary

ArcCatalog: Select Metadata Style

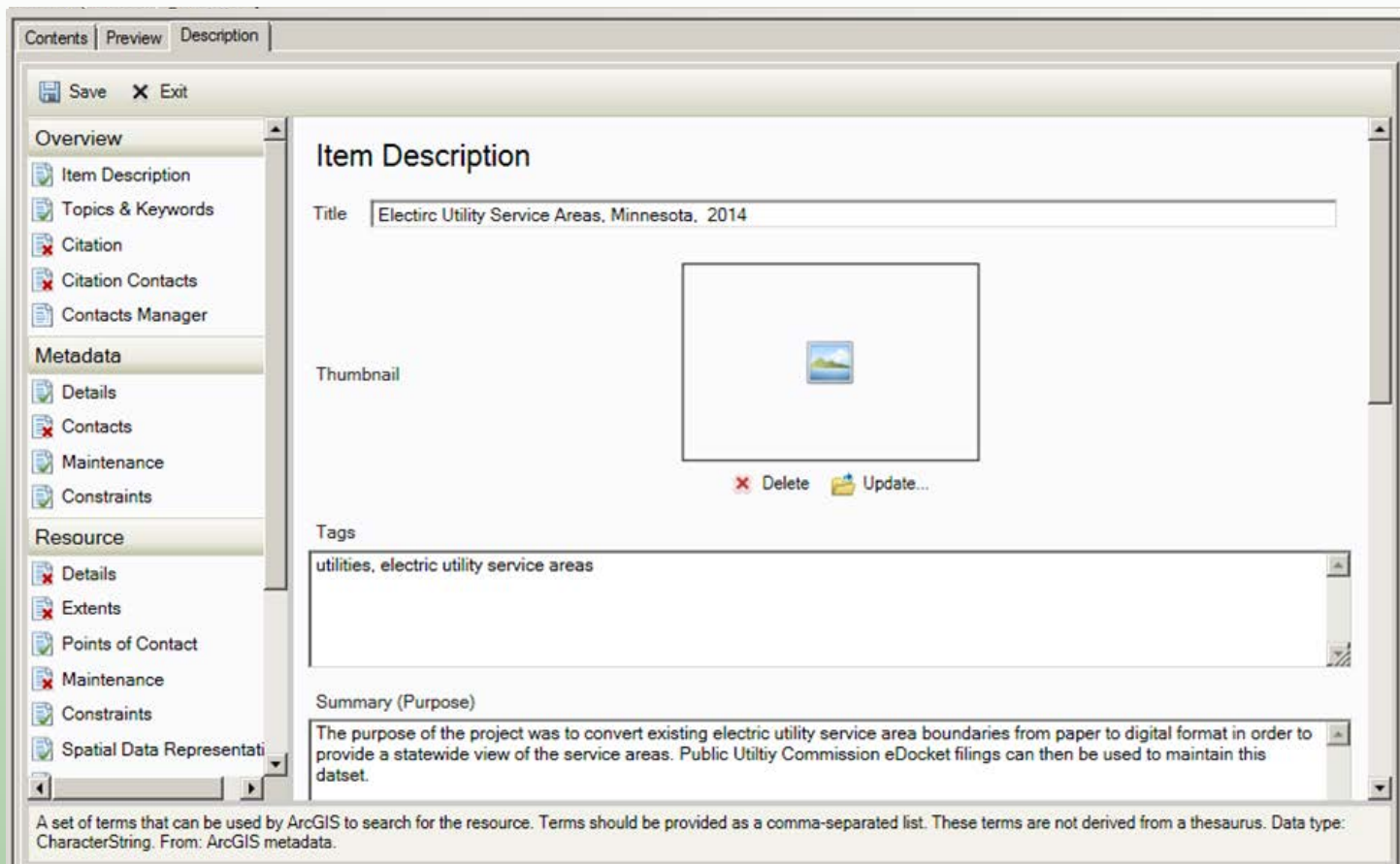
Set up ArcCatalog metadata to use FGDC Style:

Customize>ArcCatalog Options>Metadata>Metadata Style="FGDC CSDGM Metadata"



ArcCatalog: Create Metadata

- Editor (default for FGDC Style)
 - Pay attention to special field needs (see online Best Practices)



ArcCatalog: Export Metadata XML

Export XML to FGDC format (default for FGDC Style)

Export – use translator option “ArcGIS2FGDC.xml”

Converts XML format from ESRI internal to FGDC CSDGM format

The screenshot shows the ArcCatalog application window with the 'Export Metadata' dialog box open. The dialog box contains the following information:

- Source Metadata:** G:\MIC\METADATA\ArcCatalog_10\util_eusa\eusa.shp
- Translator:** C:\Program Files (x86)\ArcGIS\Desktop10.2\Metadata\Translator\ArcGIS2FGDC.xml
- Output File (optional):** G:\MIC\METADATA\ArcCatalog_10\util_eusa\eusa_xslttransformation_esri1.xml

The ArcCatalog interface in the background shows a metadata preview for 'Electric Utility Service Areas, Minnesota' with a 'Thumbnail Not Available' warning. The 'Export' button in the ArcCatalog interface is highlighted with a red box.

ArcCatalog: “Contact” Issues

Modify XML Contact Tags

```
- <cntinfo>  
  - <cntorgp>  
    <cntorg>Minnesota Geospatial Information Office</cntorg>  
    <cntper>Jane Doe</cntper>  
  </cntorgp>  
</cntinfo>
```

```
- <cntinfo>  
  - <cntperp>  
    <cntorg>Minnesota Geospatial Information Office</cntorg>  
    <cntper>Jane Doe</cntper>  
  </cntperp>  
</cntinfo>
```

Current Workarounds

Hand-Edit XML's
Bring into MME and edit
Use ArcCatalog Add-ins: FGDC or EPA Editors

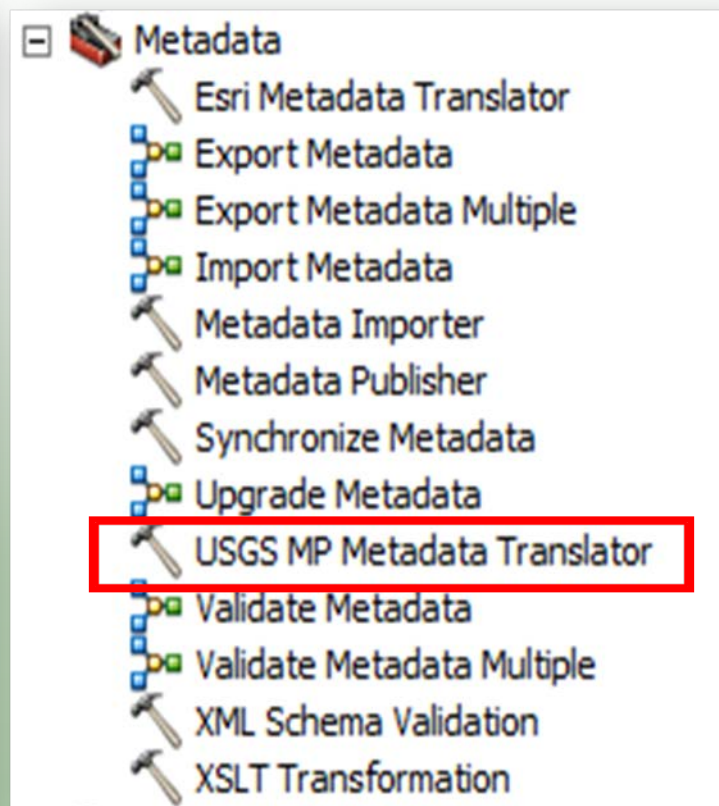
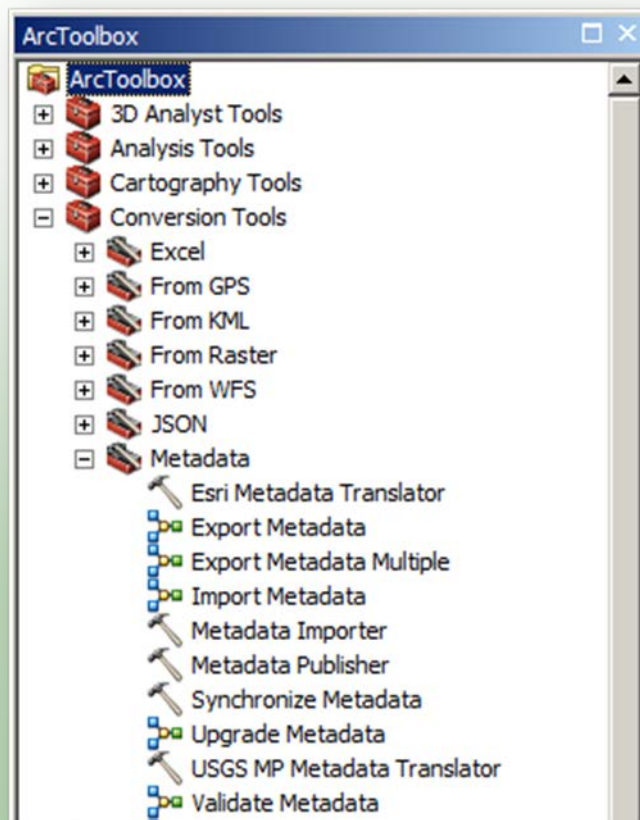
We don't want you to have to work this hard!

A Commons update may eliminate the need for this step

ArcCatalog: Create HTML

Create HTML

ArcToolbox>Conversion Tools>Metadata>”USGS MP Metadata Translator” creates “FGDC Classic” HTML



ArcCatalog: HTML Examples

FGDC Metadata HTML

Road Centerlines, Dakota County, Minnesota

Metadata also available as

Metadata:

- [Identification Information](#)
- [Data Quality Information](#)
- [Spatial Data Organization Information](#)
- [Spatial Reference Information](#)
- [Entity and Attribute Information](#)
- [Distribution Information](#)
- [Metadata Reference Information](#)

Identification Information:

Citation:

Citation Information:

Originator: Dakota County GIS, Dakota County GIS, Staff

Publication_Date: 20150924

Title: Road Centerlines, Dakota County, Minnesota

Edition: 1

Geospatial_Data_Presentation_Form: vector digital data

Publication Information:

Publication_Place: 14955 Galaxie Ave, Apple Valley, Minnesota, 55124, US

Publisher: Dakota County GIS

Online Linkage:

<https://gisdata.mn.gov/dataset/us-mn-co-dakota-trans-trans-streets>

Description:

Abstract:

This layer contains lines showing all public (and many private) roads in Dakota County, Minnesota. The lines are generally collected from plats and aerial photography.

MGMG Metadata HTML

Electric Utility Service Areas, Minnesota, 2014

This page last updated: 07/29/2014

Metadata created using [Minnesota Geographic Metadata Guidelines](#)

Go to Section:

1. [Overview](#)
2. [Data Quality](#)
3. Data Organization
4. [Coordinate System](#)
5. [Attributes](#)
6. [Distribution - Get Data](#)
7. [Metadata Reference](#)

Section 1 Overview

Originator	Minnesota Geospatial Information Office (MnGeo)
Title	Electric Utility Service Areas, Minnesota, 2014
Abstract	This dataset shows electric utility service area boundaries for the State of Minnesota. The original source data were lines hand-drawn on county highway maps. The maps were scanned and georeferenced to serve as a background for on-screen digitizing. The utilities were then given an opportunity to review and correct the service areas. Changes filed with the Public Utilities Commission (eDockets) were also reviewed to update the areas.
Purpose	The purpose of the project was to convert existing electric utility service area boundaries from paper to digital format in order to provide a statewide view of the service areas. Public Utility Commission eDocket filings can then be used to maintain this dataset.



ArcCatalog: Pros

- Embedded in ArcGIS software
- Stores metadata with data
- Familiar to many users
- Auto-populates some fields
- Supports full FGDC metadata



ArcCatalog: Cons

- Requires ArcGIS
- Default ArcGIS metadata style insufficient and native XML tags won't work outside ArcGIS ecosystem
- Extra steps needed: select metadata style, xml export format
- ISO input form more difficult to populate correctly
- Current Commons validation problems with Contact tags (Commons may fix)
- HTML format is “FGDC Classic”, not MGMTG.



ArcCatalog: Get Help

- MnGeo Help
- www.mngeo.state.mn.us/chouse/arccatalog_commons.html
 - Overview
 - Best Practices for ArcCatalog FGDC-CSDGM Metadata Style
- ESRI Help
 - Creating and Managing FGDC Metadata
 - <http://resources.arcgis.com/en/help/main/10.2/index.html#//003t00000031000000>



ArcCatalog Demo





Tools: New add-ins

Mike Dolbow



MGC Editor: Housekeeping

- Creates:
 - folder structure
 - dataResource.xml
 - or appResource.xml files

MGC Resource Editor - v1.3, 1/29/2015

Staging Folder: D:\Temp

Publisher: Lake County

ISO Topic Categories: Biota

Base Folder Name:

Descriptive Name:

Source Metadata XML File:

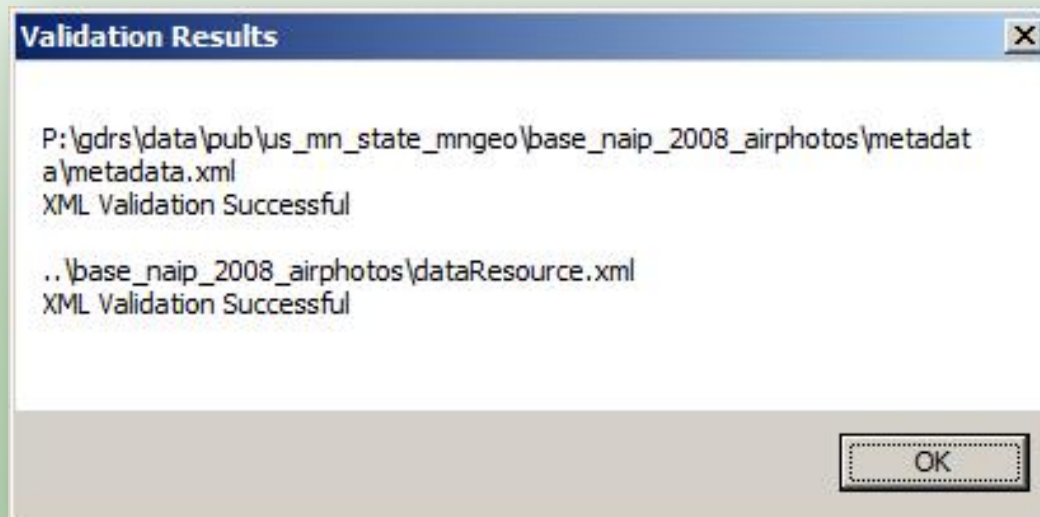
----- Sub Resource Information -----

Source Layer:

- Crooked_Creek_Elevation
- Crooked Creek Polygons
- Emerald Ash Borer Activities in MN
- 2010 FSA Color Aerial Photography - Cached Web S

Data Resource Validation Tool

- Verifies:
 - Folder structure
 - XML document structure
 - Metadata content





Publishing to the Commons

Overview and the Role of Metadata





Basic Process



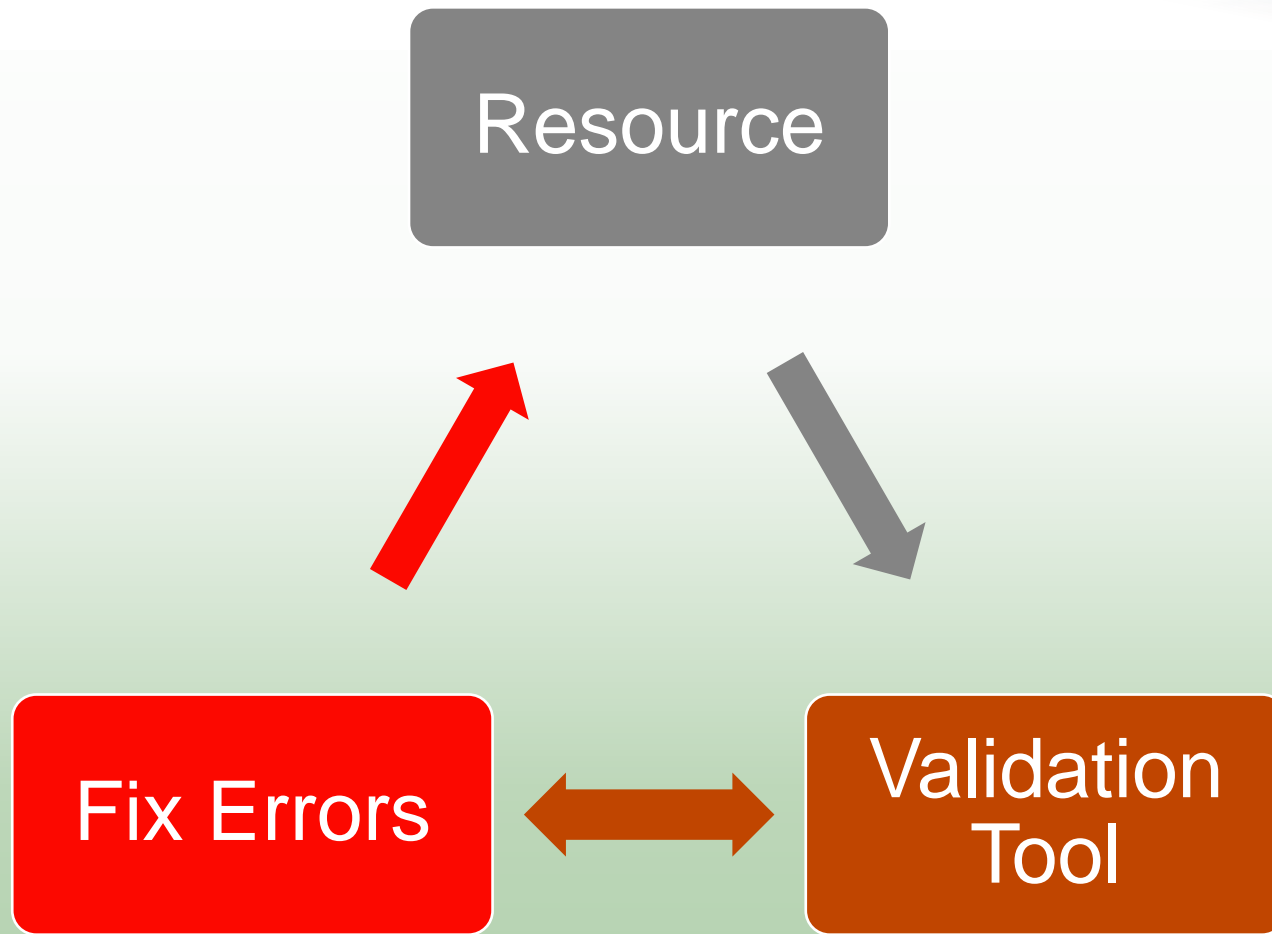
Desktop

GDRS or
FTP

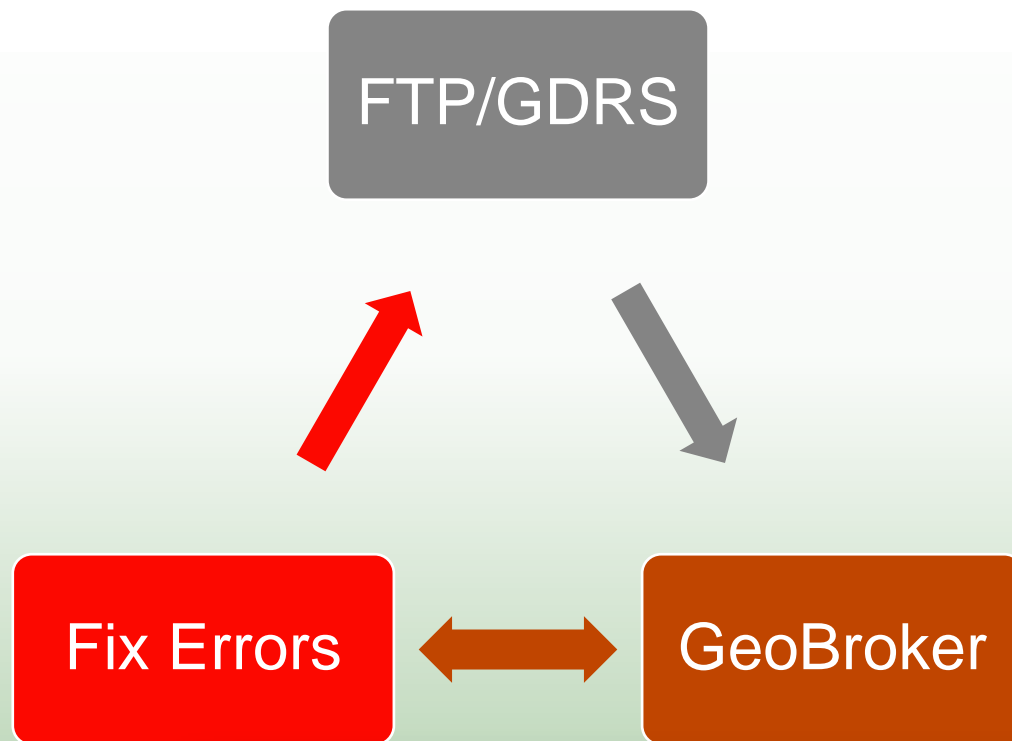
GeoBroker

Commons

Validation (locally)



Validation (GeoBroker)



Validation report for: 2004 FSA Color Aerial Photography - WMS Source

MGC ERRORS: './base_2004_naip_airphotos_tc_wms/dataResource.xml': {'subResources': 'no subresources found in resource XML file'} WARNINGS: 'preview': 'missing preview.jpg from metadata or preview folder'

Notes on central status

Central node revision date: June 20, 2014, 9:30 p.m.

Distribution (Geobroker)

- Once your resources are only at “warning” level, you can distribute



us_mn_state_mngeo	USGS High-Resolution Orthoimagery, Minneapolis-St. Paul, MN, Spring, 2004 GUID: {0189b4d6-fd6e-4998-b037-02c52f6807f3}	base_usgs_msp_2004_airphotos	valid	valid	<input checked="" type="radio"/> Commons <input type="radio"/> Agency <input type="radio"/> Delete
us_mn_state_metc	Waste Water Treatment Plants GUID: {99443497-8896-48c0-8b1a-867b207487cf}	util_wastewater_treatment_plants	valid	warning Report	<input checked="" type="radio"/> Commons <input type="radio"/> Agency <input type="radio"/> Delete



GeoBroker Demo



End Result: Commons





Resource Categories Activity Stream

Ditches - Public, Dakota County

Dakota County has two public ditches within the North Cannon River jurisdiction over. They are named Public Ditch #1 and Public Ditch and Hampton Twp and is also called Pine Creek. It extends north Twp along the southern boundaries of Sections 25 and 26 then zig Section 27 and ends at the west boundary of Section 34. Public Ditch is in Hampton Township and is made up of 1 ditch extending west from the North Cannon River in Sciota Twp and Sections 4 and 5 of Waterford Twp and 2 ditches of Chub Creek in Section 10 of Sciota Twp and Sections 6, 8, 9, and 10 of Hampton Twp. This data was heads-up digitized in ArcMap on 2002 Dakota County aerial photo description map as reference for the extent of ditch jurisdiction.

Additional Info

Access constraints	The data set is public. A Dakota County Soil & Water Conservation District DATA LICENSE is necessary to obtain the data set. Data is deliverable in county coordinates in shapefile format. A fee may be required for data conversion to other coordinate systems or hard copy data delivery.
Date details	publication date
Originating organization	David Holmen, Dakota County Soil and Water Conservation District, Resource Conservationist/I.T. Specialist
Date of content	1/1/2006
Purpose	To identify the full extent of those ditches in Dakota County that the County has jurisdiction over.

-  **Static Preview - Sample Image**
-  **Shapefile**
-  **ESRI File Geodatabase**
-  **OGC GeoPackage**
-  **Full Metadata Record**





Commons Demo

Getting Results, Filtering, Evaluating



New Audiences



andest01 @andest01 · Jul 23
I love making maps. most of m
Systems (GIS) and public data

← ↻ 1 ★



andest01 @andest01 · Jul 23
3/7 All of this changed when I
Leaflet, and D3.

← ↻ 2 ★ 2



andest01 @andest01 · Jul 23
4/7 However, even with the tec
dead in the water. You know the grammar, but you are wordless.

← ↻ 2 ★ 1



andest01
@andest01

5/7 That's why I ca
Commons ([gisdata](https://gisdata.mn.gov))
indispensible to m
Wikipedia.



Chris Cantey
@ChrisCantey



Follow

MN Geospatial commons is a beautiful resource - I wish WI had something like this! [#GIS](#) [#OpenData](#) gisdata.mn.gov

RETWEET

1

FAVORITES

2



Alan Palazzolo
@zzolo



Following

Minnesota State (geo) data portal is running and live!
gisdata.mn.gov.

RETWEETS

3

FAVORITES

4





Discussion, Q&A





We have Questions for you...

- We have:
- Posted Resources like Tutorials and Best Practices
- We plan:
 - Pre-recorded Webinar on How-To
 - Hands-on training or help sessions
- Are there any gaps in our training approach?
- What are perceived obstacles?



Current Operations Team:

*David Fawcett, Karl Hillstrom, Andrew Koebrick,
Brent Lund, Alison Slaats, Zeb Thomas*

Mike Dolbow, Nancy Rader, Susanne Maeder
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Thank You

