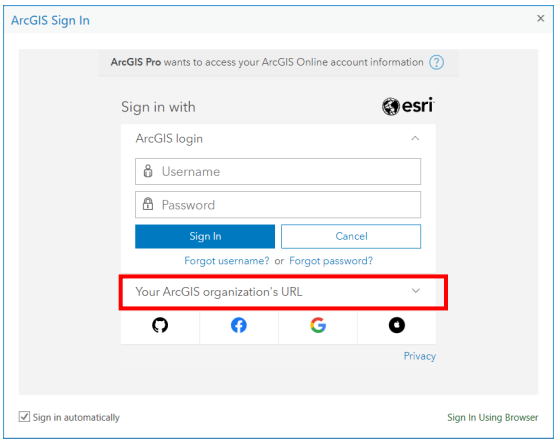
Introduction to ArcGIS Online and Adding Data

ArcGIS Online is a cloud-based GIS application from Esri used to create interactive web maps. It can be accessed at www.arcgis.com. Data can be added in two ways: uploading files and publishing content.

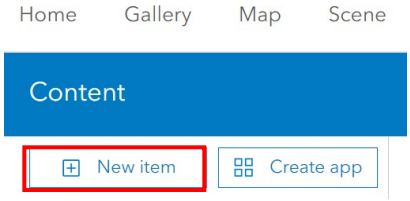
I. Uploading files:



a. If you already have data that you want to upload to ArcGIS Online, make sure it is in a folder that has been zipped first.

b. Go to www.arcgis.com and log in. Click on 'Your ArcGIS organization's URL' and type in 'dartmouth'. Click through until you see the netID login and authenticate with Duo.

c. After logging in, you should see the Dartmouth home page. Click on 'Content' from the upper menu. This page holds all the files you upload or publish in ArcGIS Online, including feature layers (ArcGIS Online vector data format), maps, and more.



d. Click on the + New Item button at the top left and select the zipped files you want to upload. Specify what type of data it will be (e.g. feature layer for vector data). Follow the window prompts to give it a reasonable name, summary/tags, etc.

e. Note: if you want to create an empty dataset, you can use similar steps but scroll down to specify that you want to create a new feature layer rather than uploading existing files.

f. Your dataset should be published as a feature layer, which can be viewed through your Content page.

II. Publishing Data from ArcGIS Pro

a. If you have already been working with data in ArcGIS Pro, it can be easier to just publish the layer to the web. Right-click on your data layer's name in the Contents pane and go to Sharing → Share as Web Layer.

g. In the sharing panel that pops up on the right, name your layer and provide a short summary and relevant tags based on the goals of our project. Keep the Layer Type as Feature (if vector) and set the location as either your root folder (*yournetid_Dartmouth (root)* in drop-down menu), a pre-existing group, or create a new folder and store it there. Check the share level- if you want people other than yourself to view your data, make sure to check the box

for ‘Organization’ or ‘Public’.

h. Click the Analyze button. If you get any errors or warnings, look for solutions in the box on the next page. Otherwise click publish, and you should see confirmation at the bottom of the Share as Web Layer pane.

If you see errors/warnings…

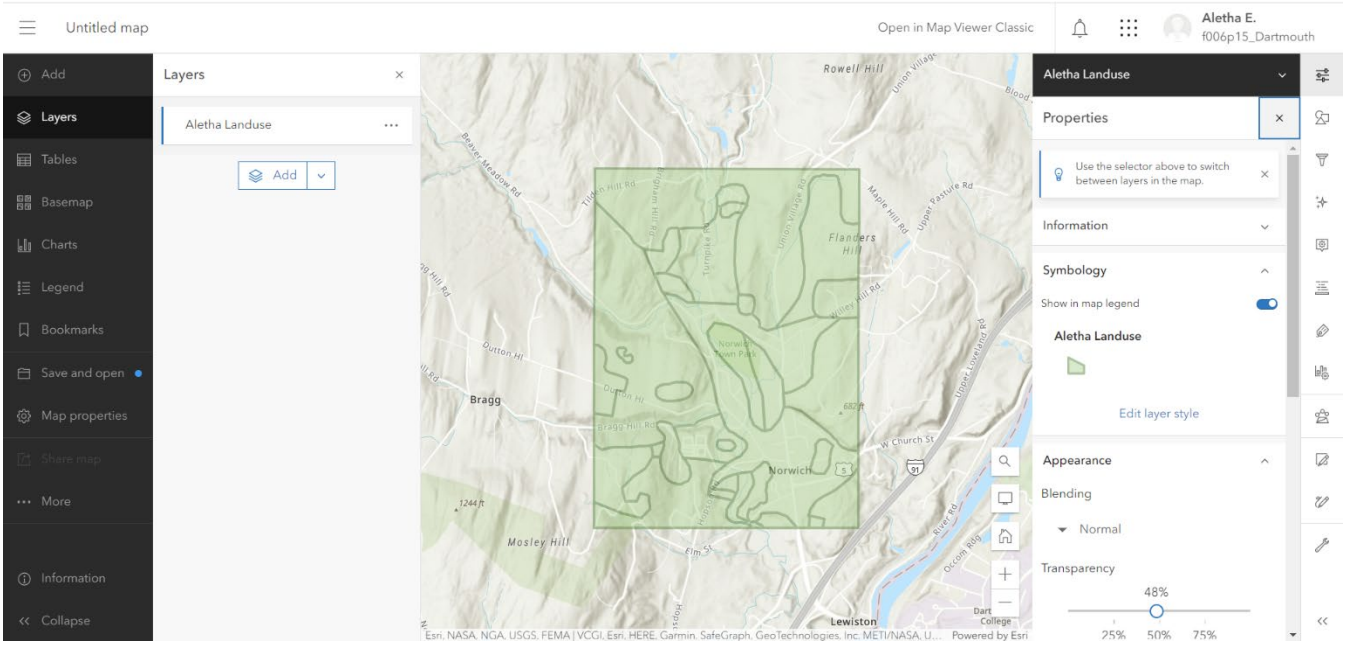
If you see an error code saying something like ‘Unique numeric IDs are not assigned’, this is normal. Right click on the error message in the window and select the option ‘Auto-assign IDs sequentially’. The error should be replaced with a green check mark.

You can ignore the warnings that say the “Layer’s data source is not supported” as these pertain to basemap layers if you have not completely removed them from your map.

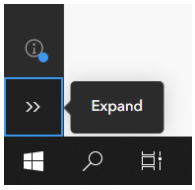
If you see another error complaining that the field used to display data is Shape_Length, right-click on the dataset specified by the error in the Contents pane and go to Properties → Display properties. In the drop-down menu, change the option from Shape_Length to ID or FID or OBJECTID. The error should then be replaced by a green check mark.

3. Make a Web Map in ArcGIS Online

a. On the ArcGIS Online website, click on the Map tab at the top to open a new blank map in Map Viewer. The interface for your map should look something like this:

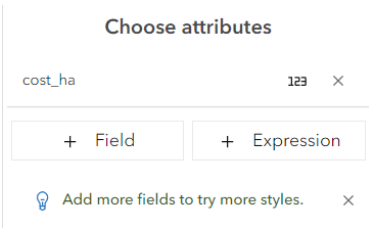


b. There are some similar elements to ArcGIS Pro: on the left, you can see the contents of data within your map (labeled Layers). On the right, you can see your data layer's properties and symbology. On the left side of the web page, there is a toolbar with different icons. You can expand the toolbar to include definitions of what these icons mean: at the bottom of the left toolbar, click on the Expand button.

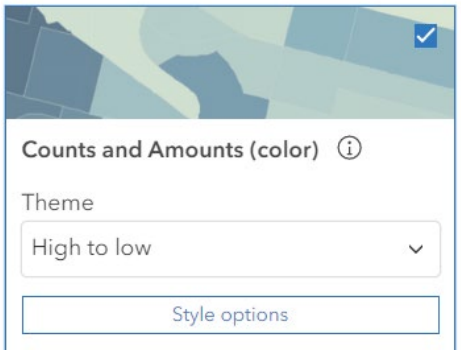


c. Next, make some changes to the map's appearance. In the left toolbar, click on Basemap to open the basemap gallery. These are the same basemaps available in ArcGIS Pro- pick one that you think would be useful for your purpose.

d. Click on the Properties icon in the toolbar at right (note that if you hover your cursor over the icon, it will tell you its name, or you can expand this toolbar too at the bottom). Under the section labeled Symbology, click on Edit layer style. You can choose specific fields in the attribute table to display on the map. If you wanted to create a map of population density, for example, you should pick the field in your table that corresponds with these values.



e. You can also pick a map style. If trying to create a map showing different values of polygons, it will be best to display this information as graduated color as shown at left (also called a **choropleth map**). Click on Style options and Symbol Style to select different fill color ramps. Choose a color scheme that seems most appropriate to represent this information. You might want some fill transparency to see the basemap with place names underneath. Click around and experiment with the different options available in ArcGIS Online- you will definitely not break anything in this interface! Once finished, you can click on the legend tab from the left toolbar to view the what the different colors mean.

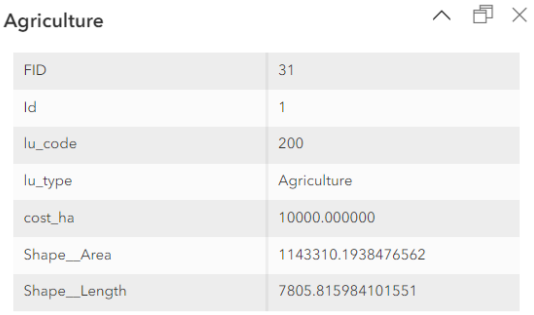


f. To convey information, you might also want to label the polygons according to some field. Click on the labels icon and add a label class. Make sure the field is set to name of the column with values you want to label. You can click on Edit label style to change font, size, or color if you would like. Note that if your font is too large, ArcGIS Online will hide some of the labels for smaller polygons, so you might play around with sizing until you can see most/all of the labels.

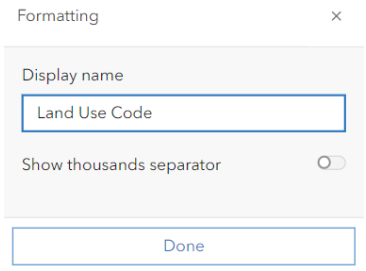
Note: ArcGIS Online can sometimes label a polygon in the wrong place (e.g. showing up in an adjacent polygon rather than the correct one). If this happens to you, don't worry about fixing it- the web GIS is not advanced enough for us to edit individual label's placements.

g. Click on the popups icon next to open the pop-up formatting pane. In ArcGIS Online (and ArcGIS Pro too), when you click on data in the map canvas, a pop-up window will appear with information about the attributes.

h. The default pop-up will look similar to the screenshot at right. Information in it might make sense to you, since you generally know what the different field names in the attribute table mean. But other people will not understand this, so we can change how it is displayed.



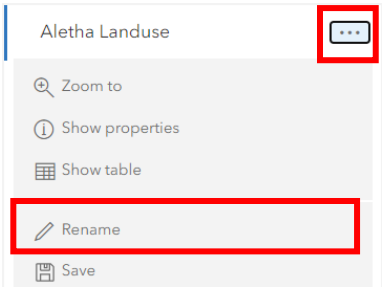
i. From the toolbar at right, click on the **Fields** icon. You will see a list of all fields in your dataset. Click on the desired field name so that the formatting window comes up. Change the Display name to something that is easier to understand (without mysterious acronyms, underscores, etc.). Click done, then do the same for any other field you want to include in the pop-up. For fields that give a quantitative number, you will want to include units in the display name ($, %, etc.). Toggle the button Show thousands separator to make it easier to read. You will also want to limit the number of significant digits- usually around 2 is best practice.



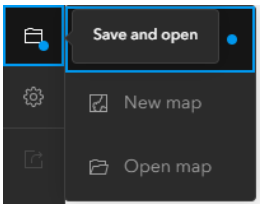
j. Open the **Pop-Up** formatting window again (different button than Fields!). Within pop-ups, click on Fields list to expand the list of fields shown. Some of these contain unnecessary information, so can be removed. Click the X to the right of unnecessary fields to remove them. You can also change the order fields are displayed in the pop-ups by clicking on the grid to the left of the field-name, then dragging the fields up or down.

k. Make sure your pop-ups work by clicking on different features on the map and seeing how the information changes. Your pop-up text should now make sense to people who are not familiar with GIS.

l. Lastly, change the display name for the data layer and map itself. Click on the Layers tab from the dark left toolbar, then click on the three dots to the right of your data layer. Select rename, and give the layer a name that makes sense to you. This will only change the name in your map- not the underlying dataset saved to ArcGIS Online.



m. Save your map by clicking on the folder icon in the left toolbar 'Save and open', then Save As. Give it an intuitive name for your purposes.



n. Click on Share Map from the left toolbar. Change the sharing level to Organization, meaning that anyone with a Dartmouth organizational account can see it. If you are sharing data with a group, under 'Set Group Sharing', click on 'Edit Group Sharing'. Check the box and then OK.