

Geographic Metadata

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FGDC endeavors to implement the six basic building blocks, or common elements, of the NSDI: metadata, clearinghouse, standards, framework, geospatial data, and partnerships. Metadata, as a critical component of the NSDI, allows for the documentation, discovery, assessment, integration, distribution, and archival of geospatial resources.

Metadata, now a part of the common vernacular, is defined as “data that provides information about other data,” according to the New Merriam-Webster Dictionary. An example of metadata is a nutrition label (at right), which provides information about a food product or resource.

Geographic metadata seeks to answer questions such as: Who developed the data? When was the data collected? How was the data processed? What is the data's projection? What format is the data available? How does one obtain the data? All this, and more, can be documented in the metadata.

Metadata Standards

The FGDC Content Standard for Digital Geospatial Metadata Standard (CSDGM) (Version 1) was endorsed by the FGDC in 1994 and updated by Version 2 in 1998. ISO, the International Organization for Standardization, approved ISO 19115:2003, Geographic information – Metadata.

ISO 19115, Geographic Information - Metadata- North

American Profile (NAP), was approved by the American National Standards Institute (ANSI) in June 2009. The effort to develop the NAP began through a Memorandum of Understanding (MoU) between INCITS, a standards development organization accredited by ANSI, and the Canadian General Standards Board – Council on Geomatics (CGSB-COG), a federal government organization and standards development organization accredited by the Standards Council of Canada (SCC). In response to this MoU, U.S. and Canadian experts tailored ISO 19115:2003 to meet the requirements of both countries.

What makes the NAP different or better than CSDGM Version 2? The NAP, like the CSDGM, is based on a standard achieved through consensus, but the NAP is based on ISO 19115:2003, an International Standard, while the CSDGM was a US Federal effort. ISO 19115:2003 and the NAP's linguistic capabilities support data sharing across national and cultural boundaries. Code lists are enabled in many more elements than in the CSDGM to control vocabulary, thereby improving search capability. Metadata areas, such as Maintenance and Data Quality, are enhanced in ISO 19115:2003 and the NAP. ISO 19115:2003 and the NAP allow for documenting services such as portals and web services.

Nutrition Facts	
Serving Size ½ cup (114g)	
Servings Per Container 4	
Amount Per Serving	
Calories 90	Calories from Fat 30
% Daily Value*	
Total Fat 3g	5%
Saturated Fat 0g	0%
Cholesterol 0mg	0%
Sodium 300mg	13%
Total Carbohydrate 13g	4%
Dietary Fiber 3g	12%
Sugars 3g	
Protein 3g	
Vitamin A 80%	Vitamin C 60%
Calcium 4%	Iron 4%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories: 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

What is the content of the NAP? The NAP is more flexible than the CSDGM. Optional elements are employed to a greater degree. The NAP's flexibility thus requires organizations to provide more guidance to implement it. The FGDC recommends that each organization/agency develop a template as a guide for agency metadata creation.

The NAP is a complex network of inter-related informational pieces. ISO 19115:2003 and the NAP data model lend themselves to becoming an application to simplify metadata creation. The NAP uses the Unified Modeling Language (UML), a standardized general purpose modeling language often used in software engineering.

What are the core metadata of the Profile?

Metadata Record Information provides information on the metadata report and components to describe the resource, including Metadata language, Metadata file identifier, Metadata Standard Name, Metadata Standard Version, Metadata character set, Metadata point of contact, and Metadata date stamp.

Identification Information provides either data identification or service identification. Data Identification describes the dataset. A citation for the dataset, abstract, purpose, status, dataset responsible party, dataset spatial representation type, dataset spatial resolution, dataset language, dataset character set, dataset topic category, and extent of the dataset (geographic extent and vertical and temporal extent) are included. Information on dataset distribution, lineage, and on-line resource are also included.

The attributes of Identification Information are supported by several subclasses. The subclasses are:
Resource Maintenance Information - frequency, scope, and responsible party for updating the dataset.

Graphic Overview- name, description, and file type of an illustration of the data resource.

Descriptive Keywords- Commonly used words or phrases to describe the dataset.

Resource Constraints - limitations or constraints on the use or access to the dataset.

Aggregation Information- Information on the aggregate dataset: title, date, type, and the activity which produced the dataset.

Service Identification includes required attributes for service type and coupling type and many of the attributes of Data Identification. The subclasses supporting Service Information include those of Data Identification and extend to Operates on and Contains Operations.

The NAP will be submitted to the FGDC Standards Working Group as a candidate standard for FGDC endorsement. Once the FGDC endorses the NAP, the NAP will become the Federal standard for geographic metadata.

Over the next years the FGDC will assist the implementation of ISO 19115 Geographic Information Metadata- North American Profile. Your assistance in this endeavor is critical together as partners in the NSDI.

Additional Information

The Profile and other metadata information are on-line at <http://www.fgdc.gov/metadata> or contact Sharon Shin, FGDC Metadata Coordinator at 303-202-4230 or sshin@fgdc.gov.