
Getting Started with ArcGIS Developer Subscription for Journalism Students

Despite the name, you do not need to be a developer to sign up for the ArcGIS Developer Program. It gives you access to all the mapping, analysis and data management features of [ArcGIS Online](#) and premium content in the [ArcGIS Living Atlas of the World](#), in addition to a set of development tools.

The free Essentials subscription includes 50 Service Credits per month for you to use to host data, perform analysis, geocode and/or generate directions. (See <https://developers.arcgis.com/pricing/credits/> for a breakdown of credit cost. If you are simply hosting a small amount of data, no more than a few MBs, and creating maps, you likely will not need to worry about credits. However, if you do use up all your credits, for example, by geocoding data, enriching features, or using other analysis tools, you will have the option to purchase a deployment plan or wait until your monthly renewal.)

The Essentials subscription also includes your own, personal ArcGIS Online organization, with a URL in the form <shortname>.maps.arcgis.com, where you can create, test and share your web maps and web apps. You will set the short name when you create an account.

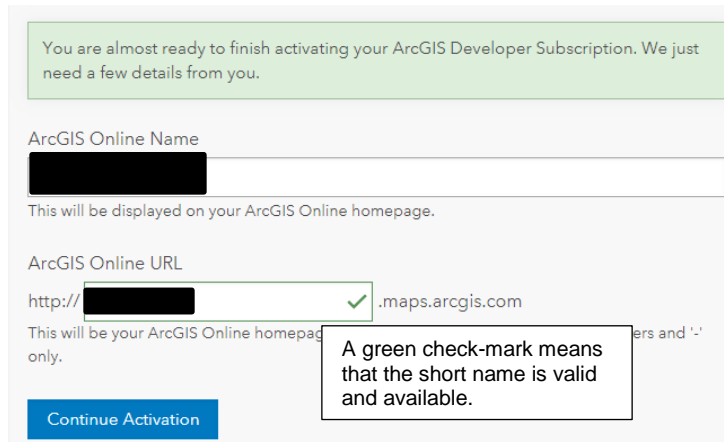
This tutorial will guide you through the process of creating your account, uploading a shapefile to your organization, and creating and sharing your first map.

As you complete the tutorial, keep in mind that there is often more than one way to do something, for example, add data to your map. You are encouraged to explore the ArcGIS Online site, the Map Viewer interface, and the [online resources and help files](#).

Step 1: Sign Up for the ArcGIS Developer Program

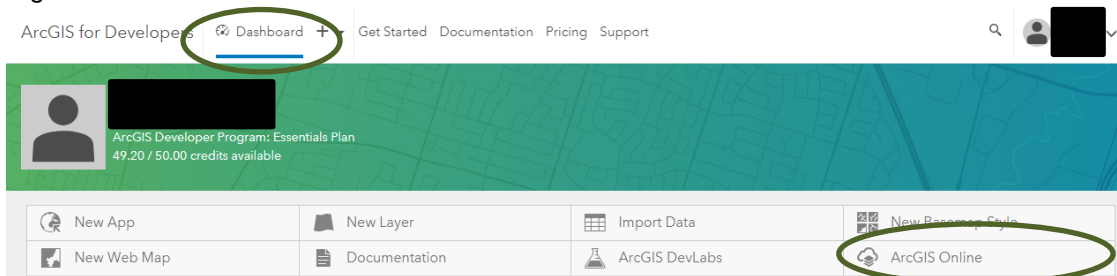
1. Go to <https://developers.arcgis.com/>.
2. Click **Sign Up for Free**.
3. Fill in the form, review and accept the [Terms of Use](#) and [Privacy Policy](#), and **Send Confirmation Email**.
You may also want to read the [Terms of Use FAQ](#), which explains the key terms in plain English. In particular, note that with the free Essentials subscription, you are not allowed to generate revenue from your maps or apps or use them for government or business purposes.
4. Once you've received the confirmation email, click on the link it contains to activate your subscription. You will need to choose a **username** and **password** for your account.
Usernames must be unique throughout the ArcGIS domain and can contain only alphanumeric characters and a few special characters (. _ @). You can use your email address as your username.
5. Choose an **ArcGIS Online Name** for your organization and a short name for the **ArcGIS Online URL** to complete the activation.
The organization name will appear on your organization's homepage and can be anything you like.

The short name must be 4-16 characters and can include only lowercase letters, numbers and dashes (-).



Note: The activation pages may appear different from the image above.

- When activation is complete, you should be redirected to your organization's dashboard. If not, click on **Dashboard** in the menu bar. Click the **ArcGIS Online** button to launch your ArcGIS Online organization.



The ArcGIS for Developers dashboard provides a summary of the most recent applications (e.g., Story Maps) you created, the most recent feature layers you've created and your credit usage for the past 24 hours. It also has quick links to create data, maps and apps that you may want to use when you are more familiar with the site.

For the remainder of this tutorial, you will work in your ArcGIS Online organization. You should already be signed in after completing the steps above, but when you need to return to it later, you can access it in a few different ways:

- Sign in with your username and password, if necessary, at <https://developers.arcgis.com/>, and click the **ArcGIS Online** button on the dashboard.
- Sign in with your username and password, if necessary, at <https://developers.arcgis.com/>, select **Password and Profile** from the drop-down menu at the top right and click on the Account URL Path. (This is also how you can find your organization short name if you've forgotten it.)
- Sign in with your username and password at <http://www.arcgis.com/index.html>.
- Sign in with your username and password at the ArcGIS Online URL you chose when you activated your subscription.

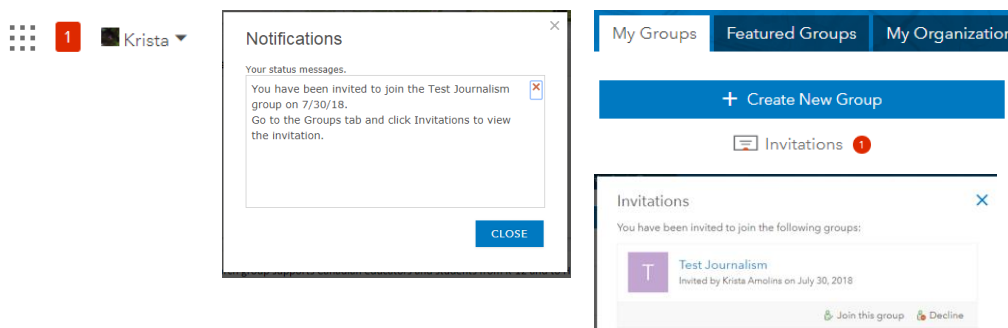
Step 2: Create a Group to Share Your Work

ArcGIS Online [groups](#) are a way to organize content and share it with specific individuals. Even if you choose to share all your content with the public, sharing it to a group will make it easier for you and others to find.

1. Click on **Groups** in the menu bar.
2. Click **Create New Group**.
3. Enter a **Group Name**; comma-separated **Tags** that describe the group; and optionally a **Summary**. Leave the default options for all other fields. Click **Create Group**.
4. On the group details page, click **Invite Users**.
5. Uncheck the box beside **Only search for members in My Account**. Enter a name or keyword to search for the users you want to add to your group. Only users who have made their profiles visible to everyone (public) will appear in the search results. If you do not see the user(s) you want to add to your group, ask them to make their [profiles public](#), at least long enough for you to invite them.

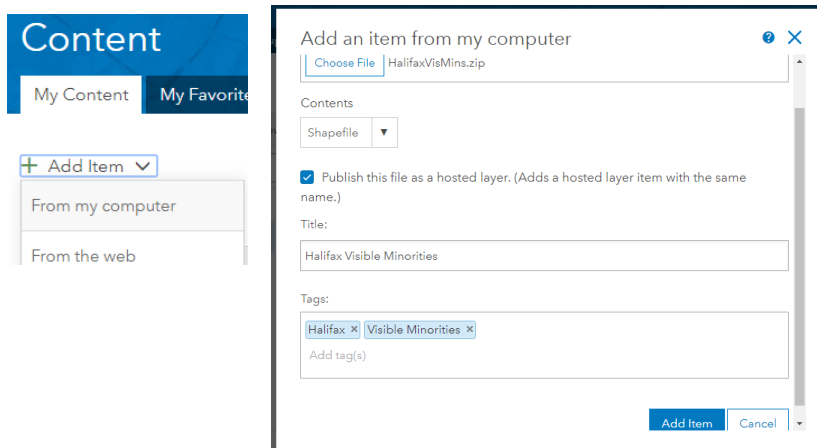
Alternatively, [edit the settings of your group](#) so that everyone can find it and can request to join, then let others know you would like them to join your group.

6. Click on a name in the **Users** list on the left to add the person to the **Invitation List**. Click **Send Invitation** when you are ready to invite users. The users you invite will see a red notification badge at the top right of the browser the next time they sign in to ArcGIS Online and when they go to the Groups page, they will see that they have an invitation waiting. When they click on the invitation, they will have the option to either join the group or decline the invitation.

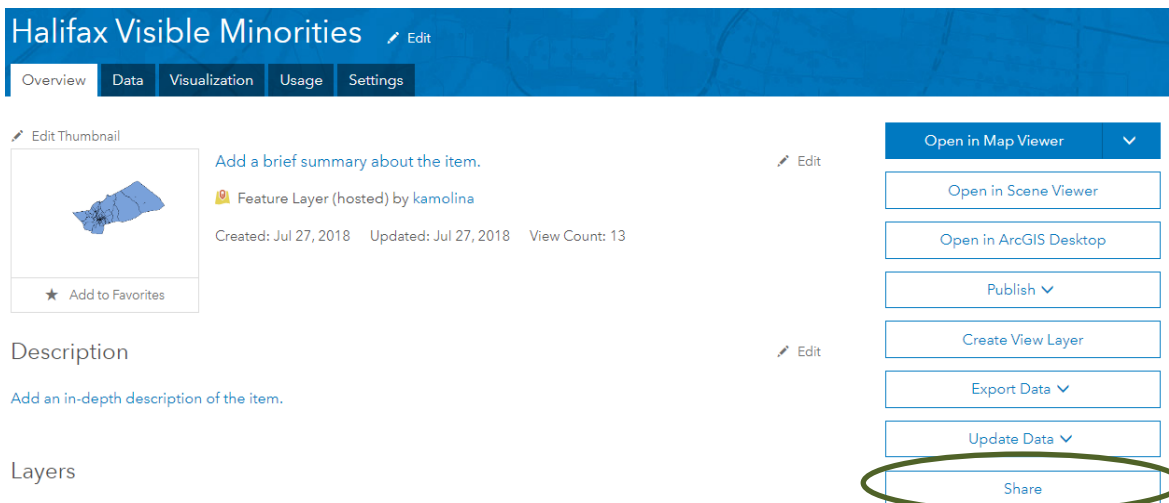


Step 3: Upload a Shapefile to Your Organization

1. Click on **Content** in the menu bar.
2. Click **Add Item > From my computer**.
3. Click **Choose File**, then browse to and select the zipped shapefile you want to upload.
4. Make sure **Contents** is set to **Shapefile** and **Publish this file as a hosted layer** is checked. Change the **Title** to something short but descriptive. Add comma-separated **Tags** to describe the data. Click **Add Item** (you may need to scroll down).



5. *Optional.* Once the hosted feature layer has been created, you can edit the summary, description, and other information on its item details page.
6. Click on **Share** on the item details page and check the box beside the group you created in Step 2, then click **OK**. This will make the layer visible to all the members of that group.



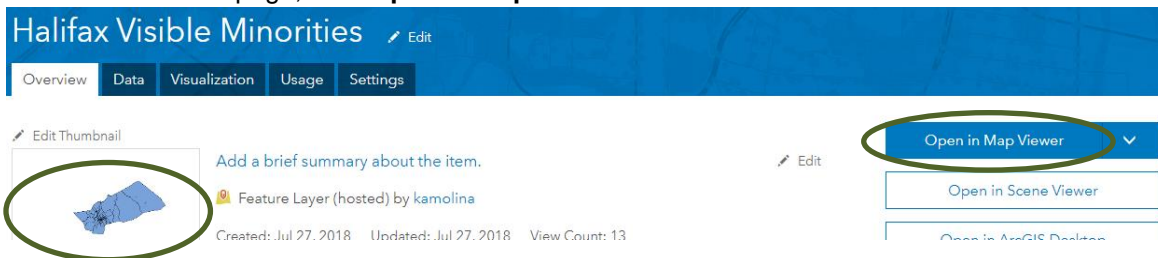
Step 4: Adding Data to a Map

Maps can contain many different layers from many different sources. For the purposes of this tutorial, you will only be adding the shapefile you uploaded in the previous step to your map. To learn about other types of layers you can add and how to find and add them, see the ArcGIS Online Help page [Add layers](#).

There are two ways to add a feature layer to a map. For this tutorial, you should use Option A to add the layer you created in Step 3 but can use Option B if you want to add additional layers.

Option A: Add the feature layer from its item details page.

1. On the item details page, click **Open in Map Viewer** or click on the thumbnail.

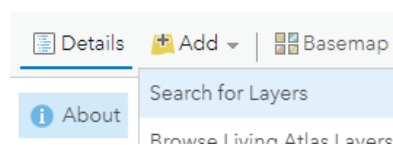


Note: this may add the layer to an existing map if you have already started one, e.g., if you opened a different layer in the map viewer. If you want to be sure you are adding the layer to an empty map, click the down arrow beside Open in Map Viewer and choose **Add to new map**.


Option B: Search for and add the feature layer in the Map Viewer

1. From the item details page, click on **Map** in the menu bar to open the map viewer.
2. Click **Add > Search for Layers**.


Home ▾ My Map

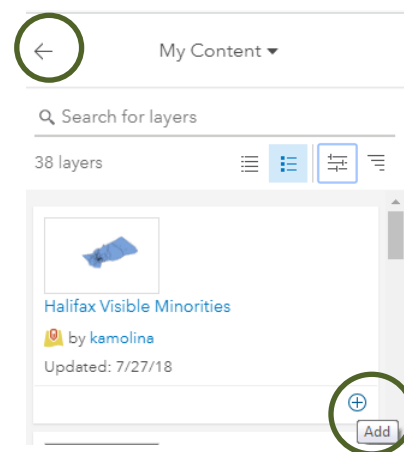


3. Find the card for the layer you want to add in the list and click.

 **Add** button at the lower-right corner of the card.

Clicking almost anywhere else on the card will open an information pane for the layer. If this happens, you can use the **Add to Map** button to add the layer.

4. Click  Back button at the top of the search pane to close it.

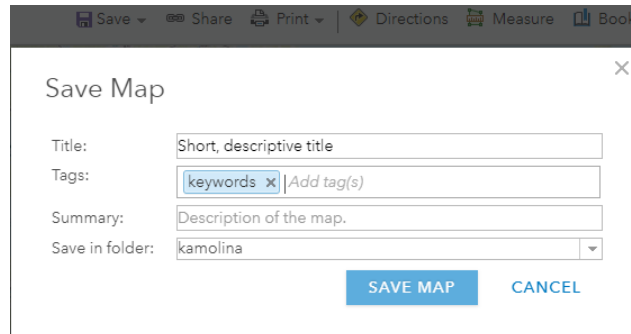


If you have more than a few items in your content, or if you are searching for layers in Living Atlas or ArcGIS Online, you will need to enter a search term and/or apply filters to narrow your search results. See the [Search for layers](#) section of the Add layers help page for more information.

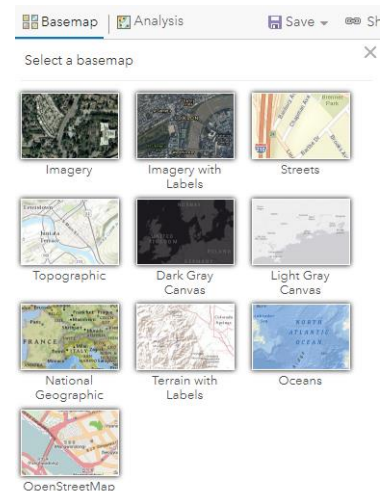
Step 5: Changing the Layer Style

A map can tell many different stories depending on how the data are styled. The ArcGIS Online Map Viewer applies smart mapping to help you create beautiful and informative maps but it is still up to you to decide which attributes you want to show and how you want to symbolize them. Read [How to Smart Map](#) to learn more about smart mapping.

1. Click **Save** above the map and choose **Save**. Enter a **Title**, **Tags** and **Summary** then click **Save Map**.



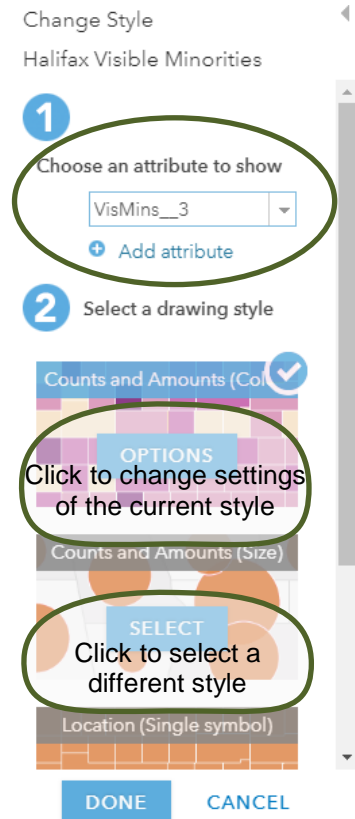
2. *Optional.* Click on **Basemap** and choose a different basemap. The basemap is the background for your map. Some of the basemaps in the gallery, for example, Imagery and Topographic, contain details that provide the viewer with additional geographic information such as the location of buildings and parks. Others, such as Light Grey Canvas, simply provide the viewer with basic geographic context. You should choose a basemap that complements your data and what you are trying to show.
3. Pan (click and drag) and zoom (use the mouse scroll wheel or + and – buttons on the map) and/or hover over the layer in the **Contents** pane, click the right-most button ⋮ (More Options) and select **Zoom to** so that the data are visible within the map extent.



The buttons that appear when you hover over a layer in the Contents pane are, from left to right:

- Show Legend – display the colours and symbols used to draw the layer
- Show Table – display a table where each row is a feature, e.g., a census tract, and each column is an attribute, e.g., count of visible minorities in 2011.
- Change Style – open a pane to change how the layer is being drawn by changing the attribute that is shown, the drawing style, the colours and symbols, and/or the transparency
- Filter – create an expression and have only features matching the expression displayed on the map, e.g., census tracts where the increase in visible minorities is greater than 100
- Perform Analysis – apply geoprocessing tools to the data
- More Options – Zoom to, Rename, Configure Pop-up, Create Labels, and other options

4. Hover over the layer in the **Contents** pane and click **Change Style**.
5. **Choose an attribute to show** 1 from the drop-down menu. If you want to visualize the data using more than one attribute, click **Add attribute** and select another attribute.
In the example at right, the attribute *VisMins__3* is chosen as the attribute to show. Note: When creating data, best practice is to use attribute names that describe the attribute so that you and others can understand what is being drawn.
6. Choose a drawing style and modify it 2: optionally, click **Select** to change the drawing style. Click **Options** to customize the colours, symbols, and other style options of the selected drawing style.
The available drawing styles will change depending on the type of attribute(s) you choose to show. See the [Change style quick reference](#) guide for a list of available styles and what types of questions they can answer. In the example, the selected drawing style is *Counts and Amounts (Color)*.



After you click **Options**, you have a few decisions to make about how the data are drawn. The main decision is whether to classify the data. If you leave the data unclassified, each feature will be drawn depending on where its value lies between the high and low cut-offs. In the example below, left, values below -32 are drawn yellow, values above 118 are drawn dark blue, and any values in between are drawn in a shade in between. You can change the values for the high and low cut-offs using the sliders or by clicking on the number and typing in a different one.

If you classify the data, each feature will be drawn according to which class it falls in. In the example below, right, the data are classified into 5 classes using the *Natural Breaks* method. This method uses an algorithm to try to group data so that there is the greatest similarity within a group and the greatest difference between groups. Generally, you would not change the break values, but you can change the number of classes. You can also change the classification method. The colour ramp symbol in the example emphasizes the values above and below average: values around average (17 to 69) are neutral; “very negative” values (-22 to -85) are red; and “very positive” values (178 to 375) are blue.

There is no right or wrong answer; it is up to you as the map-maker to decide which style options tell the story of your data in the clearest way. You need to have a good understanding of both the data and the style options to make this decision.


7. Try one or more of the style options below until you find a style that you think viewers will be able to understand. The map will update as you change style options. If you don't like the new style, you can click **Cancel** at the bottom of the Change Style pane and start again. Click **OK** and then **Done** to save your changes.
 - a. Increase or decrease the number of classes
 - b. Change the classification method
 - c. Change the colour ramp (click on Symbols),
 - d. Select a different drawing style
 - e. Show different attributes and, depending on your data, show more than one attribute.

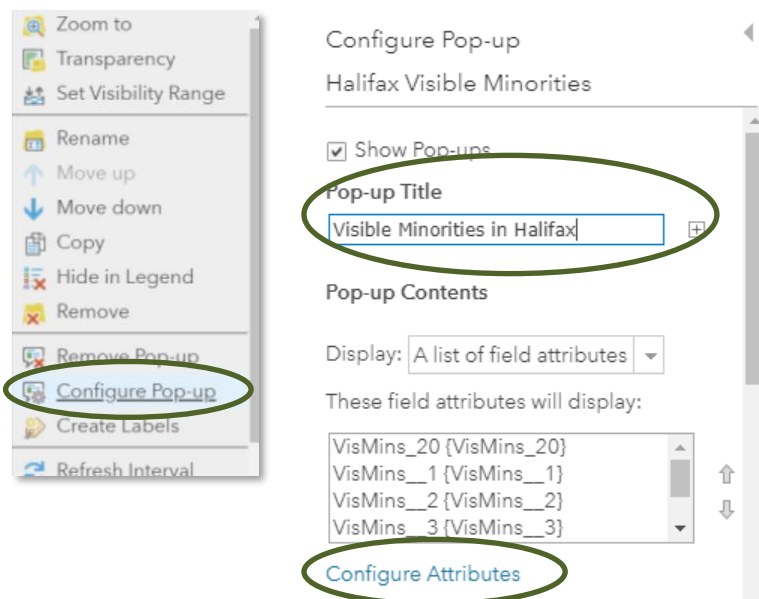
8. **Save** the map.

For more information, consult the tutorials and other resources on Smart Mapping at <https://www.esri.com/en-us/smart-mapping> and <http://hed.esri.ca/resourcefinder/#/search=smart/lang=en>.

Step 6: Configuring Pop-Ups

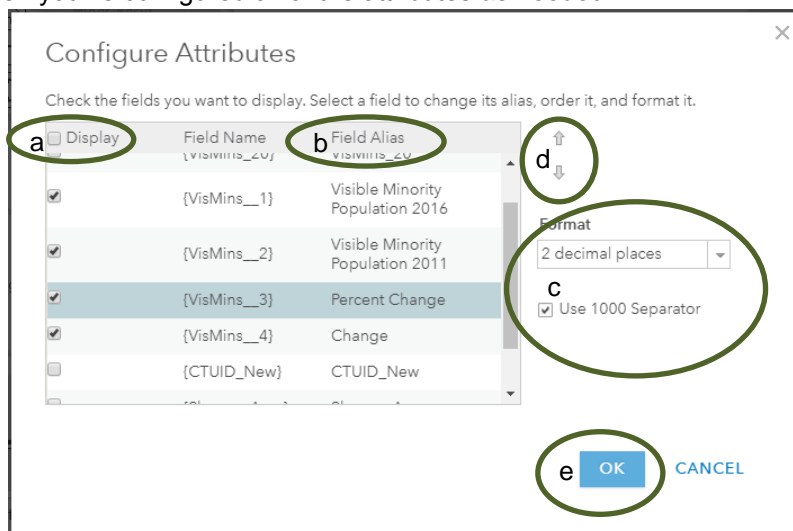
Pop-ups appear when a viewer clicks on a feature on the map. They can provide the viewer with additional information about the feature – but only if they have been properly configured.

1. Hover over the layer in the **Contents** pane, click  (More Options) and select **Configure Pop-up**.
2. In the Configure Pop-up pane, remove any underscores and make any other edits in the **Pop-up Title** so that it is readable.

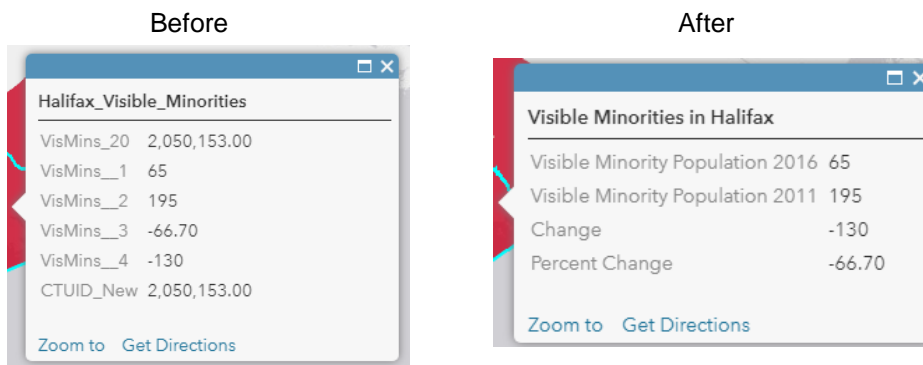


3. Click **Configure Attributes**.

4. For each field, take the appropriate steps:
 - a. If it contains an ID or any other information that is not relevant to your intended audience, e.g., FID, Shape__Area, Shape__Length, **uncheck** the **Display** box.
 - b. If it is a relevant field, change the **Field Alias** to something meaningful, e.g., Percent Change. If you don't know what the data in a particular field represent, uncheck the Display box because your audience also won't know what it means!
 - c. If it is a numeric field, change the number of decimal places, as needed. For example, if it is a counted number such as a population count, it should have 0 decimal places.
 - d. Move the field up or down in the list. For example, move Percent Change down so that it is below Change.
 - e. Click **OK** when you've configured all of the attributes as needed.



5. Click **OK** at the bottom of the **Configure Pop-up** pane to apply your changes.

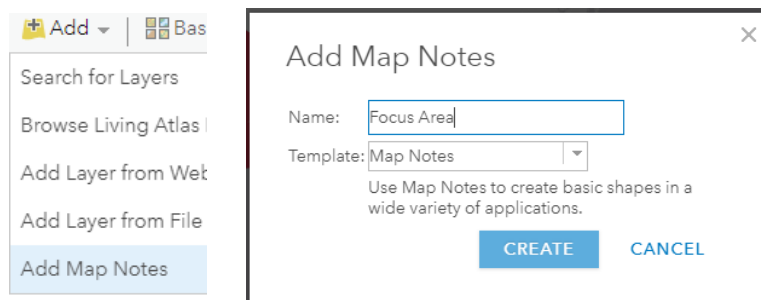


Another option for configuring pop-ups is a custom attribute display. This option allows you to add and format text and include images. You can also add charts to your pop-ups to illustrate field values. See [Configure pop-ups](#) for more information.

Step 7: Pinpointing Your Focus Area

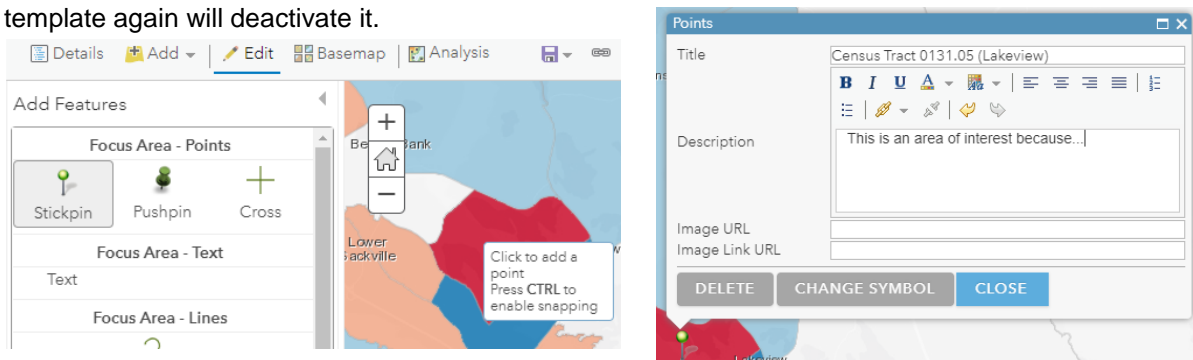
The data you added to your map include many geographic features. The drawing style you chose will tell the viewer something about each feature in relation to the others and the pop-ups will give them information about any feature they click on but sometimes you may want to draw viewers' attention to a specific feature or location. You can use Map Notes to do this.

1. Click **Add > Add Map Notes**.
2. Provide a name for your map notes that will remind you what the layer contains. Keep **Map Notes** as the template. Click **Create**.



When you first create a map notes layer, the Add Features pane will open for you to start adding notes to your map. You can close and open the pane by clicking on the Edit button.

3. If you need to, pan and zoom the map to find the place where you want to add a map note, then click on one of the **Points** templates in the Add Features pane, e.g., **Stickpin**, to activate it. Clicking on the template again will deactivate it.




4. Move your cursor over the map. A tooltip will appear that gives you hints about how to use the template. Click the spot on the map where you want to add your stickpin. (If you press CTRL, it will try to add the point at the nearest feature corner.)
5. Provide a **Title** and a **Description** for your point then click **Close**. Repeat as needed. If you are adding several map notes and you want them to look different, click **Change Symbol** before closing and choose a different shape. You can re-open the pop-up window to change the symbol, or the title or description, by clicking on the point when the Add Features pane is open and no template is selected.
6. Close the Add Features pane by clicking **Edit** in the menu or the left arrow at the top of the pane.

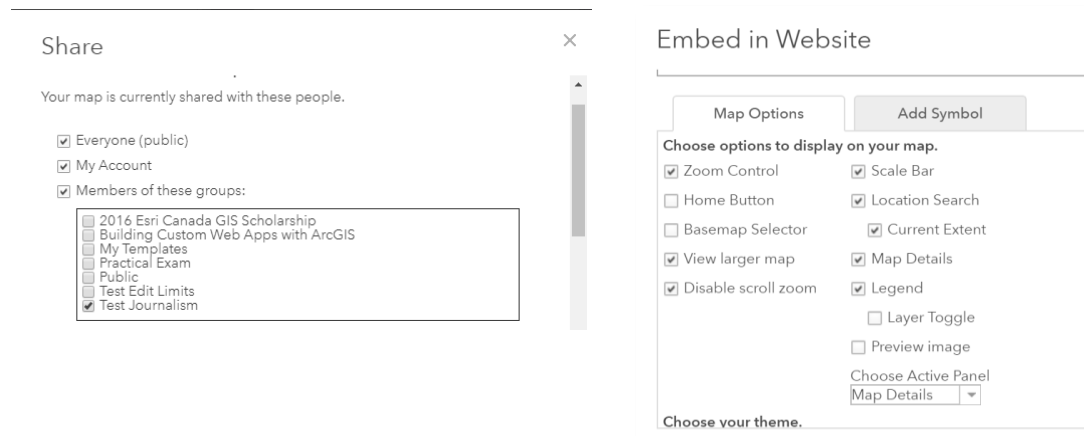
Step 8: Embedding Your Map in a Website


All the data, maps and apps that you create in ArcGIS Online are private by default; in other words, only you can see them. If you want other people to see them, you must share them. You can share them to a group, such as the group you created in Step 2, so that people who are members of the group can see them. You can also share them with the public, so that everyone can see them.

When you are sharing an item, any items it contains must also be shared. In other words, if you are sharing your map with the group you created, then the data it contains must also be shared with that group or must be public data. ArcGIS Online will usually warn you if this is not the case and give you the option to update sharing.

For this tutorial, you will share your map and data with the public so that you can embed it in a website.

1. **Save** your map.
2. Click **Share Map**  .
3. In the **Share** window, in the section **Choose who can view this map**, check **Everyone (public)** and optionally any groups you want to share with. If a window pops up warning you that layers are not shared in the same way, click **Update Sharing** to make the layers public.



4. Scroll down and click **Embed in Website** to configure your embed options.
5. In the **Map Options** area, check the boxes to display the tools and information you want to include, such as **Legend**.
6. Scroll up and click **Copy** to get the HTML code you will need to embed your map in a website. If you aren't ready to use it, you can save it in a text file. Click **Done**.
7. Click on **About this Map**  in the Contents pane then on **More Details** to open the item details page for your map.
8. On the item details page, click on **Edit** beside **Description**. Add text describing what information your map contains and why it is important. Click **Save**.

In addition to embedding a map in a website, ArcGIS Online includes over two dozen configurable web app templates that present your map(s) in different ways. Click on Create a Web App to explore the available options and see [Choose a configurable app](#) to learn more about the different templates.

Resources

General

- ArcGIS Online Resources
<https://www.esri.com/en-us/arcgis/products/arcgis-online/resources>
- Item details
<http://doc.arcgis.com/en/arcgis-online/manage-data/item-details.htm>
- Get started with maps
<http://doc.arcgis.com/en/arcgis-online/get-started/get-started-with-maps.htm>

Uploading a shapefile

- Add items
<http://doc.arcgis.com/en/arcgis-online/manage-data/add-items.htm>
- Publish a shapefile or GeoJSON file
http://doc.arcgis.com/en/arcgis-online/manage-data/publish-features.htm#ESRI_SECTION1_49CE0570C3BA4AD8BF2DB28929FF7280
- Manage hosted feature layers (advanced topic)
<http://doc.arcgis.com/en/arcgis-online/manage-data/manage-hosted-feature-layers.htm>

Creating a map

- Choose basemap
<https://doc.arcgis.com/en/arcgis-online/create-maps/choose-basemap.htm>
- Add layers
<http://doc.arcgis.com/en/arcgis-online/create-maps/add-layers.htm>
- Change style
<https://doc.arcgis.com/en/arcgis-online/create-maps/change-style.htm>
- Configure pop-ups
<https://doc.arcgis.com/en/arcgis-online/create-maps/configure-pop-ups.htm>
- Share maps
<https://doc.arcgis.com/en/arcgis-online/share-maps/share-maps.htm>

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