Metadata Standards
Status & Futures

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FGDC CSDGM

✓ **Content Standard for Digital Geospatial Metadata Version 1 (FGDC-STD-001)**
   - Approved June 8, 1994
   - Provided basic framework for metadata activities

✓ **Content Standard for Digital Geospatial Metadata Version 2 (FGDC-STD-001-1998)**
   - Approved June 19, 1998
   - Supersedes CSDGM V1-June 8, 1994
   - Provides for Profiles & User Defined Elements
   - FGDC V1 Compliant Metadata Records still compliant

ISO Metadata Standard

- **ISO Metadata Standard - TC211/15046-15**
  - ✓ Being developed by ISO Technical Committee 211, Project 15046-15 (20+ projects - Subject Area Experts)
  - ✓ Developed via consensus (5-6 active nations)
  - ✓ Voluntary standards
  - ✓ Initial development began 1996
  - ✓ First working draft - CSDGM Version 1
  - ✓ Profile/extension information extracted from CSDGM V2
  - ✓ ISO Metadata Standard Development/Implementation geared to national "registered profile(s)"
  - ✓ At Committee Draft phase of ISO Standards Development Process (FGDC Registered Review)
  - ✓ Scheduled to be approved Summer 1999

ISO = International Organization for Standardization
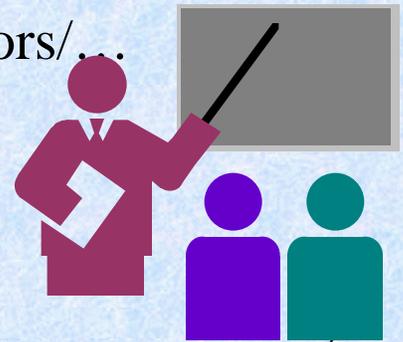
FGDC Plans for the ISO Metadata Standard

- Why worry ISO Metadata Standard?
  - Office of Management and Budget Circular A-119
    - Directs preference in use of International Standards & National Standards if exist
  - Global Environment - Global Spatial Data Infrastructure
- FGDC plans to adopt ISO Metadata Standard once approved
  - Will replace CSDGM Version 2
  - US/FGDC "Registered Profile" development late fall 1998/ early spring 1999 using ISO Draft International Metadata Standard

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ISO Metadata & FGDC CSDGM V2

- ISO/FGCDC Metadata Standard Differences
  - ISO more elements than FGDC
    - Many more "optional" elements
    - Addresses many known deficiencies in FGDC CSDGM (i.e. raster/imagery)
    - Necessary to meet "international" requirements
  - ISO - 2 levels of compliance
    - "catalog" ~ 40 elements
    - "complete/full" ~ 400 elements
  - Terminology Differences

- FGDC Metadata Records are not ISO compliant
  - Obligation differences
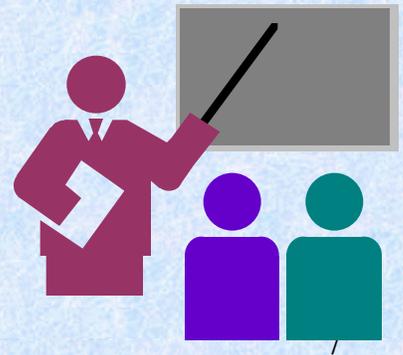 - Element name differences

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ISO Metadata Standard Implementation/Education

- Implementation Issues
  - Software development to migrate FGDC Metadata records to ISO (Ohio State - Metadata Tool Review on FGDC web page)
  - ISO "implementable" test
  - Metadata Collection/Validation Software
  - ISO Metadata Tools/parsers/editors/...

ISO Metadata Standard Implementation/Education

- Education
  - Training
  - Materials - i.e., fact sheets, workbooks
- Timetable
  - Migration of existing metadata records
  - Population of new metadata records

Cost/Benefit Questions

- What benefits can I associate with providing metadata within our organization? To the enterprise? Partner organizations? Other constituents or customers?

- What infrastructure/startup costs (includes hardware, software, network, training, consulting) will incur if we commit to providing metadata for our spatial information assets? What are key choices for maximizing the cost effectiveness of implementation, given my particular environment?

Cost/Benefit Questions

- What are the ongoing costs (includes metadata creation & maintenance, supervision, storage & dissemination) of maintaining such a commitment?
- In regard to these questions, how can I quantify these benefits and costs? What are the track records of other organizations?

Implementation Questions

- What are all the sources of information (within our organization) needed for metadata records, from policy-level to technical?

- What should I do to organize these information sources for efficient access - automated, if possible - by the people actually doing the metadata creation tasks?

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Implementation Questions

- In creating metadata records, how can I do the best job possible at assuring currency, accuracy, completeness, and compatibility?

- What level of personnel resources (management and supervisory level) will I have to dedicate to be successful?

- What steps should I take to synchronize metadata updates with my current spatial data creation and maintenance functions?

Technical Questions

- What are the features of available metadata input and maintenance tools that could be crucial to me in selecting one or more of them?

- What is the "minimal" level of required metadata content information? What strategies should I adopt if I then want to systematically upgrade the information so the records are most searchable and most useful for "customers?"

- We would like to take advantage of standardized key word, cross-reference, & contact information elements of each record. What should we do?

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Technical Questions

- I understand that a new ISO metadata standard is in the works. What are the general issues I'll have to face, and what should I be doing with my current metadata assets to prepare them for an upgrade?

- What functions will be necessary for me to have capabilities to routinely extract information from the metadata "database" to support other operations (Helpdesk, publication of newsletters, catalogs, etc.)? 13

Technical Questions

- We assign "version numbers" to datasets (internally) in the course of updating and archiving, but our versioning is haphazard, I.e. based on the lifecycle of the particular dataset. We know we need to develop better temporal information about our spatial data assets, incorporate it within the metadata, and thereby enhance our query capability. What should we do?