

# ArcGIS Online & Esri Story Maps

## I. ArcGIS Online

### I.A. *Creating a Public Account*

In order to create an online map using ArcGIS Online you must create an account. With a free ArcGIS Online public account you can create, store, and manage maps, apps, and data, and share them with others. You also get access to maps and apps shared by Esri and GIS users around the world.

1. Go to the following website:

<https://www.arcgis.com/home/signin.htm>

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2. Click CREATE PUBLIC ACCOUNT at bottom left of page



3. Fill in form and click



**Make sure to take note of your user name and password. Both are case sensitive.**

### I.B. *Making Maps*

1. Go to [www.arcgis.com](http://www.arcgis.com) and log-in. On the menu bar at the top of the page, click *Map*.



2. Notice the simple directions that appear on the side for making a map.

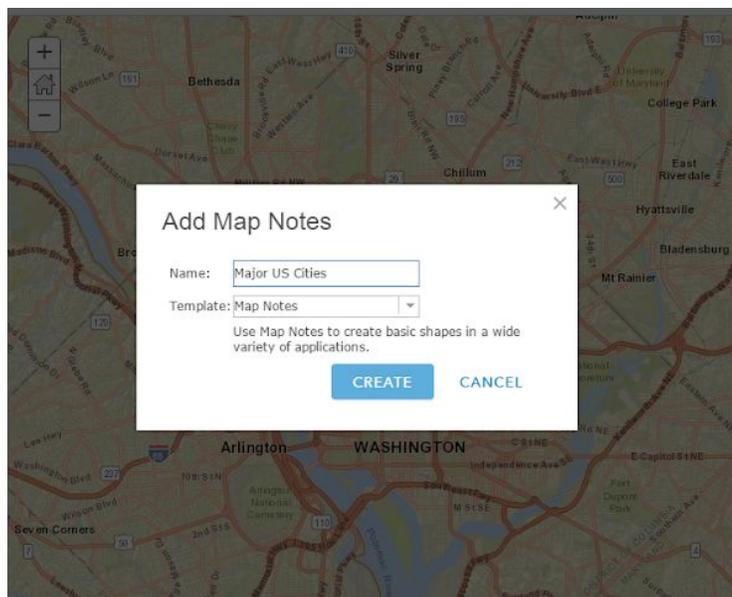
Zoom in and out using the plus and minus buttons at the left side of the map—the middle of your mouse if you have one—or by holding the shift key and drawing a box on the map with your mouse.

Click on *Basemap* in the top menu bar towards the left-hand side of the screen. Click on the different types of base maps to see how the map changes.

3. Let's make a map of major cities across the United States

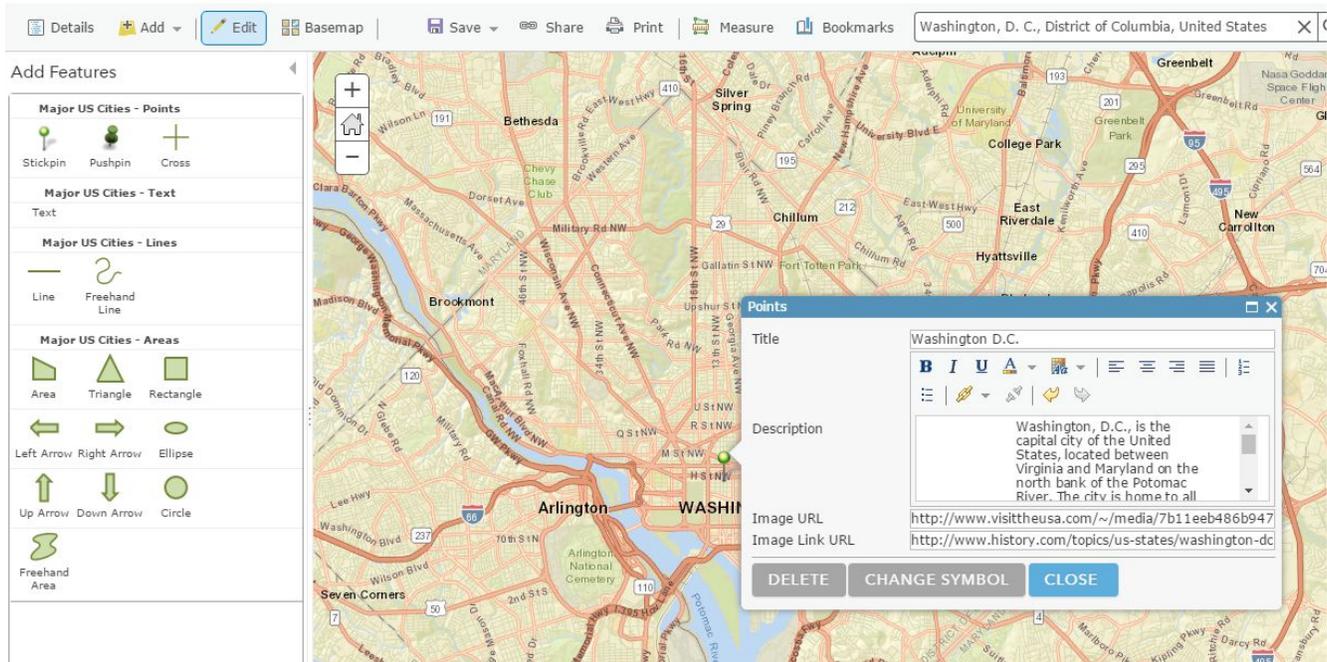
Change your basemap to openstreetmap. Zoom to Washington D.C. or you can type it in the search box in the top right-hand corner of the screen. Add a point to mark this place by following these instructions:

- a. Click on *Add* in the top menu towards the left-hand side of the screen
- b. Select *Add Map Notes and* give this map note a name (such as "Major U.S. Cities".) You can leave the template as it is (Map Notes), and then click on *Create*.



- c. Notice that this opens up the *Add Features* menu on the left-hand side where you can select a point, text, line or area (different geographic features that can be found on a map). Select one of the *Points* options (by clicking on it), and then click on the map to add the point. Fill out the pop-up box that appears with the following:
- d. An appropriate title, such as "Washington D.C."
- e. Copy and paste the following in the description field: "Washington, D.C., is the capital city of the United States, located between Virginia and Maryland on the north bank of the Potomac River. The city is home to all three branches of the federal government, as well as the White House, the Supreme Court and the Capitol Building. More than 500,000 people live in Washington, D.C."

- f. Using Google, find an image of Washington D.C. and paste in the “Image URL” field. Once you select the image you want in google image, click on view image and copy the URL. Note whenever you add an image URL, it should be a link to a JPG, PNG, TIF, or other image file type.
- g. Enter the following link into the “Image Link URL” field:  
<http://www.history.com/topics/us-states/washington-dc> This will take the reader of your map to that website when they click on the image in the pop-up.
- h. Click on the *Close* button at the bottom right corner of the popup when you are done. Click on the arrow next to the *Add Features* menu to completely exit out of editing this point.



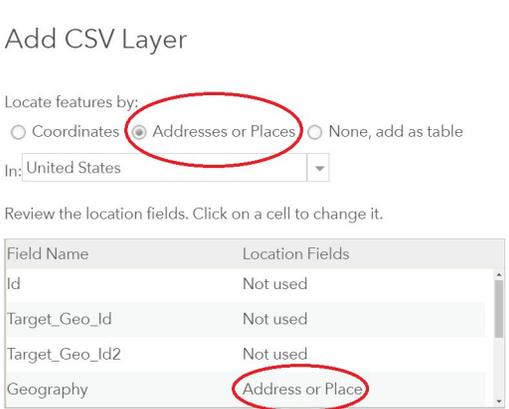
- i. Test your pop-up by clicking on your map note. You should see your note title, text, and image. Click on your image - you should be directed to the website that you selected. If you need to make changes, click on *Edit* at the bottom of the pop-up box. In edit mode, you can also click on *Change Symbol* to change the look of the symbol and its size. There are pre-set symbols that Esri has created or you can add your own.
- j. Add at least one other point to the map of another major U.S. city.
- k. Once you have added at least two points save your map by clicking the *Save* button. Give it an appropriate title. In the *Tags* area enter keywords to help people discover your map. In the *Summary* field write a short description about your map that will be helpful to the readers of your map. All of this information is part of the map’s metadata, which is important to include.

- l. Once you have saved your map, click on Details and then “About” icon  in the menu bar on the left-hand side of the screen. You should now see your map title and summary. If you don’t see your map, click on New Map on the right hand corner and you should see your map listed. Click on *More Details* underneath the map summary. This is where you can add more metadata about your map (including information about the sources of the images and the data on your map) and access uses and constraints. Access uses and constraints is where you outline what permission you want to give to others to share and/or re-use data from your map. To do this click on *Edit*. Fill in the boxes with as much information as you can/want. Then click *Save*.
- m. Next, let’s make your map viewable to others. Go back to the display of your map by clicking on the  *Open* button and choosing “Open in map viewer” from the drop-down menu. Once you are looking at your map again, click on the *Share* button in the menu above your map. Share your map with *Everyone*. Write down or copy the URL of your map to your clipboard. You can give this to anyone, and they’ll be able to load and use your map.
- n. Now click on *Home* in the top left corner of the interface and select *Content*. You should see your map listed in your content.

### I.C. Adding Data from Files

In addition to adding individual points, you can also add data to create maps by importing a file. These files must be in a comma-separated values (.csv), a text file (.txt) or a GPS exchange (GPX) format. The following steps will walk you through an example of importing a .csv file and formatting the pop-ups.

1. Download the data file from the data link on [www.lib.umd.edu/gis/workshops](http://www.lib.umd.edu/gis/workshops) Navigate to the ArcGIS Online folder and download population.csv
2. In the drop-down menu under the “Add” icon in top left-hand side of the screen, select “Add Layer from File.” In the pop-up window that opens up, select “Browse” and look for the “Population.csv” Once you have selected the file, click “Import Layer.” A new dialogue box will open., click on “Geography” and a drop-down menu arrow should appear. In that menu select “Address or Place” Then click “Add Layer.” It should place most of the points in the correct location, we will the others later.



the file.

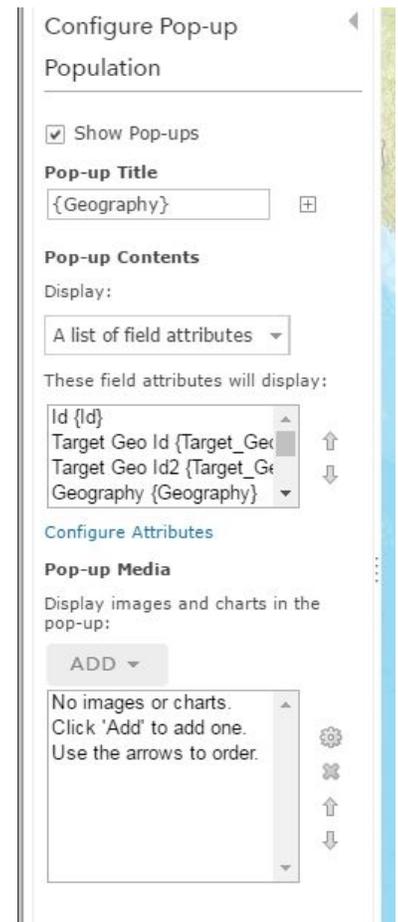
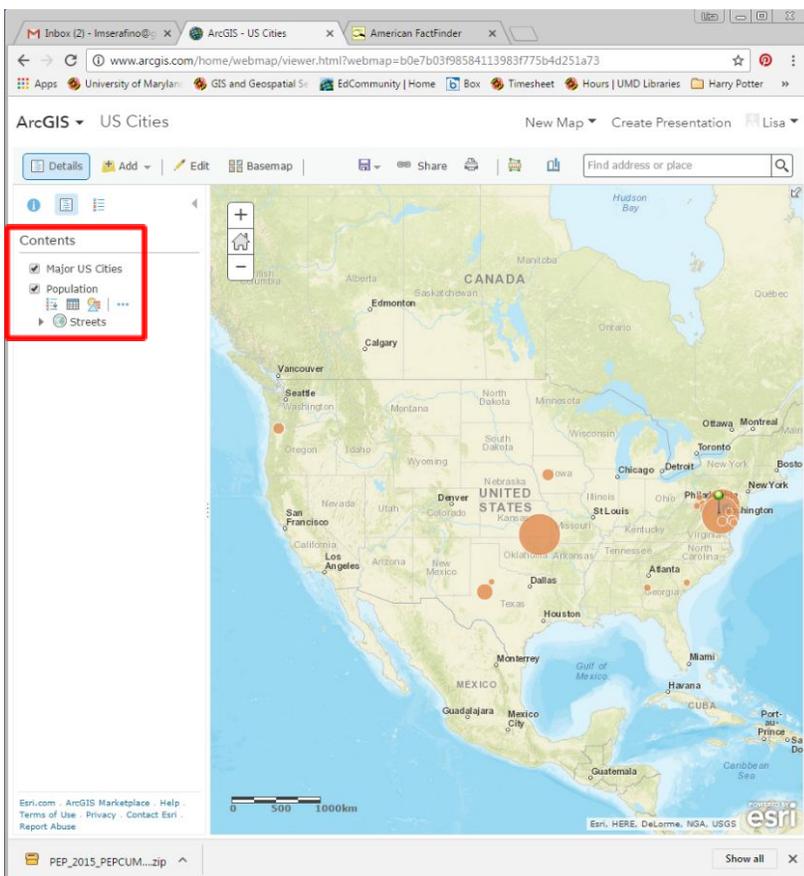
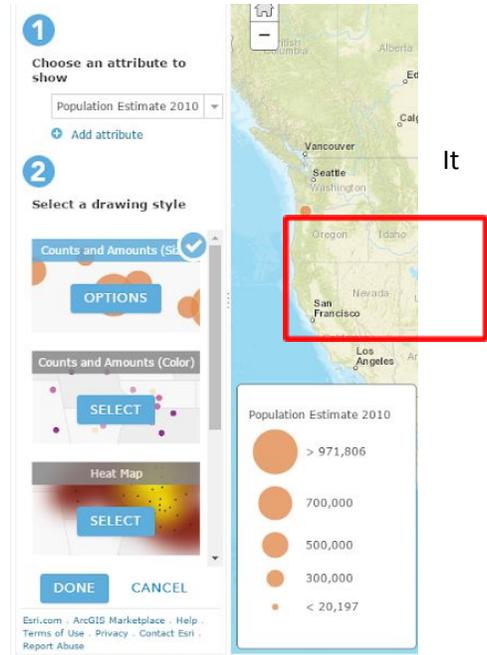
fix

Field Name	Location Fields
Id	Not used
Target_Geo_Id	Not used
Target_Geo_Id2	Not used
Geography	Address or Place

3. An options menu will appear on the left-hand side of the screen. allows you to decide which attribute (field from your table) you want displayed and different ways of displaying the data (*Counts and Amounts, Heat Map, Location, Type*). For our map, if it is not already selected, select *Counts and Amounts*, and then click **Done**.

4. In the Contents menu on the left-hand side of the screen, you should now see your file listed as a layer. You can rename the layer (or reformat) it by clicking the More Options (three dots) symbol below the name that appears when you hover over it with your mouse. Then, select "Rename" from the drop-down menu that appears.

5. Next, in that same drop-down menu, select "Configure Pop-up." For the Pop-up Title, you can either create a generic title or you can click on the plus sign next to the box and select {Geography}. Leave the brackets around Geography in the box. This will allow each pop-up to have the county's name as its title. The system automatically pulls that data from your data table.



- If you want to display any of the data from the different columns in your table (known as “attributes”) as a list, you can highlight them in the box under “Pop-up Contents.” Control-click will allow you select multiple attributes. For our example, we are not going to list any attributes, so in the drop-down menu next to “Display,” select “A list of field attributes.”
- In the “Pop-up Media” section, click on the ADD button. From this a drop-down menu with several different options of the type of media you can display on your pop-ups will appear. For this example we are going to create pie charts, so select that. A dialogue box should pop-up. In the same way that you chose the Pop-up Title, you can create the Pie Chart Title. You can also add a caption if you want. To create the pie chart, select all of the data you want included in the pie chart by checking the boxes next to their names (Population Estimate 2010, Population Estimate 2015, and Change 2010 to 2015). If you want to add spaces between these titles, you can highlight each one and then add spaces in the titles in the left-hand column. When you have finished this, click OK. If you need to go back in and make changes, click on the gear icon next to the box.

## Configure Attributes

Check the fields you want to display. Select a field to change its alias, order it, and format it.

Display	Field Name	Field Alias
<input type="checkbox"/>	{Target_Geo_Id2}	Target Geo Id2
<input type="checkbox"/>	{Geography}	Geography
<input checked="" type="checkbox"/>	{Population_Estimate_2010}	Population Estimate 2010
<input checked="" type="checkbox"/>	{Population_Estimate_2015}	Population Estimate 2015
<input checked="" type="checkbox"/>	{Change__2010_to_2015}	Change, 2010 to 2015
<input type="checkbox"/>	{FID}	FID

↑  
↓

**Format**

Use 1000 Separator

## Configure Pie Chart

Specify the title, caption and fields to chart.

Title:

Pie Chart 1

Caption

Chart Fields

Field Alias	Field Name
<input checked="" type="checkbox"/> Population Estimate 2010	{Population_Estimate_2010}
<input checked="" type="checkbox"/> Population Estimate 2015	{Population_Estimate_2015}
<input checked="" type="checkbox"/> Change, 2010 to 2015	{Change__2010_to_2015}

Normalize by: None

OK

CANCEL

8. When you have finished all your changes, click on “OK” Now when you click on any of the points on your map, a pop-up should appear with a pie chart in it. If you hover over the parts of the pie chart, it will tell you what that section represents.
  
9. If you need to edit any information on a specific pop-up, delete a pop-up or add a pop-up, you can do that by clicking on the pop-up that you need to change and clicking on the “edit” button at the bottom of the pop-up. Now when you click on a point on the map, the pop-up will no longer have a pie chart, but instead, you will see all of the fields from your original table, and you can make any necessary edits. You can also completely delete the point by clicking on delete at the bottom of the pop-up. To add a point, you would do this in the same way as we did in the first exercise—by clicking on the icon in the “Add Features” menu, and then clicking on the map where you want to place the point. The new pop-up will have all of the fields, but they will be blank so you will need to cut and paste this information from your original .csv file.

ArcGIS ▾ US Cities New Map ▾ Create Presentation Lisa ▾

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Details **Add** ▾ **Edit**
Basemap | Share

**Add Features**

**Major US Cities - Points**

Stickpin Pushpin Cross

**Major US Cities - Text**

Text

**Major US Cities - Lines**

Line Freehand Line

**Major US Cities - Areas**

Area Triangle Rectangle

Left Arrow Right Arrow Ellipse

Up Arrow Down Arrow Circle

Freehand Area

**Population**

New Feature

**Population** ✖

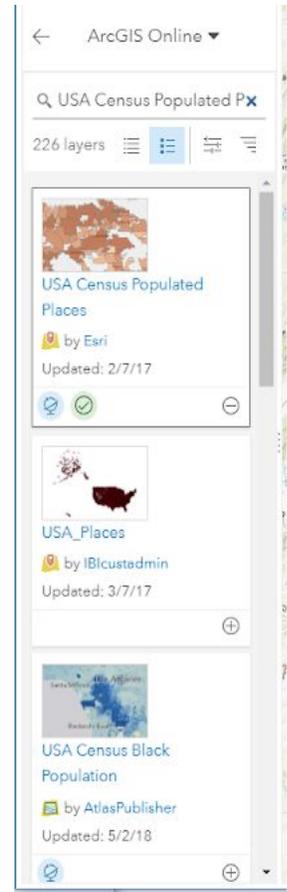
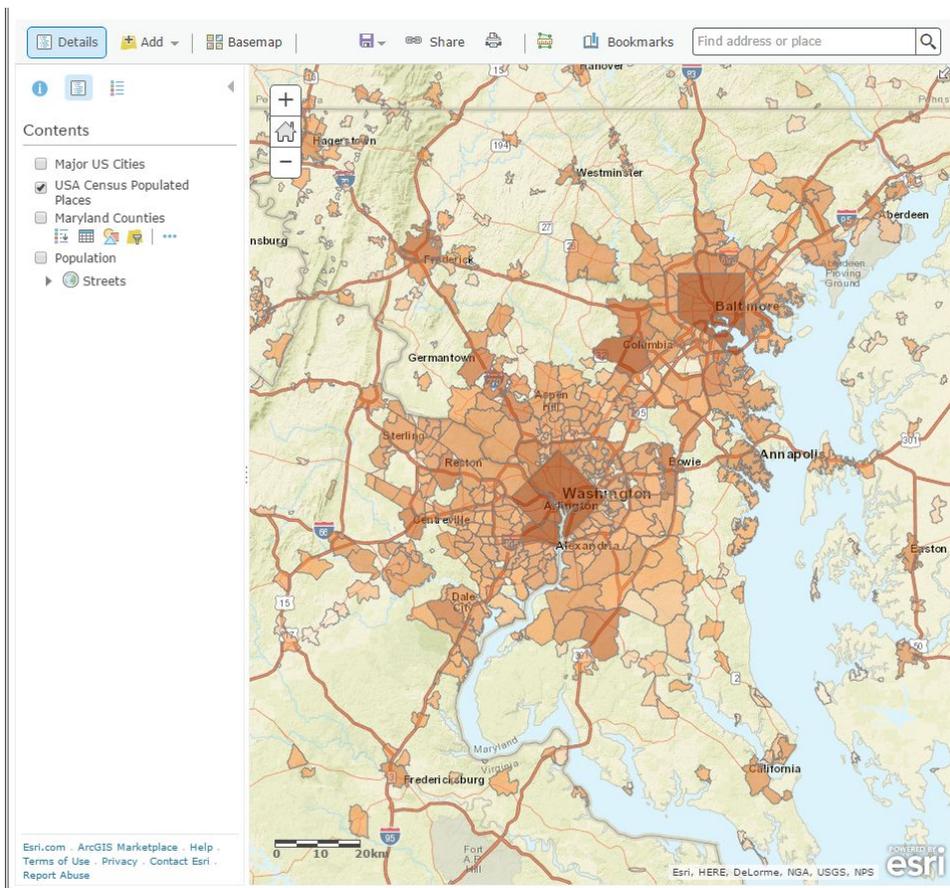
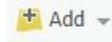
Id	15
Target Geo Id	05000000US24031
Target Geo Id2	24,031
Geography	Montgomery County
Population Estimate 2010	971,806
Population Estimate 2015	1,040,116
Change, 2010 to 2015	68,310
FID	15

DELETE
CLOSE

### I.C. Adding Data from ArcGIS Online

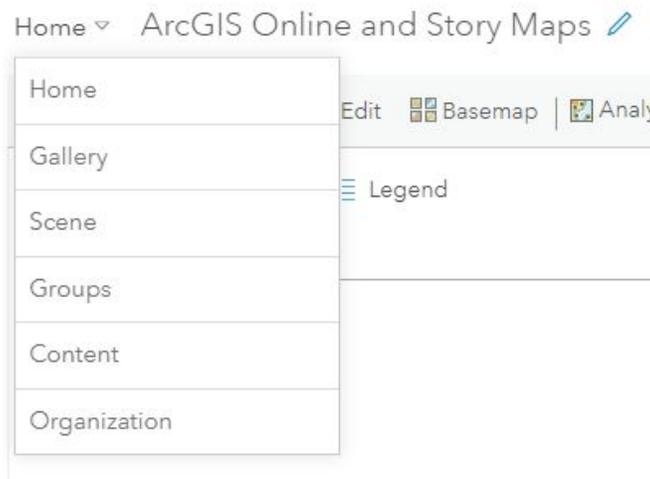
Data can also be added from an online database.

1. Select the add data icon on the top left of the screen
2. Select the first option, "Search for Layers"
3. Select "ArcGIS Online" from the dropdown
4. Type "USA Census Populated Places" in the find field
5. Click the first choice on the list, then click "Add to Map". Then, save your map.
6. Your map should look something like this:

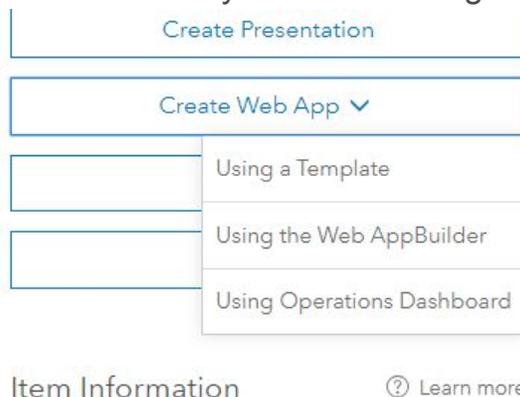


A published web app is based on a map authored with Map Viewer. Any changes the author makes to the map, including its extent, layers, description, and so on, are reflected in the web app. If a map that was available to everyone in the organization is made private (or deleted), the map no longer appears in the app. We will make an app based on the map you just created.

1. From your current map, click the Home drop down, and navigate to Content.



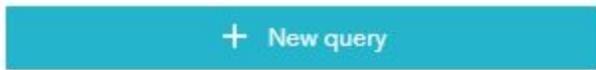
2. Click on the name of the map you just created.
3. On the map's overview, select the drop down for Create Web App and select Using Web App Builder. Click Okay on the resulting Pop-up.



4. You are now in the Web App Builder. Choose the Foldable Theme, and then click the Widget tab.
5. Click the button for Widget 1. This will allow us to create a custom widget specifically for this map.



6. Select the Query Widget and click Okay.
7. In the Configure Query pop-up, click on New Query



8. Set Map as the data source and choose the layer for USA Census Populated Places. Then click Okay.
9. Mouse over to the Filters tab, and click the gear next to Query Criteria.
10. Click Add Expression, and configure your query like this:



×

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+ Add expression   + Add set

Display features in the layer that match the following expression

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Population (2012) (↑)   is greater than      ⚙   ×

Ask for values

Prompt  

Hint  

---

OK   Cancel

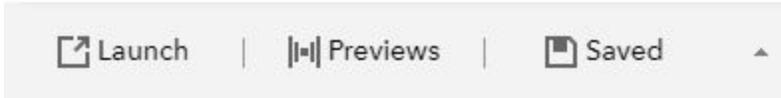
11. Click Okay, and then Okay again. Notice there is now a Query Widget on your app.



12. Open the widget and enter "1000000". Click Apply. The map will now display

only the cities that have a population over 1,000,000.

13. Save your web app and click Launch.



14. The Web App will now display in your web browser. The query widget can be used as well. If you have shared your web app publicly, anyone with the link can now use your App.

## II. Story Maps

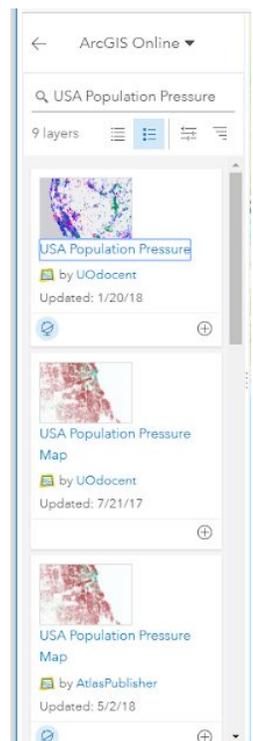
### II.A. General Guidelines and Resources

- Story Maps are an elegant way to display dynamic digital maps. They can be created using templates developed by Esri and ArcGIS Online. You can view examples of different Story Maps here: <http://storymaps.arcgis.com/en/gallery/#s=0>
- Tips for building the map:
  - a. See Esri's "How to Make a Story Map" (<http://storymaps.arcgis.com/en/how-to/>) for an overview on creating a Storymap.
  - b. Use Chrome, Mozilla (Firefox) or Safari as your browser to create the map. Several of the apps have problems when building them in Internet Explorer
  - c. If you are using photos, be sure to add a credit line for them and try to find copyright free images or ones with a Creative Commons license (see below for suggestions of sources).

### II.B. Story Map Swipe<sup>SM</sup>

#### A. Creating the Content

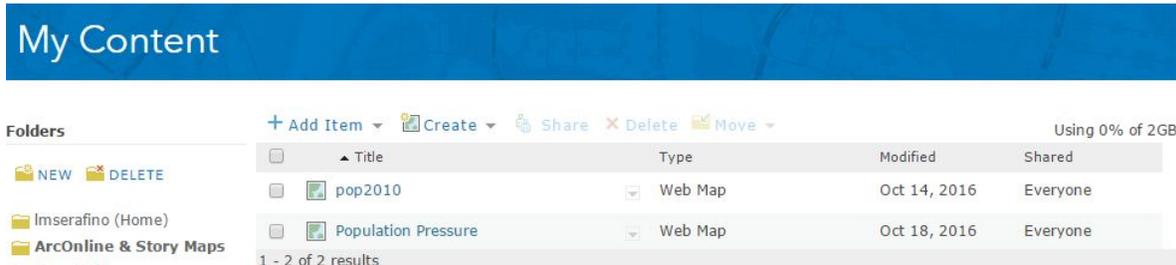
1. Open a new map in ArcGIS Online.
2. In the drop-down menu under the "Add" icon in the top left-hand side of the screen, select "Search for Layers."
3. In the drop-down menu select "ArcGIS Online"
4. Search for "USA Population Pressure" and add it to your map.
5. Save this map as "Population Pressure"
6. Open a new map
7. In the drop-down menu under the "Add" icon in the top left-hand side of the screen, select "Search for Layers."
8. In the drop-down menu select "ArcGIS Online"
9. Search for "USA Population Density"
10. Add the second option on the list called USA Population Density.



11. Save your Map as "Pop2012"

Now that you have created your maps we will share them so they can be viewed by the public in your story map.

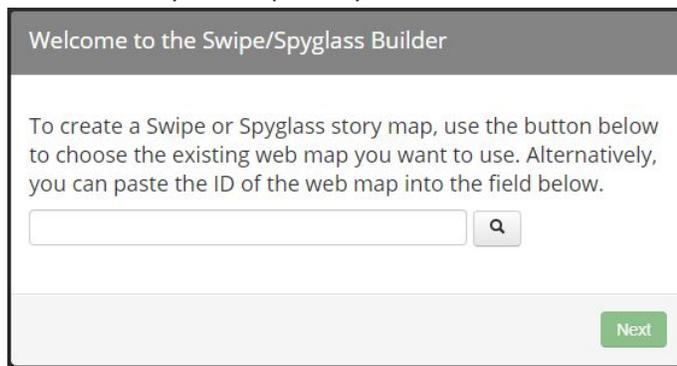
1. Click on the ArcGIS drop down menu in the upper left corner and select "Content".
2. Select the two maps you created and click the share icon on the top of content box.



3. A Text box will pop up and select share with "Everyone (public)" and click OK.

### B. Creating the App

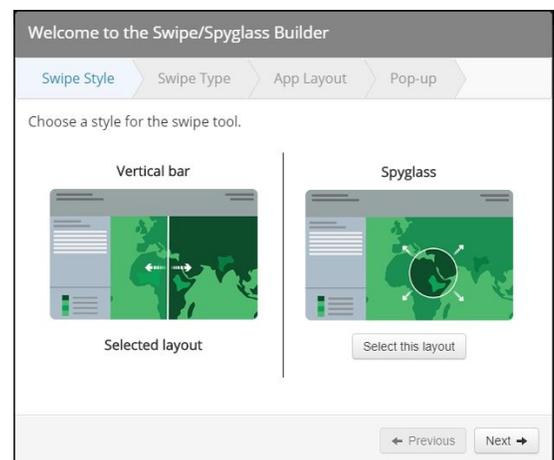
1. On the "Content" page, click "Create"
2. Select "App: Using a Template" from the dropdown
3. Select "Build a Story Map" under "What do you want to do?" There are many options here based on what you want to display and how you would like to display it.
4. **Select Story Map Swipe and Spyglass for this exercise.**
5. You should then see a window like the one shown below. Click on the search button and you should see the maps USA Population Density and Pop2010 you created earlier.



6.

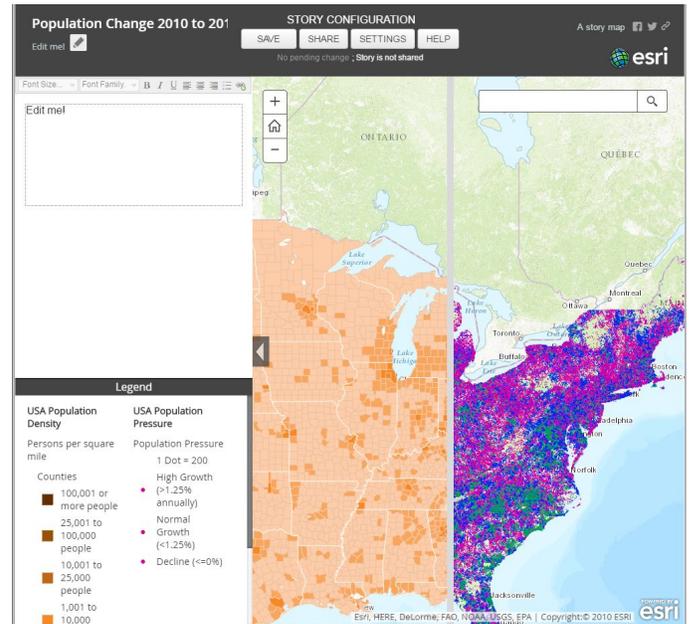
7. Select one of the maps. You will be asked to select the other map later. You should then see the window below where you can select the Swipe style. Select one and click next.

8. You will then be prompted to select Swipe Type. Select two web maps. Under spyglass map ID select the other map you created and click next.
9. Click next in the app layout
10. Give titles to your maps and click open the map.
11. Once you are in your newly created map, you'll notice that there are several places where you can



make edits and additions if you want. You can add text to give some background information about your map and where the data came from in the box on the left-hand side of the screen. You can edit the title of your map by clicking on it. You can add a summary description of the map below the title by clicking on “Edit me.”

12. Clicking on “Settings,” allows you to edit any of the features of the map that you want to change. Always remember to click “Save” anytime you make changes.
13. The map is automatically shared and available publicly, but if you want to get a shortened URL for your map, click on the Share button. Clicking on Share and then Open will also allow you to see the map as others will see it.
14. To make changes to your story map, launch it, and click the Switch to builder mode button in the header. (This button is only available when you're signed in to ArcGIS Online, and other people won't see it)



15. You can also access your story map to make modifications to it via its application item page, which is the entry in ArcGIS Online representing your app. You can find a link to your story map's application item page in the Share dialog. You can also access it via your My Contents page in ArcGIS Online. Optionally, you can edit your application item page to add a thumbnail image (such as a screen shot of the app), add additional tags to help people find it, and so on.

[To learn about some other available apps for story mapping click on the link below.](https://learn.arcgis.com/en/projects/get-started-with-story-maps/)  
<https://learn.arcgis.com/en/projects/get-started-with-story-maps/>