

Exercise 1:

Explore Metadata Using ArcGIS Pro

Introduction

This lesson is designed for folks who are still getting used to the ArcGIS Pro user interface and have never created metadata before. In the first exercise, we will familiarize ourselves with the ArcGIS Pro user interface and focus on how the application handles metadata. More specifically, we will view the metadata associated with the AdministrativeForest EDW layer. This layer represents land administered by the Forest Service throughout the United States.

Objectives

- Configure the metadata Style.
- View metadata in ArcGIS Pro.
- Access the metadata editor page and interpret the validation symbols.

Prerequisites

GIS users must be able to access ArcGIS Pro to complete the exercises within this training. There are two ways that Forest Service GIS users can access and run ArcGIS Pro.

- **Option 1:** Forest Service Employees can utilize ArcGIS Pro through the Virtual Desktop Infrastructure (VDI). The VDI can be accessed using the following link: [ArcGIS Pro - Working in the Data Center \(sharepoint.com\)](#). Using the VDI, users can launch a remote desktop and connect directly to the T drive using ArcGIS Pro. You must have a citrix profile and a LincPass to open a desktop within the VDI. If you are unsure whether you have a citrix profile, please submit a service request to the GIS Help Desk using the following link: [GIS Support Request \(onbmc.com\)](#) (select the blue "Request Now" button). If you plan on using the VDI to complete the exercises, please test and make sure that you can access the VDI prior to the start of the course. If you opted to use Option 1 to access Pro, you must store the course data on the T drive.
- **Option 2:** Forest Service Employees can install and run ArcGIS Pro on their local machines. The latest FS-available version of ArcGIS Pro is in the Software Center for self-install. If you have issues installing ArcGIS Pro, submit a service request to the GIS Help Desk: [GIS Support Request \(onbmc.com\)](#) (select the blue "Request Now" button). For further information regarding system requirements and install instructions, please see the ArcGIS Pro SharePoint Site: [ArcGIS Pro -](#)



[Home \(sharepoint.com\)](#). If you opted to use Option 2 to access Pro, you must store the course data on your C drive.



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Part 1: Configure the Metadata Style

A metadata element is a distinct piece of information that seeks to describe some aspect of a geospatial dataset. These metadata elements are defined and organized within metadata standards. The Forest Service has been encouraged to use the ISO metadata standards.

All metadata elements that are viewed, edited, and managed within ArcGIS Pro are stored within an ArcGIS Metadata document. This ArcGIS Metadata document travels with the item that it describes. For our purposes, because we are creating and viewing metadata in a geodatabase, the ArcGIS metadata document will also be stored in the geodatabase.

The selected metadata style controls the following three items:

1. Which metadata elements can be accessed from the ArcGIS Metadata document.
2. The validation rules that will be displayed in the metadata editor.
3. A style sheet that will be used to display the metadata elements.

In this exercise we will set the metadata style to **ISO 19115-3 XML Schema Implementation** so that we can access, edit, and view the ISO metadata elements.

A. Launch ArcGIS Pro

1. Open ArcGIS Pro.
2. Click on Open another project in the bottom left corner.
3. Navigate to wherever you stored the exercise data and open the following file path...
ISOmetadata_Exercise1\02_Data\
4. Within the 02_Data folder, select ISOmetadata_Exercise1 and then choose OK to open the project.

B. Enable ISO 19115-3 XML Schema Implementation

1. Choose the **Project** tab in the top left corner.
2. Select **Options** from the left-hand pane.
3. Scroll down within the left-hand pane in the Options window and choose **Metadata**.
4. Select the Metadata style drop down and choose **ISO 19115-3 XML Schema Implementation**.
5. Choose OK and then select the back button in the top left corner of the screen.
6. The chosen metadata style determines:
 - i. How the ArcGIS metadata information is displayed.
 - ii. The validation rules used in the metadata editor.
 - iii. The metadata elements that are exported

Options

- Geoprocessing
- Device Location
- Share and Download
- Raster and Imagery
- Full Motion Video
- Display
- Table
- Layout
- Text and Graphics
- Color Management
- BIM
- CAD
- Metadata**
- Indexing
- Location Referencing
- Geodatabase Replication
- Proofing
- Language
- User Interface
- Customize the Ribbon
- Quick Access Toolbar

Choose how to work with metadata

Metadata style

ISO 19115-3 XML Schema Implementation

[Learn more about metadata options](#)

OK

Cancel

Part 2: View Metadata in ArcGIS Pro

Within ArcGIS Pro, users can create and maintain metadata associated with objects stored within the ArcGIS Pro project (like maps and layers) and objects stored outside of the project (like geodatabases, source datasets, and toolboxes). While we are typically interested in metadata associated with the source datasets, there are specific use cases when a user may want to create metadata for one of the other items listed above.

A. Metadata at the Layer Level

1. By default, the metadata at the layer level is set to mirror the metadata associated with the data source and is configured to be read only.

Remember, GIS layers are located in the Contents Pane. A GIS layer references a data source, like a feature class. Here, we are using the term, 'Layer level metadata' to reference the metadata that is tied to the GIS layer, not the data source.

2. To create metadata for the layer, right click the S_USA.AdministrativeForest layer in the Contents Pane and choose **Properties** from the context menu. Choose **Metadata** from the side panel.
3. Currently, the metadata dropdown is set to **Show metadata from data source (read-only)**. This means that the metadata being displayed is being pulled from the source data. Additionally, we cannot edit the source data metadata in the layer properties window.
4. Select the dropdown option and choose **Layer has its own metadata**.

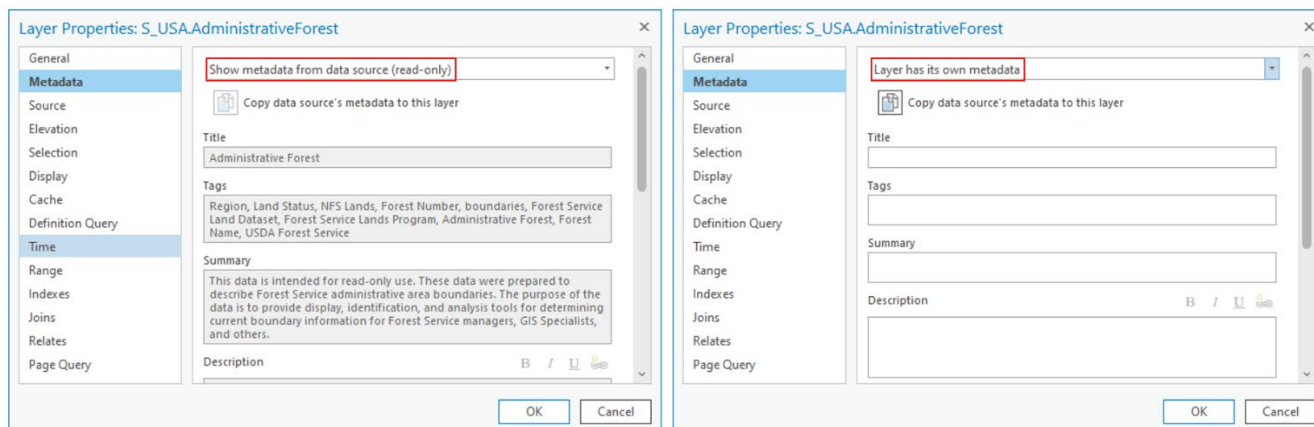


Figure X.

5. When the **Layer has its own metadata** option is configured, a GIS user can create metadata at the layer level. Users may want to configure metadata at the layer level for a GIS dataset because they do not have edit permissions and cannot create metadata at the source level.
6. Select the dropdown option one more time and choose **Show metadata from data source (read-only)**.
7. Click Ok.

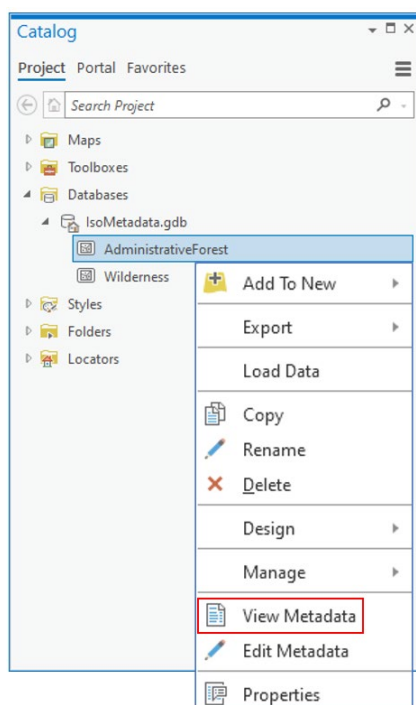
While there are specific use cases where a user may want to configure metadata at the layer level, remember that we are typically interested in metadata that is associated with the data source. Layer level metadata only exists within the ArcGIS Pro project where the metadata was created (unless the dataset is saved as a layer file with a .lyrx extension). In other words, layer level metadata does not travel with the source dataset.

B. View Metadata in ArcGIS Pro

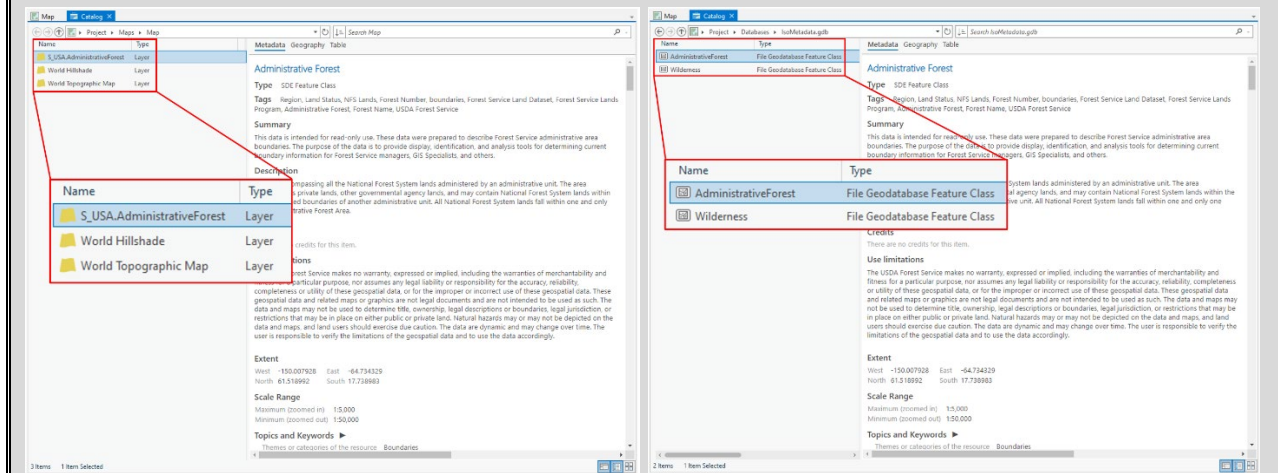
1. To view the metadata associated with the data source, use the **Catalog Pane** and expand the Databases section, then expand the ISOmetadata_Exercise1 geodatabase.

To access the Catalog Pane, choose the view tab on the ribbon and then select Catalog Pane.

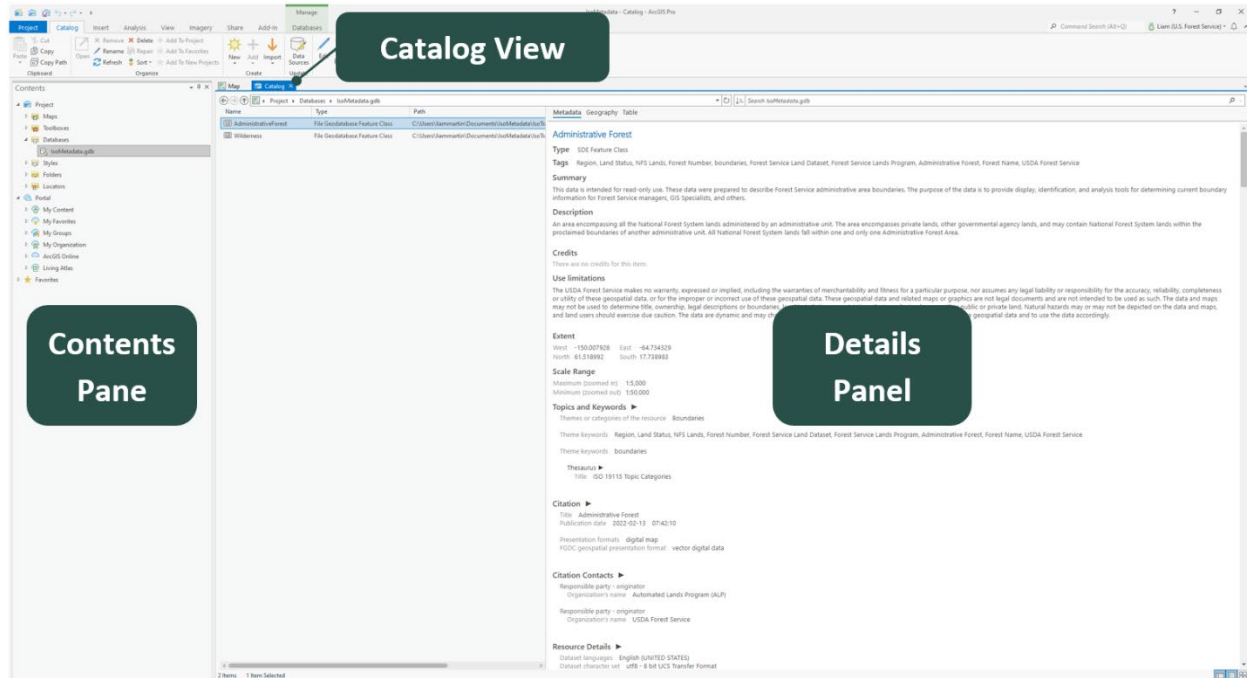
2. Right click the AdministrativeForest Feature Class and choose View Metadata from the context menu.



To view metadata associated with the data source, you *must* right click the data source using the Catalog Pane or the Catalog View. If you right click a layer in the Contents Pane and choose View Metadata, you will be presented with the layer level metadata. Please see a side-by-side comparison below and note how the type and symbols are different.



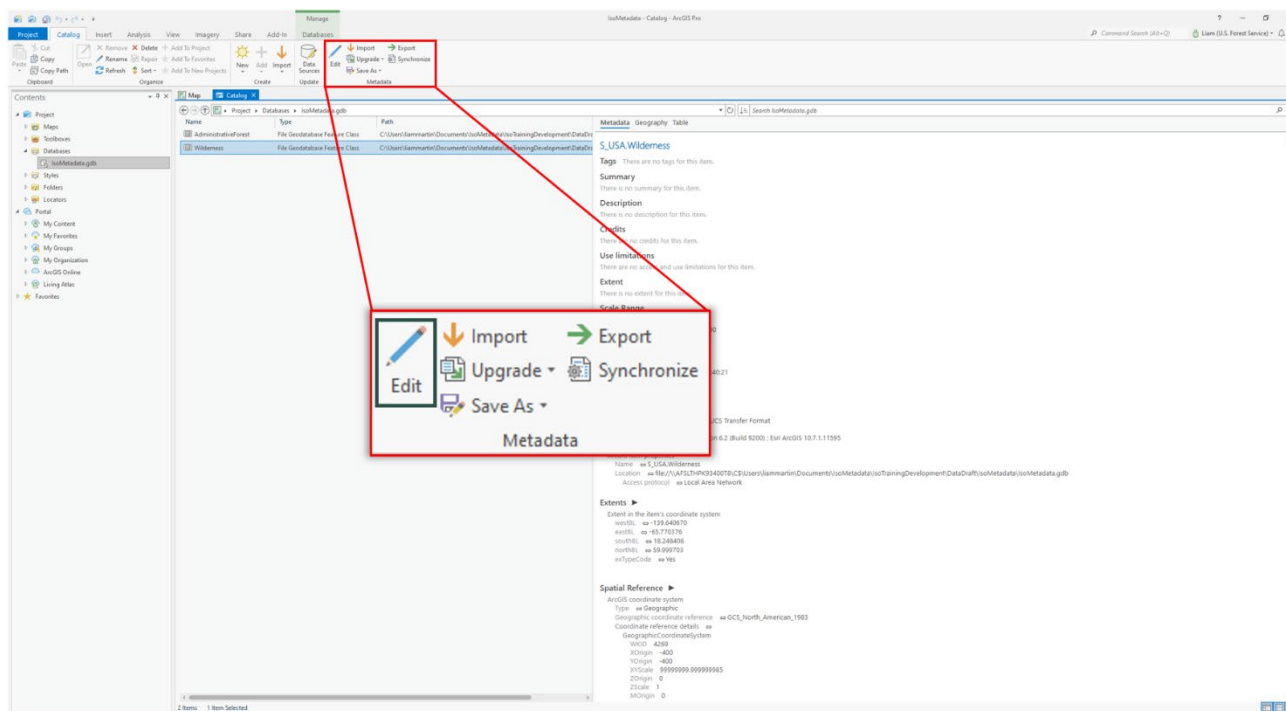
3. Once you select View Metadata, the metadata will be displayed in the Catalog View.
4. The Catalog View combines the Contents Pane and the Details Panel. The Contents Pane, on the left-hand side of the Catalog View, allows users to browse for data items contained within folders and geodatabases.
5. The Details Panel, on the right-hand side, is broken into three distinct sections: **Metadata**, **Geography**, and **Table**.
 - i. The Metadata tab displays the item's metadata.
 - ii. The Geography tab provides a view of the item's geometry.
 - iii. The Table tab displays the attribute table for whichever item is selected in the Catalog Pane.



6. With the metadata tab highlighted, scroll down within the page, and make a mental note of the different metadata sections. The different sections group together and display metadata elements, which are distinct pieces of information that seek to describe some aspect of a geospatial dataset.
7. We can add and configure metadata elements using the Metadata Editor. The AdministrativeForest feature class already has all of the required metadata elements populated. Let's look at a dataset that doesn't have any metadata associated with it.

Part 3: Metadata Editor Page

1. Right click the **Wilderness** feature class in the Catalog View and choose **Edit Metadata**. Alternatively, select the Wilderness feature class in the Catalog View and choose the **Edit** button found within the Catalog Tab on the Ribbon. Both methods will open the Metadata editor.



2. The Metadata editor Contents Pane is divided into three different sections: Overview, Metadata, and Resource. Each section houses different pages where users can create and maintain distinct metadata elements. Different pages and text boxes will be marked as required depending on the chosen metadata style.
3. Because we selected ISO 19115-3 XML Schema Implementation as the metadata style, the minimum requirements from ISO metadata standards are implemented.
4. ArcGIS Pro validates metadata 'on the fly'. This means that different pages and text boxes will automatically be updated with specific symbols as users configure their metadata using the Metadata editor, letting the user know which elements are required and which are not.
5. If the page symbol is displayed with a green checkmark, that means that minimum requirements have been met for that page. If the page symbol is displayed with a red 'X', that means there are missing metadata elements that are required.

ISO Metadata - Wilderness - ArcGIS Pro

Project Metadata Insert Analysis View Share Add-In

Reset Panes Catalog Pane Catalog View Contents Geoprocessing Python window Tasks Workflow Manager Aviation Indoors Item Pop-ups Details Panel Display Type Enable Location Device Location

Contents

Wilderness

Overview

- Item Description
- Topics & Keywords
- Citation
- Citation Contacts
- Contacts Manager
- Locales

Metadata

- Details
- Contacts
- Maintenance
- Constraints

Resource

- Details
- Extents
- Points of Contact
- Maintenance
- Constraints
- Spatial Reference
- Spatial Data Representation
- Content
- Quality
- Lineage
- Distribution
- Fields
- References
- Geoprocessing History

Map Catalog Wilderness

title is required
abstract is required

Item Description

Title

Thumbnail

Tags

Summary (Purpose)

Description (Abstract)

Credits

- Because the Wilderness feature class doesn't have any metadata associated with it, all the mandatory elements will immediately be listed as required. If you are interested in developing ISO metadata from scratch, please continue to Exercise 2. Exercise 2 outlines how to populate the required metadata elements for the Wilderness feature class.