### FGDC Metadata Workshop Core Curriculum for Metadata Creators

Suggested *minimum* content based upon workshop duration

#### Metadata Workshop Subjects

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>1 Hour</th>
<th>½ Day</th>
<th>1 Day</th>
<th>1 ½ Day</th>
<th>2+ Day</th>
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<tbody>
<tr>
<td>What is Metadata?</td>
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<td>Framework Data Themes</td>
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<td>• Market Place</td>
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<td>CSDGM Standard - overview</td>
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<td>Quality Metadata – general review</td>
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<td>Hands-on Metadata Creation: computer</td>
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<td>Geospatial data discovery and access via</td>
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<td>• NSDI Clearinghouse or GOS Portal</td>
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#### Optional Modules

- Making Metadata Part of the Process*
- Transition to ISO 19139
- Framework Metadata
- Creating Functional Templates
- One-on-one consultation
FGDC Metadata Workshop Core Curriculum for Managers
Suggested *minimum* content based upon workshop duration

<table>
<thead>
<tr>
<th>Core Curriculum</th>
<th>1 Hour</th>
<th>2 Hours</th>
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<tbody>
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<td>What is Metadata?</td>
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<td>• Framework</td>
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<td>• Geodata.gov</td>
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<td>• Standards</td>
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<td>Business Case: Metadata *</td>
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<td>• Budget</td>
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<td>• Staff</td>
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<td>• Workflow management</td>
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<td>Making Metadata Part of the Process*</td>
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# FGDC Metadata Workshop Core Curriculum for Metadata Creators

## Module Learning Objectives

**Note:** Learning Objectives are presented for the one-day workshop and should be expanded or selectively edited for workshops of different durations and target audiences. One-day and longer workshops intend to instill metadata creation skills and abilities. One-hour and half day workshops intend to introduce metadata concepts to the novice or non-creator participant.

<table>
<thead>
<tr>
<th>Curriculum Module:</th>
<th>Learning Objectives:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What is Metadata?</strong></td>
<td>After completing the module the successful learner is able to:</td>
</tr>
<tr>
<td>• illustrate the concept of metadata using a common analogy, e.g. <em>product label</em>, <em>journalistic reporting</em>, <em>notes on a photo</em>.</td>
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<tr>
<td>• explain metadata as a element of the data.</td>
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<tr>
<td>• describe metadata creation and maintenance as a GIS best practice.</td>
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<tr>
<td><strong>Value of Metadata</strong></td>
<td>• identify at least four values of metadata, e.g., <em>data distribution and discovery</em>, <em>data assessment and consumer info</em>, <em>data access</em>, <em>data archive</em>, <em>data management</em>.</td>
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<tr>
<td>• elaborate upon the role of metadata in data management, e.g. <em>internal data discovery</em>, <em>assess data currency</em>, <em>monitor data development</em>, <em>contractor deliverable</em>.</td>
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<tr>
<td>• Build agency support by making the business case and list the factors.</td>
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<tr>
<td><strong>National Spatial Data Infrastructure</strong></td>
<td>• explain what is the NSDI</td>
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<tr>
<td>• state the vision of the NSDI.</td>
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<tr>
<td><strong>Framework Data Standards</strong></td>
<td>• define what is a framework standard.</td>
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<tr>
<td>• explain the concept of Framework.</td>
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<tr>
<td>• list the seven primary Framework themes.</td>
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<tr>
<td>• describe the value of implementing framework data content standards.</td>
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<tr>
<td>• discuss the purpose of framework standards to facilitate data sharing</td>
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</tbody>
</table>
not as full content implementation
discuss how framework data information
is documented in metadata.

Geodata.gov – general

- discuss purpose and goals
- locate and access the portal.
- describe at least four of the six
  functions of the website, e.g. search for
data, create metadata, publish metadata,
identify community-specific resources via a
theme Channel, identify and post data
acquisition partnership opportunities.
- discuss the benefits of participating
with geodata.gov.
- discuss the value of the “Market
Place”

- Geodata.gov demo or hands-on
  - explore the website.
  - successfully locate desired
  information

- participating in geodata.gov
  - insert ISO 19139 Topic Category
  Codes into their metadata
collections as Theme_Keywords.
  - publish geospatial resources via the
website.

Standard – general

- recognize that the standard is
extensive because it must support a
wide range of geospatial data types,
e.g. GIS, imagery, CAD, dbases, field notes
and photographs.
- describe the general content of the
CSDGM or the ISO 19115/19139.
- differentiate between a Section,
Compound Element, and Data
Element.
- Acknowledge and apply information
format requirements such as date.
• “Graphic Representation” diagrams
  • determine the conditionality of any element.

• Review the CSDGM
  • describe the content of the primary sections of the CSDGM.
  • describe the content of three supporting sections of the CSDGM
  • express *Bounding_Coordinates* in the required format.
  • express dates in the required format

• using the Greenbook
  • locate the definition of any element.
  • Interpret the information format required.
  • utilize FAQs and example metadata.

• detailed review
  • describe the content of each primary section of the CSDGM.
  • determine applicability of remaining standard sections to documenting specific data sets.
  • describe how using ‘template’ approach can simplify and expedite metadata creation

Quality Metadata - general
• differentiate between minimally compliant and quality metadata.

• *Bakers’ Dozen* review
  • list five rules for writing quality metadata.

• *Metadata Quick Guide* review
  • write a complete *Title* and *Abstract*.
  • identify one use for *Supplemental_Information*.
  • determine when to provide an *Entity_&_Attribute Overview_Description* vs. a *Detailed_Description*. 
• describe special values for two CSDGM elements that will facilitate transition to ISO 19139 and/or utility of the record within Geodata.gov, e.g., provide multiple Online_Linkage values (data viewing, data download, web-mapping services); use of ISO 19115 Topic Category Code as Theme_Keywords.

Metadata Tools – general review

• evaluate metadata tool options based on agency needs/limitations
• select the software for access or purchase.

Hands-on Metadata Creation: hard-copy forms and exercises

• complete the form or exercise using their own data resources.

Hands-on Metadata Creation: computer

• software specific instruction
  • explore and generally operate the tool.

• hands-on parsing (mp)
  • parse their own metadata.
  • interpret the error report.
  • edit the metadata record.
  • Create error-free metadata
  • Create various metadata formats
  • View completed metadata via web browser.

• digital template/select section
  • select metadata elements to create agency specific metadata template
  • complete template of subset of elements.

• digital full record
  • complete a full error-free metadata record for their own data resources.
Discover and access geospatial Metadata via registered NSDI Clearinghouse or NSDI Clearinghouse Gateway

- discuss the purpose of the NSDI clearinghouse
- using the search interface, successfully discover and access geospatial metadata posted to a NSDI clearinghouse or GOS Portal

Optional Modules

Making Metadata Part of the Process

- present the business case for metadata to their administration.
- create an organizational metadata template (pertinent fields and some core content).
- implement at least two changes in their data development workflow that incorporates metadata creation.
- draft a metadata creation and management guideline document.

Transition to ISO 19139

- explain the relationship between FGDC, ANSI, and ISO as standards bodies.
- cite two advantages of implementing the ISO 19115 or 19139 standard.
- cite two elements or features provided by the ISO 19115 standard.
- recognize that agencies should continue to create CSDGM format metadata until ISO 19139 is implemented.
- outline steps for preparing for the transition to ISO, e.g. inform admin and technical staff of the pending change, include ISO Topic Category Codes as Theme_Keywords, monitor the dgiwg metadata website, participate in calls for review.
Feature-level Metadata

- extract features from an existing geospatial database and generate metadata for each.

Creating Functional Templates

- create an organizational, theme, or project specific metadata template by extracting all pertinent metadata fields from the CSDGM and identifying those fields that will require standardized language.

Survey of Standards

- discuss the value of standards
- identify three geospatial standards bodies
- identify two of five US standards policies
- discuss content, accuracy, classification, metadata, impact data interoperability.

FGDC Metadata Workshop Core Curriculum for Metadata Managers

Module Learning Objectives

Note: Learning Objectives are presented for the one-two workshop and should be expanded or selectively edited for workshops of different durations and mixed target audiences.

Metadata for Manager’s core content - 1 – 2 hours

What is Metadata

- illustrate the concept of metadata using a common analogy, e.g. product label, journalistic reporting, notes on a photo.
- explain metadata as a element of the data
- List three White House guidances referencing metadata as a requirement

The Value of Metadata
• describe metadata creation and maintenance as a data management and fiscal responsibility.

NSDI Overview
Framework

Geodata.gov

• Discuss the value of Framework
• Discuss the Geodata.gov concept
• Recognize value of supporting Geodata.gov
• Advocate supporting geodata.gov

Business Case: Metadata
Budget

• Recognize metadata as a data management activity
• Encourage project managers to budget for metadata

Staff

• Recognize metadata as an employment skill
• Include metadata as a skill set for recruiting and hiring.

Workflow management

• Incorporate metadata into data workflow.
• Allow time in project plan to create and update metadata.

Making Metadata Part of the Process

• Develop an agency-wide metadata plan which includes clearinghouse or other metadata repository.

FGDC Metadata Workshop Core Curriculum for Metadata Trainers
Module Learning Objectives

Note: Learning Objectives are presented for the three-day workshop and should be expanded or selectively edited for workshops of different durations.

Train the (Metadata) Trainer core content-
Overall course objectives:
- Implement metadata training programs to address data issues specific to their agencies and data partners.
- Build a metadata training network to support metadata implementation.
- Develop and present an interactive, energized, and memorable metadata workshop.
- Construct a workshop around the participant’s expectations and learning styles to make the metadata content stick.
- Develop lesson plans and training modules and exercises for reuse by other trainers and contributing to FGDC’s metadata training resources.
- Mine training tips and methods from experienced metadata creators and trainers to increase metadata creator ability.

Day 1 course objectives

Making a memorable workshop

What is training

- Engage the audience and direct attention to learning mode.
- Differentiate between training and education
- Analyze audience training needs.
- Develop training materials to meet various learning styles.

Instructional Objectives

- Develop instructional content to meet agency implementation needs based on measurable outcomes
- Establish learning criteria to reflect the value of the training exercise

Instructional Methods

- Utilize various instructional methods to energize and engage the audience.

Presenting the workshop

Training aids and visuals

- Integrate training aids and visuals appropriately to enhance learning.

Presentation Styles and Skills
• Present course materials effectively to fully and accurately relay content.

Lesson Plans

• Develop lesson plans complete with learning goals and objectives to allow others to utilize the lesson.

Classroom management

• Arrange, modify, and regulate physical space and environment creating an inviting learning atmosphere.

Targeting Metadata Training

• Develop metadata workshops following FGDC recommended core curriculum and constructed around audience type, format, time frame, and other issues.

• Discuss methods to reduce training costs

• Locate supplemental metadata training materials

• Address special training situations/issues

Day 2
Laboratory day to apply skills from Day 1:

• Create lesson plan complete with learning goal and objectives, outline.

• Select metadata topic and prepare interactive metadata exercise.

• Test metadata exercise.

• Prepare materials for metadata exercise

Day 3
Presenter

• overview lesson plan, goal, objectives with audience.
• Present metadata lesson.

Audience

• Participate in presented metadata exercise
• Evaluate presentation based on materials presented in day 1

Post workshop follow-up

• Participants register as metadata trainers on the FGDC metadata trainer registry.