



# Getting to Know ArcGIS Pro

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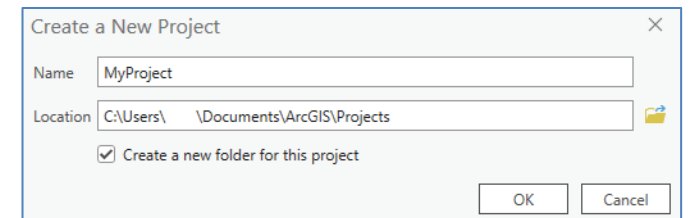
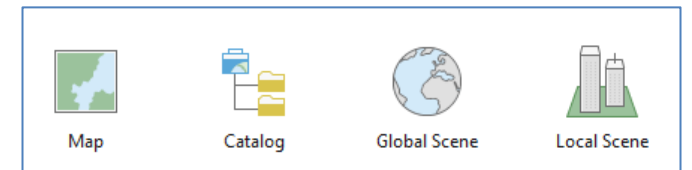


**KCARE**  
Kansas Center for Agricultural  
Resources and the Environment

**K-STATE**  
Research and Extension

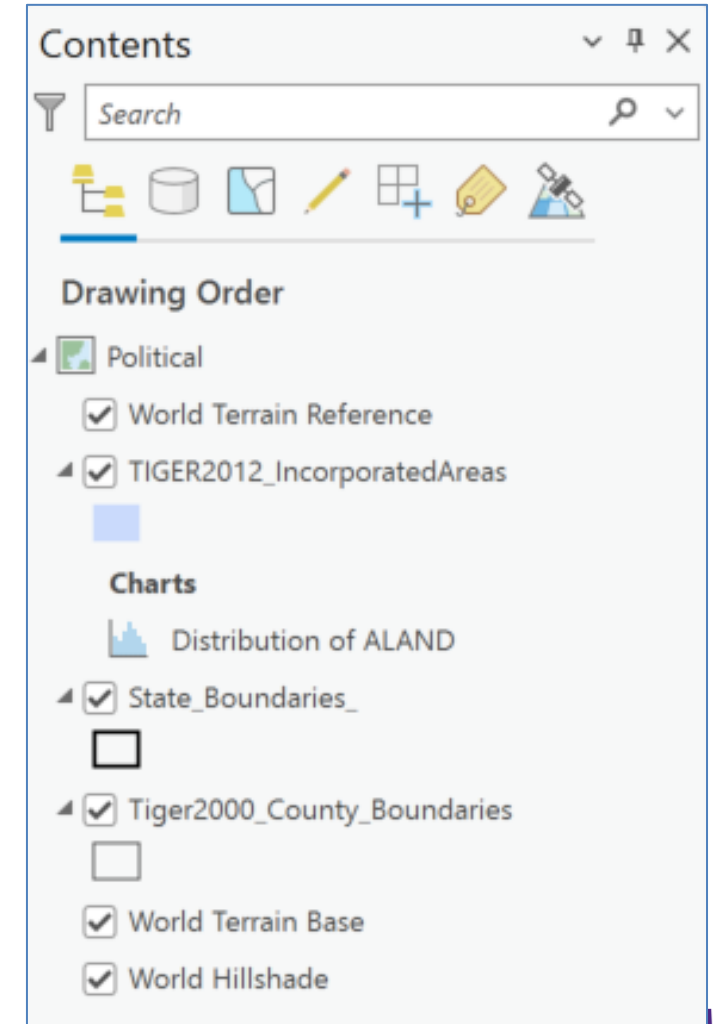
# Create a project

- Most projects created from a project template, which specifies the project's starting contents
- Start page
  - New Project
  - Map
  - Create a new project
  - OK
- By default, a new project creates the following items:
  - A project file (<project name>.aprx)
  - A file geodatabase (<project name>.gdb)
  - A toolbox (<project name>.atbx)
  - A system folder <project name>



# Layers

- Layers are collections of geographic data that reference a data source
- Data gathered in a layer is represented with points, lines, shapes (polygons), or surfaces
- The layers are displayed in a particular order shown in the map's "Contents" pane
- Layers listed at the bottom appear first but always draw below the layers above them
- Types of layers
  - Feature layers
  - Raster layers
  - Scene layers
  - Other layers



# Add a layer

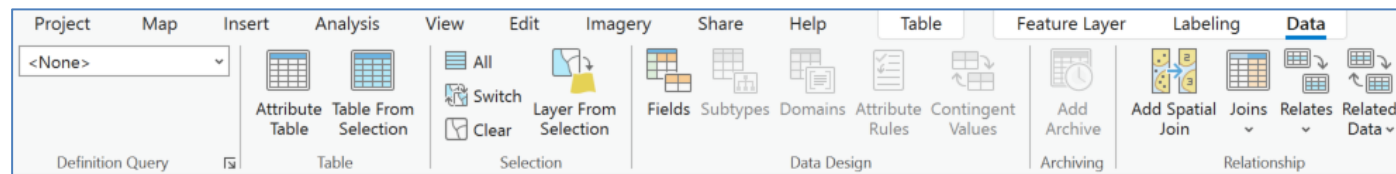
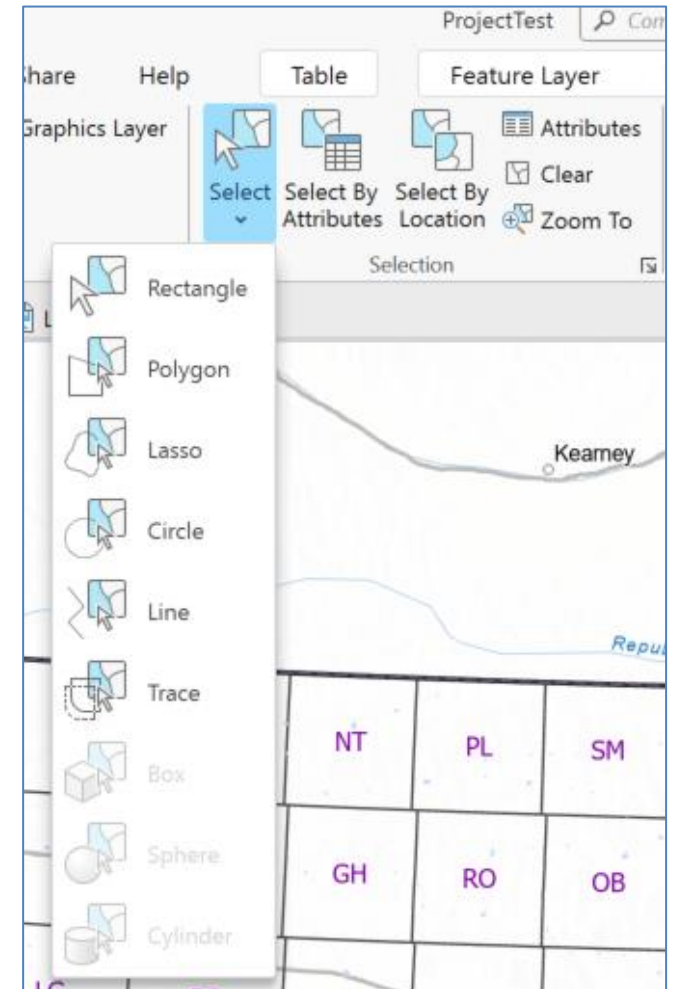
- Add data from the Add Data dialog box
  - Map tab → Layer Group → Add data → Data → Dialog box
- Add data from the Catalog pane
  - Catalog pane → Browse to or search for the layers → Right-click the selected item → Click “Add to Current Map”

# Add a layer (contd.)

- Add data from a path
  - Map tab → Layer group → Add Data → Data From Path
  - Adds the World Boundaries and Places:  
<https://www.arcgis.com/home/item.html?id=a842e359856a4365b1ddf8cc34fde079>
- Copy a layer from one map to another
  - Contents pane → Highlight layer → Right-click the layer and click Copy → Open the target map → Contents pane → Right-click the name of the map → Click Paste

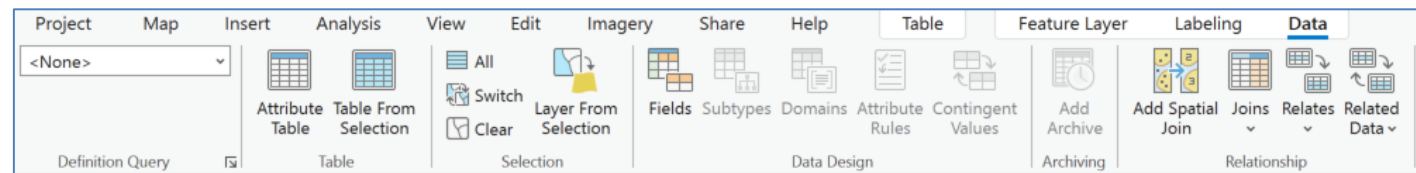
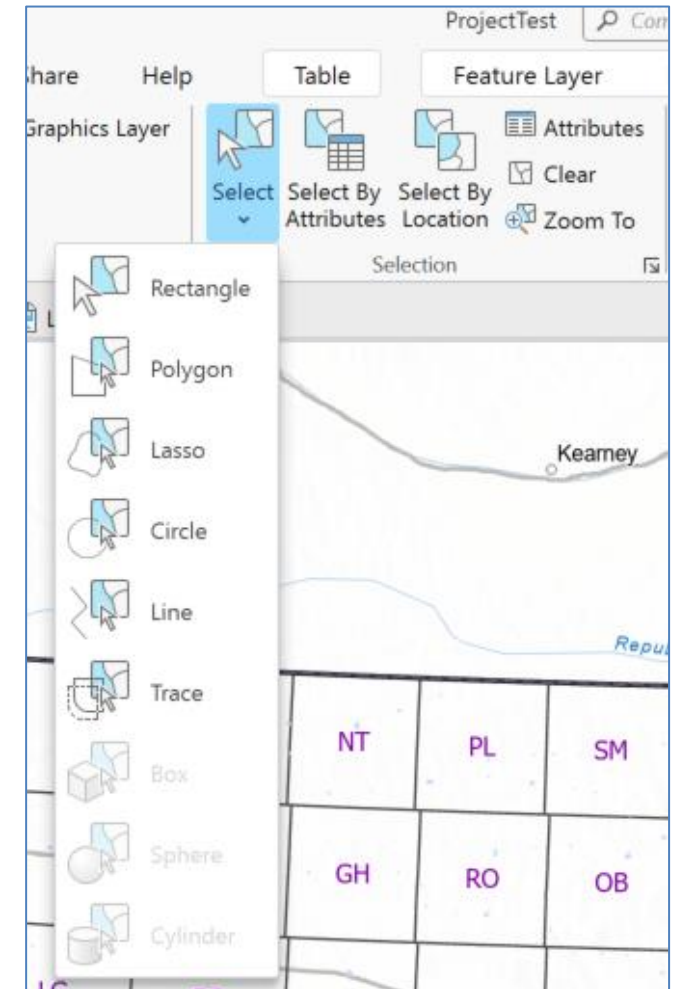
# Selection

- You can create layers from a subset of features of an existing layer by selecting them and creating a selection layer
  - Caution: The selection layer is only useful as a temporary working dataset



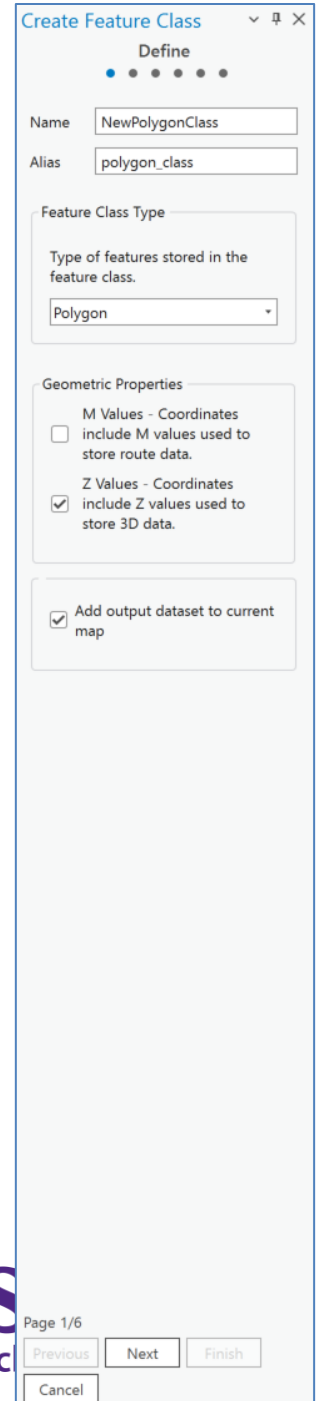
# Selection (contd.)

- Steps to make a selection layer:
  - Map tab
    - Selection Group
    - Select features using any selection method
  - Feature Layer tab
    - Data tab
    - Selection group
    - Layer From Selection
  - A layer is added to the map
  - The layer name is the name of the original layer, appended by the word selection



# Create a new feature class

- New feature class in a geodatabase:
- Catalog pane
  - Right-click the geodatabase
  - New tab
  - Feature Class
  - Launch the Create Feature Class wizard
  - Define page of the wizard
  - Type a name, an alias
  - Choose the type of features from drop-down list
- Click Next



The screenshot shows the 'Create Feature Class' wizard in the 'Define' step. The 'Name' field is 'NewPolygonClass' and the 'Alias' field is 'polygon\_class'. The 'Feature Class Type' is set to 'Polygon'. Under 'Geometric Properties', the 'Z Values - Coordinates' checkbox is checked, while 'M Values - Coordinates' is unchecked. The 'Add output dataset to current map' checkbox is also checked. At the bottom, there are 'Previous', 'Next', 'Finish', and 'Cancel' buttons. The page number 'Page 1/6' is visible in the bottom right corner.



# Create a new feature class (contd.)

- Field page
  - Add new field
  - Field name/type/properties
- Projection page
  - Select coordinate system/projection
- Save

Create Feature Class

Define

Name: NewPolygonClass

Alias: polygon\_class

Feature Class Type

Type of features stored in the feature class.

Polygon

Geometric Properties

M Values - Coordinates  
include M values used to store route data.

Z Values - Coordinates  
include Z values used to store 3D data.

Add output dataset to current map

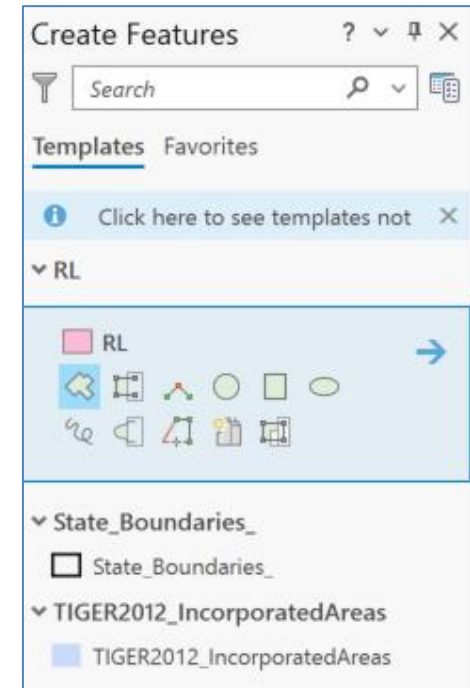
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Previous Next Finish

Cancel

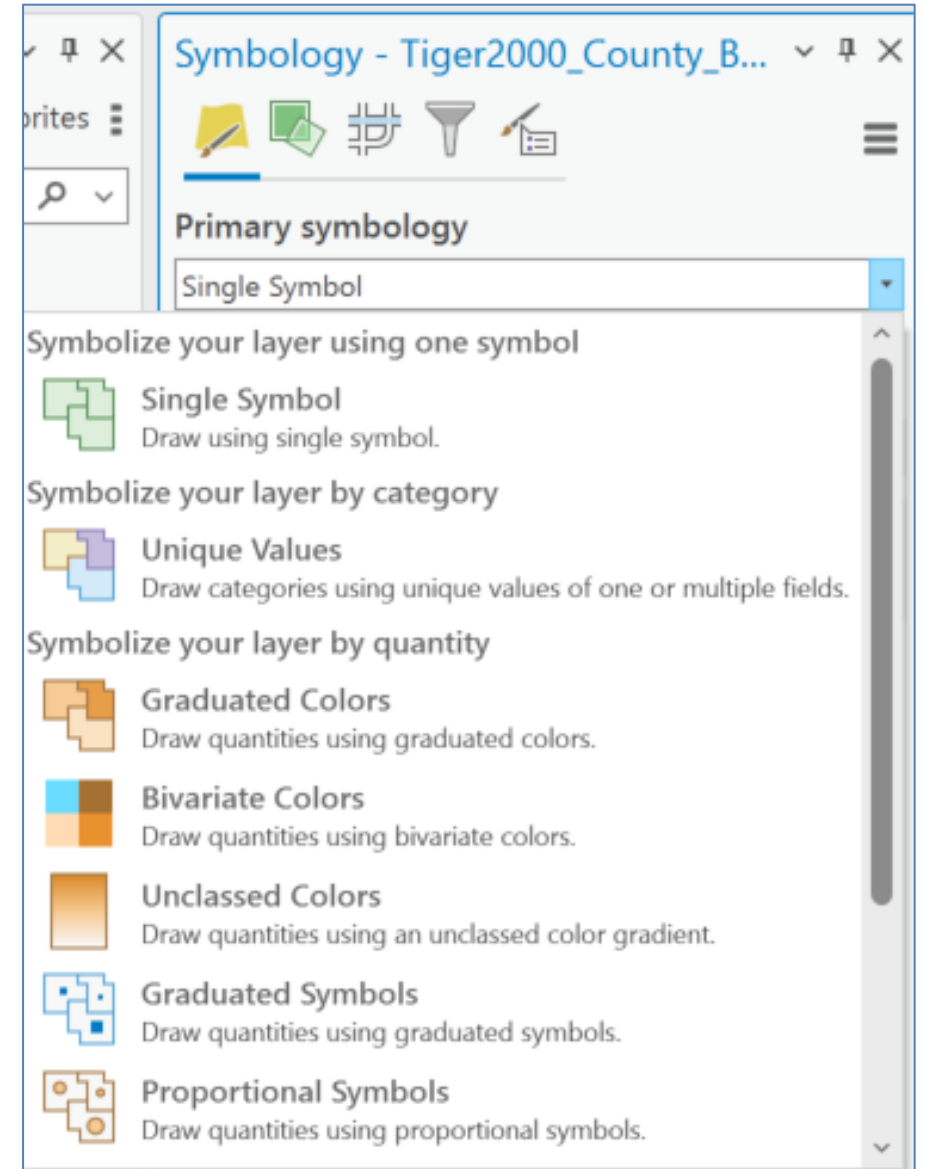
# Add a new feature

- Polyline feature construction tools in Create Features pane
- Edit tab
  - Features group
  - Create
  - Create Features pane appears
- Create Features pane
  - Polyline feature
  - Line tool
- Create first vortex
  - Use segment construction tool
  - Create line segments
  - Finish



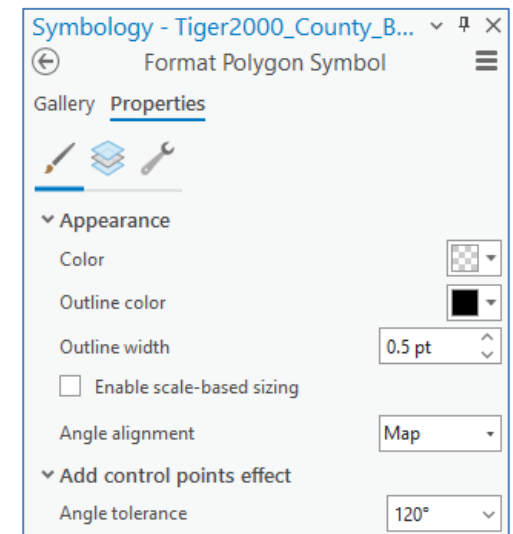
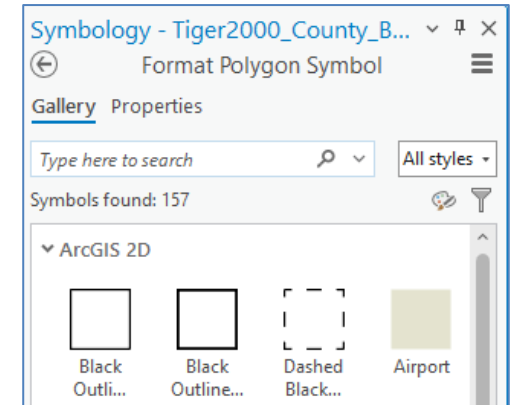
# Symbology

- Contents pane → Select layer → Open Symbology pane
- Several types of symbology for feature layer:
  - Single symbol—Draw all features in a layer with a common symbol.
  - Unique values—Apply a different symbol to each category of features within the layer based on one or more fields.
  - Graduated colors—Show quantitative differences in feature values with a range of colors.
  - Etc..
- Tasks for County layer:
  - Change color
  - Change outline color
  - Change outline width
  - Save as style as a favorite
  - Import symbology from another layer



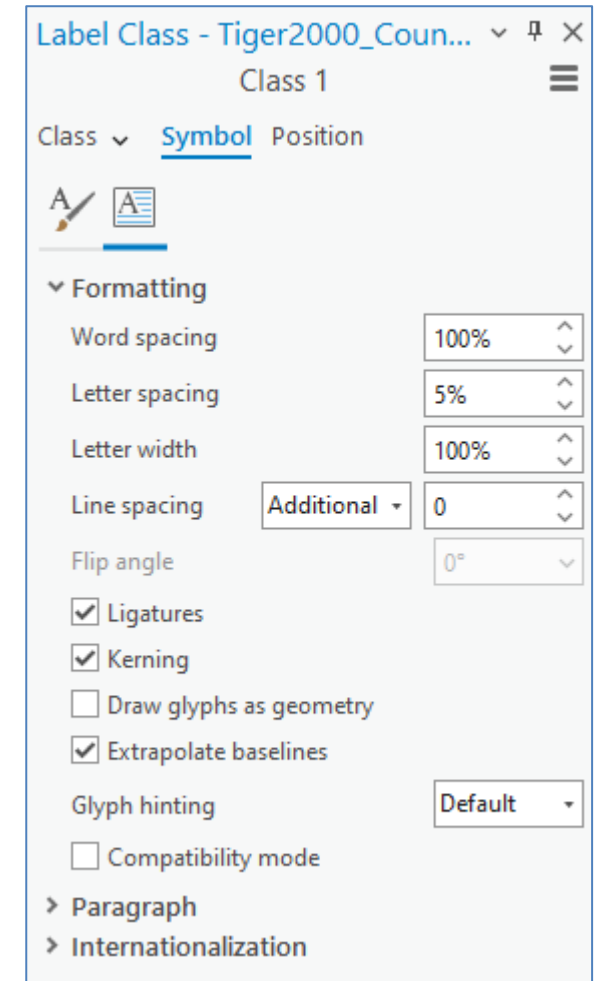
# Symbology for County layer

- Contents pane → Right click the County
- Choose Symbology in the pop up box.
  - Click on the Symbol icon.
- Click on Gallery to show the preset designs
  - Pick the dashed outline.
- To adjust color and line width, etc., go to Properties.
  - Under the Symbol icon (paintbrush)
    - change the outline color to Gray (50%) and apply.
    - Change the outline width to .5".
  - More advanced designs are available under the other tabs. (Layers and Structure)



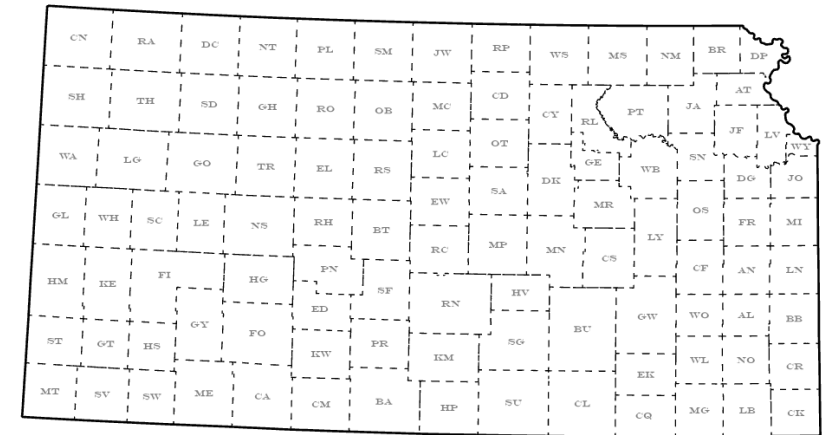
# Labels for County layer

- Contents pane → Right click the County layer → Choose Label Properties in the pop up box.
- Under the Symbol heading
  - click the General icon (text and paintbrush)
  - Expand Appearance.
  - Change the Font Name to Engravers MT.
  - Change the font size to 8 pt.
  - Change the Text Fill Color to Gray (50%).
- Under the Formatting icon (text)
  - there is letter spacing if needed.



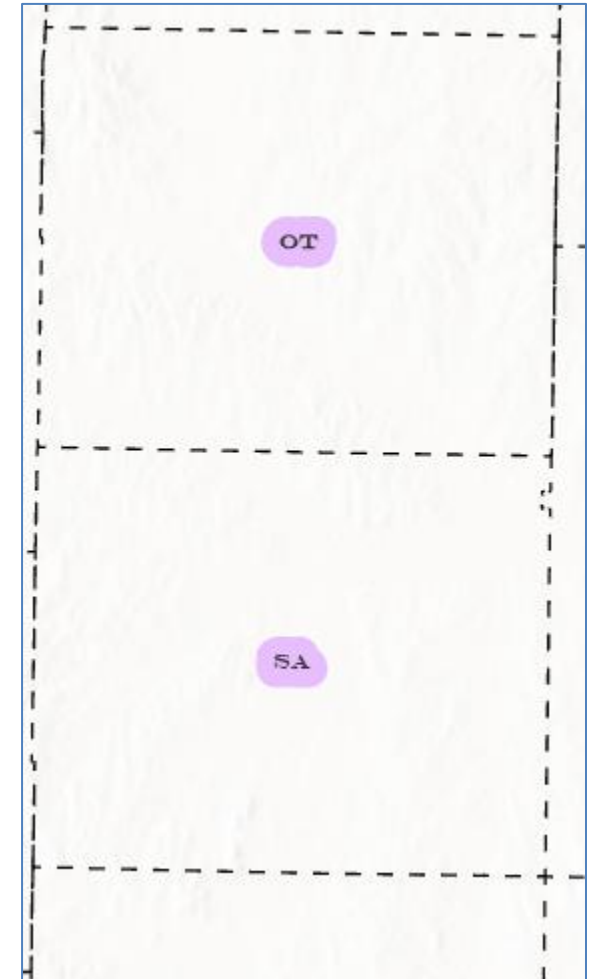
# Labels for County layer (Contd.)

- Under Position (box icon)  
→ there is placement of the labels, orientation, leader lines and spread labels if needed.
- Under the Fitting Strategy (horse head)  
→ there are more placement and adjustment tools.
- Under Conflict Resolution (stack of books)  
→ there are tools for distributing and placing labels.
- Right click layer, and choose Label in the pop up box.  
→ The labels will appear.

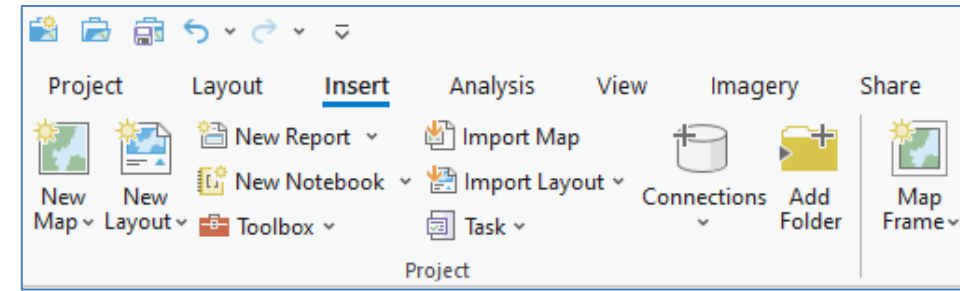


# Neat Tricks for Labeling

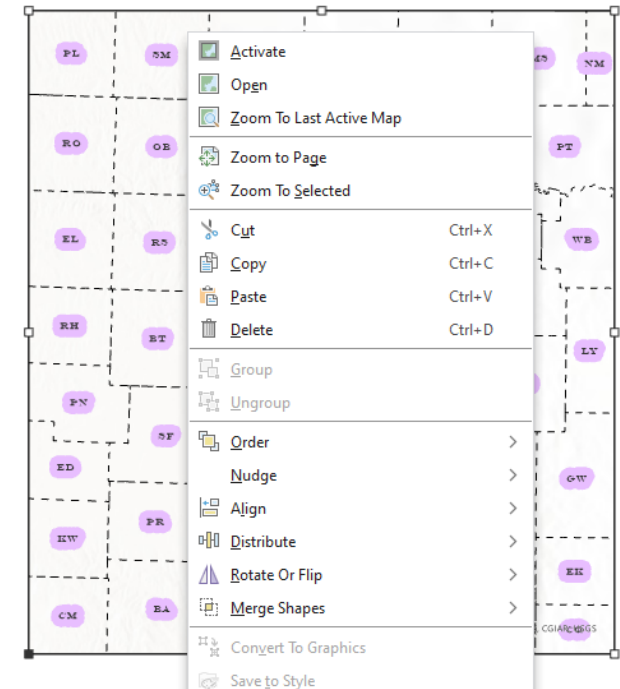
- Under the General icon, choose Halo.
  - This allows the label to be surrounded by a space of your color.
  - To be used if the background is cluttered and the label needs to stand out.
- Under the Fitting Strategy icon, Reduce Size
  - This allows the labels to resize in order to fit all labels on the page.



# Layouts



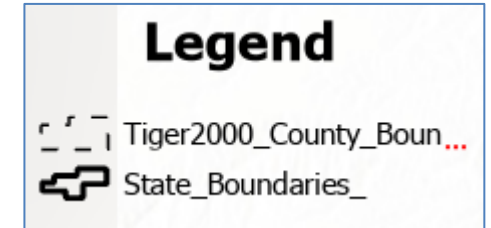
- Page layouts in ArcGIS Pro is a collection of map elements organized on a virtual page designed for map printing
- To create layout select Insert Tab on top ribbon.
- Click on New Layout.
  - Choose layout design or use a custom size. It will open in a new page under Layout.
- Select Insert Tab on top ribbon.
- Click on Map Frame.
  - The map that you are creating should show up in the dropdown box. Click the map that you want and go to the empty Layout page. The mouse icon will change to a plus sign and you will draw the map box into the blank Layout.
- To interact with the map, Activate the Map
  - Under Layout, click Activate. When done, click Layout and Close Activation. This is to make adjustments to the zoom level of the map.





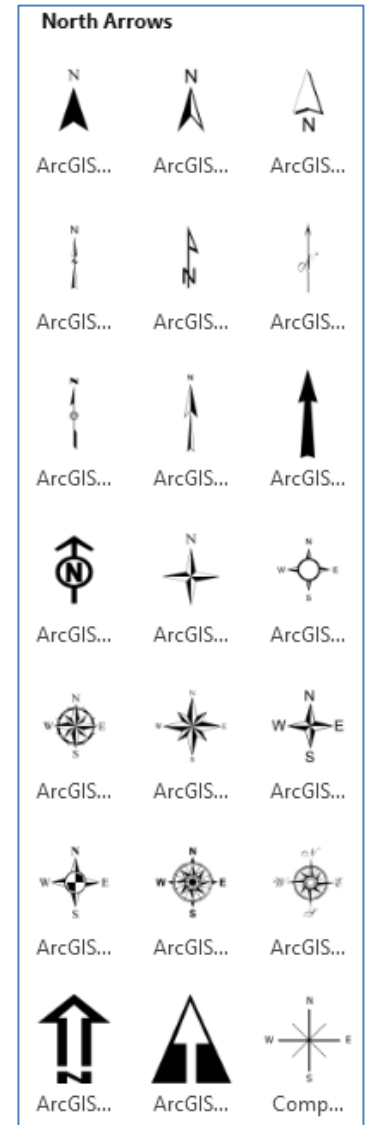
# Layout → Legend

- Select Insert Tab and choose Legend
- Draw the Legend Box.
  - In the Contents Pane, the Legend will show and can be expanded.
- Right click the Legend layer and choose Properties
  - An Element Pane will show up and the Legend can be adjusted.
  - Under the Display icon (paintbrush), the Legend can be altered.
  - Add a border and a white background. Add X and Y Gap of .2 inches in both the Border and Background.
  - Under Text Symbol, the font, style, size and fill color can be changed.
- Right click a Legend Item in the Contents Pane to change the Legend Item view.
  - Under Show, click the Layer Name off and on. You will see how the Legend Item changes.
- To change the Symbol style, right click on the Item in the Map Frame in the Contents Pane.
  - Choose Symbology, and in the Symbology Pane, change the Symbol by clicking the down arrow next to the Symbol and pick a Symbol style.



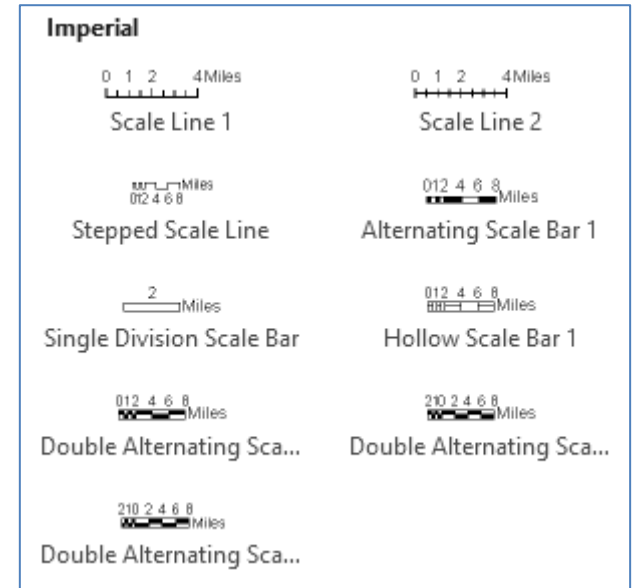
# Layout → North Arrow

- Select Insert Tab and click on North Arrow down arrow
  - Examples will show. Pick one and draw the box in the map.
  - It shows up on the Layout Content Pane.
  - Right click and choose Properties to edit the box.



# Layout → Scale Bar

- Select Insert Tab and click on Scale Bar arrow.
  - Examples will show. Choose one and draw the box on the map.
  - It will show up on the Layout Content Pane.
  - Right click and choose Properties in the pop up box to edit the scale bar box.



# Layout → Title

- Select Insert Tab. In the Graphics and Text box, choose Rectangle Text.
  - Draw the box on the map.
  - Double click on the Text Box and the Element Pane will show up.
- The box and text size can be altered.
  - Under Text, and Options (paper icon), the text of the box can be changed.
  - Under Text Symbol, and General (text and paintbrush icon), the size and font can be changed.
- If you want to insert a logo, under Insert Tab, Graphics and Text, dropdown, choose Picture.
  - Browse for the picture on your computer and select it. Draw the box. Edit the box.

# Exporting maps / layouts

- To export or share the map, click Share Tab on the ribbon
- Select Export Layout and fill in the data as to the type of file and where it is to be saved and Export.
- Print the map is also under the Share tab.

