

VT Center for Geographic Information

VT GIS Metadata Standard

Version 4.0a



VERMONT

Vermont Center for Geographic Information
A Division of the Agency of Commerce and Community Development

History

The metadata standard and guidelines that are articulated herein are rooted in standards that have been adopted by the Vermont Geographic Information System (VGIS) and the federal government as GIS technology evolved over many years. Unlike prior versions of the metadata standard, this version encompasses both a standard and a set of guidelines. Also, this version of the metadata standard and guidelines is the first version to be adopted by the Enterprise GIS Consortium (EGC), which originated from an objective of the Vermont Enterprise GIS Strategic Plan (2008).

The following outline describes the history of the metadata standard (and guidelines) to date:

- November 15, 1989 – version 1a - *Section A: Digitizing Data* adopted by Policy Advisory Board
- January, 1991 – version 1b - *Section A: Digitizing Data* divided into *Section A: Digital Data Conversion* and *Section D: Data Layer Documentation*. The latter document replaced and significantly expanded the earlier standard's sections on documentation. The remaining sections were consolidated and renamed *Digital Data Conversion*.
- January, 1992 – version 1c - Revision to reflect a significant expansion provides more detail and explanation on documenting coverages.
- February, 1998 – version 2a - Updated to reflect new FGDC metadata standards. Formerly *Data Layer Documentation*, has now been split into two sub-sections: D-1 FGDC Metadata Standard, and D-2 VGIS Metadata Standard.
- August, 2006 – version 3a – Dropped the VGIS Metadata Standard. The FGDC Metadata standard is now the only endorsed/supported standard in Vermont. Consolidated the standard into a single document.
- October 12, 2016 – version 4a – Transformed and modernized the standard into a standard and set of guidelines that are on accord with the current environment. This version takes the open data realm and the trend toward the ISO metadata format into account. Approved by VT Enterprise GIS Consortium (EGC) representatives via a voice vote at 10/12/2016 meeting.

Statutory Authority and Standard Review/Approval

The Vermont Center for Geographic Information (VCGI) has the statutory authority¹ to craft and adopt VT GIS standards and guidelines. Over the past 20 years, VCGI has worked with the VT GIS community to carefully craft these standards and guidelines, helping to ensure that Vermont GIS (VGIS) data “is compatible with, useful to” others in the VT GIS community.

In 2015, VCGI was reformed as a Division under the Agency of Commerce and Community Development (ACCD) as defined in H.885 Sec. E. 800.1 10 V.S.A. § 122. VCGI's duties did not change, and therefore VCGI still has the authority to adopt VT GIS standards and guidelines.

The State’s Enterprise GIS Consortium (EGC) has been established as the organization responsible for reviewing and approving Vermont GIS standards crafted by VCGI (in collaboration with the Vermont GIS Community).

Purpose

Many organizations have invested in development and maintenance of geospatial data assets. These geospatial data assets compose a geospatial data infrastructure which supports a number of functions, which include business intelligence, decision support, and operations. Metadata adds value to these assets by documenting asset-specific information, some of which is particularly important. Metadata can answer many questions that consumers of geospatial data might have, such as:

- Where did the data originate?
- Who should I contact with questions about the data? Does the data have a point of contact?
- Are there any disclaimers or caveats with this data?
- Should I note any data credits in work that I produce by using this data?
- How current is this data?
- What is the format of this data?
- What is the spatial accuracy of this data? What is the appropriate scale range for using this data?
- How was this data produced? What sources were used to produce this data?
- How do I obtain this data?
- What are the field definitions of this data? How might I query this data in order to conduct my task?

This document specifies standards and guidelines on GIS data documentation. Data documentation, or metadata, includes information about the content, quality, condition, and other information about a particular dataset.

¹ <http://legislature.vermont.gov/statutes/fullchapter/10/008>

Guiding Principles

The three guiding principles of the EGC Metadata Standard and Guidelines are:

- **Provision** - Geospatial data sets are accompanied by metadata that provides need-to-know information.
- **Internal Flexibility** - Data stewards can choose to manage their internal metadata as they wish.
- **Consistency** - Metadata conforms to a consistent functional framework when data sets are shared in a heterogeneous environment or produced through contracts.

Definition of “ISO Core” Metadata Elements

The ISO 19115 Metadata Standard defines an extensive set of metadata elements. However, the VT GIS Metadata Standard defines a basic minimum subset of “ISO Core” metadata elements. Listed are the “ISO Core” metadata elements as defined in the VT VGIS Metadata Standard.

This list contains metadata elements answering the following questions:

- “Does a dataset on a specific topic exist (‘what’)?”,
- “For a specific place (‘where’)?”,
- “For a specific date or period (‘when’)?” and
- “A point of contact to learn more about or order the dataset (‘who’)?”.

Listed below (see Table 1) are the core metadata elements (mandatory) required for describing a dataset.

Dataset title (MD_Metadata/MD_DataIdentification.citation/CI_Citation.title)	Metadata point of contact (MD_Metadata.contact/CI_ResponsibleParty)
Dataset reference date (MD_Metadata/MD_DataIdentification.citation/CI_Citation.date)	Metadata date stamp (MD_Metadata.dateStamp)
Abstract describing the dataset (MD_Metadata/MD_DataIdentification.abstract)	Dataset topic category (MD_Metadata/MD_DataIdentification.topicCategory)
Dataset language (MD_Metadata/MD_DataIdentification.language)	Reference system (MD_Metadata/MD_ReferenceSystem)
Geographic location of the dataset (by four coordinates or by geographic identifier) (MD_Metadata/MD_DataIdentification.extent/EX_Extent/EX_GeographicExtent/EX_GeographicBoundingBox or EX_GeographicDescription)	Metadata language (MD_Metadata.language)
Dataset character set (MD_Metadata/MD_DataIdentification.characterSet)	Metadata character set (MD_Metadata.characterSet)

Table 1- Required ISO Core metadata elements

Standard

This standard transitions Vermont's from the FGDC Content Standard for Digital Geospatial Metadata (FGDC CSDGM) standard, which was adopted as the metadata standard for Vermont in 2006, to the North American Profile of ISO (International Standards Organization) 19115:2003² — Geographic Information — Metadata (NAP — Metadata) geographic metadata standard. This ISO Metadata has been adopted as the official standard for all VT GIS metadata in Vermont.

- **NOTE:** FGDC CSDGM metadata will be considered a compliant metadata format until December 31, 2017. However, existing FGDC CSDGM metadata must be converted to the ISO metadata format by December 31, 2017 to ensure ongoing compliance with this standard.

Depending on certain factors, an ISO metadata record must either be fully populated with content through the North American profile or populated with content within at least the ISO Core components. The following outline describes those factors in more detail.

- **ISO Metadata (XML) – North American Profile**
 - **Standard:** required for all data collected by contractors. All "SSDI"³ data managed by agencies (eg: roads, address points, orthos, etc).
 - **Guideline:** recommended for all other State gov managed data. Recommended for all VT Open Geodata Portal datasets (raster and vector dataset).
- **"ISO Core" Metadata**
 - **Standard:** required for all VT Open Geodata Portal datasets (raster and vector datasets).
 - **Guideline:** recommended for all other VT GIS data.

² North American Profile of ISO 19115:2003 — Geographic Information — Metadata (NAP — Metadata) and its sister profile, the American National Standard — North American Profile of ISO 19115:2003 — Geographic Information — Metadata, have an identical content. The NAP — Metadata Profile is a subset of the ISO 19115 — Geographic Information — Metadata, Edition 1, complying with ISO 19106 — Geographic Information — Profiles. The goal of this Profile is to provide a mechanism for organizations producing geographic information to describe datasets in detail. The Profile helps users to better understand geographic metadata, the assumptions and limitations of geographic information, and facilitates the search for proper information to fit users' needs. The North American Profile of ISO 19115:2003 — Geographic Information — Metadata was prepared to meet the specific geographic needs of data producers and users in the Canada and U.S.

³ SSDI = Geospatial data sets that relate to the intent of the NSDI (<http://www.fgdc.gov/nsdi/nsdi.html>)