

ArcGIS Pro Overview: Orientation

Topics Covered:

Basic ArcGIS tools and Views

Prerequisites:

Online students – complete the “[Certified GIS User](#)” training and quiz at My.UWF.edu > SCOOP

Additional References:

ArcGIS Help and [Terminology Guide](#)

Data Source:

R:\Intro2GIS\01_OverviewArcGIS.zip – Download to your S:\

Deliverables:

- Process Summary and crude map JPEG

Student Learning Outcomes:

- Access ArcGIS Pro software
- Prepare folders for lab
- Become familiar with ArcGIS Help
- Learn key terms about ArcGIS Pro

Lab Questions

Q1: Provide a screenshot of your ArcGIS Overview folder similar to the example provided

Q2: What is the file path of your resulting map file?

Q3: Define Map Extent in your own words

Q4: Define the following terms from the Terminology Guide: Active View, Explore Tool, and Pane.

Navigating UWF Laboratory Assignments

We recommend printing the lab instructions. If you have more than one screen, have the PDF loaded one screen and ArcGIS Pro on the other screen.

- Commands, buttons, tools and other terms identifying features on the software interface will be **emboldened**.
- Words in **bold blue** are GIS specific terms for which you may want to consult ArcGIS Help.
- The “greater than” symbol > will denote a step order to follow
- **Q1: Process Summary Questions** will be found throughout the lab. Answer them when they appear.

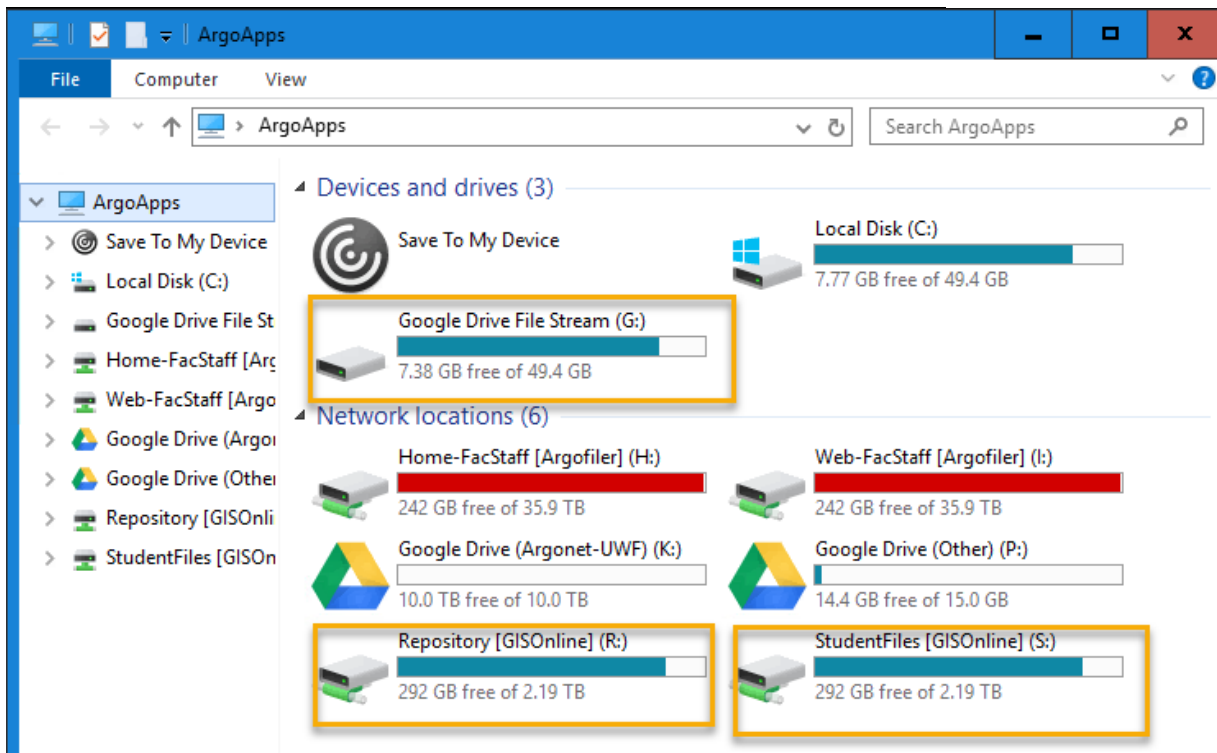
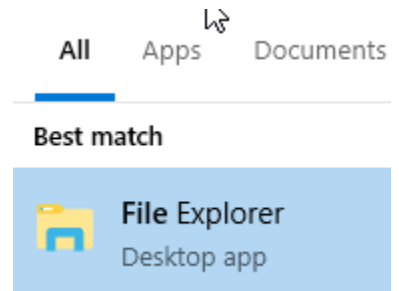
Lab Assignment Begins

The following instructions assume that you are logged in to a UWF machine (GIS lab computer or Argo Apps) with your UWF Argonet credentials.

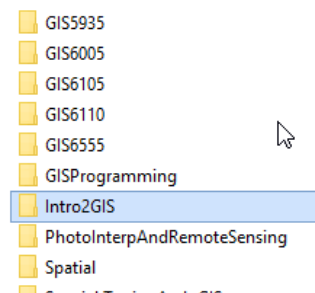
- Watch the [“Accessing Argo Apps \(Citrix Receiver\)”](#) video to access your UWF GIS virtual machine/desktop.

Step 1: Access Data Storage Drives

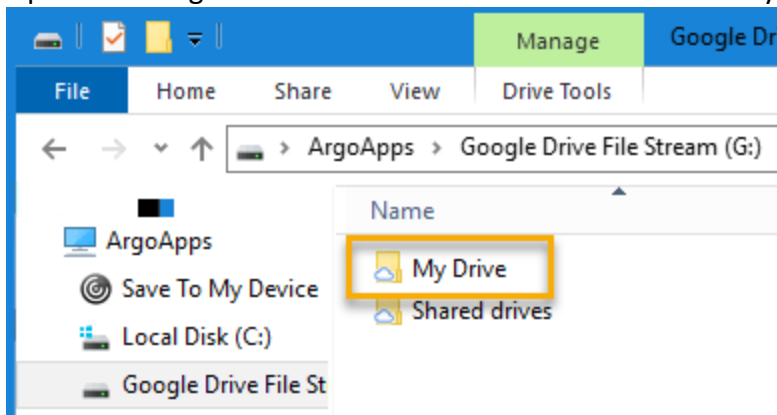
1. From the Argo Apps Desktop Start menu, locate File Explorer from the list or begin typing File for a list of options to appear.
2. Open **File Explorer** to View the available drives.



3. Double-click to open the Repository drive (R drive). All students can access lab assignment data on the R:\ Repository drive.
4. Locate the Intro2GIS folder



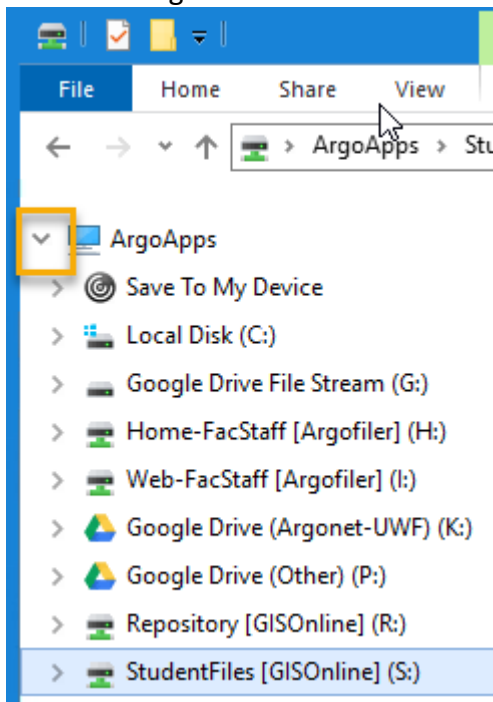
5. Open the Google Drive File Stream and double click on “My Drive”



If you do not already have on your personal computer Google Drive File Stream, download it. Restart the GIS desktop from ArgoApps and it should show up.

Use Google File Stream connection to edit Word documents and easily copy/paste files. The browser version of Google drive requires file transformations and is cumbersome to edit word documents.

6. Create a new folder called GIS4043
7. On the left-hand side of the File Explorer window, select the arrow next to Argo Apps or This PC for those working in the GIS lab. You will either open the S drive.

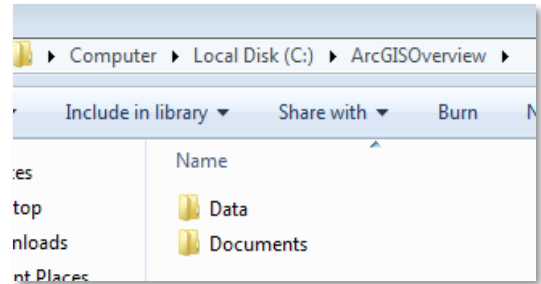


Argo Apps

Step 2: Prepare Folders

It's important to know where your data and files are for class. Setting up your folder structure this way will make navigating the lab assignment easier.

1. Still in File Explorer, open the S drive, where we will create a folder for this week's lab assignment.
2. Create a folder named **GIS4043**. Within that folder create **ArcGISOverview**. Within *ArcGISOverview*, create two more folders named **Data** and **Documents**.



To see the next step in action, watch the [“Accessing your Data”](#) video.

Avoid using spaces or characters other than _ underscores in file names.

3. Navigate to the Repository or R drive. Locate the *Intro2GIS* folder and open it. Right-click *OverviewArcGIS.zip*. to copy it and paste it to your S drive in a “GIS4043” folder you created in the last step.

Select a Destination and Extract Files

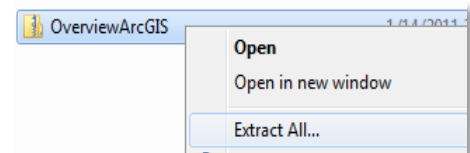
Files will be extracted to this folder:

C:\ArcGISOverview\Data\OverviewArcGIS

Show extracted files when complete

Right-click on the *OverviewArcGIS.zip* > **Extract All...** to extract the file.

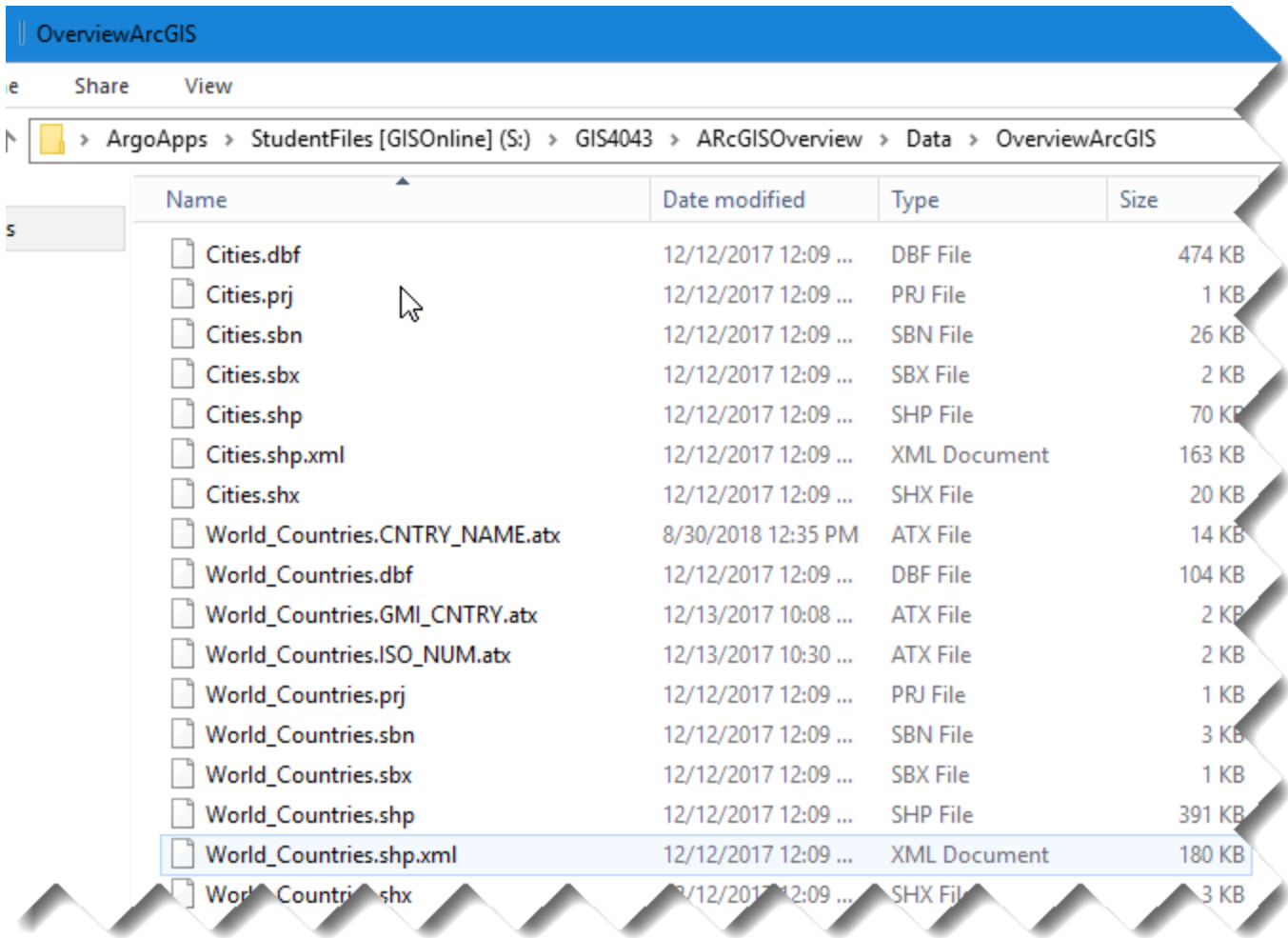
Be sure to extract to a “Data” folder. This folder should be housed in a “S:\GIS4043\ArcGISOverview” folder you’ve created on your S drive



4. Open the extracted data folder to view its contents. This folder contains 10 files which make up 2 GIS layers called **shapefiles**. Shapefiles are a common vector type layer which you will use extensively in this course. A single shapefile is actually made up of as many as 6 individual files:
 - .shp – this file is for the geometry
 - .shx – this file is for indexing
 - .dbf – this file is for tabular data (also called “table of attribute data”)
 - .shp.xml – XAML document type; this houses the metadata
 - .sbx – this file is a spatial index of features
 - .sbn – this file is also a spatial index of features
 - .prj – this file is for the projections and datum information for the layer

All of these files need to be in the same directory (folder) and moved together because all files are required to view and perform operations on the data.

Your project folder should look something like this now:



Q1: Provide a screenshot of your ArcGIS Overview folder similar to the example provided

Tip: search for and use the snipping tool or similar app available from the start menu on your desktop and paste it to your process summary word document.

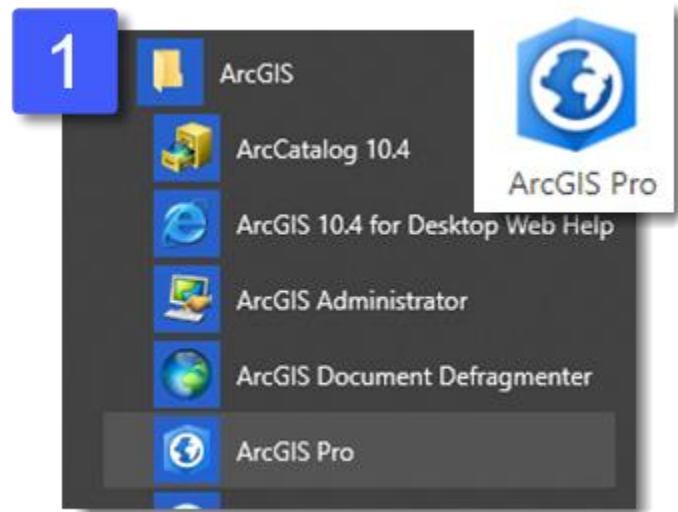
- Update your Process Summary document with your screenshot and written folder path description.
- Close File explorer.

Step 3: Open ArcGIS Pro and create a new project

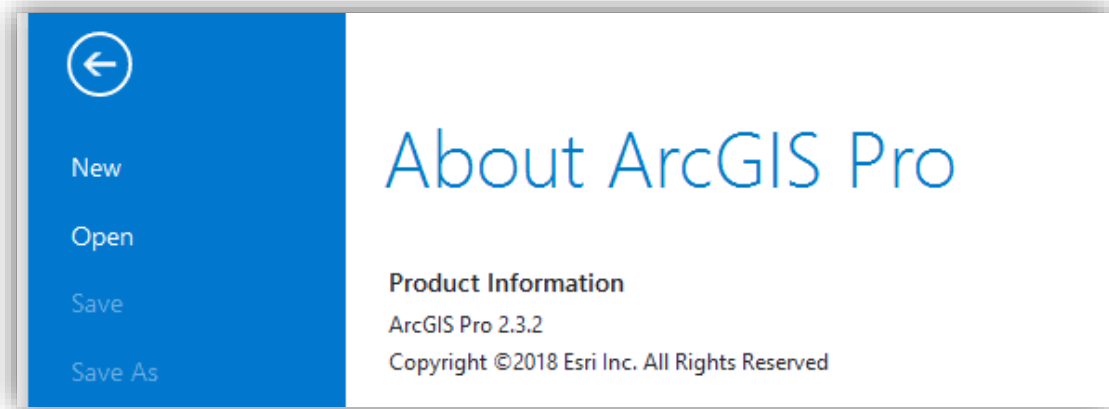
- Launch ArcGIS Pro** by double-clicking the desktop icon, or by navigating to it in the Start menu (**Start > All Programs > ArcGIS > ArcGIS Pro**). This is a large and complex program and will take a minute to load; please be patient.

Once ArcGIS Pro opens, you'll see a screen prompting you to open an existing project or start a new **project**. We're going to skip that for a moment to explore software settings and optionally change the theme.

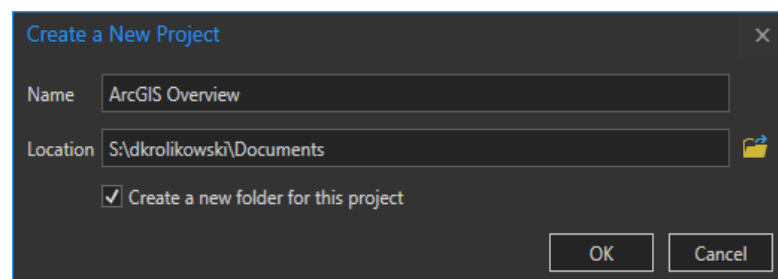
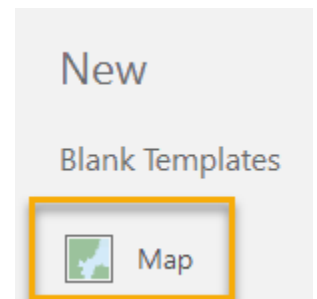
- On the bottom of the screen, click **Settings**



- The About information appears. Write down the numbered version of ArcGIS Pro Software we are working with. Note: software updates frequently.



- On the left-hand navigation, select **Options > General > Application Theme**. Here, you can choose between a Light and Dark Theme (optional). Switching themes will require you to restart ArcGIS Pro. Images in lab assignments will alternate between themes. NOTE: You may not see a change until the next time you login to Argo Apps.
- Expand the Create Projects options. We will leave the defaults as is, but see that new projects and geodatabases (a container for data) will be saved in a default location. Click **cancel** to exit Options.
- Click the back arrow at the top left of **About ArcGIS Pro** to return to the main 'Projects' page. A project is a collection of related geographic datasets, maps, layouts, tools, settings, and resources.
- Under Blank Templates, select **Map** to load the Create a New Project menu.
- Fill in the new project menu with the following information.
Name: **ArcGISOverview**
Location: navigate to your S drive to save it to your *ArcGISOverview* folder.
Leave the checkbox checked to Create a new folder for this project.
Hit **OK**



Step 4: Review ArcGIS Pro Interface

Once you've created a new project, your ArcGIS Pro screen will open with a World Topographic map on display.

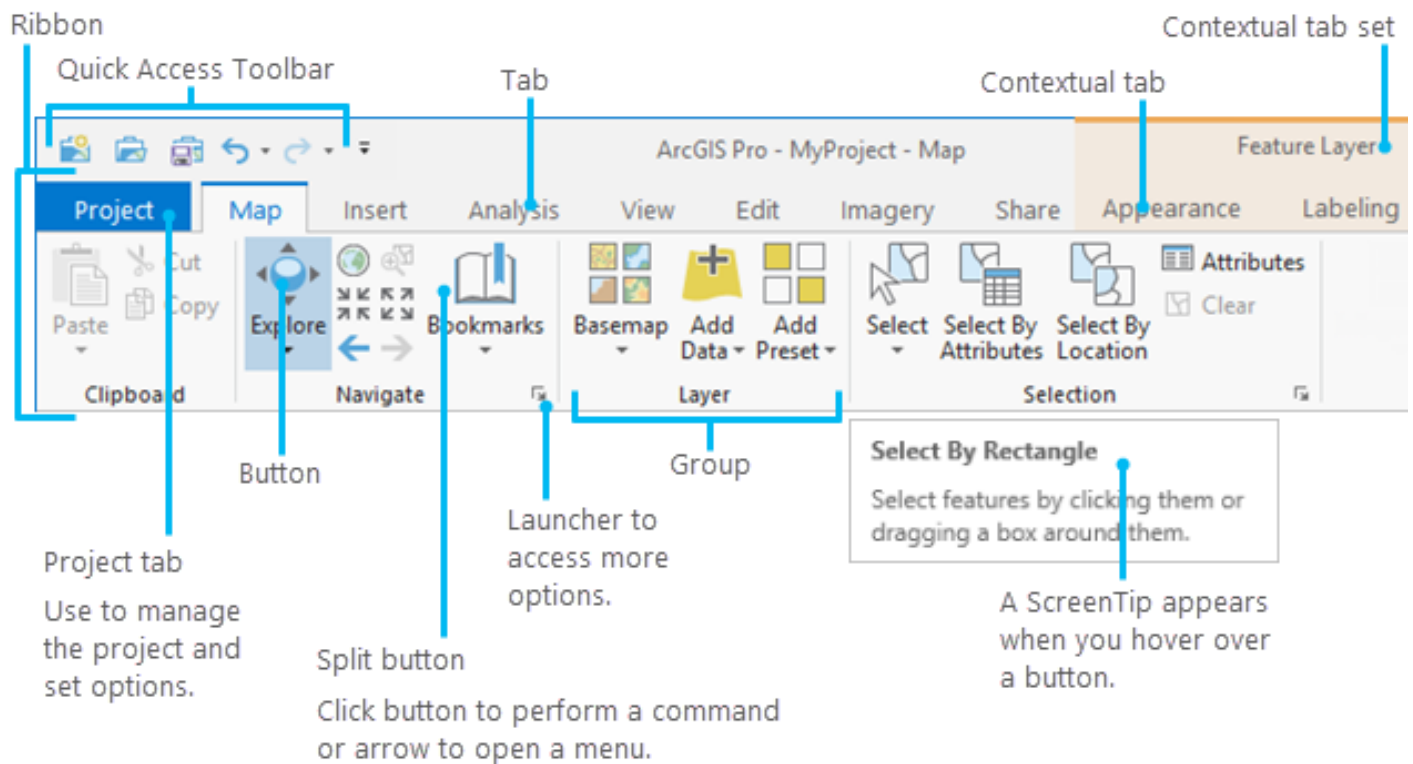
Take a few minutes to familiarize yourself with the ArcGIS Pro Interface. The following parts are referred to most frequently in lab instructions:

Ribbon – refers to the main horizontal menu of options at the top

Tabs – Project, Map, Insert, Analysis, etc are all tabs. New tabs appear when items or tools are added to the map project

Group – a group of tools and buttons that are available within a certain Tab.

Quick Access Toolbar – save, undo, open new file



Contents Pane – at the left hand side of the screen, lists data that can be viewed in the project.

Catalog Pane – at the right hand side of the screen, lists folder connections and data that can be added to the project

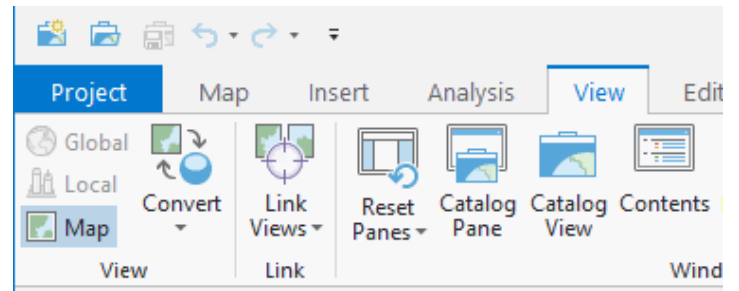
Views – in the main or middle part of the screen, maps, scenes, tables, layouts and presentations of data are viewed here. A project may have many views available, but only one is active. The “active” view affects which tabs appear on the ribbon and panes.

For a more extensive overview, visit ArcGIS Help page [About ArcGIS Pro](#).

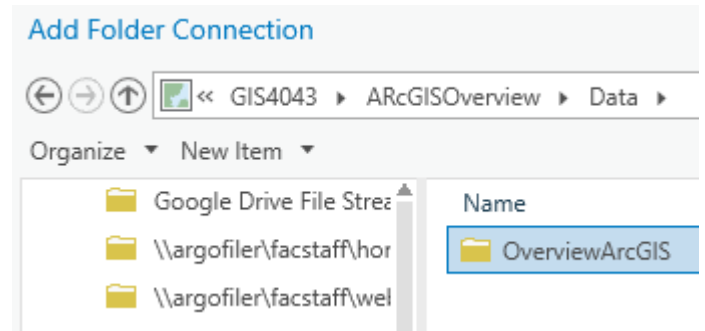
Step 5: Connect to your data folder and view data in ArcGIS Pro

Because ArcGIS Pro is a platform for viewing and manipulating geographic data and does not use internal datasets, we must add data before actually doing anything.

1. From the Ribbon, Locate the **View** tab, within the Windows group, select the **Catalog Pane** button. A new pane appears on the screen or it may be open on the right-hand side of your screen.
2. From the Catalog Pane, Right click **Folders** and **Add Folder Connection**.
3. Browse to your data folder created in Step 2. Note: we are connecting to a Folder, so only Folders will appear (not data files).

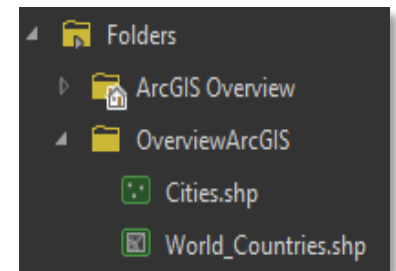


4. In the Catalog Pane, expand Folders, then your Data Folder. There you will see the two shapefiles. Notice that the shapefiles are shown as single files rather than 4 – 6 when viewed in a Windows Explorer window.



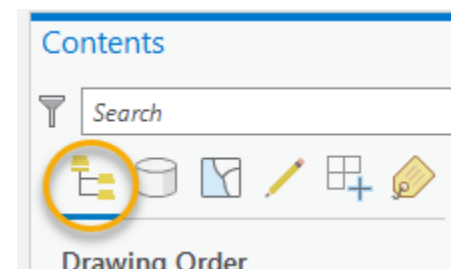
5. **Right-click** *Cities.shp* and choose to **Add to new map**.

A new **view** will open up containing a **basemap** and the location of various world cities. This is called a vector layer. A vector dataset may consist of a point, line, or polygon feature.



6. **Select** *World_countries.shp* and drag it to the map view. Notice the World countries becomes the top-most layer.

7. From the Contents Pane, there are several ways to view the list of data. **Hover over each option for tool tips** and select each to see how your data list view changes.



8. Make sure you are viewing data in the “List By Drawing Order”

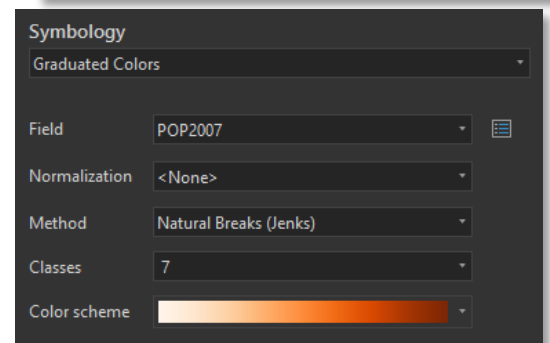
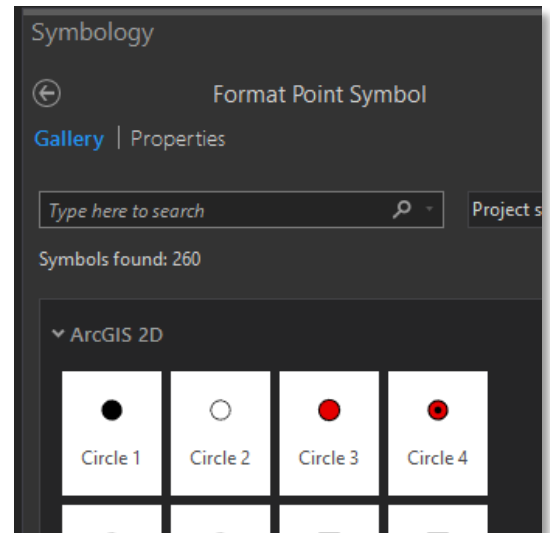
9. Change the order of the layers within the Contents pane by clicking and dragging the desired layer up and down.

10. Turn **Cities** and **World Countries** layers on and off by **checking** and **un-checking** the check boxes next to each layer in the Contents.

Step 6: Symbolize Data Layers

Now we will change how layers are displayed.

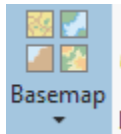
1. Click on the dot symbol underneath the layer *Cities* in the Contents pane.
In the **Symbology** pane (image at right), you can either select a predefined symbol in the **Gallery** or create your own in **Properties** (select Properties to view options).
2. From Gallery view, Display cities with a black **Circle 1**.
3. Right click on the *World_Countries* in the Contents pane and select **Symbology**.
4. In the symbology pane, from the dropdown, select **Graduated colors**.
5. For the **Fields** value, choose the field [POP_2007]. Leave Method as Natural Breaks (Jenks). Choose **7** classes. Then select a **Color Ramp** of your choice from the dropdown options. See the example to the right.



Tip: Symbology

The data in this field is sequential, so using a sequential ramp would be recommended. This means use a ramp that utilizes a single color from its lightest to darkest value. You will learn more about data types and how to symbolize accordingly another time.

6. From the **Map** tab, in the Layer group, select the **down arrow for Basemap** to expand options.

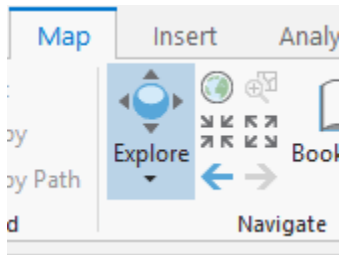


7. Select a basemap of your choice.

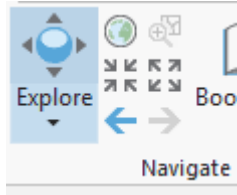


8. On the **Quick Access Toolbar**, hit the **Save** button.

- From the Ribbon on the **Map** tab, locate the Navigate group and select the **Explore** button.



- Click feature anywhere on the map. Notice that when clicking on land or on a City point, a pop-up appears with information.
- To navigate on the map view, practice using the Full Extent, Fixed Zoom In and Out buttons available on the Navigation group.



- Use your mouse to hold a left click to move or drag the map image. If you have a scrolling wheel, use it to zoom in and out.

Step 7: Create a Map Layout and export it

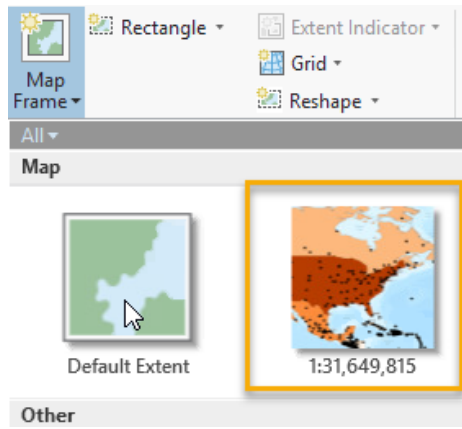
Up until this point, we've been viewing and manipulating data in ArcGIS Pro's **Map View**. This view looks most like what web map would look like since ArcGIS Pro is optimized for web publishing. We will get into this later in the class. For now, we will create a simple **Map Layout** that can be exported as a digital image and uploaded to the course site

- On the **Insert** tab, in the **Project** group, click **New Layout** and select **ANSI – Landscape > Letter**.

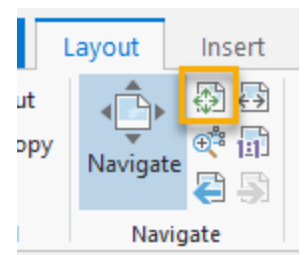
Tip: Layouts

When creating Layouts, think about how your data looks. Data boundaries that is more vertical in nature, like California, might be better on a portrait layout, where horizontal data, like a map of the world, would be better on a landscape layout. In this class, use Letter size unless told otherwise. Larger sizes are more difficult to see on a computer screen.

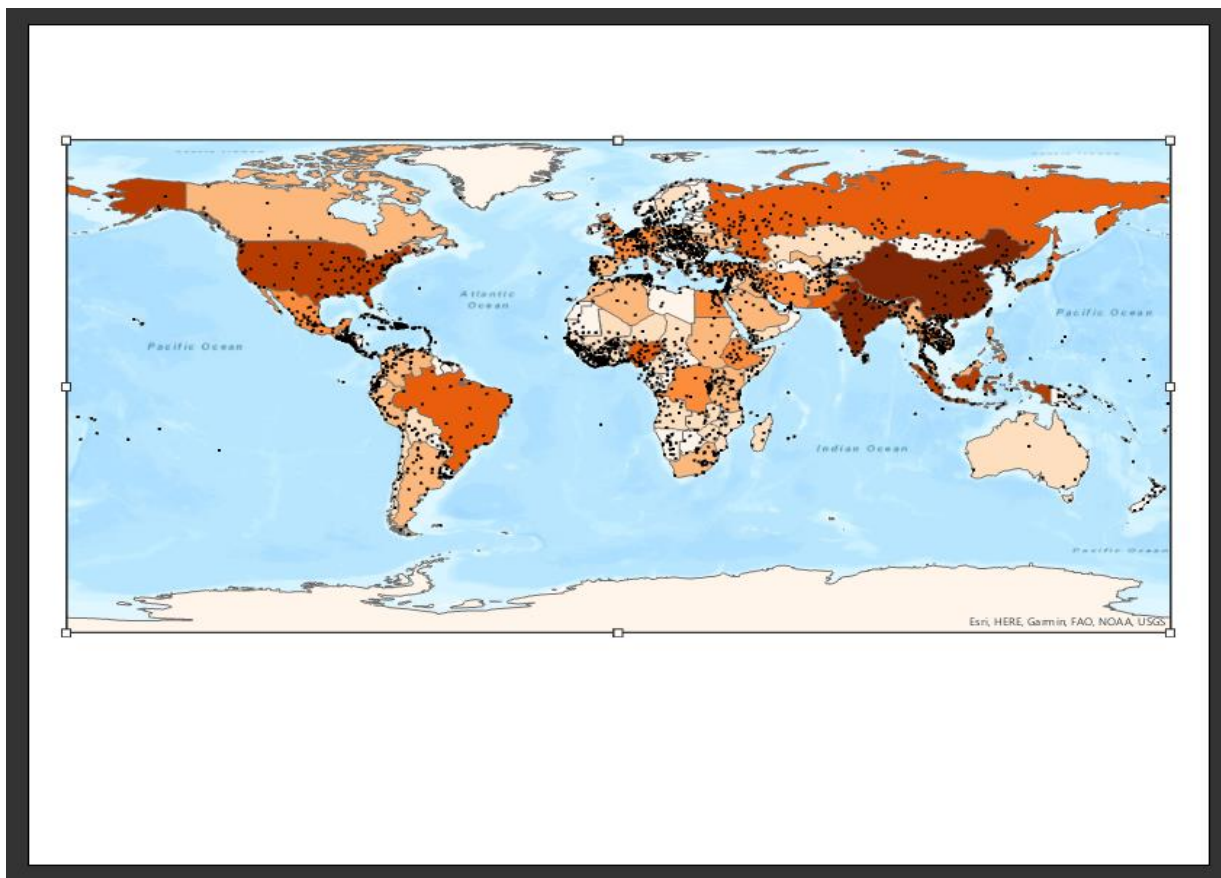
- Now you'll notice we just have a blank Layout view. To add your data, click **Map Frame icon** and select the icon that looks like your Map view data.



3. Using your mouse, draw a rectangle that traces or aligns with the edges of your Layout view (the white rectangle). Notice how each direction scales, cuts off, or increases white space. Try to scale your map so that it fits on the page, does not cut off any countries, and has a minimum of whitespace between the map frame and basemap.
4. From the **Layout** tab, select the **Navigate** button to move the page.
5. Use the Full extent button to reset your Layout in the center of your screen.
6. To center your Map Frame on the page, **right click** the Map frame, **Align>Align to Page, Align>Align to Center**



The result will look something like the following screenshot.



In the next lab, we will cover how to add essential map elements. For this exercise we are done.

7. Select the **Share** tab and within the **Export** group, and click on the green **Layout** arrow.
8. Navigate to your *ArcGISOverview* lab *Documents* folder and select **PNG** or **JPEG** as the **Save as type**. Name your map file “Week1Lab_YourName” and hit **Export**.
9. Save your project one last time. Close ArcGIS Pro.

Q2: What is the file path of your final exported map file? Write your answer.

Step 8: Create a copy of your project files on your Google Drive

1. Open File Explorer
2. Locate the S drive or D drive and your *ArcGISOverview* lab folder.
3. Right-click on your folder and select **Copy**
4. Navigate to Google File Stream and the *GIS4043* folder you created at the beginning of this lab.
5. **Paste** your *ArcGISOverview* folder.

Now your project and exported map files are backed up on your Google drive and can be accessed from a web browser or downloaded to your local machine. In order to access Google File stream from your local machine, follow instructions provided on [UWF Confluence for Google File Stream](#).

Step 9: Upload your exported map image file to elearning for grade

For those using Argo Apps, the most straight-forward method of uploading your final maps to elearning is to launch Google Chrome browser on Argo Apps and access the course site. When you are on Argo Apps, the S drive will appear as an option to upload files from on elearning/Canvas.

1. Login to My.uwf.edu and access elearning (Canvas)
2. Navigate to the ArcGIS Overview assignment
3. Select the Submit button at the top right-hand side of the page
4. Navigate to your S drive (from Argo Apps), D drive (for GIS lab) or your local drive where your exported map is downloaded. It is possible to connect to your google drive, but it requires additional setup.

For more detailed instructions, visit the [Canvas Community page](#)

Step 10: Create a blog post including your map image file

Follow the steps provided on [UWF GIS Confluence Blogging Basics page](#).

ArcGIS Help Overview

ArcGIS Help should be the first thing you look at if you get stuck or have problems (and you will). There are several parts of the Help Menu and many ways to find the information you need.

There are a few ways to locate help information. We will cover the most used and user friendly method here.

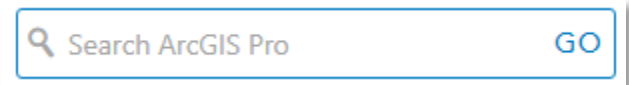
Step 11: ArcGIS Pro Help in your Web Browser

Web based help is by far the most commonly used option for both professionals and students. Even the in program help links out to these web pages. Remember though, when looking at online help, to make sure you are looking at help for the correct platform and version. You don't want to be reading ArcGIS Portal help when you need ArcGIS Pro help.

1. Launch or return to [About ArcGIS Pro](#)
2. Select **Help** tab > **Layouts** > **Layouts in ArcGIS Pro** for a quick overview of how to create a map. We will go into more detail in future labs

This is a good method of searching if you have a general topic in mind, but what if you are after a specific tool or topic?

3. In the search field at the top of the page, type in "**Map Extent**" – When you click inside the box, notice the greyed-out text that appears to ensure you are searching the correct version.



Q3: Define Map Extent in your own words

Step 12: ArcGIS Pro Terminology Guide

ArcGIS Pro is a brand new software, and with it comes brand new terms to learn. If you are completely new to GIS, you have it easy in the sense that you don't have to unlearn anything. If you are coming to this course with some knowledge of GIS through ArcMap or QGIS, you probably have realized that everything looks different and many things have different names. ESRI though, has helpfully provided a **Terminology Guide** to help both GIS Padawans and Masters get used to this program.

1. Access the Terminology Guide. It is provided in the course and at [ArcGIS Pro Terminology Guide](#)

Q4: Define the following terms from the Terminology Guide: Active View, Explore Tool, and Pane.

This concludes ArcGIS Pro Overview Lab