Activity 1:
Creating Your Own Map – Hawaiian Volcanoes

In this activity, you'll start a new map and then add the layers you need.

Every new map starts with a basemap. In an ArcGIS Online organization, the administrator chooses the default basemap and sets its extent. For our organization, the default basemap is the Topographic basemap and its default extent is the contiguous United States.

Creating a new map

1. <u>If you are not logged in and on the map page</u>: Sign in to your ArcGIS Online account, and click Map at the top of the screen.

   Home   Gallery   Map   Scene   Groups   My Content

   Then, hover over New Map in the upper right corner of the Map screen and select Create New Map. The new map opens to the United States.

   <u>If you are already logged in and on the map page</u>: Hover over the New Map button in the upper right corner of the Map screen and select Create New Map. The new map opens to the United States.

2. On the ribbon, in the 'Find address or place' box, type **Island of Hawaii**. In the list of suggested locations, choose Island of Hawaii, United States.

 | Island of Hawaii | ✕ ▾ 🔍 |
   | --- | --- |
   | Island of Hawai`i, United States | |
   | Cross Island Rd, Hilo, Hawaii, USA | |
   | Ford Island Way, Jbphh, Hawaii, USA | |
   | 96898, Wake Island, Hawaii, USA | |
   | Island Blvd, Ocean View, Hawaii, USA | |

   The map zooms to Hawaii.

3. Close the Location pop-up.

4. Zoom in on the island. If necessary, pan (drag) the map to center Hawaii in the view. Remember, you can hold down shift and draw a box to zoom in on a specific area.

5. When you save the map later in this activity, the map extent at the time of saving will become the extent used by the Default extent button. It can also be useful to add spatial bookmarks to navigate to particular map locations.
    o   On the ribbon, click Bookmarks. In the Bookmarked places list, click Add Bookmark.
    o   Type **Island of Hawaii** and press Enter.
    o   Close the list of bookmarked places.

6. At the top of the side pane, click the Content button. Right now, the only layer you have is the basemap.

Adding layers to the map

You're ready to start adding layers to the basemap.
1. On the ribbon, click the Add button and choose Search for Layers.
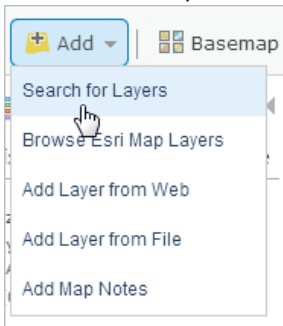

   In the Search for Layers pane, a default list of search results appears. You see layers that are shared with the organization and that have some geography in common with your map view.

2. Click the drop-down box next to In and choose ArcGIS Online.
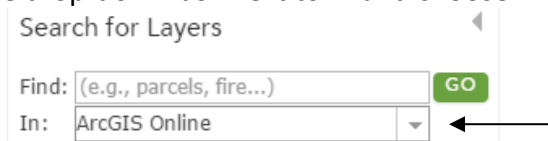
3. In the Find box, type **Hawaii**. To limit the search results to layers owned by the Learn ArcGIS administrator account, type **owner:Learn_ArcGIS** (making sure to use capital letters) in the Find box and click Go.
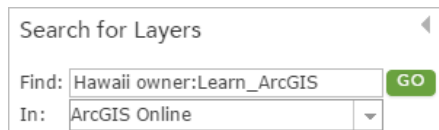
   The search results are narrowed to a more relevant list.

4. In the list of results, locate **HawaiiTerrain** by Learn_ArcGIS. Click Add to add the layer to the map.

6 Results Found

HawaiiTerrain
by Learn_ArcGIS   Add
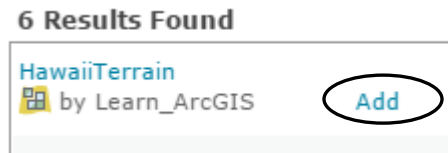
Then, in the same way, add the following layers from the search results to the map in this order:
   o   Volcanoes
   o   Hawaii Lava Flow Hazard Zones
   o   Hawaii Island Major Highways

5. At the bottom of the Search for Layers pane, click the Done Adding Layers button.

The layers are drawn, with their default symbols, in the order in which they were loaded into the map. This is usually, but not always, the same order in which you add them. You can't see the volcanoes on the map right now because they are underneath the lava flow hazard zones.

Setting layer properties

In this section, you'll change some of the properties of the layers. You'll give them shorter names, change their position in the list of layers, add labels, and adjust transparency. Layer properties are always accessed in the same way: by hovering over the layer name and clicking on the Change Style button or the ellipses (…) for More Options.

Volcanoes

Change Style   More Options
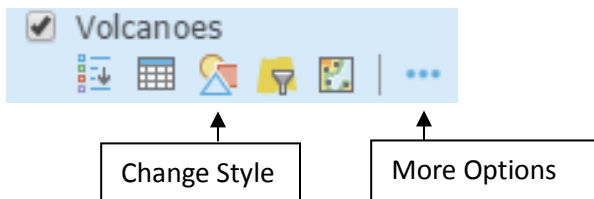
1. In the Contents pane, hover over the Hawaii Island Major Highways layer, click More Options, and choose Rename.

2. In the Rename dialog box, change the layer name to **Highways** and click OK.

   o   In the same way, rename the Hawaii Lava Flow Hazard Zones layer to **Lava Flow Hazard Zones**.
   o   Rename the HawaiiTerrain layer to **Terrain**.

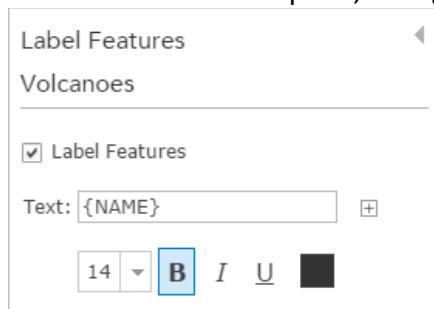3. Click on More Options for the Volcanoes layer and click Move up.

   The layer moves up one position, above the Lava Flow Hazard Zones layer. The volcanoes are now visible on the map.

4. Move the Volcanoes layer up again. It should now be at the top of the list.

   The usual practice is to put points (such as volcanoes) above lines, and lines (such as highways) above polygons. Points, lines, and polygons are all underline feature layers meaning that they usually represent discrete geographic objects that have more or less precise locations and boundaries.

   The Terrain layer, however, like the Topographic basemap, is a tile layer. Tile layers are images and cannot be manipulated in the same ways as feature layers. They typically represent large, continuous surfaces rather than discrete objects. Tile layers cannot be moved above feature layers in a map.

5. Click on More Options for the Volcanoes layer and choose Create Labels. Each volcano is labeled with its name. Notice that this menu gives you the ability to customize those labels.
   - In the Label Features pane, change the label size from 13 to 14 and click OK.

6. Click on More Options for the Lava Flow Hazard Zones layer and choose Transparency. Use the transparency slider to make the layer more transparent. Your goal is to be able to see the terrain and the Lava Flow Hazard Zones at the same time.
   - In the same way, make the Highways layer a little more transparent.

Before continuing to the next section, take some time to become familiar with the volcanoes and lava flow hazard zones on your map. Remember, you can click on features to get more information. In some cases, you can also click on the More info link or on the photo itself to see an annotated photo.

Click here
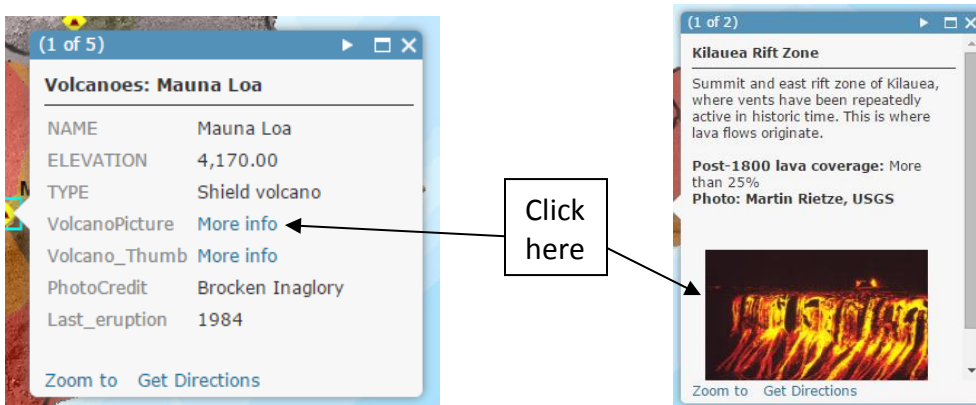
From http://www.nps.gov/havo/faqs.htm:

> **"Volcanoes that will never erupt again are considered extinct. Dormant volcanoes have not erupted in historic time (the last 200 years in Hawai`i) but probably will erupt again. Active volcanoes have erupted in historical time (the last 200 years in Hawai`i)."**

After becoming familiar with the features on your map, answer the following questions. Which of the five volcanoes shown on your map are:
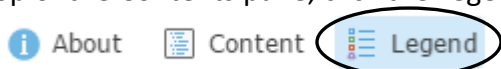
Active? _____

Dormant? _____

Editing the map legend

When you start a new map, or open a saved map of your own, it opens with the Contents pane showing. When anyone else opens your map, however, it opens with the Legend pane showing. You should think about how you want the legend to look.

1. At the top of the Contents pane, click the Legend button.

   Legend entries are created for all layers except the basemap. The entry for the Terrain layer (which shows grayscale values) is not useful for interpreting the map, so we can remove it from the legend.

2. At the top of the left side pane, click the Content button to view the contents once again.

3. Click on More Options for the Terrain layer and choose Hide in Legend.

   You can view the Legend pane again to see the effect, and then go back to the Contents pane.

Changing a symbol

You were able to create a nice looking map without too much effort because the symbols, such as yellow diamonds for volcanoes and shades of red and orange for hazard zones, were already set when you added the layers. A layer's default display settings, including its style and pop-up configuration, are made by its owner. Once you add a layer to your own map, however, you're free to change those settings.

1. Hover over the Highways layer and click on the Change Style button.

   In the Change Style pane, the currently selected style is Location (Single symbol), indicated by the check mark. In this style, all features in the layer are drawn with the same symbol. The Location style is appropriate when you want to see the features on the map but you're not interested in their more particular characteristics, such as names or speed limits.

2. Under Select a drawing style, click the Options button for the Location (Single symbol) drawing style.
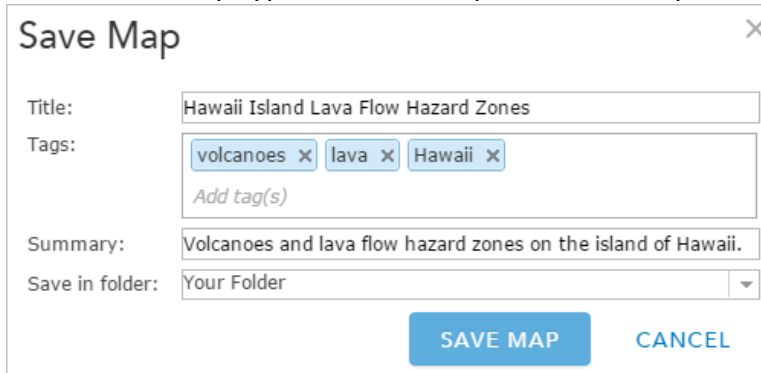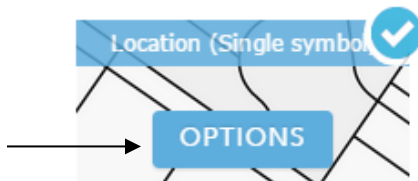

3. Under Showing Location Only, click Symbols to change the symbol.

4. On the color palette, choose a color that you think will look good and click OK. The new color is applied to the map. (If you don't like it, click Symbols again to open the color palette and choose a different color.)

5. At the bottom of the Change Style pane, click OK and click Done.

Saving the map

1. On the ribbon bar above the map, click the Save button and choose Save.

2. In the Save Map window, type **Hawaii Island Lava Flow Hazard Zones** in the Title box.

3. For the tags, type words that will help people find the map through searches. After each tag, press Enter.

4. For the summary, type a brief description of the map's content.

5. Click the Save Map button. The map is now saved to your My Content page in the organization.

Editing the item details in the 'My Content' view

Finally, you'll look at the map on your My Content page and add a description to it.

1. In the upper left corner of the screen, point to the Home button and choose My Content.
   On your My Content page, the map is listed by its name and other details.

2. Point to the small drop-down arrow next to the map title and choose View item details.
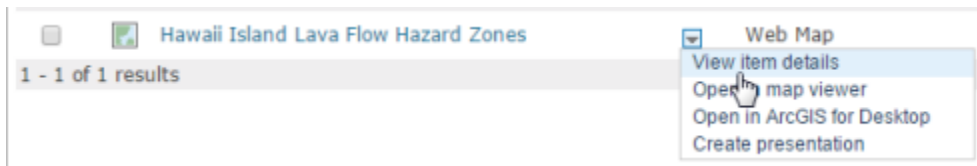
The item details page contains information about your map. It also lets you share the map with others.

3. On the item details page, click the Edit button.

4. In the Description box, type the following text:

The classification of lava flow hazard zones on the island of Hawaii was made by the United States Geological Survey in 1974. The risk levels are based on the location and frequency of historic eruptions.

5. Scroll to the bottom of the page and click Save.