TUTORIAL 1:

HOW TO DISPLAY, NAVIGATE, AND PRINT MAPS

In this exercise you will learn how to use basic navigational controls as well as Print tool to find an area of your interest, display the map of your choice and print it. We will focus on custom region around city of Indianapolis which includes the following counties: Marion, Hamilton, Hancock, Shelby, Johnson, Morgan, Hendricks, and Boone.

Step 1 : Explore the Map

1. Open the "Industry & Occupation Clusters" map. Note that the "Layer list" tool automatically opens in the top right portion of your screen.

Look through the layer categories listed in this tool. The box to the left of "Administrative" is the only box that is checked. This means that it is the only category that currently displays on the map.

2. Click on the grey arrow to the left of the "Administrative" category. A list of specific map layers expands underneath.

These layers define political boundaries within the country, and can be seen on the map because they are turned on. The layer names that display in a grey, italic form are those which are active but are not shown in your current zoom extent.

3. Click on the grey arrow next to "Administrative" again to collapse the category.
4. Check the box next to "Industry clusters, jobs" to activate that category.
5. Expand the category using the grey arrow, and the entire job cluster list appears. The "Agribusiness, Food Processing & Technology, 2010" cluster layer is currently the only active layer. Click the box next to this layer to turn it off. You will no longer see it on the map.
6. Now click the box next to the layer "Advanced materials, 2010". The data from this layer now appears on the map.

In this map, you can turn any layer on and off by checking and unchecking it in the "Layer List" tool. Remember that when you are finished viewing a layer, uncheck it before checking an alternate layer otherwise the layer that is at the top of the list will be the only visible layer on top of other layers.

Step 2 : Interpret Layer Colors

The "Advanced materials, 2010" layer that is currently activated shows United States counties in various colors. We will now interpret what these colors represent.

Along the top of the map, there is a toolbar comprised of various icons.

1. Move your cursor over each icon to display the tool name.

2. Click on the tool entitled "Map Legend".

The "Map Legend" popup box appears and interprets the values that correspond to each color on the map. See that counties symbolized in a blue hue contain less "Advanced materials" jobs than counties shown in a red hue.

Now that you are able to interpret the map, close the "Map legend" tool by clicking the "X" in the upper right hand corner.

> **TIP:** You can move any pop-up window around the map to look at the different parts of map. Also, you can close any pop-up window to clear up map window for better view and later call back the same window by clicking on corresponding tool icon in the top menu bar at any time.

Step 3 : Zoom in to the area of interest and change transparency

The current extent of your map is not close enough to the area you wish to examine.

1. Using the skills you learned in the previous step, locate the "Zoom to state" tool and open it. A list of states appears in the tool's popup box.
2. Scroll down the list and click on "Indiana".
3. Close the "Zoom to state" tool.

Your map extent is now centered and zoomed into Indiana, and you see where Indianapolis is labeled in the middle of the state. You are not close enough, however, to see the Indiana county names.

1. Along the left side of your screen there is a navigational toolbar containing a zoom slider. At the top of this slider there is a button containing the symbol "+". Click this button twice.
2. You are now at an extent where you are able to view county names; however Indianapolis is not centered in your map display.
3. To reposition your map, press down your mouse button on the Indianapolis area, drag it to the center of your screen, and let go.

Alternatively, you can zoom by defined extent using zoom in (magnifier icon with plus sign) and zoom out (magnifier icon with minus sign) controls below zoom slider. Click on magnifier icon and drag cursor on the map to define zoom area. For the purposes of this exercise you will zoom to eight counties surrounding Indianapolis (or Marion County).

By default all maps are set to be transparent, so that you can see background map. In this map viewer the background map is topographic map of the US, so when your cluster map is transparent you can see roads and other map features underneath. This helps find locations quickly. However if you need a cleaner look for your map you will need to change map transparency.

1. Click on the small white box with black arrow to the right of "Industry clusters, jobs" category.
2. Select "Transparency" in the pop-up menu and move slider to the left to "opaque" or "0% Transparent". Background map will not be visible anymore and labels with employment numbers stand out now better.
3. Click on the small white box with black arrow to close the menu.

TIP: You can change background map to satellite imagery or street map at any time by hovering mouse over "Basemap" icon in the top right corner of the map and clicking on the background map of your choice.

Step 4 : Print the map

Now you will print the map of the area you are interested in.

1. Using the skills you learned in the previous step, locate the "Print map" tool and open it. Pop-up window contains a few printing options:
   - "Title": type the title of your preference that reflects information on the map
   - "Author": type the name of map author
   - "Copyright": this field has being already populated, but you will be able to change that information
   - "Layout templates": *MAP_ONLY* option will print map image only without legend, scale or other map elements; *Letter ANSI A Landscape* will print standard letter sized landscape oriented map. Chose this option for now.
   - "Formats": you will have a selection of PDF or various image formats to save you map in. Select "PDF" for now.
   - "Use this scale" can print the map at the different from current scale. Leave this unchecked for now.
2. Click the button "Print".

A map you customized will print in a few seconds. Depending on your browser settings printed map may be displayed in a separate tab or you may receive a downloading prompt. If so save PDF file to the location of your preference on your computer.