



CHAPTER 2

A first look at ArcGIS Pro

Exercise objectives

2a: Learn some basics

- *Start a new project.*
- *Import a map document.*
- *Create a folder connection.*
- *Modify map contents.*
- *Explore the map.*
- *Examine the contextual ribbon.*
- *Examine feature attributes.*
- *Select features.*

2b: Go beyond the basics

- *Modify feature symbols.*
- *Label features.*
- *Measure distances.*
- *Add a basemap.*
- *Package and share the map.*

2c: Experience 3D GIS

- *Start a new project.*
- *Add data and create a bookmark.*
- *Create a 3D scene.*

Why ArcGIS Pro?

ArcGIS Pro is a solution for today's GIS professional. It offers 2D and 3D visualization and analysis within an intuitive, easy-to-navigate interface. ArcGIS Pro seamlessly integrates with networks and the cloud to allow researching, developing, sharing, publishing, and collaborating on GIS projects. The desktop application is designed to be used with ArcGIS Online; for instance, maps authored in ArcGIS Pro can be published to ArcGIS Online, shared with and modified by other users, and then brought back into ArcGIS Pro. You were introduced to ArcGIS Online in the first chapter, so now it is time to meet the main character of this book.

ARCGIS PRO SYSTEM REQUIREMENTS

To take full advantage of the 3D capabilities of ArcGIS Pro, you need an adequate system. Complete system requirements can be found in ArcGIS Pro Online Help, under Get Started > Set Up > System Requirements (link.esri.com/EsriPress/ProSysReqs).

The following short exercises provide an initial overview of ArcGIS Pro. They are designed for brand-new GIS users as well as users who are familiar with other Esri mapping products. You will be introduced to the interface, start exploring some maps, and accomplish some common GIS tasks. These tasks include looking at feature attributes, turning on labels, and modifying map content. Later in this chapter, you will work with 3D maps. These exercises will prepare you to successfully complete the GIS project scenarios presented in subsequent chapters.

DATA

The exercise data for this book can be downloaded from ArcGIS Online. Information on the location and installation can be found in the preface section, under “Hardware and software requirements.”

In C:\GTKAGPro\World\World.gdb:

- Cities—point features that represent major cities of the world with a population greater than 1 million (Source: *ArcWorld*)
- Countries—polygon features that represent world countries, including demographic data and air pollution estimates (Source: *ArcWorld*; *US Census International Division, CIA Factbook*; The World Bank)
- Latlong—line features that represent latitude and longitude (Source: Esri)
- Ocean—grid of polygons used to display a single-color background behind land features (Source: Esri)

In C:\GTKAGPro\3D:

- buildings.shp—polygon building footprints for a section of a Manhattan neighborhood in New York City (Source: New York City Department of City Planning)

Exercise 2a: Learn some basics

Estimated time to complete: 40 minutes

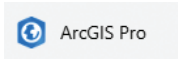
In this exercise, you will create a new ArcGIS Pro project, add a map to it, explore map features, and modify the map view.

Exercise workflow

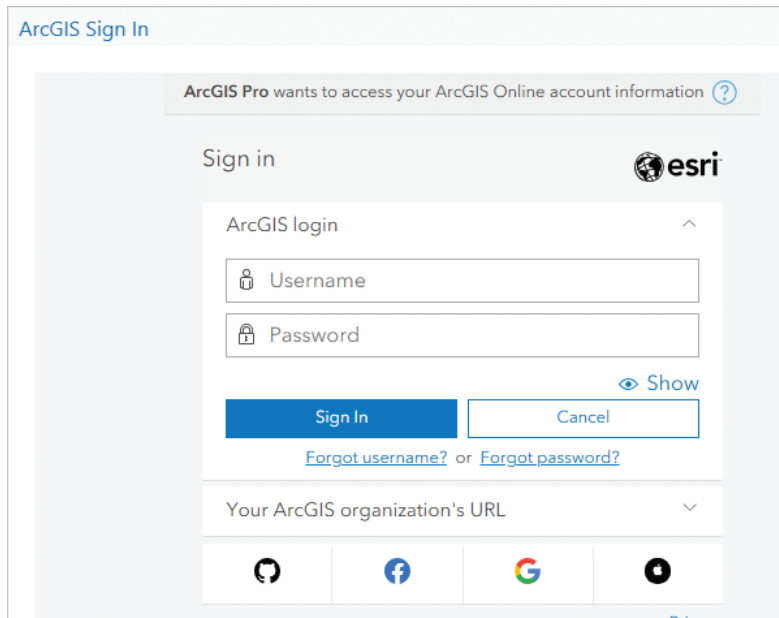
- Create an ArcGIS Pro project using an imported map and a new folder connection.
- Modify map layers by changing visibility, rearranging the order in which layers are drawn.
- Navigate around the map and explore map features and attribute tables.
- Use the Select tool.

Start a new project

1. Start ArcGIS Pro.



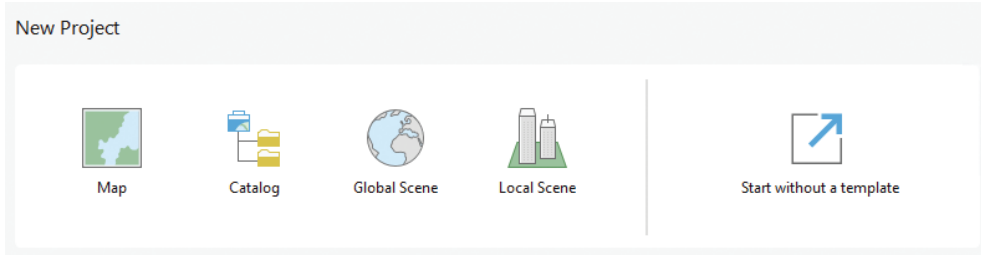
At start-up, you are asked to sign in using your ArcGIS Online organizational account. Your login authorizes your ArcGIS Pro license and makes it easier to obtain or share data with ArcGIS Online organizations or an ArcGIS portal. You can choose the Sign Me In Automatically option if you do not want to sign in each time you start the application.



*In **Settings > Licensing**, you can choose to work offline. This option is available if you are working without an internet connection. However, keep in mind that you will not see basemaps or any other data layers that are served on the web.*

2. Enter your username and password to sign in.

3. On the opening screen, under **New Project**, choose to open a **Map** template. Give it a unique name (for example, **FirstLook**) and save it to either the default or another location, such as your **C:\GTKAGPro** folder. Maintain the default option to create a folder and click **OK**.



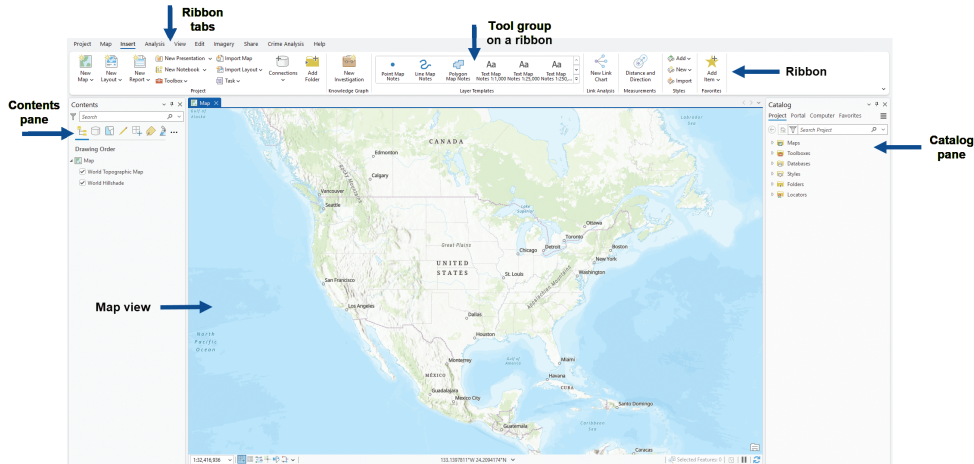
ArcGIS interface elements change periodically to keep up with evolving software functionality, so the images in this book may not exactly match the software interface you see.

PROJECT TEMPLATES

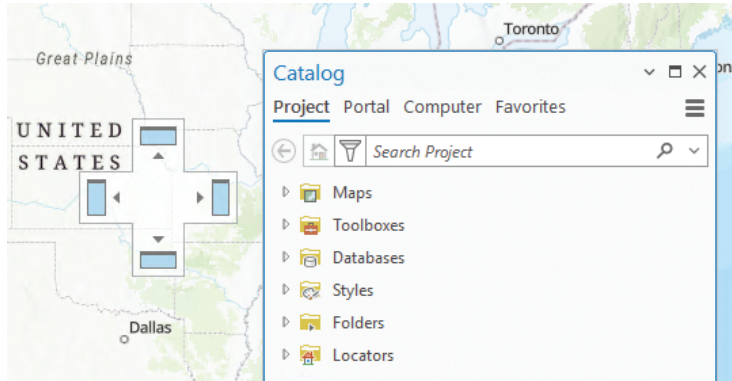
Using a project template (.aprx) is usually the quickest way to start a project. Templates are shareable project packages, including the specific basemaps, connections, datasets, toolboxes, or add-ins that are most helpful to your project. ArcGIS Pro offers some basic templates (catalog, global scene, local scene, and map), and other industry templates are available as well. You can also create your own template: Package an existing project and save it to the **Documents \ArcGIS\ProjectTemplates** folder in your user profile. You can also share it to your organization's network or through ArcGIS Online. Using an organizational template is a good way to ensure consistency between projects.

An ArcGIS Pro project is much more than a map document. A project file (.aprx) or project package (.ppkx—essentially a zipped project file, ideal for sharing) may contain multiple maps, geodatabases, folder connections, layer files, task lists, models, toolboxes, and more. It is an easily shareable container that holds everything you need for your GIS project.

You see a map with a ribbon at the top. The ribbon contains tabs that have various buttons, tool groups, tools, and drop-down options. The elements are highlighted in the accompanying graphic of the ArcGIS Pro user interface. All windows can be resized, docked, or detached, or turned off when they are not needed. Tabs and tools change depending on the content you are working with.



To dock or move a pane (such as Contents or Catalog), click the top of the pane and press and hold the mouse button. As you begin to move the mouse pointer, the pane becomes transparent, and arrows point to locations where the pane can be docked. Drag the pane to an arrow and then release it to choose the docking location. Or drag and release anywhere if you prefer an undocked pane.



Panes can be stacked to save space. Click the tabs at the bottom of the panes to switch between them.

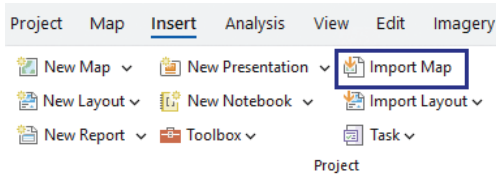
When a pane is docked, click the Auto Hide button—it looks like a pushpin—to activate tabbed behavior. A tab replaces the pane when you are working in the map view. Click the tab to reveal the hidden pane.

4. Arrange or resize the panes as you prefer.

Import a map document

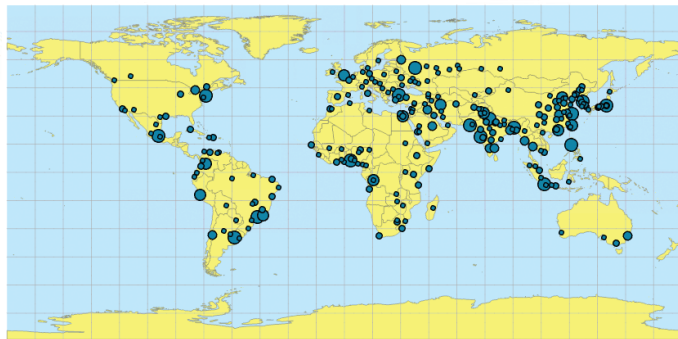
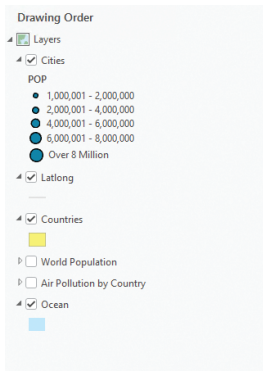
Map documents created with other applications (such as ArcMap™) can be imported into an ArcGIS Pro project.

1. Click the **Insert** tab. In the **Project** group, click the **Import Map** button.



If your ArcGIS Pro window is small, you may see only the icon. To see the full icon name, expand the window horizontally.

2. From your **C:\GTKAGPro\World** folder, import **World_data.mxd**.



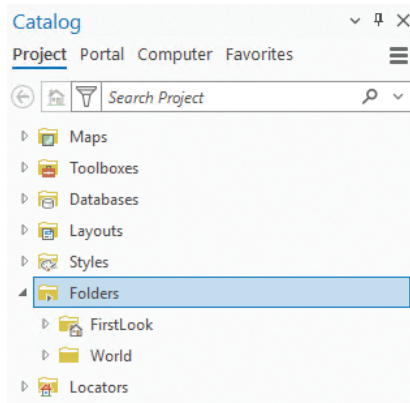
The Contents pane is populated with the map layers. Some layers are turned on (indicated by a check mark), and others are turned off.

Create a folder connection

Creating folder connections for your projects allows you to quickly add data or modify a layer's source data. A folder connection prevents you from having to search through multiple system folders.

1. On the **Insert** tab, in the **Project** group, click **Add Folder**.
2. Browse to **C:\GTKAGPro**, select the **World** folder, and click **OK**.

3. In the **Catalog** pane, expand **Folders** to see the new connection.



There is also a connection to the project folder, which is created by default when you start a new project.

Modify map contents

The Contents pane allows you to modify the map's layers. In the next steps, you will get a quick overview of how to work in the Contents pane.

Look at the **Cities** layer. Cities are represented by graduated point symbols that correspond to population values—the larger the point, the larger the city's population.

1. Click the check box on the left of **Cities** to clear it (thereby turning the layer off in the map).



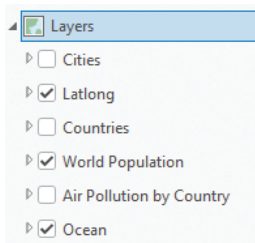
2. In the same way, turn off **Countries**, and then click the **World Population** check box to turn it on. Expand the **World Population** legend by clicking the triangle symbol next to the check box.



The countries are symbolized by population categories using a graduated color ramp—the darker the color, the higher the population.

*If you want to remove a layer from the map entirely and not just turn it off, right-click the layer name and click **Remove**.*

3. Collapse all legends.



Collapsing the legends makes it easier to reorder layers in the Contents pane.

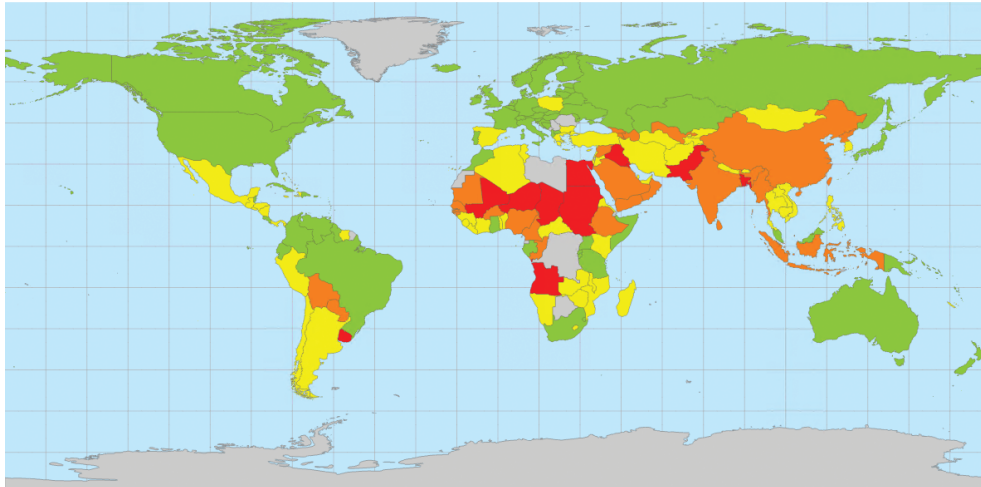
4. Move **Latlong** below **Air Pollution by Country** by dragging to move the layer and then releasing it in the desired location.



5. Turn on **Air Pollution by Country**.

You cannot see this layer because it is underneath World Population. To see the Air Pollution layer, you can turn off World Population or reorder the layers. Think of layers as shapes drawn on sheets of transparent paper. You typically place points and lines above polygons so that they are not covered up.

6. Turn off **World Population** to examine the **Air Pollution by Country** layer. Expand its legend so that you can better understand the map.



This layer shows particulate matter (PM) concentration measurements for each country.

On which continent are PM concentrations highest?

You can find the answers to the questions posed in this book at the end of each chapter.

7. When you finish, turn on **World Population** again.

You may also collapse the Air Pollution legend again if you want. Next, you will change the map's name from Layers to World.