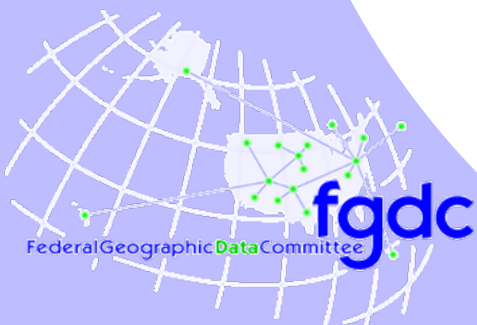
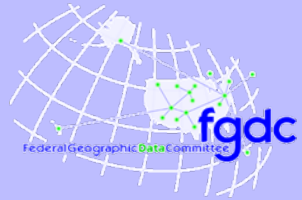


Geographic Metadata

North American Profile Development for ISO 19115 Geographic Metadata

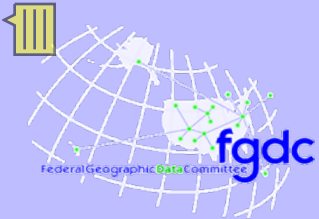
An overview of US and Canadian efforts to adapt and implement the International Standardization Organization geospatial metadata standard for use by the North American geographic community





After completing this lesson the participant can:

- ▶ Outline the relationship between the International Organization for Standardization (ISO), American National Standards Institute (ANSI), and the Federal Geographic Data Committee (FGDC)
- ▶ Discuss the general content and application of the ISO 19115 Geographic Metadata Standard
- ▶ Explain what is meant by an ISO 19115 'Community Profile'
- ▶ Summarize the participants, methods and processes used to develop the North American Profile of ISO 19115

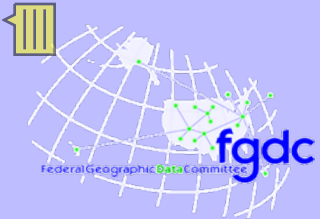


What is the ISO?

The International Organization for Standardization (ISO) is a:

- ▶ network of national standards institutes of 157 countries
 - American National Standards Institute (ANSI) is the US member of ISO
- ▶ non-governmental organization
- ▶ public/private partnership
- ▶ consensus-building body tasked with meeting the standardization requirements of business and society

:



ISO Technical Committees:

- ▶ perform the work of standards development
- ▶ are staffed by volunteers from public and private sectors
- ▶ are assigned to specific thematic areas

TC 8: Ships and marine technology

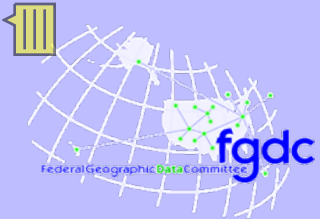
TC 38: Textiles

TC 92: Fire safety

TC 147: Water Quality

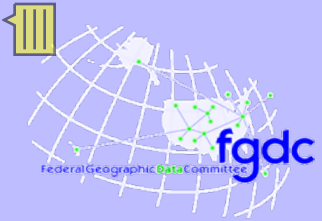
TC 211: Geographic information / Geomatics

TC 234: Fisheries and Aquaculture



Establish a family of international standards that:

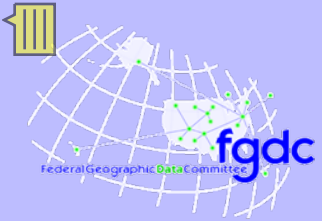
- ▶ support understanding and use of geographic information
- ▶ increase the availability, access, integration and sharing of geographic information
- ▶ enable interoperability of geospatial enabled computer systems
- ▶ ease the establishment of Spatial Data Infrastructures (SDIs) on local, regional and global levels



ANSI's INCITS-L1

US International Committee for Information Technology Standards L1 Technical Committee – GIS

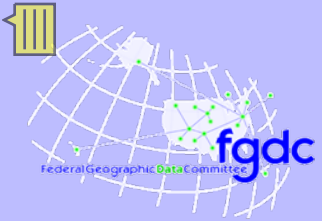
- ▶ charged with adopting or adapting information technology standards and developing digital geographic data standards that are relevant to Geographic Information Systems (GIS)
- ▶ accredited by, and operates under rules approved by, the American National Standards Institute (ANSI)



FGDC

US Federal Geographic Data Committee

- ▶ develops federal geospatial data standards for implementing the NSDI in consultation and cooperation with State, local, and tribal governments, the private sector and academic community, and, to the extent feasible, the international community
- ▶ also a member of INCIT-L1 and contributes to international standards development

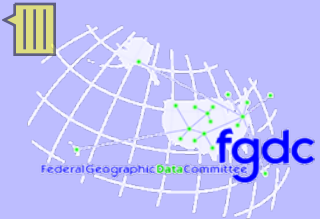


North American Members of TC 211

CGSB-CoG

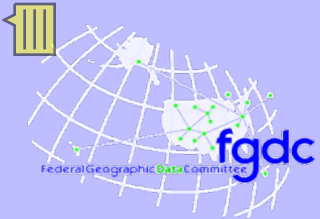
Canadian General Standards Board – Committee on Geomatics

- ▶ TC211 delegate of the Standards Council of Canada (SCC)
- ▶ Standards Council of Canada (SCC) tasked to establish national standards and to act as the Canadian voice on international standards bodies such as ISO and ITU

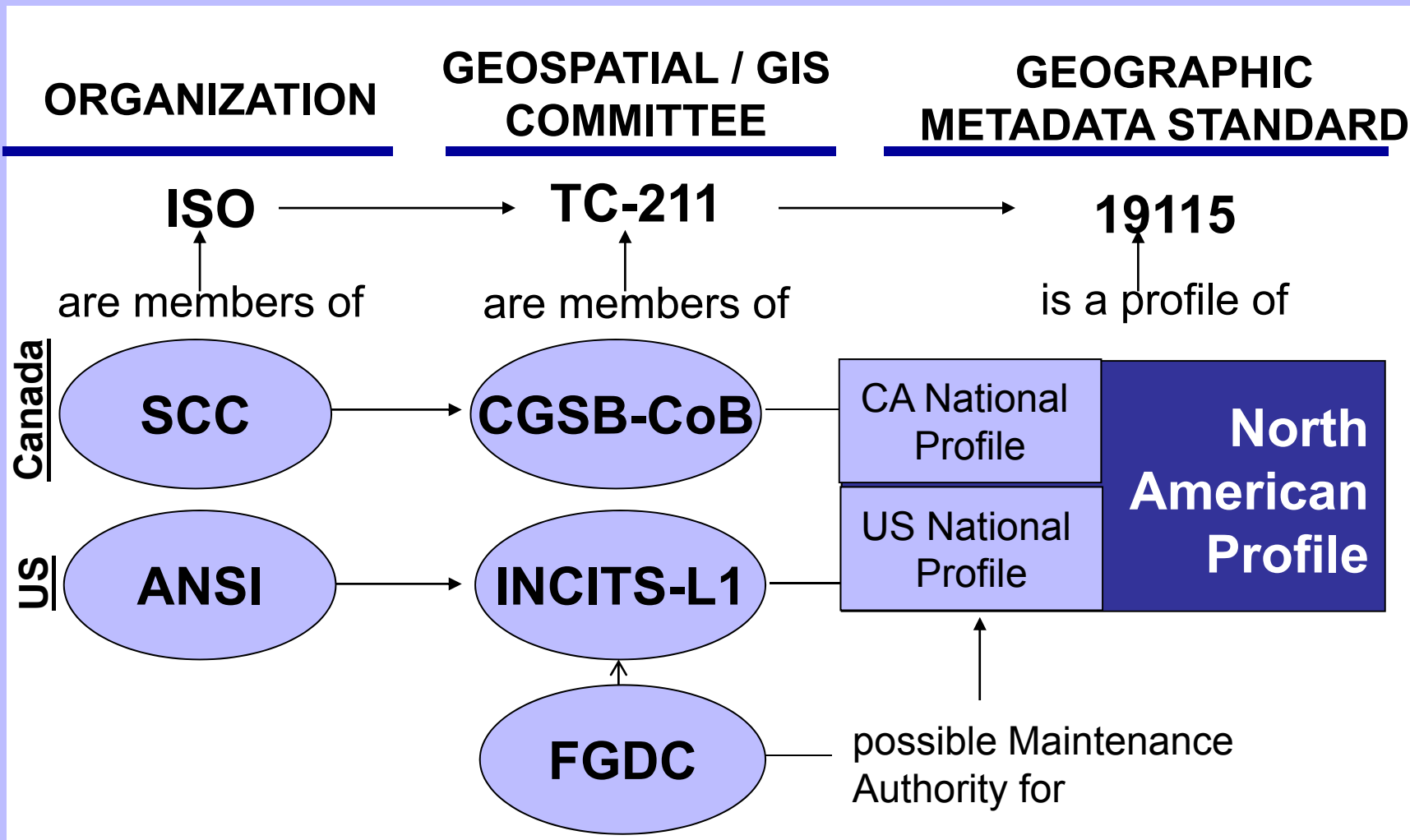


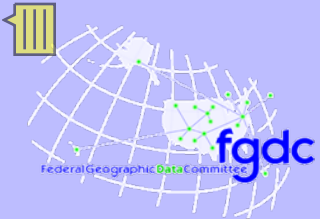
Mexico and the Caribbean

- ▶ Mexico has developed a Draft National Profile of ISO 19115
 - INCITS L1 and the NAP editing team reviewed the profile. The Mexico
- ▶ Pan American Institute of Geography and History (PAIGH) is leading the work for a Latin America Metadata Profile, LAMP, for Latin America
- ▶ The Caribbean is working on a Profile
- ▶ South American Countries in the Andes region are developing a metadata profile.



ISO, TC211, ANSI and FGDC





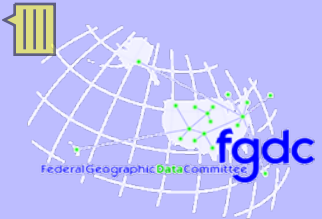
ISO 1900 Series of Standards

ISO 19000 Series:

Geographic Information / Geomatics

a series of standards which addresses geographic information including

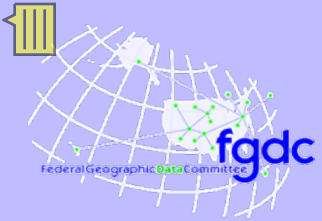
- ▶ ISO 19110
Geographic Information - Feature Cataloging
- ▶ ISO 19115
Geographic Information - Metadata.
- ▶ ISO 19136
Geographic Information - Geographic Markup Language
- ▶ ISO 19139 Geographic Information – Metadata XML Schema Implementation



ISO 19115 Implementation Goals

Establish an international, multilingual framework to:

- ▶ provide appropriate information to **characterize** geographic data properly
- ▶ facilitate the **organization and management** of geographic information
- ▶ enable users to efficiently **apply** geographic data by knowing the data basic characteristics
- ▶ enable users to **locate, access, evaluate, deliver, and integrate** geographic data



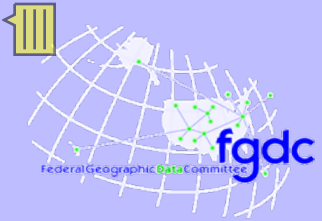
ISO 19115 Geographic Metadata

Provides a schema for describing:

- ▶ geospatial web services
- ▶ individual dataset descriptions
- ▶ data catalogs
- ▶ clearinghouse activities

Applies to multiple levels of geographic information:

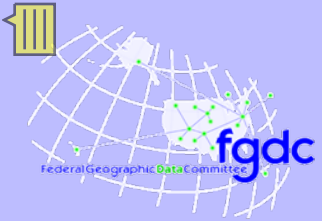
- ▶ datasets
- ▶ dataset series
- ▶ individual data features
- ▶ individual feature properties (attributes)



ISO 19115 Geographic Metadata

Provides information about the geographic data or service :

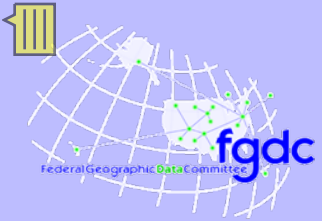
- ▶ identification
- ▶ extent
- ▶ quality
- ▶ spatial schema
- ▶ temporal schema
- ▶ spatial reference
- ▶ distribution



ISO 19115 Geographic Metadata

Defines a core set of metadata required to serve the full range of applications:

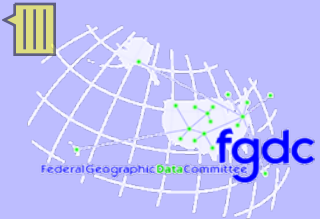
- ▶ data discovery
- ▶ fitness for use
- ▶ data access
- ▶ data transfer
- ▶ application of data



ISO 19115 Geographic Metadata

Establishes:

- ▶ terminology
- ▶ definitions
- ▶ conditionality
 - mandatory
 - conditional
 - optional
- ▶ a method for extending the metadata record to address specialized or custom needs



Why ISO 19115 ?

Compared to the Content Standard for Digital Geographic Metadata (CSDGM) ISO 19115:

- ▶ can be applied to a wider range of geographic products
- ▶ provides a greater number of open domains and optional elements to support greater flexibility in describing geographic products
- ▶ utilizes a more complex structure to better address the many facets of geographic products

ISO 19115 Geographic Metadata

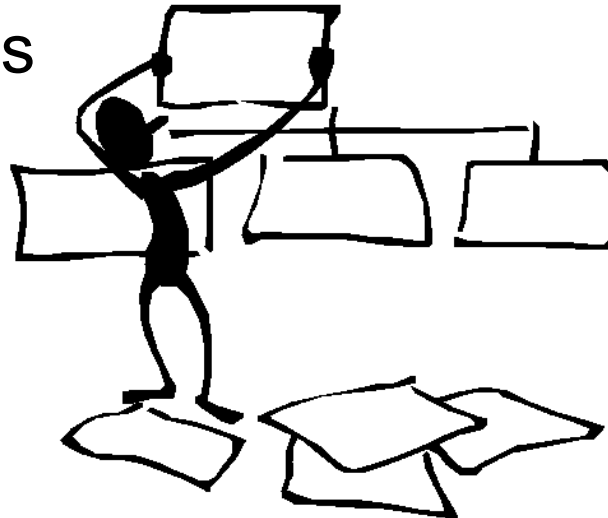
Is organized into:

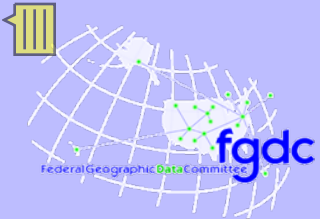
ISO 19115

- ▶ classes
- ▶ subclasses
- ▶ attributes
- ▶ domains

CSDGM

- ▶ sections
- ▶ compound elements
- ▶ elements
- ▶ domains





ISO 19115 Community Profiles

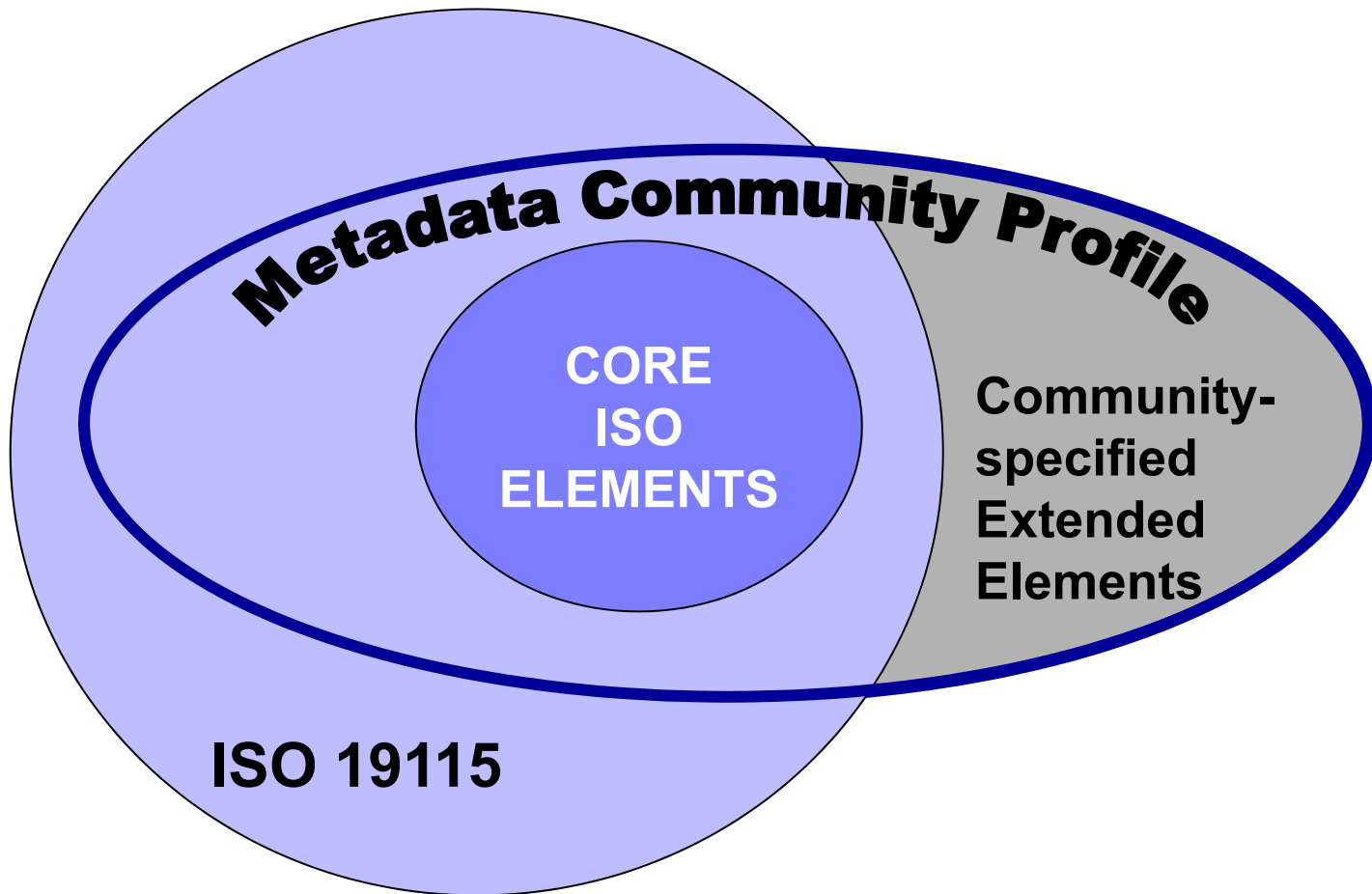
What is an ISO 19115 Profile?

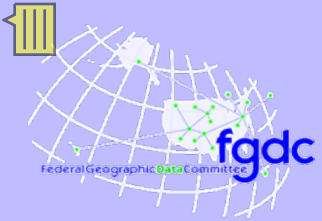
A custom implementation of ISO 19115 that:

- ▶ adopts the 22 ISO 'core' metadata for geographic datasets
- ▶ removes ISO optional components that do not apply to the community
- ▶ increases the obligation of ISO 'optional' elements of strong significance to the community
- ▶ creates new metadata entities, sections or elements to improve characterization of community geospatial data or services
- ▶ adds to or amends the domain of an existing ISO element to include community specific descriptors



ISO 19115 Community Profiles



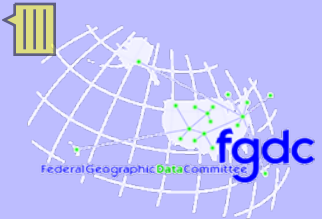


ISO 19115 Community Profiles

What is a Profile 'Community'?

Any group of individuals or organizations that share a common interest such as:

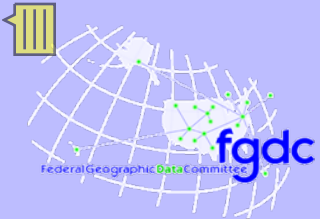
- ▶ nationality or other administrative unit
- ▶ geography
- ▶ professional disciplinary
- ▶ data theme
- ▶ geospatial application or service



ISO 19115 Community Profiles

What are the obligations associated with the creation of a community profile?

- ▶ check the ISO 19115 profile registry before creating a new profile to ensure that a suitable profile has not already been created
- ▶ adhere to the rules laid out by ISO
- ▶ do not change the name, definition, or data type of an existing ISO metadata element
- ▶ register their final profile with ISO
- ▶ maintain the profile



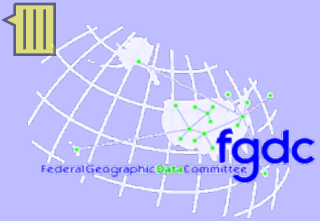
The US National Profile

Goal of the US National Profile

Meet the geographic metadata implementation needs of the US through the development of a Profile guidance document

Objectives of the US National Profile

- ▶ determine the metadata content necessary to fully support the documentation needs of the US geospatial community
- ▶ coordinate content and publication with the Canadian National Profile so that a common, North American Profile, is established

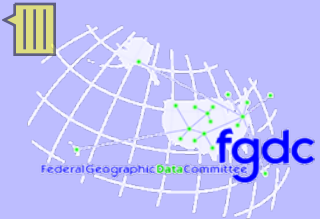


The North American Profile

Methods and Approach

Canada and the US agreed to the following:

- ▶ add no new attributes (elements) to the standard
- ▶ increase conditionality for those attributes deemed critical
- ▶ modify codelists (fixed domains) to reflect USA/CAN geospatial activities and applications
- ▶ create new codelist for free text elements that were relatively standard in the USA and CAN
- ▶ modify/simplify UML diagrams
- ▶ establish best practices to guide metadata content for specific attributes



The North American Profile

NAP Working Group Process

ISO

Develops and
Adopts 19115

ANSI

Adopts 19115 and
agrees to partnership
with CGSB to develop
national profiles

FGDC

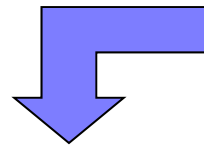
FGDC agrees to co-
editor role with
Canada to develop
the NAP

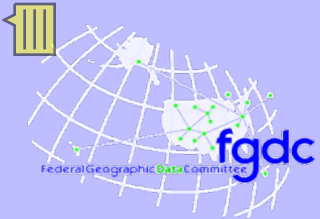
Receives work by NAP
Editing Team, reviews
and determines to
adopt

Develops NAP in
collaboration with
Canada. Set
Committee Review
and adjudication of
comments.
Produces draft to
ANSI review

Release by the CGSB and ANSI on the same
date and time results in the

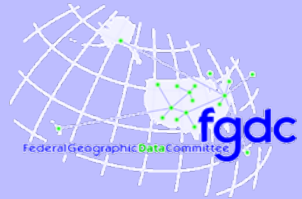
North American Profile





The North American Profile of ISO 19115

- ▶ represents a cooperative effort between the US and Canada to establish a common geographic metadata standard that meets the needs of both nations
- ▶ supports the same goal and objectives as the ISO 19115 Geographic Metadata Standard
- ▶ is fully compliant with the ISO 19115 Geographic Metadata Standard
- ▶ follows ISO rules for the development of a community profile
- ▶ closely resembles the CSDGM in content but has a more complex, robust, structure



This is the conclusion of: ISO North American Profile Development” You should be able to:

- ▶ Outline the relationship between the International Organization for Standardization (ISO), American National Standards Institute (ANSI), and the Federal Geographic Data Committee (FGDC)
- ▶ Discuss the general content and application of the ISO 19115 Geographic Metadata Standard
- ▶ Explain what is meant by an ISO 19115 ‘Community Profile’
- ▶ Summarize the participants, methods and processes used to develop the North American Profile of ISO 19115



Other Lessons

Geographic Metadata

What is Metadata

Value of Metadata

**More metadata lessons coming
soon.**