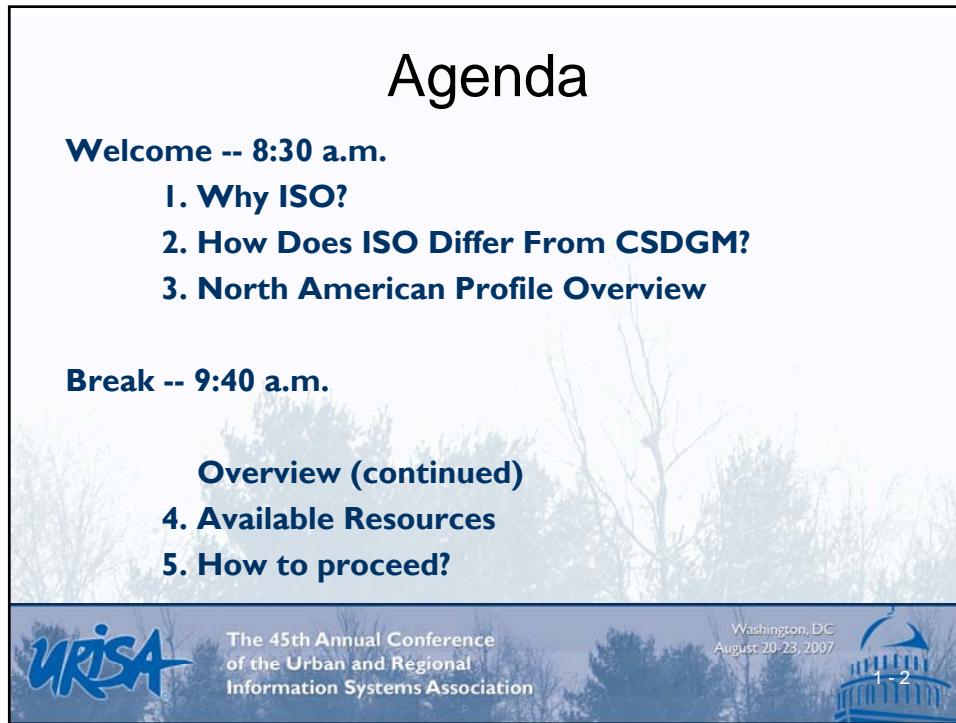




The slide features the URISA logo at the top left. Below it, text indicates the location as Washington, DC and the dates as August 20-23, 2007. A large, stylized blue graphic of the U.S. Capitol building's dome is positioned in the center-right. Overlaid on the dome graphic is the title "Making the Transition to International Metadata". Below the title, three presenters are listed with their organizations: Sharon Shin, FGDC Metadata Coordinator; Bruce Westcott, Intergraph Corporation; and Lynda Wayne, GeoMaxim/FGDC. At the bottom, a dark blue bar contains the word "Organization" on the left and "Presenter" on the right.



The slide has a white background with a faint background image of the U.S. Capitol building. The word "Agenda" is centered at the top in a large, serif font. Below it, the agenda items are listed in a hierarchical structure:

- Welcome -- 8:30 a.m.**
- I. Why ISO?**
- 2. How Does ISO Differ From CSDGM?**
- 3. North American Profile Overview**
- Break -- 9:40 a.m.**
- Overview (continued)**
- 4. Available Resources**
- 5. How to proceed?**

At the bottom, the URISA logo is on the left, followed by the text "The 45th Annual Conference of the Urban and Regional Information Systems Association". To the right, there is a small graphic of the Capitol building with the numbers "1 - 2" next to it, and the text "Washington, DC" and "August 20-23, 2007".

# Why ISO?

**Metadata for....**

**Profile why...**

**Profile what...**

**Profile how...**



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1 - 3

# ISO 19115

**Enables describing:**

Geospatial data sets.

Maps.

Non-geospatial resources.

Services: portals, web mapping services.



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1 - 4

## Profile-A standard tailored for a “Community”.

<u>Standard</u>	<u>Profile</u>
Broad/complex	Narrow focus/often simpler
Generic	Specific
Optional	Mandatory
Undefined domains	Explicit Domains – codelists
	Directs implementation



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1 - 5

## Harmonizing to a Standard

- Multiple standard use.**
- Varied level of content.**
- Long history of working with Canada.**
- Our resource do not know boundaries.**



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1 - 6

# Emphasis

**Data Quality**

**Maintenance**



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## North American Profile - ISO 19115

### **Goal.**

**Meet the geospatial metadata implementation  
needs of the US through the development of a  
Profile guidance document.**

### **Objectives.**

**Comprehensive profile.**

**Identical content with Canadian Profile.**

**Release by ANSI same date and time as CSB.**

**Results in North American Profile: NAP**



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## North American Profile: Approach

**No new attributes.**

**Increase obligations.**

**Modify codelists...deprecate**

**Create new codelists for free text fields.**

**Recommend structure with in text fields e.g.  
address.**

**Modify/simplify diagrams.**

**Adding best practices to guide  
implementation.**



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1 - 9

## Agenda

Welcome -- 8:30 a.m.

**1. Why ISO?**

**2. How Does ISO Differ From CSDGM?**

**3. North American Profile Overview**

Break -- 9:40 a.m.

**Overview (continued)**

**4. Available Resources**

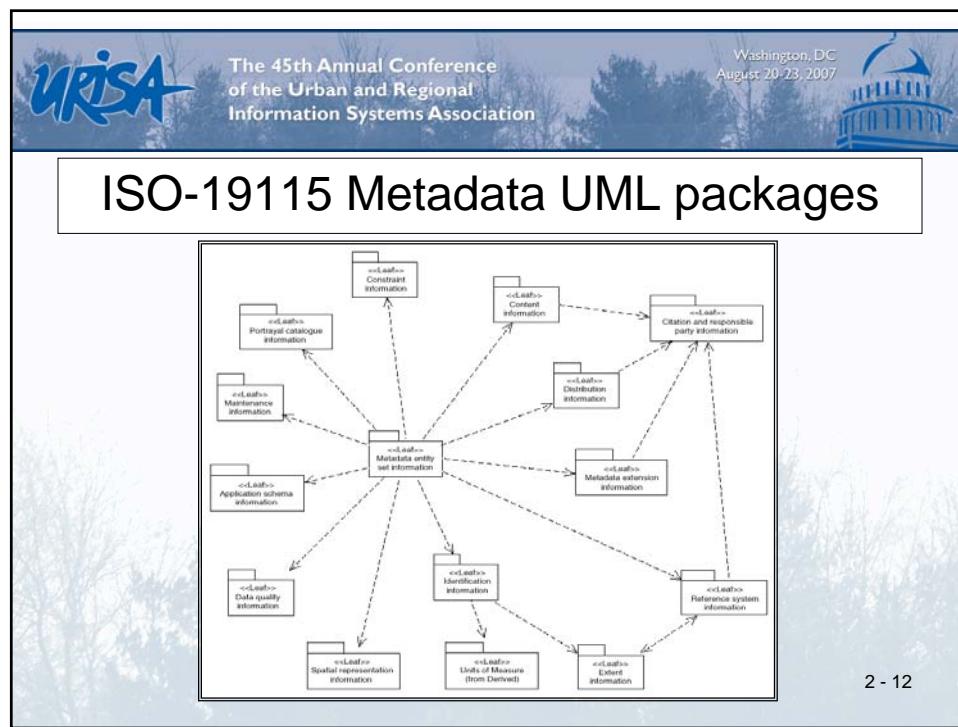
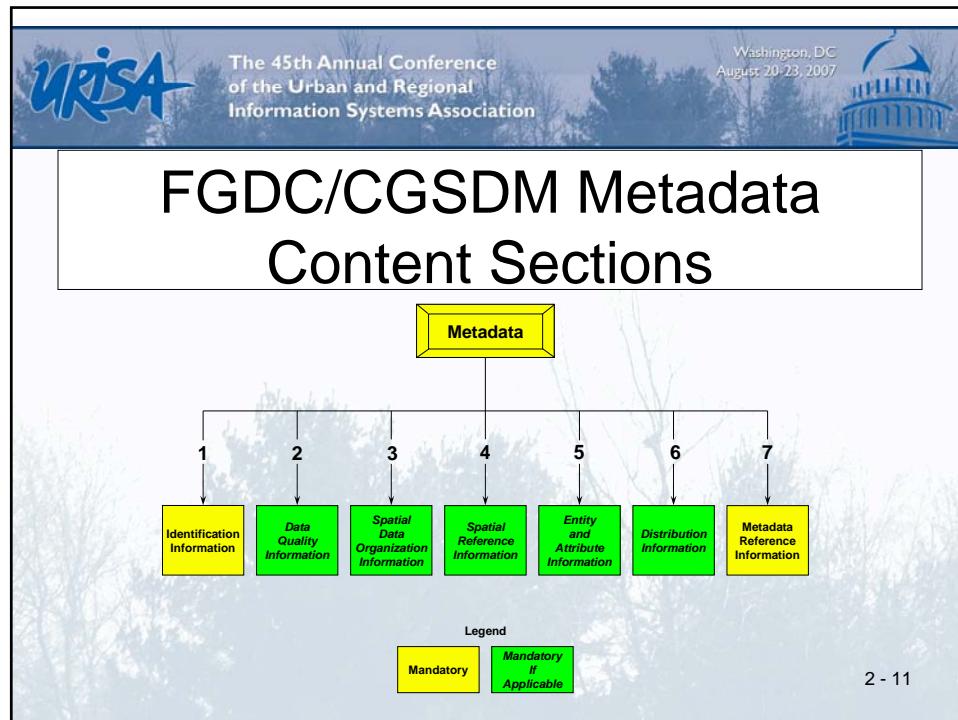
**5. How to proceed?**

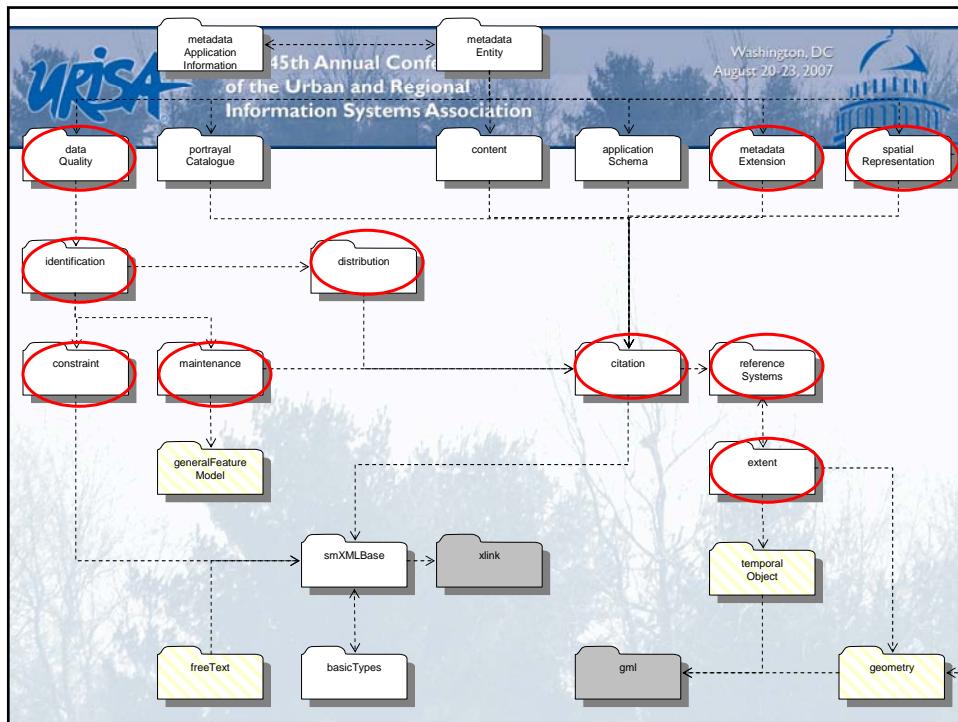


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**Some Format Differences:**

- ISO uses datatypes.
- Examples:
  - Binary
  - Boolean
  - Character String
  - Date
  - DateTime
  - Decimal
  - Distance
  - Generic Name
  - GF\_AttributeType
  - GF\_FeatureType
  - GM\_Object
  - GM\_Point
  - Integer
  - Measure
  - MemberName
  - Real
  - Record
  - RecordType
  - SC\_CRS
  - Sequence
  - TM\_PeriodDuration
  - TM\_Primitive
  - Type
  - UnitOfMeasure
  - UomLength
  - URL

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**URISA** The 45th Annual Conference of the Urban and Regional Information Systems Association Washington, DC August 20-23, 2007

**Some Format Differences:**

- ISO uses codesets (extensible and fixed domains)

«CodeList»
<b>CI_DateTypeCode</b>
+ creation
+ publication
+ revision

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**URISA** The 45th Annual Conference of the Urban and Regional Information Systems Association Washington, DC August 20-23, 2007

**Some Format Differences:**

- ISO uses codesets (extensible and fixed domains)

«CodeList»
<b>napCI_DateTypeCode</b>
+ creation
+ publication
+ revision
+ <i>notAvailable</i>
+ <i>inForce</i>
+ <i>adopted</i>
+ <i>deprecated</i>
+ <i>superseded</i>

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**Some Format Differences:**

- Multiplicity of a metadata component class or attribute.

<ul style="list-style-type: none"> <li>-<b>(O)</b>      <b>Optional, maximum 1</b></li> <li>-<b>(M)</b>      <b>Mandatory, maximum 1</b></li> <li>-<b>(C)</b>      <b>Conditional, maximum 1</b></li> <li>-<b>(O, *)</b>    <b>Optional, Repeatable</b></li> <li>-<b>(M, *)</b>    <b>Mandatory, Repeatable</b></li> <li>-<b>(C, *)</b>    <b>Conditional, Repeatable</b></li> </ul>
--

**Mandatory:** obligation to provide the information.  
**Conditional:** obligation to provide the information subject to a predefined rule.  
**Optional:** freedom to provide or not the information.

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**An Example: UML Entities & Relationships**

```

classDiagram
    class MD_Metadata {
        <<Abstract>>
        +MD_SpatialRepresentation [from Spatial representation information]
        +spatialRepresentationInfo 0..*
        +referenceSystemInfo 0..*
        +MD_MetaDataExtensionInformation [from Metadata extension information]
        +metadataExtensionInfo 0..*
        +MD_MaintenanceInformation [from Maintenance information]
        +resourceMaintenance 0..*
        +MD_Identification [from Identification information]
        +identification 0..1
        +MD_Constraints [from Constraints information]
        +resourceConstraints 0..*
        +MD_DataQuality [from Data quality information]
        +dataQualityInfo 0..*
        +MD_Distribution [from Distribution information]
        +distributionInfo 0..1
        +MD_ContentInformation [from Content information]
        +contentInfo 0..*
        +MD_PortrayalCatalogueReference [from Portrayal catalogue information]
        +portrayalCatalogueInfo 0..*
        +MD_ApplicationSchemaInformation [from Application schema information]
        +applicationSchemaInfo 0..*
        +MD_HierarchyLevel [0..1]
        +MD_SchemaCode = "dataset"
        +language [0..1] CharacterString
        +characterSet [0..1] CharacterString
        +parentIdentifier [0..1] CharacterString
        +HierarchyLevel [0..1]
        +MD_SchemaCode = "dataset"
        +dateStamp : Date
        +metadataStandardName [0..1] CharacterString
        +metadataStandardVersion [0..1] CharacterString
    }
    class MD_SpatialRepresentation
    class MD_MetaDataExtensionInformation
    class MD_MaintenanceInformation
    class MD_Identification
    class MD_Constraints
    class MD_DataQuality
    class MD_Distribution
    class MD_ContentInformation
    class MD_PortrayalCatalogueReference
    class MD_ApplicationSchemaInformation
    class MD_ReferenceSystem
    class MD_HierarchyLevel
    class MD_SchemaCode

    MD_Metadata <|-- MD_SpatialRepresentation
    MD_Metadata <|-- MD_MetaDataExtensionInformation
    MD_Metadata <|-- MD_MaintenanceInformation
    MD_Metadata <|-- MD_Identification
    MD_Metadata <|-- MD_Constraints
    MD_Metadata <|-- MD_DataQuality
    MD_Metadata <|-- MD_Distribution
    MD_Metadata <|-- MD_ContentInformation
    MD_Metadata <|-- MD_PortrayalCatalogueReference
    MD_Metadata <|-- MD_ApplicationSchemaInformation
    MD_Metadata <|-- MD_ReferenceSystem
    MD_Metadata <|-- MD_HierarchyLevel
    MD_Metadata <|-- MD_SchemaCode

    MD_SpatialRepresentation *--> MD_Metadata : referenceSystemInfo
    MD_MetaDataExtensionInformation *--> MD_Metadata : metadataExtensionInfo
    MD_MaintenanceInformation *--> MD_Metadata : resourceMaintenance
    MD_Identification *--> MD_Metadata : identification
    MD_Constraints *--> MD_Metadata : resourceConstraints
    MD_DataQuality *--> MD_Metadata : dataQualityInfo
    MD_Distribution *--> MD_Metadata : distributionInfo
    MD_ContentInformation *--> MD_Metadata : contentInfo
    MD_PortrayalCatalogueReference *--> MD_Metadata : portrayalCatalogueInfo
    MD_ApplicationSchemaInformation *--> MD_Metadata : applicationSchemaInfo
    MD_ReferenceSystem *--> MD_Metadata : referenceSystemInfo
    MD_HierarchyLevel *--> MD_Metadata : hierarchyLevel
    MD_SchemaCode *--> MD_Metadata : schemaCode
  
```

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**Identification Information includes Citation Information**

```

classDiagram
    identificationInfo "1..*" -- "MD_Identification"
    class MD_Identification {
        +citation : CI_Citation
        +abstract : CharacterString
        +purpose [0..1] : CharacterString
        +credit [0..*] : CharacterString
        +status [0..*] : MD_ProgressCode
        +pointOfContact [0..*] : CI_ResponsibleParty
    }
  
```

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**Citation Information includes Title, Date, and Optional Information**

Class: CI_Citation	
<b>Mandatory:</b>	<b>Optional:</b>
Title (free text)	Alternate title
Date (Class: CI_Date)	Edition & Edition date
	Identifier & ID type
	Other Citation Details
	Collective Title

Items with unambiguous FGDC source fields

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## Some ISO values “crosswalk” from FGDC values

Class: CI_Citation	
<u>ISO (free text):</u>	<u>FGDC:</u>
Title	8.4 title
Date	8.2 pubdate*
Other Citation Details	8.9 othercit
Collective Title	8.11 lworkcit

\*Title value is omitted if it is unknown? 2 - 21

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## Some ISO values must be interpolated or user-defined

Class: CI_Date	
Date	Y-M-D (ISO 8601)
Date Type	CI_DateTypeCode

Date Type	Code
Creation date	001
Publication date	002
Revision date	003

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## Metadata expressed in FGDC.XML

```

</timeinfo>
</available>
</distinfo>
- <metainfo>
  - <metd>20010209</metd>
  - <metrd>20010209</metrd>
  - <mets>
    - <cntinfo>
      - <cntper>
        - <cntpr>Robert Rossignol</cntpr>
        - <cntorg>Canada Centre for Remote Sensing, Natural Resources Canada</cntorg>
      - <cntpos />
    - <cntinfo>
      - <addtype>mailing and physical address</addtype>
      - <address>GeoAccess Division 615 Booth Street, Room 650</address>
        - <city>Ottawa</city>
        - <state>Ontario</state>
        - <postal>K1A 0E9</postal>
        - <country>Canada</country>
      - <cntaddr>
        - <cntvoice>+01-613-943-2917</cntvoice>
      - <cntfdd />
      - <cntfax>+01-613-947-2410</cntfax>
      - <cntemail>robert.rossignol@ccrs.nrcan.gc.ca</cntemail>
      - <hours />
      - <cntinst />
    - <cntinfo>
      - <metstd>FGDC Content Standards for Digital Geospatial Metadata</metstd>
      - <metstdv>1994-06-08</metstdv>
      - <mettc>local time</mettc>
      - <metac />
      - <metuc />
    - <mets>
      - <metscs />

```

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## Metadata expressed in ISO-19139.XML

```

<?xml version="1.0" encoding="UTF-8" ?>
- <gmd:MD_Metadata xmlns:gmd="http://www.isotc211.org/2005/gmd">
  - <fileIdentifier>
    - <gco:CharacterString xmlns:gco="http://www.isotc211.org/2005/gco">Foreign Lake.xml</gco:CharacterString>
  - <contact>
    - <gmd:CI_ResponsibleParty>
      - <individualName>
        - <gco:CharacterString xmlns:gco="http://www.isotc211.org/2005/gco">Robert Rossignol</gco:CharacterString>
      - <organisationName>
        - <gco:CharacterString xmlns:gco="http://www.isotc211.org/2005/gco">Canada Centre for Remote Sensing, Natural Resources Canada</gco:CharacterString>
      - <positionName>
        - <gco:CharacterString xmlns:gco="http://www.isotc211.org/2005/gco" />
      - <contactInfo>
        - <gmd:CI_Contact>
          - <phone>
            - <gmd:CI_Telephone>
              - <voice>
                - <gco:CharacterString xmlns:gco="http://www.isotc211.org/2005/gco">+01-613-943-2917</gco:CharacterString>
              - <voice />
              - <facsimile>
                - <gco:CharacterString xmlns:gco="http://www.isotc211.org/2005/gco">+01-613-947-2410</gco:CharacterString>
              - <phone />
            - <address>
              - <gmd:CI_Address>
                - <deliveryPoint>
                  - <gco:CharacterString xmlns:gco="http://www.isotc211.org/2005/gco">GeoAccess Division 615 Booth Street, Room 650</gco:CharacterString>
                - <deliveryPoint />
              - <city>

```

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# XML must comply with Schema

A screenshot of a computer screen showing an XML editor window. The window displays an XML schema document with various declarations and definitions. The code includes namespaces for smxML and xsd, and defines complex types like 'CL\_ResponsibleParty\_Type' and 'CL\_Citation\_Type'. Annotations and documentation blocks are also present. The status bar at the bottom shows the date as 8/20/2007.

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# Whew!!

# End of UML, XML and Schema!

A slide with a large, stylized purple text 'Whew!!' at the top, followed by a large, slanted purple text 'End of UML, XML and Schema!'. The background features a faint watermark of the U.S. Capitol building.

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# Agenda

Welcome -- 8:30 a.m.

1. Why ISO?
2. How Does ISO Differ From CSDGM?
3. North American Profile Overview

Break -- 9:40 a.m.

Overview (continued)

4. Available Resources
5. How to proceed?



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# Elements Eliminated

- 4.1.1.1 Latitude Resolution
- 4.1.1.2 Longitude Resolution
- 4.1.1.3 Geographic Coordinate Units
- 4.1.2.4.3.1 Distance Resolution
- 4.1.2.4.3.2 Bearing Resolution
- 4.1.2.4.4 Planar Distance Unit
- 5.1.2.5 Beginning Date of Attribute Values
- 5.1.2.6 Ending Date Of Attribute Values
- 5.1.2.8 Attribute Measurement Frequency
- 6.4.2.2.1.2 Access Instructions



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## ISO Standards in ISO 19115

The NAP editing team includes content from the referenced standards to enable users to implement the NAP without procuring the referenced standards.

**Language Codes**

**County Codes**

**Conceptual Schema Language**

**Profiles**

**Spatial Schema**

**Temporal Schema**

**Rules for Application Schema**

**Methodology for Feature Cataloging**

**Spatial Referencing by Coordinates**

**Quality Principles**

**Quality Evaluation Procedures**

**Metadata, Technical Corrigendum**

**Encoding**

**Services**

**Geographic Information Services**

**Geodetic codes and Parameters**

**Location Based Services- Tracking and Navigation**

**GML**

**XML**

**OGC's Web Services Common Specification**



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## Organization and Terminology

### FGDC

Sections

Elements

Compound Elements

Domains

### ISO / NAP

Classes

Subclasses

Attributes

Domains



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## NAP Classes

### Metadata Entity Set Information

#### Identification Information

Dataset Identification

Service Identification

#### Constraints

#### Data Quality Information

#### Maintenance Information

Spatial Representation Information

Reference System Information

Content Information

Portrayal Catalogue Information

Distribution Information

Application Schema Information



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## NAP Codelist

Codelist that have been altered, added codes or  
deprecated codes, will have titles such as:

napMD\_ProgressCode



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## Metadata Entity Set Information

**File Identifier (M)**

**Language (M)**

**Character set (M)**

**Parent Identifier**

**Hierarchy Level (M)**

**Contact (M)**

**Date Stamp (M)**

**Metadata Standard**

**Name (M)**

**Metadata Standard Version**

**Data Set URI**

**Locale (C)**



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## Identification Information Data Identification

**Citation (M)**

**Abstract (M)**

**Status (M)**

**Language (M)**

**Topic Category (C)**

**Extent (C)**



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# Service Metadata

- Citation (M)**
- Abstract (M)**
- Status (M)**
- Service Type (M)**
- Coupling Type (M)**
- Coupled Resources (O)**
- Subclasses**
- Operates on**



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# Constraints

## Use Limitations (O)

<b>Legal Constraints</b>	<b>Security Constraints</b>
<b>Use limitations</b>	<b>Use Limitations</b>
<b>Access constraints</b>	<b>Classification (M)</b>
<b>Use constraints</b>	<b>User Notes</b>
<b>Other constraints (C)</b>	<b>Classification System</b>
	<b>Handling Description</b>



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## Data Quality

### Scope (M)

#### Report (C)

- Completeness
- Logical Consistency
- Positional
- Consistency
- Thematic Accuracy
- Temporal Accuracy

#### Lineage (C)

- Source
- Process Step



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## Maintenance Information

### Maintenance and Update Frequency (M) – code list

#### Date of Next Update

#### User Defined Maintenance Frequency

#### Updated Scope

#### Update Scope Description

#### Maintenance Note

#### Contact – responsible party



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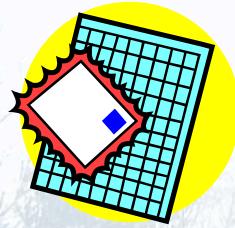
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# Spatial Representation

## Grid Spatial Representation

- Number of Dimensions
- Axis Dimension Properties
- Cell geometry
- Transformation Parameter Availability

## Vector



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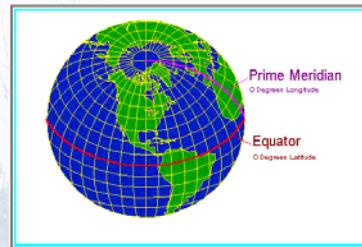
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# Reference System Information

## Reference System Identifier code



Peter H. Dana



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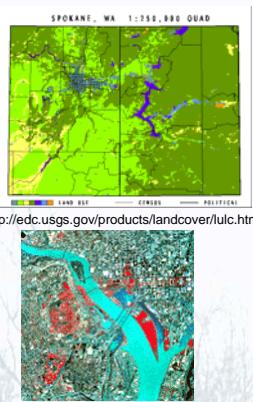
# Content Information

**Feature Catalog**

- Included with dataset
- Feature types
- Feature Catalog Citation

**Coverage Description**

- Attribute description
- Content type
- Subclasses



The top map is a 1:250,000 scale quad for Spokane, WA, showing land use and cover with a legend for Land Use, Census, and Political boundaries. The bottom map is an aerial photograph of a residential area with red and cyan overlays.

<http://edc.usgs.gov/products/landcover/lulc.html>

<http://erg.usgs.gov/lsb/pubs/booklets/aerial/aerial.html>

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## ISO 19110 Feature Catalog Methodology

**Feature Catalog- citation type info**

**Feature Type**

- Name**
- Definition**
- Code**

**Feature Operation, Feature Attribute, Feature  
Attribute Value, Feature Association**

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## ISO 19110 Feature Catalog Methodology

### Feature type example - Administrative boundary

**Definition** Nonphysical line indicating the extent of ...

**Code** 2145

### Feature Attribute Name - Administrative level

#### Feature Attribute

**Name**- Administrative Level

**Definition** – The administrative enclosed by the boundary

**Code** 145

**Value type** Character

**Domain type I** (binary yes no)

#### Feature Attribute Values

**Label**   **Code**   **Definition**

Country

...



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## Portrayal Catalogue

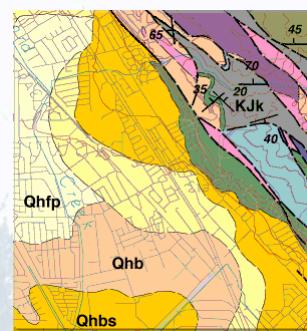
### Information to reproduce a map:

Line weight

Color

Font

Etc.



<http://wrgis.wr.usgs.gov/parks/gmap/>



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## Application Schema

**Name (M)**

**Schema language (M)**

**Constraint language (M)**

**Schema ASCII**

**Graphics file**

**Software development file**

**Software development file format**

```
<Feature typeName="Road">
<description>Georgia
Street</description> <property
typeName="numberLanes"
type="integer">4</property>
<geometricProperty
typeName="linearGeometry">
<LineString srsName="EPSG:4326">
<coordinates> 0.0,100.0 100.0,0.0
</coordinates> </LineString>
</geometricProperty> </Feature>
```



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## Metadata Entity Set Information

7 mandatory attributes

<b>Identification Information</b>	<b>M (M6/)</b>
<b>Data Identification</b>	<b>C (M6/)</b>
<b>Service Identification</b>	<b>C (M5/M1)</b>
<b>Constraints</b>	<b>O</b>
<b>Data Quality Information</b>	<b>O(M1/)</b>
<b>MD Maintenance</b>	<b>O (M1/)</b>
<b>Spatial Representation</b>	<b>O ()</b>
<b>Reference System Information</b>	<b>C (M1/M1)</b>
<b>Content Information</b>	<b>O (C2/)</b>
<b>Portrayal Catalog</b>	<b>O (M0 / M1)</b>
<b>Distribution Information</b>	<b>O ()</b>
<b>Application Schema</b>	<b>O(M3/)</b>
Class Name subclasses)	Obligation (Mandatory attributes / Mandatory



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# Agenda

Welcome -- 8:30 a.m.

1. Why ISO?
2. How Does ISO Differ From CSDGM?
3. North American Profile Overview

Break -- 9:40 a.m.

Overview (continued)

4. Available Resources
5. How to proceed?



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FGDC→ISO  
Transformation :  
Demonstrate GM  
Catalog XML  
Export:

**Export Catalog Records**

General | Advanced

Catalog records to export

Catalog: Access Catalog Connection 2

Records:

- AeroD
- AeroD2
- Aeronomical Airports NRCan
- Aeronautical Database
- Airport
- Bathymetry
- Canada Airports
- Canadian Railroad Linear
- Federal Limit

Select All | Unselect All

Export format

HTML  TXT (FGDC)  GCE  XML (FGDC)  XML (ISO)

Location of exported files

Export folder: c:\warehouses\catalogs

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## What is XSLT?

**“XSLT is a language for transforming XML documents into other XML documents.”**

- XSLT is designed for use as part of XSL, which is a stylesheet language for XML.
- XSLT is not intended as a completely general-purpose XML transformation language.
- Source: <http://www.w3.org/TR/xslt>

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## FGDC\_to\_ISO.XSLT

```

-->
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:gml="http://www.opengis.net/gml"
  xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:gco="http://www.isotc211.org/2005/gco"
  xmlns="http://www.w3.org/1999/XSL/Format">
  <xsl:output method="xml" version="1.0" encoding="UTF-8" indent="yes" />
  <xsl:template match="metadata">
    <xsl:element name="gmd:MD_Metadata">
      <xsl:element name="fileIdentifier">
        <xsl:element name="gco:CharacterString">
          <xsl:value-of select="concat(./idinfo/citation/citeinfo/title,.xml)" />
        </xsl:element>
      </xsl:element>
      <xsl:apply-templates select="smusrdef/smusrliv[smusrlbl='MD_Language']" />
      <xsl:apply-templates select="smusrdef/smusrliv[smusrlbl='MD_Character_Set']" />
      <xsl:element name="contact">
        <xsl:apply-templates select="/metadata/metainfo/metcd" />
      </xsl:element>
      <xsl:element name="dateStamp">
        <xsl:element name="gco:Date">
          <xsl:value-of select="./metainfo/metd" />
        </xsl:element>
      </xsl:element>
      <xsl:element name="metadataStandardName">
        <xsl:element name="gco:CharacterString">
          <xsl:text>ISO-19115:2003(E) derived from</xsl:text>
          <xsl:if test="string-length(./metainfo/metstdn)=0">
            <xsl:value-of select="./metainfo/metstdn" />
          </xsl:if>
          <xsl:if test="string-length(./metainfo/metstdn)>0">
            <xsl:text>FGDC Content Standards for Digital Geospatial Metadata</xsl:text>
          </xsl:if>
        </xsl:element>
      </xsl:element>
    </xsl:element>
  </xsl:template>

```

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## Replacement with a “Literal”

```

<xsl:element name="dateStamp">
  <xsl:element name="gco:Date">
    <xsl:value-of select=".//metainfo/metd" />
  </xsl:element>
</xsl:element>
```

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## FGDC\_to\_ISO.XSLT

```

-->
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform" xmlns:gml="http://www.opengis.net/gml"
  xmlns:xlink="http://www.w3.org/1999/xlink" xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:gco="http://www.isotc211.org/2005/gco"
  xmlns="http://www.w3.org/1999/XSL/Format">
  <xsl:output method="xml" version="1.0" encoding="UTF-8" indent="yes" />
  <xsl:template match="metadata">
    <xsl:element name="gmd:MD_Metadata">
      <xsl:element name="fileIdentifier">
        <xsl:element name="gco:CharacterString">
          <xsl:value-of select="concat(./idinfo/citation/citeinfo/title,.xml)" />
        </xsl:element>
      </xsl:element>
      <xsl:apply-templates select="smusrdef/smusrliv[smusrlbl='MD_Language']" />
      <xsl:apply-templates select="smusrdef/smusrliv[smusrlbl='MD_Character_Set']" />
      <xsl:element name="contact">
        <xsl:apply-templates select="/metadata/metainfo/metcd" />
      </xsl:element>
      <xsl:element name="dateStamp">
        <xsl:element name="gco:Date">
          <xsl:value-of select=".//metainfo/metd" />
        </xsl:element>
      </xsl:element>
      <xsl:element name="metadataStandardName">
        <xsl:element name="gco:CharacterString">
          <xsl:text>ISO-19115:2003(E) derived from</xsl:text>
          <xsl:if test="string-length(.//metainfo/metsdn)=0">
            <xsl:value-of select=".//metainfo/metsdn" />
          </xsl:if>
          <xsl:if test="string-length(.//metainfo/metsdn)>0">
            <xsl:text>FGDC Content Standards for Digital Geospatial Metadata</xsl:text>
          </xsl:if>
        </xsl:element>
      </xsl:element>
    </xsl:element>
```

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## Replacement with a “String”

```
<xsl:element name="metadataStandardName">
  <xsl:element name="gco:CharacterString">
    <xsl:text>ISO-19115:2003(E) derived from</xsl:text>
    <xsl:if test="string-length(./metainfo/metstdn)!=0">
      <xsl:value-of select=".//metainfo/metstdn" />
    </xsl:if>
    <xsl:if test="string-length(./metainfo/metstdn)=0">
      <xsl:text>FGDC Content Standards for Digital GeoSpatial Metadata</xsl:text>
    </xsl:if>
  </xsl:element>
</xsl:element>
```

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## ISO Metadata Editor Status

**Variety of ISO editors in production and use:**

**Availability**

- freeware
- proprietary

**Format:**

- stand-alone
- GIS-embedded

**Content:**

- ISO core
- ISO core+
- ISO complete

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## ISO Metadata Editor Tool Review

### Criteria for inclusion:

- core+
- English language

### Method:

- distributed effort
- online survey / data collection
- review vs. assessment (feature present? y/n)



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## ISO Metadata Editor Tool Review

### Review Elements:

- extent (ISO core, core+, full, related standards, profiles)
- application type (desktop, web-based)
- data storage (file repository, dbase)
- adaptability (open source, templates, libraries)
- output formats (ISO 19139, html, xml)
- operational features (batch, validation, CSDGM input)
- management features (search, replace, status, publish)
- support features (definitions, examples, pick lists)



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## Available ISO Metadata Editors

<b>GeoNetwork opensource</b>	United Nations
<b>Preludio</b>	disy (Germany)
<b>ISO Metadata Editor(IME)</b>	Spanish National Institute Aerospace Technology
<b>CatMD</b>	Spanish University Consortia
<b>EditM3Cat</b>	GeoConnections/Intelec (Canada)
<b>MetaD (Spain)</b>	University Catalunya (Spain)
<b>GeoMedia Catalog</b>	Intergraph (US)
<b>ArcCatalog</b>	ESRI (US)



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## NAP Workbook Components

### What we have-

#### NAP Profile

### What we want:

Format

Color Graphic

Implementation Guidance

- More best practices
- More examples



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## ISO Topic Categories

Nineteen high-level subject headings:

<i>boundaries</i>	<i>oceans</i>	<i>health</i>
<i>transportation</i>	<i>economy</i>	<i>society</i>
<i>elevation</i>	<i>farming</i>	<i>location</i>
<i>biota</i>	<i>structure</i>	<i>environment</i>
<i>geoscientificInformation</i>		<i>inlandWaters</i>
<i>planningCadastre</i>		<i>intelligenceMilitary</i>
<i>imageryBaseMapsEarthCover</i>		<i>utilitiesCommunication</i>
<i>climatologyMeteorologyAtmosphere</i>		



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# ISO Topic Categories

**Include ISO Topic Categories as  
Theme\_Keywords:**

- include all pertinent Topic Categories
- list most pertinent first
- use text as presented, e.g. inlandWaters
- Thesaurus = 'ISO 19115 Topic Category'

**To:**

- aid translation to ISO
- map to geodata.gov communities



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# ISO Topic Categories

**For Specific Guidance...**

**See...**

## Metadata Quick Guide

[http://www.fgdc.gov/metadata/documents/  
MetadataQuickGuide.pdf](http://www.fgdc.gov/metadata/documents/MetadataQuickGuide.pdf)



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# Opportunities for Participation

**FGDC Metadata Working Group**

**Metadata Listserver**

**NAP Public Review**



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## FGDC Working Group

- **Open to all**
- **Convenes by telecon 3-4 times annually**
- **Topics**
  - NAP Status
  - ISO Tool Review Team
  - Metadata Utility
  - Metadata Implementation and Inspiration
  - Metadata Training Materials & Opportunities
  - Stakeholder Activities

.....other



metadata topics



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## FGDC Working Group

**To Join...**

**Contact...**

**Sharon Shin**

**FGDC Metadata Coordinator**

**SShin@USGS.gov**



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## Metadata Listserver

- **Open to all**
- **Low traffic**
- **Challenging Topics**
  - ISO Format and Implementation
  - Metadata Theory
  - Metadata Formats
  - Technical Implementations
  - Organizational Issues

.....other thought



provoking metadata topics



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## Metadata Listserver

**To Join...**

**Go To...**

**[http://lists.geocomm.com/mailman/  
listinfo/metadata](http://lists.geocomm.com/mailman/listinfo/metadata)**



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## National Review

**Dates:**

**Website**

**Profile**

**Comment form**



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