

Albanian Youth For Environmental Education
AYFEED

A Geographic Information Systems Workshop

<http://ayfeed.wordpress.com/>

LESSON 2

Lesson 2 – Getting Started with ArcGIS Explorer

Required Internet Connectivity

Software: ArcGIS Explorer – a free GIS viewer for download at ESRI’s website, and also a companion to this book.

Data: Boundary, Roads, Towns, Administration Provinces of Albania, data accompanying this book.

Activity Description: Getting started with ArcGIS Explorer.

Estimated Time: 90 minutes (takes into account more than one child per computer and limited command of English)

This exercise has 5 steps. In these 5 steps you will learn how maps are organized in many layers, and how each layer represents one theme. You will learn how to create subsets of the map layers, and you will also make the map easier to understand, by setting dynamic labels, and by changing map legends.

1 START THE PROJECT

A project was created for this exercise. This project is stored in a file. We will open this file by using ArcGIS Explorer, and we will then examine the maps and data that are in this project.

- Open ArcGIS Explorer by double clicking over the icon on your desktop.



- After ArcGIS Explorer has opened, click over the icon at the top  and then click Open.



- Now find your way to the file ~\AYFEED\Lesson2\lesson2.nmf.

- Highlight the file lesson2.nmf and click the button Open at the bottom.

When the file opens, you will see Albania colored in yellow.

2 EXAMINE MAP LAYERS AND THEIR ORGANIZATION

Locate and explore:

- The Ribbon
- The Contents Window
- The Main Display Area
- The Navigation Control

Use the image on the right for guidance



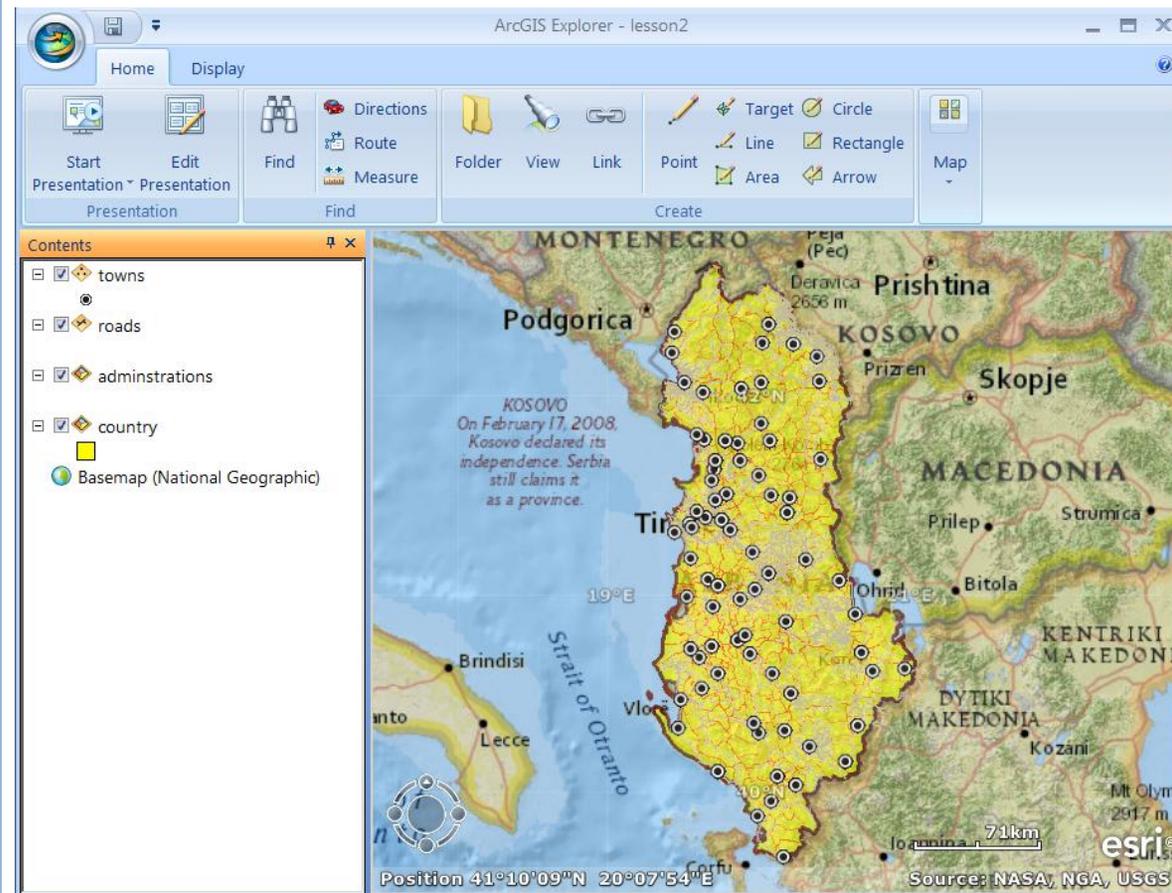
- In the **Ribbon**, under the Home tab, in the Map group click on Basemap
- Scroll down till the bottom and click National Geographic – you should see a nice background map of the world underneath Albania

See how various names are organized on the left side of your map? That is called the **Contents Window**. You should see **towns**, **roads**, **administrations**, and **country** in the Content window. Each of these names is related to a map layer. Now let's turn the map layers on one by one and see what they look like.

- At the **administrations**, click over the little square box to the left. You should see the administrative boundaries of Albania now.
- Click back over the little square box. The boundaries disappear. As you can see the check box controls the visibility of the map layer.
- Click over the other check boxes for roads, and towns, too.
- Next you will click over each of the + signs (you may see a triangle instead of a plus sign) to the left side of the little square boxes. What do you see? Do you see the legend for each of the map layers?

You should now see a map that looks like the one below. Let's save this map that you just created before we lose it.

- Click over the icon at the top  and then click Save As.
- Highlight ArcGIS Explorer Map.
- Go to your student folder and save your map with the name mylesson2.



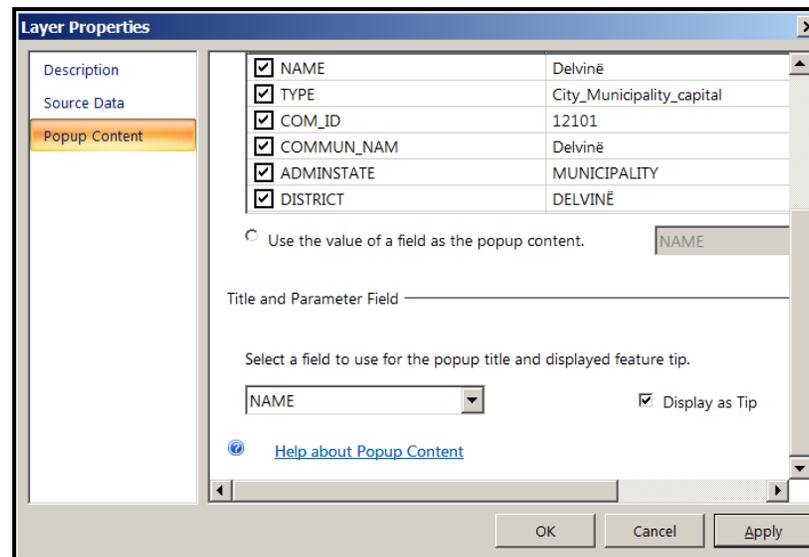
How many layers are in the Table of Contents?

From the layers in the Table of Contents, how many are visible in the map area?

3 MAKE THE MAP BETTER

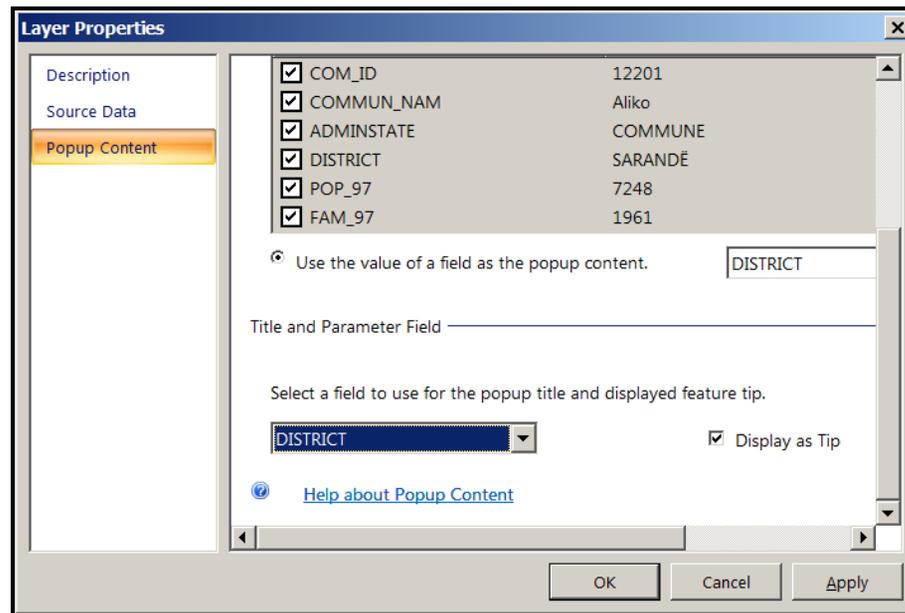
Now let's try to change these map layers a little.

- In the **Ribbon**, under the Home tab, in the Map group, click Basemap again, and click Imagery.
- Highlight **towns** in the **Contents Window**, right click the mouse, and click Properties
- In the box, highlight Popup Content as in the figure below.
- Check the box 'Display as tip' as in the figure below.
- Choose Name for the drop down list.
- Click Ok.



Now move your mouse around the Albanian map (make sure your towns are visible) over each of the points that represent towns. See how the names for each town pop up when you go over them.

- Repeat the steps above for the map layer **administrations** in the [Content window](#).
- This time, choose District from the fields list as in the figure below.

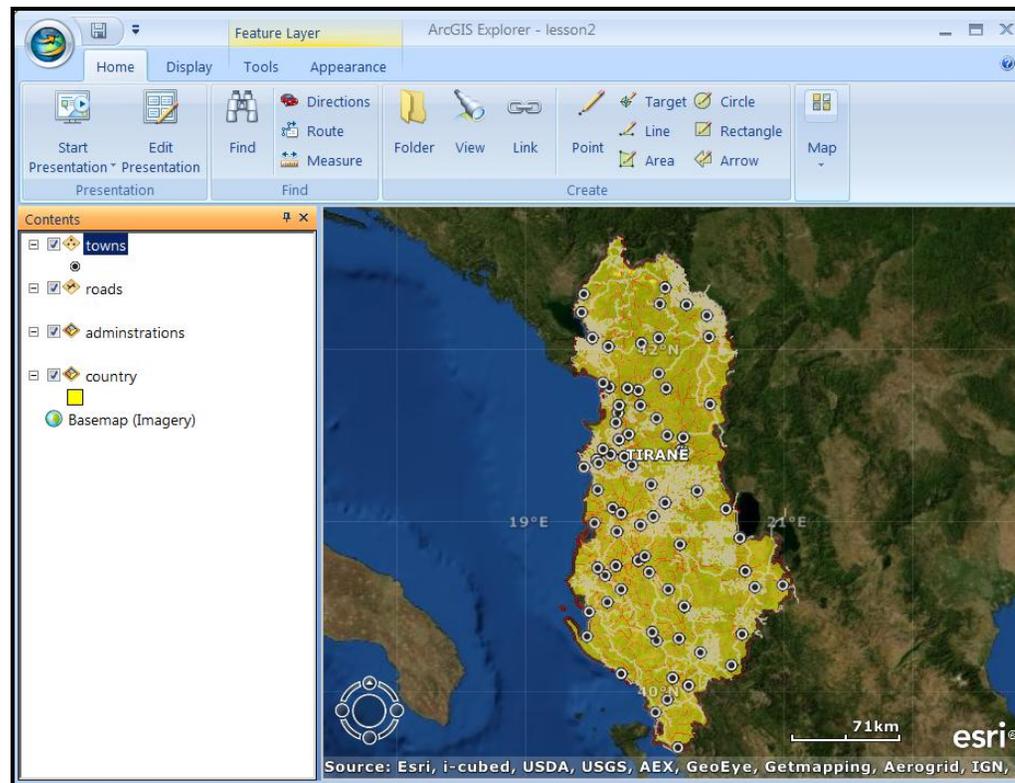


Move the mouse over the map. You should now see the names of the districts and the names of the towns as you move the mouse over the map.

Your map should look similar to the picture below.

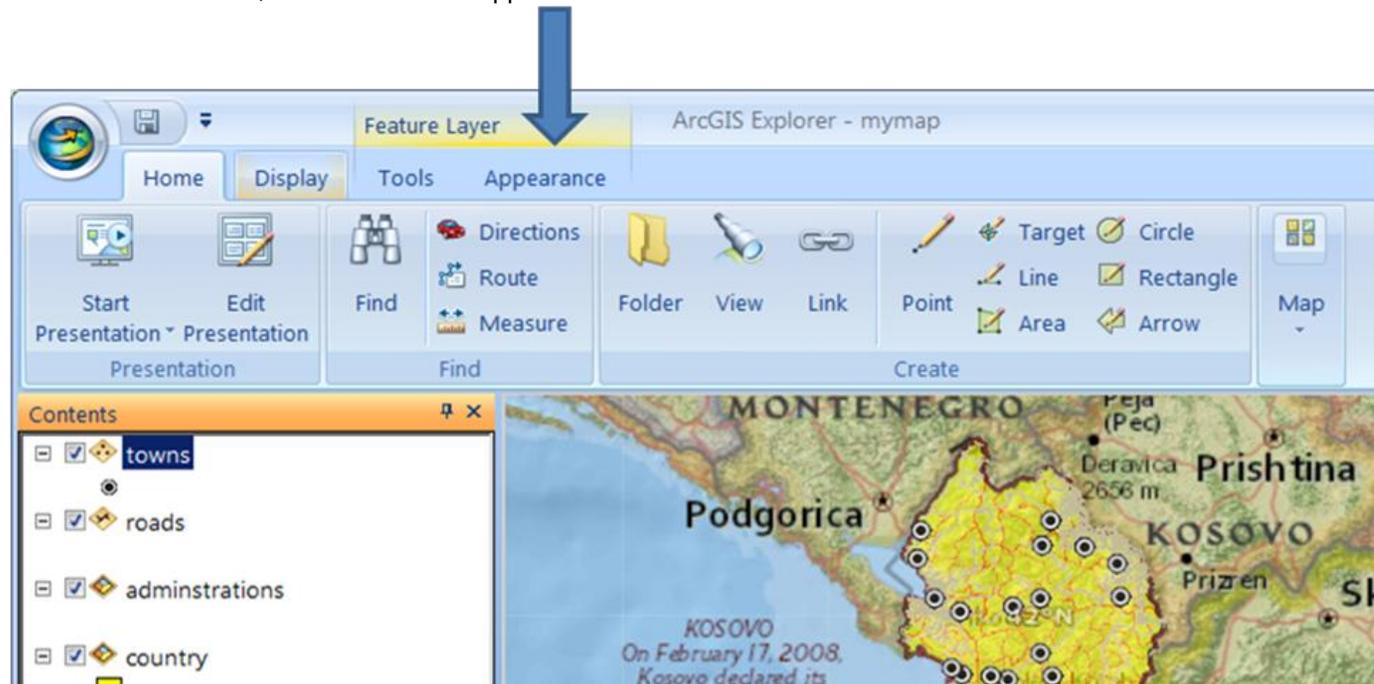
Let's save the map now.

- Click over  and then Save.



4 CHANGE LEGENDS

- In the **Content Window** highlight the map layer **towns**.
- In the **Ribbon**, click over the tab **Appearance**.



- Click over the big green star. 

You now see many nice looking symbols.

You can pick any of them, to use in the legend for the map layer **towns**.

- Now let us scroll down to the section titled Placemark.
- Pick the green symbol named Populated 2 as in figure below.
- Click on it and watch how your map changes.
- Try picking other symbols and see which ones look better.



Now that you have changed the legend for the map layer towns, move the mouse over the towns in the map.

Do you still see the names of the towns? _____

Do the mouse over tips change when you change the legend for a map layer? _____

- Change the legend for the map layer **administrations**, by following the same steps as you did for the map layer **towns**.
*Hint: start by highlighting the map layer **administrations***
- In the symbols window do not pick from the section titled 'Solid Fill'.



- Change the legend for the map layer **country**. *No hints this time.*

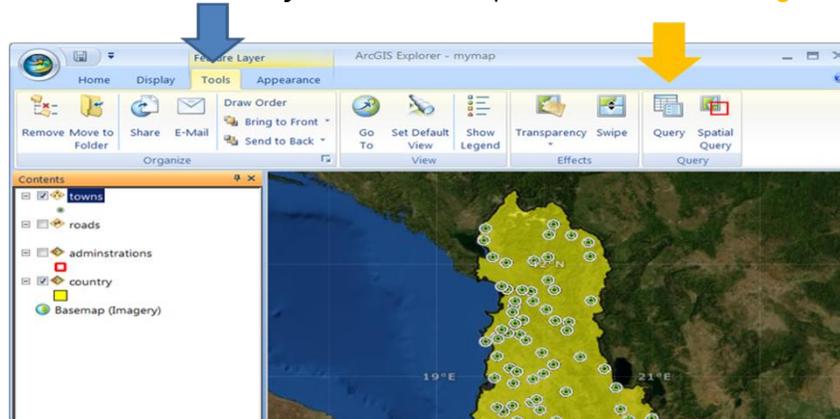
- Save the map one more time by clicking over  and then Save.

Note: when you save the map, the project does not close, it continues to stay open.

5 CREATING NEW LAYERS AS SUBSETS TO THE EXISTING MAP LAYERS

Now that the map layers look the way you want them, let us try and learn how we can create smaller map layers from them. We will create a new map layer from the map layer **towns**. This new map layer will only show those towns in Albania that have a population of more than 8000 people. Let us get started.

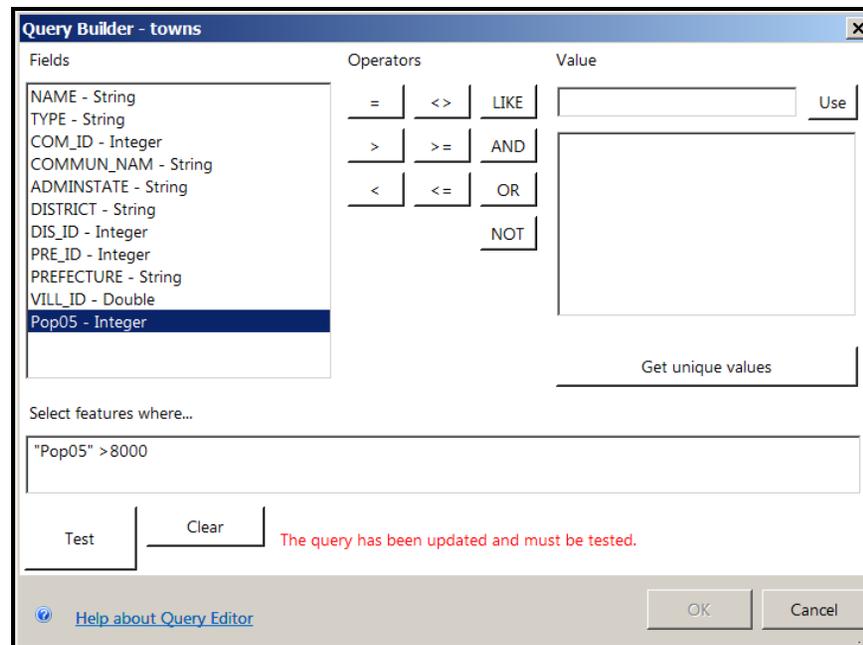
- Check off the map layers **administrations** and the map layer **roads**. They should be invisible now as in the picture below.
- Highlight the map layer **towns**.
- Click over the tab **Tools** as shown in the picture below in a **blue** arrow.
- Click over the tool **Query** as shown in the picture below in an **orange** arrow.



In the Query window, follow these steps as also shown in the figure below.

- Highlight Pop05 – Integer
- Under **Select features where...** type > 8000
- Click the button Test.
- Click the button OK.

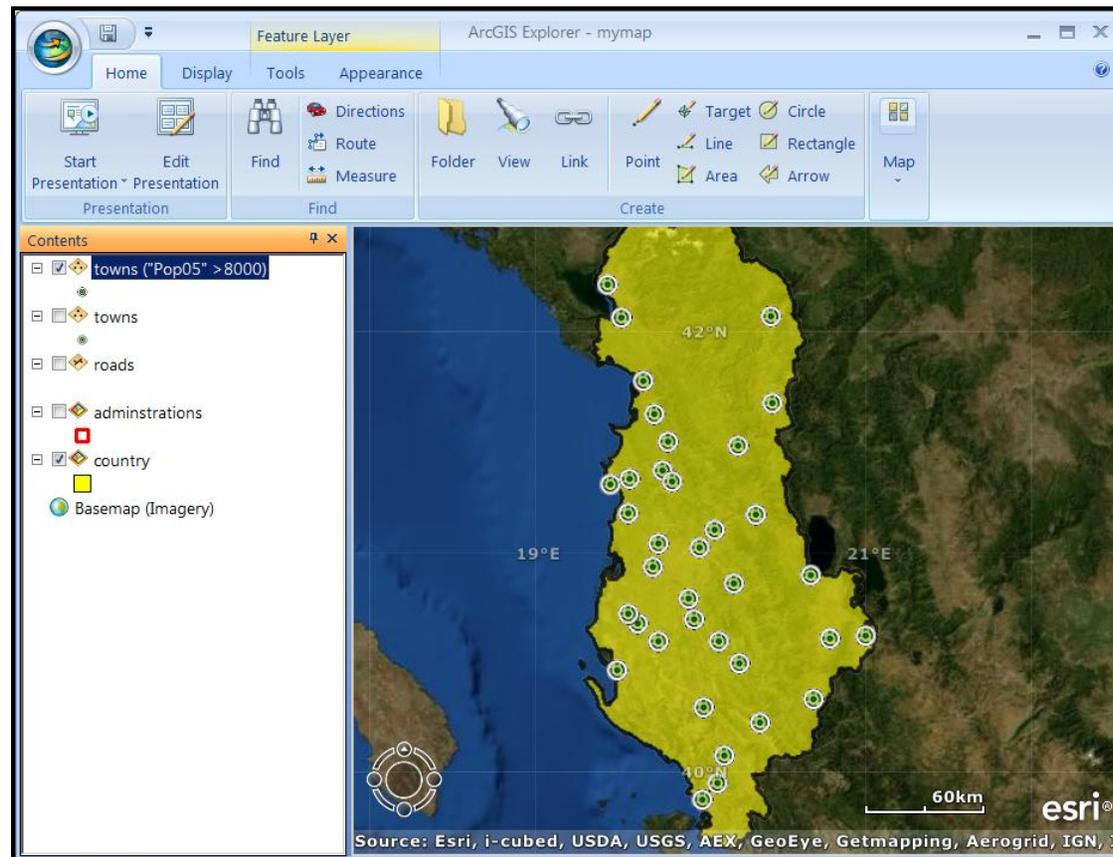
You should see a message: 36 features matched your query. This means that 36 towns in Albania have a population larger than 8,000 people.



A new map layer was just added at the top of the [Content Window](#).

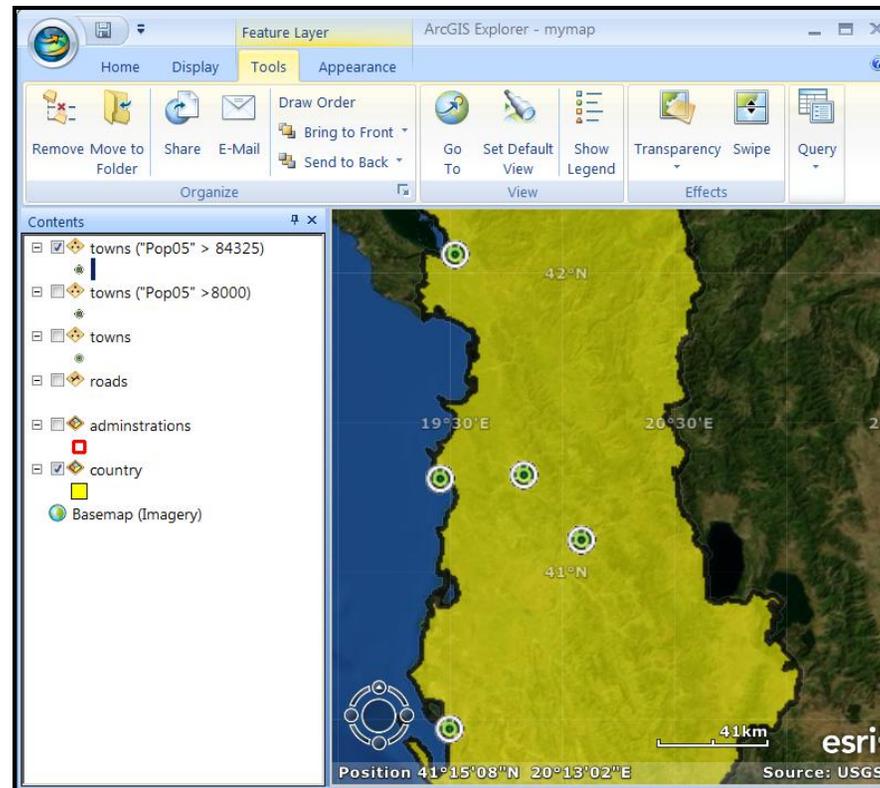
- Now uncheck the box next to the map layer **towns**, and see how your map shows fewer towns.

There should be 36 towns on your map now and the map should look like this.



- Create a new map layer, repeating the steps above.
- Make the new map layer with towns that have a population of more than 100,000.

The results should match the map below.



When you are finished with the task, we need to save the project and then close it.

- Click over  and then Save.
- Click over the button Exit ArcGIS Explorer at the bottom as shown in picture below.



Congratulations! You have learned the first steps of map making in GIS and are now ready to start with Lesson 3.