

**FEDERAL METADATA COORDINATORS' WEBINAR:
ISO GEOSPATIAL METADATA
IMPLEMENTATION
USE CASE: USGS**

*Day Two
ISO Geospatial
Metadata
Implementation*

Wednesday
April 17, 2013
12:00-4:00 PM ET

USE CASE: U.S. GEOLOGICAL SURVEY

**US Geological Survey:
A “Beginners” Story....**

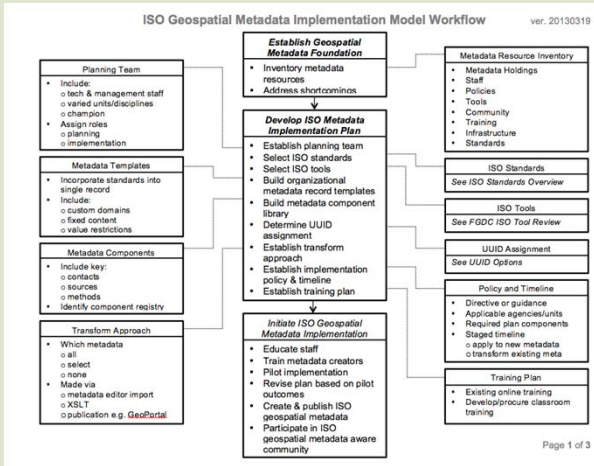
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USE CASE: U.S. GEOLOGICAL SURVEY

- ISO Geospatial Metadata Implementation Model
- How will USGS implement the model?



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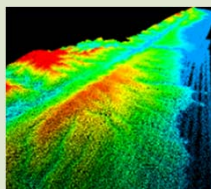
USE CASE: U.S. GEOLOGICAL SURVEY

■ U.S. Geological Survey: Description

- *Science for a Changing World*
- **Mission:** The USGS serves the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.



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USE CASE: U.S. GEOLOGICAL SURVEY

■ U.S. Geological Survey: Description

■ Composition:

- Headquarters in Reston, VA
- 7 Mission Areas:
 - Climate and Land Use Change
 - Core Science Systems
 - Ecosystems
 - Energy and Minerals
 - Environmental Health
 - Natural Hazards
 - Water
- Science Programs are contained within Mission Areas
- Distributed science centers and research stations with multi-disciplinary foci



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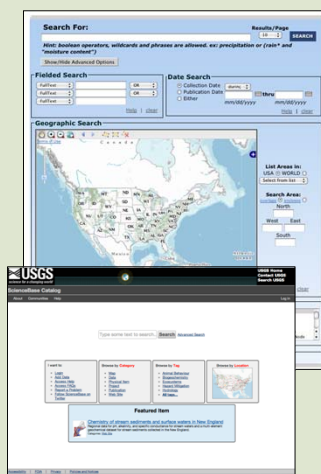
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■ Current Metadata Status in USGS:

- Metadata holdings: USGS has metadata holdings spread throughout the Bureau; several aggregation points exist, but none are comprehensive.
- Staff: Numerous USGS Programs and pockets of USGS staff are up-to-date on metadata standards and how to use them; some participation in FGDC Metadata Workings Group activities



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Current Metadata Status in USGS, con't:

- Policies:** Currently, metadata is mentioned in USGS policy, but there is not a dedicated metadata policy chapter. *(However, a new policy requiring metadata for data and information products is close to publication in the USGS Survey Manual)*

A. **Documentation.** Data collected for publication in databases or reports, regardless of the manner in which they are published (such as USGS reports, journal articles, and Web pages) must be documented to describe the methods or techniques used to collect, process, and analyze data (this requirement includes computer modeling software and tools produced by USGS); the structure of the output; description of accuracy and precision; standards for metadata; and methods of quality assurance. This documentation can be embedded in the information product or references provided to other published works.

B. **Metadata.** Documentation of data that describes how, when, and by whom a particular set of data were collected and how the information is formatted. Established national and international metadata standards should be used; for example, those for geospatial data of the Federal Geographic Data Committee (see <http://www.fgdc.gov>).

C. **Project.** Defined by the Bureau Program Planning process as a body of work that is tailored to fit a well-defined scientific problem or support function that is focused on a specific subject, issue, and/or geographic region. A project should be of manageable size; have a well-constructed work plan or set of work plans (including staffing, budget, and objectives); consist of a set of interrelated tasks that support the defined problem or function; and have specific goals, measures, and well-defined outcomes. Projects may have more than one funding source. Financial data for projects are recorded in the Federal Financial Systems in one or more accounts. This definition also applies to administrative support services. Projects and their descriptions are entered into the current established project planning system.

D. **Proposal.** A detailed description of the problem, what issues will be addressed, interested parties or stakeholders, and objectives of the study; a proposal may include a work plan(s). In some instances a proposal is preceded by a "pre-proposal" that briefly (1-3 pages) describes an idea for possible work, including a statement of the problem and why it should be addressed.

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Current Metadata Status in USGS, con't:

- Tools:** Access to metadata tools for creating and validating CSDGM standard metadata are in use in USGS; some limited beginnings on tools to produce ISO 19115 metadata
- Community Training:** Metadata training (focused on the CSDGM standard) is available from USGS

The screenshot shows a web page titled "USGS metadata: information and software". It includes a navigation menu with options like "Metadata", "Data Quality", "Data Organization", "Spatial Reference", "Entity Attributes", "Distribution", and "Metadata Reference". The main content area is titled "Formal metadata: information and software" and contains sections for "What's it all about?", "Web interfaces", and "Software tools". The "What's it all about?" section lists resources like the FGDC metadata standard, the Metadata Community email list, and metadata FAQs. The "Web interfaces" section describes tools for creating and validating metadata. The "Software tools" section lists various software applications.

The screenshot shows the "Geospatial Metadata Validation Service" interface. It includes a text area for pasting metadata, a "Validate" button, and options for language and profile. Below the text area, there is a small table with columns for "Metadata File", "Use language", and "Use profile".

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- Develop ISO Metadata Implementation Plan
 - A Planning Team: This group should be established through the USGS Community for Data Integration (CDI) – this community brings together subject matter experts from across the USGS interested in various data oriented topics – with support from the Executive Leadership Team.
 - Selection of ISO standards, tools, transform approaches, and a plan to build templates, component libraries, and assign persistent identifiers: Will be guided and accomplished through the planning team.
 - Display and discovery: USGS is looking at best options for supplying metadata to data.gov


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USE CASE: U.S. GEOLOGICAL SURVEY

- Develop ISO Metadata Implementation Plan, con't
 - Implementation Policy: USGS is ready to submit a new policy in the Survey Manual -- it requires metadata creation for datasets and information products.
 - The language includes ISO metadata as an approved metadata standard.
 - The Survey is also developing a “Data Management” overarching policy that will include metadata creation.



U.S. Geological Survey Manual

Department of the Interior
U.S. Geological Survey Manual

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Program Series	USGS Program Policies
100.1	Policy of USGS in Cooperative Work with States, Counties, Municipalities, and Other Political Subdivisions
100.2	Policy on Work for Non-Federal Agencies
100.3	Policy on Work for Other Federal Agencies
100.4	Policy on Employee Responsibility Towards American Indians and Alaska Natives
100.5	News Release and Media Relations Policy
100.6	American Indian and Alaska Native Sacred Sites (Replaced by 100.7 Audiovisual Media and Products)
100.7	(Replaced by 100.2 Audiovisual Media and Products)
100.8	(Replaced by 100.6 Fundamental Science Practices: Review, Approval, and Release of Information Products)
100.9	(Replaced by 100.6 Fundamental Science Practices: Review, Approval, and Release of Information Products)
100.10	USGS Reporting Policy
100.11	OBTAINING PERMISSION FOR ACCESS TO PRIVATE LANDS
100.12	Use of Facilities by Non-Government People
100.13	EXTRANEVOLUTIONARY ACTIVITIES
100.14	(Replaced by 100.13)
100.15	Customer Service Policy
100.16	Classification and Inventory of USGS Web Services

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- **Develop ISO Metadata Implementation Plan, con't**
 - **Establish training plan:** Key to implementation of ISO in USGS will be incremental training.
 - Should begin with training current metadata experts who can, in turn, help train USGS scientists and researchers in creating ISO metadata.
 - Some staff have taken ISO training sponsored by NOAA
 - Good tools will need to be in place and training materials developed

USE CASE: U.S. GEOLOGICAL SURVEY

- **Strengths:**
 - USGS can identify a metadata community
 - USGS has an established forum (CDI) from which momentum for a transition to ISO can be generated
 - Many (but not all) science centers and Programs already incorporate metadata production into their workflows
- **Challenges:**
 - USGS needs a unified approach to making data, metadata, information products, and publications connected and available (there is currently no official repository)
 - No required workflows for metadata
 - Building a case for the need to use ISO – much of data produced is GIS and tabular

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- Decisions to Make:
 - What existing metadata records will be converted to ISO?
 - Determine how to best empower the current metadata experts in USGS to assist with the transition.
 - Figure out how USGS can better promote the incorporation of documentation processes into the data creation process.
 - Determine how best to capitalize on the strength of the ISO standard, which recognize and promote the fluidity in data and metadata production.

QUESTIONS AND COMMENTS

Thank you!

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