



United States Department of Agriculture

ArcGIS Pro Crosswalk



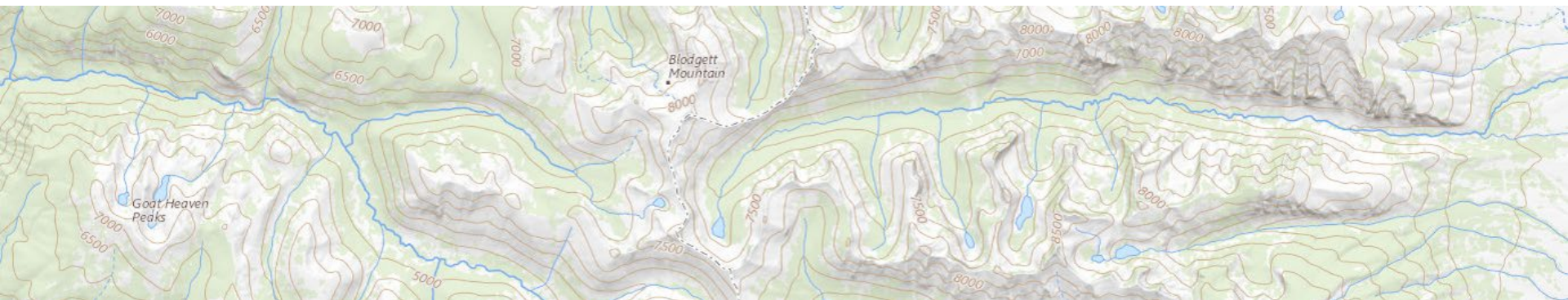
Geospatial Technology
and Applications Center



Forest Service

Course Overview

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



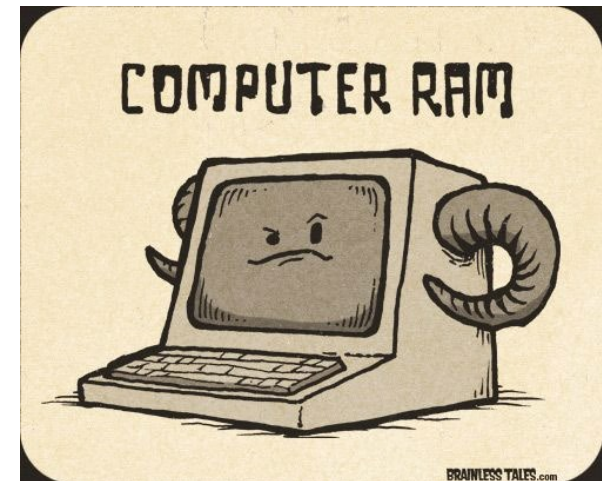
Lecture 1

- 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 2.4 system requirements](#)
- Operating Systems
 - Windows 7, 8.1 or 10
 - Windows Server 2008 R2 SP1 (64 bit) or newer
- Hardware
 - RAM: Min 4GB
 - Screen Res 1024x768 min
- Software
 - Microsoft .NET Framework 4.6.1 or later
 - Internet Explorer 11 (must be installed before pro)



ArcGIS Pro in the Forest Service



ArcGIS Pro

- Home
- Working Locally
- Working in Citrix
- User Support**
- Implementation
- Why Use Pro
- EDIT LINKS

Search this site

User Support

ArcGIS Pro Training

FS Training through GTAC

ArcGIS Pro for ArcMap Users: This course is designed as a crosswalk moving from using ArcGIS Desktop to ArcGIS Pro. This course provides a hands on introduction to the new user interface and project management. Participants will walk through common workflows previously performed in ArcMap/Catalog such as navigation, editing, analysis, sharing, symbolizing, creating a layout, geoprocessing, importing maps and data, and querying.

ESRI has many training resources to get you started.

To help select the best course for you, the following document will expand as more courses are reviewed: [An FS Review of ESRI ArcGIS Pro Training Resources](#)

Logging in with your FS organizational account allows you free access to items marked FREE as well as items with an open lock icon next to "View Details". Instructor-led options must be purchased. [How to Request Access to ESRI Training](#)

Helpdesk

The GIS Helpdesk is only available for ArcGIS Pro **install and licensing** support at this time. As the agency and users migrate from ArcGIS Desktop (ArcMap and ArcCatalog) to ArcGIS Pro, the helpdesk will naturally accommodate more users and the respective issues.

Submit a ticket to the [CHD Tier 2 GIS](#) support

Alerts - ArcGIS Pro

This RSS feed provides information about outages, version upgrades, and other information of immediate use to FS ArcGIS Pro users. These alerts will automatically display in Outlook.

[Subscribing to the Feed](#)

[Alerts - ArcGIS Pro](#)

ESRI GeoNet

[ArcGIS Pro SharePoint Site](#)



ArcGIS Pro in the Forest Service

ArcGIS Pro Software Rollout

Implementation plan - released January 2018

- “Implemented” = Everyone can use ArcGIS Pro

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



ArcGIS Pro in the Forest Service

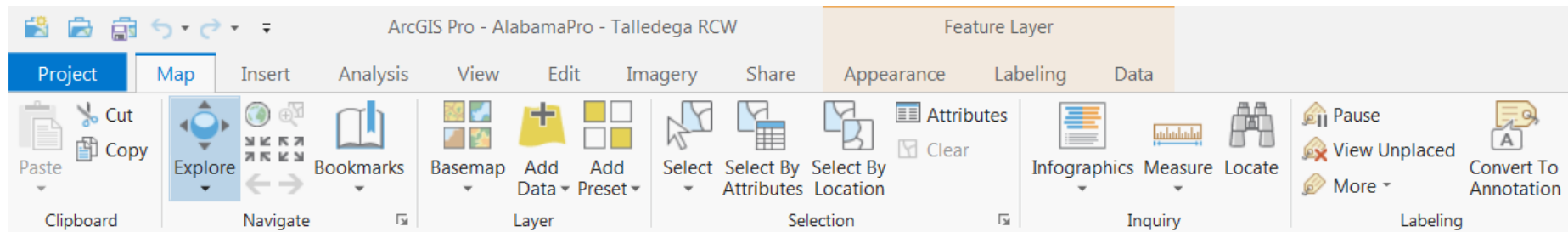
Working Locally – Data Options

- 😊 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
- ⚠ Caution: Copying data from SDE to local drive
- 🛑 **Do Not:** Directly connect to the T: Drive or Enterprise Geodatabases – big network hit & very slow
- 🛑 **Do Not:** use the Save As option



What's New?

- Windows Based Ribbon User Interface
- Project based
- Frequently Asked Questions (Installation, Licensing, Functionality etc.)
- What's new in Pro Version x.x
 - Highlights section includes major functionality updates
- ArcGIS Pro USFS SharePoint

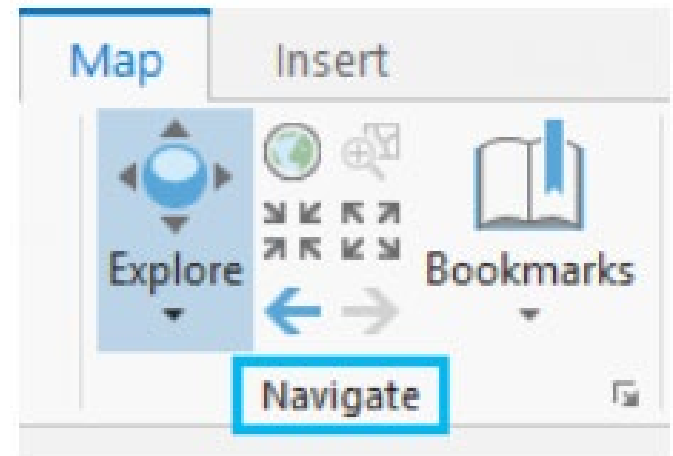
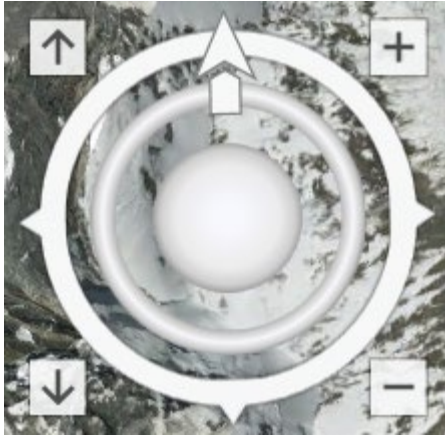


Navigation

3D Navigation

Keyboard Shortcuts

Tips and Shortcuts



Terminology

[Terminology Link](#)

- [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.



Project Organization



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



Create a Project

The screenshot displays the ArcGIS interface with the 'Open' and 'New' panels. The 'Open' panel on the left lists recent projects, with the 'Recent Projects' label highlighted in a red box. The 'New' panel on the right shows blank templates and recent templates, with 'Blank Templates' and 'Recent Templates' labels highlighted in red boxes. A 'Create a New Project' dialog box is open, showing the project name 'MyNewProject' and the location 'C:\Users\tylerlarson\Documents\ArcGIS\Projects', with the location field highlighted in a red box. The 'Create a new folder for this project' checkbox is checked. Below the dialog, a file explorer window shows the path 'Libraries > Documents > ArcGIS > Projects > MyNewProject', with the path highlighted in a red box. The file explorer displays the contents of the 'MyNewProject' folder, including 'ImportLog', 'Index', 'MyNewProject.gdb', and two 'arcn on apps.fs.usda.gov (user) (1).ags' files. At the bottom of the 'Open' panel, the 'Open another project' button is highlighted in a red box. At the bottom of the 'New' panel, the 'Select another project template' button is highlighted in a red box, with a link to 'Learn about creating project templates' below it.

Open

Recent Projects

- Different Name Delete
- Test template delete
- Training Project Template
- AlabamaRCW
- Analyze_Manage_Edit_Data
- Create_Feature
- Analyze_Manage_Edit_Data
- Visualize
- Visualize
- Import_Map_Document
- Import_Map_Document
- Import_Map_Document
- AlabamaRCW
- Intermediate_AGOL_Demo
- Intermediate_AGOL_Demo
- Create_Feature

New

Blank Templates

- Map
- Catalog
- Global Scene
- Local Scene
- Start without a template (you can save it later)

Recent Templates

- Training Template Delete

Create a New Project

Name: MyNewProject

Location: C:\Users\tylerlarson\Documents\ArcGIS\Projects

☒ Create a new folder for this project

OK Cancel

Libraries > Documents > ArcGIS > Projects > MyNewProject

Organize Share with New folder

Recent Places

- TDriveTraining
- ZDriveLessons
- ZDriveTemplates
- Training SOP
- TylerLarsonZ
- TylerLarsonProject

Libraries

- Documents
- Music

Documents library

MyNewProject

Name

- ImportLog
- Index
- MyNewProject.gdb
- arcn on apps.fs.usda.gov (user) (1).ags
- arcn on apps.fs.usda.gov (user).ags
- MyNewProject
- MyNewProject

Open another project

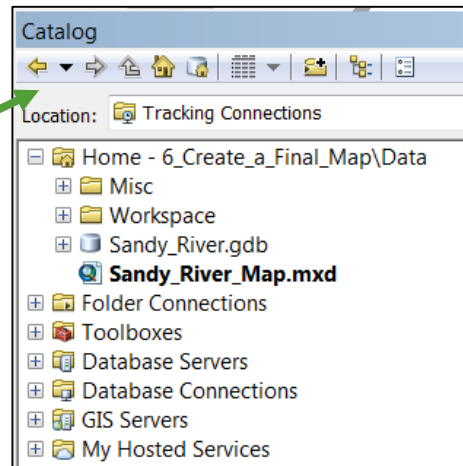
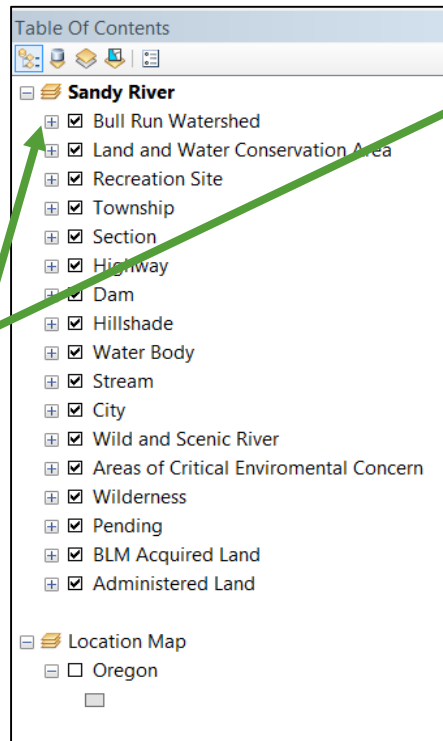
Select another project template

Learn about creating project templates

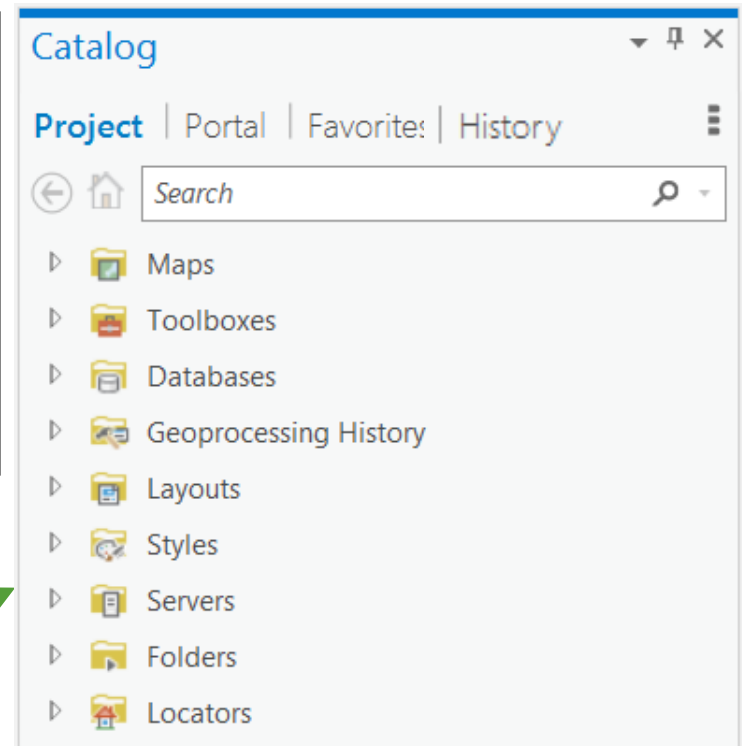
Project Organization

- 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](#)

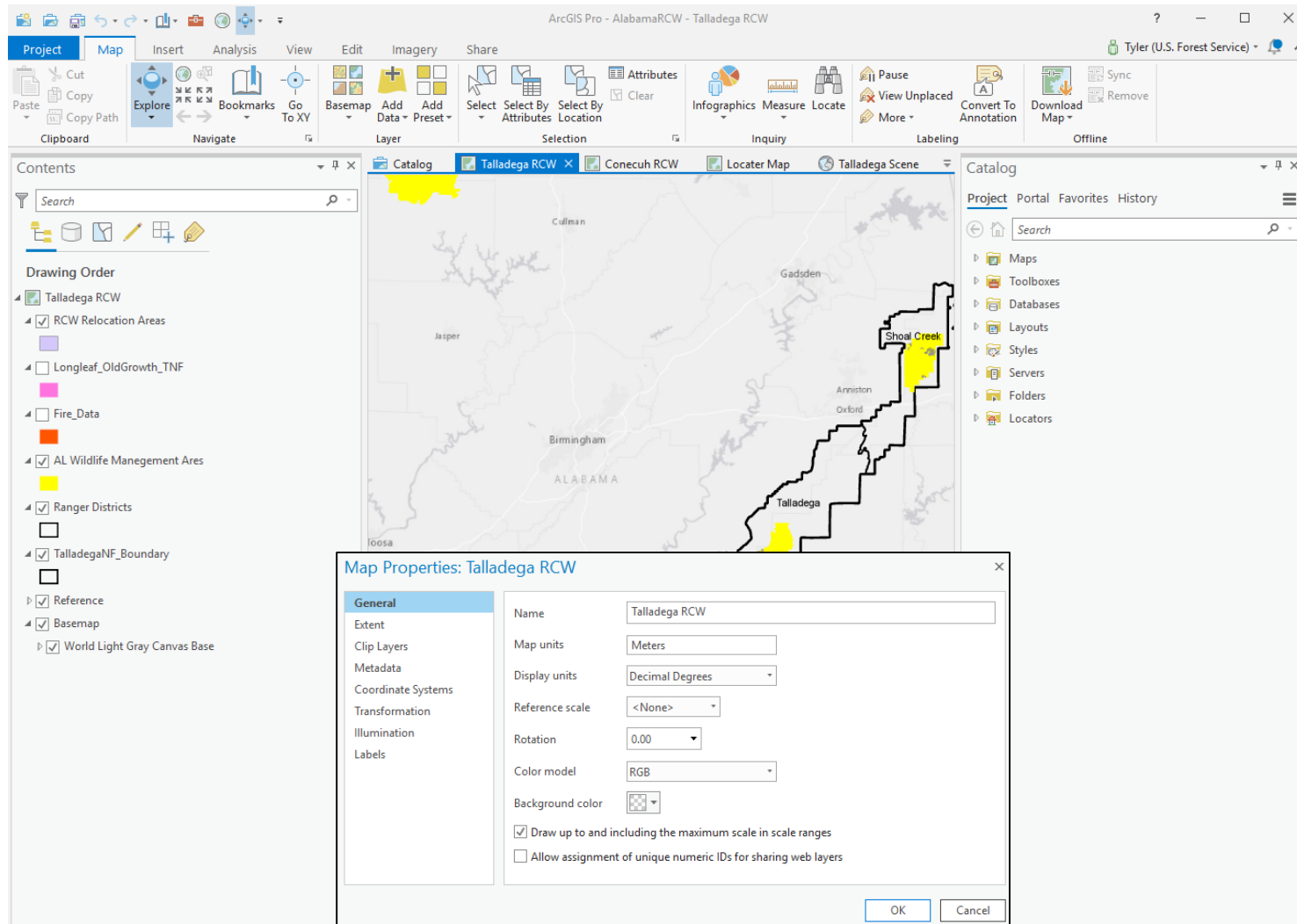
Arc
Map



Pro

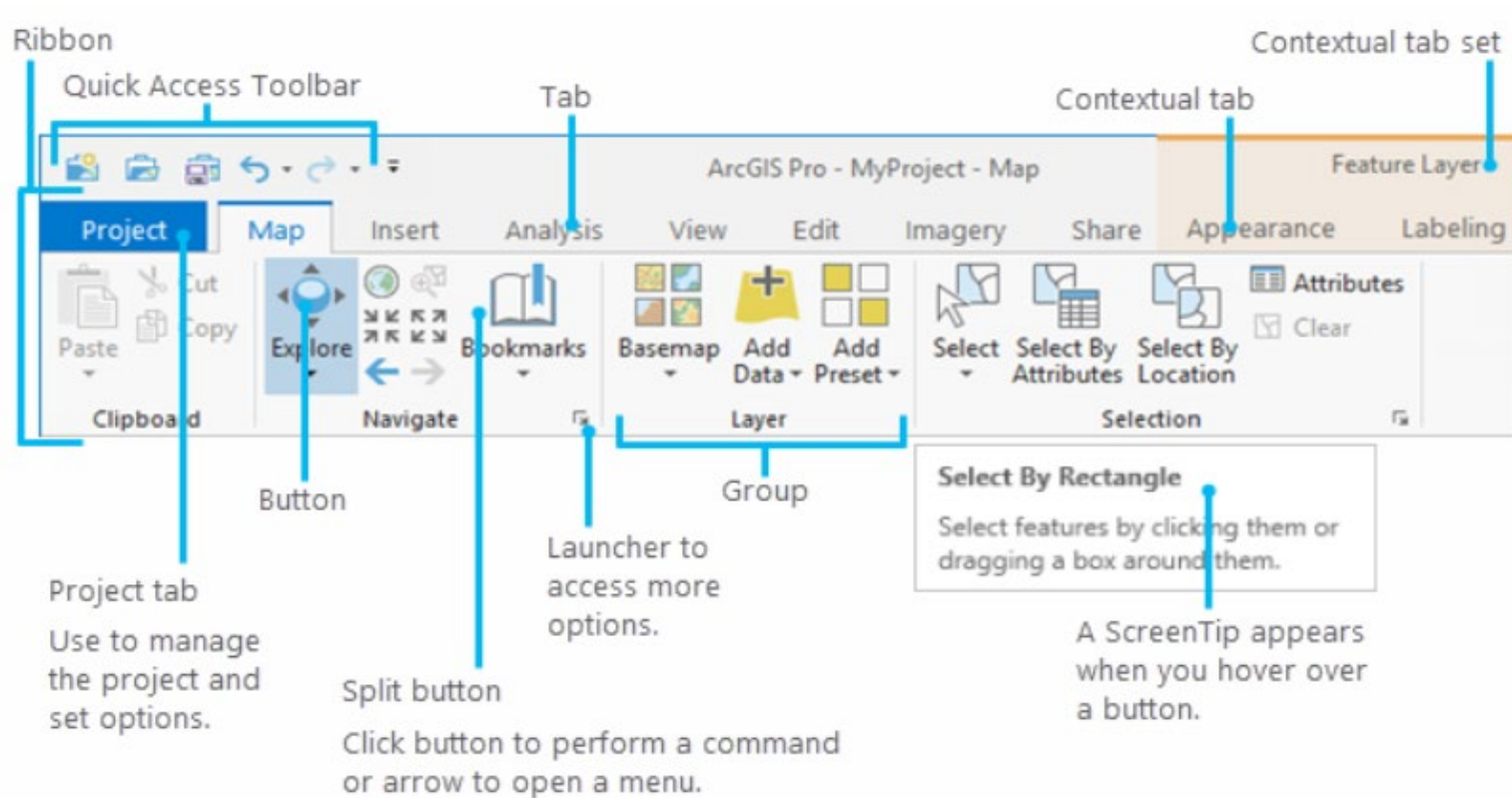


User Interface

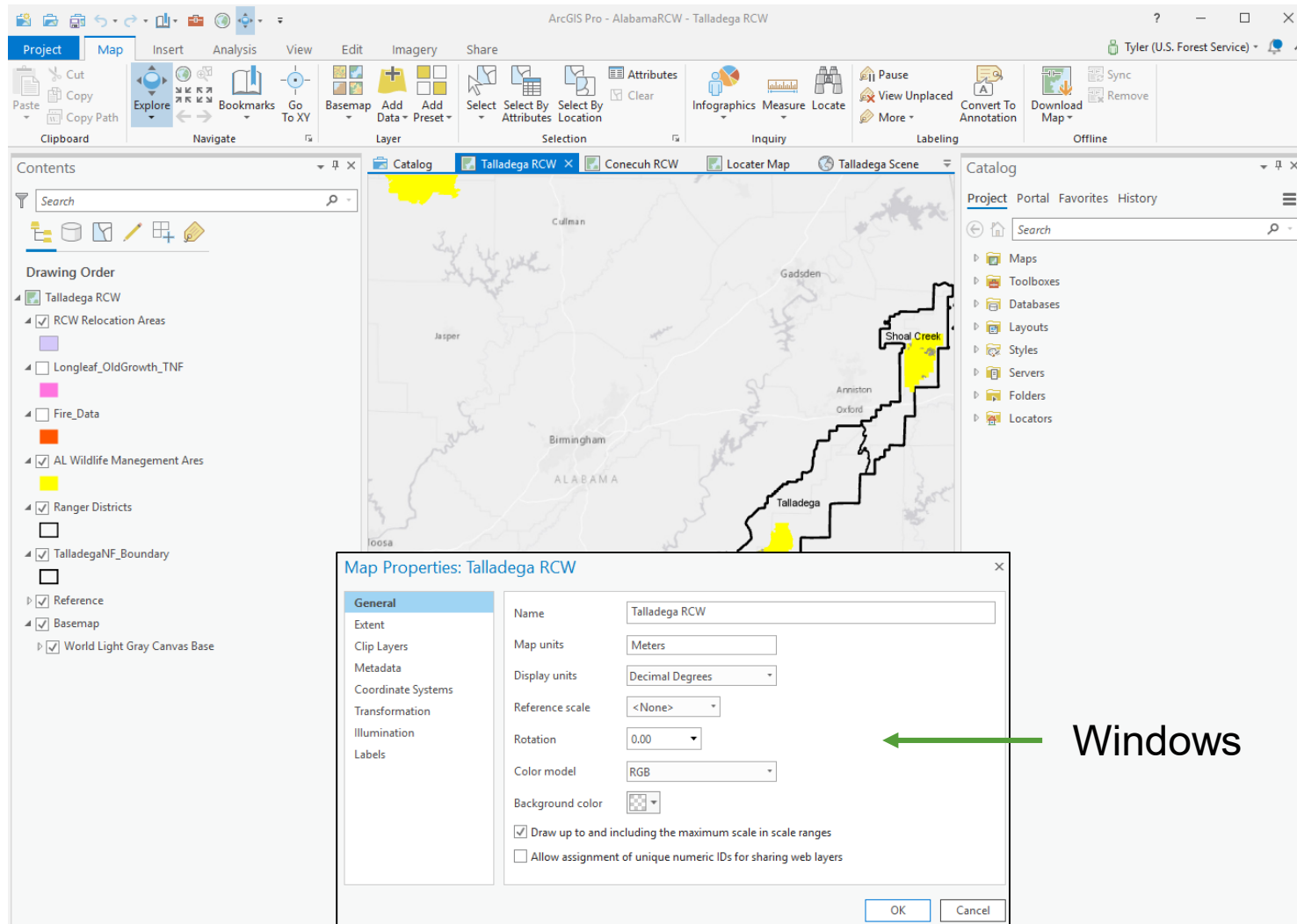


Ribbon

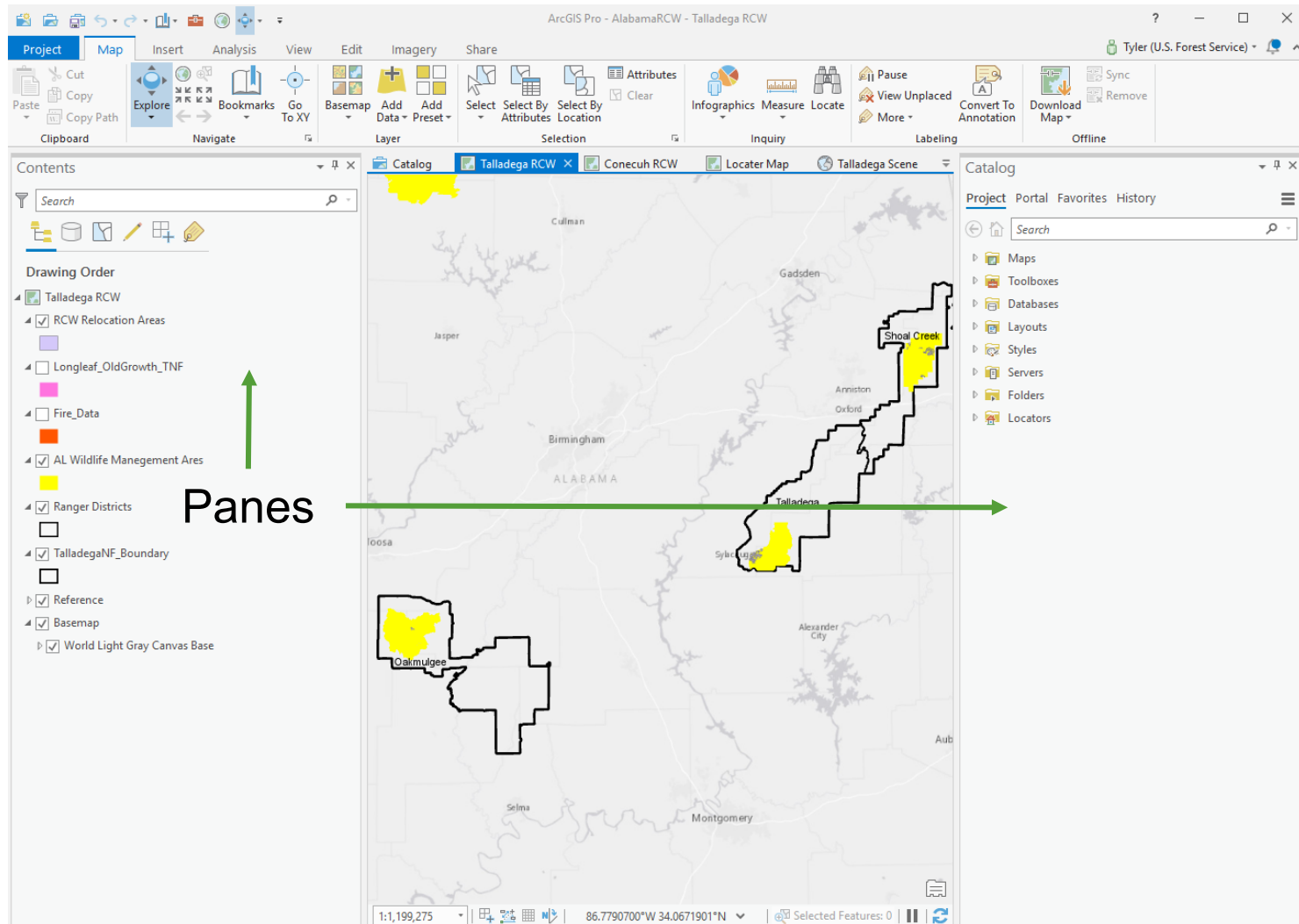
- New user interface layout and details
- Customize the ribbon



Windows

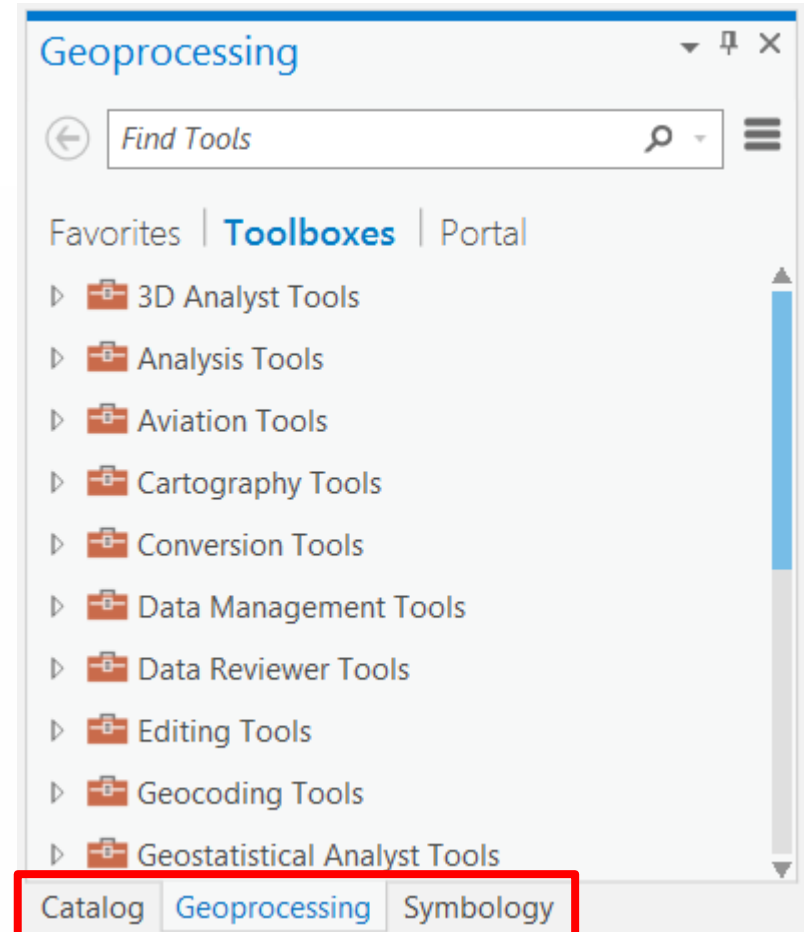
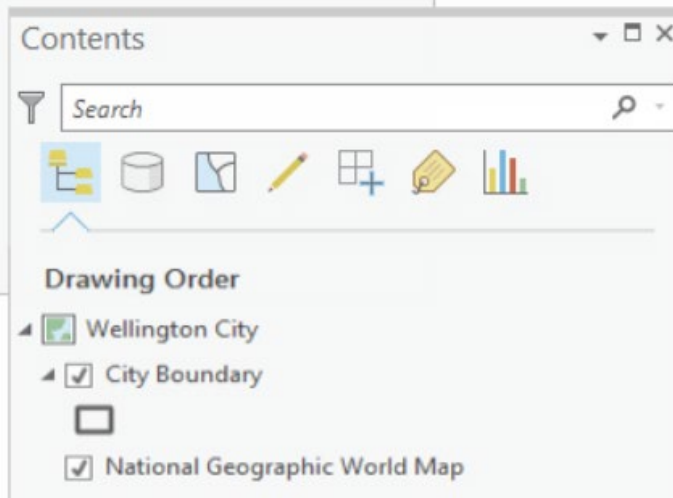
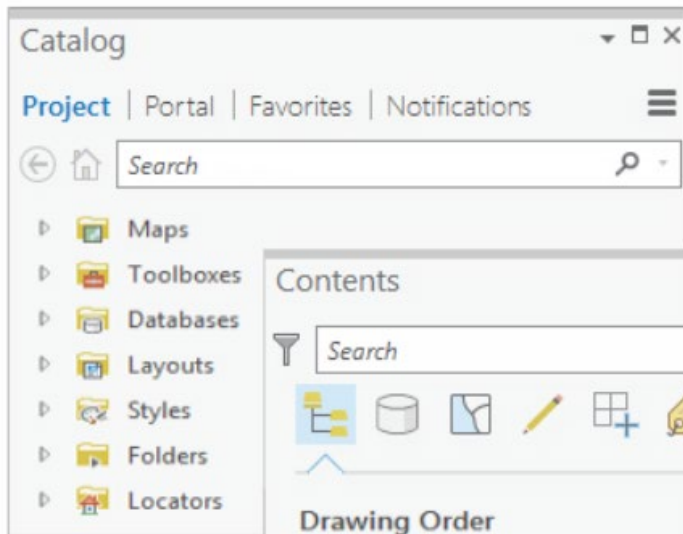


Panes



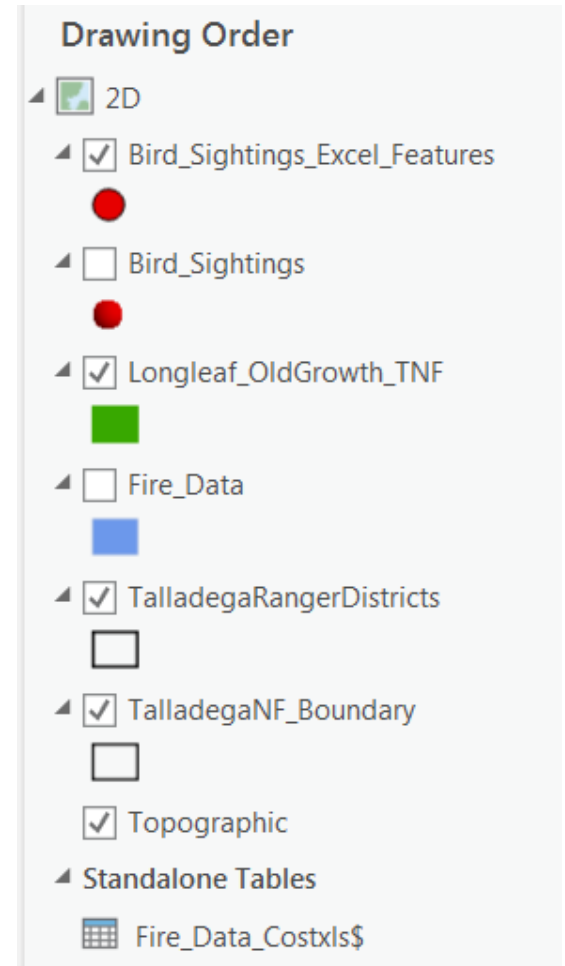
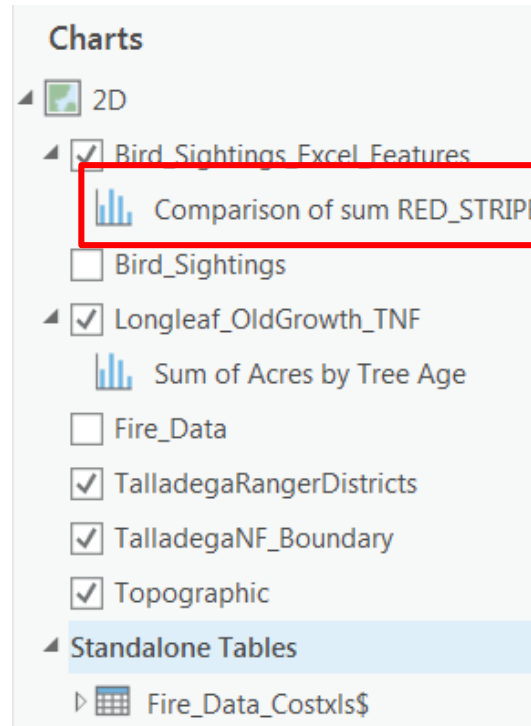
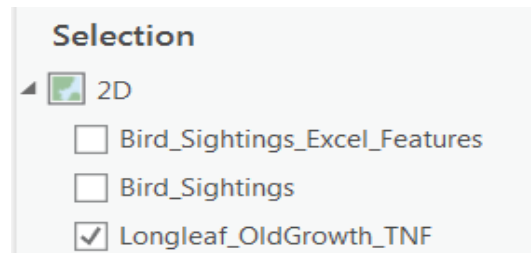
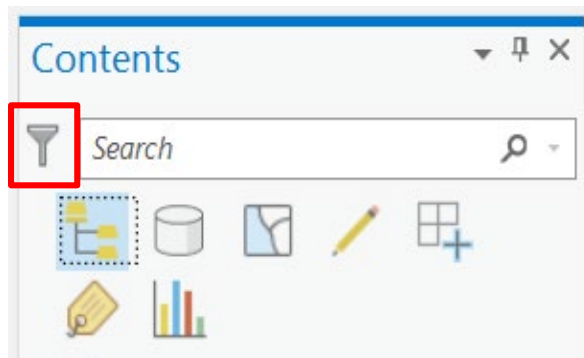
Panes

Panes can be docked,
floating or stacked

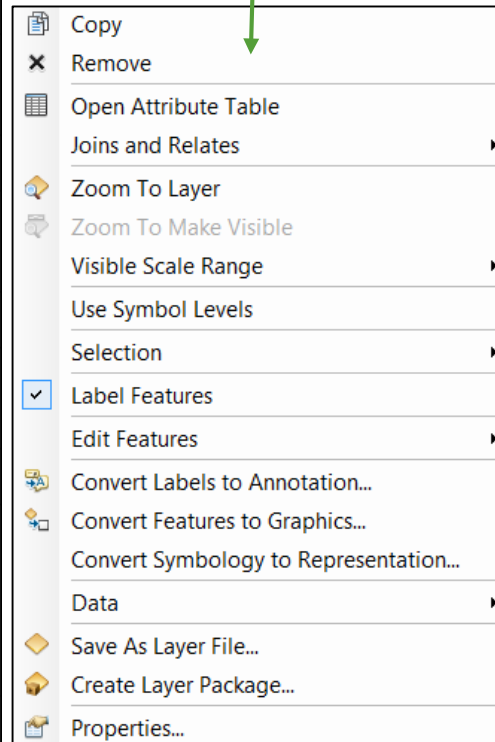
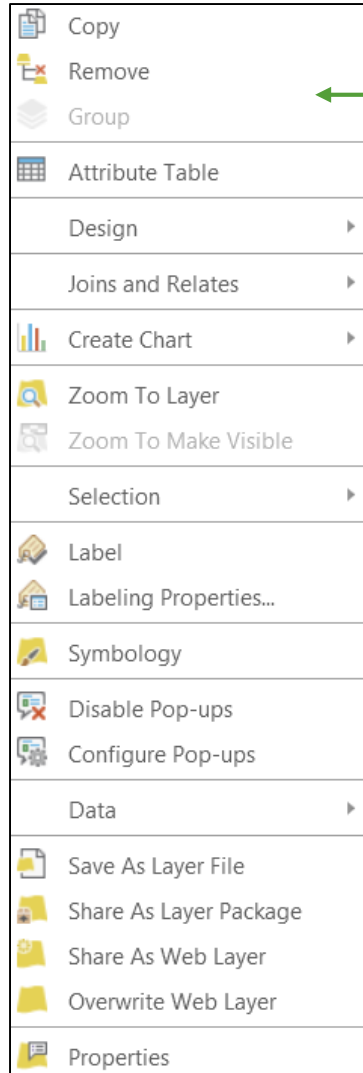


Contents Pane

- 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

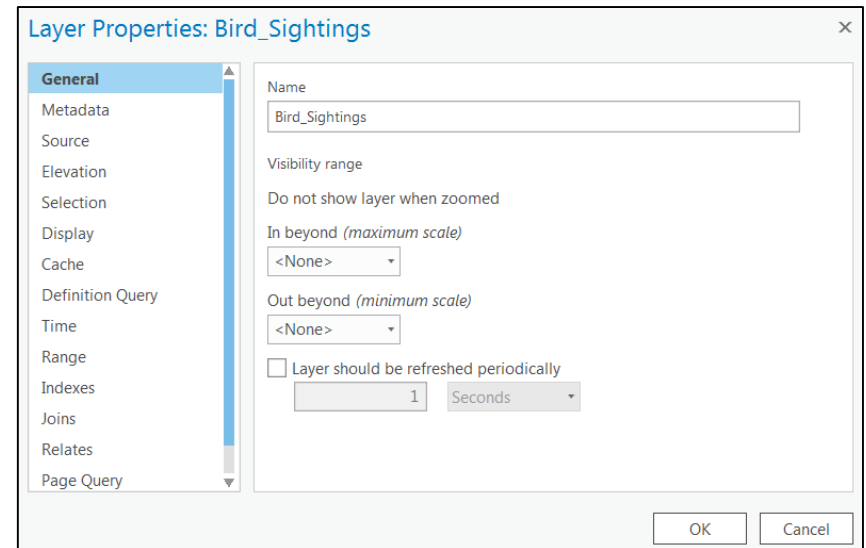
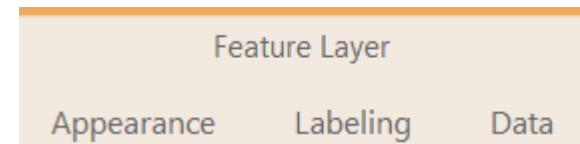


Contents Pane

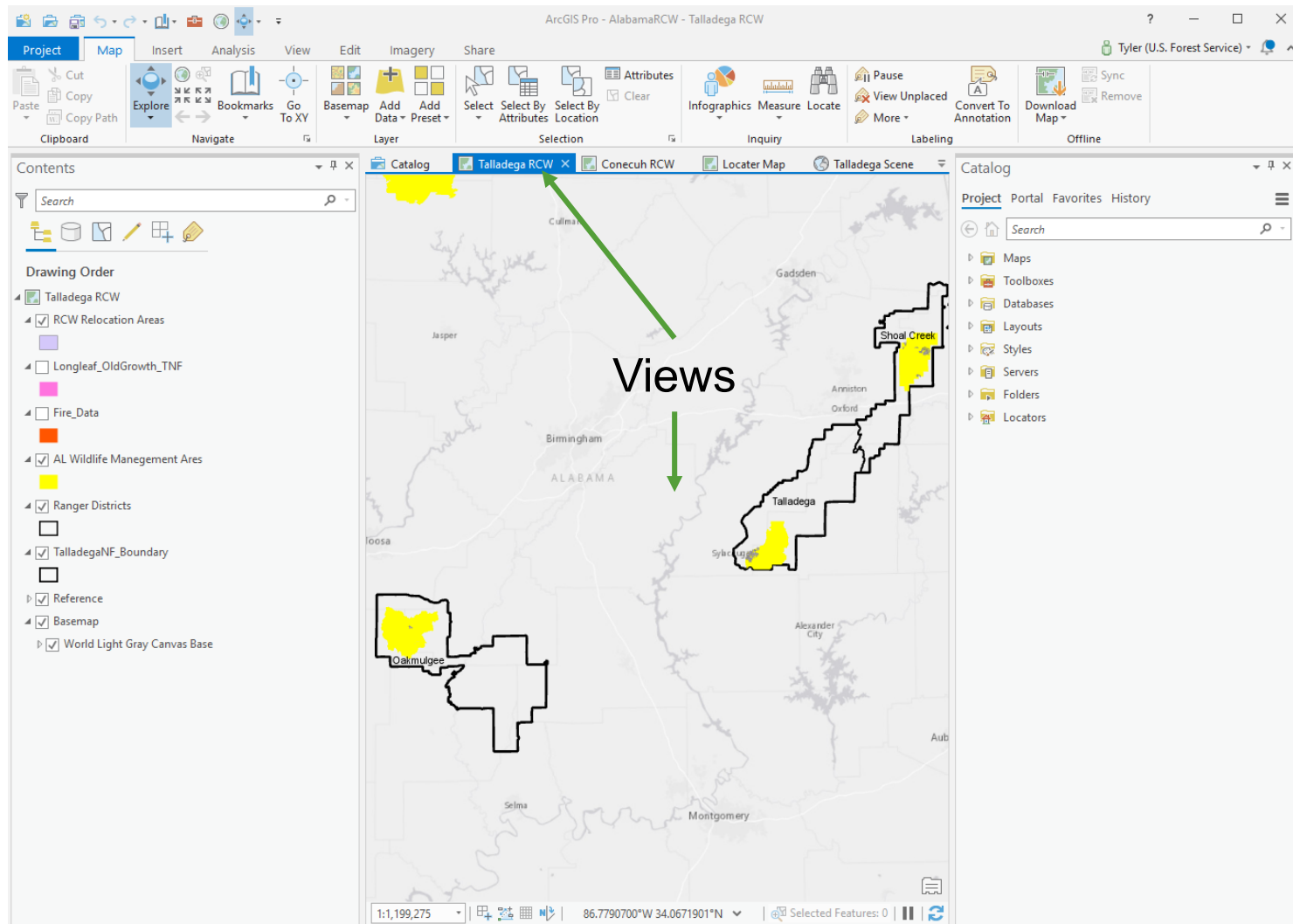


- Layer context menu
- Layer properties dialog box

Contextual Tabs

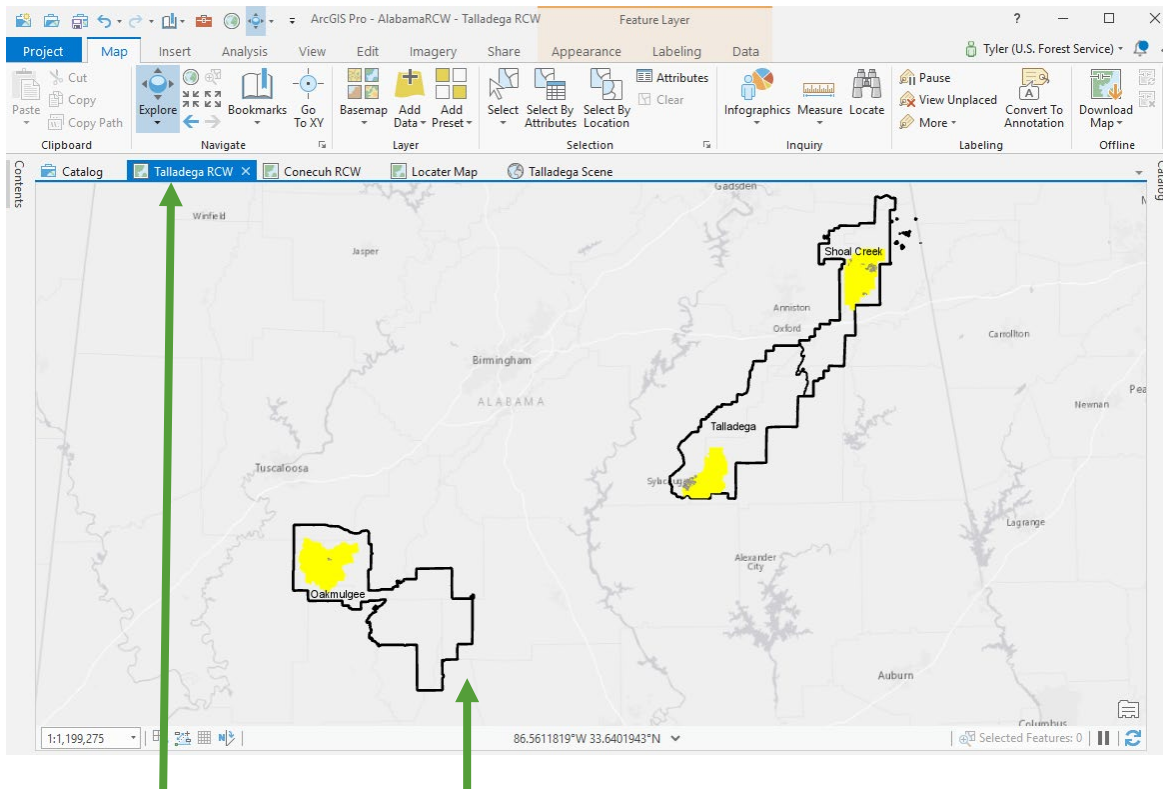


Views



Views

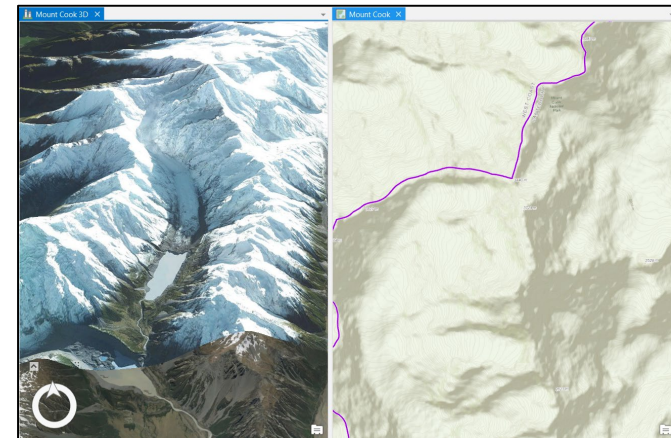
- Primary work area
- Maps, scenes, tables charts etc.



Active view
indicator

Map View

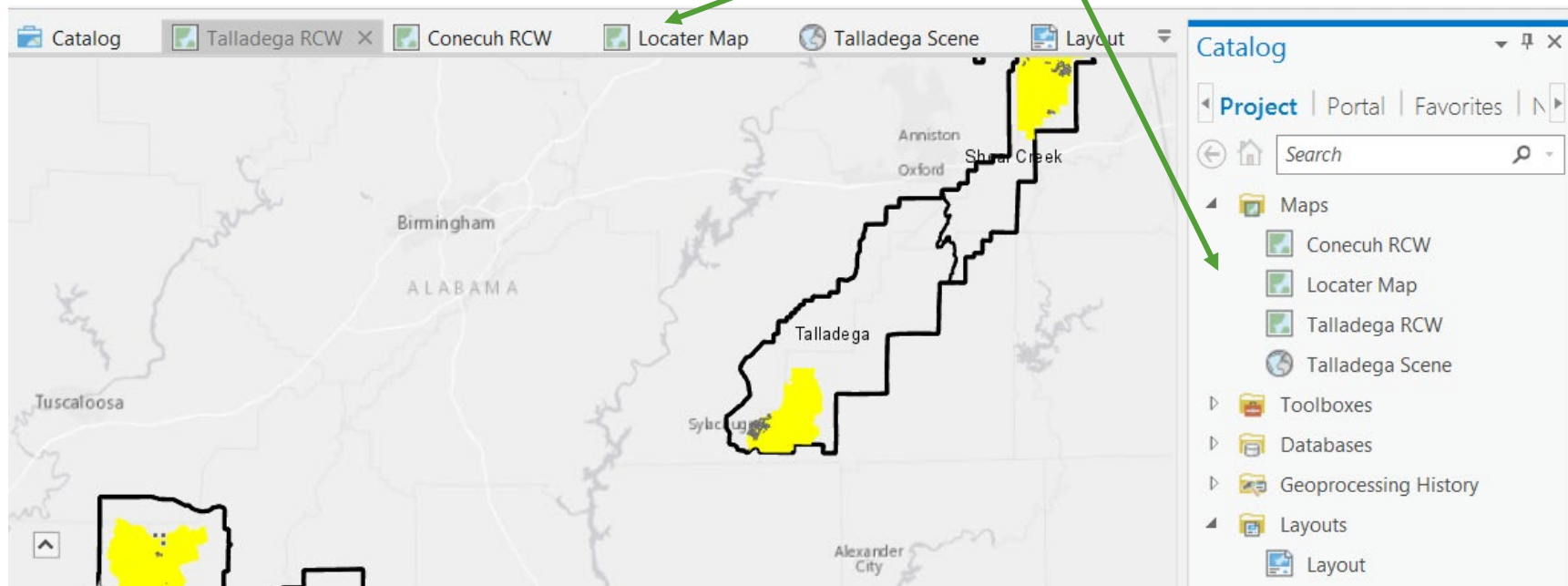
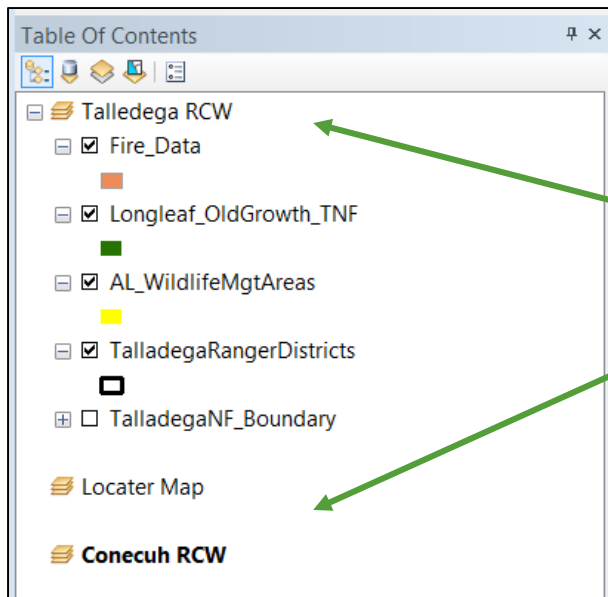
Side by side
interactive views



Views

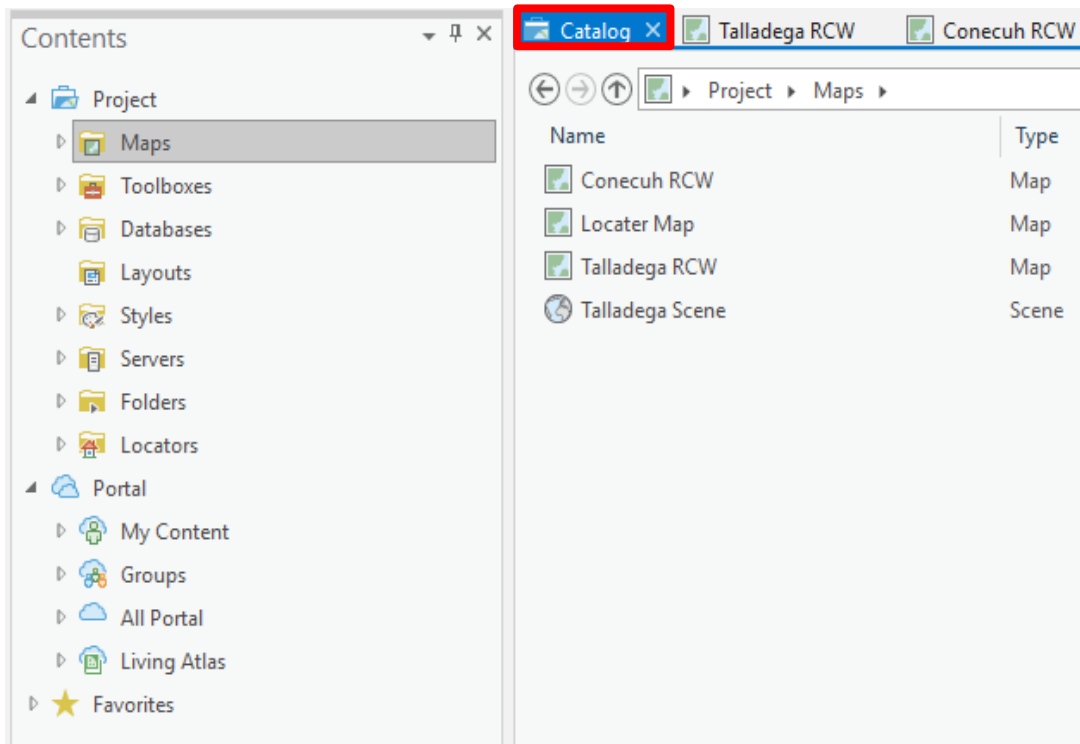
Data Frames in ArcMap

Converted to Map Views in Pro

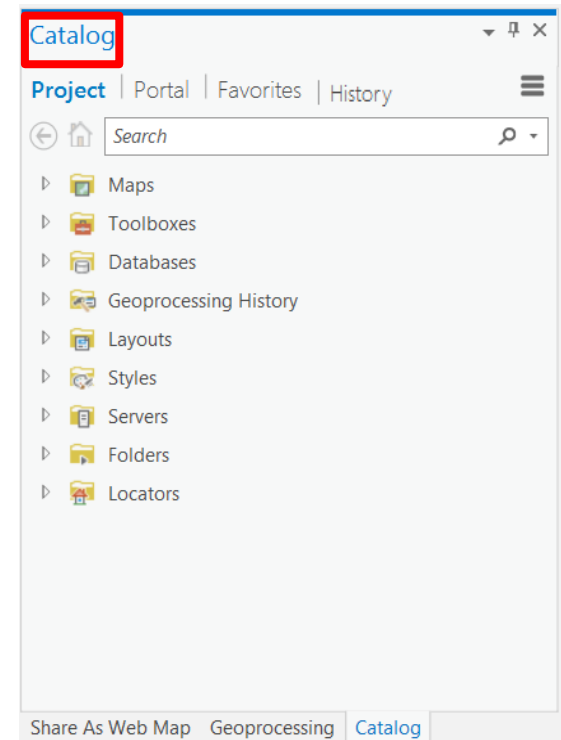


Catalog View & Pane

View



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 the 'AL_WildlifeMgtAreas' feature class is highlighted. The right pane shows the metadata for this feature class, including the title 'AL_WildlifeMgtAreas', type 'File Geodatabase Feature Class', and various other metadata fields. A 'Layer Properties: Wildlife Management Areas' dialog box is open in the foreground, showing the 'Metadata' tab with fields for Title, Tags, and a description.

Project **Catalog** Insert Analysis View Imagery Share **Databases** Tyler (U.S. Forest Service)

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



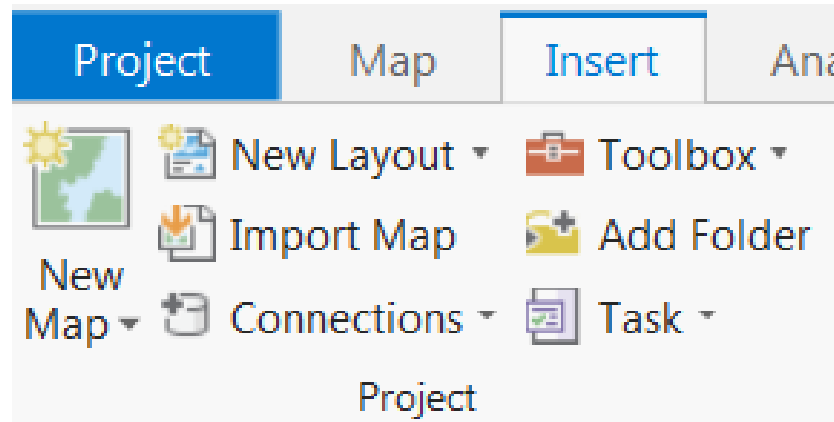
Catalog View & Pane

- [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



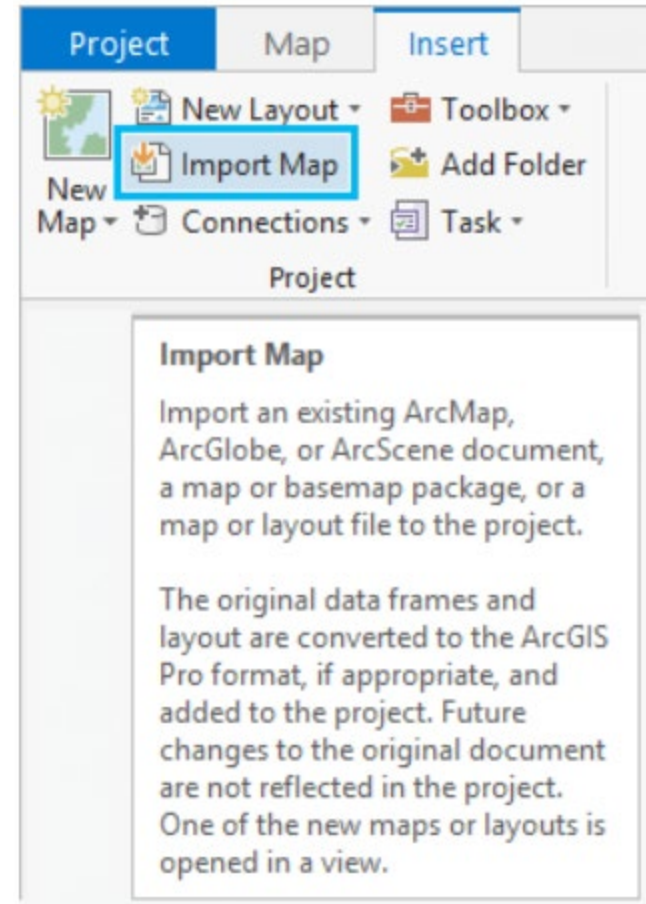
Import Existing Work

- 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



Import Map Document

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



Demo



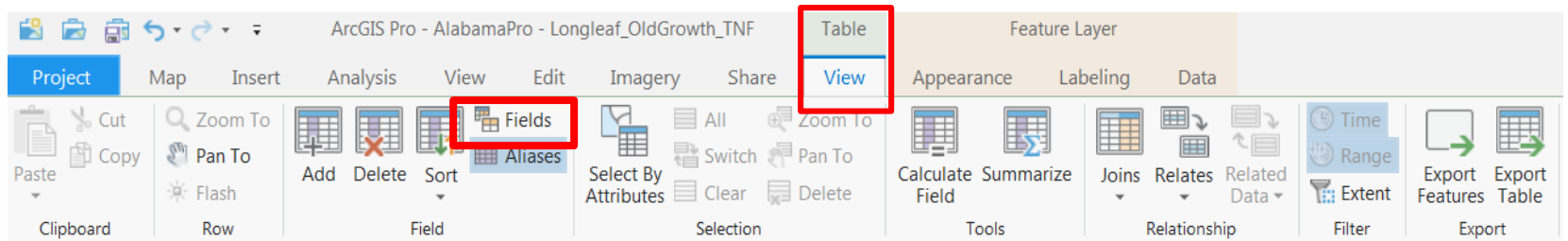
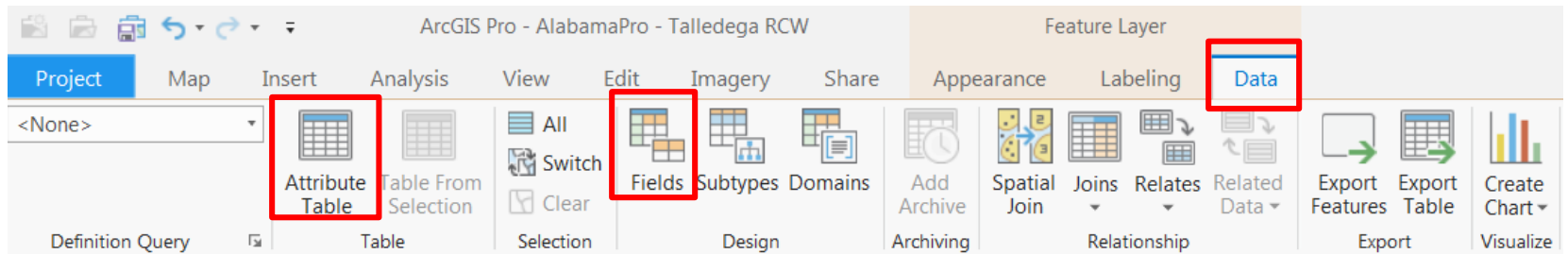
Lecture 2

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



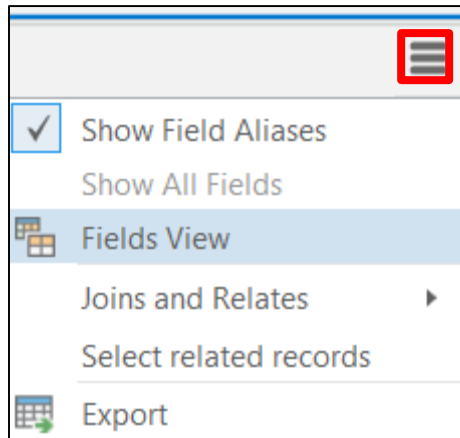
Tables & Fields

- Working with fields, domains and subtypes
- The Fields view



Tables & Fields

- [Working with fields, domains and subtypes](#)
- [The Fields view](#)



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	

SQL Query

Edit SQL Mode

[Query Builder](#)

Edit Clause Mode

Geoprocessing


← Select Layer By Attribute

Parameters | Environments

Layer Name or Table View
Fire_Data

Selection type
New selection

Expression

 POLY_AREA >= 2000

☐ Invert Where Clause

Geoprocessing




← Select Layer By Attribute

Parameters | Environments

Layer Name or Table View
Fire_Data

Selection type
New selection

Expression

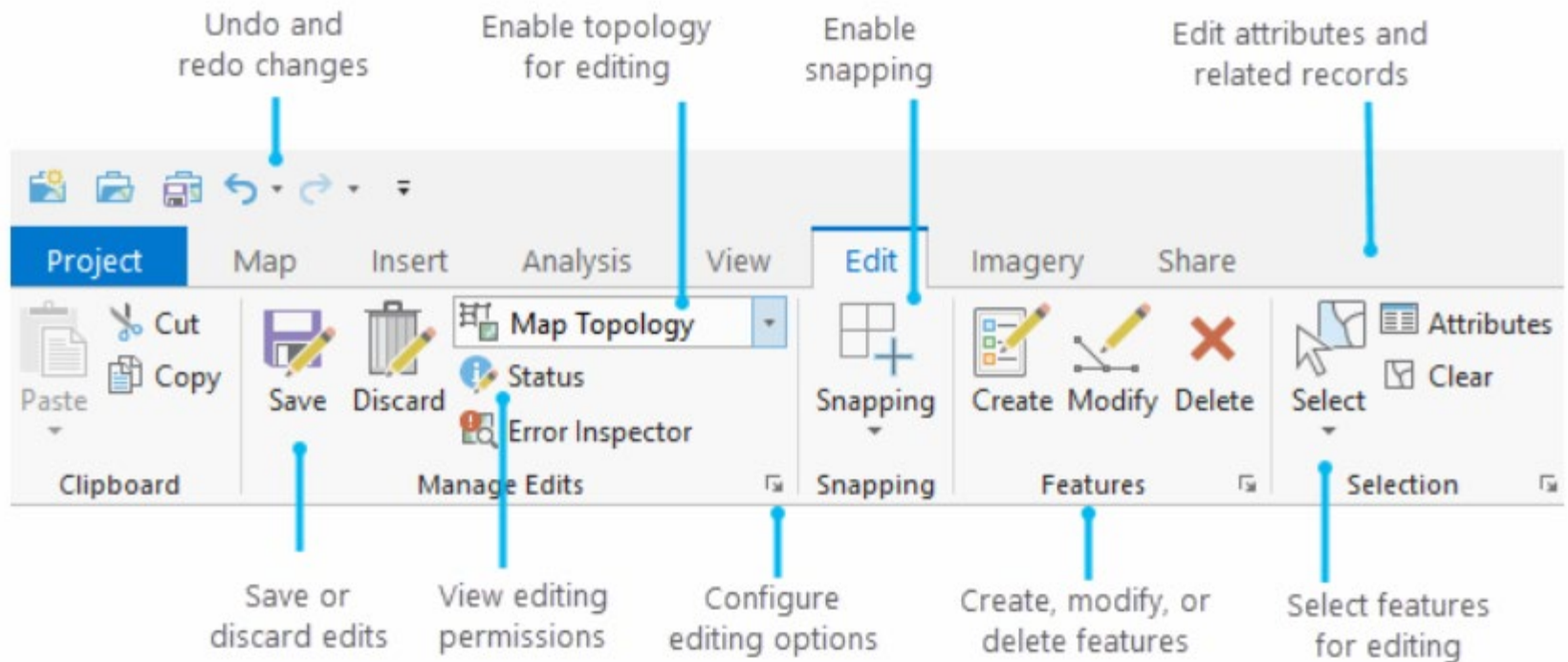
Field	Values	Fields	Cancel
POLY_AREA	is Greater Than	2000	Add

Add Clause

☐ Invert Where Clause

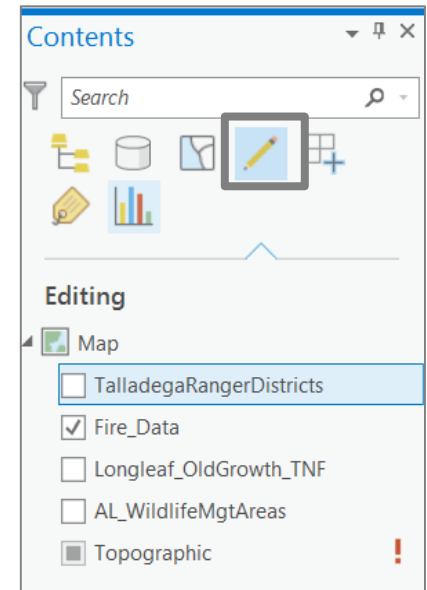
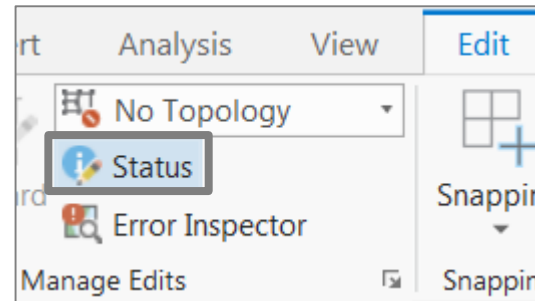
Editing

- Editing tools to create & update features
- Note: Editing is always enabled in Pro



Creating Features

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



Template Properties: Fire_Data

General

Tools

Attributes

☒ Show Non-Visible Fields

Field Name	Field Type	Field Value	Field Status
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:

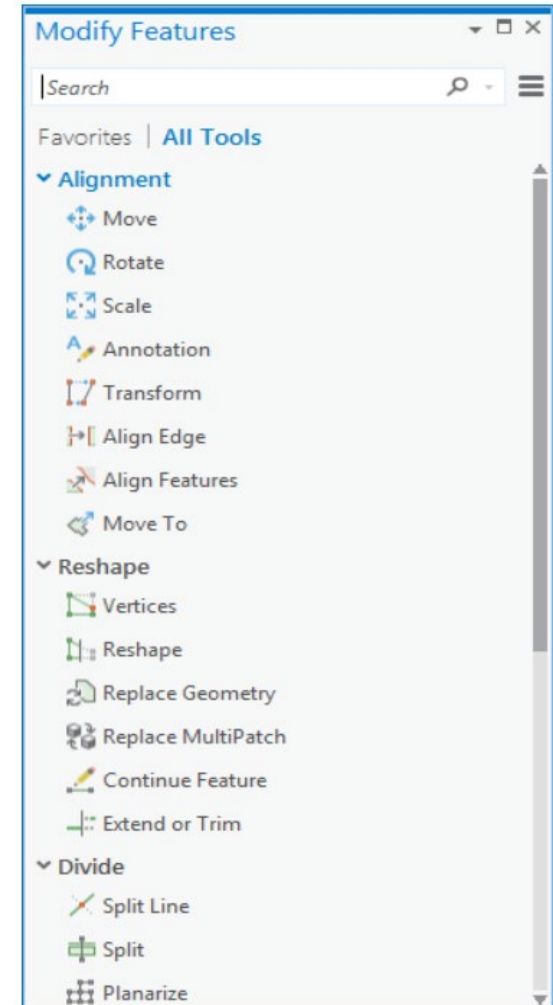
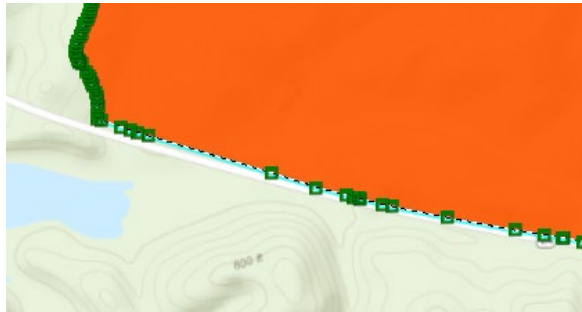
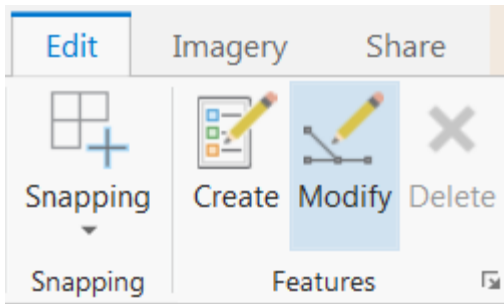
FIRE_NAME	<Null>
AGENCY	USF

Optional:

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

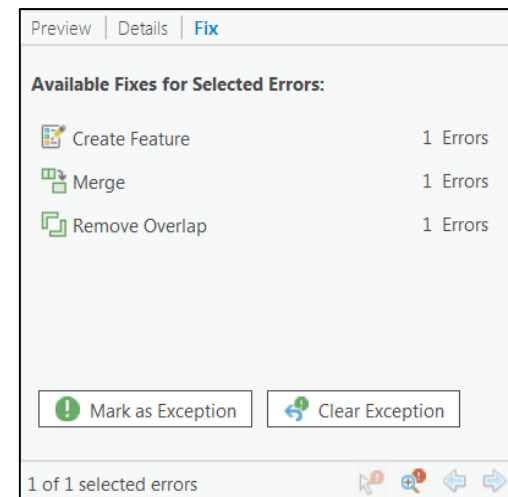
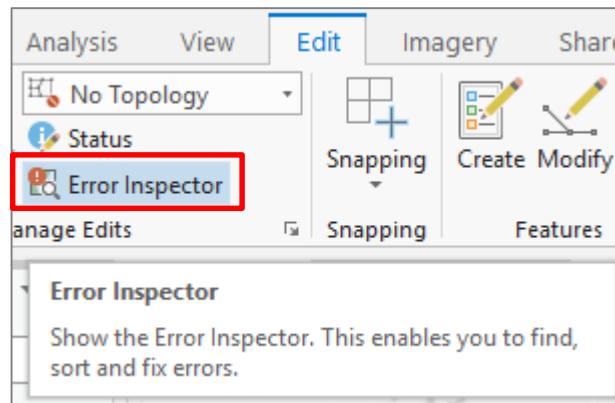
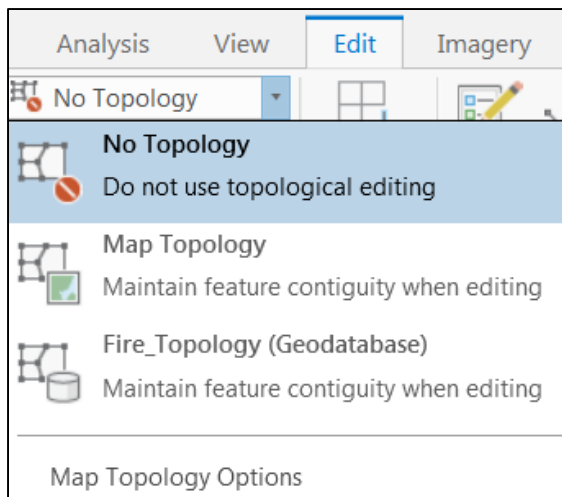
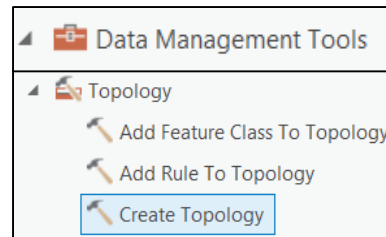
Modify Features

- Modify pane
- Modify tool reference
- Intro to modifying features

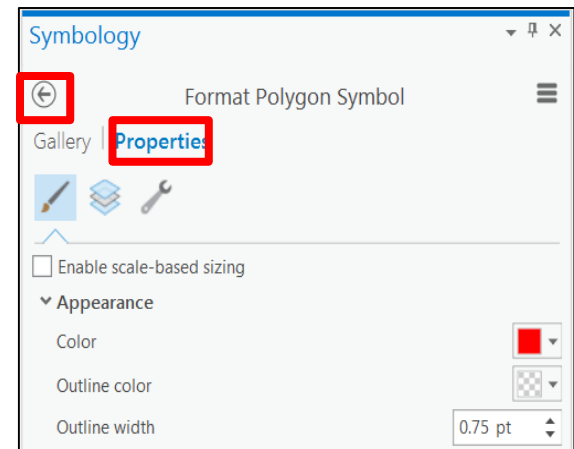
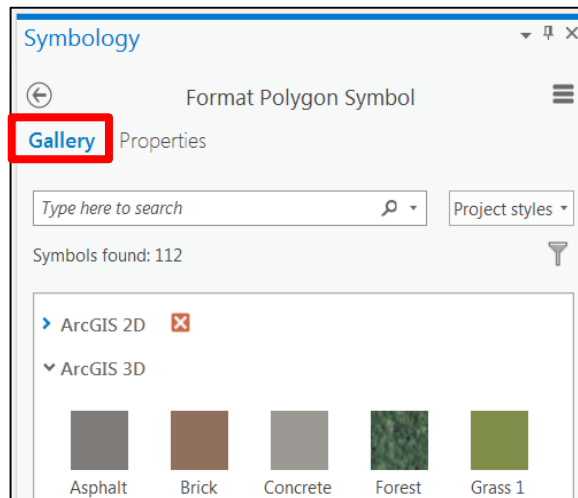
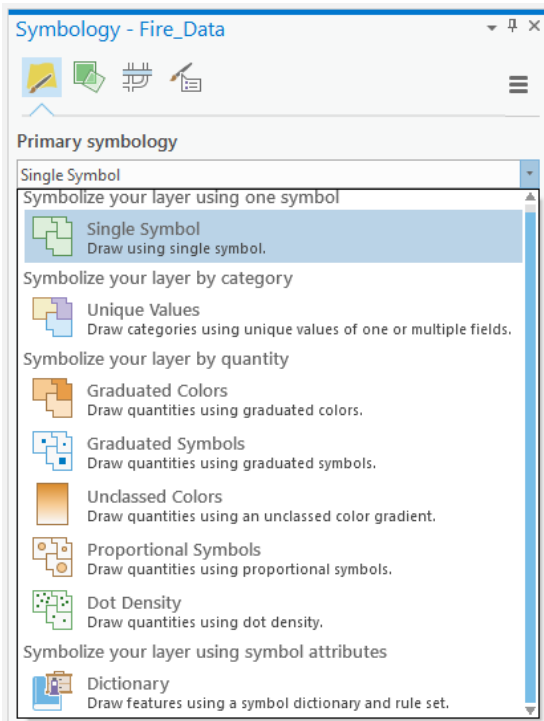


Topology

- Map & Geodatabase topology
- Intro to editing topology
- Topology toolset
- Add rule to topology

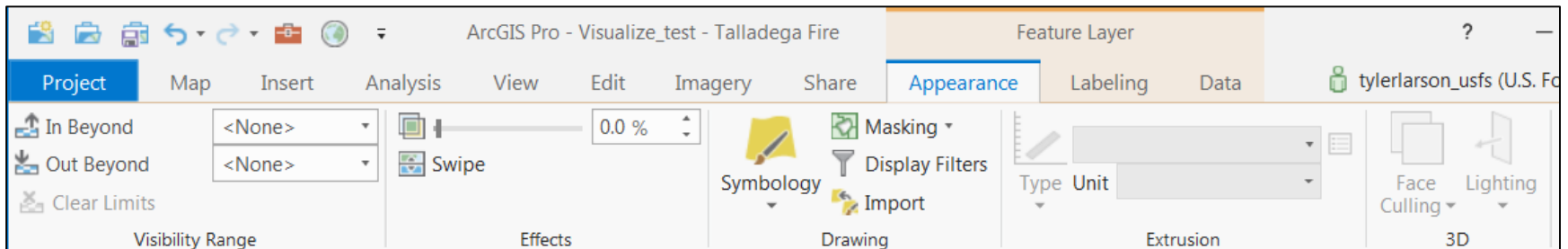


Symbology



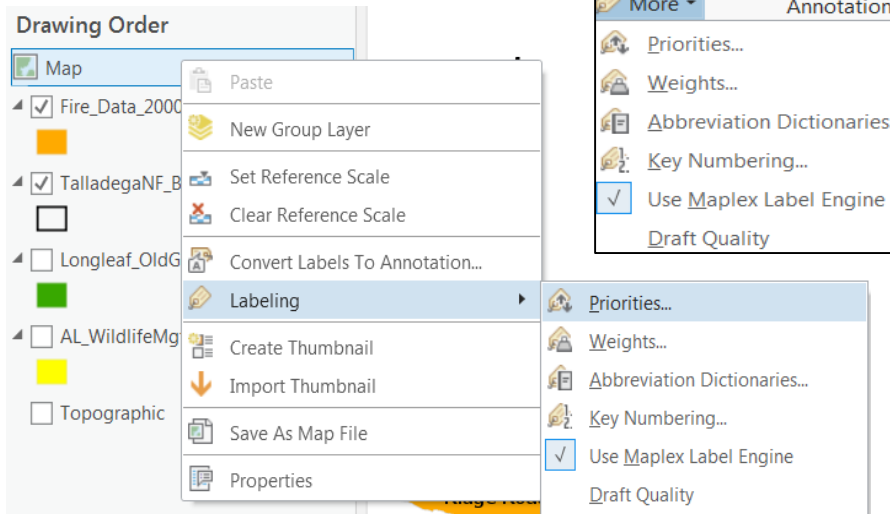
[Symbolize feature layers](#)

[Gallery for Esri Styles](#)

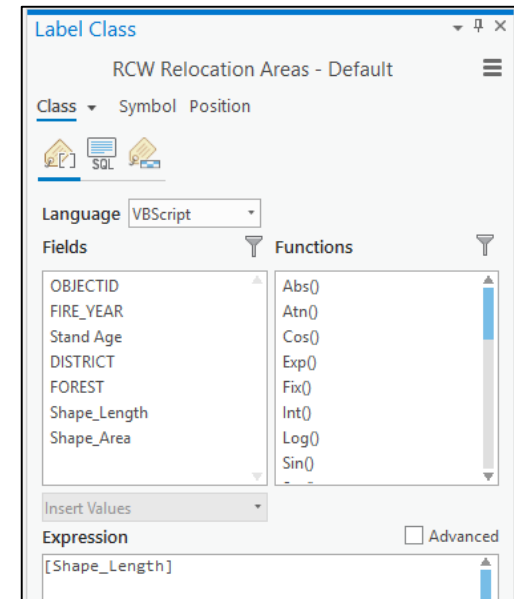


Label Features

Map Label Settings

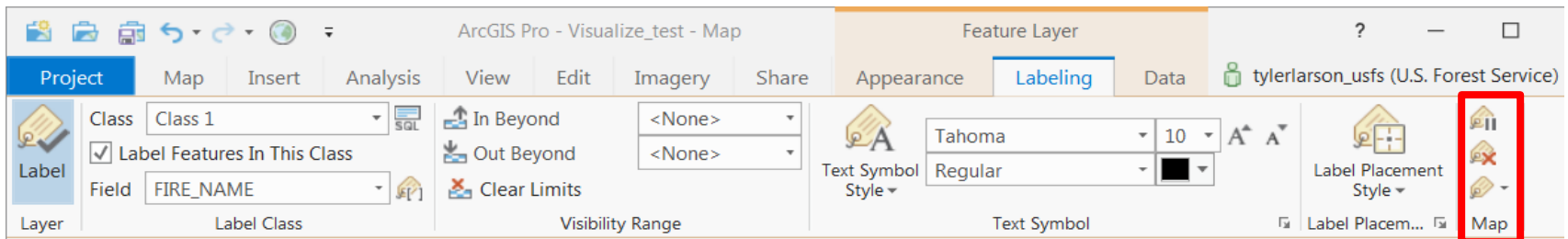


Label Pane



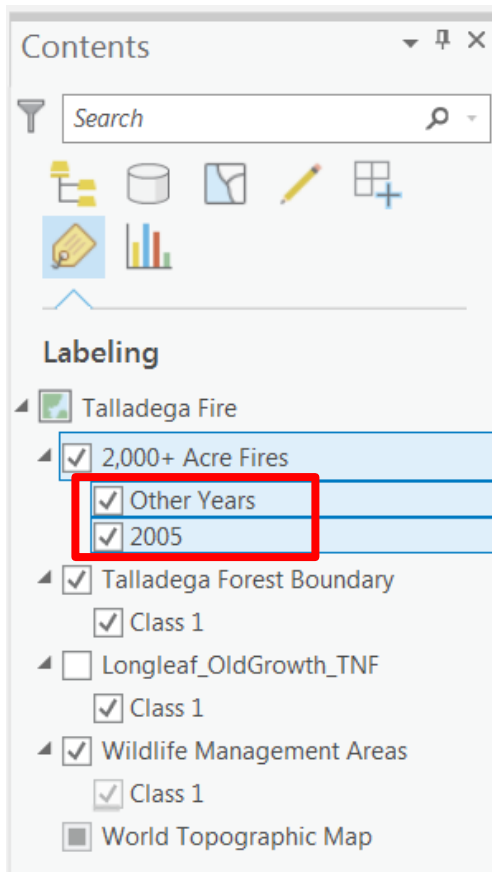
Labeling Basics

Feature Layer Labeling



Label Classes

List by Labeling

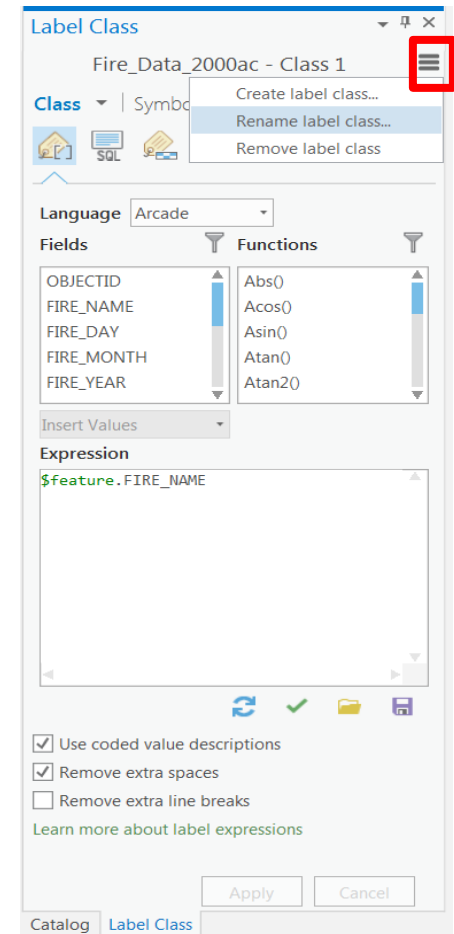


Label classes

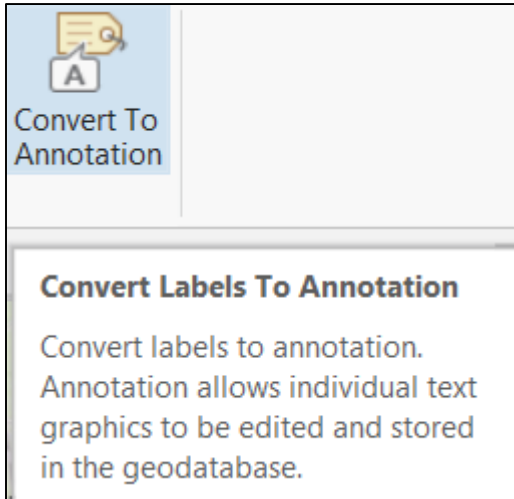
Label Class Tabs



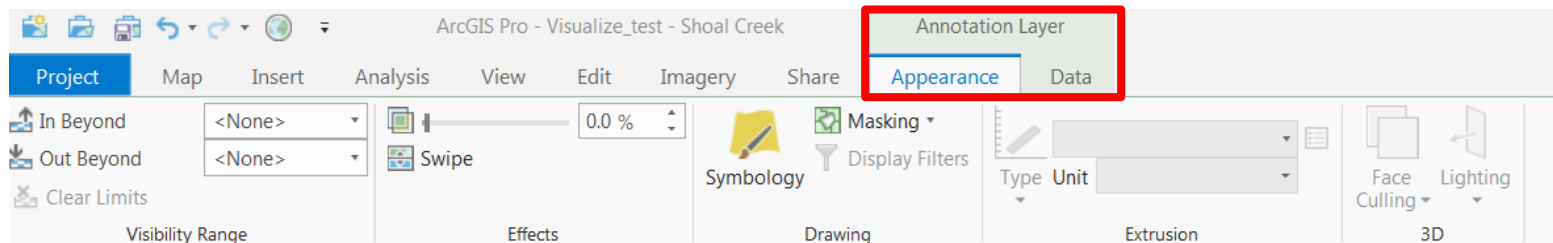
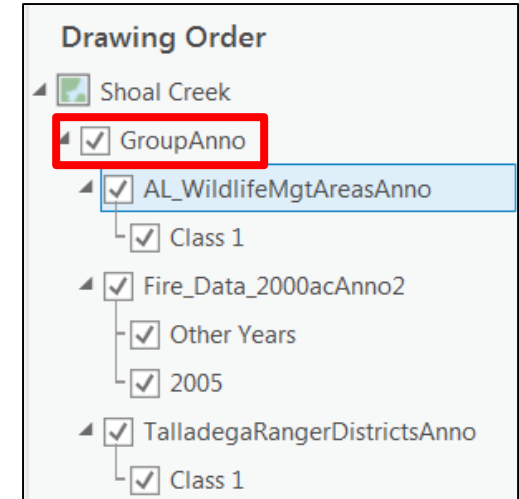
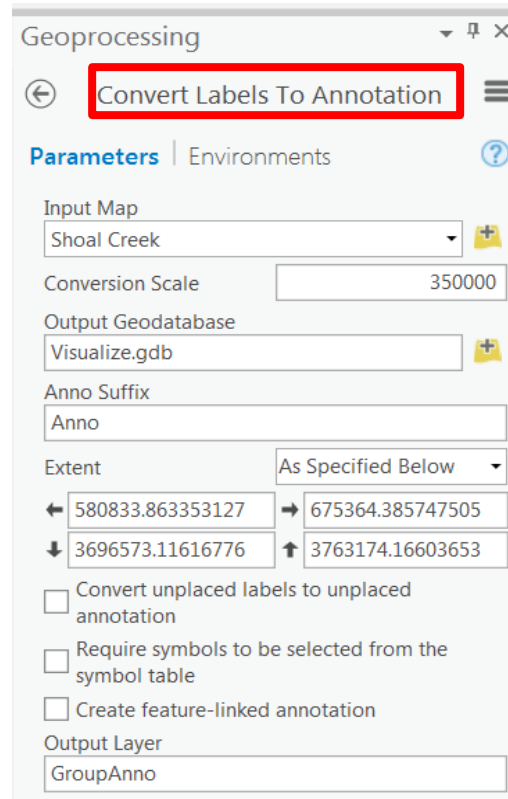
Label Classes



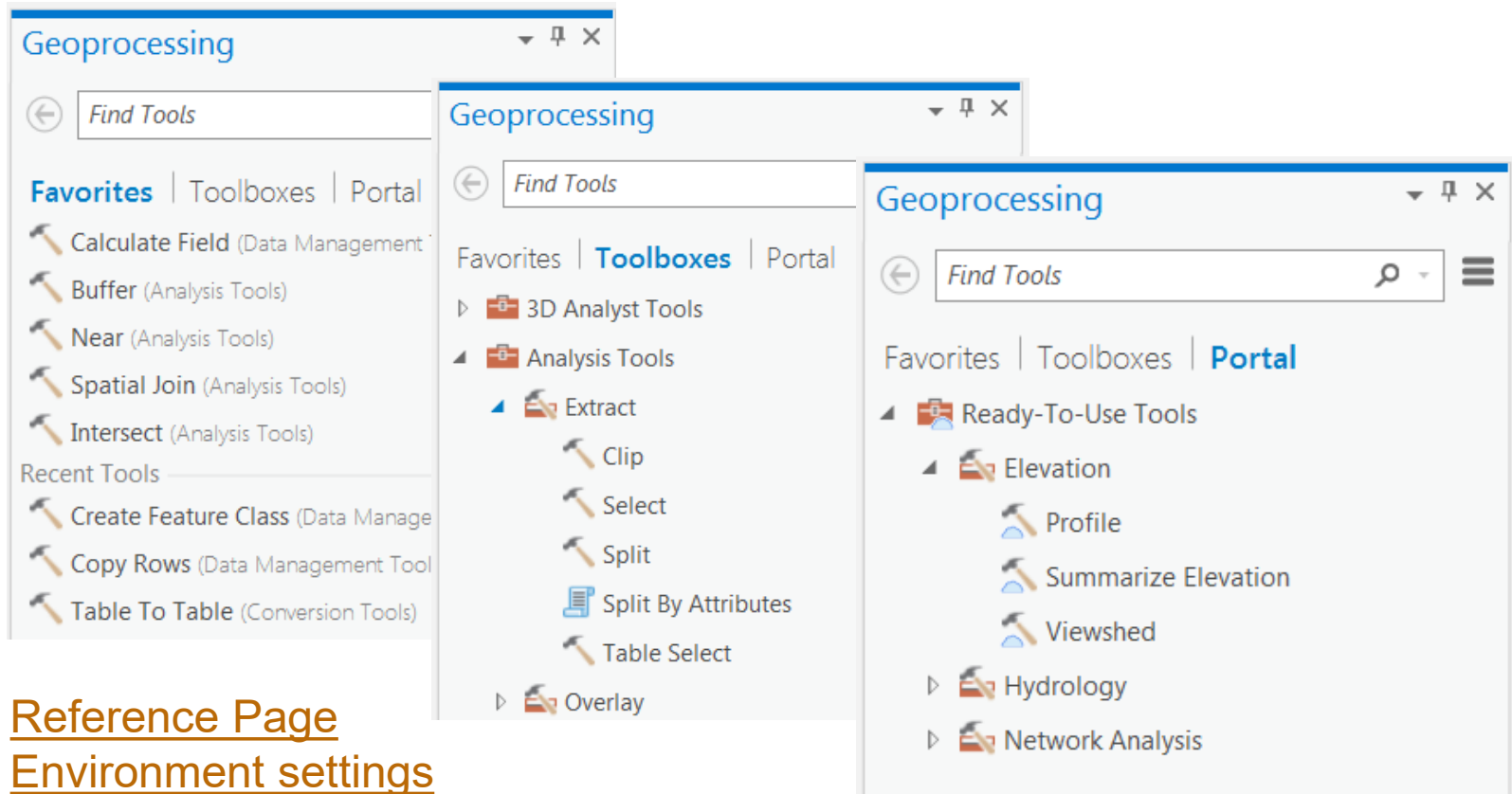
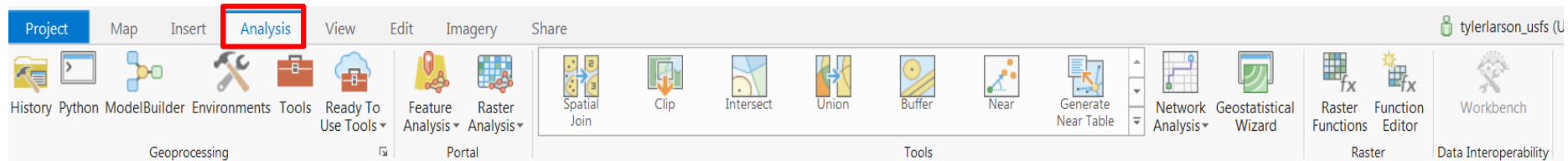
Convert Labels to Annotations



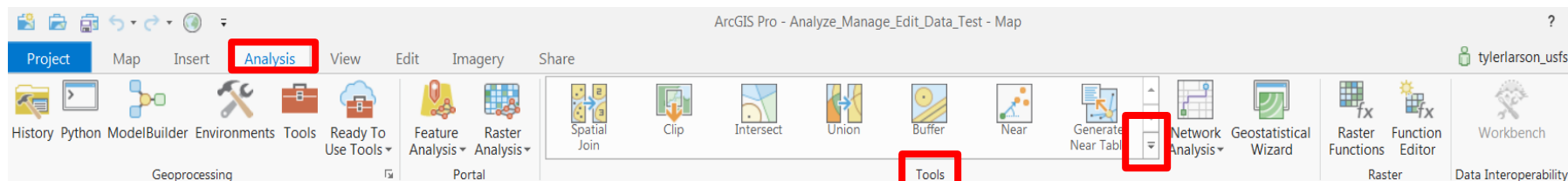
[Annotation Help](#)



Geoprocessing Pane



Geoprocessing



Results

Buffer (Analysis Tools)

Completed Today at 2:44:47 PM

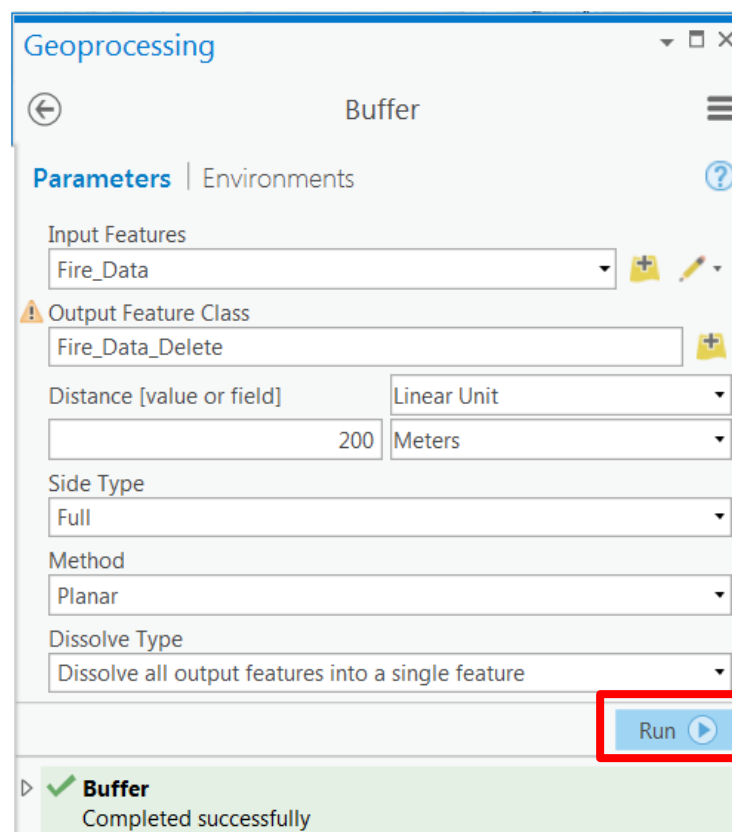
Parameters

Input Features	Fire_Data
Output Feature Class	C:\Users\tylerlarson\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

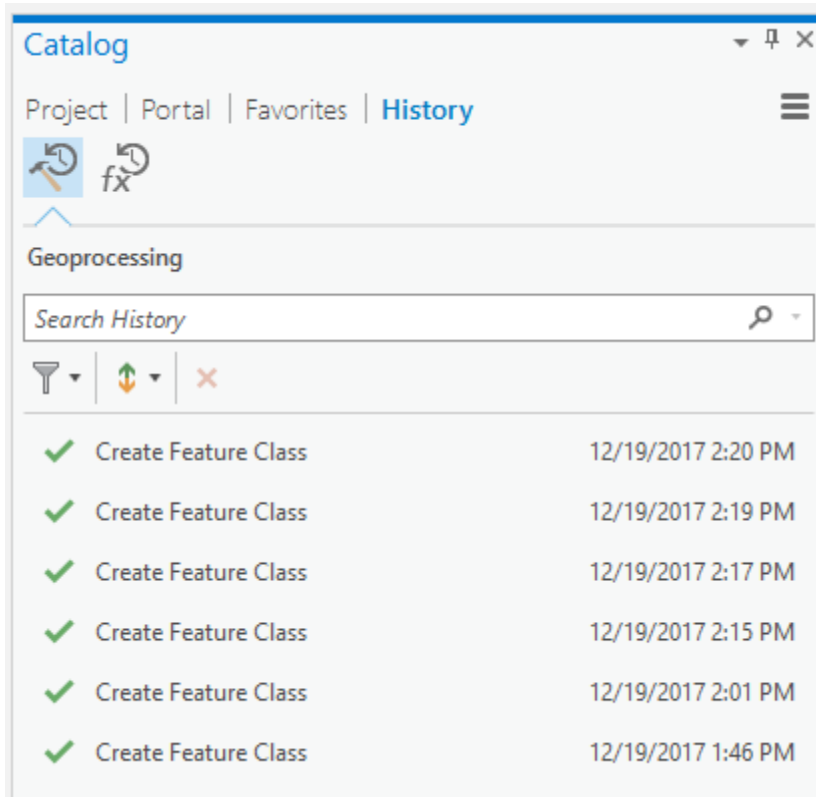
Succeeded at Thursday, February 01, 2018 2:44:46 PM (Elapsed Time: 4.38 seconds)



Hover
←



History/Geoprocessing



Geoprocessing History Unavailable Tools

Configure Popups

Configure Popups

Pop-ups

Text Fields Chart Image

{FIRENAME}

Chart Image

Disable Reset

Element	Description
Title	These elements only allow you to include text and format that text. You can use the Field 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 Field 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.
Attachments	For layers with enabled attachments you can display the list of attachments within the pop-up. When a feature has attachments and you have chosen to show the list, you will see a set of hyperlinks that launch the attachment in the default file handler. Image attachments display by default. Features without attachments display a message that there are no attachments.

Make a Chart

Make a chart

Chart Properties ▾ □ ×

Fire_Data - Comparison of data cou...

Data | General ⓘ

Variables

Category or Date

FIRE_YEAR ▾

Aggregation

COUNT ▾

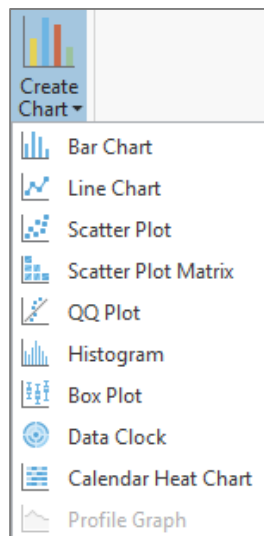
Series

☒ From one or more fields ⓘ

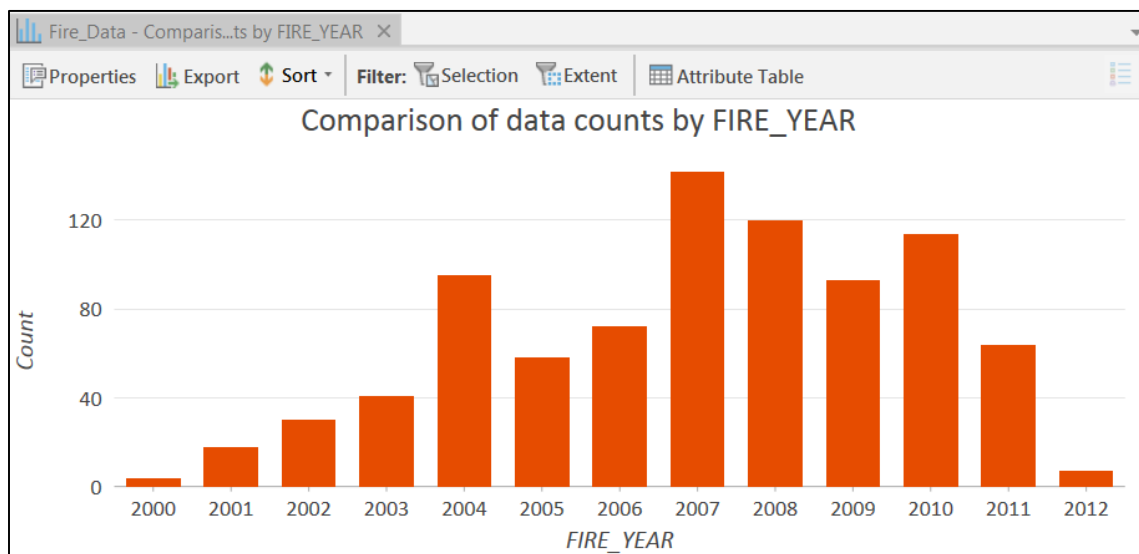
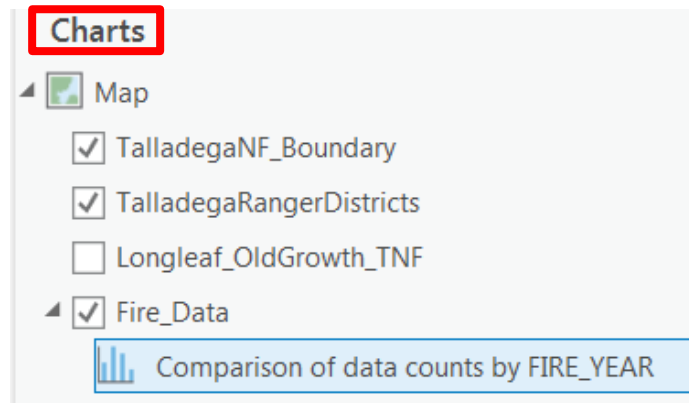
☐ From one field split into series ⓘ

+ × ↑ ↓

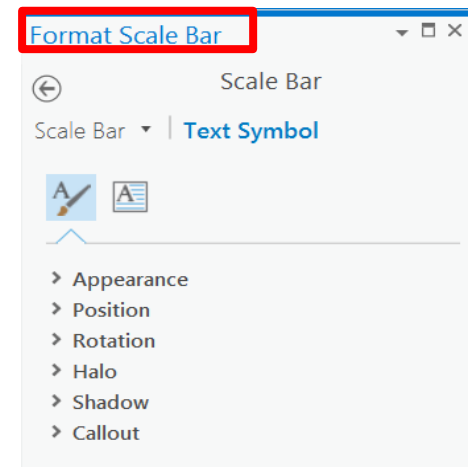
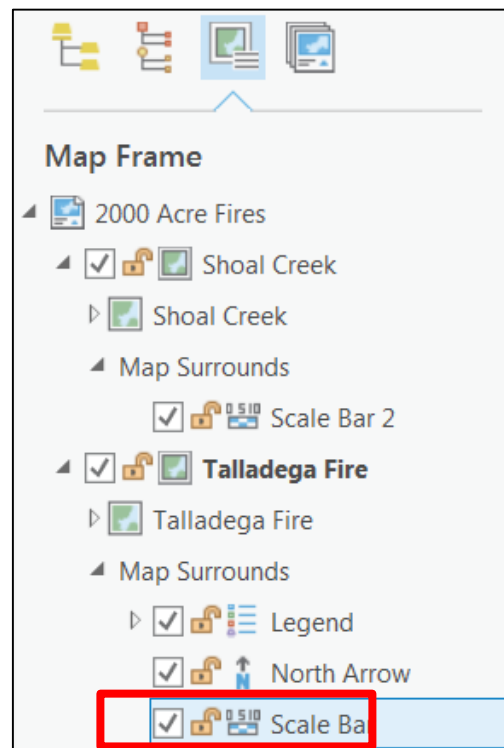
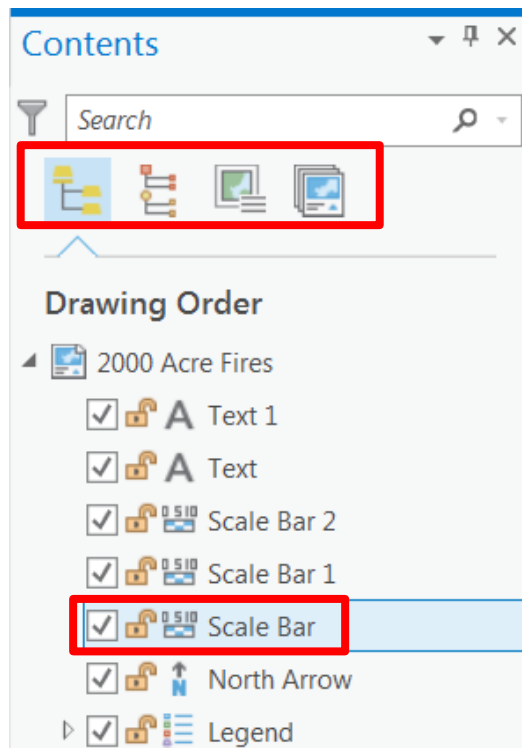
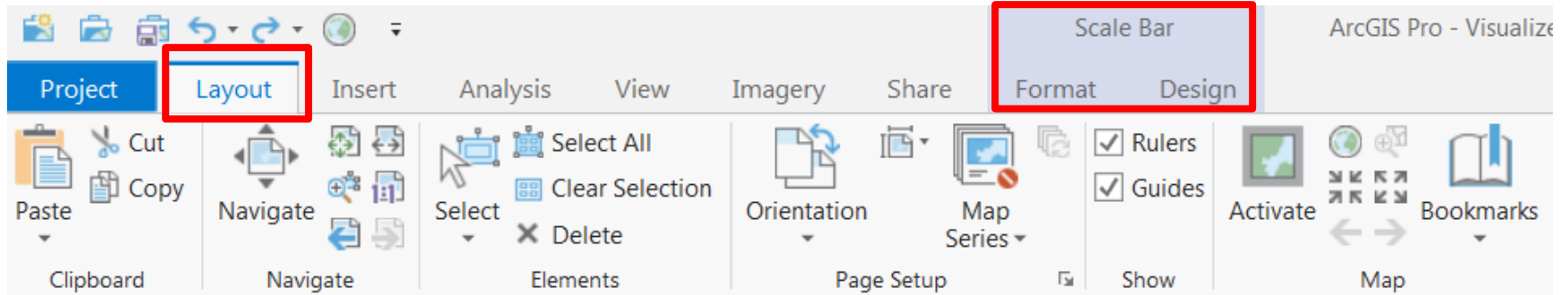
Fields	Label
⋮ COUNT(FIRE_YEAR) ▾	COUNT(FIRE_YEAR)



What is a chart

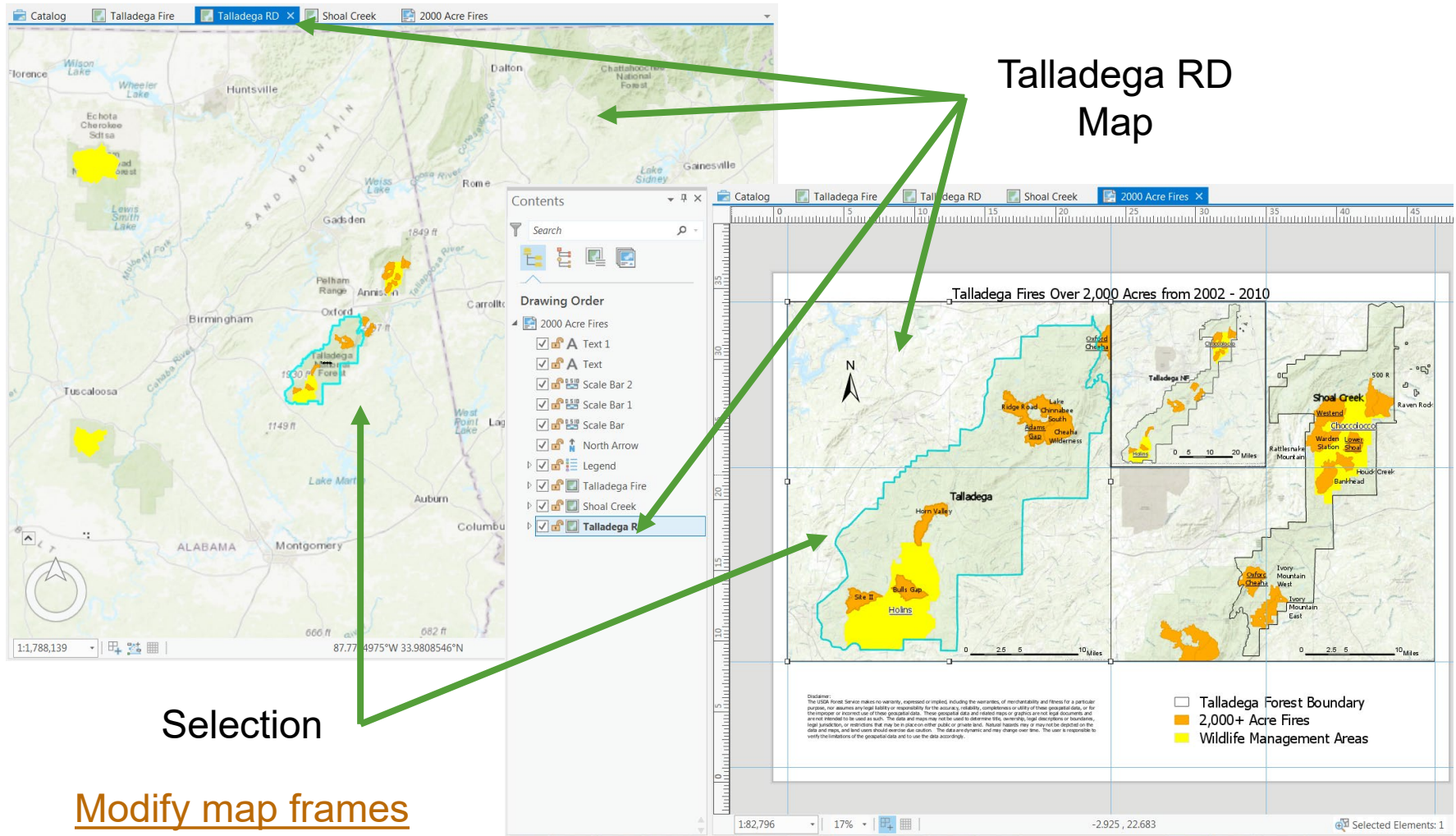


Layout View



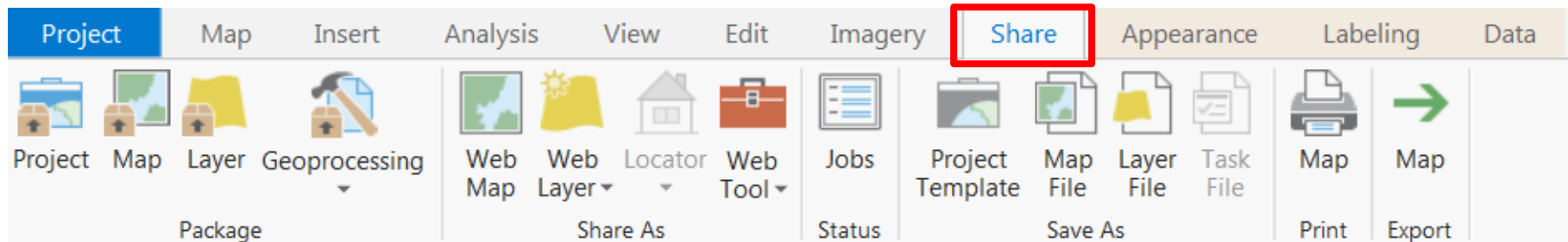
Layouts in Pro
Data Driven
Pages/Map Series

Layout Map Frame



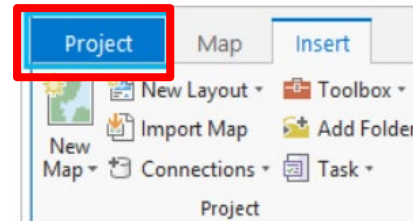
Sharing

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



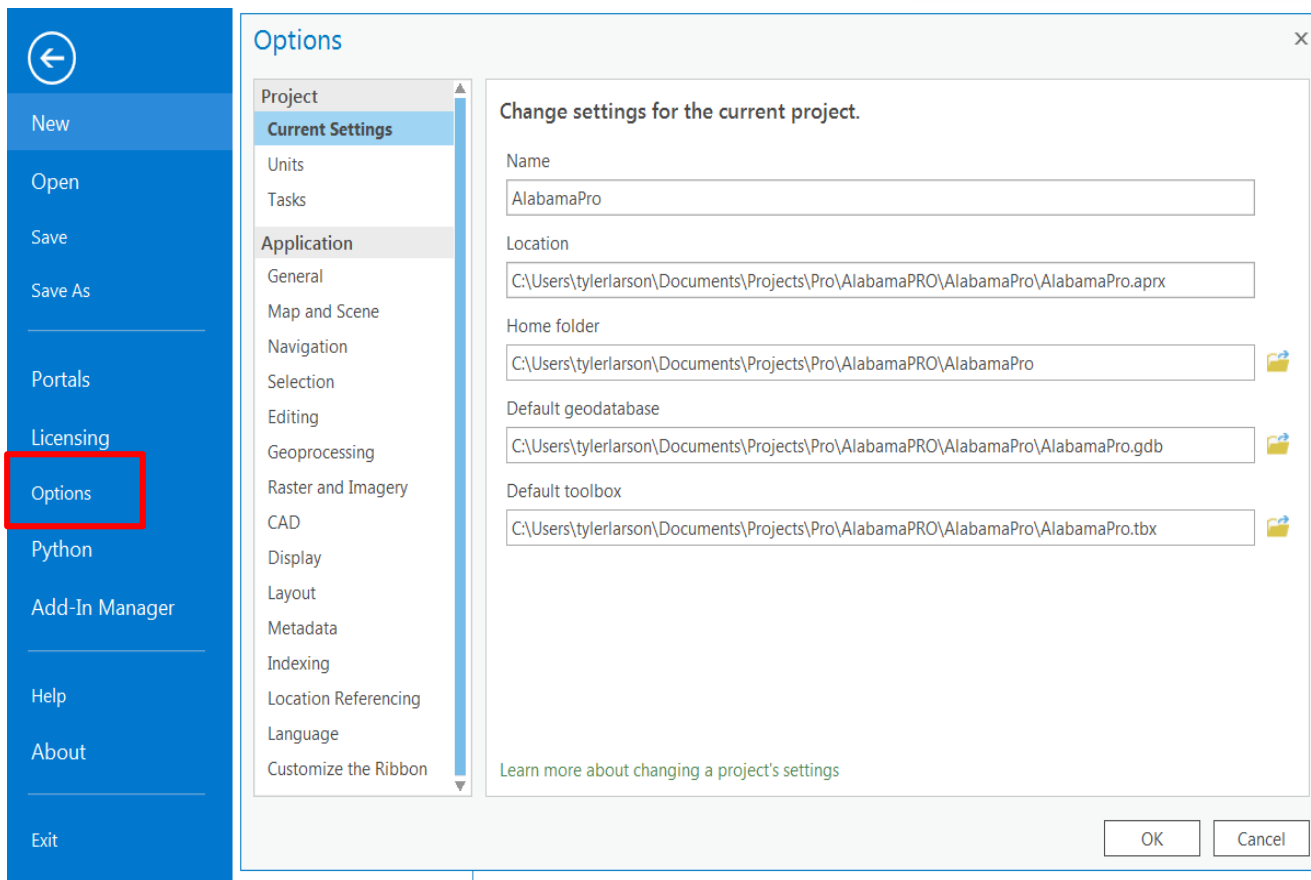
Project Tab

- Similar to the File Menu
- Change project settings



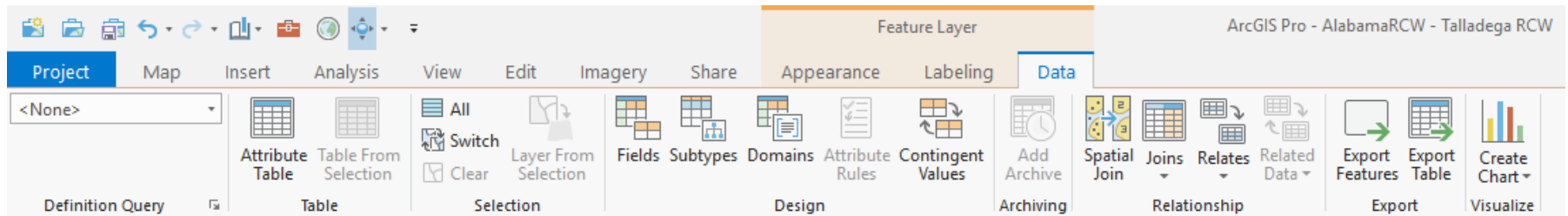
ArcMap

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




Items of Note

- Background geoprocessing
- Patches & updates
- FAQ page
- No more Personal GDB
- Import Styles
- Schema Changes



USFS SharePoint

ArcGIS Pro USFS SharePoint

**ArcGIS Pro**

HomeWorking LocallyWorking in CitrixFS ResourcesUser SupportImplementationArcGIS Pro Working GroupRecentRecycle Bin

Search this site

FS Resources

ArcGIS Pro Environment

Understanding the ArcGIS Pro User Interface (11/18): A system walk through the ArcGIS Pro user interface (UI), discussing changes from ArcMap and providing general tips for acclimating to and managing the UI.

Managing and Using ArcGIS Pro on a Local PC (3/19): Help on accessing Forest Service data, managing a local installation, and general tips & tricks for working more effectively and efficiently in ArcGIS Pro.

XTools AGP 17.1 for ArcGIS Pro 2.1 (6/18): Download this Add-in for your local PC (FS Software Library - RN 2018-462). Currently, XTools AGP provides fewer tools and features than the XTools Pro extension for ArcMap.

Assigning Licenses - Guidance Document for AGOL Administrators (2/19): Guidance on assigning licenses and extensions for ArcGIS Pro.

Working with ArcGIS Pro Offline (1/18): Instructions on how to authorize your AGOL ArcGIS Pro license for offline use.

Data Management

Calculate Geometry Functionality in ArcGIS Pro (8/18): GTAC White Paper that discusses the various ways to calculate geometry in ArcGIS Pro.

Cartography and Display

'Carto in Pro' Report #1 (9/18): GTAC Report evaluating cartographic functionality important in FS mapping workflows, including: Exporting to CMYK; Importing .mxds from ArcMap; Pantone colors; General information about annotation.

ISSUE: ArcGIS Pro Does Not Support Exporting to Adobe Illustrator (AI) File Formats (4/18): GTAC Issue Paper discussing the issue, impacts and possible alternatives.

Data Driven Pages vs Map Series (2/18): GTAC White Paper that compares the ArcMap Map Series tools for creating a series of maps ("map book") with the new ArcGIS Pro Data Driven Pages.

Automating and Scripting

CASE STUDY: Automated Mapping using Python in ArcGIS Pro (5/18): GTAC discusses the steps required to move an ArcMap Python 2.7 script into ArcGIS Pro Python 3.0, using as a case study a mapping script associated with the Aerial Fire Retardant Avoidance Mapping Projects.

New 'Tasks' Functionality in ArcGIS Pro (2/18): GTAC White Paper review of the new Task functionality that allows you to author or run pre-configured steps, guiding the user through an interactive workflow.



Resources

- [Time saving tips](#)
- [Frequently asked question](#)
- [About ArcGIS Pro Help](#)
- [Geospatial Training & Awareness website](#)
- [GTAC Home Page](#)
- [ESRI training site](#)
- [ArcGIS Pro SharePoint Site](#)



Additional Learning Resources

- [Pro Quick Start Video Tutorials](#)
- [Pro Quick Start Self-Paced Tutorials](#)
- [GeoNet ArcGIS Pro](#)
- [Pro Help Page](#)
- [17 Lessons & Plans](#)
- [GeoNet List of Learning Resources](#)
- [FS Review of Esri Pro Training Resources](#)



Demo

