Exercise 3 – Creating, Exporting and Importing Metadata

Session Objectives: At the conclusion of this session, you will be able to:

- ❑ Create new metadata for geodatabase feature class using ArcCatalog.
- ❑ Export and Import metadata from a geodatabase feature class using ArcCatalog.
- ❑ Identify GPS data collection procedures and accuracy indices for inclusion into metadata.

Material Created By: Eric Kelchlin and Karen Klinger (Nov 2008)

Revision: January 2012

Software: ArcGIS 10 SP3, ArcPad 10 SP3

Directory Path: D:\CSP7301\Exercise1 and Exercise 3

GDB: Field_Day1.gdb

SECTION 1 – Creating Metadata in ArcCatalog 10

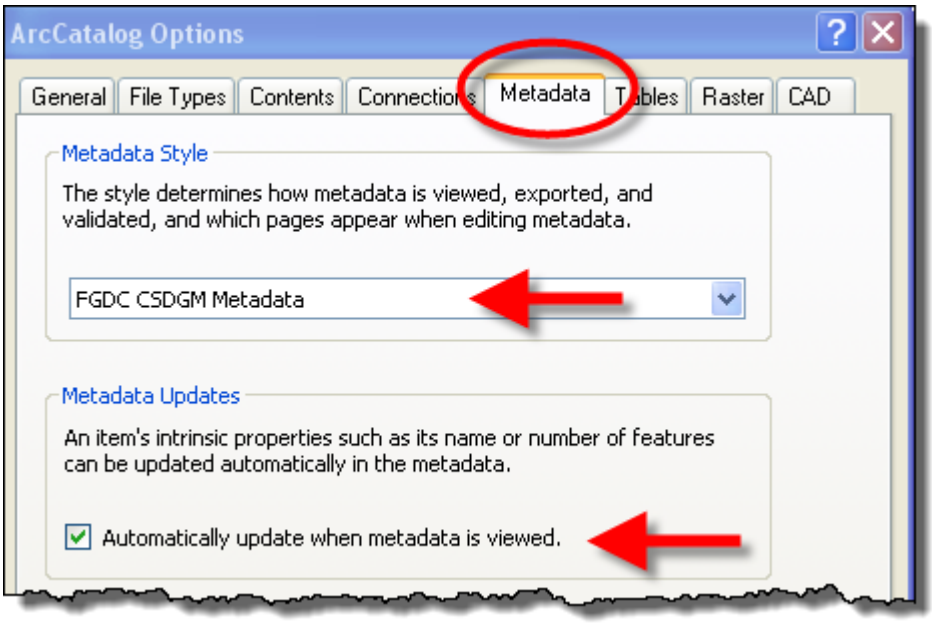
In this section, you will utilize the metadata editor in ArcCatalog 10 to generate "quick and dirty" metadata for your GPS layer. Not all the mandatory fields are populated, only the bare minimum. It's possible and recommended to paste text from reports into text fields. A GPS project summary report would be perfect fodder for metadata!

Unless otherwise stated, all data are located in the **D:\CSP7301\Exercise3** folder.

1. Launch ArcCatalog from the desktop.

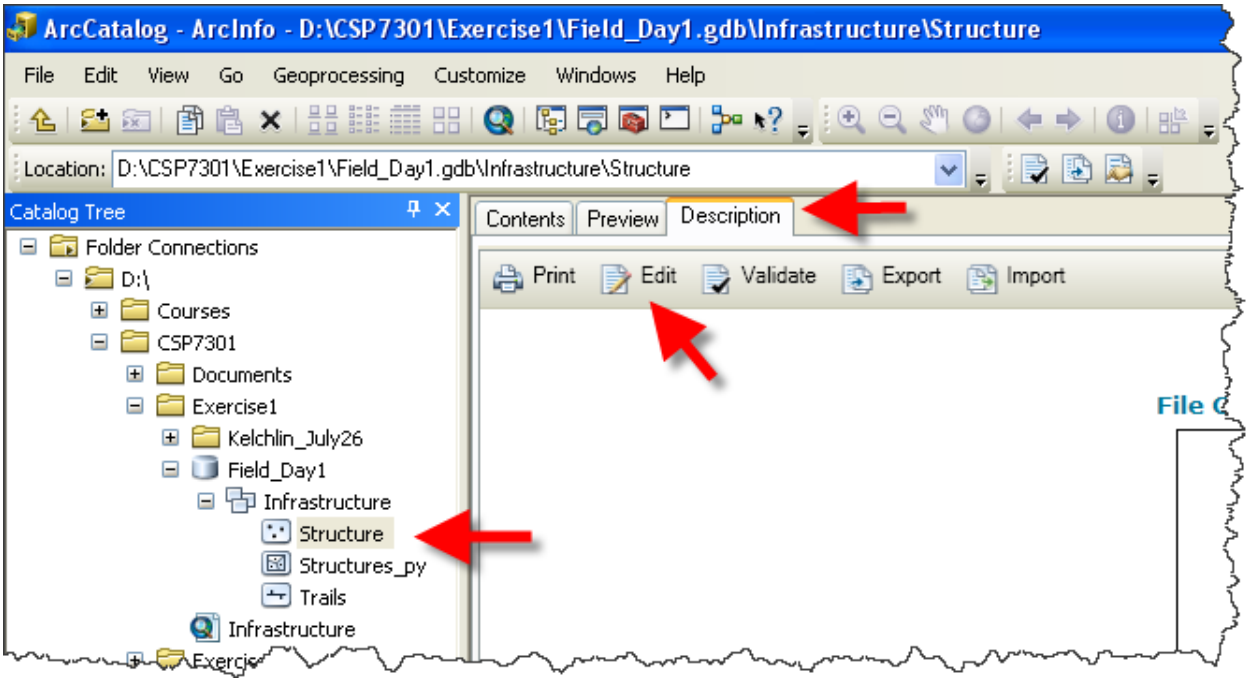
2. From the **Customize** menu, select **ArcCatalog Options.**

3. Click the **Metadata tab** and change the metadata style is **FGDC CSDGM Metadata.** Also make sure that the metadata updates box is checked as shown below. Click **OK**.



4. In the catalog tree on the left hand side of the screen, navigate to the **Field_Day1.gdb** in the **Exercise1** folder.

5. To start editing metadata, simply highlight the **Structures** feature class, select the **Description** tab and select the **Edit** tool Edit in the Items Description window. See the example on the next page.



7. Click **Item Descriptions** in the Overview section and add the following items. You can simply open the metadata word doc and copy and paste the blue sections to save time.

Tags – add subject keywords separated by commas.

USFWS, Vero Beach, Structures, GPS, Trimble GeoXM

Summary – add a brief summary of the data.

ArcPad 10 GPS field data collected as part of the Advanced GPS class (CSP7301) in Feb 2012. Data were collected via a Trimble GeoXM 2008 series GPS receiver running ArcPad 10, Service Pack 3. Averaging was enabled (10 seconds for points, 5 seconds for vertices). A 2 second logging rate was used for streaming line and polygon features. WAAS was enabled to improve accuracy. No PDOP limit was applied. Mission planning was not conducted. All data were Post-processed using Pathfinder Office 5.10.

Description – add an abstract explaining its data and purpose. Copy the text in the GPS Project Summary in **Exercise 3** and paste in this field.

Note: you can also add a hyperlink to any web document. To do this, type a word like "Description", then highlight the text and click the hyperlink tool . Next copy and paste this web address in the field and click **Apply**.

Credits – add the person(s) name or organization name.

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Use Limitations – add the following statement:

Although these data and information have been processed successfully on a computer system at the USFWS, no warranty expressed or implied is made regarding the accuracy or utility of the data and information on any other system or for general or scientific purposes, nor shall the act of distribution constitute any such warranty. This disclaimer applies both to individual use of the data, and information, and aggregate use with other data and information. It is also strongly recommended that careful attention be paid to the contents of the metadata file associated with these data and information. The USFWS shall not be held liable for improper or incorrect use of the data and information described and/or contained herein.

8. Select **Topics & Keywords** and fill-out the following sections:

Topics - check the Structure and Transportation boxes

Theme Keywords – type keywords separated by commas

USFWS, Structures, GPS, Trimble GeoXM

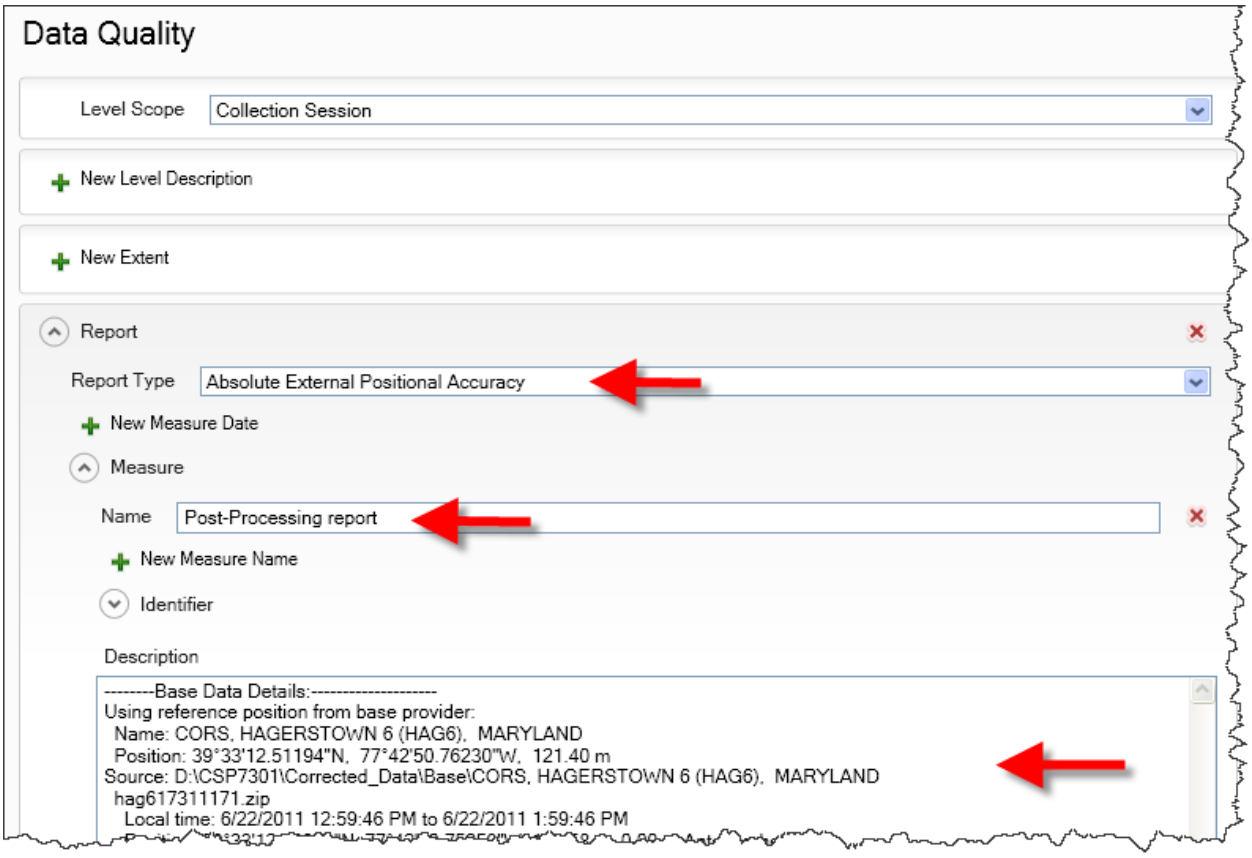
Place Keywords - type keywords separated by commas

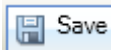
Vero Beach, Florida

9. Click on **Citation Contacts** and type your contact and contact information.

10. Click on **Details** in the Resource section and change the Status to **Completed**.

11. Next, click on **Data Quality** in the Resource section. Create a **New Report** and paste the post-processing information we saved earlier in the Description field. See the example below.



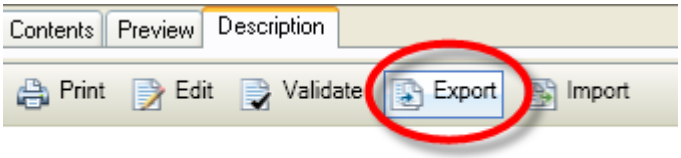
12. Click the **Save** button  when finished.

13. To add a thumbnail image to your metadata, simply click on the **Preview Tab** and select the **Add Thumbnail** icon on the Geography Toolbar. Click back on the **Details Tab** to view the thumbnail.

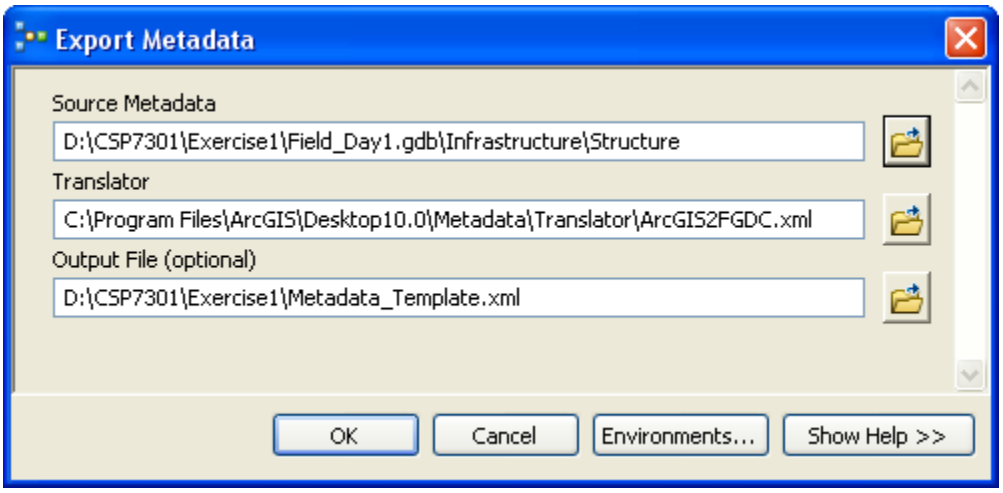
Congratulations! You just created metadata for your GPS data. The next sections show how you can export this information and use it as a metadata template for other datasets to save time.

SECTION 2 – Exporting and Metadata in ArcCatalog 10

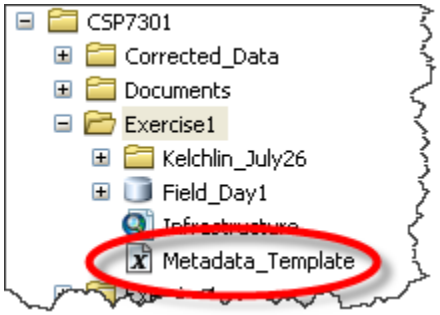
1. Highlight the **Structures** layer and select **Export** from the **Description Tab**.



2. Use the ArcGIS2FGDC.xml translator and save your file as **Metadata_Template** in the **Exercise1** folder. See the example below.

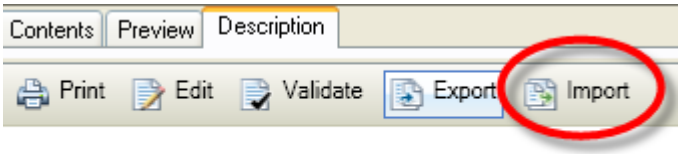


3. Click **OK** and **Close**. You should see the **Metadata_Template** file in your table of contents. If not, then click **View > Refresh** on your main toolbar.

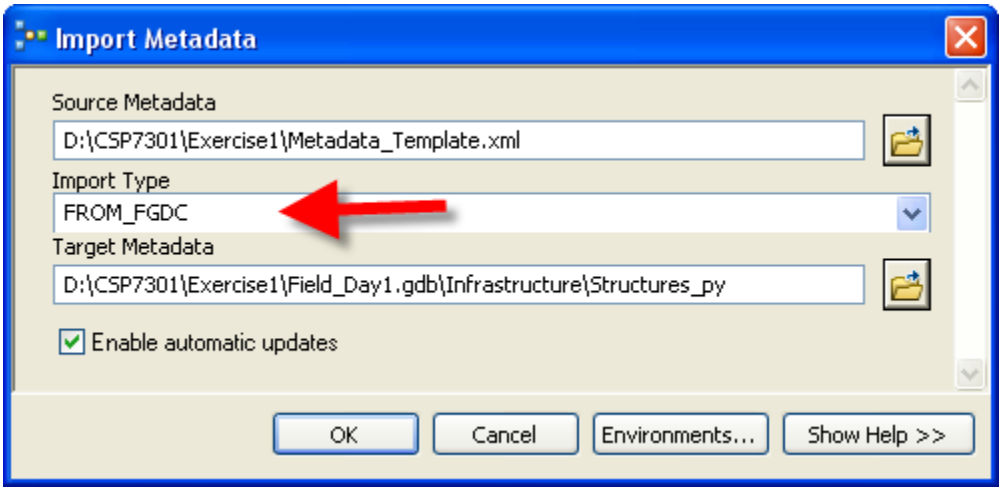


SECTION 3 – Importing Metadata in ArcCatalog 10

1. Highlight your source layer, use **Structures_py** for this example, and select **Import** from the **Description** Tab.



2. Change the Import Type to **FROM-FGDC** and click **OK** and **Close**. You will have some green errors because not all the mandatory FGDC fields are filled-out.



3. Repeat the import process for the **Trails** feature class.

SECTION 4 – GPS Data for your Metadata

If you plan your GPS data collection project, set objectives and created a geodatabase with domains and relationship tables, then most of this data should already exist in the attribute tables. If not, much of these data can be copied and pasted from Trimble Pathfinder Office output files or manually input into the XML metadata file through ArcCatalog.

Most of these data should be added to the **Data Quality** sections in your metadata. No GPS section exists, so we have to make the best of it.

GPS Project Planning

- ❑ Project purpose and objective(s)
- ❑ Datum and projection used to collected the field data
- ❑ Date(s) and time data were collected
- ❑ Data collector name(s) or initials
- ❑ GPS receiver make and model (i.e. Trimble GeoXM 2005 Series)
- ❑ GPS receiver firmware version and last date updated
- ❑ GPS field software and version

Data Collection Techniques

Cite any GPS field data collection protocols if you used them.

- ❑ Did you perform missing planning, if so what were the results?
- ❑ What were the GPS data collection settings? In ArcPad refer to your GPS Preferences or Trimble GPSCorrect settings.
- ❑ Logging rate used for lines and polygons
- ❑ Did you use offsets, if so what were the conditions and settings?
- ❑ Mode of data collection (walking, vehicle, ATV, boat, plane, hoarse, etc.)

Differential Correction

- ❑ Correction Type (real-time WAAS, Real-time beacon, post-processed)
- ❑ Post-processing software and version
- ❑ Name of the base station(s) used for correction
- ❑ Settings used to perform the differential correction

Accuracy Indices

These are automatically created with Trimble Pathfinder Office if the data are post-process, however, the indices do not carry over to the attribute table(s) when using ShapeCorrect. This is one major draw-back when using ArcPad.

- ❑ Average Positional Dilution Of Precision (PDOP)
- ❑ Maximum PDOP
- ❑ Average Horizontal Precision (95% or 68% confidence ellipse)
- ❑ Worst Horizontal Precision (95% or 68% confidence ellipse)
- ❑ Vertical Precision (95% or 68% confidence ellipse)
- ❑ Number of points recorded per feature

Deliverables

- ❑ Was the original GPS field data reprojected, if so what software and transformations did you use?
- ❑ Did you edit the raw data to create the final layer, if so what process steps did you use?
- ❑ Who or what organization will maintain and distribute the dataset?
- ❑ Is this dataset updated on a regular schedule, or is this complete?

Can you think of any additional data that would be useful to include in the GPS metadata? If so, write them down below:

1. _____
2. _____
3. _____
4. _____
5. _____

EXTRA!

Using Attachments to Add Metadata (New to ArcGIS 10)

Attachments provide a flexible way to manage additional information that is related to your features. Attachments allow you to add files to individual features and can be images, PDFs, text documents, or any other type of file. For example, if you have a feature representing a building, you could use attachments to add multiple photographs of the building taken from several angles, along with PDF files containing the building's deed and tax information.

To add file attachments, you first need to enable attachments on the feature class. When you enable attachments, ArcGIS creates a new table to contain the attachment files and a new relationship class to relate the features to the attached files. You add attachments to the features during an edit session.

Attachments are similar to hyperlinks but allow you to associate multiple files to a feature, store the attached files in the geodatabase, and access the files in more ways. You can view attachments from the Identify window, from the Attributes window (when editing), in the attribute table window, and through HTML pop-ups.

Since relationship classes are used to maintain the linkage, and relationship classes require an ArcEditor or ArcInfo license, an ArcEditor or ArcInfo license also is required to enable attachments or edit feature classes with attachments. With ArcView, you can read and open attachments.

Steps:

1. In the Catalog window or ArcCatalog, right-click the feature class to which you want to add attachments, point to Attachments, then click Create Attachments. ArcGIS adds a new table to contain the attached files and a relationship class to manage the link between the features and their attachments.

2. To remove all the attached files and delete the table and relationship class that ArcGIS created when you enabled attachment functionality, click Delete Attachments.