

# Metadata for Managers



September , 2011



October , 2011



November, 2011

# Metadata for Managers

It's all about communicating your standards

- Data collection and maintenance standards
- Spatial data processing standards
- Data presentation standards
- Data management standards
- data exchange-transfer standards

# Value of Using Standards

- The more standardized the structure and content of information, the more effectively it can be used by both humans and machines.

- A metadata standard is simply a common set of terms and definitions that are presented in a structured format.

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**The Content Standard for Digital Geospatial Metadata (CSDGM), Version 2 ([FGDC-STD-001-1998](#))** is the current US Federal Metadata standard.

# Data Collection and Maintenance Standards

- Digitizing and automation techniques
- Geodetic control and locational accuracy
- Coordinate reference system
- Mapping scale & resolution
- Data content and completeness
- Classification system coding methodologies

# Data Management Standards

- Update procedures
- Transaction processing
- Data access & dissemination policies
- Data archive processes
- Metadata publishing
- Data exchange and transfer methodologies

# Metadata - Data About Your Data

- What is metadata really?
- Why is Documentation of Data Important?
- Data Elements
  - Content
  - Accuracy
  - Limitations on appropriate use
  - Original / current source & maintained scale
- Distribution Elements
  - Contact information
  - How to obtain the data

Metadata can take many forms, from simple to create and explain to the very complex. We like to do both, simple for the general public and casual users ...

#### CEMETERY LOCATIONS

**LAYER:** CEMETERY

**DIRECTORY:** AEDATA/GrowthManagement/cemetery.shp

**DIRECTORY:** VOLUSIA.SDE/GrowthManagement/cemetery\_point

**TYPE:** POINT

**COVERAGE:** ENTIRE COUNTY

**AVAILABLE IN SHAPEFILE OR KMZ AT:** <http://www.volusia.org/gis/download/shapes.htm> |

An htm file  
done in  
Word

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<!DOCTYPE metadata (View Source for full doctype...)>
<metadata>
- <idinfo>
  - <citation>
    - <citeinfo>
      <origin>Division of Historical Resources</origin>
      <pubdate>20080515</pubdate>
      <title>Volusia County Cemeteries (Points)</title>
      <geoform>vector digital data</geoform>
      <onlink>http://geonames.usgs.gov/pls/gnispublic/f?p=140:1:7929428080115329492</onlink>
      <onlink>ftp://ftp.rootsweb.com/pub/usgenweb/fl/volusia/cemetery/</onlink>
      <onlink>http://www.interment.net/us/fl/</onlink>
      <onlink>http://www.delandhouse.com</onlink>
      <onlink>http://www.geocities.com/yosemite/rapids/8428/florida.html</onlink>
      <othercit>Many of the cemeteries in this directory are linked to transcriptions published elsewhere on the Internet. If you have questions about the information contained on another site, please send it to the webmaster that maintains it. Some data locations derived from Steve Rajtar's Florida Historic Walking Tours:
      </othercit>
      <onlink>http://www.geocities.com/yosemite/rapids/8428/florida.html</onlink>
      <onlink>http://www.daddezio.com/cemetery/junction/CJ-FL-NDX.html</onlink>
    </citeinfo>
  </citation>
- <descript>
  <abstract>Cemetery locations for Volusia County.</abstract>
  <purpose>GIS Mapping and analysis</purpose>
</descript>
```

To the more complex  
xml type done in  
ArcGIS

## But even a “simple file” should have the basic FGDC components

**Abstract:** Cemetery locations for Volusia County determined by using a variety of data sources listed below.

Division of Historical Resources, FL Master Site File. The original boundary data are based on field recording forms and site plots submitted to the Site File. Florida Master Site File site folders contain historic cemetery forms with descriptive location data, photographs and any site plots provided by the surveyor.

USGS Geographic Names Information System (GNIS) Database <http://geonames.usgs.gov/pls/gnispublic/f?p=140:1:7929428080115329492>

Volusia County GenWeb Genealogical Program

<http://www.flgenhisonline.com/counties/flagvol/volusia/volusia.html>

with a great deal of appreciation and assistance from Bill Morgan, local historian [billmorgan199@gmail.com](mailto:billmorgan199@gmail.com) his website: [www.volusiagenealogy.net](http://www.volusiagenealogy.net)

Transcription Library: <http://www.interment.net/us/fl/>

West Volusia County Historical Society <http://www.delandhouse.com/>

Some data locations derived from Steve Rajtar's Florida Historic Walking Tours <http://www.geocities.com/yosemite/rapids/8428/florida.html>

Florida Cemeteries D'ADDEZIO.com <http://www.daddezio.com/cemetery/junction/CJ-FL-NDX.html>

Many of the cemeteries in this directory are linked to transcriptions published elsewhere on the Internet. If you have questions about the information contained on another site, please send it to the webmaster that maintains it.

**DERIVATION METHODS FOR DATA:** This data layer was created using a combination of existing local data sources compared against property ownership records and Dept of Revenue land use codes. Record locations identified were placed by means of on-screen (heads-up) digitizing of cemetery locations in ArcGIS. Other sources included modern and historic aerial photography as well as scanned, georeferenced, 1:24,000 scale USGS quadrangles in geographic coordinates (latitude/longitude, NAD27) that were used as background reference. In many cases the cemeteries already appeared on the quadrangle maps.

**LIMITATIONS OF THE DATA/WARNINGS TO THE USER:** The historic cemetery data are based on field reports which have been submitted by many and varied individuals, groups, institutions, and cultural resource firms. The locations are only as accurate as the location information submitted by the site recorder. The accuracy of submitted information cannot always be verified. The absence of a cultural resource in this data layer does not preclude the existence of an unrecorded resource in the field. The cemeteries recorded do not represent all the historic cemeteries present in Volusia County. The locations of archaeological sites, historic structures, unmarked human burials, cemeteries, and other cultural features contained in this data set are for resource management, law enforcement, and research purposes only. **State law protects archaeological remains on state owned and controlled lands section 267.13, Florida Statutes. State law protects human burial sites on all lands under sections 872.02 and 872.05, Florida Statutes.**

**Update Frequency:** Annually. LAST CHECK/UPDATE 11/24/10

**Spatial Domain**

West Coordinate: -81.359054  
East Coordinate: -80.928748  
North Coordinate: 29.246552  
South Coordinate: 28.846581

**Spatial Data Information**

Data Type: digital map  
Data Format: SDE Feature Class  
Data Projection: NAD\_1983\_HARN\_StatePlane\_Florida\_East\_FIPS\_0901\_Feet

**FIELDS**

NAME	DESCRIPTION
NAME	CEMETERY / GRAVESITE NAME (IF KNOWN)
ADDRESS	STREET ADDRESS
CITYNAME	CITY NAME
STATE	STATE
ZIP	ZIP CODE
CEMTYPE	FACILITY TYPE / CONDITION (IF KNOWN)
FACCODE	COUNTY FACILITY CODE (COUNTY OWNED / MAINTAINED ONLY)
URL	LINK TO FL GENWEB DATA FOR SITE (IF URL IS AVAILABLE)
SITEID	SITE IDENTIFICATION NUMBER – CROSS REFERENCE TO THE FLORIDA MASTER SITE FILE, DIVISION OF HISTORICAL RESOURCES
FULLPID	PARCEL NUMBER
NOTES	FREE FORM NOTES / INFORMATION

## Do I have to?

There are Florida Department of State requirements for GIS data and documentation that took effect 04/01/2010 and fall into these broad categories:

- GIS Snapshots: Historical - Permanent retention;
  - GIS Snapshots: Administration - one year retention.
  - The other is "OSA" retention, meaning retain until "Obsolete, Superseded or Administrative Value lost".
- 
- **GIS Source Documents / Data Item # 384** - documents and/or data used to update Geographic Information Systems (GIS). This record series may include, but is not limited to, survey data, field notes, legal descriptions, and other documents and/or data submitted to or acquired by the agency for the sole purpose of updating the agency's Geographic Information Systems.

## So yes, you do ...

- Federal guidelines and agency requirements
  - National Information Infrastructure (N.I.I.)
  - National Spatial Data Infrastructure (N.S.D.I.)
    - (see nsdi\_ovrvw.ppt)
  - Federal Geographic Data Committee (F.G.D.C.)
- Think of it as a business investment!

# But metadata is changing ...

- International Organization of Standards (ISO) developed and approved an international metadata standard, *ISO 19115 – Geographic Information Metadata*.
- The US participated in the development of ISO 19115 and has coordinated with Canada to develop the *North American Profile (NAP)* of ISO 19115.
- In the same way that the existing FGDC *Content Standard for Digital Geospatial Metadata (CSDGM)* codified geospatial data documentation for the U.S. geospatial data community in 1994, the NAP extends standardization across national borders.

## The North American Profile (NAP) offers the following

- fewer mandatory elements and more optional elements
- extended elements and new elements to capture more specific information
- a hierarchical structure that creates 'packages' of metadata that can be reused and combined to form new metadata records
- support for the documentation of new geospatial data topologies and technologies including geodatabases, web mapping applications, data models, data portals, etc.
- suggested best practices for populating metadata elements in a manner that enhances the quality and usefulness of the metadata.

# Preparing for the North American Profile

As stated earlier, the NAP is a national (ANSI) standard. As such, it is up to individual organizations to determine if the standard supports their mission and objectives and if it is in their best interest to adopt the standard. The FGDC promotes the adoption of the NAP as a Federal standard and, if adopted, nonfederal organizations will be obligated, as with the CSDGM, to create NAP compliant metadata if they apply Federal funds to the development of geospatial data.

A transition guidance document, [\*Preparing for International Metadata: North American Profile of ISO 19115: Geographic Information – Metadata\*](#) provides an overview of the NAP and provides specific guidance on preparing for the transition. Agencies are strongly encouraged to download and review this document.

One important step outlined in the transition guide, is the addition of ISO 19115 Topic Categories to the Theme Keywords of existing CSDGM metadata records. Topic Categories is one of a handful of NAP mandatory elements that require new information not currently captured within CSDGM metadata records.

This set of 19 high-level subject categories provides a standardized means of quickly sorting and accessing thematic information. To aid in the transition to NAP metadata, you are encouraged to include one or more of the Topic Categories terms, as presented below (funny truncation and capitalization and all), as Theme\_Keywords within your current CSDGM metadata. More guidance about the use of Dataset Topic Category as CSDGM Theme\_Keywords is provided in [Preparing for International Metadata guide](#) referenced above and the [Metadata Quick Guide](#) (see Theme\_Keywords).

#### ISO 19115 Topic Categories

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

## **Which Metadata Standard Should I Use?**

- **The FGDC recommends that organizations currently using the CSDGM metadata standard remain to do so unless there is some compelling reason to change standards.**

### **Why?**

- **Continued evolution of ISO-related geospatial metadata standards.**
- **Lack of resources and expertise to adequately support ISO-related geospatial metadata implementation**

## **Is there a reason for your organization to switch to ISO-related geospatial metadata standards?**

- If your organization has a heavy emphasis on the documentation of remotely sensed or gridded imagery that is strongly supported by ISO 19115-2**
- Active participation in the development of data with another country/region that actively utilized ISO 19115**
- Initiation of a data management program that requires the creation of metadata for data resources not previously documented.**

# Useful Online Resources

You can review the FGDC standard at:

<http://www.fgdc.gov/metadata/geospatial-metadata-standards>

For assistance in creating and managing FGDC metadata  
in ArcGIS 10

Video > <http://esriurl.com/fgdcvideo>

Help > <http://esriurl.com/fgdc>

Questions so far?

# Metadata in ArcGIS 10.0

- New Metadata Editor for Multiple Standards
- Metadata Editor Toolkit (the source code)

# What Has Not Changed

- Using geoprocessing tools and models for managing metadata
- Synchronization keeps your metadata up to date
- ArcGIS 9.X FGDC CSDGM editor available via Add-In download

# Reasons For The Changes at 10.0

- Need to adopt new standards
- Evolution of existing standards
- One editor for multiple standards
- Technology update

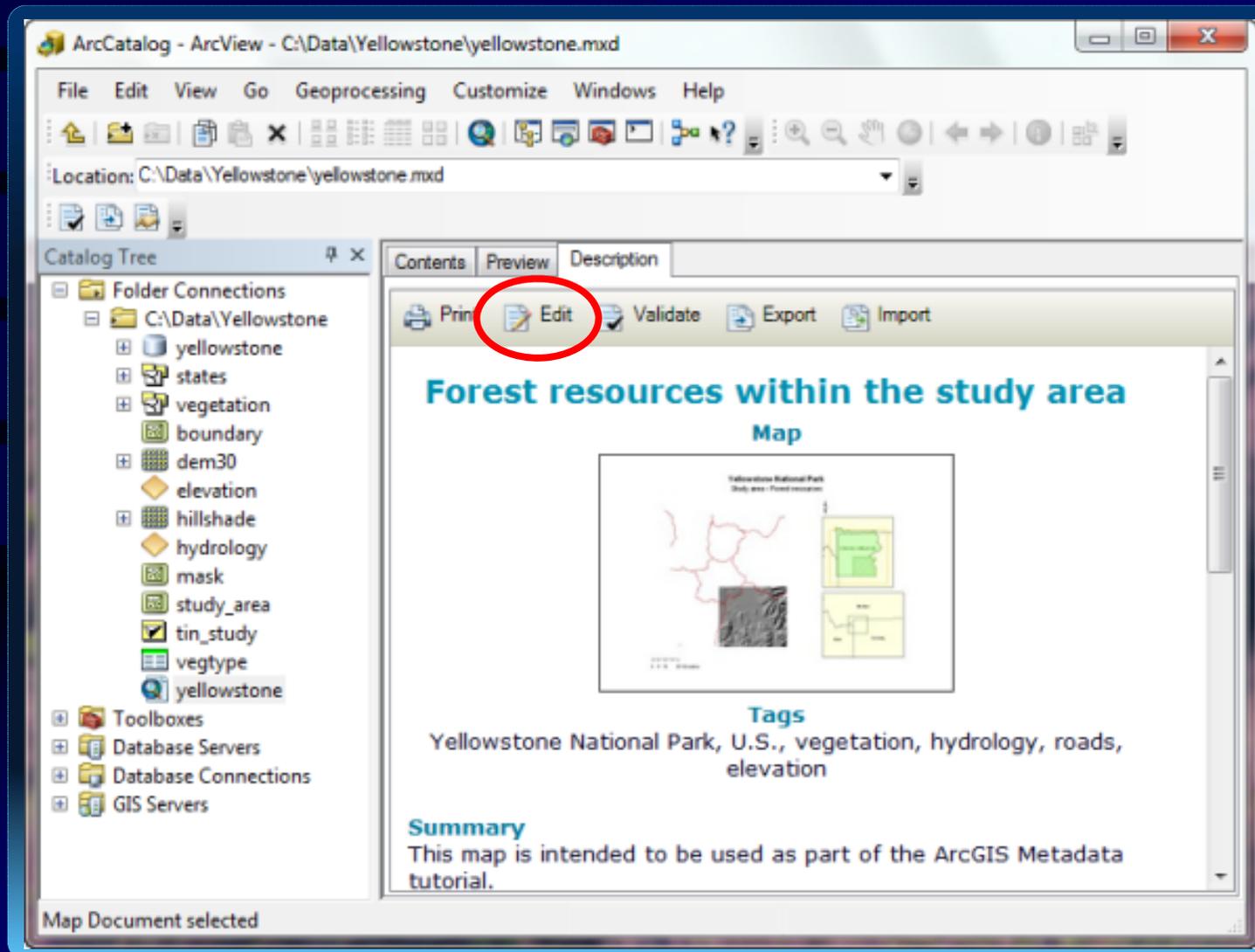
# Goals for Metadata in ArcGIS 10

- Complete support for both ISO and FGDC
- Validating metadata according to standards
- One way to create and manage all metadata
- Simplify workflows
- Support ArcGIS Desktop Search

# Highlights for Metadata in ArcGIS 10.0

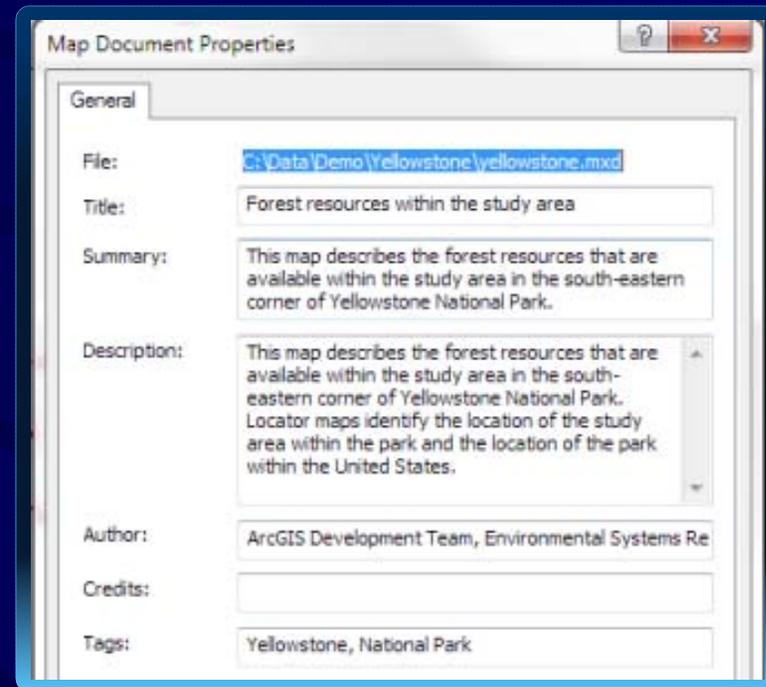
- The New Editor
- Metadata “Styles”
- Supports ArcGIS Desktop Search
- Better management tools

# The New Editor – accessed from ArcCatalog



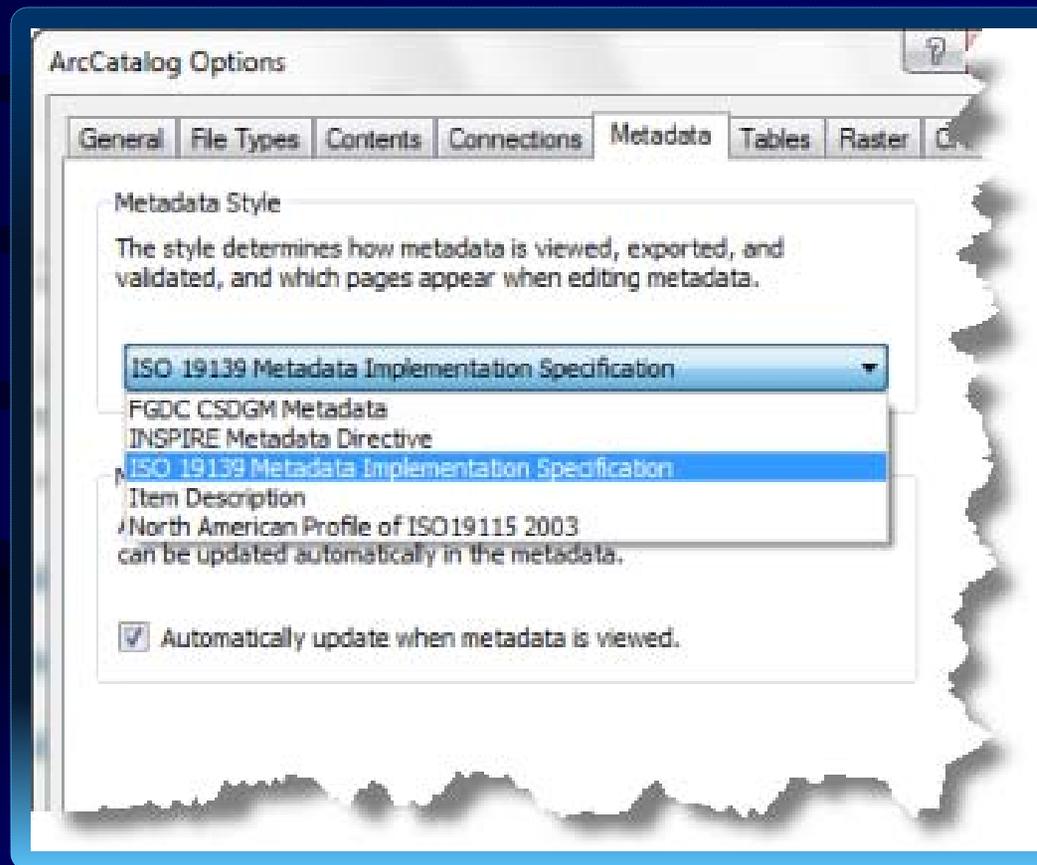
# The New Editor – accessed from ArcMap

Edit the basic information in the map properties while in ArcMap and the changes are also saved in the map's metadata



# Metadata Styles

“One stop” configuration for metadata on the desktop



## Metadata Styles Affect

- XSLT stylesheet used for display
- Pages that appear in the editor
- Exporting to a metadata standard
- Validation against a standard schema
- Customizable

# Metadata Styles drives the look and feel

1. Hit the  
tab

2. Then Edit

3. To  
get  
your  
fill-ins

3. To get your fill-ins

## Metadata Styles

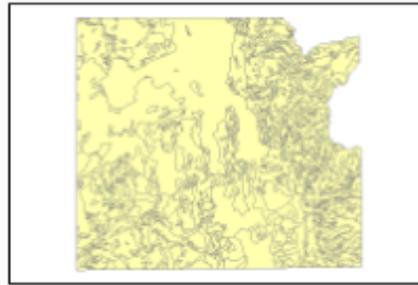
- Metadata in ArcGIS 10 is stored in the ArcGIS metadata format ...
  - Includes all content in all metadata standards
  - Includes additional ESRI-defined content
    - Thumbnails, geoprocessing history, enclosures, detailed item properties

# Support ArcGIS Desktop Search

- *Item Description* style designed for ArcGIS Online and searching in ArcGIS Desktop
- For those not required to follow a particular metadata standard

## Item Description

Title



 Delete  Update...

### Tags

vegetation, land cover, habitat, Yellowstone National Park, U.S.

### Summary

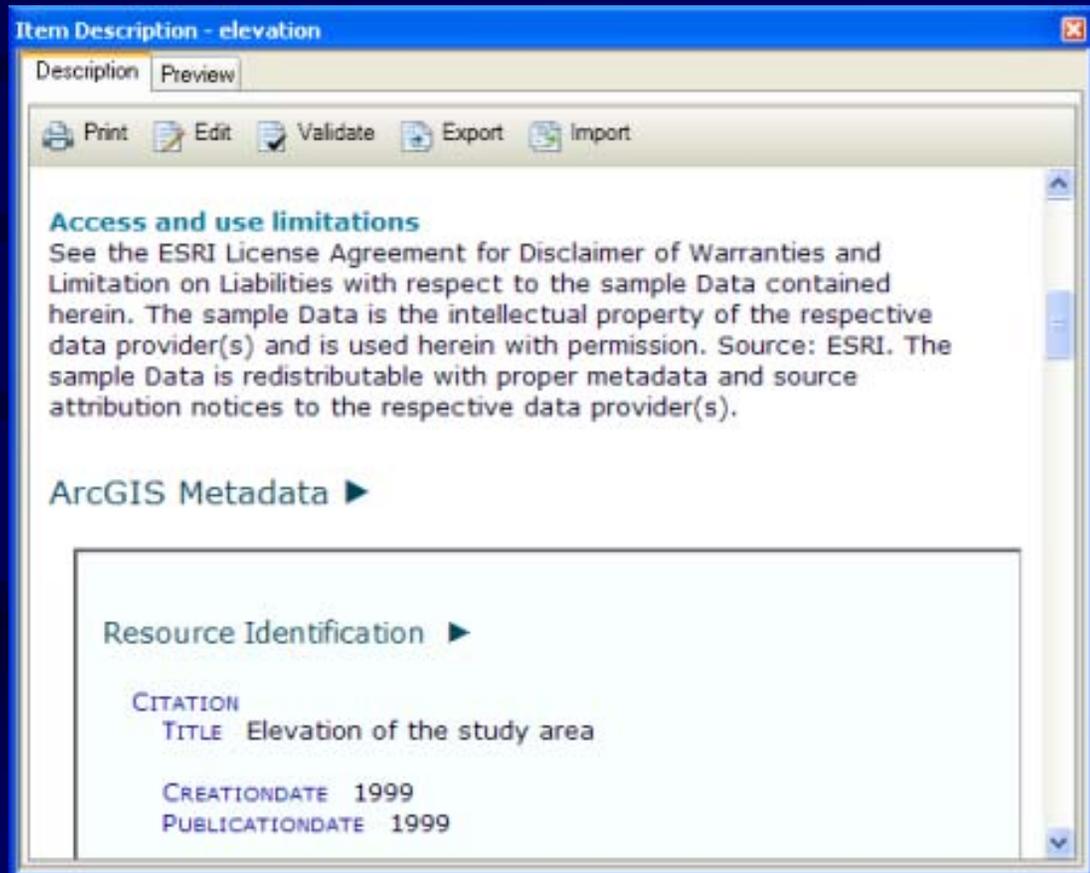
### Description

**B** *I* U <sup>A</sup> <sub>A</sub>             

This coverage represents different land cover areas within the study area in Yellowstone National Park before the 1988 fire. The land cover in each area is identified by a numeric code. Most types of land cover consist of different types of vegetation; others are rock, water, or bog. Several types of vegetative cover may have similar groups of plants. Often, the same dominant plant species is paired with different companion or successional species. Details about each type of land cover can be found in the vegtype.dbf table.

# Better Management Tools

- Tools according to your *metadata style*
  - Export
  - Validate
  - Upgrade



# Upcoming...

- **Updated FGDC Patch**

- Expanded coverage of elements
- Numerous bug fixes
- Available in August

- **Metadata Editor Toolkit**

- WPF Visual Studio Project
- Source code for editor pages

## Summing Up

- New Metadata Editor
- Integrated tools
- Continued FGDC support
- Support for ISO 19139, NAP and INSPIRE

# Useful Online Resources

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<http://www.fgdc.gov/metadata/geospatial-metadata-standards>

Creating and managing FGDC metadata in ArcGIS 10

VIDEO > <http://esriurl.com/fgdcvideo>

HELP > <http://esriurl.com/fgdc>

# Questions?

Contact us about bringing our free hands on 1 day metadata class to your area:

Al Hill

Central Florida GIS Workshop, Inc

[ahill@cfgisworkshop.org](mailto:ahill@cfgisworkshop.org)