

Documenting Geographic Information

# **Minnesota Geographic Metadata Guidelines**

Version 1.2 - October 7, 1998

A State Version of the FGDC Content Standards for Geospatial Metadata

Developed by the  
Minnesota Governor's Council on Geographic Information  
GIS Standards Committee

**THE GOVERNOR'S COUNCIL ON GEOGRAPHIC INFORMATION** was created in 1991 by Governor Arne H. Carlson to provide leadership in the development, management and use of geographic information in Minnesota. With assistance from Minnesota Planning, the council makes recommendations for policies, institutional arrangements, education, stewardship, standards and more.

#### **ACKNOWLEDGMENTS**

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## **The Minnesota Geographic Metadata Guidelines**

### **A recommended approach to documenting spatially referenced data.**

Proper documentation is often overlooked when developing new databases to be used for geographic information system processing. When essential information about data is missing, its value is severely reduced. Where did the data come from? When were they collected? How accurate are they and how are they to be appropriately used? Without clear and complete documentation, no easy resolution to these fundamental questions exists. Confusion created by such uncertainty leads to a lack of confidence in the data that blemishes the outcome of any analysis in which it is used.

Bridges are built among users of geographic data when a common approach to documentation is used. Agreement on how we describe our data cultivates a common vocabulary and improved understanding. An investment in thorough data documentation can pay for itself through increased data longevity, a greater ability to share data, decreased user support requirements, and in extreme cases, the avoidance of litigation related to data misuse or copyright violations.

The *Minnesota Geographic Metadata Guidelines* provide that common approach for documenting all types of geographic data. They have been designed to be straightforward, intuitive and complete. This document describes those guidelines which are based on a standard developed by the Federal Geographic Data Committee in 1993; *The Content Standards for Geospatial Metadata*. In developing the *Minnesota Geographic Metadata Guidelines*, the Minnesota Governor's Council GIS Standards Committee sought to create a streamlined implementation of the federal standard that retains the essence of its original content.

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<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>Section 1</b>	<b>Identification Information</b>				
1.1-8.1	Originator	<b>Originator</b>	text	free text	The name of the organization or individual that developed the data set.
1.1-8.4	Title	<b>Title</b>	text	free text	The name by which the data set is known.
No FGDC Equivalent		<b>Minnesota Clearinghouse ID</b>	text	free text	NOTE: <b>Not implemented at this time.</b> A unique identifying code for the data set for use in the Minnesota clearinghouse.
1.2.1	Abstract	<b>Abstract</b>	text	free text	A summary of what is in the data set.
1.2.2	Purpose	<b>Purpose</b>	text	free text	Why the data set was developed.
1.3 - 9.1.1	Time Period of Content - Calendar Date	<b>Time Period of Content Date</b>	date	free date	A single date for which the data set corresponds to the ground or for which the user can be confident of accuracy and completeness. (If multiple dates or a range of dates apply to the data set, use "Currentness Reference" to list them and to explain further.)
1.3.1	Currentness Reference	<b>Currentness Reference</b>	text	free text	The basis on which the Time Period of Content Date is determined. List what the date is referring to (e.g. ground condition, date of quad map that was digitized, etc.) If multiple dates or a range of dates apply, list and explain.
1.4.1	Progress	<b>Progress</b>	text	"complete" "in work" "planned"	Development status as reflected in domain choices.
1.4.2	Maintenance and Update Frequency	<b>Maintenance and Update Frequency</b>	text	"continually" "daily" "weekly" "monthly" "annually" "unknown" "as needed" "irregular" "none planned" free text	The frequency with which changes and additions are made to the data set after the initial data set is completed.
Part of 1.2.3	Supplemental Information	<b>Spatial Extent of Data</b>	text	free text	Describe the geographic area covered by the data set.
1.5.1.1	West Bounding Coordinate	<b>West Bounding Coordinate</b>	real	-180.0 <= West Bounding Coordinate < 180.0	Western-most coordinate of the limit of coverage expressed in longitude, in decimal degree units.
1.5.1.2	East Bounding Coordinate	<b>East Bounding Coordinate</b>	real	-180.0 <= East Bounding Coordinate <= 180.0	Eastern-most coordinate of the limit of coverage expressed in longitude, in decimal degree units.
1.5.1.3	North Bounding Coordinate	<b>North Bounding Coordinate</b>	real	-90.0 <= North Bounding Coordinate < 90.0	Northern-most coordinate of the limit of coverage expressed in latitude, in decimal degree units.
1.5.1.4	South Bounding Coordinate	<b>South Bounding Coordinate</b>	real	-90.0 <= South Bounding Coordinate < 90.0	Southern-most coordinate of the limit of coverage expressed in latitude, in decimal degree units.
1.6.2	Place Keywords	<b>Place Keywords</b>	text	free text	Words or phrases summarizing an aspect of the place of the data set.
1.6.1	Theme Keywords	<b>Theme Keywords</b>	text	free text	Words or phrases summarizing an aspect of the theme of the data set.
1.6.1.1	Theme Keyword	<b>Theme Keyword</b>	text	free text	Reference to a formally registered thesaurus or a similar

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
	Thesaurus	<b>Thesaurus</b>			authoritative source of theme keywords.
1.7	Access Constraints	<b>Access Constraints</b>	text	“none” free text	Restrictions and legal prerequisites for accessing the data set. These include any access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set.
1.8	Use Constraints	<b>Use Constraints</b>	text	“none” free text	Restrictions and legal prerequisites for using the data set after access is granted (ex. transferring to others).
1.9-10.1.1	Point of Contact - Person	<b>Contact Person</b>	text	free text	A person within the development or managing group who can receive inquiries regarding the content or development of the data set. This may not be the same as the distributor.
1.9-10.1.2	Point of Contact - Organization	<b>Contact Organization</b>	text	free text	The name of the organization that can receive inquiries regarding the content or development of the data set.
1.9-10.3	Point of Contact - Position	<b>Contact Person Position</b>	text	free text	The position of the Contact Person
1.9-10.4.2	Point of Contact - Address	<b>Contact Address</b>	text	free text	The mailing address of the Contact Person.
1.9-10.4.3	Point of Contact - City	<b>Contact City</b>	text	free text	The city of the Contact Person.
1.9-10.4.4	Point of Contact - State or Province	<b>Contact State or Province</b>	text	free text	The state or province of the Contact Person.
1.9-10.4.5	Point of Contact - Postal Code	<b>Contact Postal Code</b>	text	free text	The ZIP or other postal code of the Contact Person.
1.9-10.5	Point of Contact - Voice Phone	<b>Contact Voice Phone</b>	text	free text	The voice telephone number, including area code, of the Contact Person.
1.9-10.7	Point of Contact - Facsimile Phone	<b>Contact Fax Phone</b>	text	free text	The facsimile telephone number, including area code, of the Contact Person.
1.9-10.8	Point of Contact - E-mail Address	<b>Contact E-mail Address</b>	text	free text	The Internet mail address of the Contact Person.
1.10.1	Browse Graphic File Name	<b>Browse Graphic File Name</b>	text	“none available” free text	A “Browse Graphic” is any type of graphic file that provides an illustration of the data set. If a browse graphic is available on the Internet, provide the file name Uniform Resource Locator (URL), including the “http://”.
1.10.2	Browse Graphic File Description	<b>Browse Graphic File Description</b>	text	free text	A text description of the illustration.
1.14 - 8.4	Cross Reference - Title	<b>Associated Data Sets</b>	text	free text	Information about other, related data sets that are likely to be of interest (e.g. derived from common sources, similar theme, etc.)

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>Section 2</b>	<b>Data Quality Information</b>				
2.1.1	Attribute Accuracy Report	<b>Attribute Accuracy</b>	text	free text	An explanation of how accurately the entities have been identified or how accurately values have been assigned in the data set. This can be the results of quantitative analysis, steps taken to ensure accuracy during development, or known deficiencies.
2.2	Logical Consistency Report	<b>Logical Consistency</b>	text	free text	An indication of topological problems such as overshoots, undershoots, unwanted intersections, unclosed polygons, missing or duplicate labels, etc.
2.3	Completeness Report	<b>Completeness</b>	text	free text	Information about omissions, selection criteria, generalization, definitions used, and other rules used to derive the data set that may affect the completeness of content of the data.
2.4.1.1	Horizontal Positional Accuracy Report	<b>Horizontal Positional Accuracy</b>	text	free text	An explanation of the accuracy of the horizontal positions (coordinates) of spatial objects and a description of the tests or line of reasoning used to arrive at the estimate.
2.4.2.1	Vertical Positional Accuracy Report	<b>Vertical Positional Accuracy</b>	text	free text	An explanation of the accuracy of the vertical positions (coordinates) of spatial objects and a description of the tests or line of reasoning used to arrive at the estimate.
2.5 (FGDC compound)	Lineage	<b>Lineage</b>	text	free text	Information about the sources of data used to construct the data set and steps used to process the data. For each processing step provide, where possible, the following: source data name, source data scale, source data date, description of processing steps performed, scanning or digitizing specifications, hardware & software used, processing tolerances, etc.
2.5.1.2	Source Scale Denominator	<b>Source Scale Denominator</b>	integer		The denominator of the representative fraction of source map(s). Please leave out commas (e.g. 24000 not 24,000). Example: on a 1:24000 scale map, the Source Scale Denominator is 24000; on a "100 scale" map (1 inch = 100 feet) the Source Scale Denominator is 1200. If no source <b>maps</b> were used, enter zero (e.g. GPS data). If multiple source map scales were used, enter the Source Scale Denominator of the smallest scale map (largest denominator).



<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>Section 3 Spatial Data Organization Information</b>					
1.13	Native Data Set Environment	<b>Native Data Set Environment</b>	text	free text	A description of the data set in the producer's processing environment including the software name and version number. The user may also enter the computer operating system, file name and data set size if desired. (Note: Transfer formats will be listed in Section 6.)
3.1	Indirect Spatial Reference	<b>Geographic Reference for Tabular Data</b>	text	free text	Description of the types of geographic features, addressing schemes, geocodes or other means through which locations are referenced in the data set.
3.2	Direct Spatial Reference Method	<b>Spatial Object Type</b>	text	"point" "vector" "raster"	The system of objects used to represent space in the data set.
Replacement of FGDC 3.3)	Point and Vector Object Information	<b>Vendor Specific Object Types</b>	text	"arc" "area" "cell" "column" "network" "node" "label" "line" "point" "polygon" "region" "route-section" "row" "TIN" free text	The spatial objects used in terms used by the software. Counts of these objects may also be entered (e.g. columns = 100, rows = 200, lines = 300, points = 400, etc.) Additional values may be used if the domain choices are not complete for a data set.
No FGDC Equivalent		<b>Tiling Scheme</b>	text		Description of the physical partitioning of the data set (e.g. counties, USGS 7.5 minute quad sheets, etc.).

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>Section 4 Spatial Reference Information</b>					
Modification of 4.1.2.2.1	Grid Coordinate System Name	<b>Horizontal Coordinate Scheme</b>	text	“geographic (Lat. Long.)” “UTM” “State Plane” “County Coordinates” “User Specified Projection” “Other”	The scheme used to define horizontal coordinates as depicted by the domain choices.
4.1.4.2	Ellipsoid	<b>Ellipsoid</b>	text	“Clarke 1866” “GRS80” free text	Identification given to establish representation of the Earth's shape.
4.1.4.1	Horizontal Datum	<b>Horizontal Datum</b>	text	“NAD27” “NAD83” “NAD83 (96)”	The datum used in the horizontal coordinate system. “NAD83 (96)” represents the 1996 adjustment based on the High Accuracy Reference Network (HARN).
4.1.2.4.4 (partially)	Planar Distance Units	<b>Horizontal Units</b>	text	“meters” “feet” “decimal degrees” free text	The horizontal distance units. User may specify additional units not listed in domain. NOTE: “feet” is assumed to be U.S. survey feet.
4.1.2.4.3.1	Distance Resolution	<b>Distance Resolution</b>	text	free text	The minimum distance measurable between two points, expressed in distance units of measure (e.g. the minimum allowable distance between two vertices).
4.2.1.1	Altitude Datum	<b>Altitude Datum</b>	text	“NGVD29” “NAVD88” “not applicable” free text	The level surface of reference from which altitudes are measured, if applicable. NGVD29 = National Geodetic Vertical Datum of 1929; NAVD88 = North American Vertical Datum of 1988.
4.2.1.3	Altitude Units	<b>Altitude Units</b>	text	“meters” “feet” free text	Units in which altitudes are measured.
4.2.2.1	Depth Datum	<b>Depth Datum</b>	text	“local surface” “mean low water” “mean high water” “mean sea level” “land survey datum” “not applicable” free text	The surface of reference from which depths are measured, if applicable.
4.2.2.3	Depth Units	<b>Depth Units</b>	text	“meters” “feet” free text	Units in which depths are measured.
		Raster Data Only			
4.1.2.4.2.1	Abscissa Resolution	<b>Cell Width</b>	real	> 0.0	The column width of a raster cell expressed in distance units of measure.
4.1.2.4.2.2	Ordinate Resolution	<b>Cell Height</b>	real	> 0.0	The row height of a raster cell expressed in distance units of measure.

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>If Geographic</b>					
4.1.1.1	Latitude Resolution	<b>Latitude Resolution</b>	real	> 0.0	The minimum difference between two adjacent latitude values expressed in Geographic Coordinates Units of measure.
4.1.1.2	Longitude Resolution	<b>Longitude Resolution</b>	real	> 0.0	The minimum difference between two adjacent longitude values expressed in Geographic Coordinates Units of measure.

<b>If UTM</b>					
4.1.2.2.1	UTM Zone Number	<b>UTM Zone Number</b>	text	14, 15, 15E, 16, free text	Identifier for the UTM zone number(s) used. "15E" represents zone 15 extended to cover the entire state of Minnesota.
No FGDC Equivalent		<b>Coordinate Offsets or Adjustments</b>	text	free text	An explanation of the magnitude, direction, etc. of any coordinate shifts or adjustments. For example "subtracted 4,700,000 from the Y coordinate".

<b>If State Plane</b>					
4.1.2.2.4.1	SPCS Zone Identifier	<b>SPCS Zone Identifier</b>	integer	2201, 2202, 2203	The Federal Information Processing Standard (FIPS) four-digit numeric code for the State Plane Coordinate Systems. In Minnesota, North = 2201, Central = 2202, and South = 2203.
No FGDC Equivalent		<b>Coordinate Offsets or Adjustments</b>	text	free text	An explanation of the magnitude, direction, etc. of any coordinate shifts or adjustments.

<b>If County Coordinates</b>					
No FGDC Equivalent		<b>County Coordinate Zone Identifier</b>	integer	1 - 67	The county coordinate zone identifier number from <i>The Minnesota County Coordinate System, A User's Handbook</i> by Ken Whitehorn, Itasca Co. Surveyor, published by Precision Measuring Systems, 1998. <b>Note:</b> Some coordinate zones include multiple counties and some large counties have multiple coordinate zones. <b>Note:</b> these <b>coordinate</b> IDs are not the same as <b>county</b> IDs. <b>Note:</b> A list of the codes is available in the <i>DataLogr</i> help menus.
No FGDC Equivalent		<b>Coordinate Offsets or Adjustments</b>	text	free text	An explanation of the magnitude, direction, etc. of any coordinate shifts or adjustments.

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
		<b>If User Specified Projection</b>			
4.1.2.1.1	Map Projection Name	<b>Map Projection Name</b>	text	free text	Name of the map projection.
4.1.2.1.2 (FGDC compound)	Map Projection Parameters	<b>Map Projection Parameters</b>	text	free text	List the actual projection parameters reflected in the coordinate system used. (See FGDC standards for specific information.)
		<b>If Other</b>			
4.1.2.1.3	Other Projection's Definition	<b>Other Coordinate System's Definition</b>	text	free text	Explain the reference frame or system from which linear or angular quantities are measured and assigned to the position that a point occupies.

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>Section 5 Entity and Attribute Information</b>					
5.2.1	Entity and Attribute Overview	<b>Entity and Attribute Overview</b>	text	free text	A summary of the information contained within the data set.
5.2.2	Entity and Attribute Detailed Citation	<b>Entity and Attribute Detailed Citation</b>	text	free text	A reference to one or more detailed sources of information on the content of the data set; for example, a digital or hardcopy data dictionary. (See FGDC Standard for data dictionary format information.) The user may attach or link to a detailed data dictionary.

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>Section 6</b>	<b>Distribution Information</b>				
1.1-8.8.2	Publisher	<b>Publisher</b>	text	free text	The name of the organization or individual that made the data set publicly available. This will often be the same as the "Originator" (1.1-8.1).
1.1-8.2	Publication Date	<b>Publication Date</b>	date	"unknown" "unpublished material" "periodically revised" date	The date when the data set is published or otherwise made publicly available.
6.1-10.1.1	Distributor - Person	<b>Distributor Contact Person</b>	text	free text	A person who can receive inquiries regarding the distribution of the data set.
6.1-10.1.2	Distributor - Organization	<b>Distributor Organization</b>	text	free text	The name of the organization that can receive inquiries regarding the distribution of the data set.
6.1-10.3	Distributor - Position	<b>Distributor Position</b>	text	free text	The position of the Distributor Contact Person
6.1-10.4.2	Distributor - Address	<b>Distributor Address</b>	text	free text	The mailing address of the Distributor.
6.1-10.4.3	Distributor - City	<b>Distributor City</b>	text	free text	The city of the Distributor.
6.1-10.4.4	Distributor - State or Province	<b>Distributor State or Province</b>	text	free text	The state or province of the Distributor.
6.1-10.4.5	Distributor - Postal Code	<b>Distributor Postal Code</b>	text	free text	The ZIP or other postal code of the Distributor.
6.1-10.5	Distributor - Voice Phone	<b>Distributor Voice Phone</b>	text	free text	The voice phone number, including area code, of the Distributor.
6.1-10.7	Distributor - Facsimile Phone	<b>Distributor Fax Phone</b>	text	free text	The facsimile telephone number, including area code, of the Distributor.
6.1-10.8	Distributor - E-mail Address	<b>Distributor E-mail Address</b>	text	free text	The Internet mail address of the Distributor.
6.2	Resource Description	<b>Distributor's Data Set Identifier</b>	text	free text	The identifier by which the distributor knows the data set.
6.3	Distribution Liability	<b>Distribution Liability</b>	text	free text	Statement of the liability assumed by the distributor.

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
6.4.2.1.1	Format Name	<b>Transfer Format Name</b>	text	"Arc/INFO" "Arc Export" "Arc Generate" "Arc Grid" "Arc TIN" "ASCII" "Atlas GIS" "DLG" "DXF" "EPPL7" "GRASS" "IDRISI" "IGDS" "INFO" "Intergraph" "MapInfo" "MOSS" "SDTS" "SPANS" "TIGER" "Ultimap" image-<specific format> free text	The name of the format(s) in which the distributor will make the data available. The user may list as many formats as desired and may use additional formats not listed in the domain.
6.4.2.1.2	Format Version Number	<b>Transfer Format Version Number</b>	text	free text	Vendor version number of the data format(s) within which the data may be transferred.
6.4.2.1.7	Transfer Size	<b>Transfer Size</b>	text	free text	An estimate of the size of a transfer file(s) in megabytes.
6.4.4	Ordering Instructions	<b>Ordering Instructions</b>	text	free text	Instructions for obtaining the data set. Include instructions for obtaining custom orders. If applicable, also include instructions for acquiring data through the "Online Linkage" element below.
1.1-8.10	Online Linkage	<b>Online Linkage</b>	text	free text	The name of an Internet site or other online resource that contains the data set. Entries should follow the Uniform Resource Locator (URL) convention of the Internet. Include "http://" or "ftp://", etc. in URLs.

<i>FGDC Identifier</i>	<i>FGDC Element Name</i>	<i>Minnesota State Element Name</i>	<i>Field Type</i>	<i>Domain</i>	<i>Description</i>
<b>Section 7</b>	<b>Metadata Reference Information</b>				
7.1	Metadata Date	<b>Metadata Date</b>	date	free date	The date that the metadata were created or last updated.
7.4-10.1.1	Metadata Contact - Person	<b>Metadata Contact Person</b>	text	“same as Contact Person” free text	The name of the person responsible for the metadata information
7.4-10.1.2	Metadata Contact - Organization	<b>Metadata Contact Organization</b>	text	free text	The name of the organization responsible for the metadata information.
7.4-10.3	Metadata Contact - Position	<b>Metadata Contact Position</b>	text	free text	The position of the Metadata Contact Person
7.4-10.4.2	Metadata Contact - Address	<b>Metadata Contact Address</b>	text	free text	The mailing address of the Metadata Contact.
7.4-10.4.3	Metadata Contact - City	<b>Metadata Contact City</b>	text	free text	The city of the Metadata Contact.
7.4-10.4.4	Metadata Contact - State or Province	<b>Metadata Contact State or Province</b>	text	free text	The state or province of the Metadata Contact.
7.4-10.4.5	Metadata Contact - Postal Code	<b>Metadata Contact Postal Code</b>	text	free text	The ZIP or other postal code of the Metadata Contact.
7.4-10.5	Metadata Contact - Voice Phone	<b>Metadata Contact Voice Phone</b>	text	free text	The voice phone number, including area code, of the Metadata Contact.
7.4-10.7	Metadata Contact - Facsimile Phone	<b>Metadata Contact Fax Phone</b>	text	free text	The facsimile telephone number, including area code, of the Metadata Contact.
7.4-10.8	Metadata Contact - E-mail Address	<b>Metadata Contact E-mail Address</b>	text	free text	The Internet mail address of the Metadata Contact.
7.5	Metadata Standard Name	<b>Metadata Standard Name</b>	text	“Minnesota Geographic Metadata Guidelines”	The name of the metadata standard or guidelines used to document the data set.
7.6	Metadata Standard Version	<b>Metadata Standard Version</b>	text	“1.2” free text	Identification of the version of the metadata standard or guidelines used to document the data set.
Modification of 7.11.1	Online Linkage	<b>Metadata Standard Online Linkage</b>	text	“http://www.lmic.state.mn.us/gc/stds/metadata.htm” free text	The name of an Internet site or other online resource that contains a description of the metadata standard or guidelines. Entries should follow the Uniform Resource Locator (URL) convention of the Internet. Include “http://” in URLs.