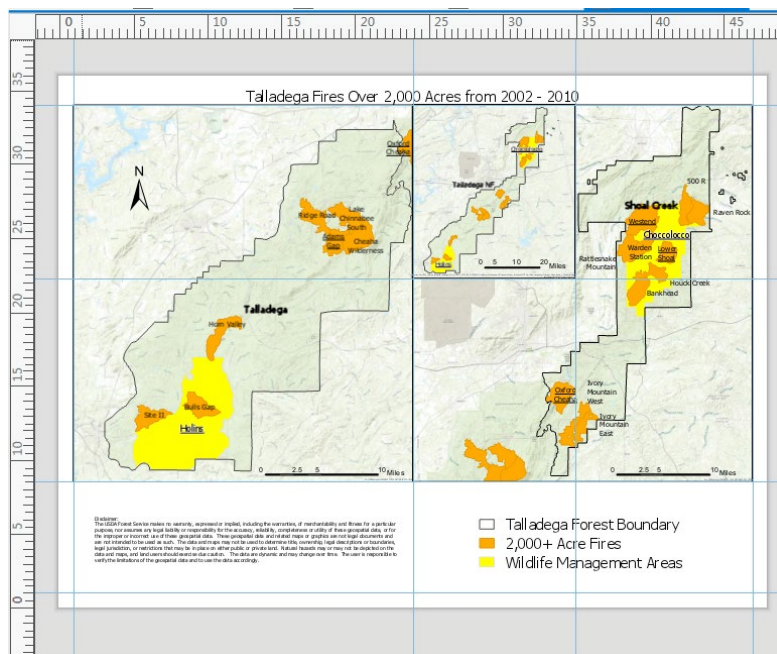


EXERCISE 2

Visualize, Layout & Share



Introduction

This lesson is designed to expose some of the processes for visualizing your data in ArcGIS Pro by managing and labeling features. Experience working hands on with the new Layout will also be covered. Additionally, some options for sharing GIS work will be covered.

Objectives

- Manage and label features
- Design a Layout
- Share your work

Required Data

- Course data downloaded and unzipped



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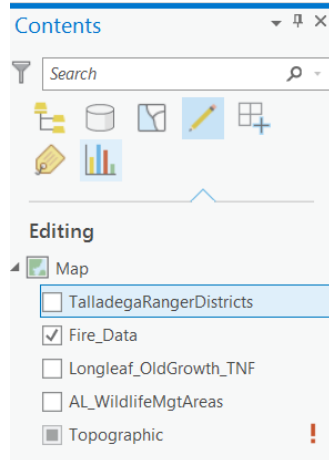


Part 1: Prepare & View Data


ArcGIS Pro always has editing activated unlike ArcMap where you had to start and stop an editing session. For detailed information about editing in ArcGIS Pro [click here](#) and [here](#).

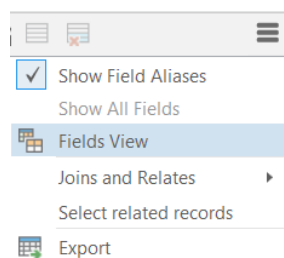
A. Manage the editing workspace

1. Navigate to `\ ProCourseProjects\Exercise2\Visualize` and open the **Visualize** project.
2. On the **Edit** tab, in the Manage Edits group click **Status**  to display the Editing Status dialog box.
3. **Review** the editing permission for the layers in your workspace by expanding the arrows and click **Close**.
4. In the Contents pane, **click the List By Editing tab** . **Uncheck all layers except Fire_Data.**



B. Prepare Attribute Table

1. Right click the **Fire_Data** layer on the Contents pane and **click attribute table** to open it. This exercise does not need all of these fields visible or to be populated.
2. From the option dropdown menu  at the top right of the attribute table, **select Fields View**.



3. **Deselect the following fields** to make them not visible:
 - i. NIFMID_CN
 - ii. NIFMID_LNK
 - iii. DATA_SOURC



- iv. COST
- v. LOCAL_NUMB
- vi. REPORTED_A

4. Click **save** from the **Changes** group on the Fields ribbon tab.

Visible	Read Only	Field Name	Alias	Data Type	Allow NULL	Highlight	Number Format	Domain	Default	Length
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	OBJECTID	OBJECTID	Object ID	<input type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Shape	Shape	Geometry	<input checked="" type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>	NIFMID_CN	NIFMID_CN	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				34
<input type="checkbox"/>	<input type="checkbox"/>	NIFMID_LNK	NIFMID_LNK	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				17
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FIRE_NAME	FIRE_NAME	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				34
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FIRE_DAY	FIRE_DAY	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				2
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FIRE_MONTH	FIRE_MONTH	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				2
<input checked="" type="checkbox"/>	<input type="checkbox"/>	FIRE_YEAR	FIRE_YEAR	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				4
<input type="checkbox"/>	<input type="checkbox"/>	DATA_SOURC	DATA_SOURC	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				34
<input type="checkbox"/>	<input type="checkbox"/>	COST	COST	Double	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input type="checkbox"/>	LOCAL_NUMB	LOCAL_NUMB	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				8
<input checked="" type="checkbox"/>	<input type="checkbox"/>	CAUSE	CAUSE	Long	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input type="checkbox"/>	<input type="checkbox"/>	REPORTED_A	REPORTED_A	Double	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input type="checkbox"/>	SIZE_CLASS	SIZE_CLASS	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				1
<input checked="" type="checkbox"/>	<input type="checkbox"/>	AGENCY	AGENCY	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				3
<input checked="" type="checkbox"/>	<input type="checkbox"/>	COMMENTS	COMMENTS	Text	<input checked="" type="checkbox"/>	<input type="checkbox"/>				60
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Shape_Length	Shape_Length	Double	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Shape_Area	Shape_Area	Double	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Numeric			

5. Close the **Fields** tab and **view** the updated **attribute table** and **close** it.

Part 2: Label Features, Add Geometry, Export Selection

For the remainder of this exercise you will prepare your data for displaying in a layout and finally share as a web map. The goal is to display all fires that that burned an area greater than 2,000 acres so we must prepare the data by calculating the acres for each fire.

A. Prepare the Data

1. Click the **full extent** button.
2. **Open** the **Fire_Data** attribute table.
3. From the **Analysis** tab, in the **Geoprocessing** group, **click tools** to open the Geoprocessing pane.



4. From the **search tool bar** in the Geoprocessing pane type **Add Geometry**.
5. **Open** the **Add Geometry Attributes** tool by single clicking on it.
6. **Hover** the cursor over the **red asterisk/information** icon to see the Geometry Properties.

Geometry Properties (Required)

Determines the geometry or shape properties that will be calculated into new attribute fields.

- Area—Adds an attribute to store the area of each polygon feature.
- Geodesic area—Adds an attribute to store the geodesic area of each polygon feature.
- Centroid coordinates—Adds attributes to store the centroid coordinates of each feature.
- Central point coordinates—Adds attributes to store the coordinates of a central point inside or on each feature.
- Extent coordinates—Adds attributes to store the extent coordinates of each feature.
- Length—Adds an attribute to store the length of each line feature.
- Geodesic length—Adds an attribute to store the geodesic length of each line feature.
- 3D length—Adds an attribute to store the 3D length of each line feature.
- Line bearing—Adds an attribute to store the start-to-end bearing of each line feature. Values range from 0 to 360, with 0 meaning north, 90 east, 180 south, 270 west, and so on.
- Line start, midpoint, and end coordinates—Adds attributes to store the coordinates of the start, mid, and end points of each feature.
- Number of parts—Adds an attribute to store the number of parts comprising each feature.
- Length of perimeter—Adds an attribute to store the length of the perimeter or border of each polygon feature.

Geometry Properties (v)

Length Unit

Area Unit

Coordinate System

7. **Enter the following parameters:**
 - i. For input Features = **Fire_Data**
 - ii. Geometry Properties = **Area**
 - iii. Length Unit = **leave blank**
 - iv. Area Unit = **Acres**
 - v. Coordinate System = **Fire_Data**
8. Click **Run**. A new field is added to the Fire_Data attribute field. Scroll to the right to view the new field **POLY_AREA** field.

Geoprocessing

← Add Geometry Attributes

Parameters | Environments

Input Features
Fire_Data

Geometry Properties (v)
Area

Length Unit
[Blank]


Area Unit
Acres

Coordinate System
NAD_1983_UTM_Zone_16N

Field:	Selection:		
COMMENTS	Shape_Length	Shape_Area	POLY_AREA
	1349.007636	43644.848644	10.784867
	440.830627	8427.366046	2.082446
	207.072561	2441.655693	0.603346
	183.492336	1920.47815	0.47456
	224.787413	2214.389282	0.547187
	584.351223	22237.719317	5.495055
	345.418271	7503.655485	1.854192
	570.056632	21623.484604	5.343275
	1219.824532	79804.535312	19.720113
	588.809886	20440.45967	5.050943
	397.584525	9636.775829	2.381297

The order of tables can be adjusted from the Fields View.

B. Export Table Selection to New Feature Layer

1. Click on the **Map** tab and click on **Select by Attributes** in the selection group.
2. In the Select Layer by Attribute pane, select **Fire_Data** from the **Layer Name or Table view** drop down.
3. Selection type is **New selection**.
4. Create Clause or click the **Switch to SQL Edit Mode**  and type **POLY_AREA >= 2000**.

Geoprocessing

Select Layer By Attribute

Parameters Environments

Input Rows
Fire_Data

Selection type
New selection

Expression

Load Save Clear

Clause SQL

Where POLY_AREA is greater than or equal to 2000

✓ The SQL expression is valid.

+ Add Clause

or

Geoprocessing

Select Layer By Attribute

Parameters Environments

Input Rows
Fire_Data

Selection type
New selection

Expression

Load Save Clear

Clause SQL

POLY_AREA >= 2000

✓ The SQL expression is valid.

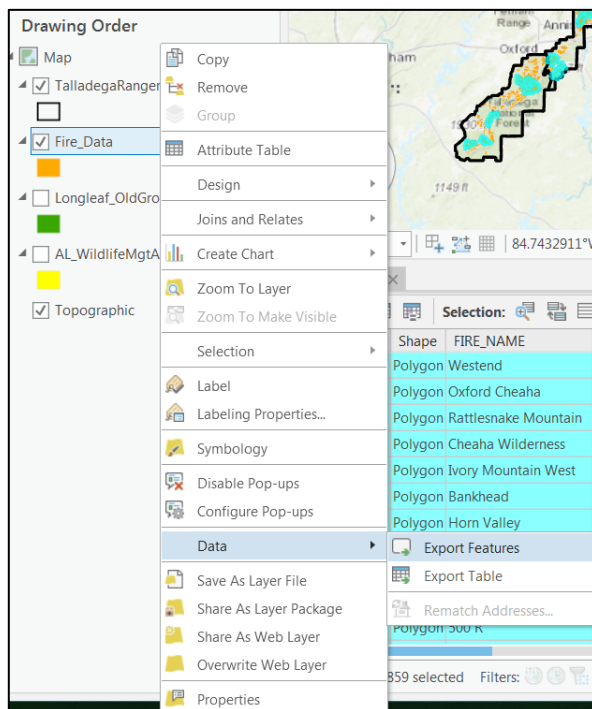
5. Click **Run**.
6. **19** fire polygons should be **selected**.

Fire_Data

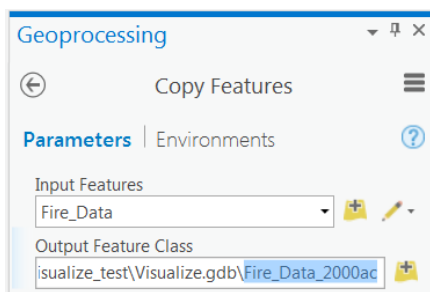
OBJECTID	Shape	FIRE_NAME	FIRE_DAY	FIRE_MONTH
637	Polygon	Westend	10	03
614	Polygon	Oxford Cheaha	11	03
589	Polygon	Rattlesnake Mountain	14	03
423	Polygon	Cheaha Wilderness	04	12
203	Polygon	Ivory Mountain West	26	02
447	Polygon	Bankhead	11	02
250	Polygon	Horn Valley	04	03
86	Polygon	Raven Rock #1	06	03
247	Polygon	Lake Chinnabee South	14	02
618	Polygon	Ridge Road	25	01
342	Polygon	500 R	23	02

19 of 859 selected Filters:

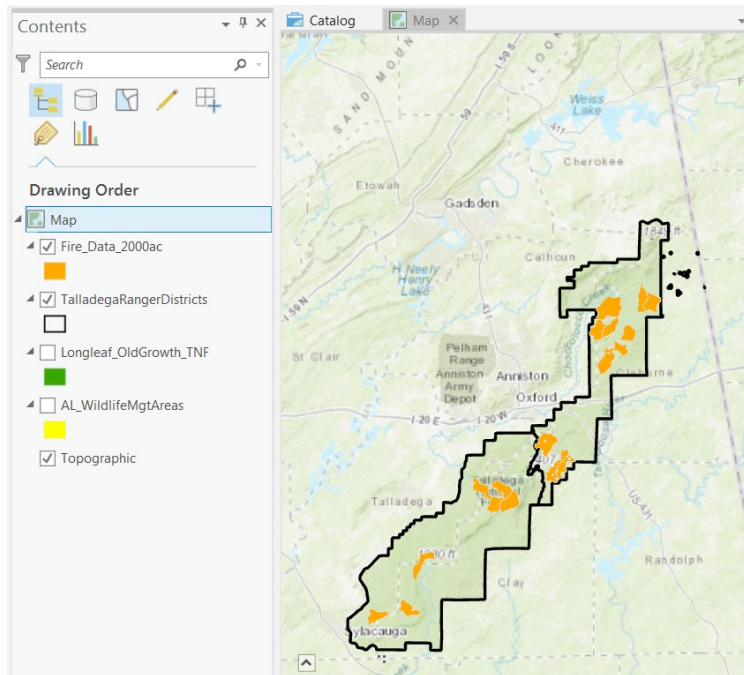
7. Right click the **Fire_Data** layer, expand the **Data** option and select **Export Features**.



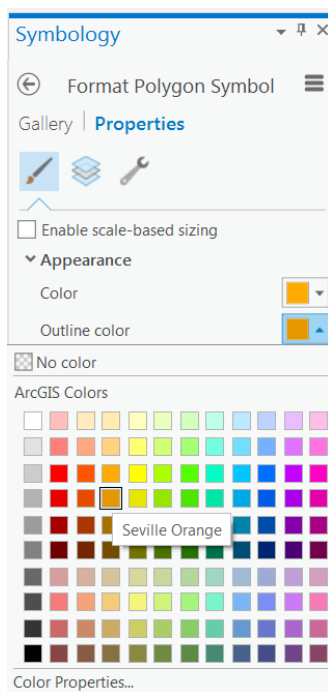
8. The **Copy Features** Geoprocessing pane opens. Leave **Fire_Data** as the Input Features and rename the Output Feature Class to **Fire_Data_2000ac**.



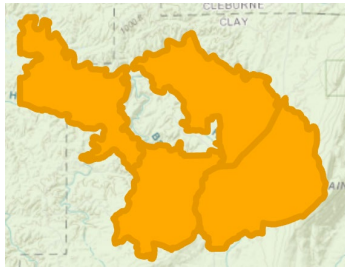
9. Click **Run**. The new layer is added to the Contents pane.
10. **Right click the Fire_Data layer and remove it from the Contents pane.**



11. **Close the Geoprocessing pane.**
12. **Click the color patch for Fire_Data_2000ac to open the symbology pane.**
13. Switch to the **Properties** tab, select **Seville Orange** for Outline Color and set the **Outline width** to **2 pt**. This will help distinguish the different fire boundaries.



14. Click apply.



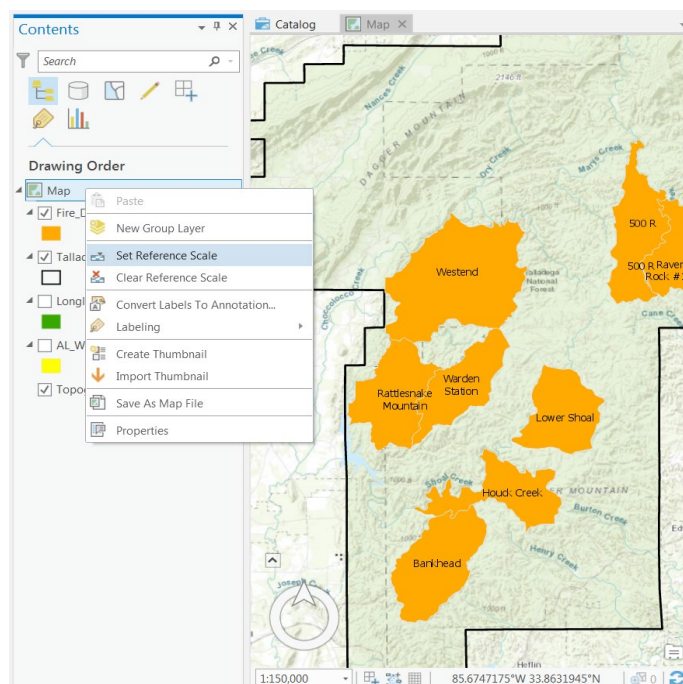
15. Save your project.

C. Label Fire Data

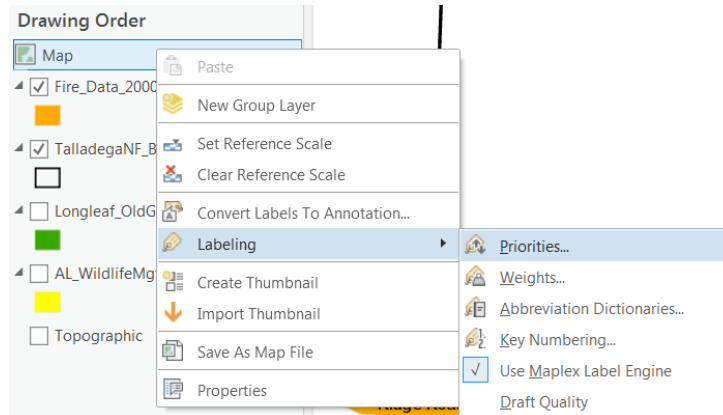
In ArcGIS Pro, labeling refers specifically to the process of automatically generating and placing descriptive text for features in maps and scenes. Label positions are generated automatically. Labels are not selectable. You cannot edit the display properties of individual labels. For more information on labeling [click here](#).

1. In the Contents pane, right click the layer **Fire_Data_2000ac** and select **Label** from the context menu.
2. **Zoom** in to the map to **1:200,000** or type **1:200,000** into the map scale on the map view.
3. **Right click** the **map title** and select **Set Reference scale**.

By default, labels do not scale as you zoom in or out on your map; that is, they stay the same size on the page regardless of the map scale unless you set a reference scale. The reference scale is now set and can be clear by selecting Clear Reference Scale.



4. Right click map title and hover over Labeling and select Priorities.



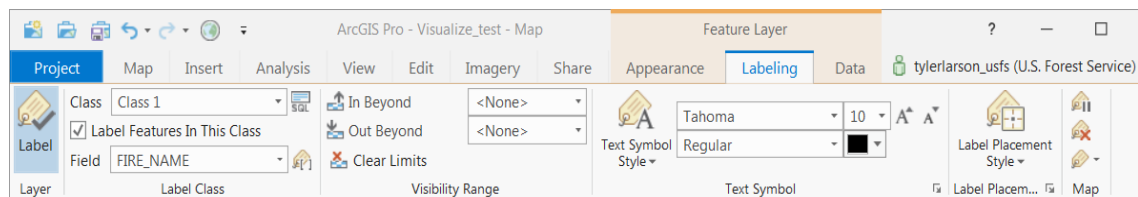
5. Move fire_Data_2000ac to the top and click Apply then OK.

Label priority controls the order that labels will be placed on the map. Labels with a higher priority will be placed before labels with a lower priority.

Different label settings are found in the map title properties window under the label tab, from the Map tab in the Labeling group but the main options will be available from the Labeling tab in the Feature Layer contextual tabs and the Label Class pane.

6. Select the Fire_Data_2000ac layer in the Contents pane.

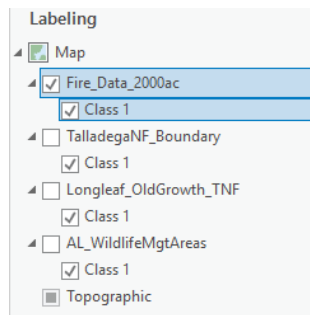
7. On the ribbon, under the Feature Layer context menu, click the labeling tab to display the labeling tools. Most of these options are found in the Label Class pane as well



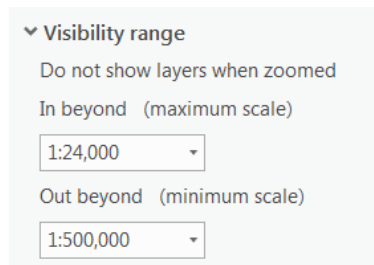
8. Right click the layer Fire_Data_2000ac and select Label Properties which opens the Label Class pane.

Note: By default, labels are grouped in a [label class](#). All labels in a class have the same properties—the same text symbol, the same placement settings, and so on. A layer can have more than one label class. Additional label classes allow you to define different properties for subsets of labels within a layer. You create new label classes from the Menu button on the Label Class pane.

9. From the Contents pane switch to list by Labeling. Here you see your label classes.



10. From the **Label Class** pane click **Scales**,  and set the visibility range as follows:

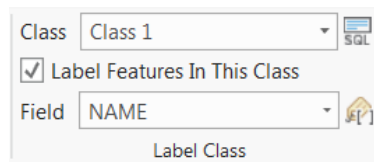


11. **Click the full extent button.** All labels should no longer be visible as they are beyond the minimum scale. **Zoom in and out** to see the labels appear and disappear.

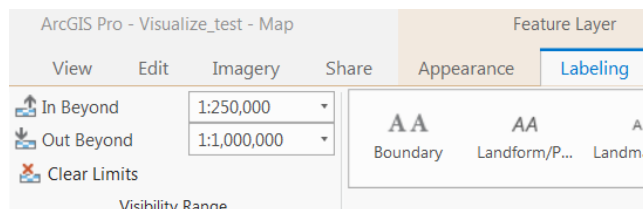
12. Return to the **full extent**.

13. **Activate AL_WildlifeMgtAreas** layer then **right click** and **select Label**.

14. From the Ribbon click the **Labeling** tab and confirm **Name** is **selected** for the **Field** from the **Label Class** group.



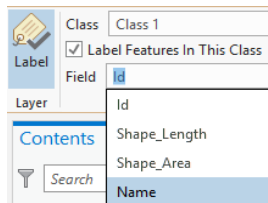
15. From the **Labeling** tab on the Ribbon **set the visibility range** to the following parameters. You may also type the value into the box or click the drop down menu and go to customize and add the value to the display list.



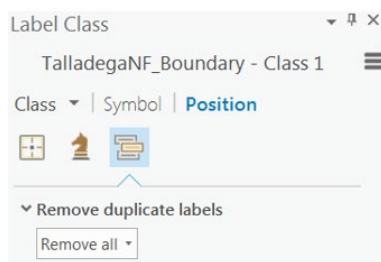
16. Adjust the **font size** to **21pt**.

17. **Activate the TalladegaNF_Boundary** layer, **right click** and **turn on Labeling**.

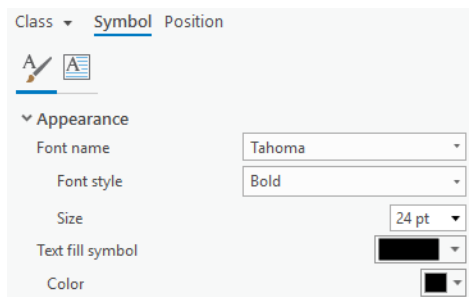
18. From the **Labeling** contextual tab in the **Label Class** group change the **Field** value from **Id** to **Name**.



19. From the **Map** tab select the **Labeling** tab from **Bookmarks**. Notice that the Talladega Forest has multiple labels contained in the smaller polygons.
20. From the **Label Class** pane select the **Position** tab.
21. Click the **conflict resolution** icon and expand the **Remove Duplicate Labels** arrow.
22. From the dropdown select **Remove all**.

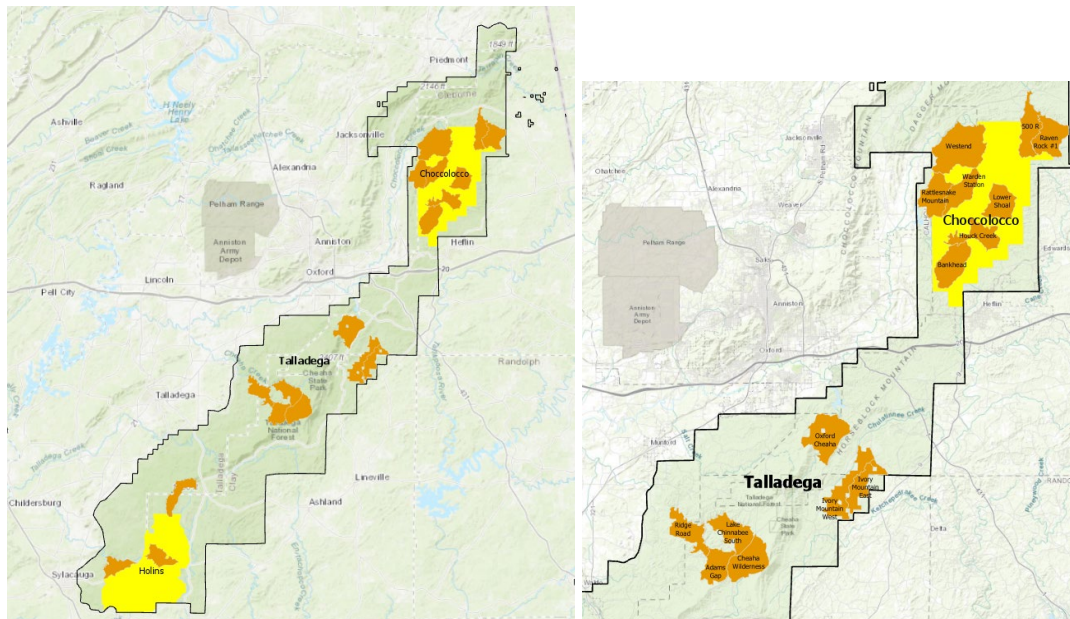


23. From the **Label Class** pane select the **Symbol** tab and click on the **General** icon.
24. Set the font style **bold**, text size to **24 pt.** and the **fill color black**.



25. Click **apply**.
26. **Complete the following steps Fire_Data_2000ac** layers:
 - i. **Highlight** the layer from the TOC.
 - ii. From the **Label Class** pane select the **Position** tab.
 - iii. Click the **conflict resolution** icon and expand the **Remove Duplicate Labels** arrow.
 - iv. From the dropdown select **Remove all**.
27. **Zoom to the full extent.**

Only the AL_WildlifeMgtAreas and TalladegaNF_Boundary labels should be visible. Zoom in and out to see the Fire_Data_2000ac labels appear and the other labels disappear.



28. **Close the Symbology and Label panes** if still open.
29. **Revert** TOC drawing order to **Drawing Order**.
30. **Save** your project.

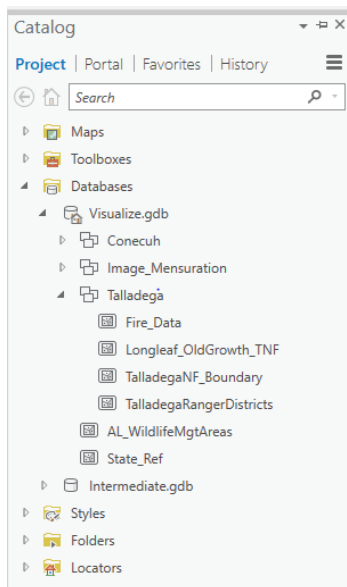
Part 3: Prepare Map for Publication

By adding a layout to your project, you can print or export your map. [Click here](#) for more information

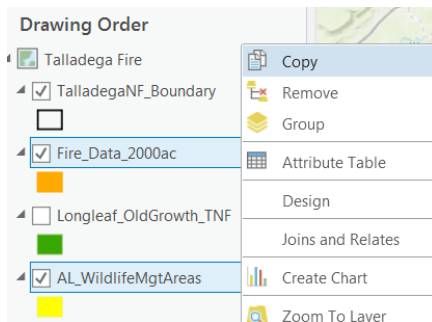
A. Create Additional Map Views/Data Frames

For the map layout you will produce a layout containing 2 map views (known as data frames in ArcMap).

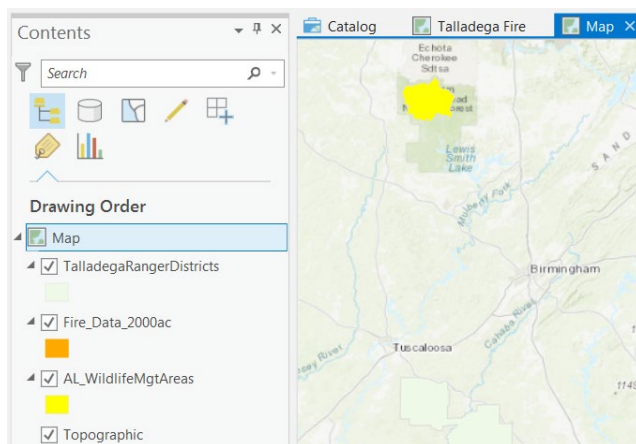
1. From the **Insert tab**, insert a **New Map** from the **Project group**. A new map appears.
2. **Right click Map**, select **properties** from the contents pane and from the **General tab** rename the map **Oakmulgee RD** and click **OK**.
3. From the **Catalog pane** in the **database folder > Visualize.gdb**, add **TalladegaRangerDistricts** (not boundaries) layer from the **Talladega dataset** to the **Contents pane** of the new map view.



4. **Navigate** back to the original map view and rename it **Talladega Fire**.
5. **Holding down the ctrl key**, select **AL_WildlifeMgtAreas** and **Fire_Data_2000ac**, from the Contents pane, **right click** and select **copy**.

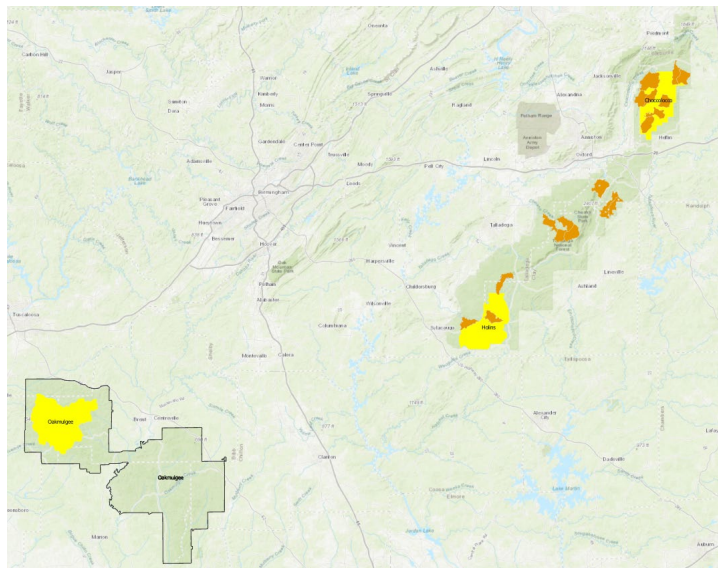
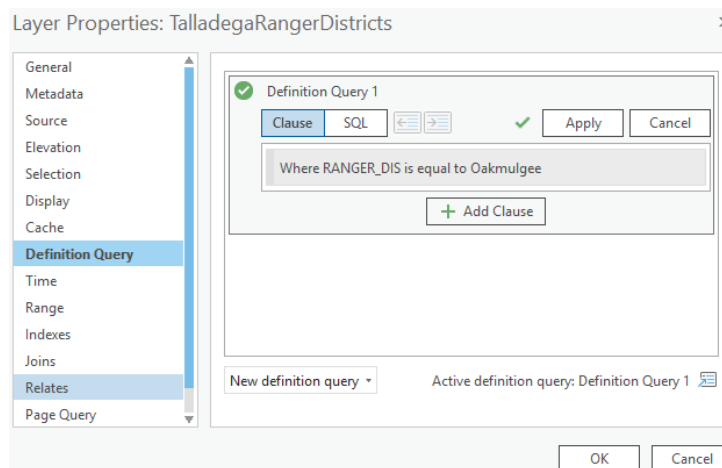


6. **Navigate** back to the **Oakmulgee RD Map view** and **right click** on **Map title** in the **Contents** pane and select **Paste** to paste the layers into the Contents pane. Labels and symbology are carried over.

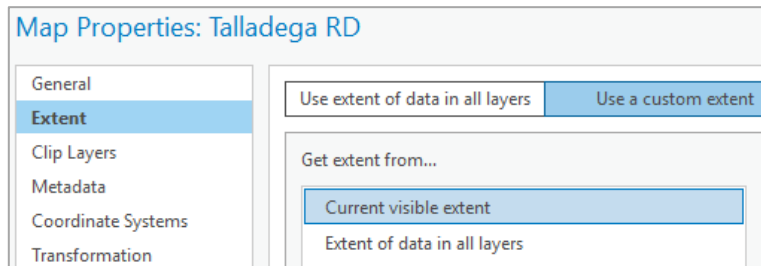


7. **Click** on the **color patch** of **TalladegaRangerDistricts**.

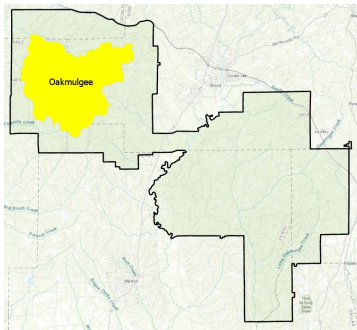
8. From the **symbology** pane select **no color and 80% gray outline at 2 pt.** and click **apply**.
9. **Close** the **symbology** pane.
10. Right click **TalladegaRangerDistricts** and **select properties**.
11. Click on the **Definition Query** tab and **add a new clause** with the following **parameters**:
 - i. Field = **RANGER_DIS**
 - ii. **Is Equal to**
 - iii. Values = **Oakmulgee**
12. Click **Add**, **verify** your query statement and click **OK**. Only the Talladega district is displayed.



13. **Zoom** into and center the **Oakmulgee Ranger District** at a **1:300,000** scale. Note there are no fires over 2,000 acres in this ranger district.
14. **Right click** the **Map title** in the Contents pane and **select properties**.
15. From the **Extent** tab select **Custom extent** and in the **Calculate from** drop down menu select **Current visible extent** and click **OK**.



16. **Highlight** the **AL_WildlifeMgtAreas** layer from the Contents pane (Labels should have carried over).
17. From the **symbol tab** under the **General icon** in the **Label tab** set font **Size** to **14 pt**.




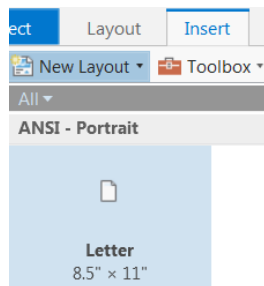
18. **Save** your project.

Part 4: Design a Layout

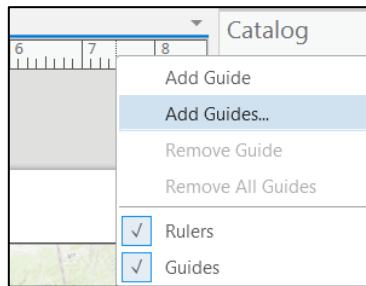
[Detailed information about layouts.](#)

A. Add a Layout to your project

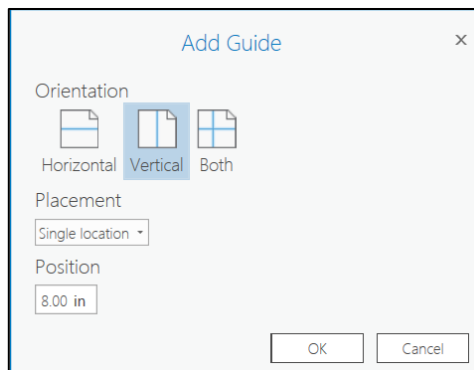
1. From the **Inset tab**, in the **Project group**, click **New Layout** . You can pick a page size from the gallery, create a custom page size, select a page size from a printer or open a layout file. **Select Letter 8.5" x 11"**. To change the page size or orientation after creation, go to the **Layout tab** and use the controls in the **Page Setup group**.



2. Right click **Layout** in the contents tab and **select properties**.
3. From the **General tab**, **change the name** from Layout to **2000 Acre Fires** and click **OK**.
4. **Right click** the **top ruler** and **click Add Guides**.



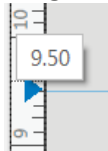
5. Add a **vertical** guide at **8.00 in.**



6. Right click at **0.5 inches** on the vertical ruler guide and **select Add Guide** to directly add a guide.

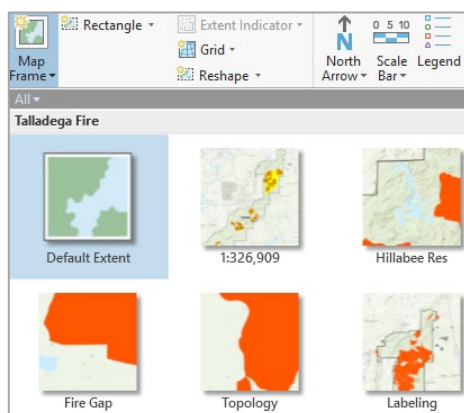
7. **Add** another **vertical** guide at **4.25** and **horizontal** guides at **9, 2** and **0.5** inches.

8. **Hover** your mouse over the **horizontal 9.0 inch** guide on the ruler to **display a blue triangle**. **Drag** the guide to **10 inches**. To remove a guide right-click and select remove guide.

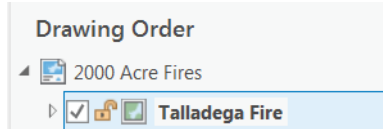


B. Insert a Map Frame

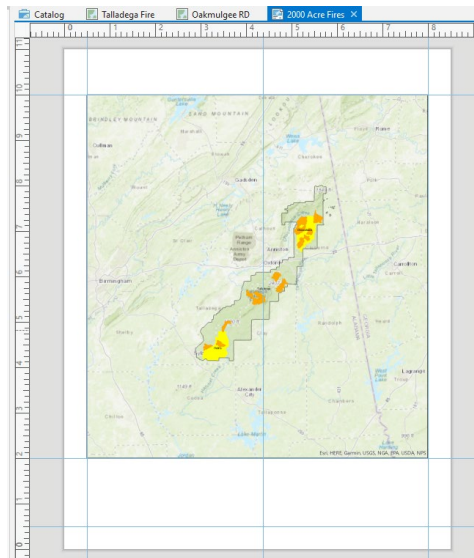
1. From the **Insert** tab click on the **Map Frame** drop down from the **Map Frames** group select **Default Extent** from the **Talladega Fire** map frame options. Notice you can select different extents and bookmarks from different map views.



2. **Draw** a box or **single click** in the layout to insert the map.
3. **Click** on the **Map Frame** from the **Contents pane**. **Click again** to **rename** it **Talladega Fire** or right-click and rename it from the **Properties > General** tab.



4. From the **Layout** tab click **Select** (not the Select drop down) from the **Elements** group.
5. **Select the map frame** and using the selection handles **resize the map** frame by snapping it to the guides at **horizontal guides at 10 & 2 inches** and **vertical guides at 0.5 & 8 inches**. Resizing the map frame can change the scale and extent of the map, so you'll need to make adjustments. To work with the map as a map, rather than as a layout element, you must activate the map frame.

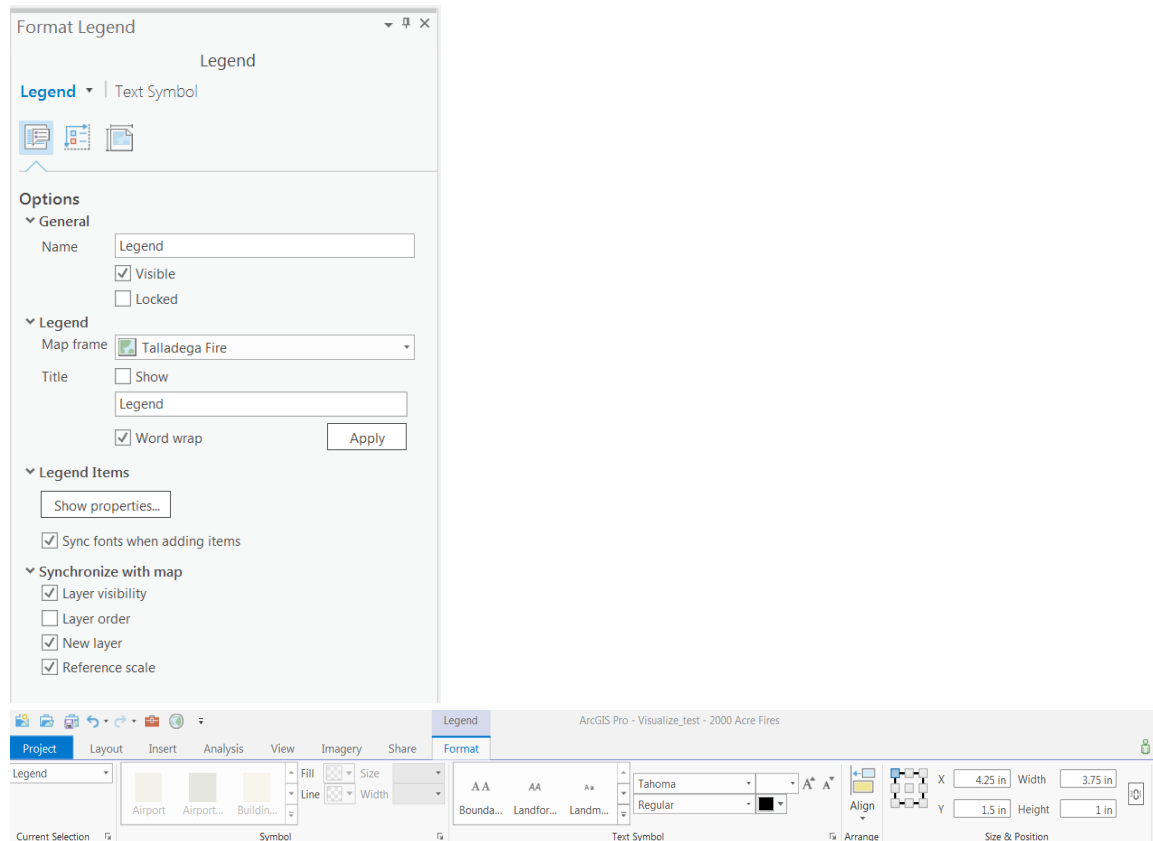


6. From the **Layout** tab, in the **Map** group, click **Activate** . The layout page turns gray. On the ribbon, the layout tools are replaced by map tools you may interact with.
7. From the ribbon, **click the Map tab**. Click the Full Extent button to fill the map frame or in the **Navigate** group, click the **Explore tool** .
8. **Pan and zoom** the map to an extent that you like **exposing only the TalladegaNF_Boundary and AL_WildlifeMgtAreas Labels**.
9. From the top of the layout view **click the arrow** **Layout** or **X** to return to layout or from the **Activated Map Frame** contextual tab click **close activation** to deactivate the map frame.

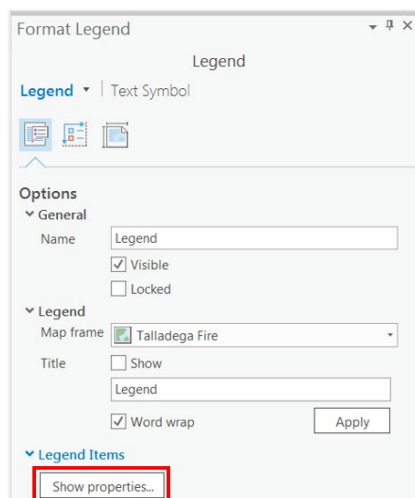
C. Insert Map Surrounds (Map Elements, Text, Graphics etc.)

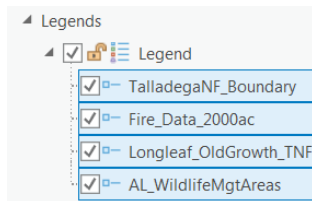
1. **Highlight** the **Talladega Fire map frame** layer from the **Contents pane**.
2. From the **Insert** tab click on **Legend** from the **Map Surrounds** group.
The mouse pointer turns into **crosshairs**. Using the crosshairs **draw a box** in the **lower right quadrant** of the layout.
3. **Snap** to **horizontal guide .5 inch** and **vertical 4.25 inches**.

4. **Right click on the legend itself or from the Contents pane and select properties.** The Format Legend pane opens. Additionally there is a contextual tab on the ribbon titled Legend with a format tab. Map surrounds and elements can be formatted from these two locations.

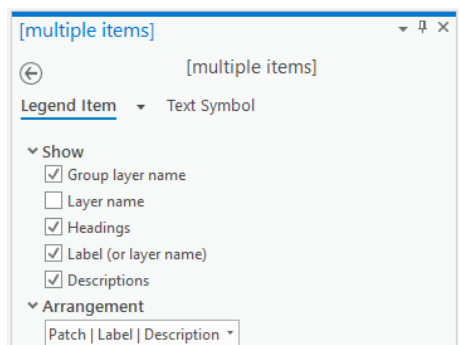


5. From the **Legend tab** click on **Show properties** under the Legend Items group. All legend items are now selected.

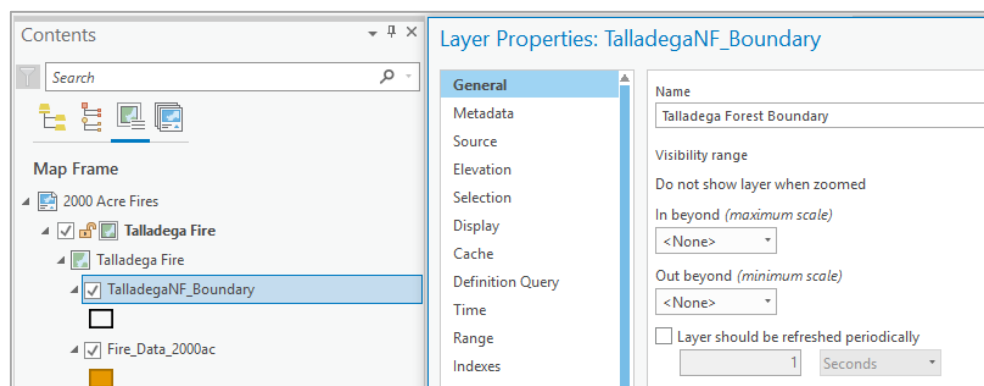




6. The pane is now titled multiple items where additional options are displayed. **Toggle** the **Layer name** check box on and off to see changes. **Toggle off**.
7. **Single click** on the **legend** or click the **back button** on the Legend pane to switch back to the **Format** pane. **Close the Legend Element** pane.



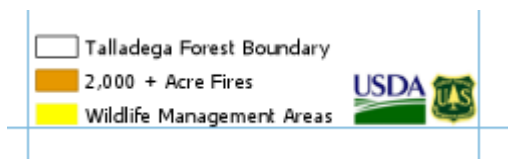
8. **Right click** on **TalladegaNF_Boundary** and click **Properties**.
9. From the **General** tab edit the name to **Talladega Forest Boundary** and click **OK**. Notice the name updates in the Legend as well.



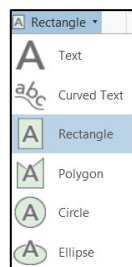
- i. **Change** the name of **Fire_Data_2000ac** to **2,000 + Acre Fires**.
- ii. **Change** the name of **AL_WildlifeMgtAreas** to **Wildlife Management Areas**.
10. Click on the **Insert** tab and from the **Graphics** group select **Picture**.
11. Windows explorer opens. **Select** the photo titled **FSUSDALogo** from the **Visualize** project folder and click **Open**.
12. Using the **crosshairs** draw a **small box** in the **bottom right** of the legend.



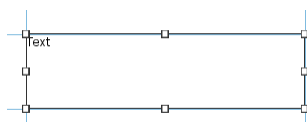
13. Adjust the photo to **snap** to the **horizontal** guide **0.5** and **vertical** guide **8.0** while not covering the legend text.



14. **Double click** the **photo** and notice in the Format Picture pane the pictures path is stored.
Close the Format Picture pane.
15. From the **Insert tab** in the **Text group** click the **Text drop down** and **select rectangle**.



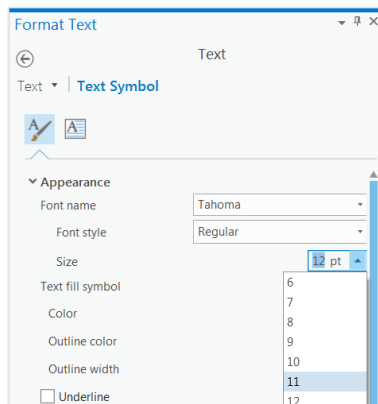
16. **Left click** in the **lower left quadrant** to place the text box.
17. **Expand the text box** to **snap** to the **vertical** guides **0.5 & 4.25** inches and the **horizontal** guides **0.5 & 2.0** inches.



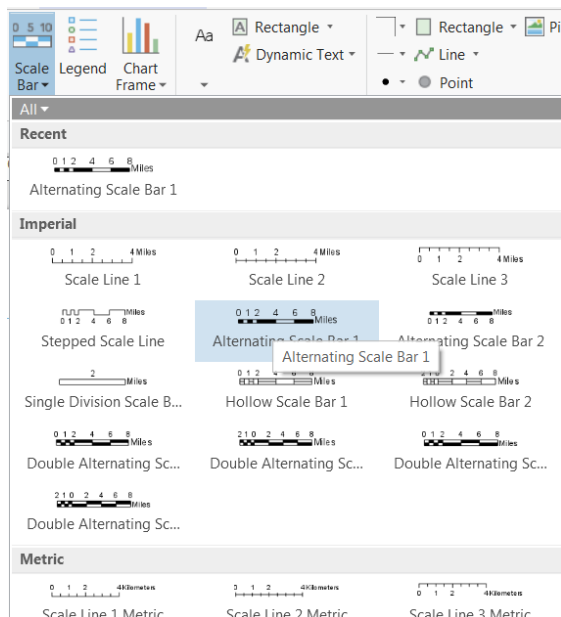
18. In the **Format Text** pane, **expand the Text options** and **copy and paste** the following into it and **click apply** (you may also paste it into the layout text box itself).

Disclaimer: For training purposes only.
The USDA Forest Service makes no warranty, expressed or implied, including the warranties, of merchantability and fitness for a particular purpose, nor assumes any legal liability or responsibility for the accuracy, reliability, completeness or utility of these geospatial data, or for the improper or incorrect use of these geospatial data.

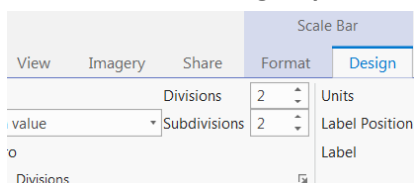
19. From the **Format Text** pane **click** on the **Text Symbol** tab.
20. **Expand the Appearance** option and change the **Font Size** to **11pt** and **click Apply** to fit box.



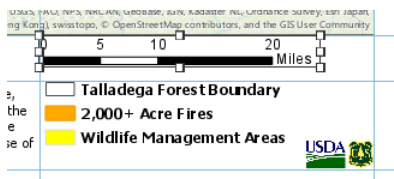
21. From the **Insert** tab in the **Map Surrounds** group click the **Scale Bar** drop down menu and select **Alternating Scale Bar 1** from the **Imperial** group and add it above the Legend.



22. From the **Scale bar contextual tab** set select the **Design** tab.
23. From the **Divisions** group reduce the **Divisions** and **Subdivisions** to **2** each.



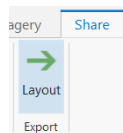
24. **Stretch** the scale bar to be **20 miles** in total length.



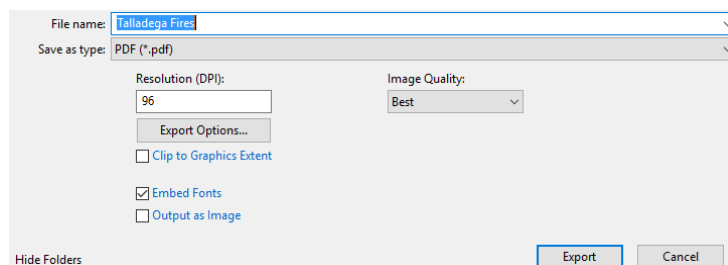
25. **On your own** try adding a **Title using Dynamic Text** (hint: name of map) and a **North Arrow** to the layout.

D. Export Map

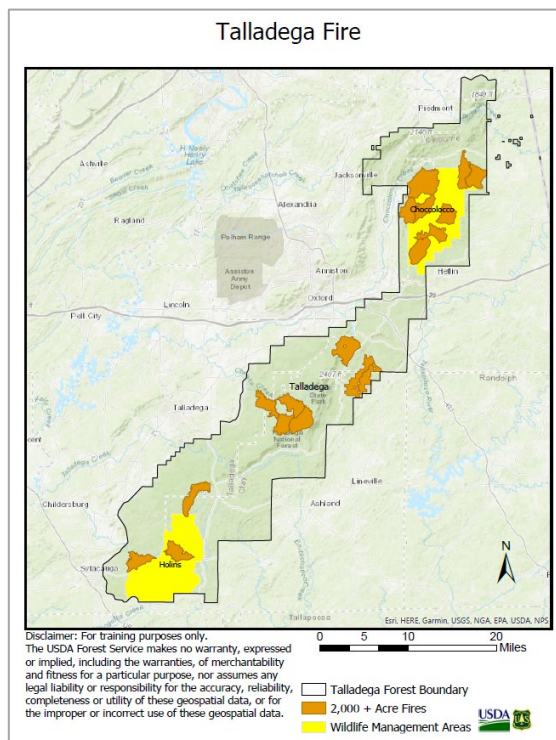
1. From the **Contents** pane click on the **Layout** title, then click on the **Share** Tab.
2. Click **Export Layout**.



3. **Save** the map as a **PDF** to your **project folder** (explore options before saving).

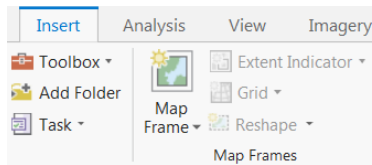


4. Open **Windows Explorer**, **navigate** to you **Visualize project** folder and **open** the **exported map** to view it.

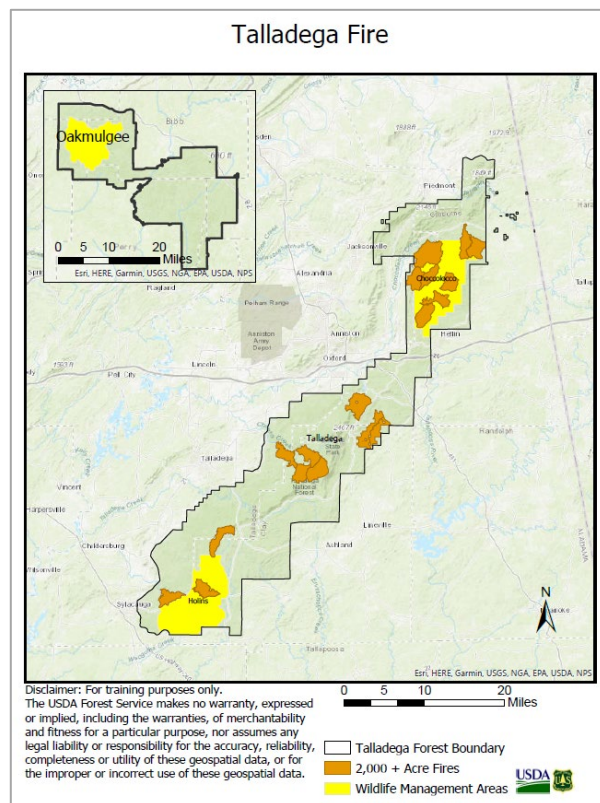


E. Challenge: Add additional map frames to layout

1. To add additional map frames to a layout click the **Insert** tab and from the **Map Frames** group click the **Map Frame drop down** menu and **select** the default extent for **Oakmulgee RD**.



2. **Rename** the map Frame **Oakmulgee RD.**
3. **Resize** to desired location and **adjust** the **extent**. The Talladega Fire map frame adjusts it's extent, activate Talladega Fire map frame and reposition it.
4. **Rearrange** and **add** any necessary **map surround** to the layout (hint: new scale bar needs to be added since each map frame has a different scale).
5. **Export** and **rename** your new map as a **PDF**.
6. Open **Windows Explorer** and **view** your new map.



Part 5: Optional: Share a Package

A package is a compressed file containing GIS data. You share a package in the same way as any other file—via email, FTP, the cloud, thumb drives, and so on. You share them between colleagues in a workgroup, between departments in an organization, or with other users via ArcGIS Online and ArcGIS Enterprise. The recipient of your package unpacks it and can immediately begin using its contents. Packages can also be used to archive your work.

For detailed information on sharing packages follow [this link](#).

You can create the following packages with ArcGIS Pro:

- A [project package](#) (.ppkx) saves and shares a project along with its maps, data, styles, toolboxes, tasks, attachments, geoprocessing history, and connections.
- A [map package](#) (.mpkx) contains a map document (.mapx) and all the data referenced by the layers in it. Essentially, it's a collection of layer packages along with the map document.
- A [layer package](#) (.lpx) includes both the layer properties and the dataset referenced by the layer. With a layer package, you can save and share everything about the layer—its symbolization, labeling, table properties, and the data.
- A [tile package](#) (.tpk) contains a set of tiles (images) from a map or raster dataset that can be published as a web tile or web elevation layer. Alternatively, the tile package itself can be used as a basemap in ArcGIS applications.
- A [vector tile package](#) (.vtpk) contains a collection of vector tiles and style resources that contain vector representations of data across a range of scales.
- A [scene layer package](#) (.slpk) contains a cache of a multipatch, point, or point cloud dataset.
- A [geoprocessing package](#) (.gpkx) contains both the data and the tools that comprise a geoprocessing workflow. System tools along with custom models and scripts can be packaged.
- A [mobile map package](#) (.mmpk) contains both maps and basemaps and all the data referenced by the layers. Mobile map packages can be used in ArcGIS Pro, Navigator for ArcGIS, and by developers building applications with ArcGIS Runtime. For ArcGIS Runtime, .mmpk files were introduced at version 100.0.0.

A. Share a Project Package

Project packages (.ppkx) make it easy to share complete projects. A project package is a file that contains all maps and the data referenced by its layers, as well as folder connections, toolboxes, geoprocessing history, and attachments. Project packages can be used for sharing projects between colleagues in a work group, across departments in an organization, or with any other ArcGIS users through ArcGIS Online or ArcGIS Enterprise. Project packages can also be used to create an archive of a particular project that contains a snapshot of its current state

1. From the **Share tab** in the **Package group**, click **New Project Package** to open the Package Project pane.
2. Specify where to **save** your package, **either** to your **online account** or as a **file on disk** (you can try both).
3. Name the package **Training Package**, if saving to a disk, choose the location to save the package.
4. For Summary enter: **This is my first Project Package**.
5. For Tags enter: **my first package, Delete** (to remind you to delete eventually).
6. If sharing on AGOL ensure **ONLY My Content** is selected (we do not want to be sharing this with the entire FS).
7. Click **Analyze** to check for any errors or issues. All errors must be resolved. If any issues exist, they appear on the Messages tab. Right-click each message to get more information, read the help for the error or warning, and access suggested fixes.



8. Click on the **Attachments** tab.

Attachments: This option allows you to include other content, such as detailed documentation, reports, and graphs. The following types of files cannot be included: .js, .vbs, .py, .pyc, .pyo, .bat, and .ocx. Also, only signed .dll files and .exe files are allowed.

9. Once the package is **validated** and all **errors are fixed** click **Package** to create your package (this may take a couple of minutes to complete).

The image displays two side-by-side screenshots of the 'Package Project' web interface. Both screenshots show the 'Share Visualize_test As A Project Package' page with tabs for 'Package', 'Attachments', and 'Messages'. The 'Start Packaging' section has two radio buttons: 'Upload package to Online account' (selected in the left screenshot) and 'Save package to file' (selected in the right screenshot). The 'Name and Location' section shows a text input field with 'Visualize_test' and a file icon button. The 'Item Description' section has a 'Summary' text area with 'This is my first package' and a 'Tags' section with a 'Delete' button, a tag 'my first package', and an 'Add Tag(s)' button. The 'Sharing Options' section has checkboxes for 'My Content' (checked), 'U.S. Forest Service', and 'Everyone', and a 'Groups' dropdown menu. The 'Finish Packaging' section at the bottom has three buttons: 'Analyze' (with a green checkmark), 'Package', and 'Jobs'. The bottom navigation bar shows 'Catalog', 'Package Project' (active), and 'Job Status'.



Finish Packaging

✓ Analyze

Package

Jobs

✓

Successfully created project package on 2/23/2018 12:31 PM

Manage the package

×

Home

Gallery

Map

Scene

Groups

Content

Organization

Visualize_test

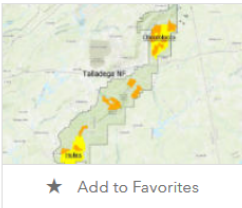
Edit

Overview

Usage

Settings

Edit Thumbnail



★ Add to Favorites

This is a test package

Project Package by [tylerlarsen_usfs](#)

Created: Feb 23, 2018 Updated: Feb 23, 2018 View Count: 0

Description

[Add an in-depth description of the item.](#)

Note: When sharing your content within your organization, it's likely that enterprise databases, UNC path data, styles, and connections will be accessible for those consuming the project package. In this case, unchecking the Share outside of organization option is a good choice. Enterprise database data, UNC path data, styles, and connections in your map will be referenced, not copied, to the project package. However, when sharing your content outside your organization, enterprise databases, UNC path data, styles, and connections to folders, servers, and databases will not be accessible, and checking the Share outside of organization option to include the data in your package is a better choice. If you check this option, data is extracted from enterprise databases and UNC path folders and copied into a file geodatabase, styles will be copied, and all connections will be removed.

Congratulations, you have completed the exercise.