Transition to ArcGIS Pro

State of Oklahoma Training

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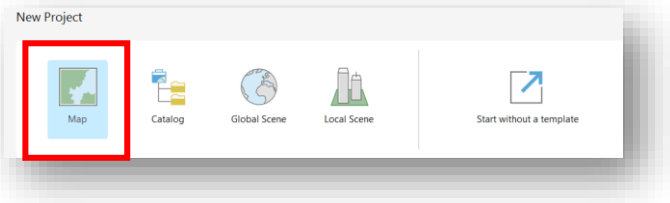
Transition to ArcGIS Pro

ArcGIS Pro Overview

Exercise 1

- Launch ArcGIS Pro
  - Open ArcGIS Pro from your desktop or start menu
  - Start a New Project
- On the Start Page, click New Project
- Choose a Project Template:
  - Map: Creates a project with a default map
  - Catalog: Creates a project focused on data management
  - Global Scene or Local Scene: For 3D visualization
  - Select Map for this exercise

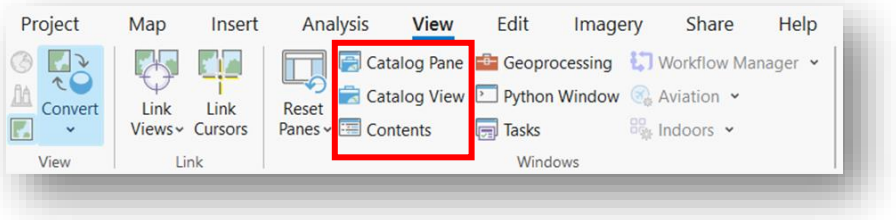


- Name and Save the Project
  - In the Create a New Project dialog:
    - Enter a Project Name (ex: GIS_Pro_Training)
    - Choose a Location where the project folder will be stored
    - Optionally, check Create a new folder for this project
    - Click OK

Getting Started with ArcGIS Pro Project

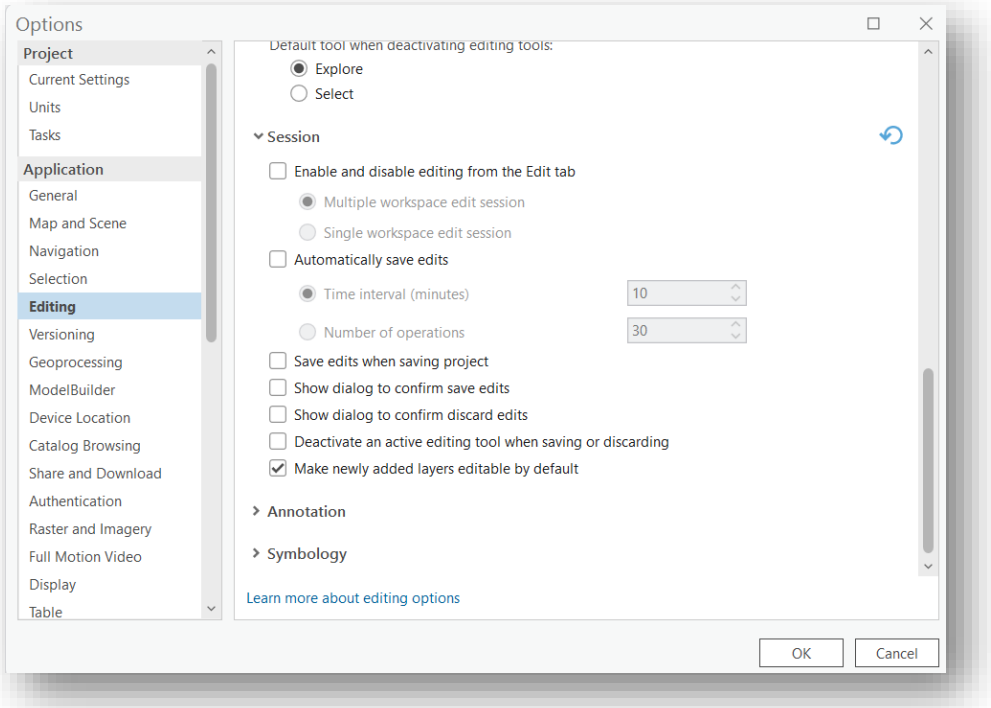
Exercise 2

- Data management using Catalog.
  - Unlike ArcGIS Desktop, ArcCatalog is no longer a standalone program. It can be found embedded within ArcGIS Pro.



  - Open ArcCatalog within ArcGIS Pro by clicking on the View tab and selecting "Catalog View" to see a full view of the Catalog or "Catalog Pane" to have a minimized view docked on the right side of the window.
  - Within Catalog View mode, the Catalog Tree is on the left and contains the folder structures in which the GIS data is stored.
- Navigate to the Folder with the Course Data and click the **ArcGISProTraining.gdb** geodatabase.
- Expand the > next to the geodatabase to expand the contents

- Click the Road Centerlines in the Catalog Tree and explore the data
    - On the right there are three tabs: ***Metadata, Geography, Table***
        - Click on the Metadata to see any metadata associated with the feature class.
        - Click on the Geography tab to see a preview/geometry of the feature class.
        - Click on the Table tab to see the attribute table of the feature class.
- Saving Pro Project and Edits
    - Pro Project can be saved in the top left corner of the project. Note, this form of saving only saves the project with the interface and visual adjustments.
    - Saving edits can be found within the Edit ribbon and will save any edits made to the data.
- Key Navigation Differences
    - Identify (ArcMap) vs Explore (ArcGIS Pro)
    - Table of Contents (ArcMap) vs Contents (ArcGIS Pro)
    - What other tools are you familiar with in ArcMap?
- Single data frames vs. Multiple layouts
- Project > Options
    - Update Editing options
    - Update Save options
    - Update Selection options
    - Define default project locations

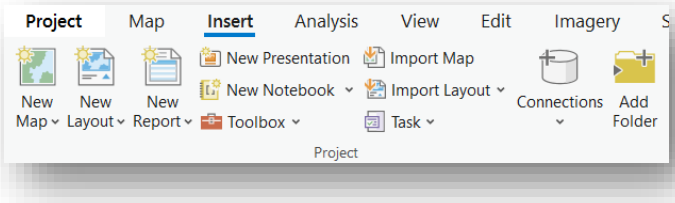


Map Interface

Exercise 3

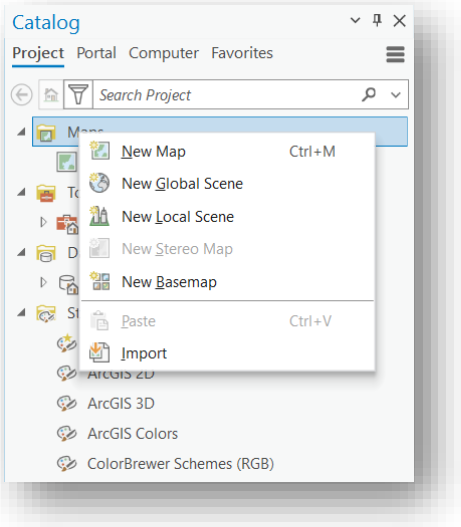
Navigate Ribbons

- Map Ribbon
  - Add data layers through 'Add Data'
    - Navigate to provided geodatabase named **ArcGISProTraining.gdb**
  - Add a basemap
  - Create a bookmark within the map
    - Reorder, Update and delete Bookmarks
    - Export Bookmarks
    - Import Bookmarks
  - Choose the Select tool and select a group of features, adjust selection types
    - Change the view within Contents pane to List by Selection to see selected feature counts and layers
  - Test the 'Measure' tool
- Insert Ribbon
  - Add 'New Map' and 'New Layout'
  - **Import** a saved .mxd into project
    - On the Insert ribbon, choose Import Map
    - Select provided mxd file '**OKTraining.mxd**' to import



Exercise 4

- In the Ribbon, navigate to "View" and find the catalog pane in the "Windows" section to open
- In the catalog pane under the "Project" tab, find the file organization preset titled "Maps"
- Right-click on "Maps" to create a new map. Notice that you are given the option to create Scenes as well (3D)
- When a new map is created, it is automatically brought into the project. Notice that you can toggle between the two views that now exist in the same project file
- The new map can be renamed by right-clicking in the catalog pane and selecting "rename"
- In the Contents Pane, under Drawing Order, the name of the new map will appear and list data associated with that specific map



Exercise 5

- Navigate to the "Map" tab in the ribbon. Under "Layer", select "Add Data"
- In the "ArcGIS Online" folder, search for the layer Oklahoma Counties and add it to the map
- Once the layer is added, in the "Contents" pane, select the **Oklahoma Counties layer** and ensure it is highlighted in blue
- Once the layer is highlighted, notice the new items in the ribbon that appear – Feature Layer, Labeling, and Data. These will only appear in the ribbon if an appropriate layer is selected

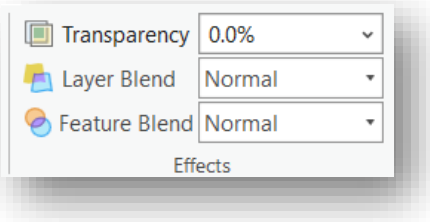
Displaying Data

Exercise 6

- In the contents pane, right-click the **Address Point** layer and select Symbology
    - Select the icon for Symbol. Review the options in the Gallery for programmed symbology types.
    - Change the color, size and halo effect
- Repeat for the **Road Centerline** Symbology
    - Change to have an arrow at the end, edit the color, and size
    - While in properties, select the 3 lines in the upper right-hand corner of the symbology window
    - Choose "Save symbol to style" and save the symbology you created to your favorites
    - The new style will appear in the Symbology Gallery
- Update the **ESZ Boundary** to symbolize by unique ESN values

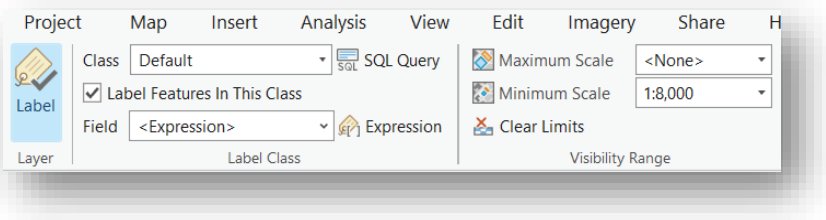
Exercise 7

- Modify scale visibility of addresses and roads to appear with a maximum or minimum scale
    - Example: Address Points to draw only when zoomed in beyond 1:24,000
- Add transparency to a polygon layer - update the symbology of your **PSAP Boundary** to have a transparency of 45%



Exercise 8

- Add labels for address points and road centerlines
- Try using different syntax options
    - Note: Python and VBScript can use double quotes " when using free form text
- Update label zoom extents to have point labels appear at 1:8,000 and road labels to appear at 1:15,000



- Create a second label Class to customize labeling further

Data Management

Exercise 9

Step 1: Prepare Your Data

- Topology works only in a geodatabase within a feature dataset

Step 2: Create a Topology

- In the Catalog pane, right-click the feature dataset > New > Topology
- Name your topology and set the cluster tolerance (default is usually fine)
- Add feature classes that will participate in the topology
- Assign rank (higher rank = less likely to move during validation)

Step 3: Add Topology Rules

- After creating the topology, right-click it > Properties
- Go to Rules tab > Add Rule
- Choose rules like:
    - Must Not Overlap (for polygons)
    - Must Not Have Dangles (for lines)
    - Must Be Covered By Boundary Of (for polygons within polygons)

Step 4: Validate the Topology

- Add the topology to a map:
    - Drag it from the Catalog pane into your map
- Go to Edit tab > Manage Edits > Validate
- Errors will appear in the Error Inspector pane

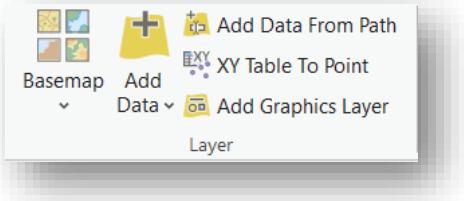
Step 5: Fix Errors

- Use Error Inspector to locate and fix errors
- Use Modify Features tools (e.g., Move, Reshape) to correct geometry

Exercise 10

Using Provided Excel File, plot the x,y coordinates to create a point layer

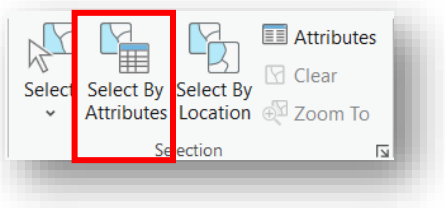
- Within Map Ribbon, choose 'XY Table to Point'
- Import the provided 'SampleAddresses.xlsx' table to create new point feature class



Exploring Attribute Tables

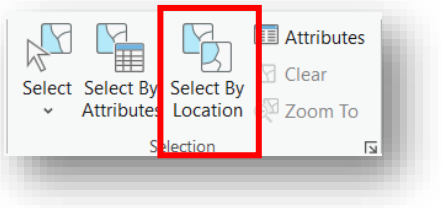
Exercise 11

- Select all addresses with a value of 'UNINCORPORATED' for the City
- Select all addresses with house numbers greater than 200
- Select all road centerlines with a Street name of value of 'Willow' and a City value of 'INOLA'
- Select all road centerlines that have a Left or Right range of "0-0"



Exercise 12

- Select all addresses with a County value of "BEAVER COUNTY" and **field calculate** to "ROGERS COUNTY"
- Now, use the **Attributes** window (formerly 'Attribute Editing Window' in ArcMap) to apply the update



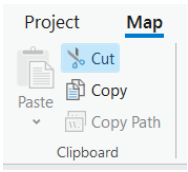
Editing Tools

Exercise 13

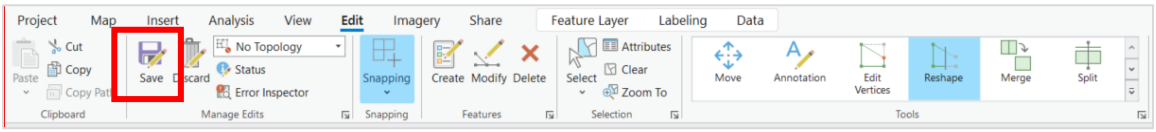
In ArcGIS Pro editing does not need to be turned on, and all feature classes can be edited at any time.

- In the Edit ribbon locate the features group and click **Create**. This window should be docked on the side of the screen.
- In the Edit ribbon navigate to the selection group and select Attributes to turn on the Attributes editing window pane.
    - Select **ADDRESS_POINT** and click in the map to place a point
        - The attributes for the new address point are ready for population in the Attributes window.
        - Add the following address attribute information in the new address point:
            - 148 N Main St Apt A Inola, OK USA
    - Select **ROAD_CENTERLINE** and create the geometry for a road centerline

        - The attributes for the new road centerline are ready for population in the Attributes window.
        - Add the following attributes for the new road centerline:
            - N Main St Inola, OK USA and range 100-155
- Copy and paste an address point



- Select a Road Centerline, in the tools, choose **Split**. Double-click on the selected segment to split the feature at that location.
    - Select both the created split segments – open the attribute table. What do you notice?
    - **Merge** the two road centerlines back together
- Select a Road Centerline, in the editor tools, choose **Reshape** Feature Tool. Click on the selected RCL, next click within the map to place additional vertices to reshape the segment. Double-click the selected road to end the drawing and complete the reshape.
- Select a cul-de-sac segment and right-click and choose Edit Vertices > **Reverse Direction**
    - Formerly known as "Flip" in ArcMap
    - Note, Edit Vertices can also be selected within the Edit Ribbon.
- Make sure to save your edits!



Exercise 14

- Select an **ESZ polygon**. Zoom to the border of the polygon and choose the Split Tool. Click on the selected polygon edge, next click within the map to place additional vertices to cut the polygon. Once the area has been outlined, double-click the selected polygon edge to finish the cut.
    - Select the newly created cut feature *and* the neighboring ESZ polygon – Merge the polygons together to create a single feature.
- Select the **ESZ polygon** with NGUID_ESZ = 'ESZ_BOUNDARY_4@cog.acog.ok.gov'. **Explode** this multipart boundary.
- **Reshape** a boundary
  Save your Edits!