



ArcGIS Online Hands-on Workshop Exercises

Exercise – Esri Maps for Office

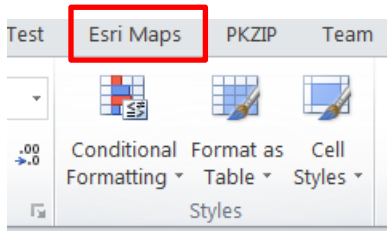
In this exercise you will work with Microsoft Excel to create a useful information product, and publish it on ArcGIS Online (AGOL). Esri Maps for Office (EM4O) is a tool to allow Excel and Powerpoint users to access the ArcGIS Online platform, create maps, add content, and share it with your organization. This exercise requires that Microsoft Office 2010 be installed on your computer.

Steps to this exercise include the following:

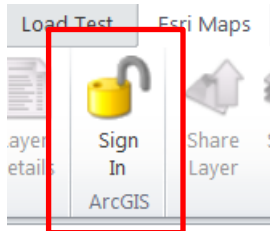
- ❖ Create a map in Excel.
 - ❖ Add data from the spreadsheet.
 - ❖ Style the map.
 - ❖ Configure the pop-up.
 - ❖ Share the map within your ArcGIS Online Organization, and the public.
 - ❖ Review the map in ArcGIS Online.
 - ❖ Use the map in a PowerPoint presentation.
 - ❖ Bonus exercise: Map data against a custom layer (no addresses or lat/longs)
- Step 1 – Open the spreadsheet called “seminar1.xlsx” in Excel. Note the first row contains column names. It contains the school name, latitude, longitude, street address, city, state, zip, ranking and link to the university’s web site for more info.
- You can find the spreadsheet in *C:\seminar2014* (or you may have unzipped the data to a different location).

	A	B	C	D	E	F	G	H	I
	University	Latitude	Longitude	Street Address	City	State	Zip code	Ranking	URI
1	Harvard University	42.37411	-71.116991	399 Harvard Street	Cambridge	MA	02138	1	http
2	Princeton University	40.34862	-74.659297	Roper Lane	Princeton	NJ	08542	2	http
3	Yale University	41.31444	-72.923613	38 Hillhouse Avenue	New Haven	CT	06511	3	http
4	Columbia University	40.80712	-73.964247	2920 Broadway	New York	NY	10027	4	http
5	University of Chicago	41.79011	-87.600732	5801 S Ellis Ave	Chicago	IL	60637	4	http
6	Stanford University	37.42841	-122.169597	450 Serra Mall	Stanford	CA	94305	6	http
7	MIT	42.3595	-71.094005	77 Massachusetts Avenue	Cambridge	MA	02139	6	http
8	University of Pennsylvania	39.95206	-75.196095	1 College Hall, 34th and Spru	Philadelphia	PA	19104	8	http
9	Duke University	36.00112	-78.938291	2138 Campus Drive	Durham	NC	27708	8	http
10	CIT	34.1362	-118.127692	1200 East California Bouleva	Pasadena	CA	91125	10	http

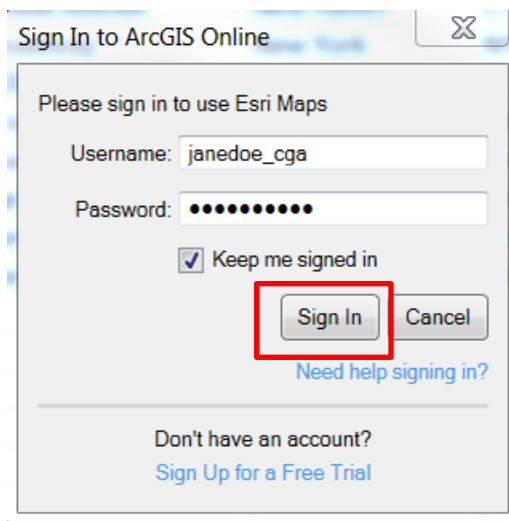
- Step 2 – Log in to your ArcGIS Online Organization.
- On the menu bar, note the **Esri Maps** menu. Click this to activate the ribbon.



- On the ribbon, select the Sign In tool.

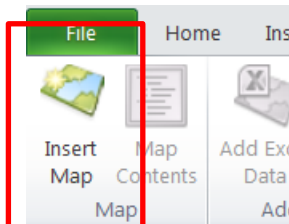


- Enter your login information, and click **Sign In**.

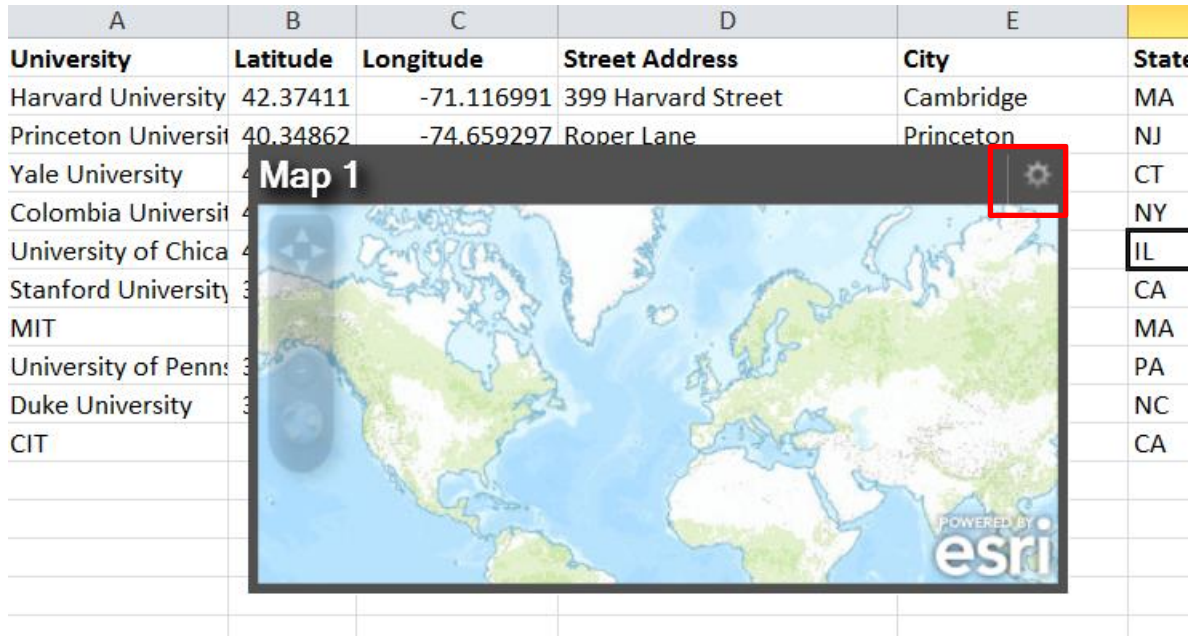


□ Step 3 – Create a map.

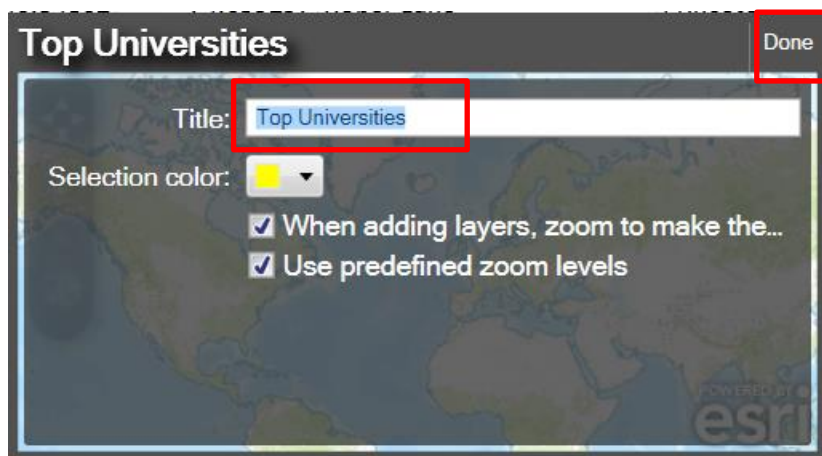
- Along the top left of the ribbon, click the **Insert Map** tool.



- You will see a default map, called *Map 1*, using the World Topographic basemap. Click the top right corner of the map, on the gear-shaped tool, to configure the map name.

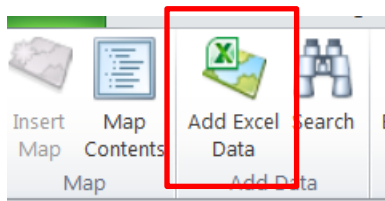


- Call the map *Top Universities*, and click the Done button to close the dialog. Feel free to use whatever name you'd like.



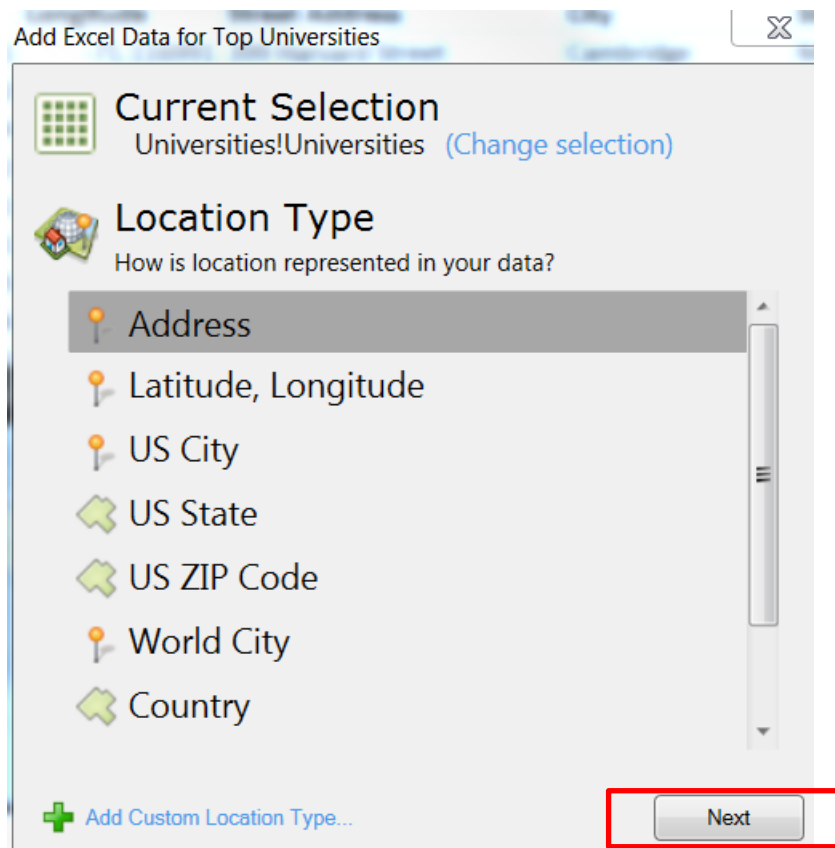
□ Step 4 – Add data to the map.

- Along the top left of the ribbon, select the **Add Excel Data** tool.



- In this dialog, you will enter the information for the location of the cells. This can be a free-form range of cells that you select, a pre-defined named range or table in Excel. The top row should contain the column names. You can change this later if desired. In our case, we have defined a named range of cells called *Universities*, which has been selected. We will also defining the location of our data via a street address, so take the default selection for *Location Type* as **Address**. Click **Next**.

(NOTE: you can do this exercise using Latitude, Longitude since you have this information in your spreadsheet. Feel free to come back and try that if you have time)



- In the next dialog, pick United States as the country and choose fields for addresses as seen below. Notice there is a checkbox checked which indicates that the top row contains the headers for your columns of data. If you had no headers, you could define them by selecting the Excel column name (A, B, C, etc.), and matching it to the correct location fields. Click **Add Data To Map**.

Add Excel Data for Top Universities

Location Columns

Choose the columns with location information

☒ First row contains headers.

My locations are in:

☒ One country: United States

☐ Many countries

My address information is in:

☐ One column:

☒ These columns:

Address: Street Address

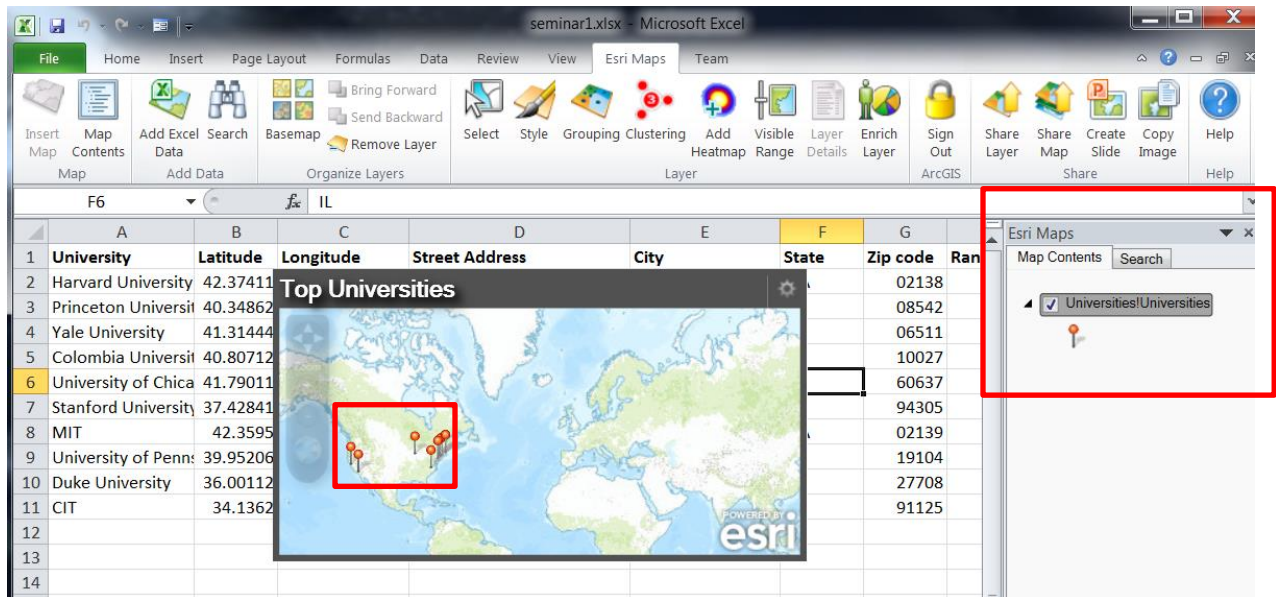
City: City

State: State

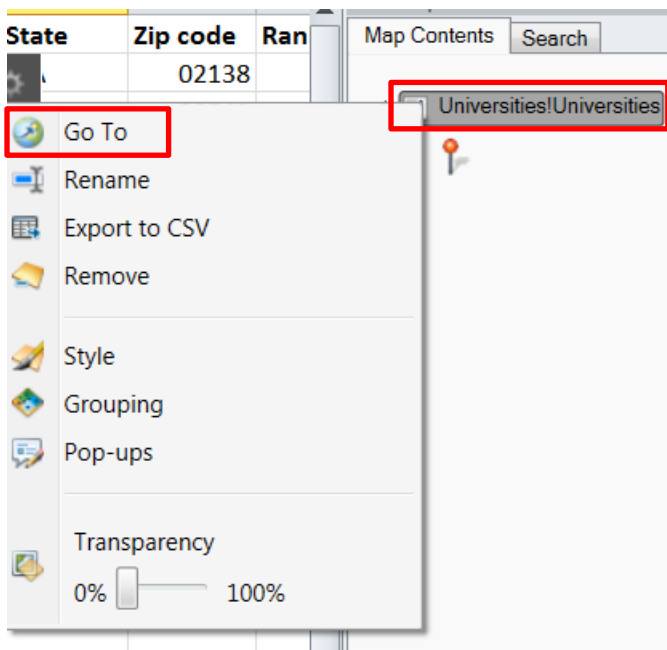
Zipcode: Zip code

Back Add Data to Map

- As the data is located by AGOL, you will see a status display in the **Contents** tab of the **Esri Maps** panel on the right. There will be a brief display showing how many locations were created. If there were any that could not be located, you would have a chance to correct them. You should see the data on the map as well.



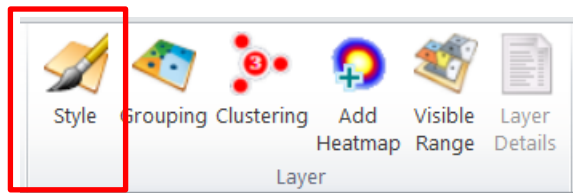
- Right-Click the **Universities** entry in the **Map Contents** tab. This will bring up the context menu. Select **Go To**. This will zoom the map to your data.



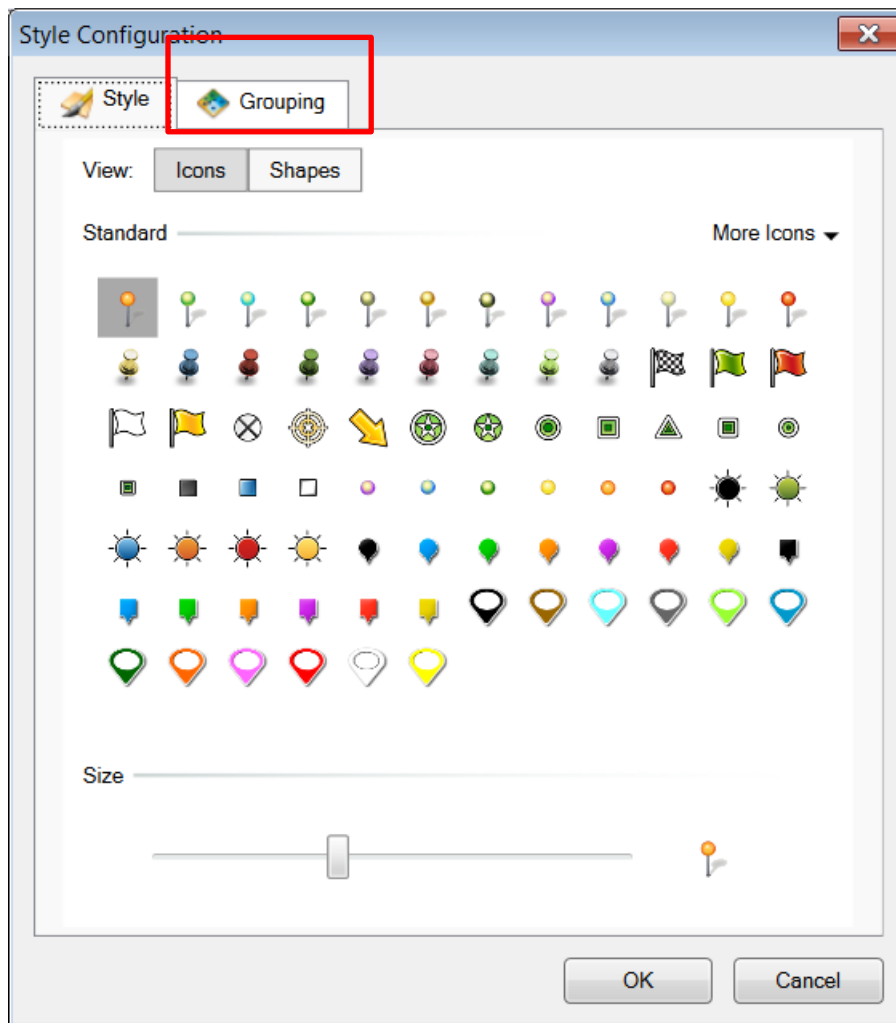


□ Step 5 – Style your map.

- Next, we will change the symbology to reflect the information we wish to communicate with the web map. Along the top middle of the ribbon, select the **Style** tool.



- This will open the Style Configuration dialog, where you can decide how to symbolize the data in your web map. We are currently using a simple style with a pin symbol. Let's symbolize our universities based on an attribute. Select the Grouping tab.



- Under *Do you want to group your data*, select **Yes**. Set the grouping type (group column values by) to Categories, and the column to group to be Ranking, as shown below.

The screenshot shows the 'Style Configuration' dialog box with the 'Grouping' tab selected. The 'Do you want to group your data?' section has the 'Yes' radio button selected. The 'Choose the column to group:' dropdown is set to 'Ranking', and the 'Group column values by:' dropdown is set to 'Categories'. Below these, there are six dropdown menus for ranking categories, each with a colored pin icon. The 'OK' button is highlighted with a red box.

Style Configuration

Style Grouping

Do you want to group your data: ☒ Yes ☐ No

Choose the column to group: Ranking

Group column values by: Categories

1: [Pin Icon]

2: [Pin Icon]

3: [Pin Icon]

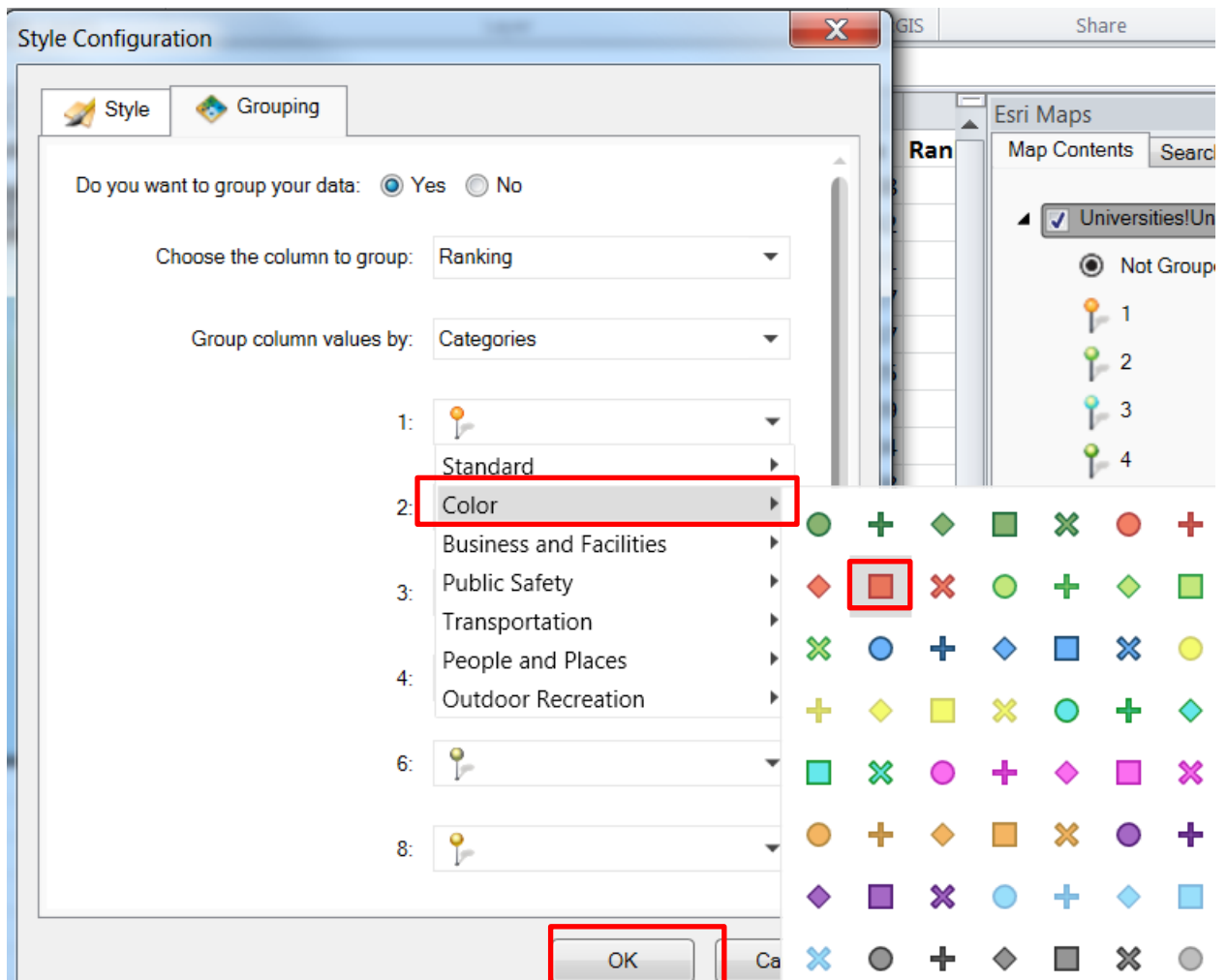
4: [Pin Icon]

6: [Pin Icon]

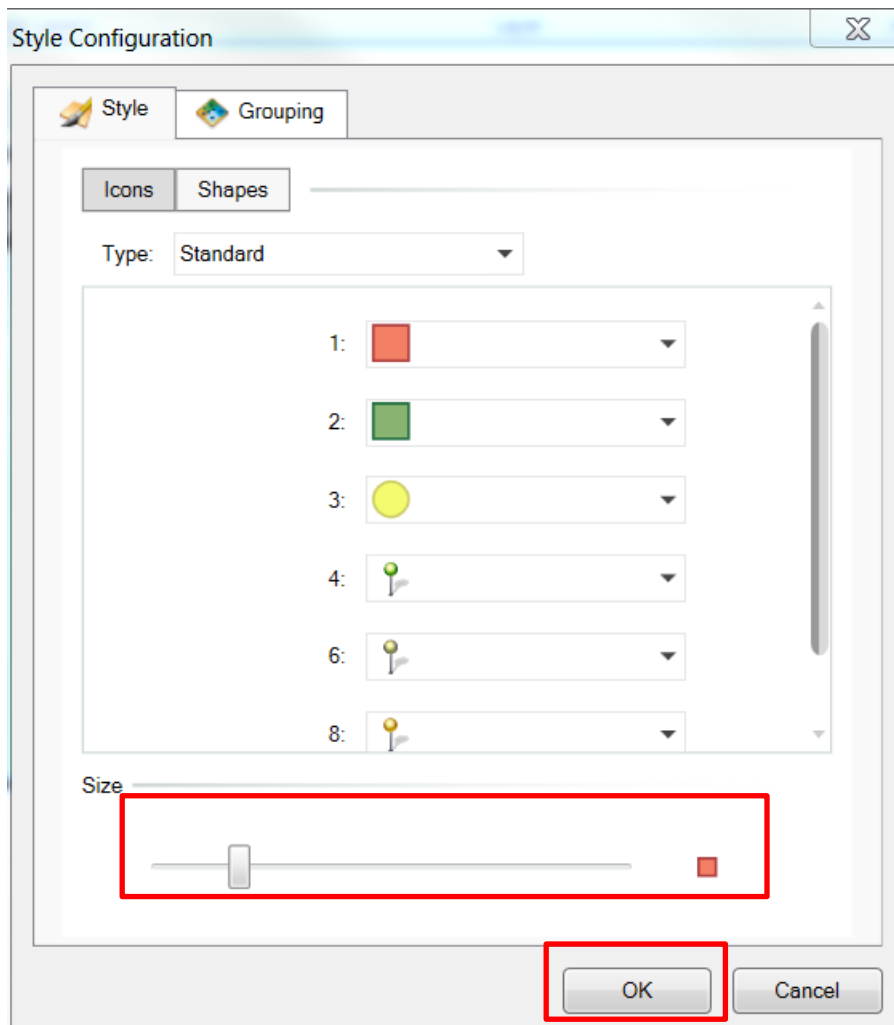
8: [Pin Icon]

OK Cancel

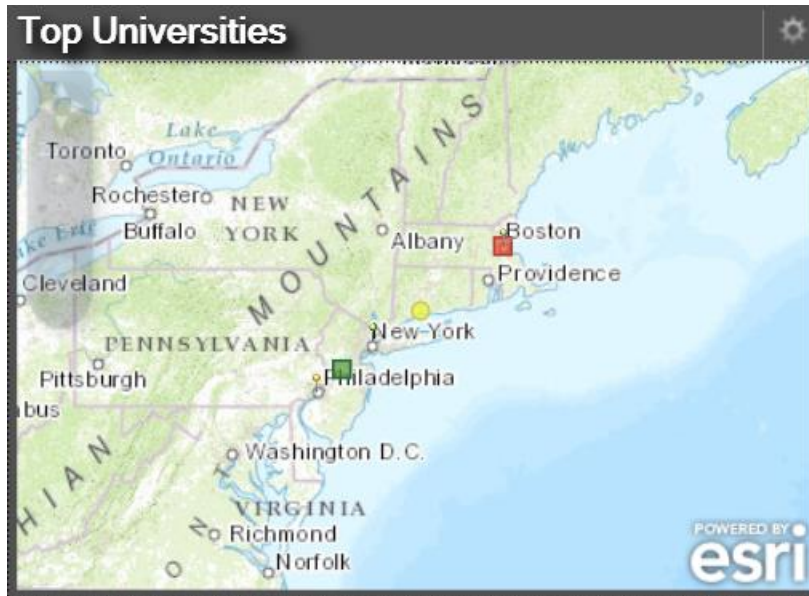
- Click the pull-down menu under the 1: value (or any other) to change the symbol. Select **Color**, and use a red square. Play with other symbols to get a feel for how it works. Click **OK**.



- These symbols are a bit large. Click the Style button on the ribbon, as before, and use the slider at the bottom of the dialog to set the size to something a bit smaller. Click **OK**.

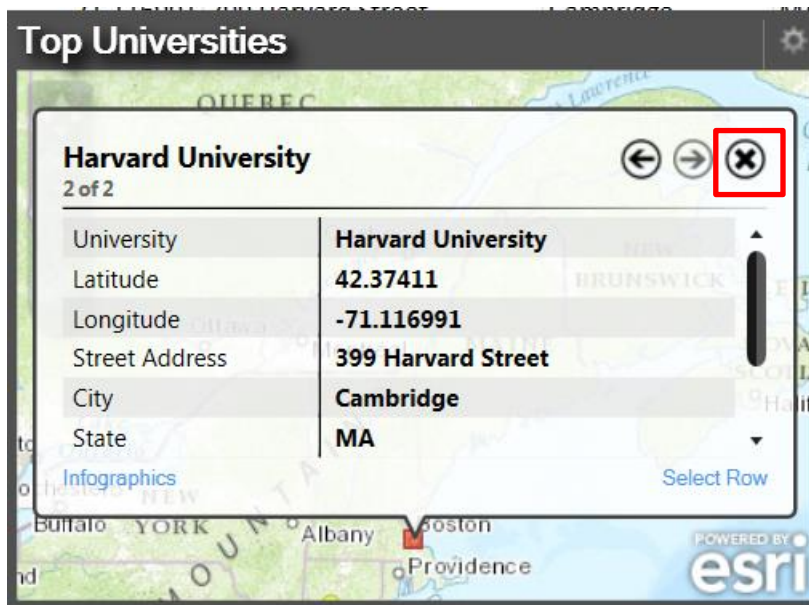


- Zoom your map in and pan to the northeast. Your map might look like something like this:

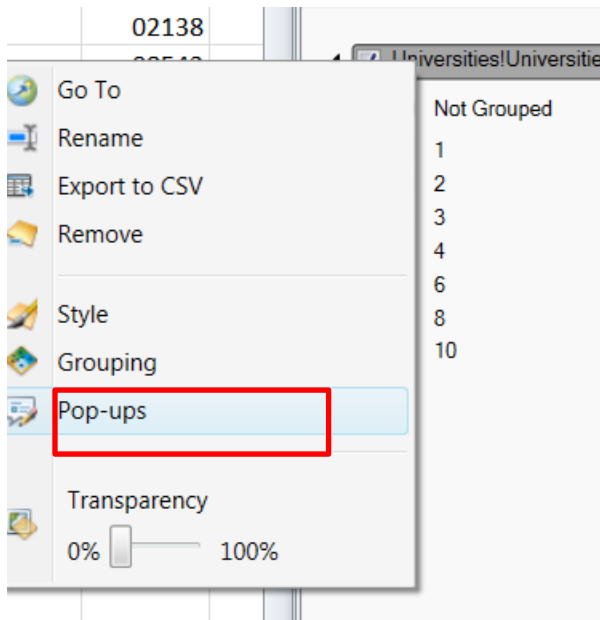


□ Step 6 – configure the pop-up.

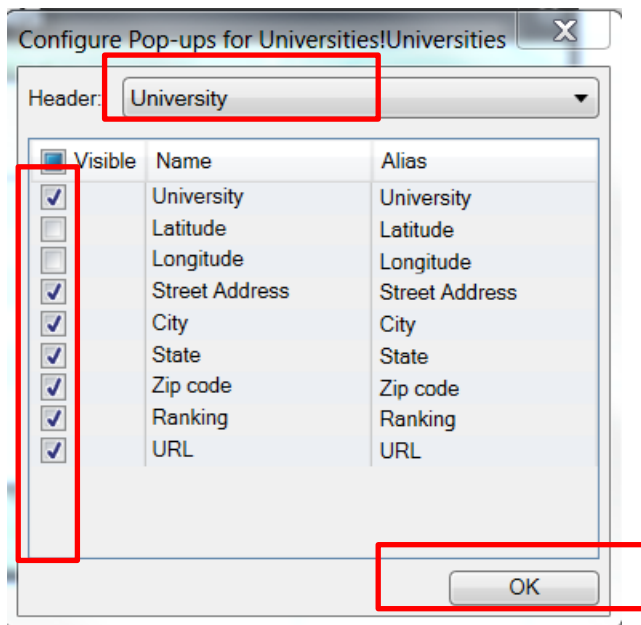
- Click on one of the schools. You will see a pop-up on the map. We need to configure this a bit better to convey the important information. Use the **X** to close the pop-up.



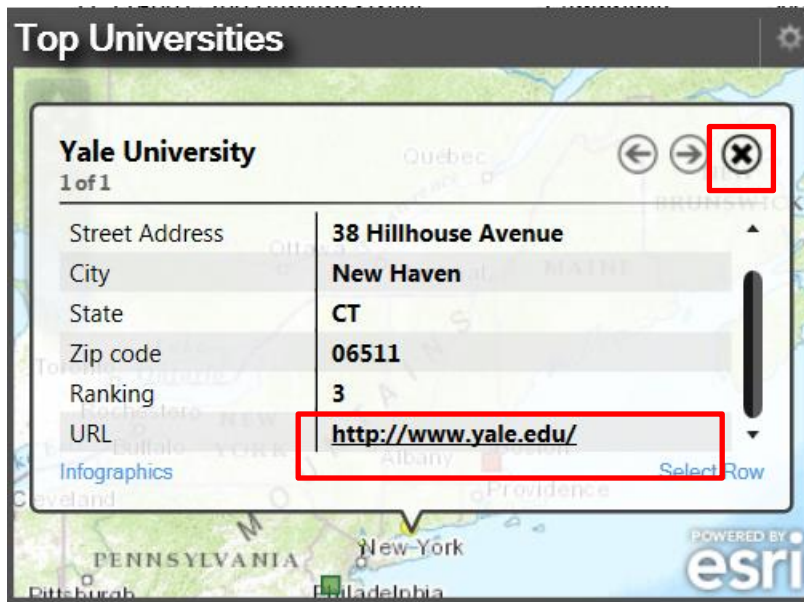
- Right click on the Universities Layer to bring up the context menu. Select Pop-ups.



- In the dialog, set the **Header** to be *University*, and uncheck the boxes for *Latitude* and *Longitude*. Click **OK**.

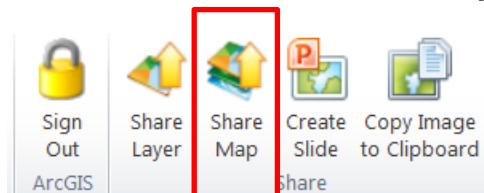


- Click on a school symbol again, and note how the pop-up now only shows the needed data. Click on the URL address to go to university's web site to see all the details about this school. Close the pop up window with the **X**.



□ Step 7 – Share the web map.

- On the ribbon, click on **Share Map**.



- In the **Share Map** dialog, set both the **Title** and **Description** to Top Universities, appending your initials or name as shown below. Tag the map with *universities,top10, and your initials*. Share the map with **Everyone (Public)**, and optionally with a Group if desired.

Share Map on ArcGIS Online

Share Map
Enter the map details to be shared on ArcGIS Online.

Title: Top Universities - Tom S.

Tags: universities,top10,TS

Description: This is a map of the top 10 universities

Share with: ☒ Everyone (Public)

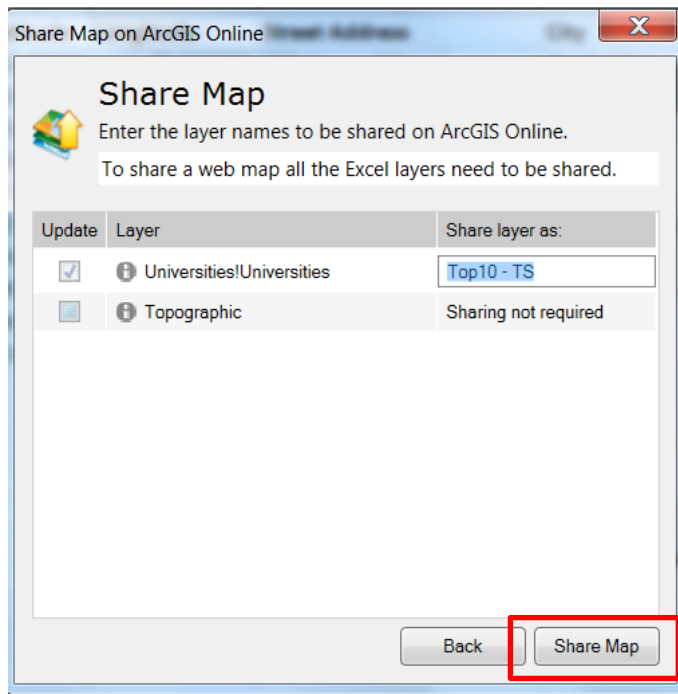
☒ Organization (Esri Boston Regional Organization)

☐ These groups:

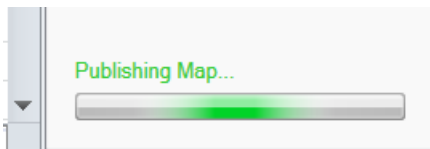
- ☐ GroupC
- ☐ ESRI Boston
- ☐ CT Emergency Management Demo (Executives)
- ☐ Boston Public Schools
- ☐ Pittsburgh CityView

Next

- In the next dialog, you will rename the schools layer to Top10_” and your initials as shown in the example below. Click **Share Map**.



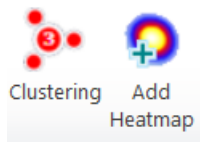
- There will be a message indicating the map is being published:



- Then, another displaying that the map is published successfully. If you click on View the published map, it will take you to ArcGIS Online, where you can see the finished web map that you just created and shared!



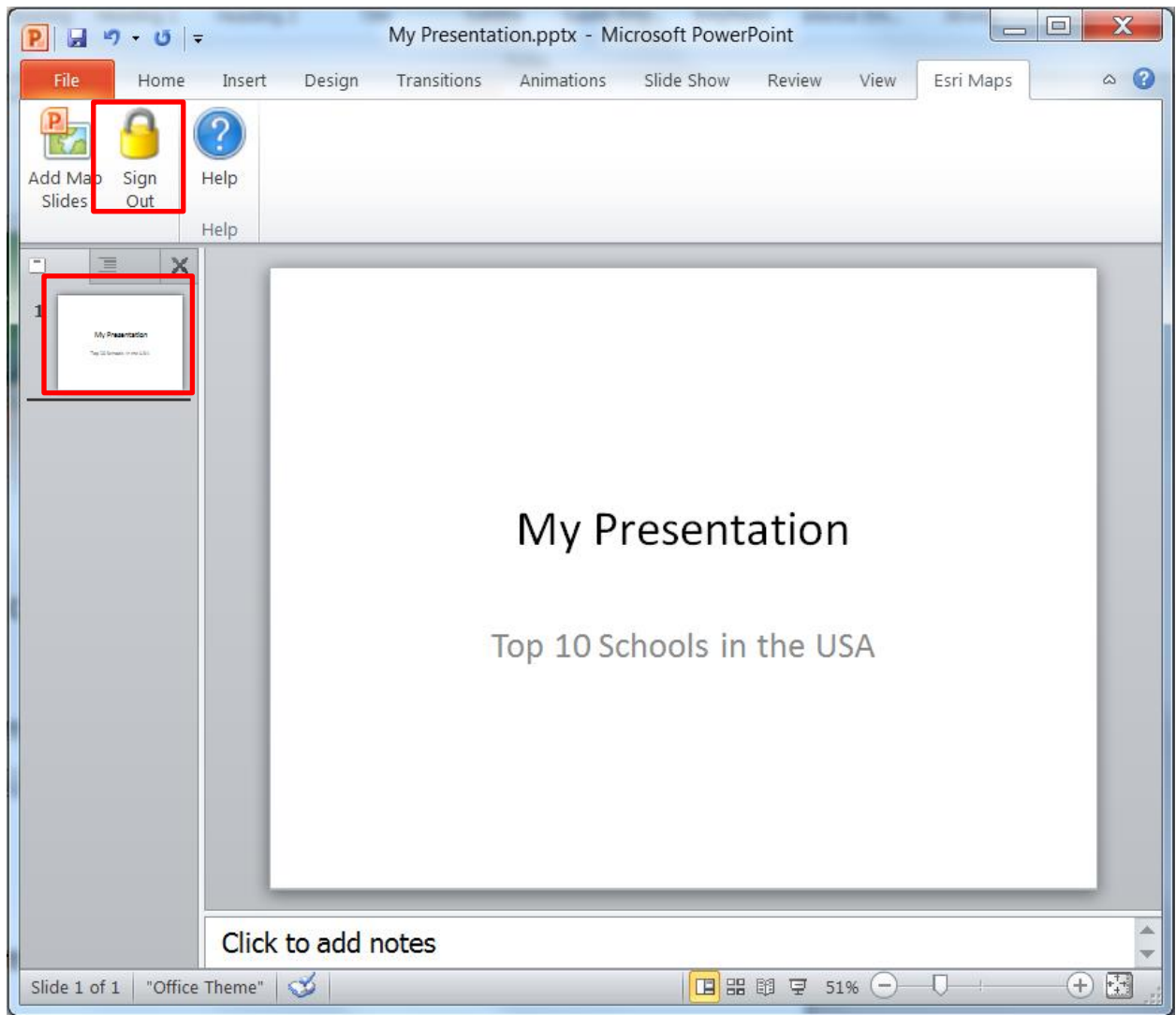
□ Step 7A (optional) – Play with the clustering and heat map buttons



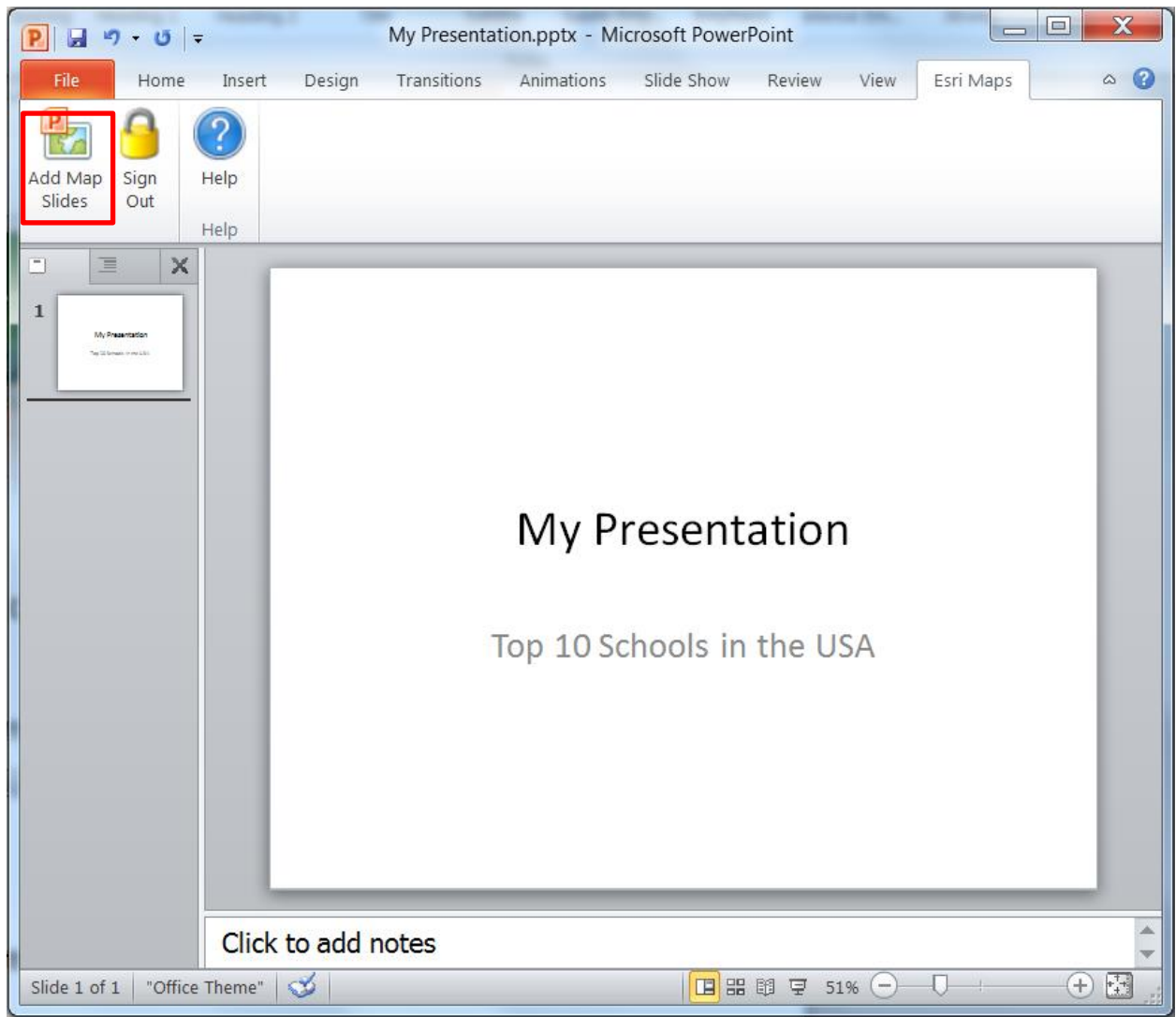
- The clustering buttons will group points where they are very dense to keep the map less crowded
- The heatmap button will add a layer to your map that gives you a sense of the density of observations.
- Note that heatmaps and clustering do not transfer to ArcGIS Online yet.

□ Step 8 – Embed the web map in a PowerPoint presentation.

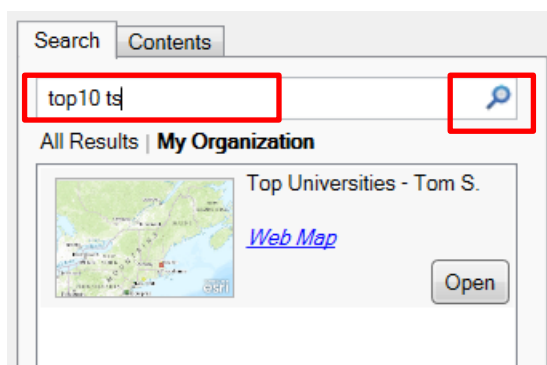
- Open the PowerPoint presentation located at "C:\seminar2014\My Presentation.pptx". As you did in Excel, if needed, log in to ArcGIS Online.



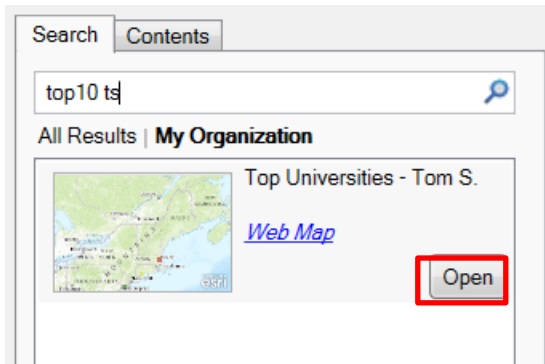
- Click the Add Map Slides button.



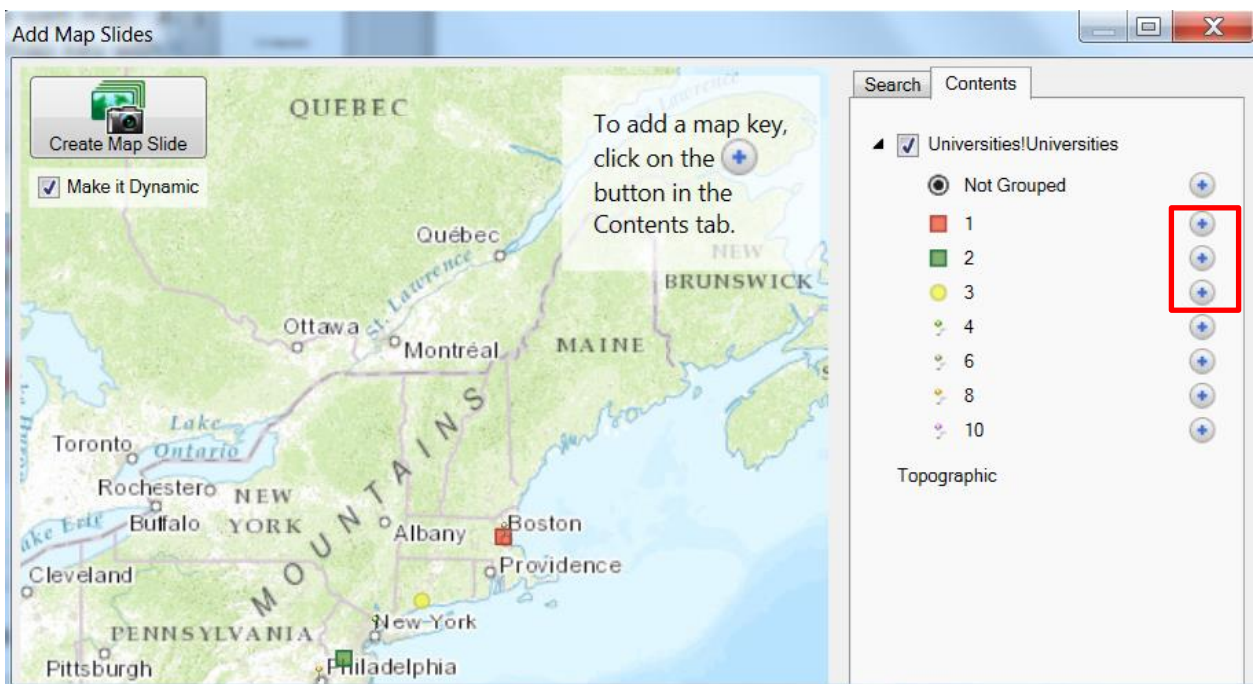
- In the Search tab, enter the name of your map service, like, “Top10 - ts”, click the My Organization tab, and then click the Search icon to the right of the text box.

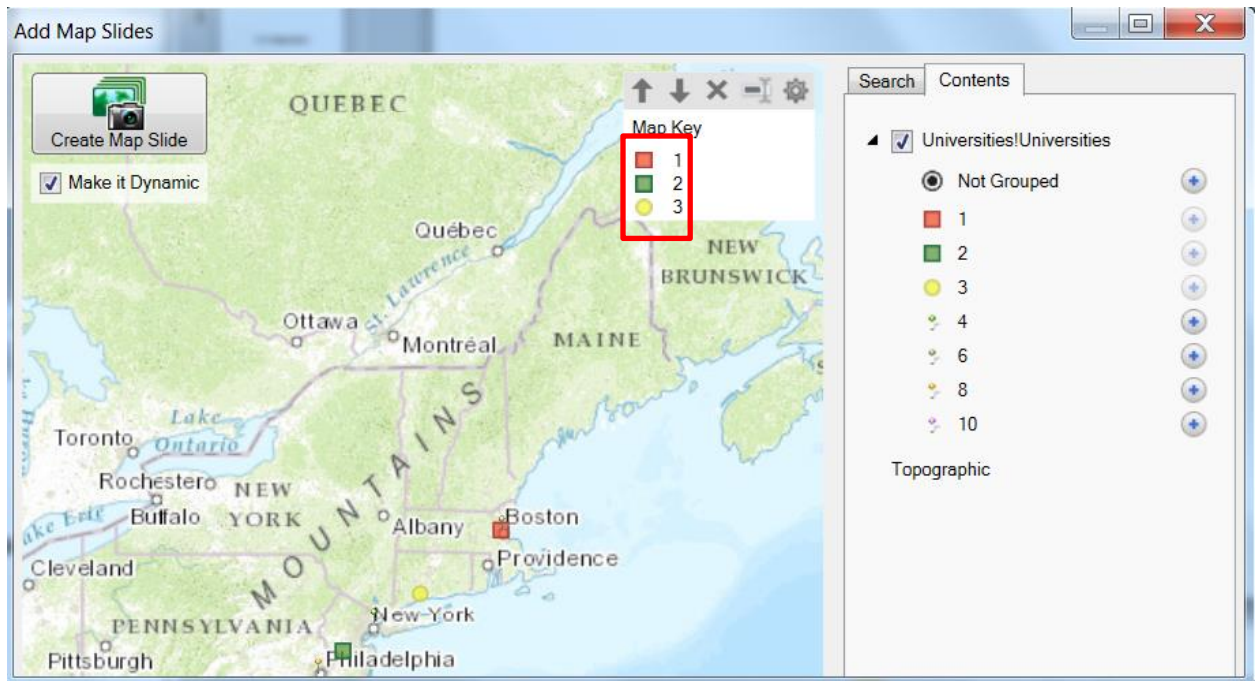


- Your web map that you created in Excel should come up on the list, assuming you tagged it with “Top Universities - <your initials>”. Click the Open link.

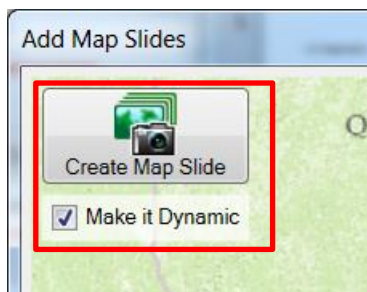


- You will see the web map. As indicated on the map, click the “+” next to “1,2 and 3, to add a map key with the values.

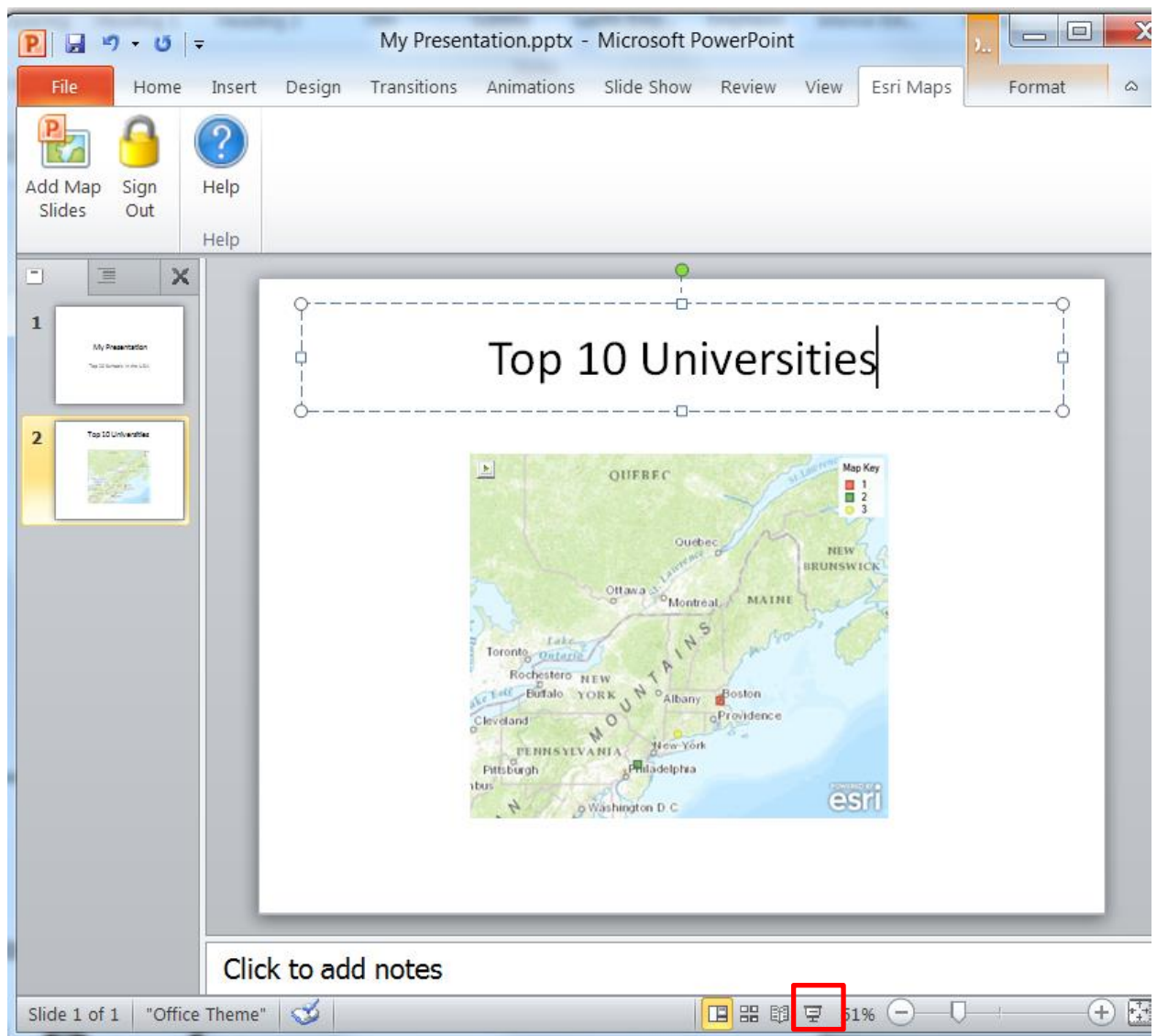




- Click the **Create Map Slide** button, making sure that the **Make it Dynamic** check box is ON. Close the **Add Map Slides** window.



- Add a title to your slide, as suggested below. Start your presentation with the Slide Show button in the lower right toolbar.



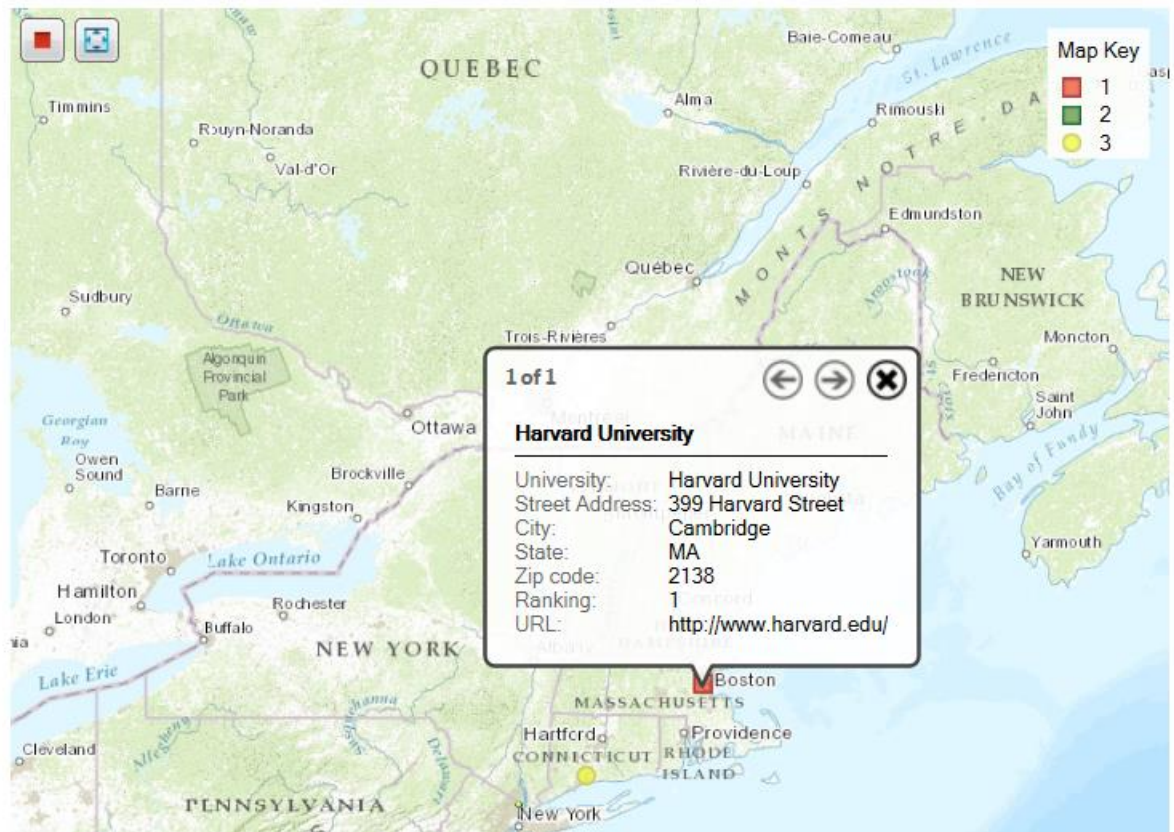
- While in presentation mode, click the map activation button in the upper left corner of the map. This will make the map “live”.

Top 10 Un



- Click on a university to see the popup information. You can zoom, pan, and identify features in this live map while you present!

Top 10 Universities



- Close Excel and PowerPoint, but DO NOT save the documents.

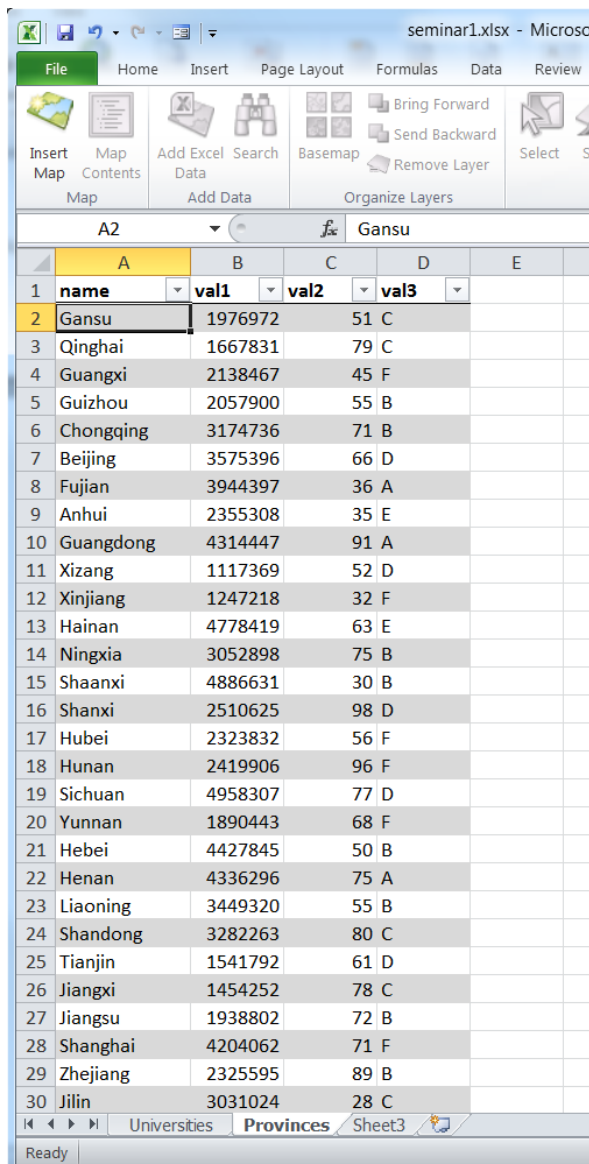
□ Exercise End.

BONUS EXERCISE: USING CUSTOM GEOGRAPHIES FOR YOUR DATA

In this bonus exercise, we will map some data that has non-standard geographies, that is not addresses or lat/long or city names. In this exercise, we will map data we have for administrative districts in China.

Step 1 – If not already open, pen the spreadsheet called “seminar1.xlsx” in Excel and switch tabs at the bottom to the

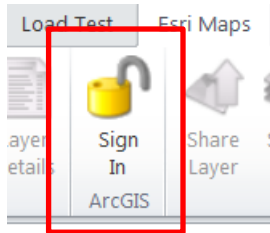
- You can find the spreadsheet in *C:\seminar2014* (or you may have unzipped the data to a different location).



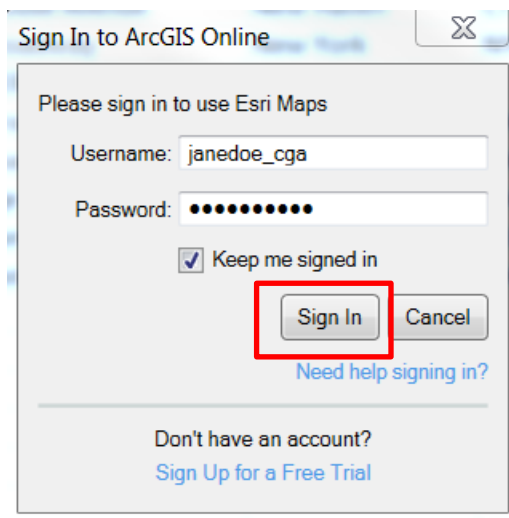
	A	B	C	D	E
1	name	val1	val2	val3	
2	Gansu	1976972	51	C	
3	Qinghai	1667831	79	C	
4	Guangxi	2138467	45	F	
5	Guizhou	2057900	55	B	
6	Chongqing	3174736	71	B	
7	Beijing	3575396	66	D	
8	Fujian	3944397	36	A	
9	Anhui	2355308	35	E	
10	Guangdong	4314447	91	A	
11	Xizang	1117369	52	D	
12	Xinjiang	1247218	32	F	
13	Hainan	4778419	63	E	
14	Ningxia	3052898	75	B	
15	Shaanxi	4886631	30	B	
16	Shanxi	2510625	98	D	
17	Hubei	2323832	56	F	
18	Hunan	2419906	96	F	
19	Sichuan	4958307	77	D	
20	Yunnan	1890443	68	F	
21	Hebei	4427845	50	B	
22	Henan	4336296	75	A	
23	Liaoning	3449320	55	B	
24	Shandong	3282263	80	C	
25	Tianjin	1541792	61	D	
26	Jiangxi	1454252	78	C	
27	Jiangsu	1938802	72	B	
28	Shanghai	4204062	71	F	
29	Zhejiang	2325595	89	B	
30	Jilin	3031024	28	C	

□ Step 2 – Log in to your ArcGIS Online Organization as before if you are not logged in.

- On the menu bar, note the **Esri Maps** menu. Click this to activate the ribbon.
- On the ribbon, select the Sign In tool.

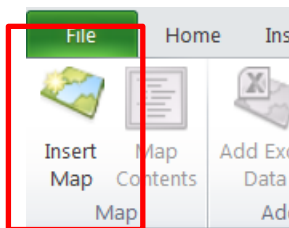


- Enter your login information, and click **Sign In**.



□ Step 3 – Create a map.

- Along the top left of the ribbon, click the **Insert Map** tool.



- You will see a default map, called *Map 1*, using the World Topographic basemap. If you like you can rename this map by clicking on the gear icon.

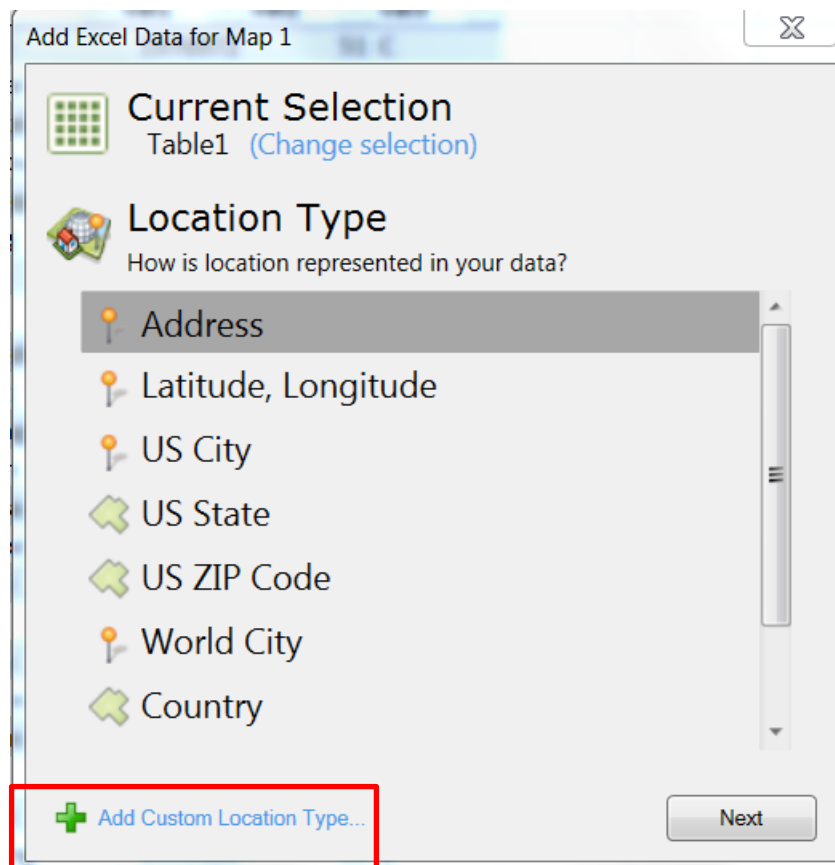
	A	B	C	D	E	F	G	H
1	name	val1	val2	val3				
2	Gansu	1976972	51	C				
3	Qinghai	1667831	79	C				
4	Guangxi	2128167	45	E				
5	Guizhou							
6	Chongqing							
7	Beijing							
8	Fujian							
9	Anhui							
10	Guangdong							
11	Xizang							
12	Xinjiang							
13	Hainan							
14	Ningxia							
15	Shaanxi							
16	Shanxi							
17	Hubei							
18	Hunan							
19	Sichuan							
20	Yunnan							
21	Hebei							

- As before, add data to the map with the “Add Excel Data” button.

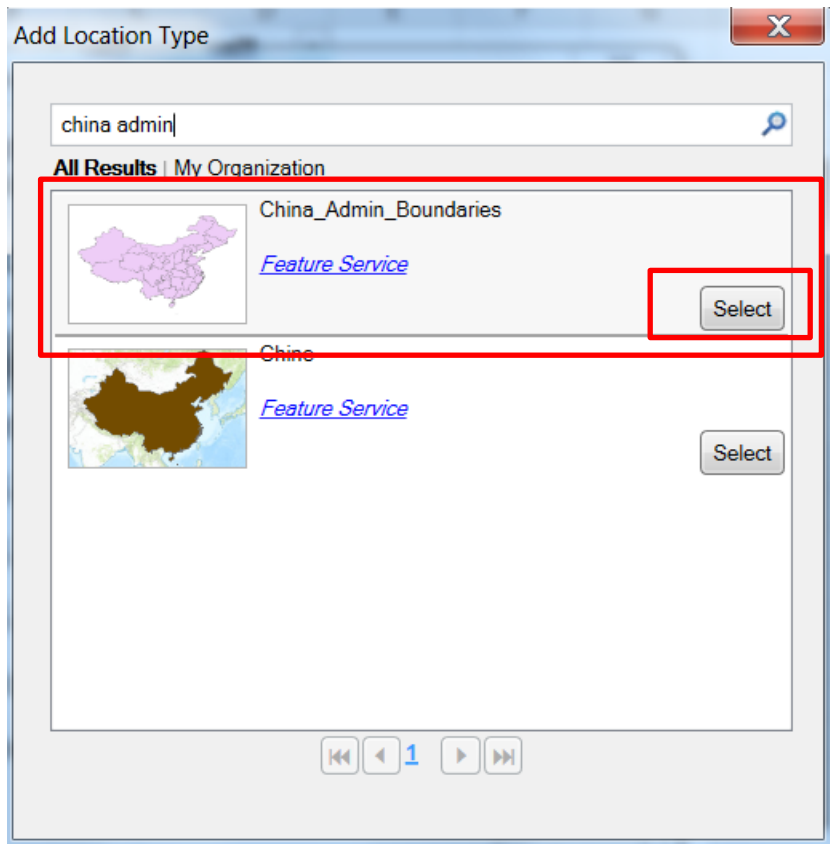
	A	B	C	D	E
1	name	val1	val2	val3	
2	Gansu	1976972	51	C	
3	Qinghai	1667831	79	C	
4	Guangxi	2128167	45	E	
5	Guizhou				
6	Chongqing				

- In the next dialog, we are not going to use any pre-existing geographies, we are going to add our own. We only need to do this once for our custom geography – Excel will

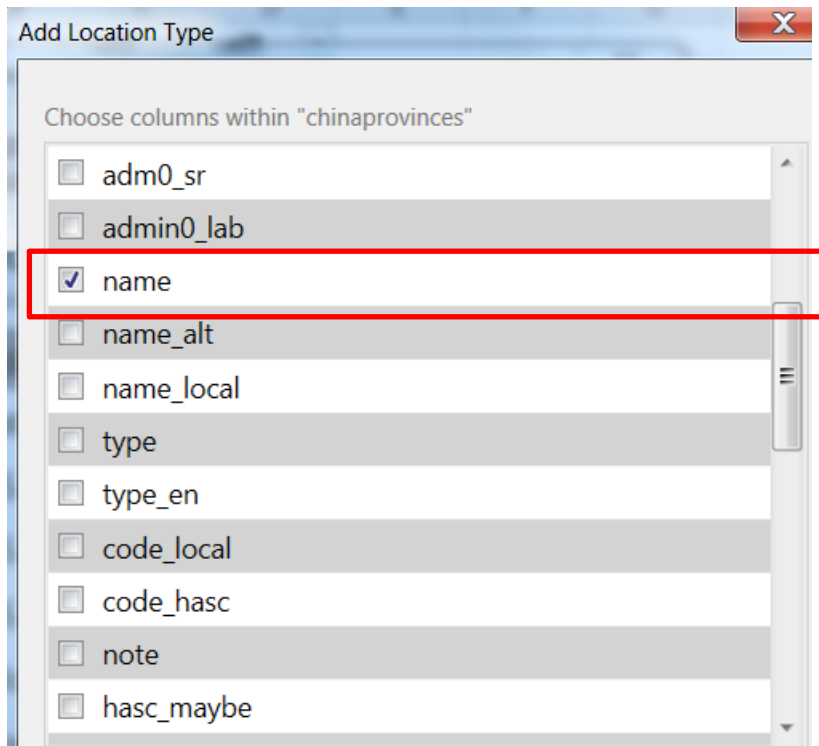
remember this. Click on “Add Custom Location Type”



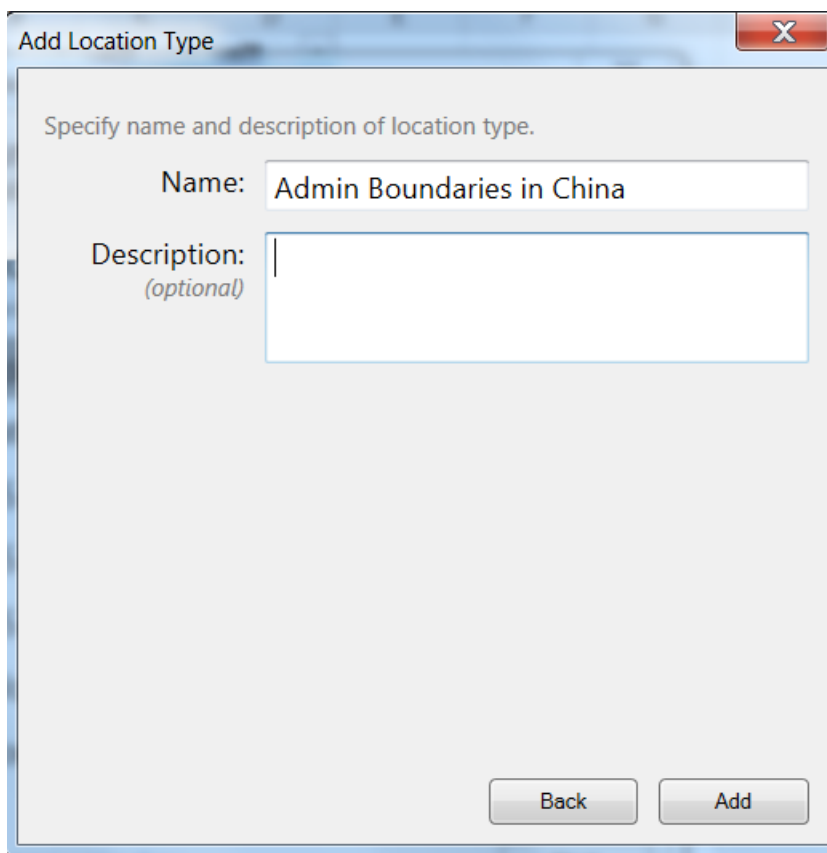
- In this dialog we will search ArcGIS Online for some data that has the geographies we need. In the search, type in “china admin” (no quotes) and select the layer called “China_Admin_Boundaries”. This is a layer registered with ArcGIS Online and made available to all (public).



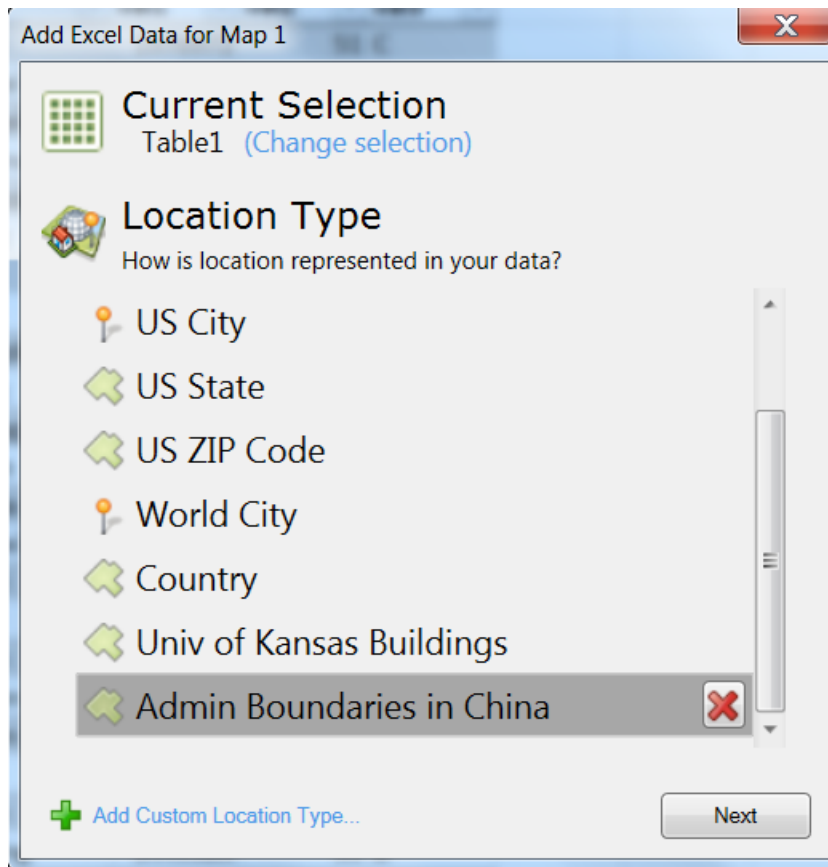
- Select the one choice on the next screen (chinaprovinces) and hit next to bring up a list of fieldnames. Check off the Name field in this dialog. We will use the name field to match against.



- Give your data source an appropriate name



- And now this is available for you in Excel. Choose it from the list and hit next.



- In the next dialog, tell Excel what column (field) from our spreadsheet holds the name value. In our case it is also called name, but it could be called anything

Add Excel Data for Map 1

Location Columns

Choose the columns with location information

name:

[Aggregate data?](#)

- Hit the “Add data to Map” button and you will see your data on screen. You can play with the grouping/styling options as you did in the previous exercise.

