



Forest Service  
U.S. DEPARTMENT OF AGRICULTURE

# ArcGIS Pro for ArcMap Users

---

Instructor Name,  
Instructor email

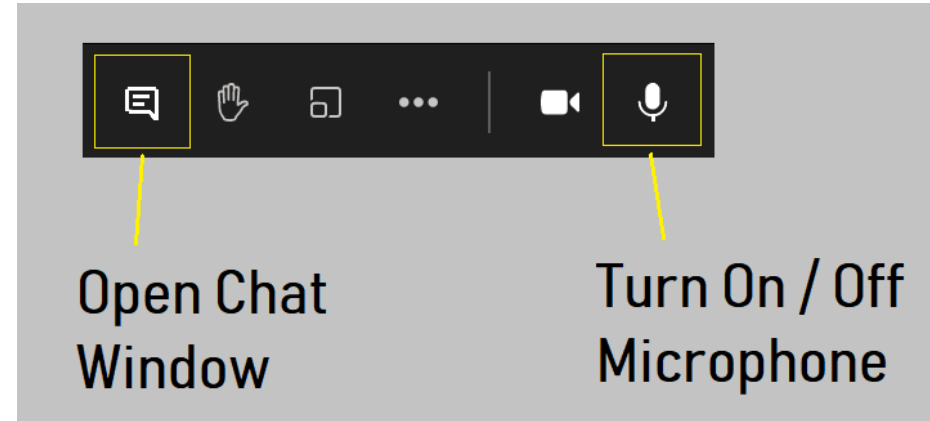


Geospatial Technology  
and Applications Center

# Housekeeping

## Teams

- Quick orientation on interface
- How to turn on Captioning
- Question or comment?
  - Un-mute
  - “Raise” your hand
  - Send a chat



# Course Format & Learning Styles

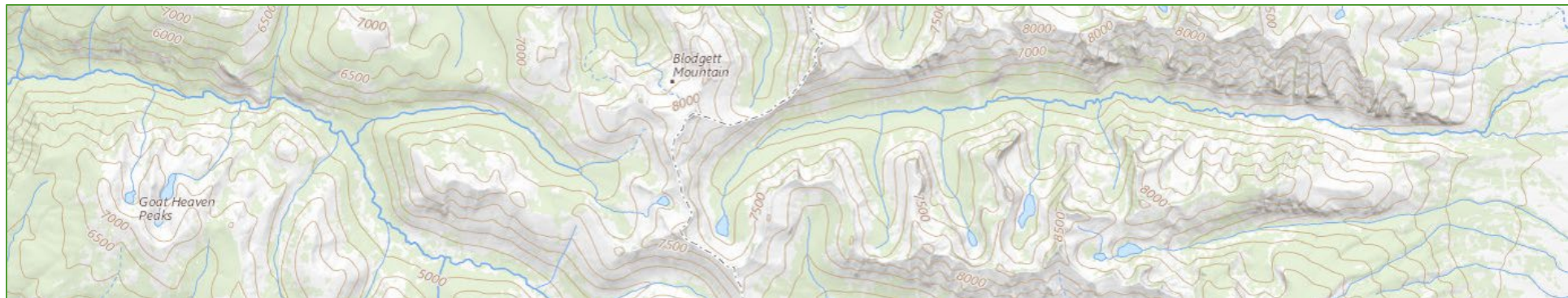
- Many different learning styles: visual, auditory, kinesthetic, etc.
- Webinar format seeks to address a variety of learning styles
  - PPTs, live demonstrations, step-by-step exercises
  - Content may be repetitive for some people
  - Feel free skip formats that don't serve your learning style





# Course Overview

- Exercise 1 – User Interface, Add Data & the Basics
- Exercise 2 – Visualize, Design Layout & Share
- Exercise 3 – Geoprocessing, Create Features & Edit Data



# Lesson 1

- System requirements
- ArcGIS Pro in the Forest Service
- What's new?
- Project platform
- User Interface
  - Ribbon based
  - Views and Panes
- Add & import data



# System requirements

- [ArcGIS Pro 2.9 system requirements](#)

- Operating Systems

- Windows 8.1 - 11
- Windows Server 2012 (64 bit) or newer

- Hardware

- At least 32 GB storage
- RAM
  - 8GB (min) / 16GB (rec) / 32GB (optimal)
- Screen Resolution 1024x768 (min)

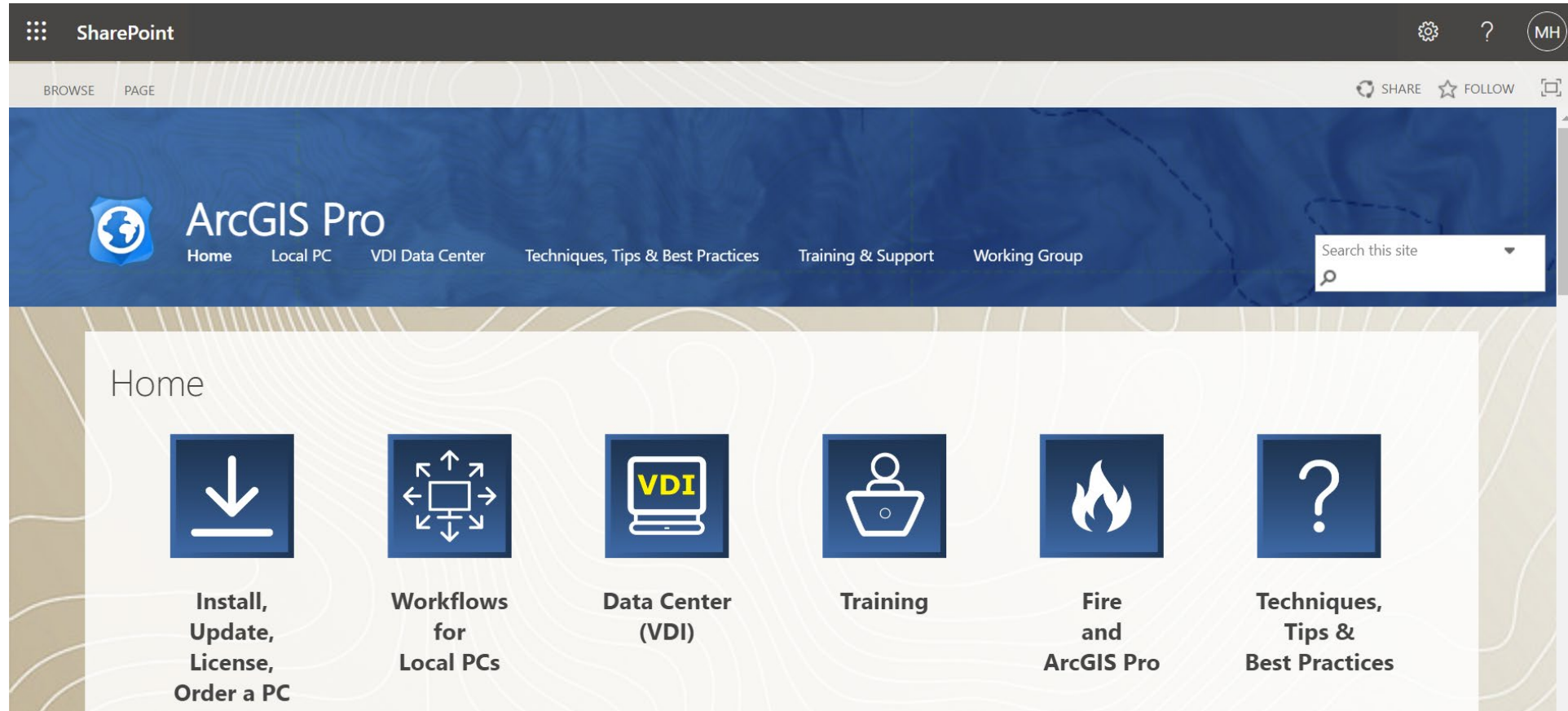
- Software

- Microsoft .NET Framework 4.8 or later
  - Available in Software Center, or
  - Included in Windows feature update 1903



Photo Credit: Tara and Nate Stireman, Wellsville, Utah

# ArcGIS Pro in the Forest Service

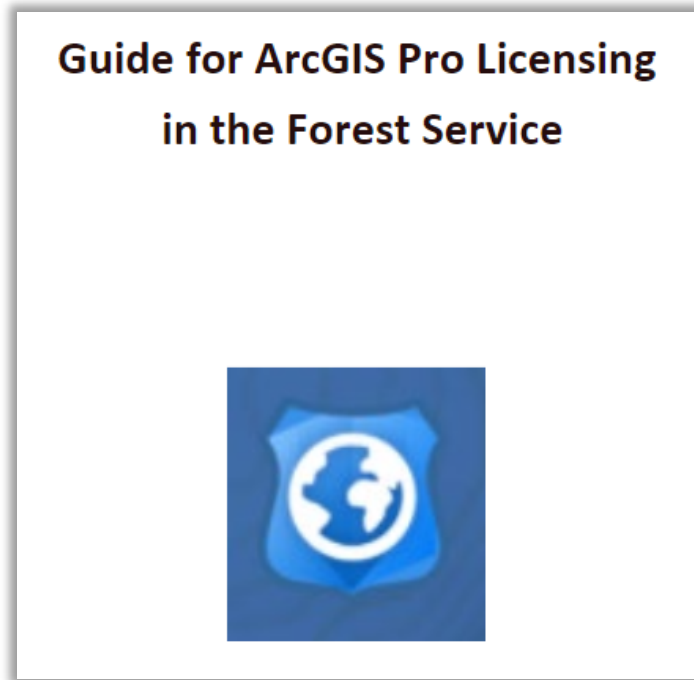


The screenshot shows the ArcGIS Pro SharePoint site home page. The top navigation bar includes the SharePoint logo, a search bar, and user profile information (MH). Below the navigation bar, the main header features the ArcGIS Pro logo and a search bar. The main content area is titled "Home" and displays six tiles with icons and text:

- Install, Update, License, Order a PC**: Represented by a download icon.
- Workflows for Local PCs**: Represented by a workflow icon.
- Data Center (VDI)**: Represented by a VDI icon.
- Training**: Represented by a training icon.
- Fire and ArcGIS Pro**: Represented by a fire icon.
- Techniques, Tips & Best Practices**: Represented by a question mark icon.

[ArcGIS Pro SharePoint Site](#)

# ArcGIS Pro - Licensing



FS now uses Concurrent License (AGOL account not needed)

***Best practice – only borrow license if you absolutely need to.***

[Guide for ArcGIS Pro Licensing in the FS](#)





# ArcGIS Pro in the Forest Service

- **Implementation plan**
  - **Released January 2018**
  - **“Implemented”** = Everyone can use ArcGIS Pro
  - Now available in VDI
- **No hard-cutover date**
  - Co-exist with ArcMap
  - Time to redesign workflows, applications and build skills.
- **Some workflows will not migrate**
  - NRM Editing - workflows move to web apps (NRM Modernization)
  - Web-based workflows - may never need a heavy-duty GIS Client



# Working Locally – Data Options

## **DO these workflows:**

- View data from EDW web services
- View & Edit: Local & Regional Web Services published through ArcGIS Server
- View & Edit: Web services and web maps from AGOL.
- Create local data as FGDB or Shapefiles

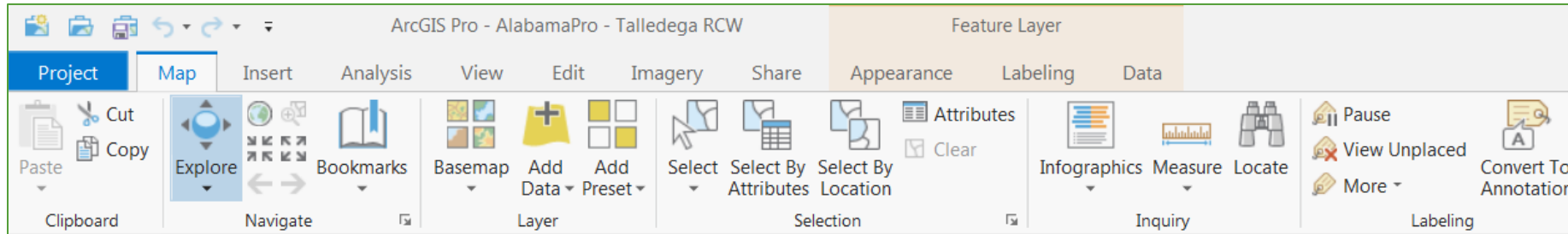
## **Be cautious with this:**

- Copying data from T Drive / SDE to local drive

## **Do NOT do these workflows:**

- Directly connect to the T Drive or Enterprise Geodatabases (SDE)
  - Big network hit & very slow
- Connect to a cloud storage (i.e. Pinyon/Box)
- Use the Save As option

# What's New?



- Project-based versus Map-based
- Windows Based Ribbon User Interface
- [FAQs from Esri](#)
- [What's new in ArcGIS Pro from Esri](#)
  - Highlights section includes major functionality updates
- [USFS SharePoint for ArcGIS Pro](#)

# Project Organization



By default, an ArcGIS Pro project's structure is designed to contain all of the project's data efficiently.

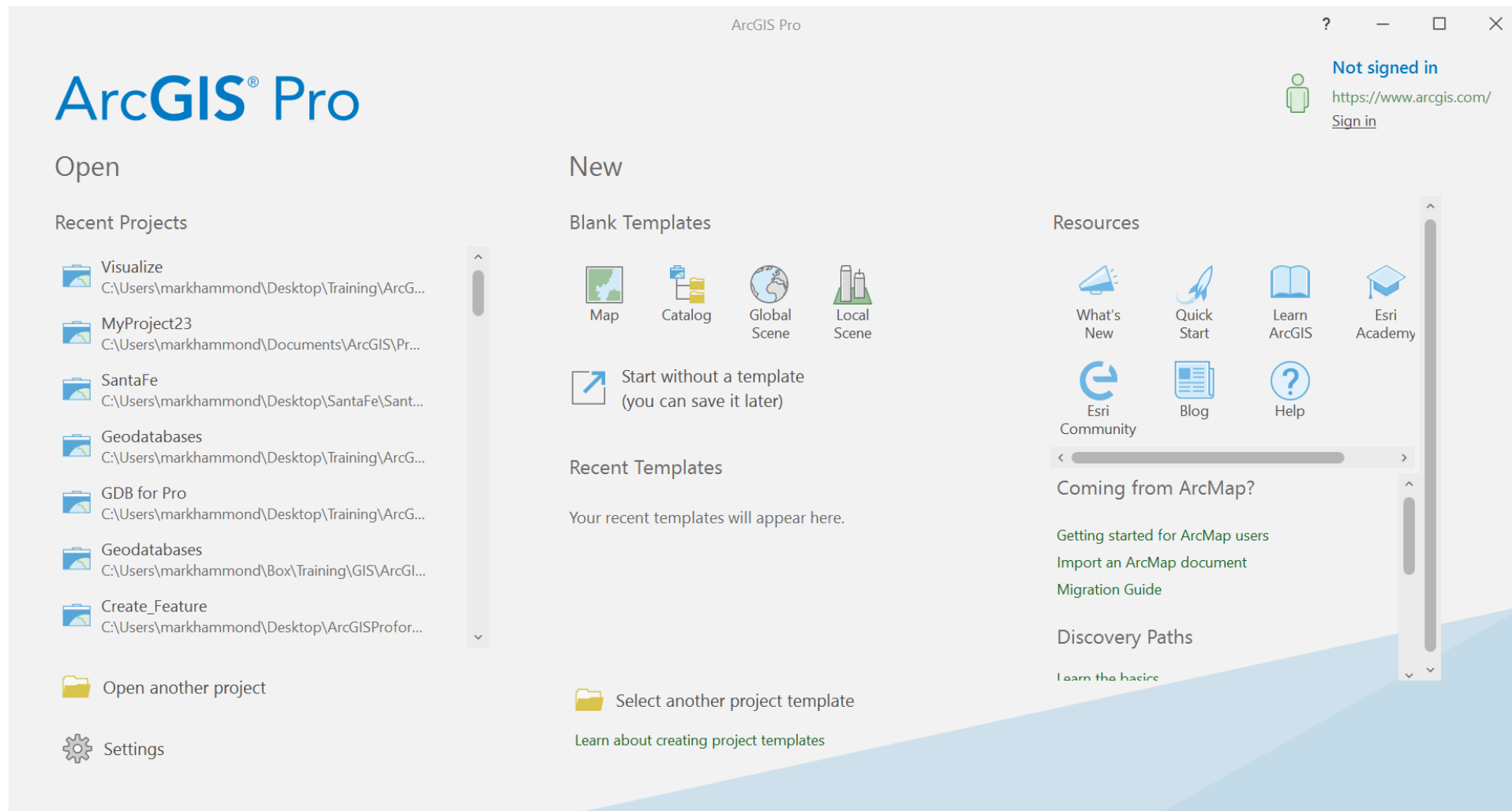


# Terminology specific to ArcGIS Pro

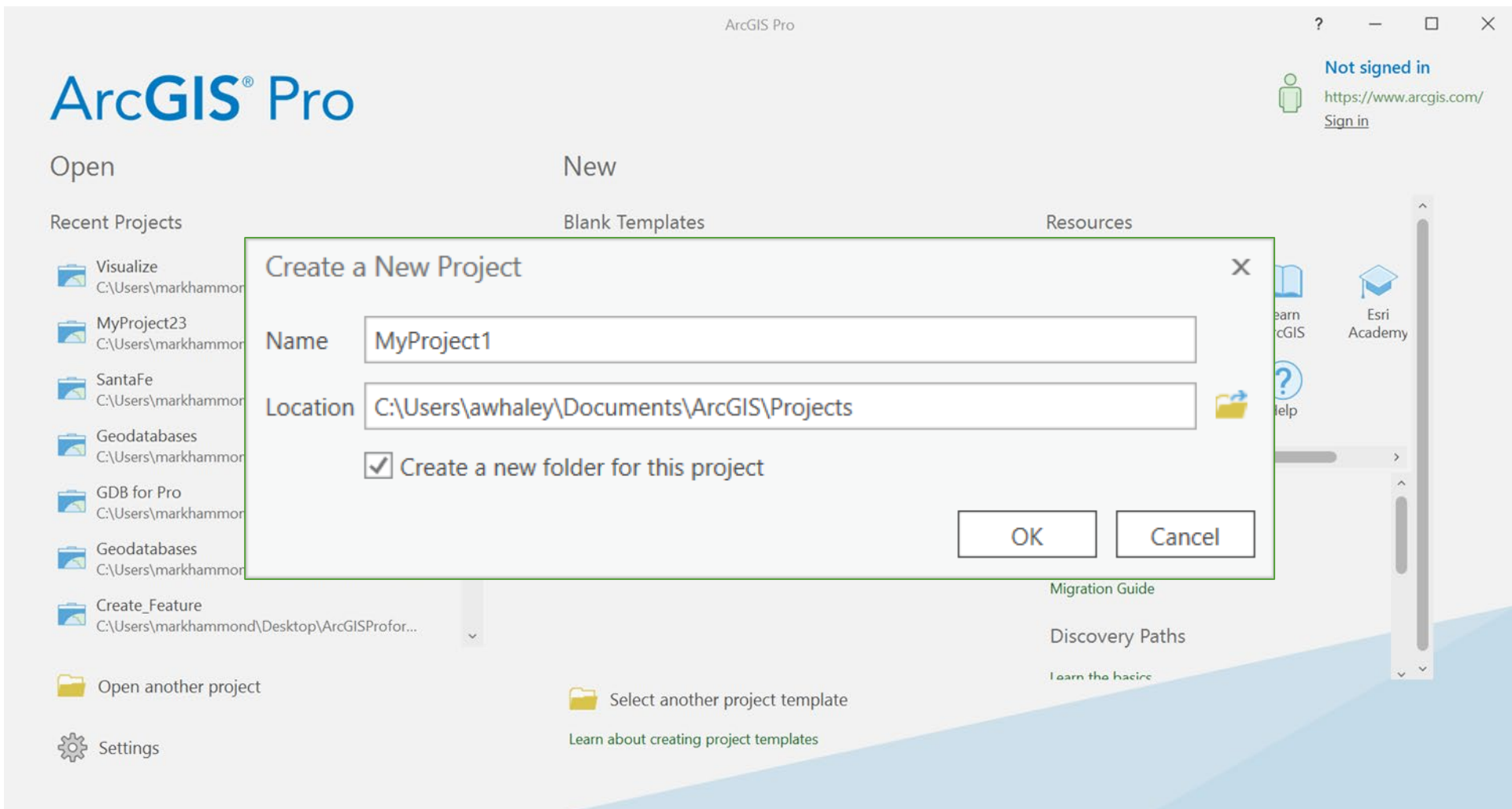
- [Project](#)
  - A collection of related geographic datasets, maps, layouts, tools, settings, and resources saved in an .aprx file. Projects can reference and include items from your organization's portal or your saved network files.
- [Portal](#)
  - A connection to ArcGIS Online or Portal for ArcGIS. You can connect your project to a portal to access content from your organization, ArcGIS Online, or the Living Atlas.
- [Scene](#)
  - A project item used to display and work with geographic data in 3D. Scenes can be viewed in global view (suitable for maps with large geographic areas) or local view (suitable for maps with small geographic areas).
- [View](#)
  - The window representing the primary work area of the application. You can have multiple views open at the same time and display them side by side.
- [Preset layers](#)
  - A prebuilt layer embedded in ArcGIS Pro that only requires a data source.
- [Task](#)
  - A set of preconfigured steps that guide you through a workflow. Task items are also project items.

[Follow this link for Esri Documentation on Terminology](#)

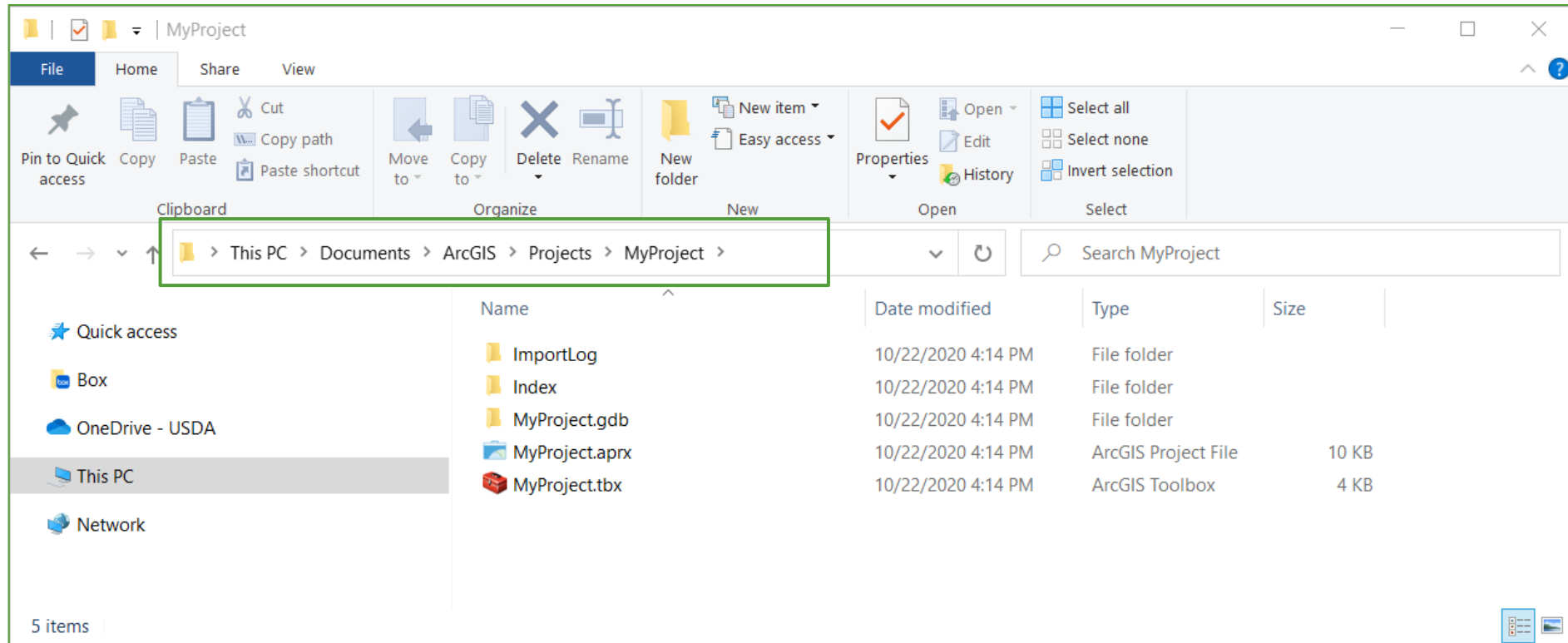
# Create a Project



# Create a Project

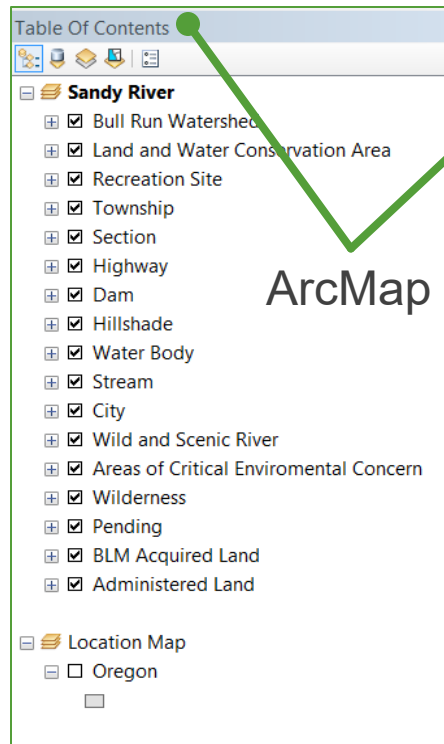


# Create a Project

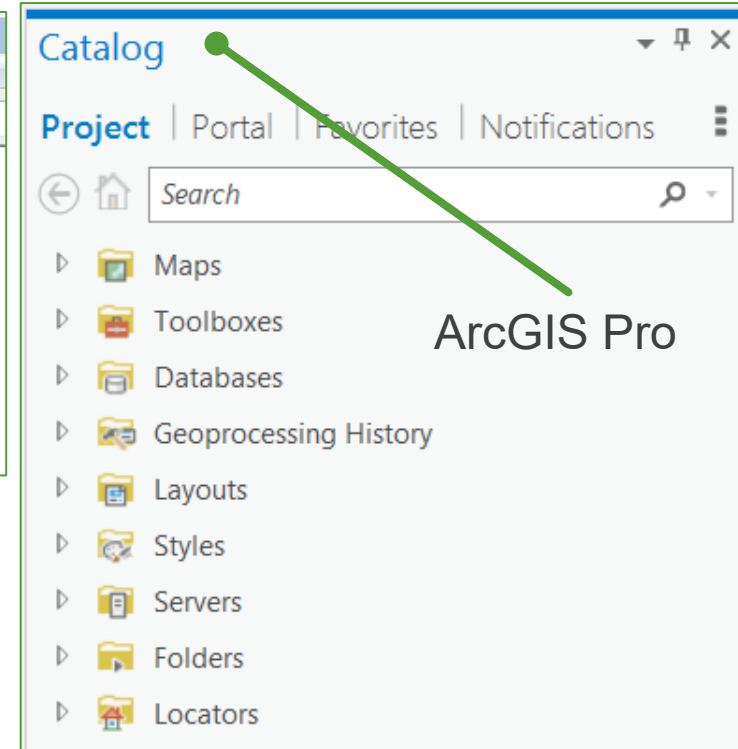
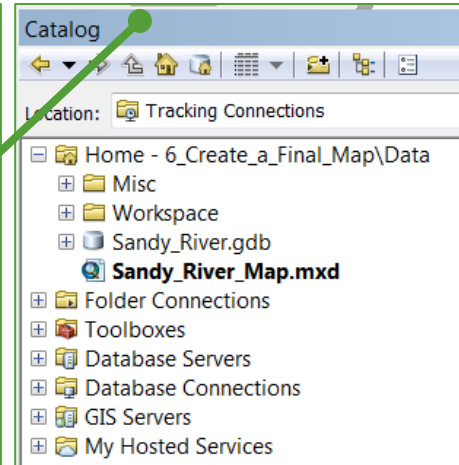




# Project Organization



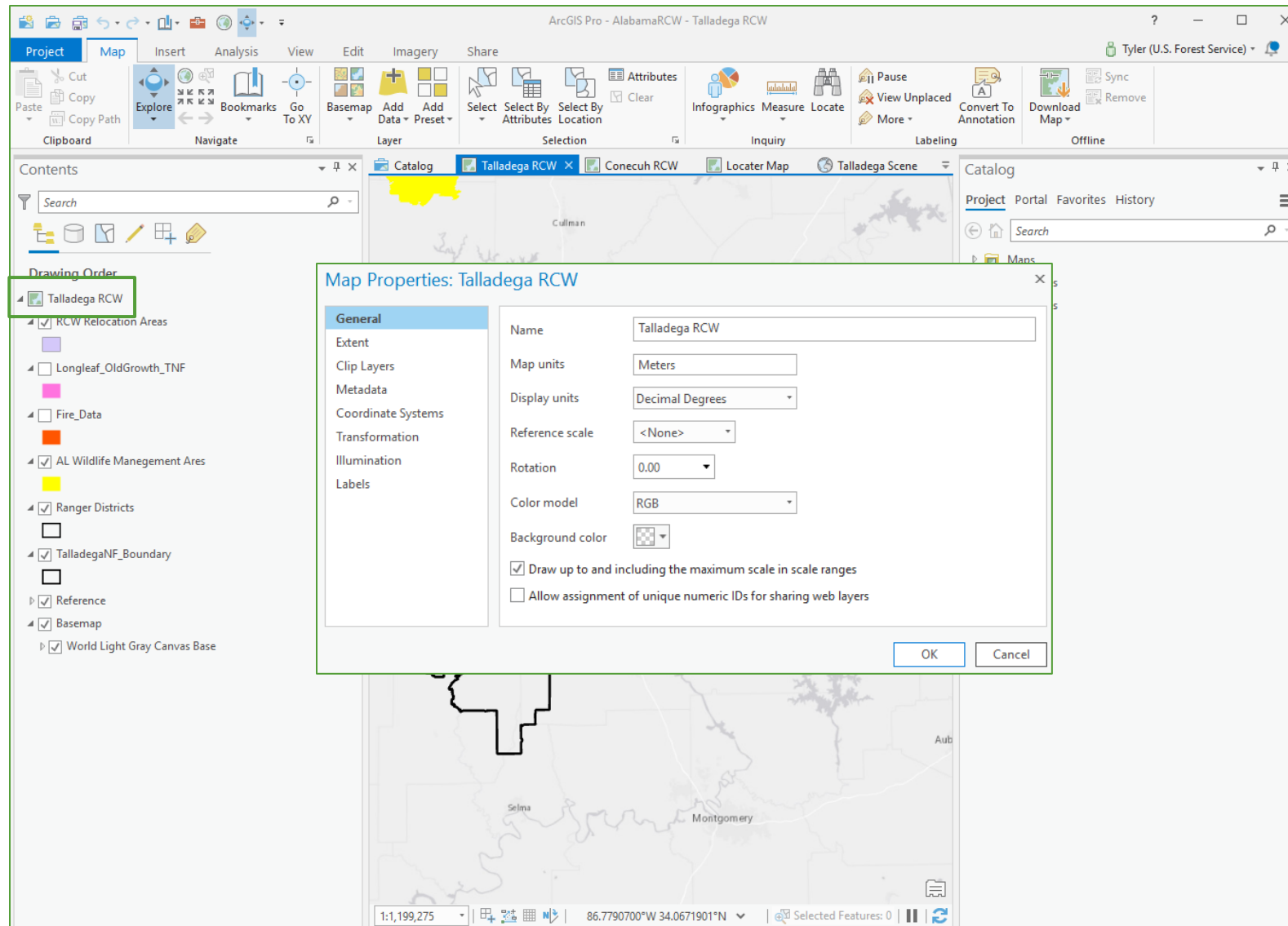
ArcMap



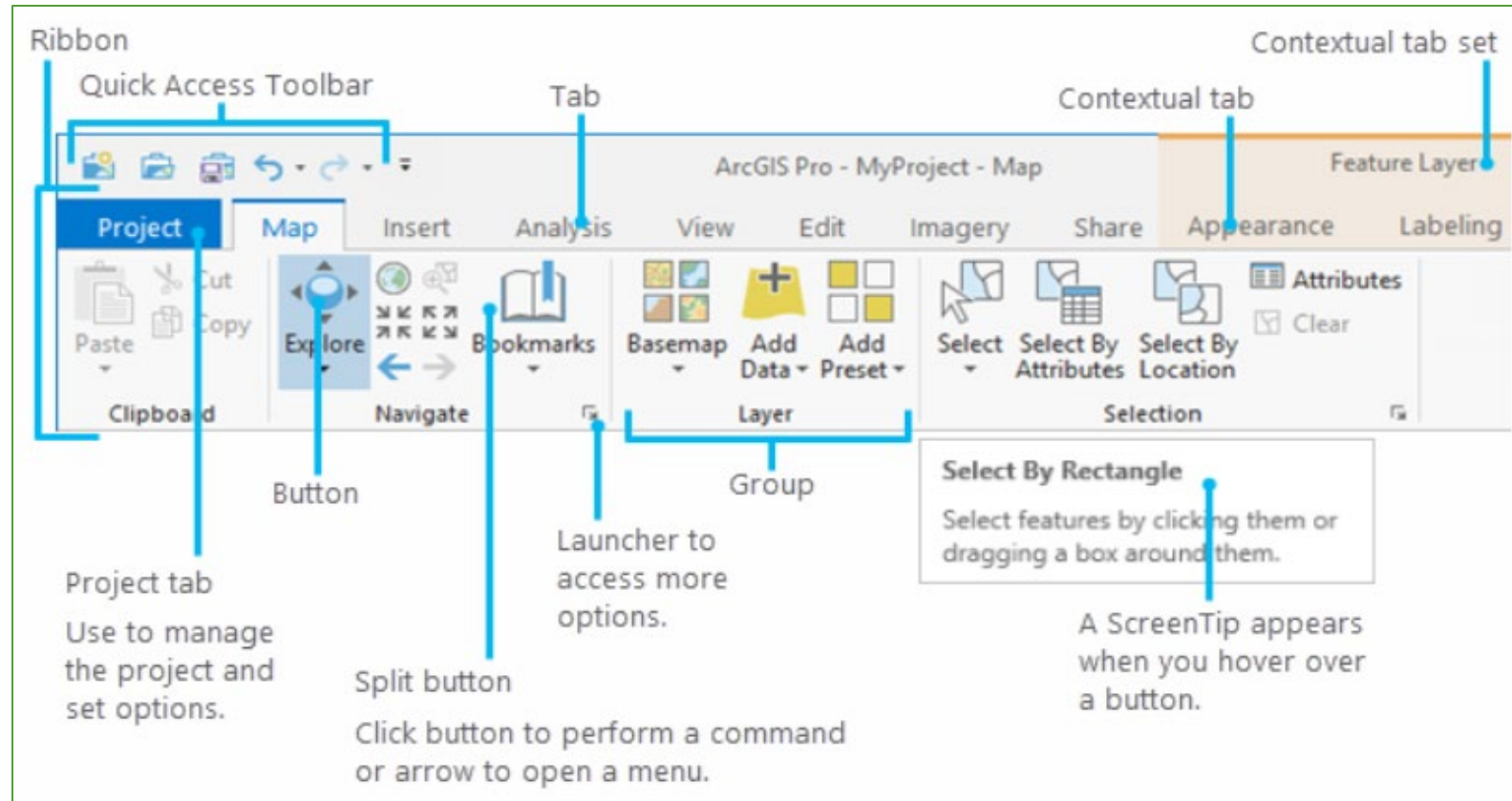
ArcGIS Pro

- ArcGIS Pro projects (.aprx) instead of map documents (.mxd)
- Projects organize and contain multiple related maps, layouts, tables, tasks, tools, connection and more stored in a project file
- [Project in ArcGIS Pro](#)

# User Interface

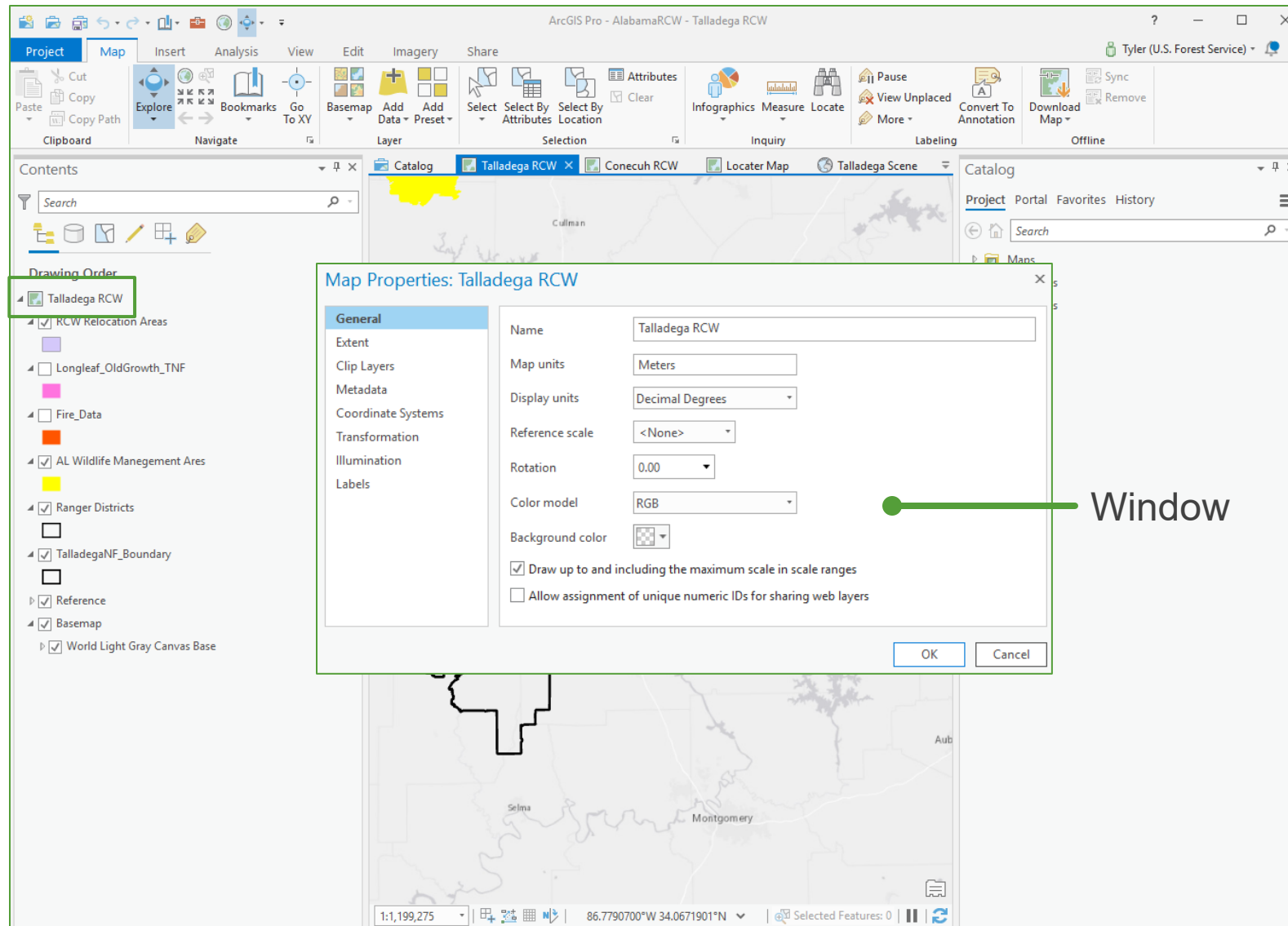


# Ribbon

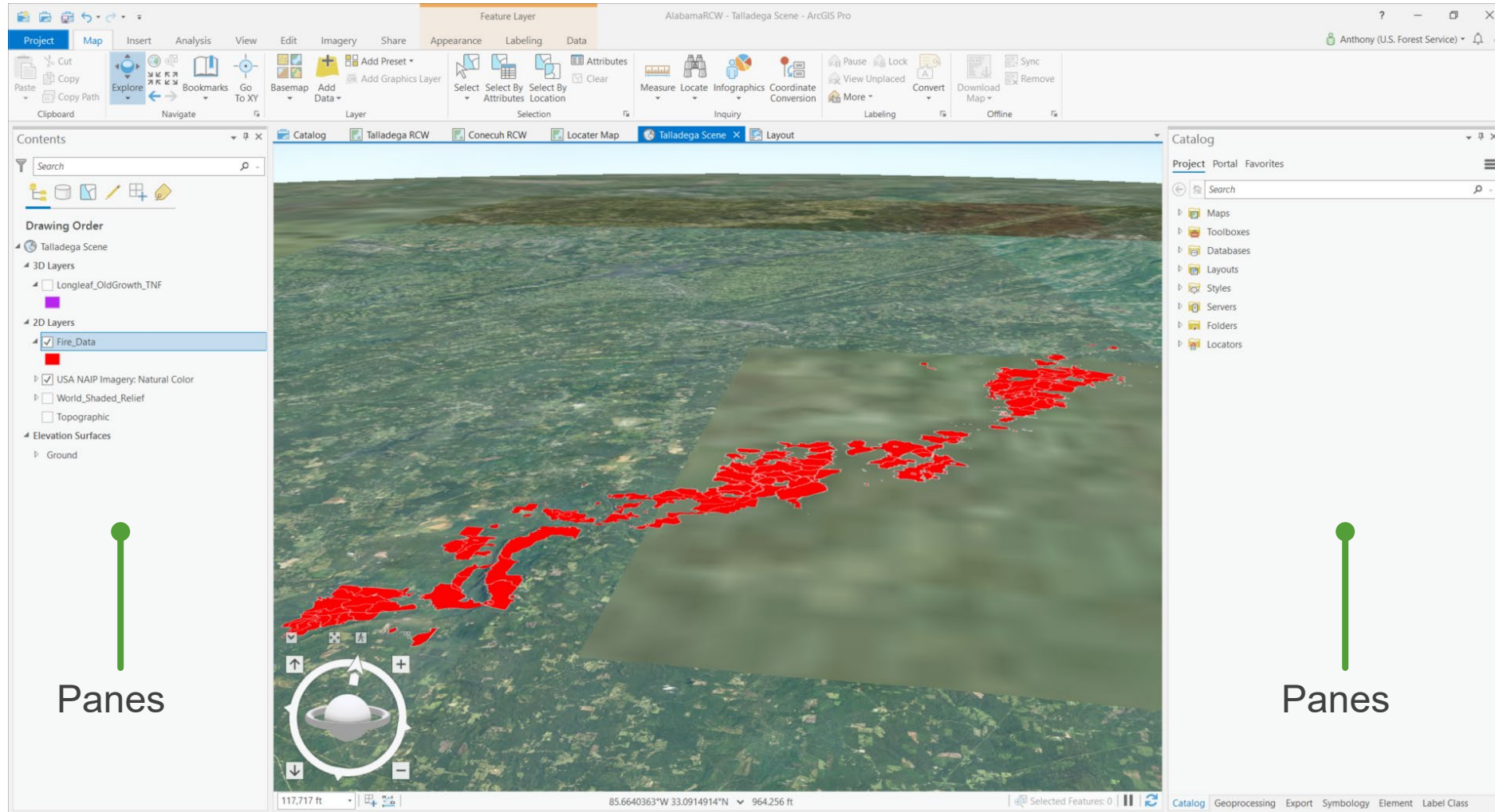


- New user interface layout and details
- Customize the ribbon

# Windows

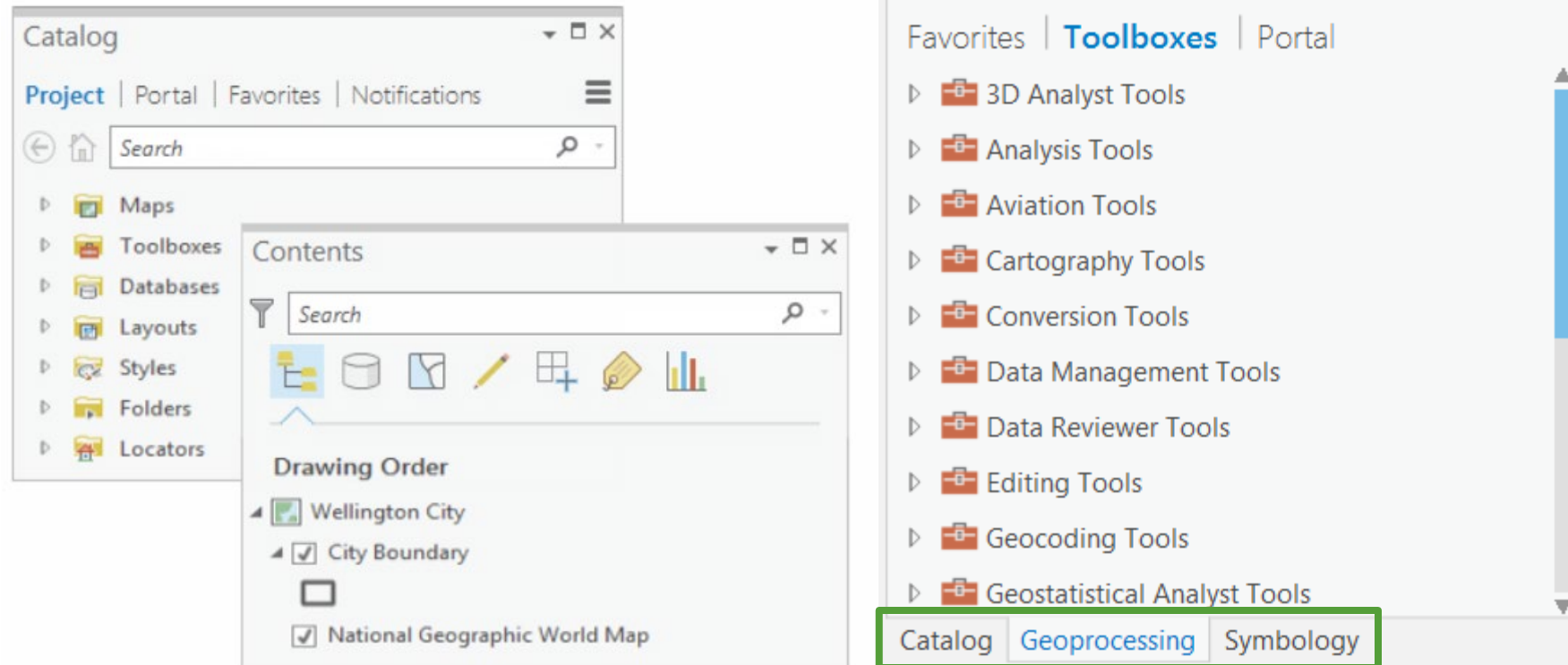


# Panes



# Panes

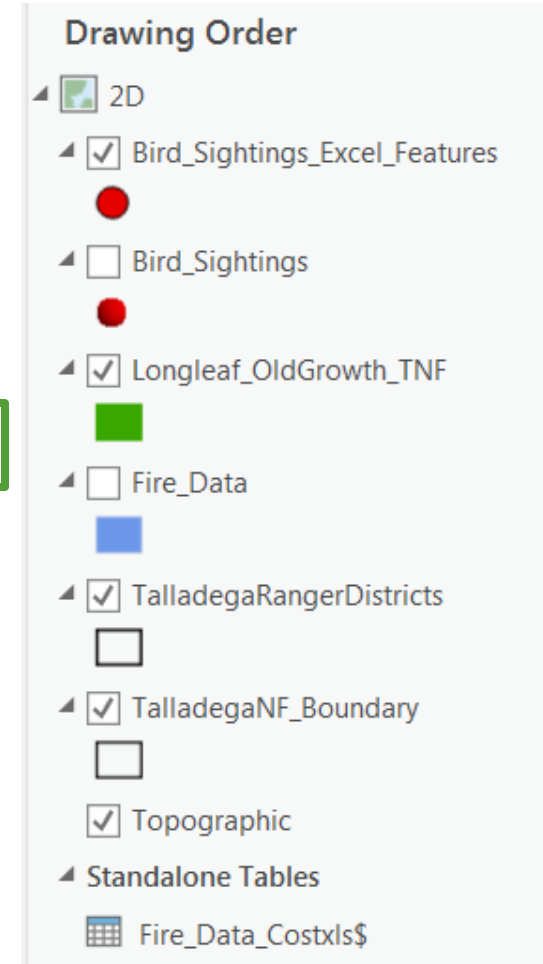
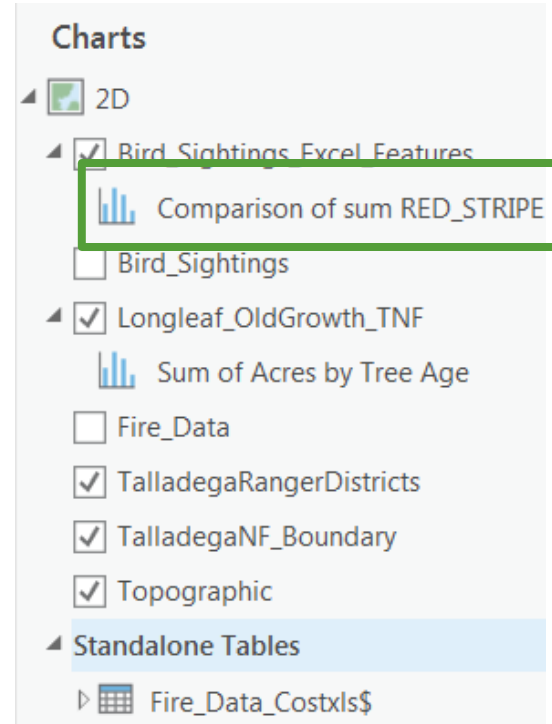
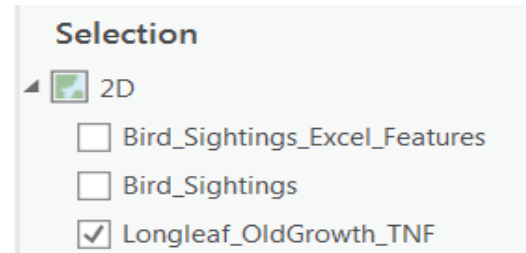
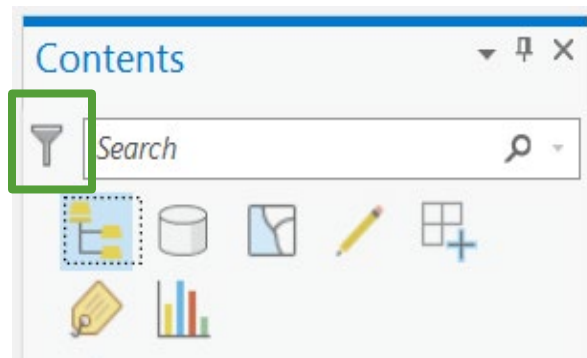
Panes can be docked, floating or stacked.





# Contents Pane

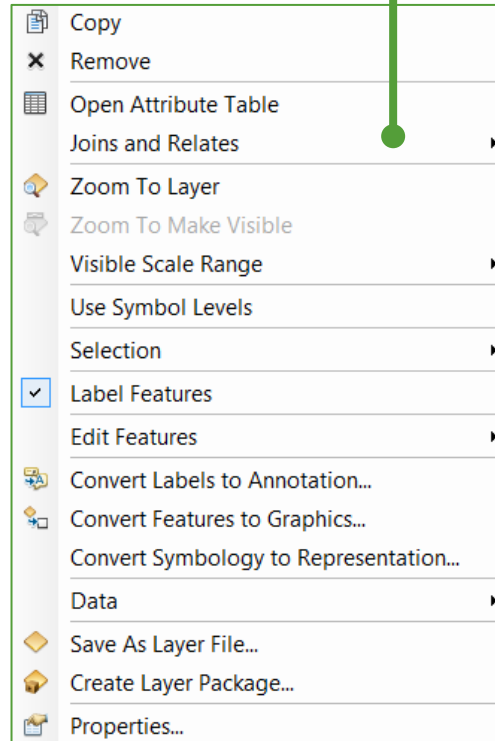
- List by Drawing Order
- List by Data Source
- List by Selection
- List by Editing
- List by Snapping
- List by Labeling
- List by Charts
- [Contents pane info](#)



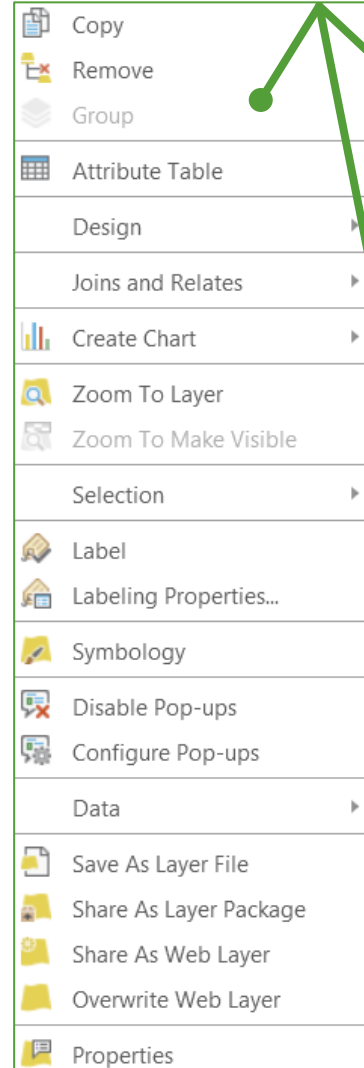


# Contents Pane

ArcMap

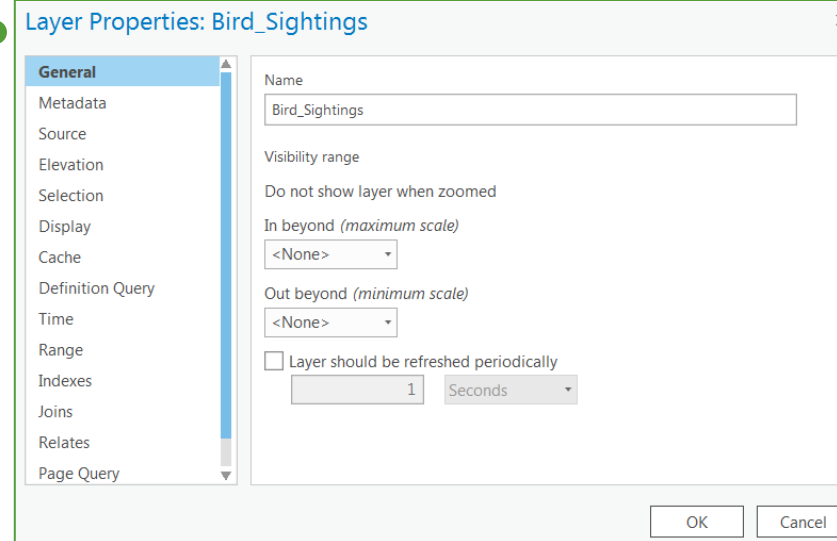
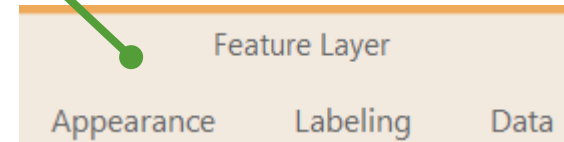


ArcGIS Pro



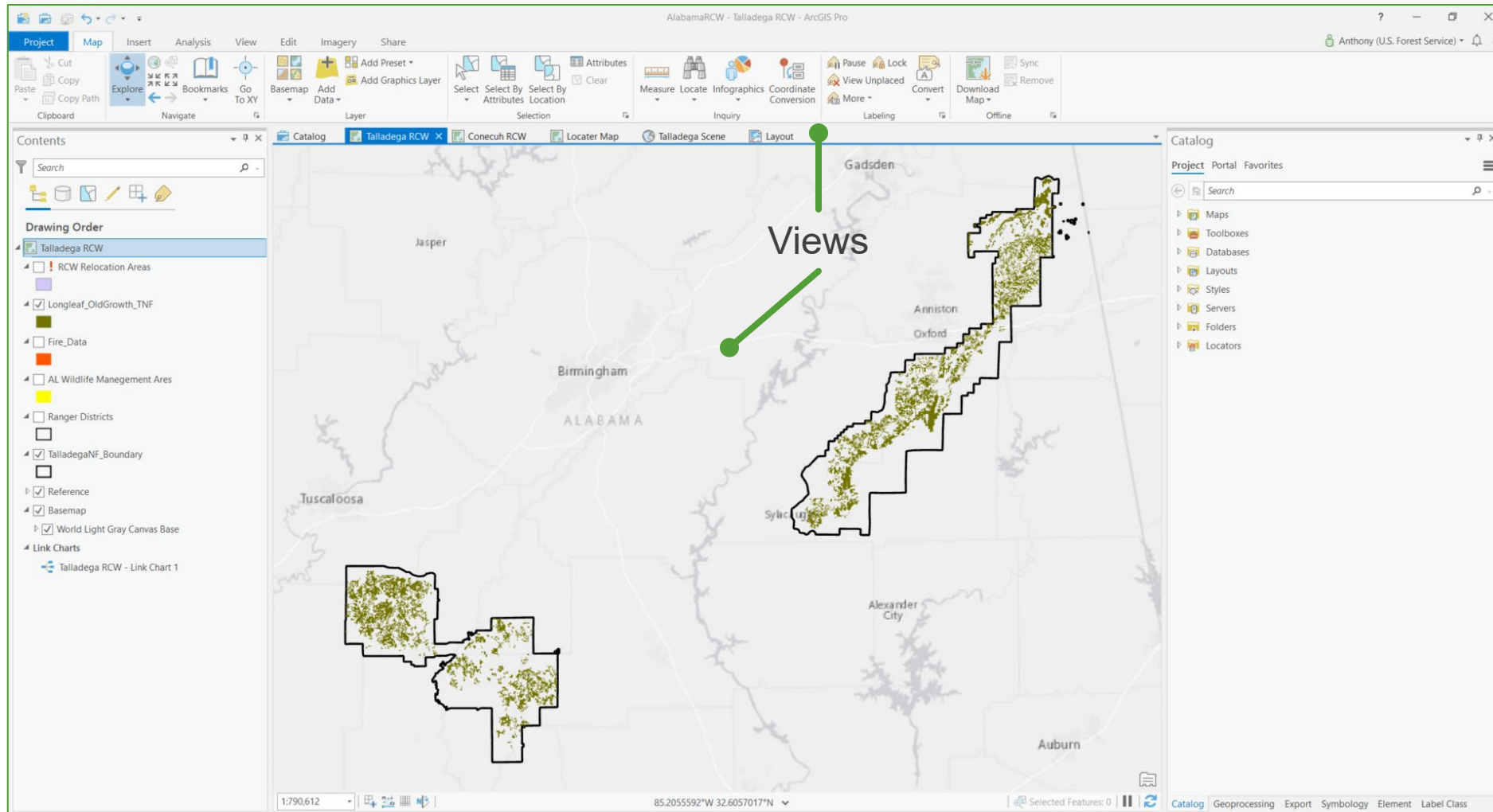
- Layer context menu
- Layer properties dialog box

Contextual Tabs





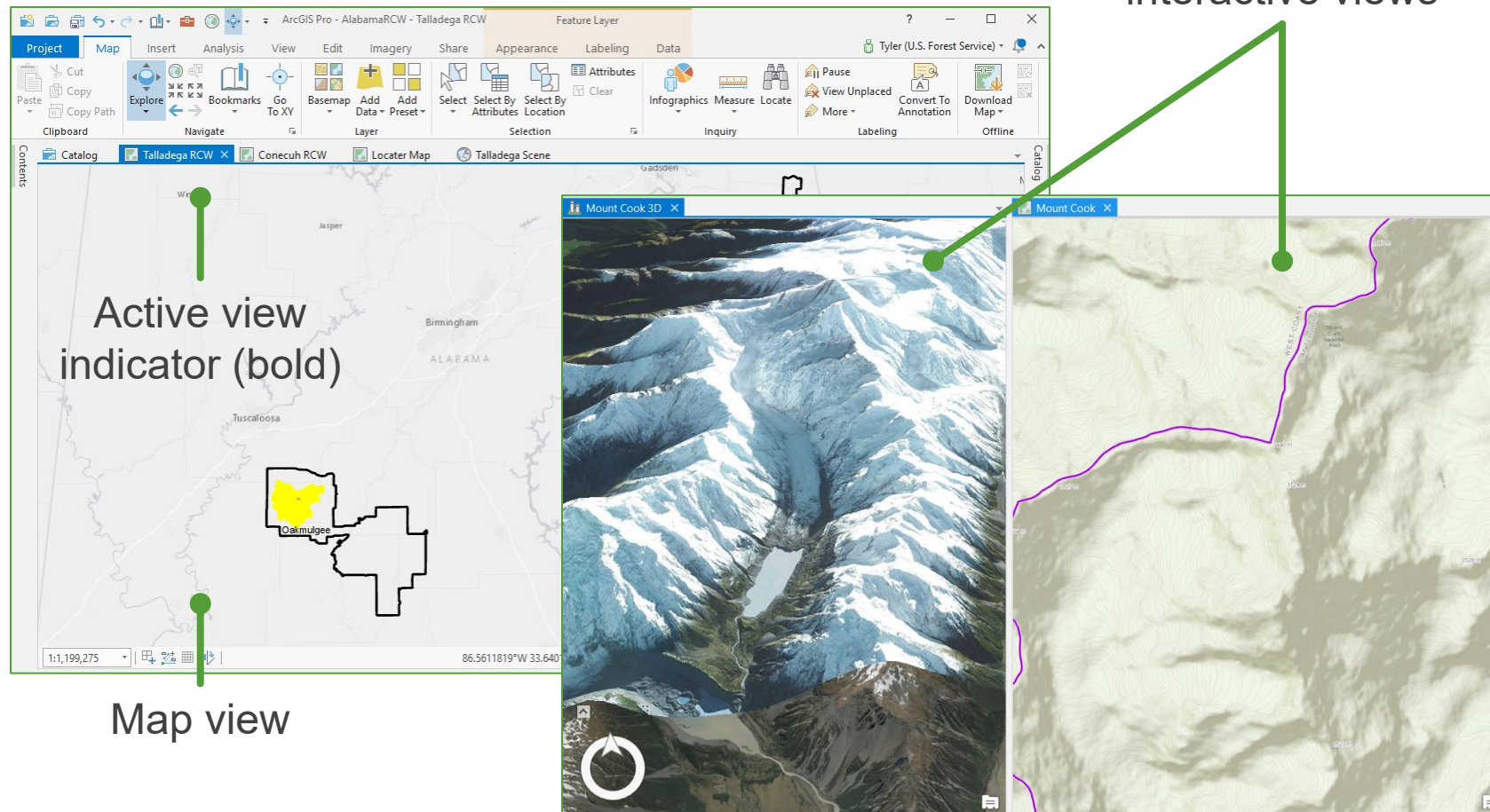
# Views



# Views

- Primary work area
- Maps, scenes, tables charts etc.

Side by side  
interactive views

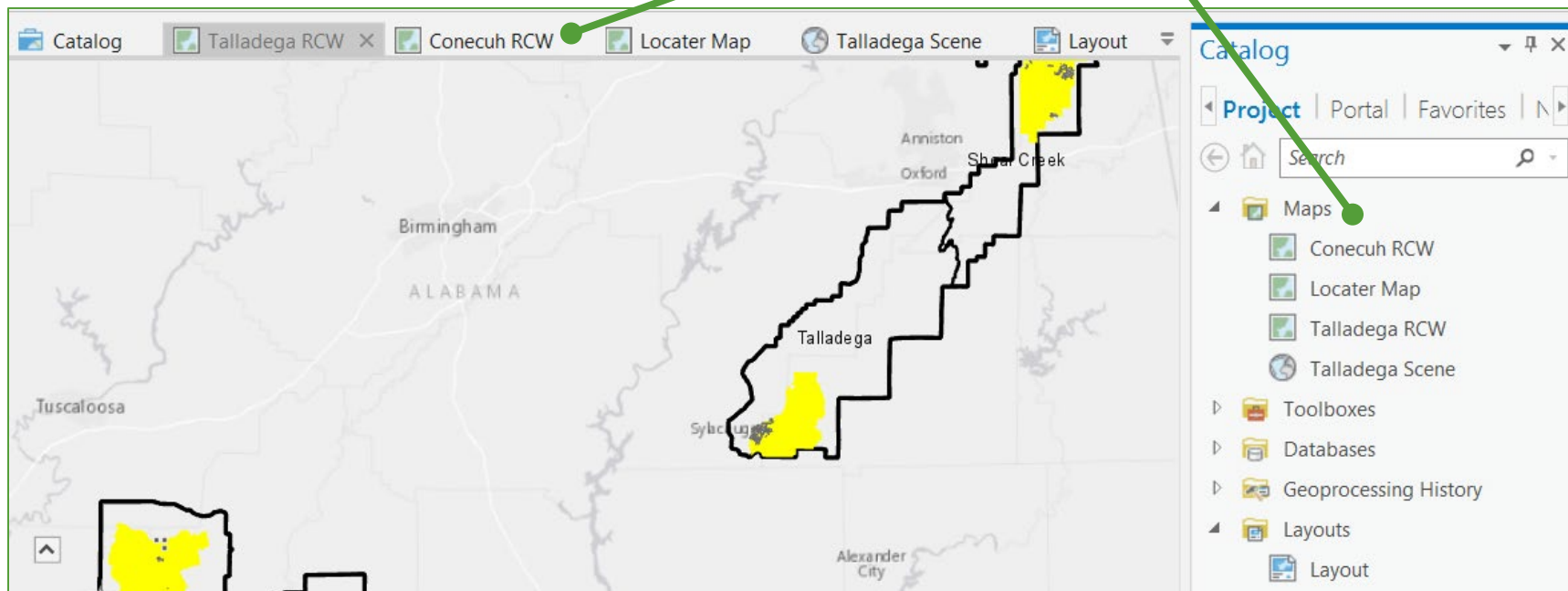
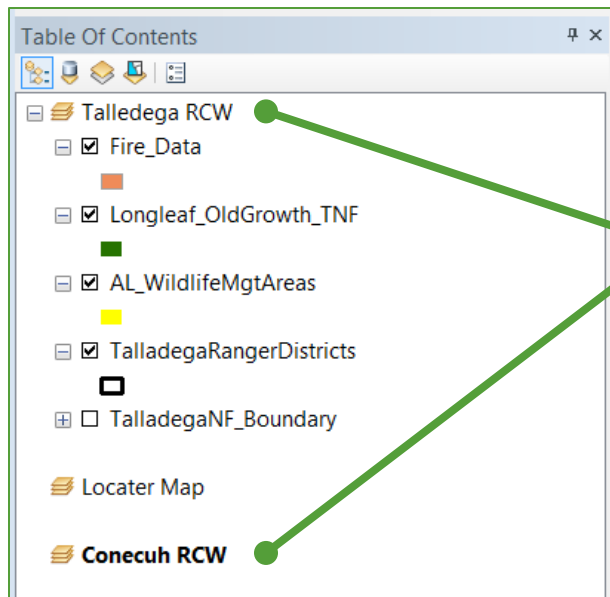




# Views

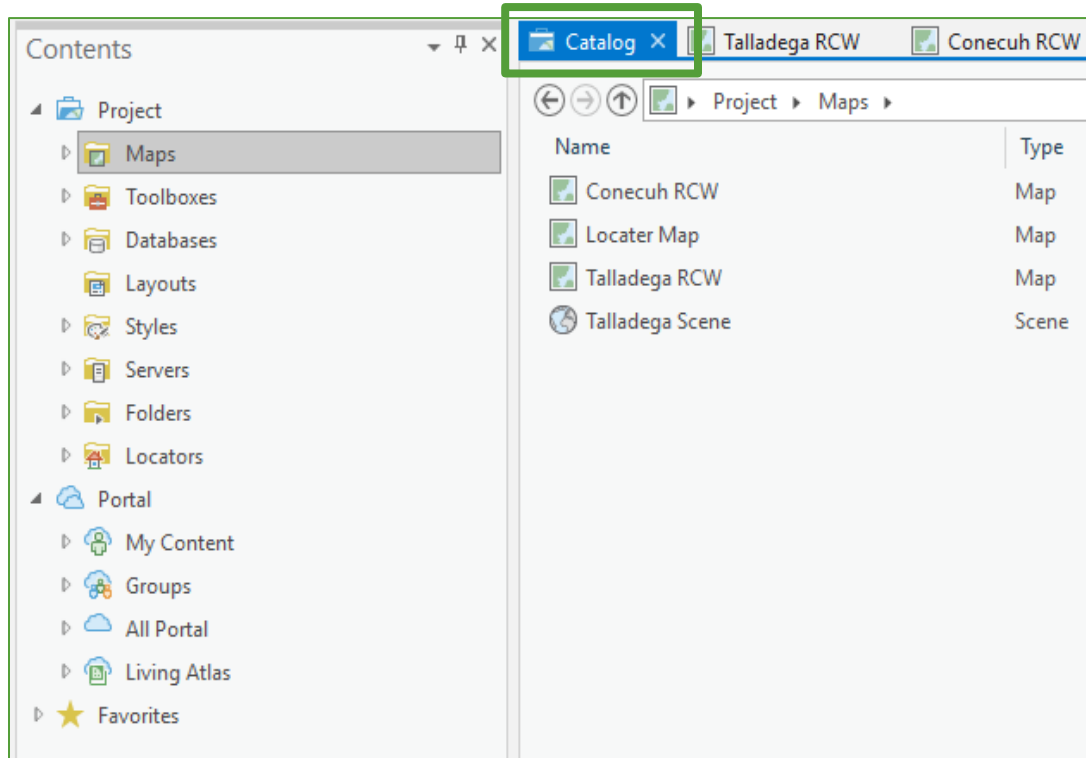
Data Frames in ArcMap

Converted to Maps and Map Views in ArcGIS Pro

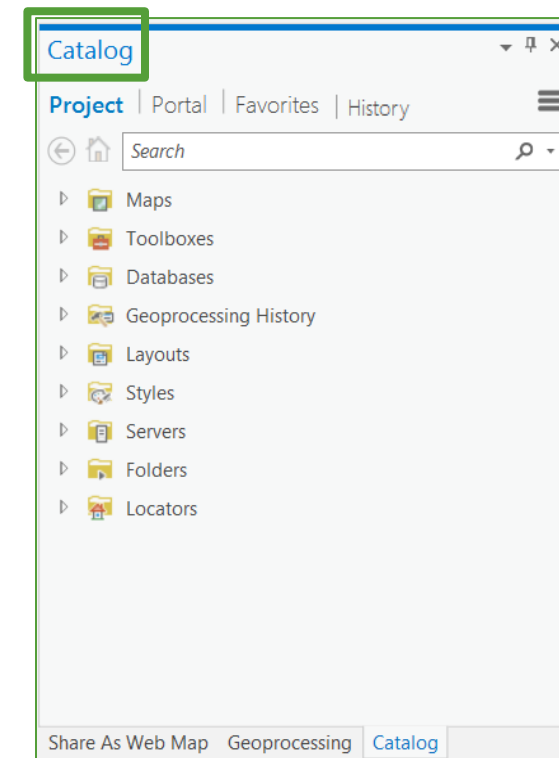


# Catalog View and Catalog Pane

## Catalog *View*



## Catalog *Pane*



# Catalog View

The screenshot displays the ArcGIS Catalog View interface. The top ribbon includes tabs for Project, Catalog, Insert, Analysis, View, Imagery, Share, and Databases. The Catalog tab is active, showing a tree view of the project contents. The 'AlabamaRCW.gdb' database is selected, and its contents are listed in the center pane. The 'AL\_WildlifeMgtAreas' layer is highlighted. The right pane shows the metadata for this layer, with the 'Metadata' tab selected. The metadata includes fields for Name, Type, and Tags. The 'Layer Properties: Wildlife Management Areas' dialog box is open, showing the 'Metadata' tab with fields for Title and Tags.

**Contents**

- Project
  - Maps
  - Toolboxes
  - Databases
    - AlabamaRCW.gdb
      - Conecuh
      - Talladega
      - Results.gdb
    - Layouts
    - Styles
    - Servers
    - Folders
    - Locators
  - Portal
    - My Content
    - Groups
    - All Portal
    - Living Atlas
    - Favorites

**Project > Databases > AlabamaRCW.gdb**

Name	Type
Conecuh	File Geodatabase F
Talladega	File Geodatabase F
AL_WildlifeMgtAreas	File Geodatabase F
State_Ref	File Geodatabase F

**Metadata** Geography Table

**AL\_WildlifeMgtAreas**

Type File Geodatabase Feature Class

Tags There are no tags for this item.

Summary There is no summary for this item.

Description There is no description for this item.

Credits There are no credits for this item.

Use limitations

**Layer Properties: Wildlife Management Areas**

General

**Metadata**

Source

Elevation

Selection

Title

AL\_WildlifeMgtAreas

Tags

style. Change your metadata style content.

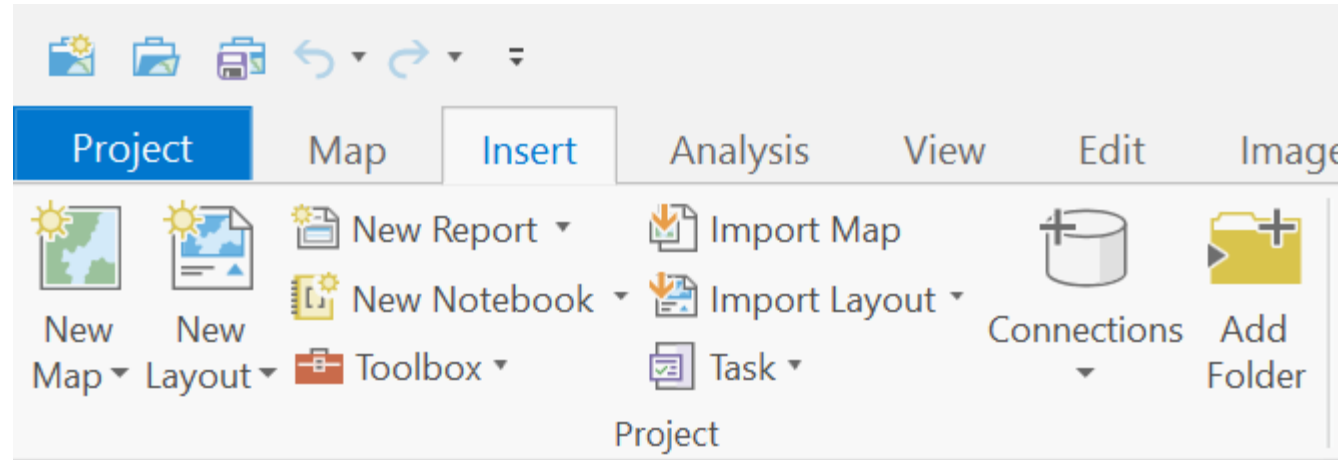
[View and edit metadata](#)



# Catalog View & Pane

- [Catalog Info](#)
- [Blog on creating a Catalog Project for data management](#)
- [Stand alone catalog for Pro](#)
- [Start your work](#)

# Add Data



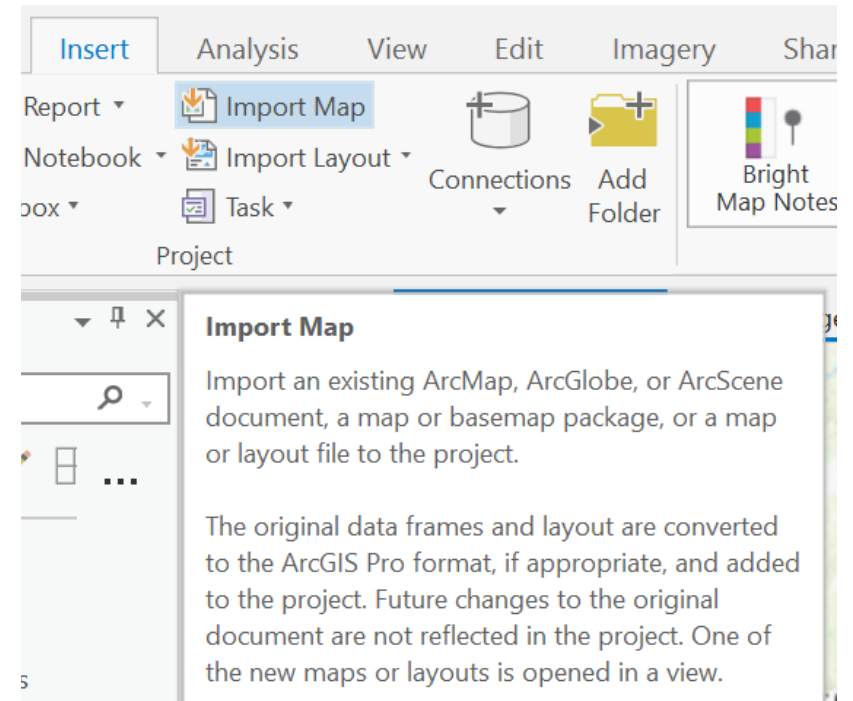
- Add data, toolboxes, models and scripts
- Access other data [create a connection](#)
- [Living Atlas](#)
- [Supported data types in ArcGIS Pro](#)





# Import Map Document

- [Import .mxd](#)
- All items are imported into the project
- No link to original map
- Cannot export Pro maps to ArcMap
- [Tutorial](#)





# Import Existing Work

- Run [Analyze Tools For Pro](#) to determine if modifications need to be made to existing tool
- Pro uses Python 3.5, new syntax in ArcPy
  - [Python migration from ArcMap to Pro](#)
  - [Python in ArcGIS Pro](#)



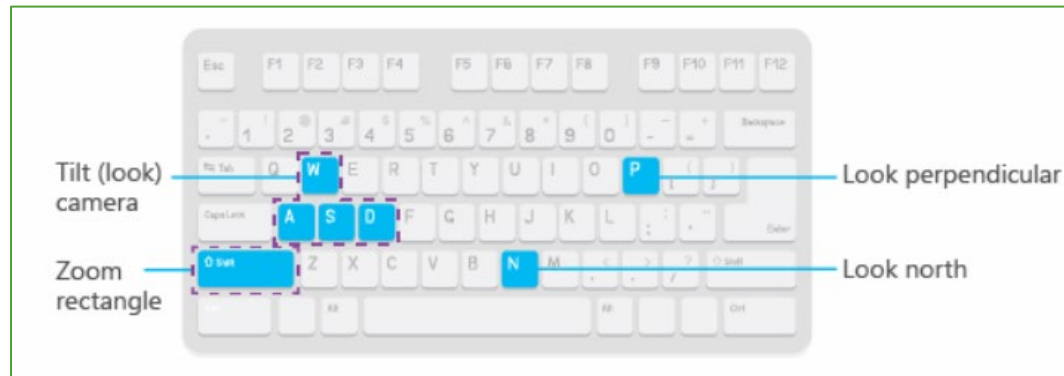
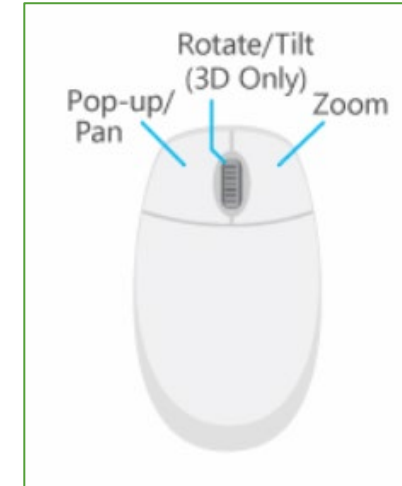
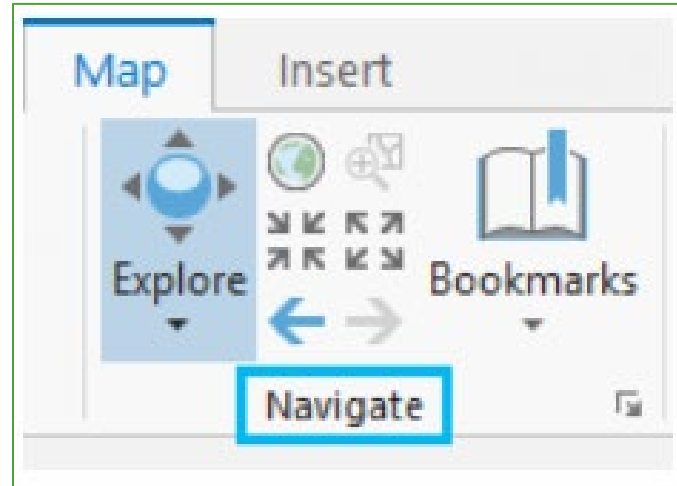


# Navigation

3D Navigation

Keyboard Shortcuts

Tips and Shortcuts



# Demo





Forest Service  
U.S. DEPARTMENT OF AGRICULTURE



# ArcGIS Pro for ArcMap Users



Geospatial Technology  
and Applications Center  
Mapping Our Future Together

# Lecture 2

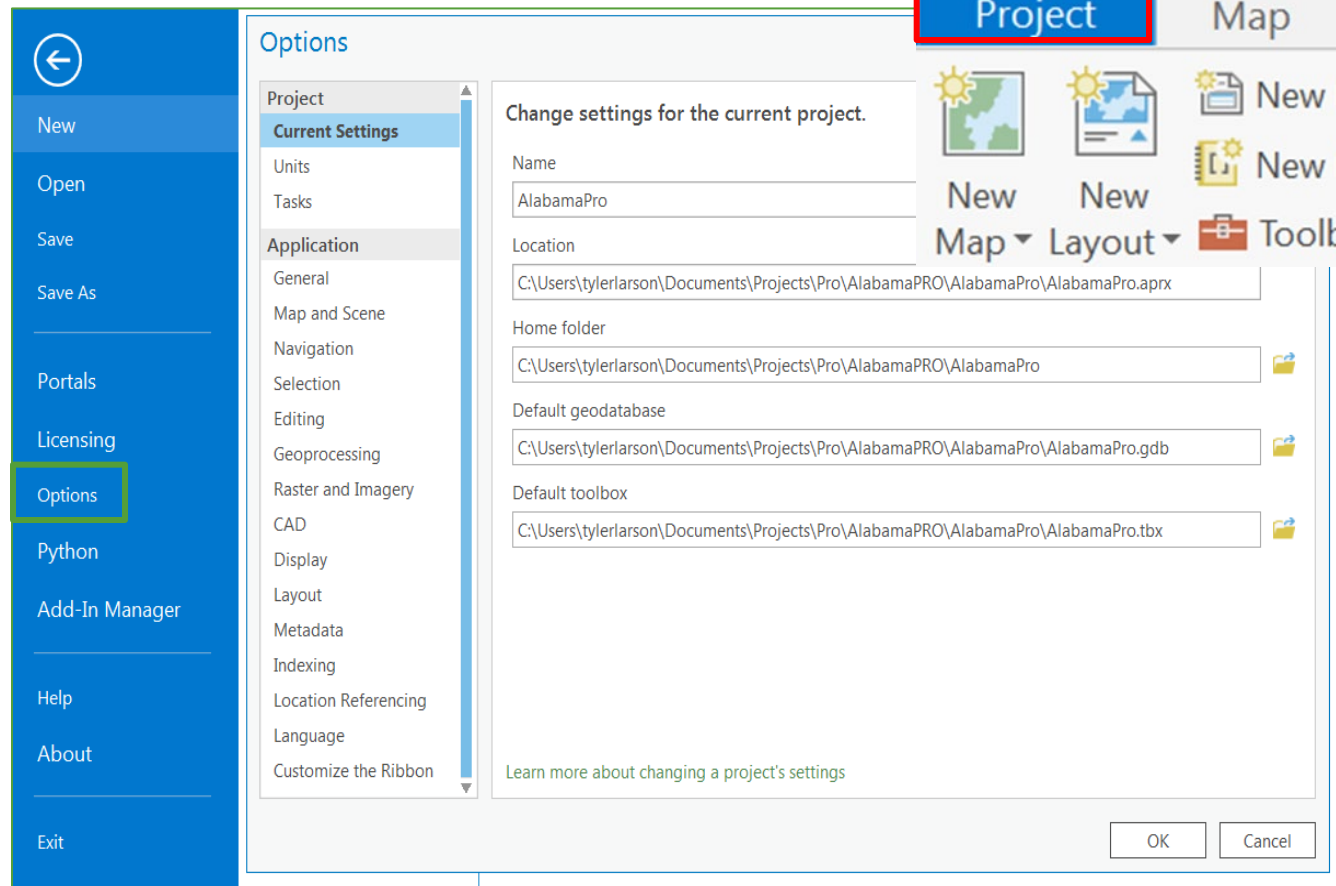
- Tables and Fields
- SQL Query
- Common tools and functions
  - Editing
  - Symbolize & Label Features
  - Layout Design
  - Share
  - Pop-ups (new)
- Resources





# Project Tab

- Similar to the File Menu

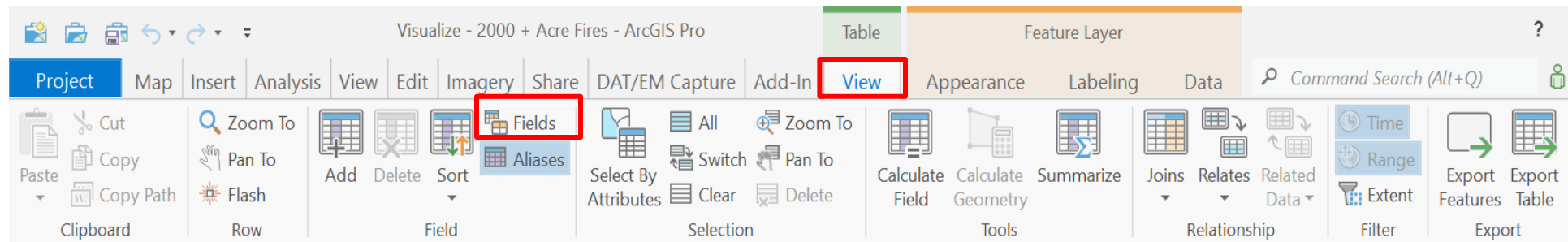
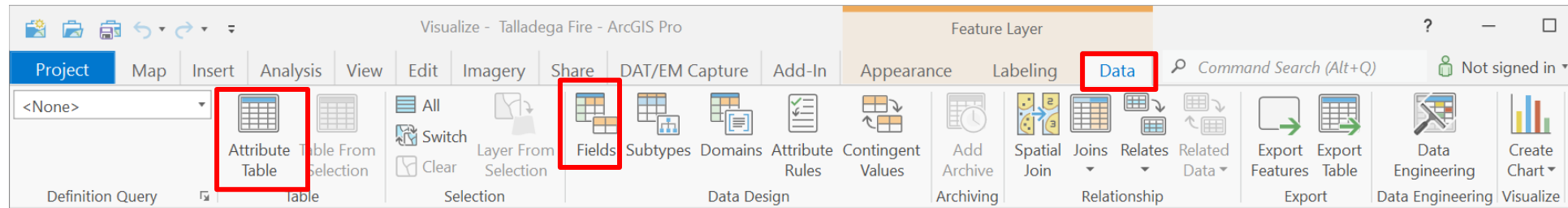


## ArcMap

File	Edit	View	Bookmarks	Insert
New...				Ctrl+N
Open...				Ctrl+O
Save				Ctrl+S
Save As...				
Save A Copy...				
Share As				
Add Data				
Sign In...				
ArcGIS Online...				
Page and Print Setup...				
Print Preview...				
Print...				
Export Map...				
Analyze Map...				
Map Document Properties...				
1 \\...\Sandy_River_Map.mxd				
2 C:\Users\...\K_Line_EA.mxd				
3 C:\Us...\Ashland_SMA.mxd				
4 ...\AlabamaRCWFinal10.5...				
5 ...\AlabamaRCWFinal.mxd				
6 C:\U...\TalladegaRCW.mxd				
7 C...\AlabamaRCW10.3.mxd				
8 ...\TalladegaRCW10.3.mxd				
9 ...\TalladegaRCW10.5.mxd				
Exit				Alt+F4

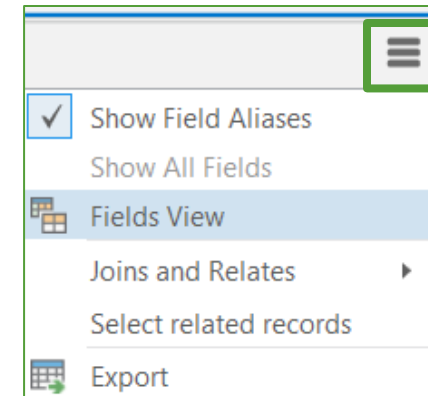
[Change Project Settings](#)

# Tables & Fields



Working with fields, domains and subtypes

The Fields view



# Tables & Fields

Longleaf_OldGrowth_TNF					
Fields: Longleaf_OldGrowth_TNF					
Field:	Add	Delete	Calculate	Selection: Zoom To	
OBJECTID	Shape	GIS_ACRES	USTAND	COMPARTMEN	
1	Polygon	39.956108	801050032014	32	
2	Polygon	16.476042	801050085029	85	
3	Polygon	358.176466	801050101007	101	

Longleaf_OldGrowth_TNF					
Fields: Longleaf_OldGrowth_TNF					
Current Layer		Longleaf_OldGrowth_TNF			
Visible	Read Only	Field Name	Alias	Data Type	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	OBJECTID	OBJECTID	Object ID	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shape	Shape	Geometry	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	GIS_ACRES	GIS_ACRES	Double	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	USTAND	USTAND	Text	



# Tables & Fields

The screenshot shows a GIS application window titled "Fire\_Data\_Large". The interface includes a toolbar with options like "Field", "Add", "Calculate", "Selection", "Select By Attributes", "Zoom To", "Switch", "Clear", "Delete", and "Copy". A search bar at the top left contains "Westend" and "West End". A table of fire data is displayed with columns: OBJECTID, Shape, NIFMID\_CN, NIFMID\_LNK, FIRE\_NAME, FIRE\_DAY, FIRE\_MONTH, FIRE\_YEAR, DATA\_SOURC, COST, and L. The "FIRE\_NAME" column is highlighted. A context menu is open on the right, showing options like "Show Field Aliases", "Show domain and subtype descriptions", "Find and Replace", "Go to row number", "Open Data Engineering", and "Export". The "Find and Replace" option is highlighted. The status bar at the bottom indicates "0 of 57 selected" and "Filters: 100%".

OBJECTID *	Shape *	NIFMID_CN	NIFMID_LNK	FIRE_NAME	FIRE_DAY	FIRE_MONTH	FIRE_YEAR	DATA_SOURC	COST	L
37	Polygon			Lower Shoal Sale	23	02	2004	HD	0	
38	Polygon			540	13	02	2004	HD	0	
39	Polygon			Houck Creek	14	02	2004	HD	0	
40	Polygon			Rattlesnake Mountain	14	03	2004	HD	0	
41	Polygon			Raven Rock	19	02	2001	HD	0	
42	Polygon			Trammel/Big John/Littl...	08	03	2009	HD	0	
43	Polygon			Bulls Gap	06	02	2009	HD	0	
44	Polygon			Pine Glen - Unit 3	23	01	2002	HD	0	
45	Polygon			Flag Mountain	04	02	2002	HD	0	
46	Polygon			Rattlesnake Mountain	30	06	2003	HD	0	
47	Polygon			Tip Top	20	02	2005	HD	0	0 2060
48	Polygon			Oxford Cheaha	11	03	2005	HD	0	0 4000
49	Polygon			Pine Glen	22	01	2005	HD	0	0 1710
50	Polygon			Ridge Road	25	01	2009	HD	0	0 2410
51	Polygon			Chinnabee	25	01	2009	HD	0	0 1900
52	Polygon			Westend	10	03	2005	HD	0	0 5392
53	Polygon			Lower Shoal	20	01	2005	HD	0	0 5690
54	Polygon			Coleman Lake East	28	01	2011	HD	0	0 1620

[Find and Replace](#)



# SQL Query

## Edit SQL Mode

Select By Attributes?×

Input Rows

Fire\_Data\_Large

Selection type

New selection

Expression

Load Save Remove

✓

SQL ☒

POLY\_AREA >= 2000

☐ Invert Where Clause

Apply

OK

## Edit Clause Mode

Select By Attributes?×

Input Rows

Fire\_Data\_Large

Selection type

New selection

Expression

Load Save Remove

+

+

✓

SQL ☐

Where

POLY\_AREA

is greater than

2000

×

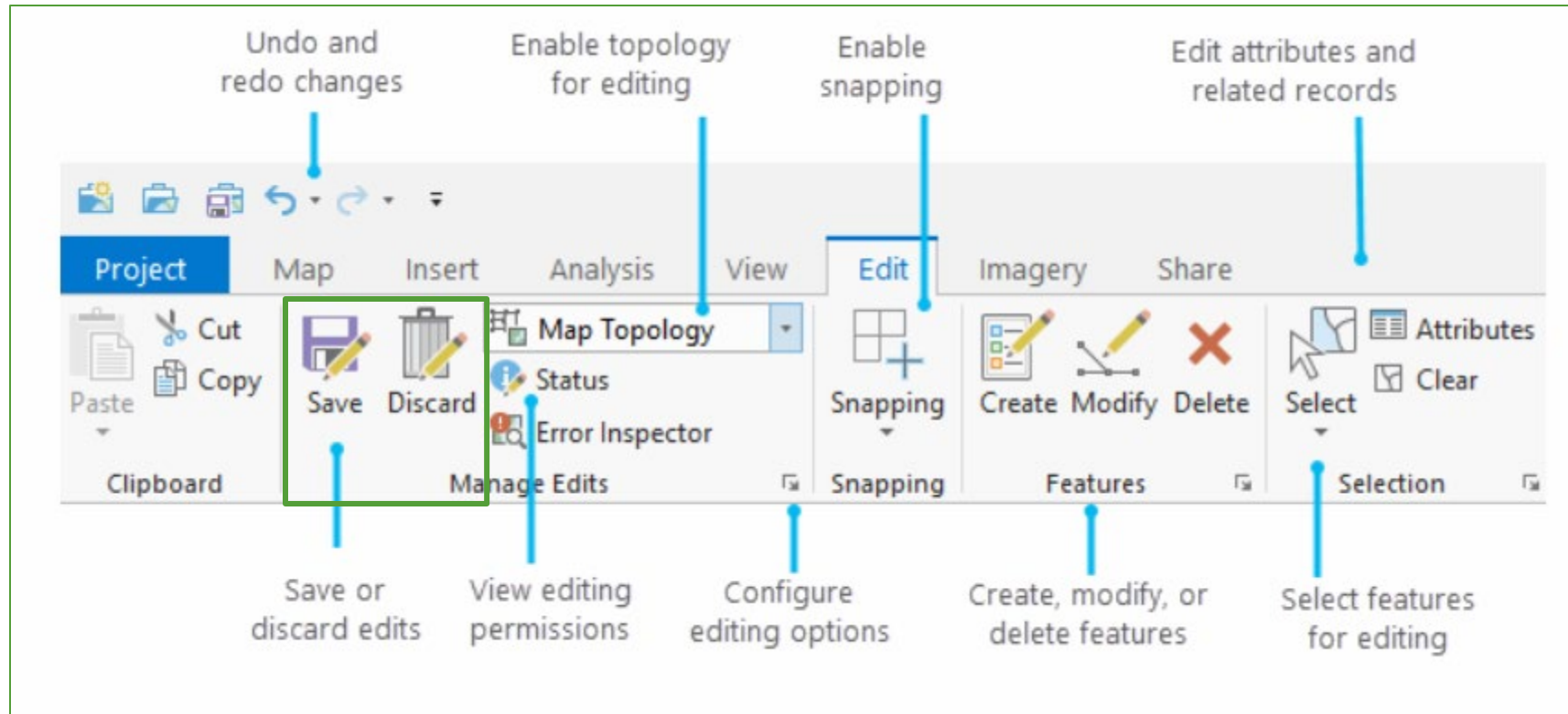
+ Add Clause

☐ Invert Where Clause

Apply

OK

# Editing

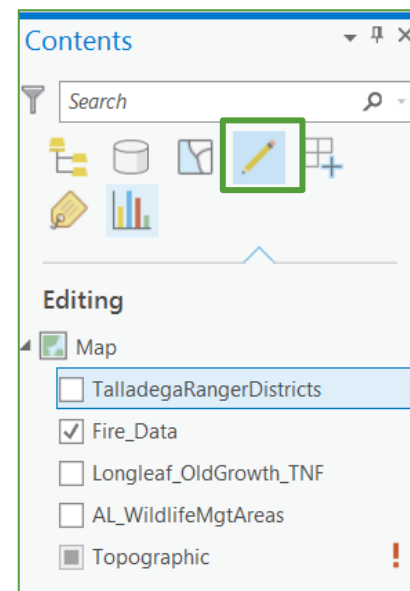
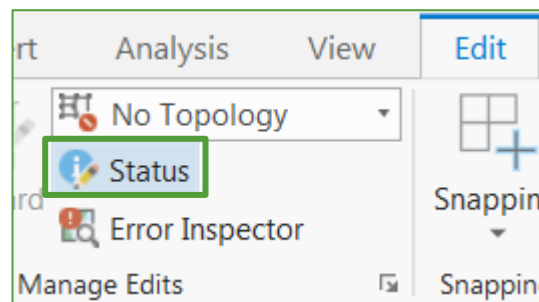


## Editing tools to create & update features

Note: Editing is always enabled in Pro. You will get the choice of to **Save** or **Discard** your edits.

# Creating Features

- Editing status
- List by editing tab
- Feature template
- Create features



Template Properties: Fire\_Data

General

Tools

Attributes

☒ Show Non-Visible Fields

NIFMID_CN	<Null>	<input type="checkbox"/>
NIFMID_LNK	<Null>	<input type="checkbox"/>
FIRE_NAME	<Null>	<input checked="" type="checkbox"/>
FIRE_DAY	<Null>	<input type="checkbox"/>
FIRE_MONTH	<Null>	<input type="checkbox"/>
FIRE_YEAR	2013	<input type="checkbox"/>
DATA_SOURC	<Null>	<input type="checkbox"/>
COST	<Null>	<input type="checkbox"/>
LOCAL_NUMB	<Null>	<input type="checkbox"/>
CAUSE	<Null>	<input type="checkbox"/>
REPORTED_A	<Null>	<input type="checkbox"/>
SIZE_CLASS	<Null>	<input type="checkbox"/>
AGENCY	USF	<input checked="" type="checkbox"/>
COMMENTS	<Null>	<input type="checkbox"/>

Enter attributes for features you are about to create.

Required:

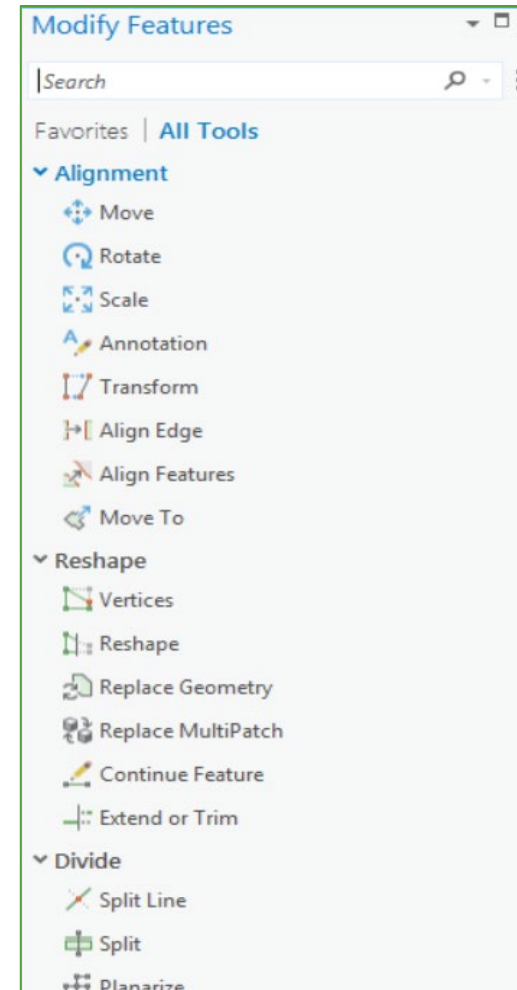
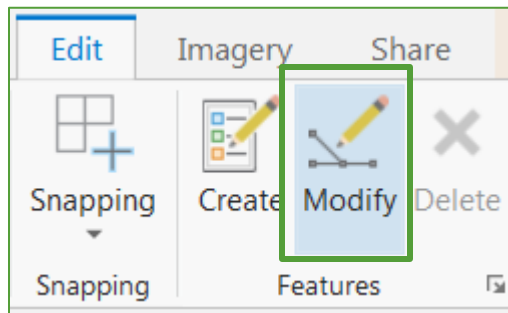
FIRE_NAME	<Null>
AGENCY	USF

Optional:

FIRE_DAY	<Null>
FIRE_MONTH	<Null>
FIRE_YEAR	2013
CAUSE	<Null>
SIZE_CLASS	<Null>
COMMENTS	<Null>

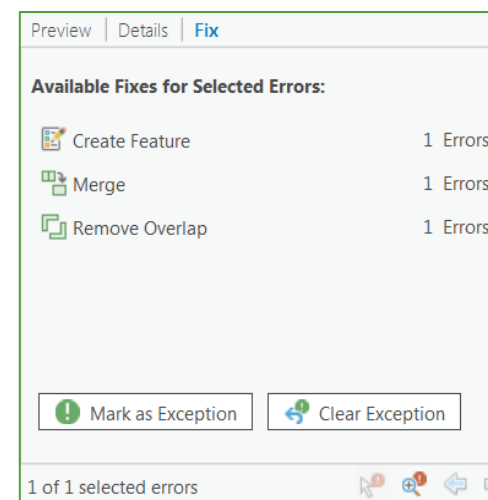
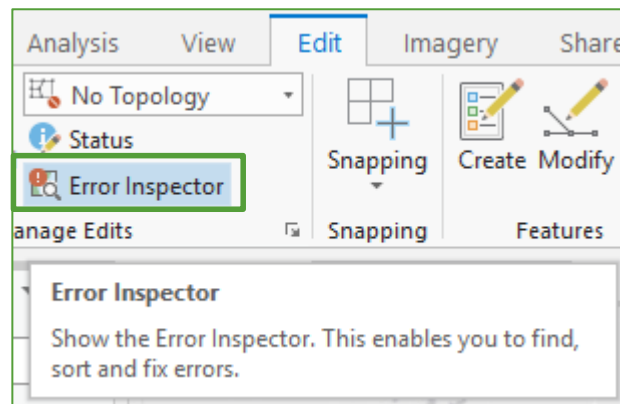
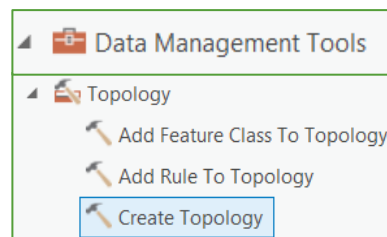
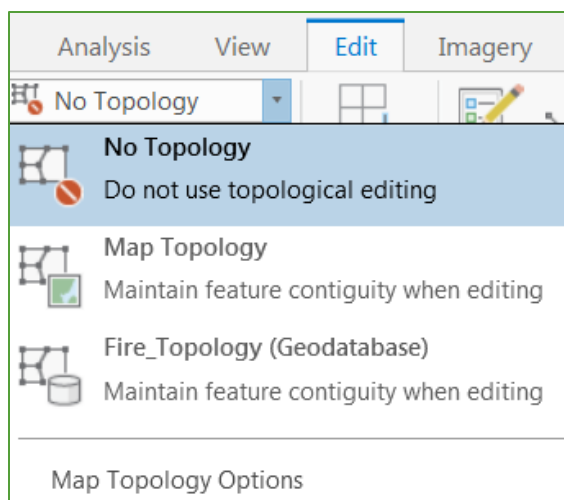
# Modify Features

- Modify pane
- [Modify tool reference](#)
- [Intro to modifying features](#)

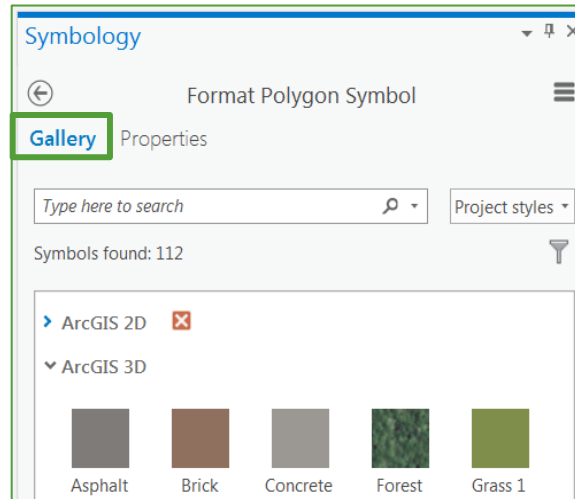
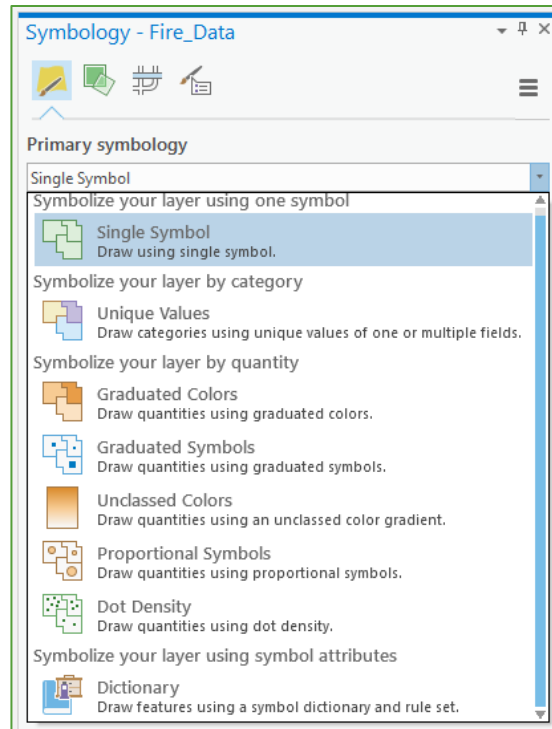


# Topology

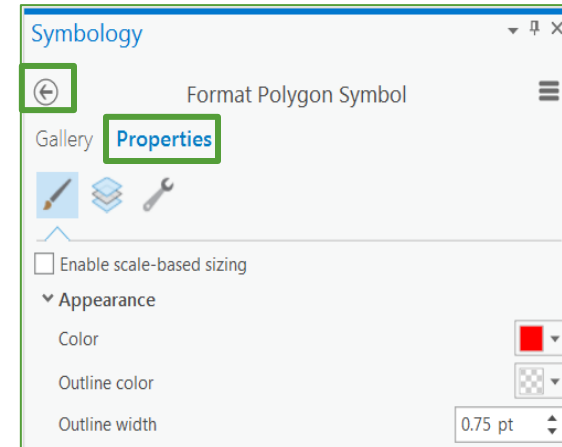
- Map & Geodatabase topology
- [Intro to editing topology](#)
- [Topology toolset](#)
- [Add rule to topology](#)



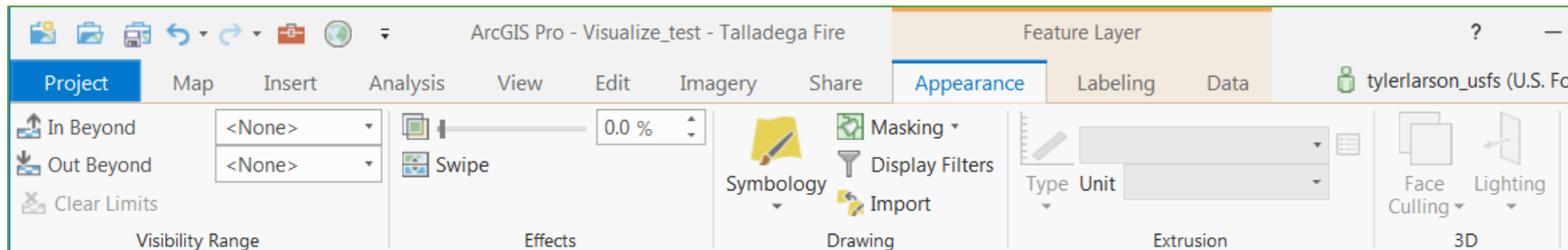
# Symbology



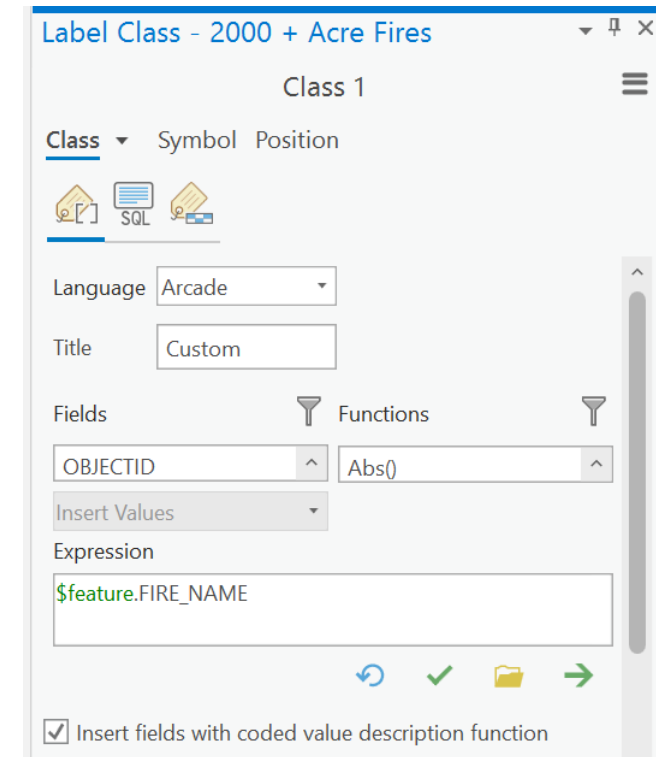
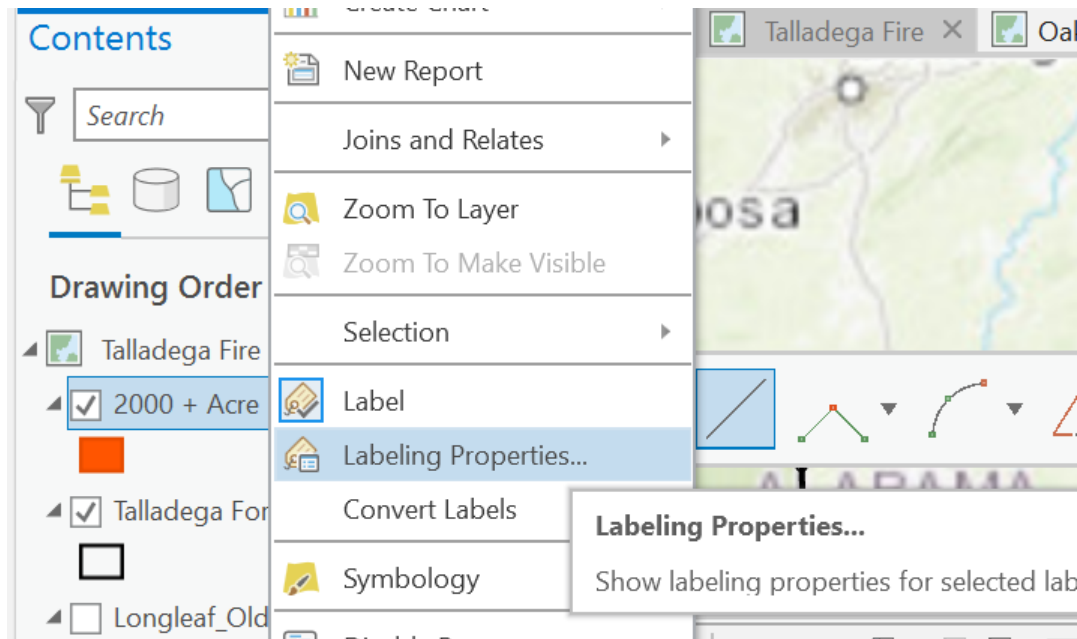
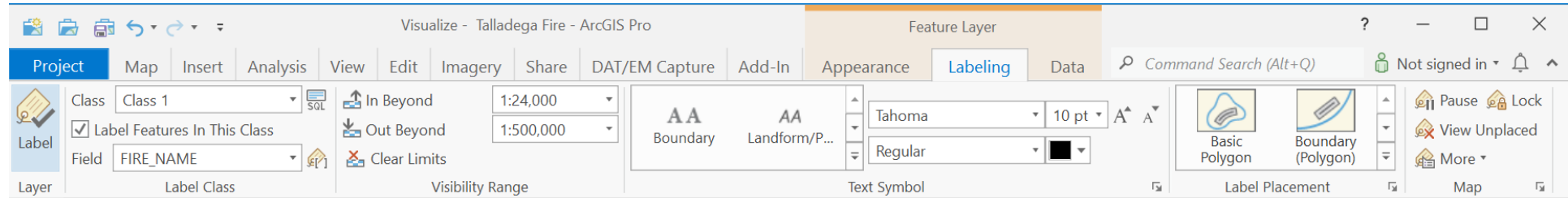
[Symbolize  
feature layers](#)



[Gallery for  
Esri Styles](#)



# Label Features



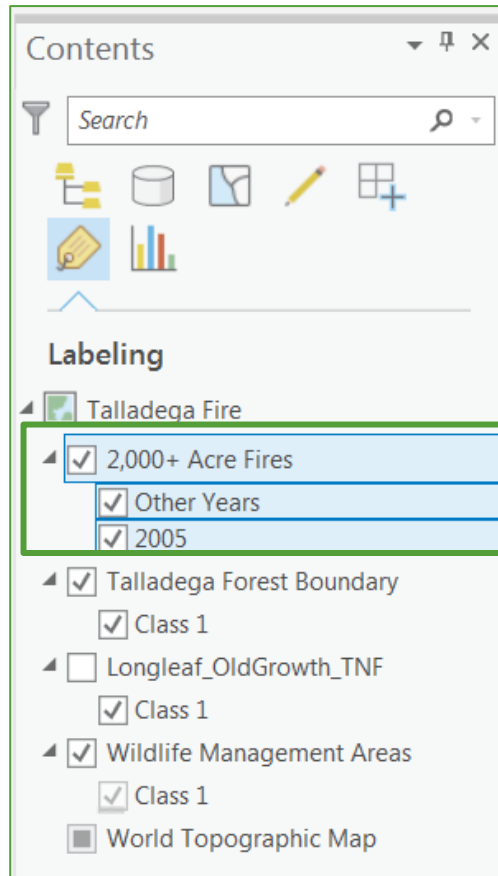
[Labeling Basics](#)



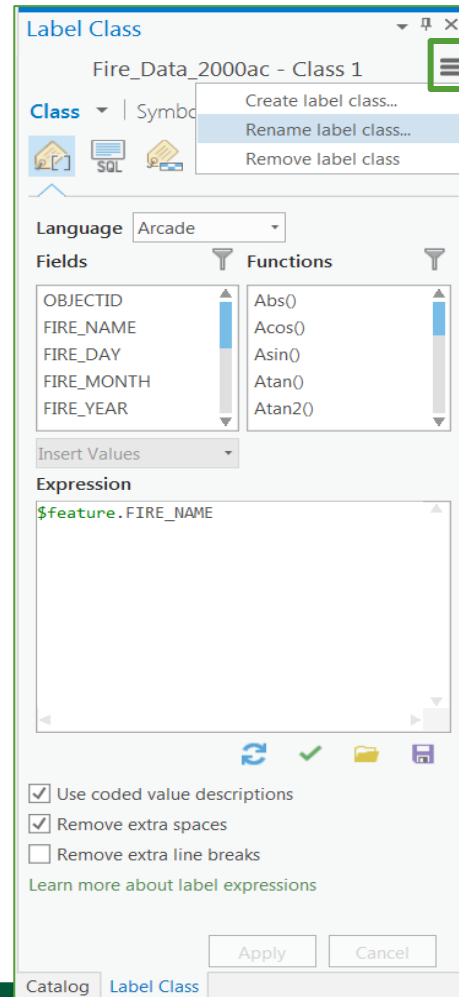


# Label Classes

List by Labeling



Label Classes

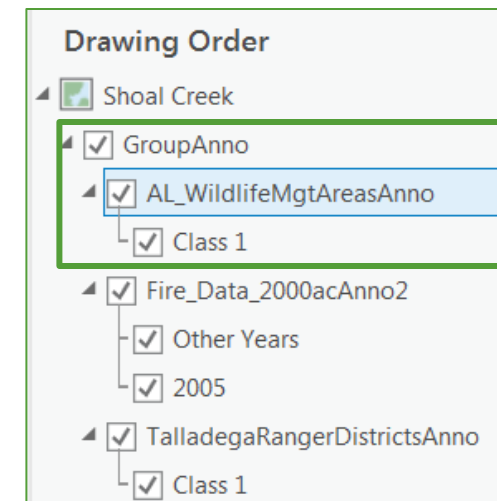
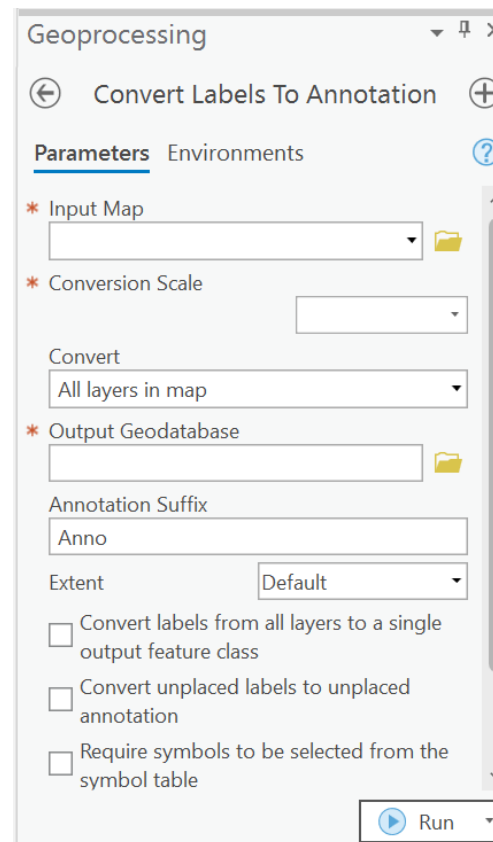
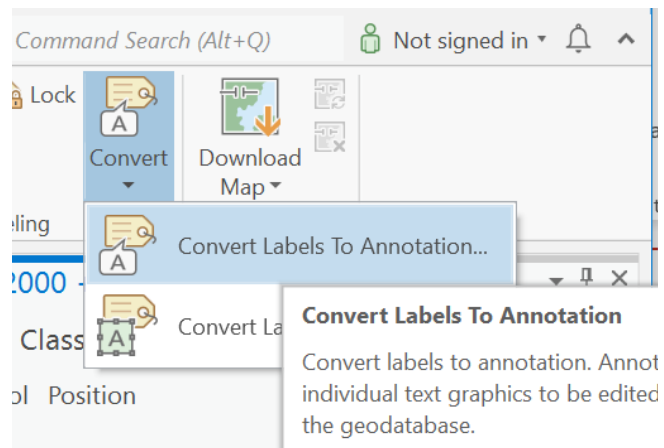
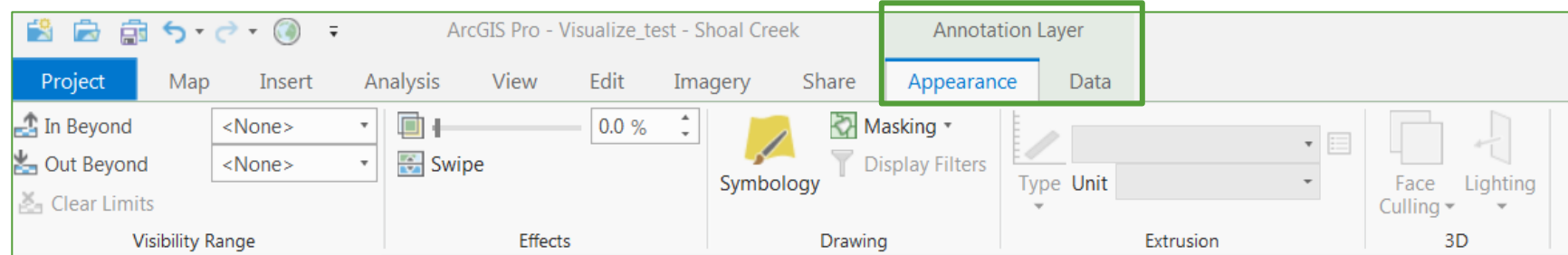


Label Class Tabs



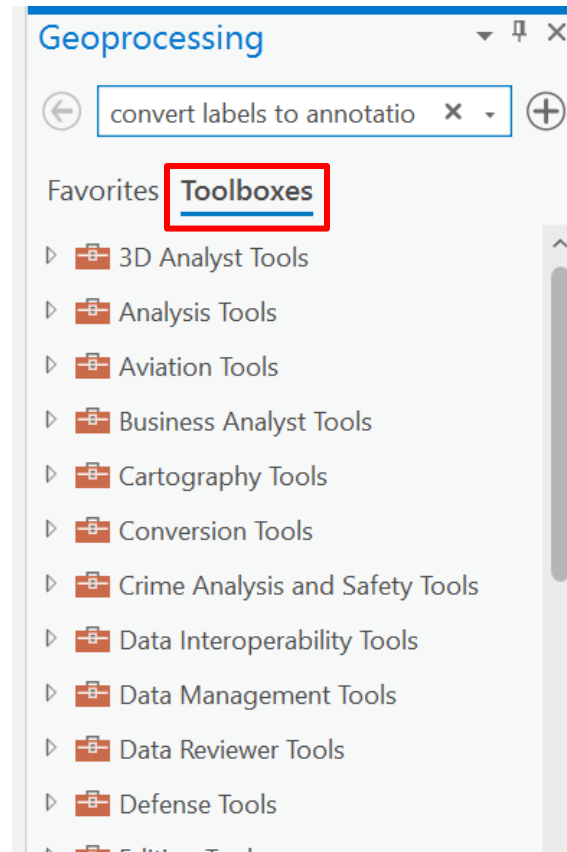
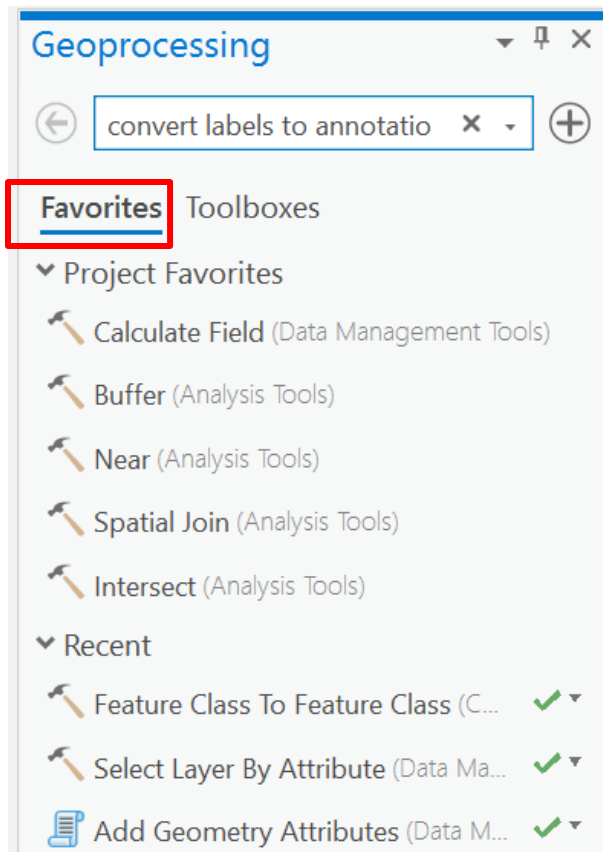
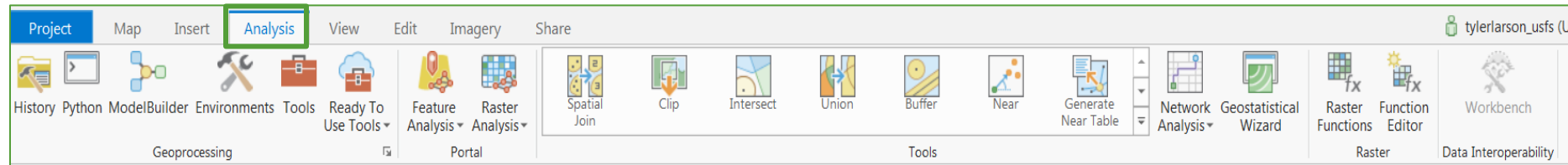
[Label Classes](#)

# Convert Labels to Annotations



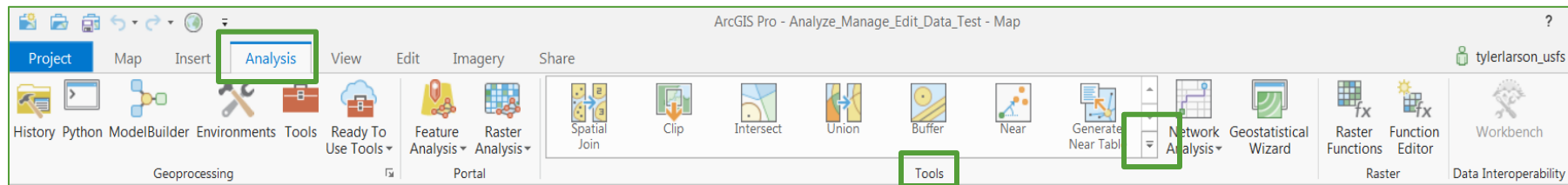
[Annotation Help](#)

# Geoprocessing Pane



[Tool Reference Page](#)  
[Environment Settings](#)

# Geoprocessing



## Results

### Parameters

Input Features	Fire_Data
Output Feature Class	C:\Users\tylerlarsen\Documents\Projects\Pro\Analyze_Manage_Edit_Data_Test\Results.gdb\Fire_Data_Delete
Distance [value or field]	200 Meters
Side Type	FULL
End Type	ROUND
Dissolve Type	ALL
Dissolve Field(s)	
Method	PLANAR

### Messages

Start Time: Thursday, February 01, 2018 2:44:42 PM  
Succeeded at Thursday, February 01, 2018 2:44:46 PM (Elapsed Time: 4.38 seconds)

## Geoprocessing

### Buffer

**Parameters** | Environments

Input Features: Fire\_Data

Output Feature Class: Fire\_Data\_Delete

Distance [value or field]: 200 Linear Unit: Meters

Side Type: Full

Method: Planar

Dissolve Type: Dissolve all output features into a single feature

**Run**

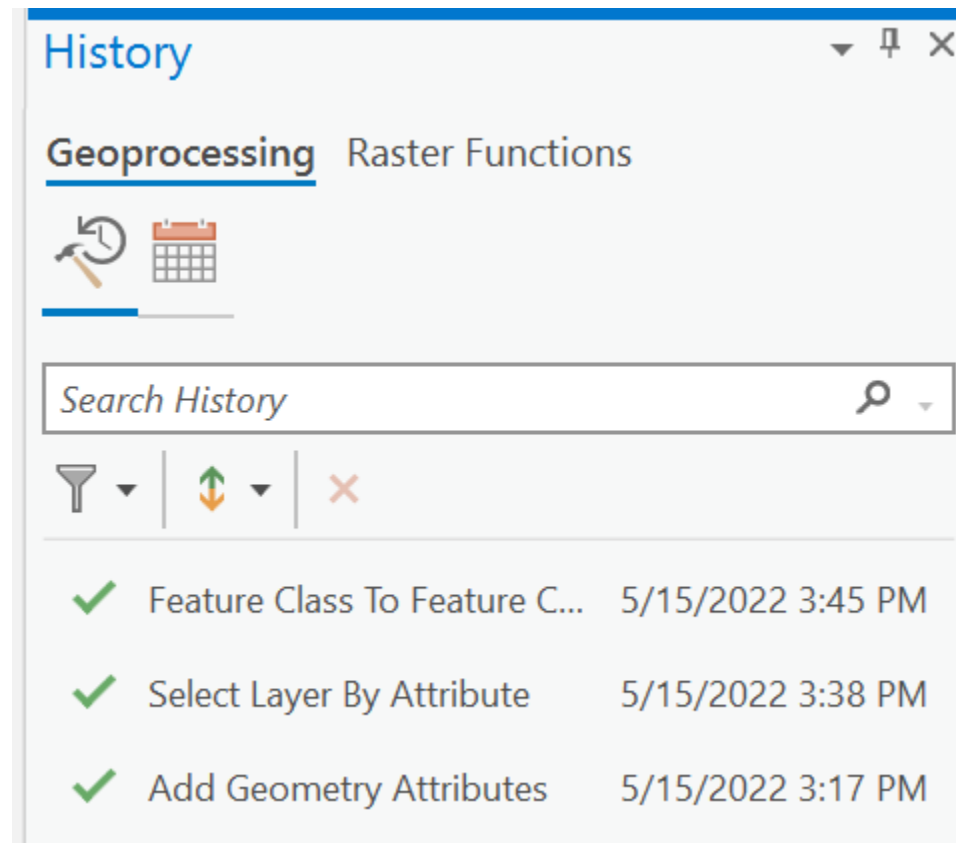
✓ **Buffer**  
Completed successfully

Hover

Geoprocessing

# Geoprocessing History

**Results** from ArcMap is now **History** in ArcGIS Pro

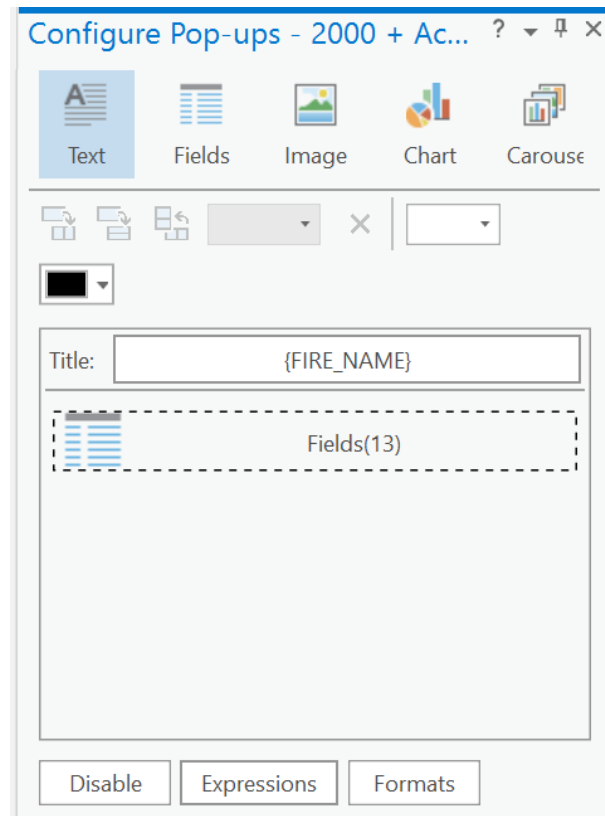


[Geoprocessing History](#)

[Unavailable Tools](#)

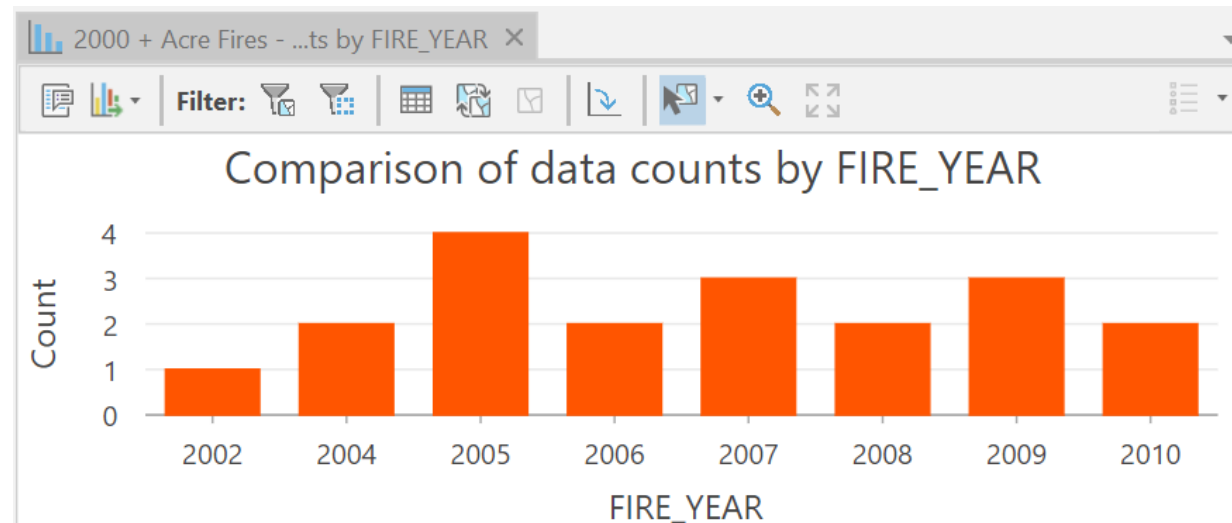
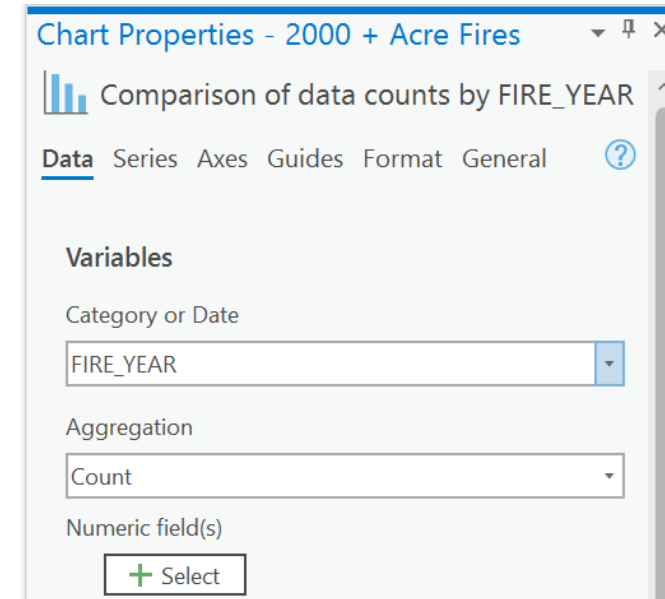
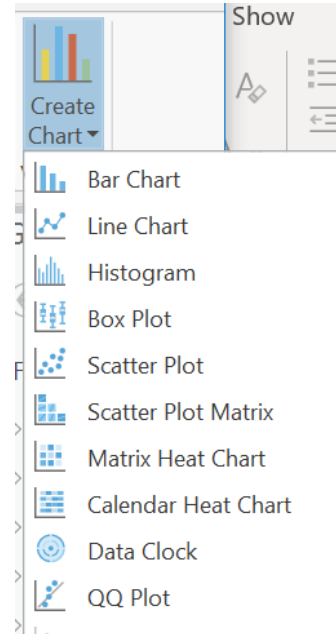
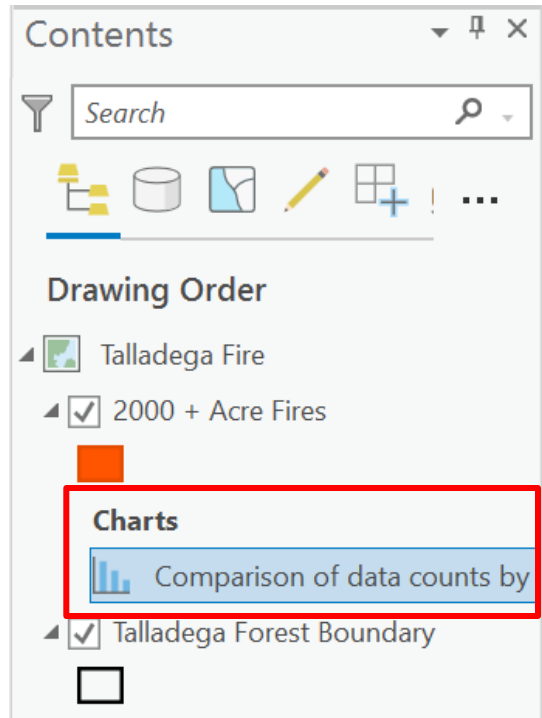


# Configure Popups



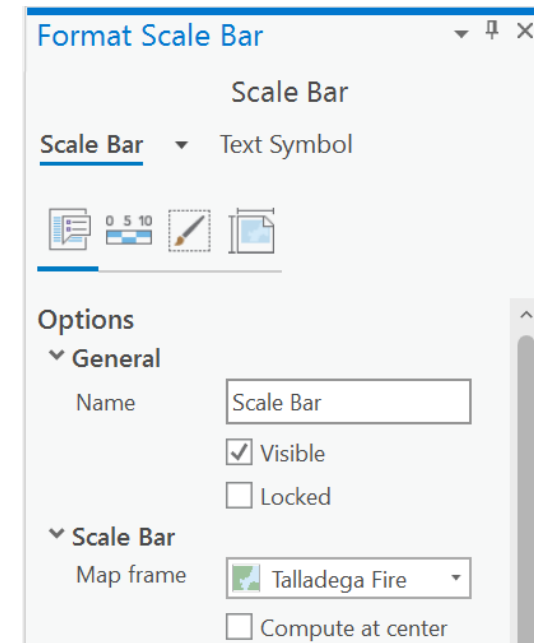
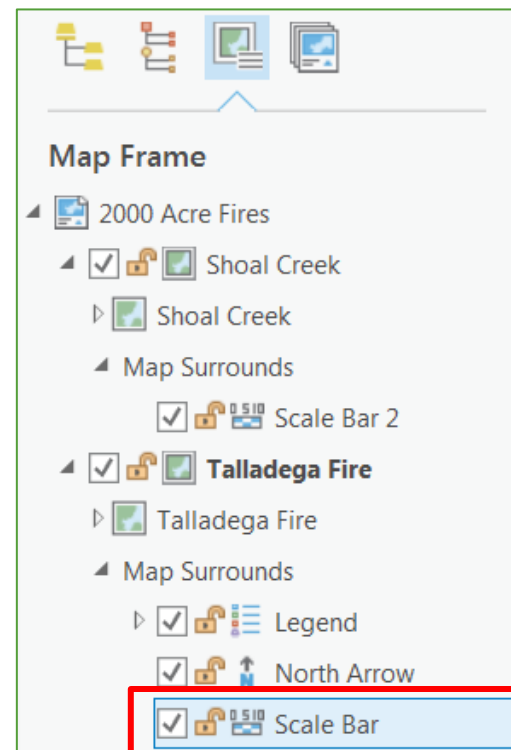
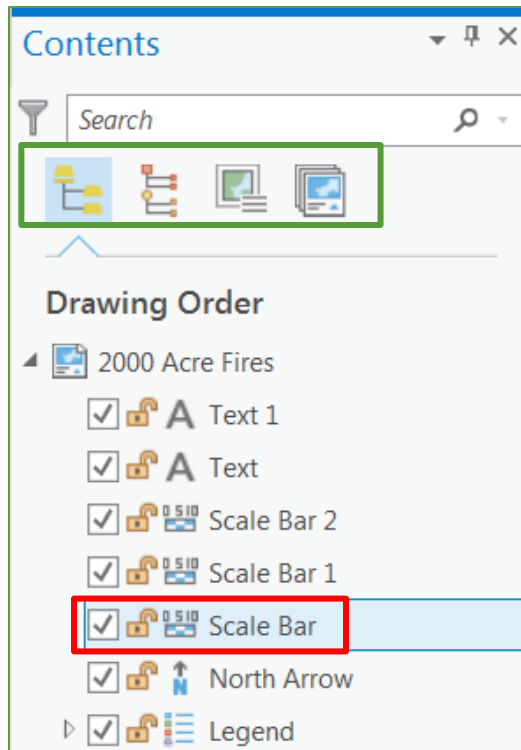
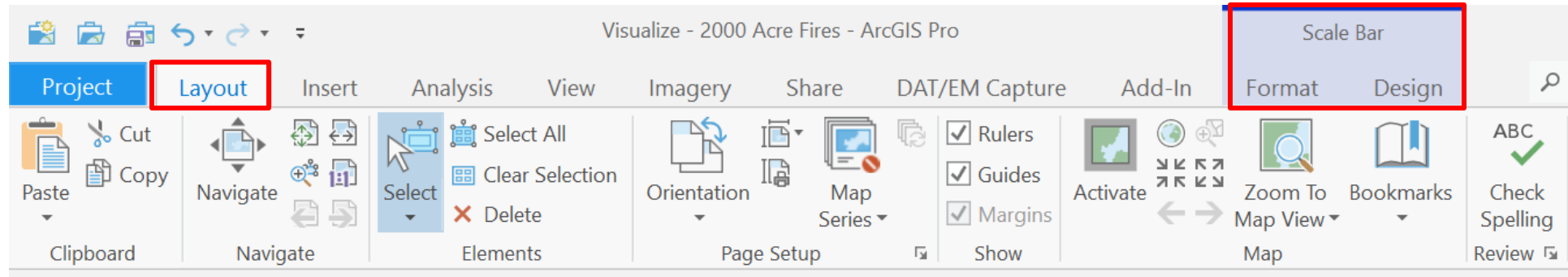
Element	Description
Title	These elements only allow you to include text and format that text. You can use the <b>Field</b> drop-down menu to add dynamic text from the layer itself.
Text	Allows you to add custom text to the pop-up.
List of Fields	Allows you to choose which fields to display in the pop-up.
Chart	<p>Build vertical or horizontal bar charts, line graphs, or pie charts. You can only use numeric fields for the chart or for the field used to normalize the chart.</p> <p>Charts can have a title and a caption.</p>
Image	Provide an image from a URL or attachment and set a custom title or caption. For attachments you will have access to the name of the file and its size from the <b>Field</b> drop-down menu, so that you can more easily distinguish a title/caption for multiple attachments. Images sourced from an attachment are dropped in the web map or feature layer.
Carousel	A container that can hold multiple chart or image elements. Items are displayed in top-down order. In the displayed pop-up, use the navigation arrows to browse the list. Items are viewed in the same order they are configured.

# Make a Chart



[Make a chart](#)  
[What is a chart](#)

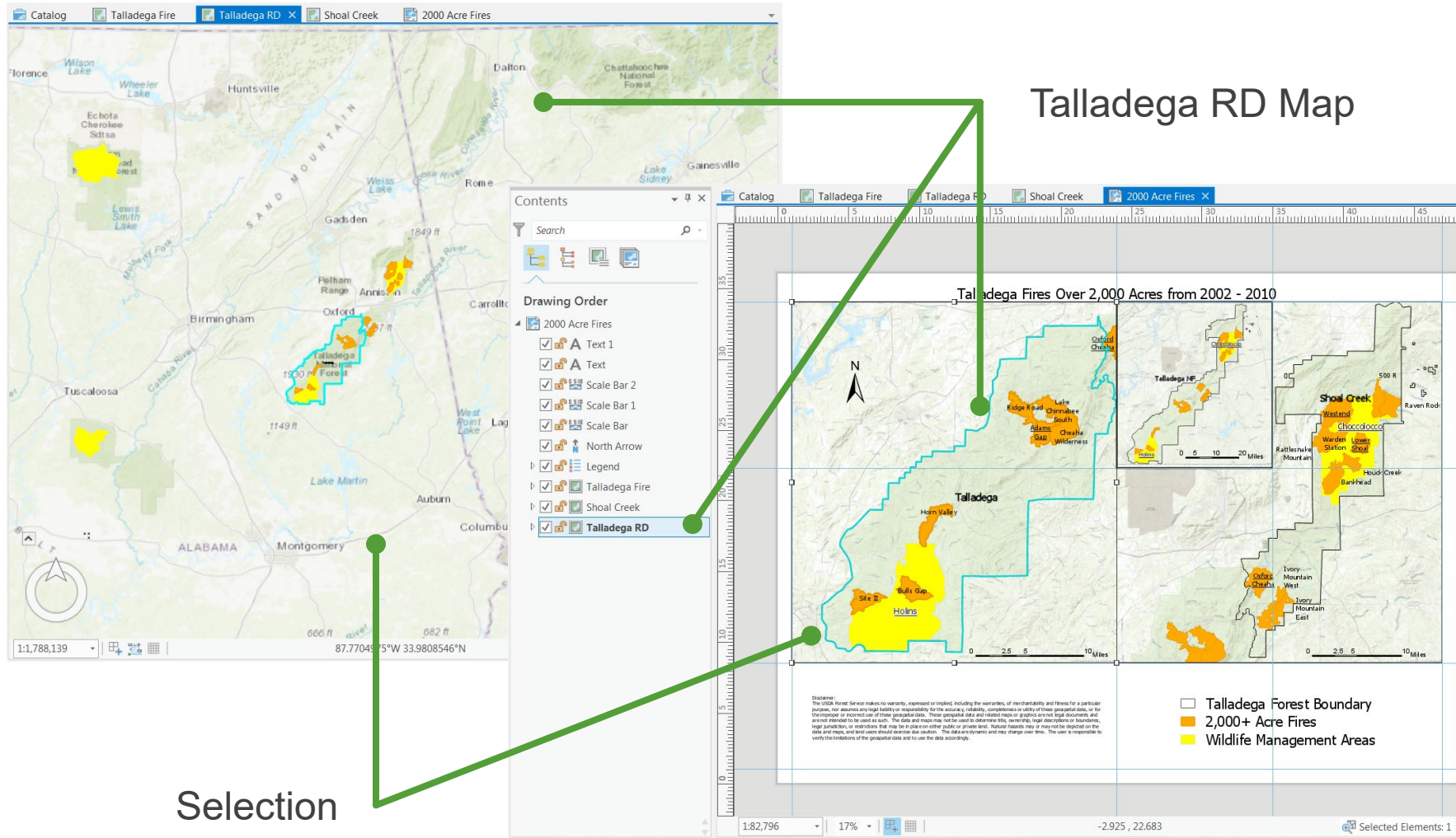
# Layout View



[Layouts in Pro](#)  
[Data Driven Pages/Map Series](#)

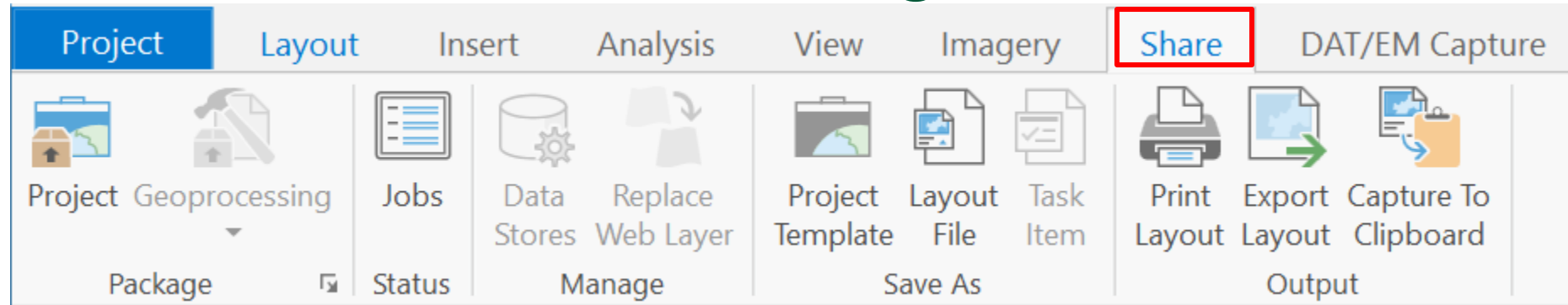


# Layout Map Frame



[Modify map frames](#)

# Sharing



- [Connect to multiple portals](#) from project tab
- Share using geodatabases, shapefiles etc.
  - [Supported export file formats](#)
- Share with [ArcGIS Pro](#)
  - Share a [project template](#)

# Resources

- [Time Saving Tips](#)
- [About ArcGIS Pro Help](#)
- [Geospatial Training & Awareness SharePoint](#)
- [GTAC Home Page](#)
- [ESRI Training Site](#)
- [ArcGIS Pro SharePoint Site](#)

# Demo

