



## **Get Started with ArcGIS Online**

<http://learn.arcgis.com/en/projects/get-started-with-arcgis-online/>

# Get Started with ArcGIS Online

## Overview

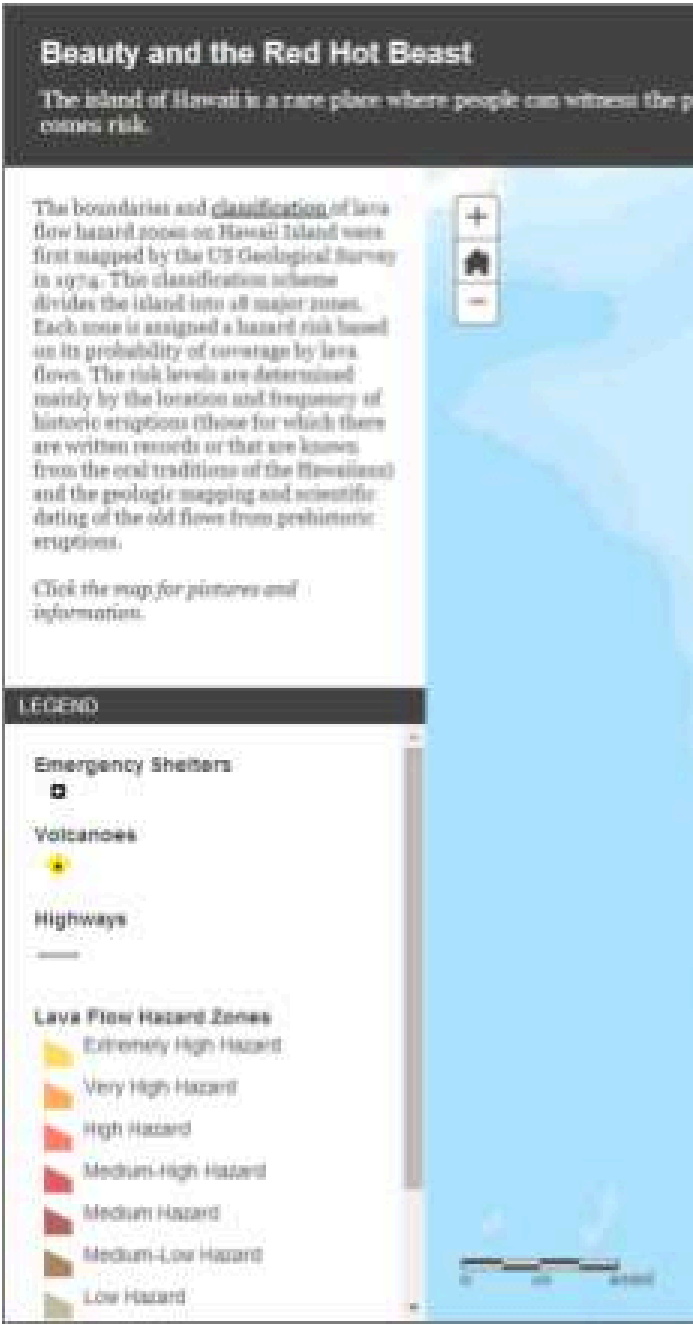
In these five lessons, you'll get to spend some time on the island of Hawaii—you'll be learning how to make maps in ArcGIS Online while everyone else is at the beach. Oh well, it could be worse. You'll get acquainted with the island's volcanoes and geology as you explore a map, make your own map, and work with its symbols and pop-ups. You'll turn table data from a CSV file into spatial information, and you'll package a web map as a professional-looking application.

### Build skills in these areas:

- Adding layers to a map
- Adding data stored as spreadsheet or file data to a map
- Changing map symbols
- Configuring pop-ups
- Sharing the map as a web application

### What you need:

- ArcGIS Online
- Membership in the [LearnGIS organization](#)
- Estimated time: 2 hours 30 minutes



[View the map](#)

## Lessons

Title	Description	Time
<a href="#">Explore a map</a>	Learn about volcanoes and lava flow risk on the island of Hawaii.	15 minutes
<a href="#">Create a map</a>	Make your own map by adding layers to a basemap.	30 minutes
<a href="#">Add a layer from a CSV file</a>	Turn a table of address information into spatial data in your web map.	30 minutes
<a href="#">Configure pop-ups</a>	Configure pop-ups to make your map features informative.	45 minutes
<a href="#">Make an app</a>	Present your map with a finished look and a nice user experience.	30 minutes

# Explore a map

In this lesson, you'll open a web map and learn how to navigate and work with it using map tools as you explore volcanoes and the risk of lava flow on the island of Hawaii.

## Open the map

You'll start by opening a map of lava flow hazard zones on the island of Hawaii.

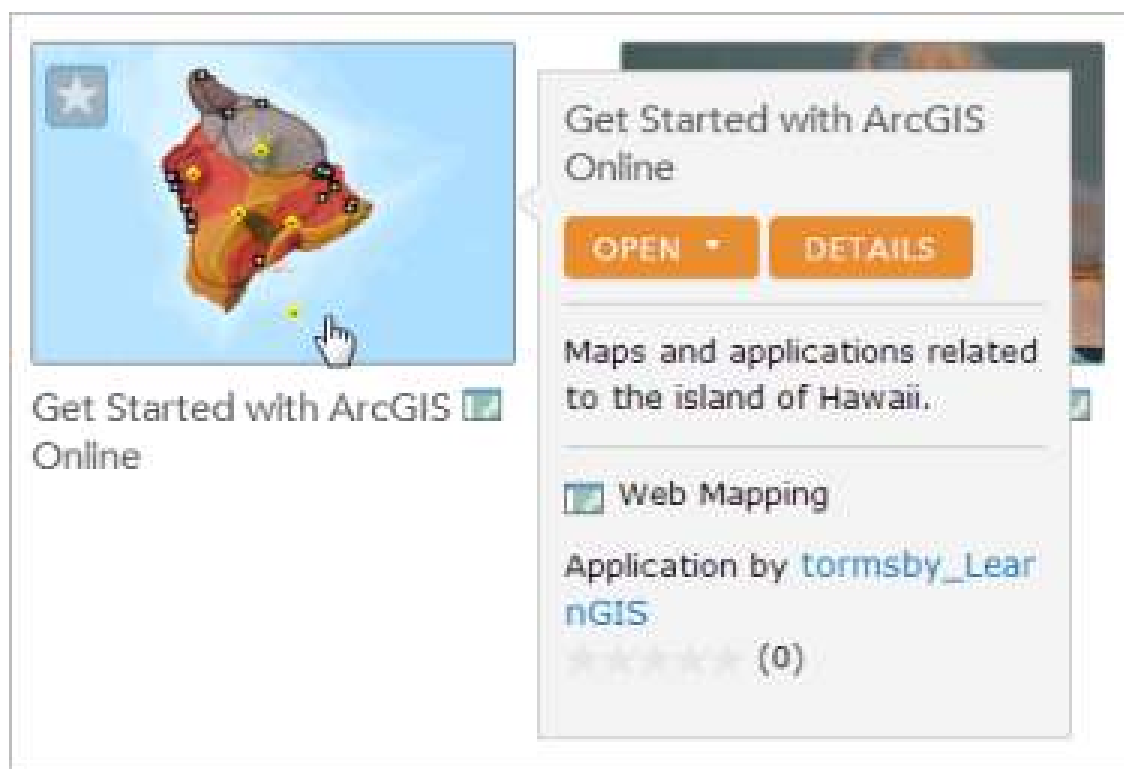
- 1 Sign in to the [LearnGIS organization account](#).

**Tip** Learn more about [signing in](#).

- 2 At the top of the page, click Gallery.

The gallery displays the organization's featured content. In the LearnGIS organization, these are project-related collections of maps chosen by the organization administrator.

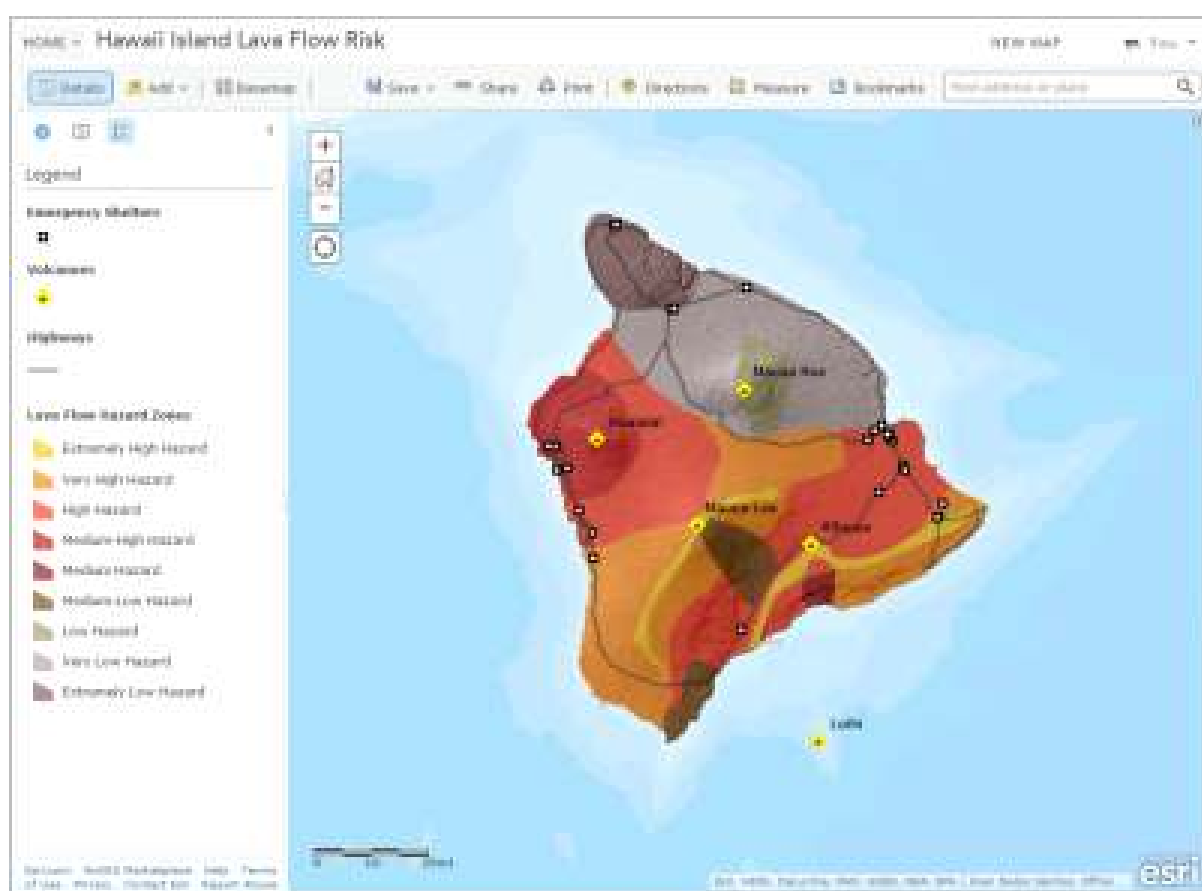
- 3 On the Gallery page, click the thumbnail image for Get Started with ArcGIS Online to open its collection of maps and data.



- 4 In the collection, click the Hawaii Island Lava Flow Risk map to open it.



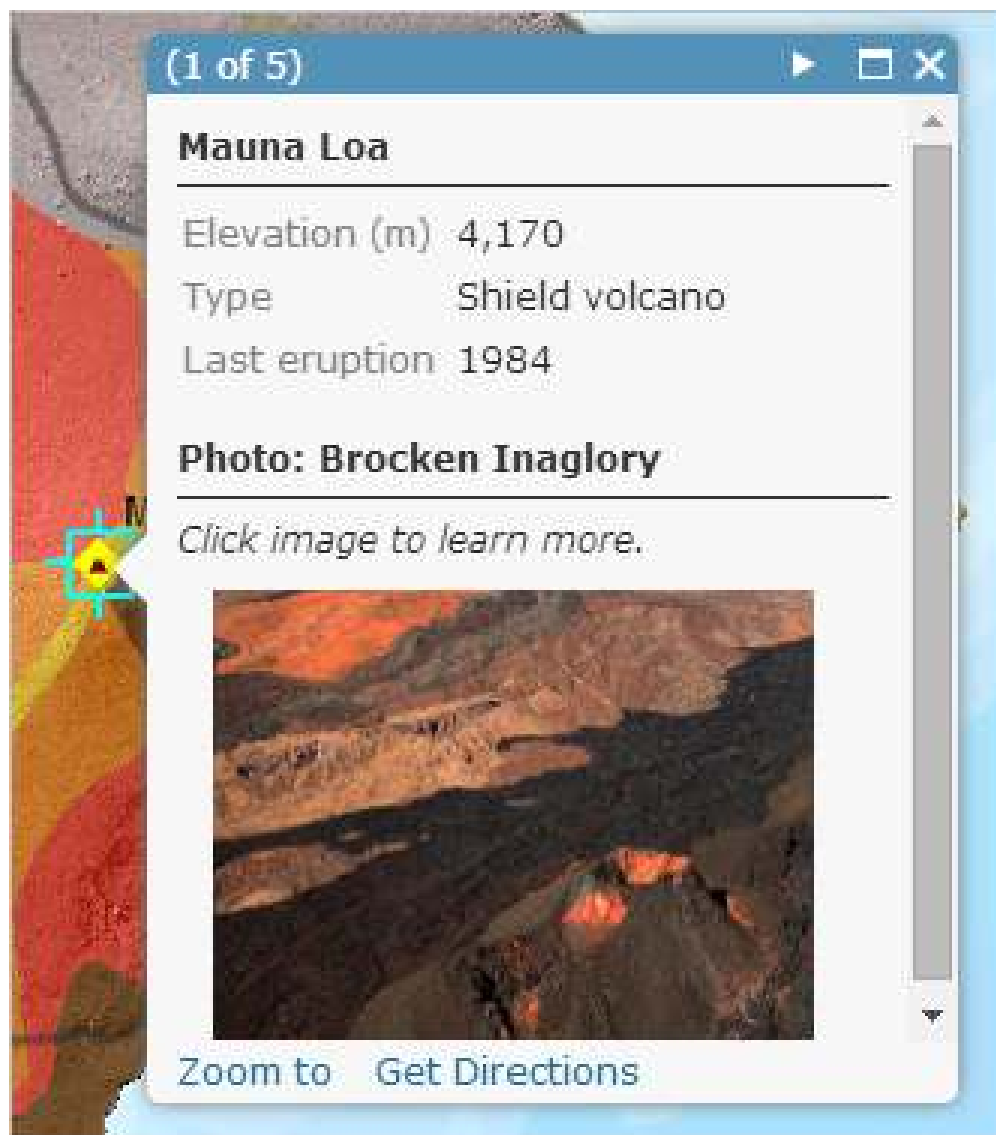
The map opens to show the island of Hawaii. Instead of beaches and greenery, you see a geologic classification of the island into lava flow hazard zones of different severity. The map also shows volcanoes, emergency shelters, and highways.



## Explore the map

The map is made of layers, and layers consist of features. For example, each volcano is a feature in the Volcanoes layer. In this section, you'll get information about features and navigate the map.

- 1 Click a volcano on the map, such as Mauna Loa.



Mauna Loa, which last erupted in 1984, is one of the three active volcanoes on the island. (Mauna Kea is extinct.)

- 2 Click the thumbnail image on the pop-up.

A large, captioned version of the image opens in a new browser tab or window.

- 3 Close the tab or window with the detailed image.

- 4 At the bottom of the pop-up, click Zoom to. Close the pop-up by clicking the X in its title bar.

The map zooms in on the feature and you can see the terrain.

- 5 Click the Default Extent (Home) button in the upper left corner of the map.

- 6 Click a lava flow hazard zone.



Again, a pop-up opens with information about the feature and an image that links to a larger picture.

- 7 Close the browser tab with the detailed image and close the pop-up on the map.
- 8 On your own, learn more about the volcanoes, hazard zones, and emergency shelters. Use the map navigation tools or your mouse wheel to zoom in and out.

**Tip** Hold the Shift key and draw a box on the map to zoom in on a particular area.

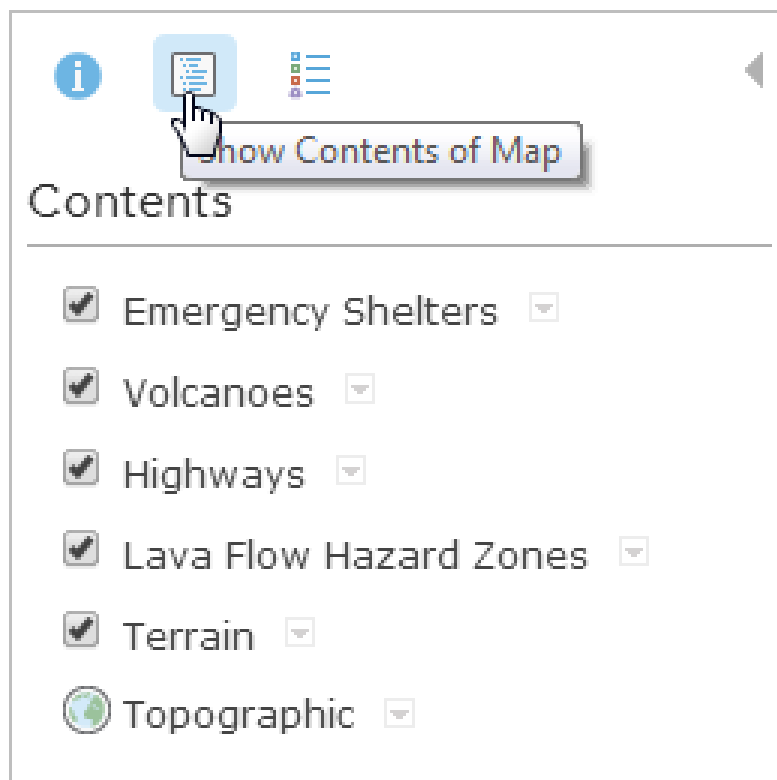
- 9 When you're finished, click the Default Extent button to return to a full view of the island.

Now that you know something about how the map works, you'll look at how it's put together.

## View the map contents

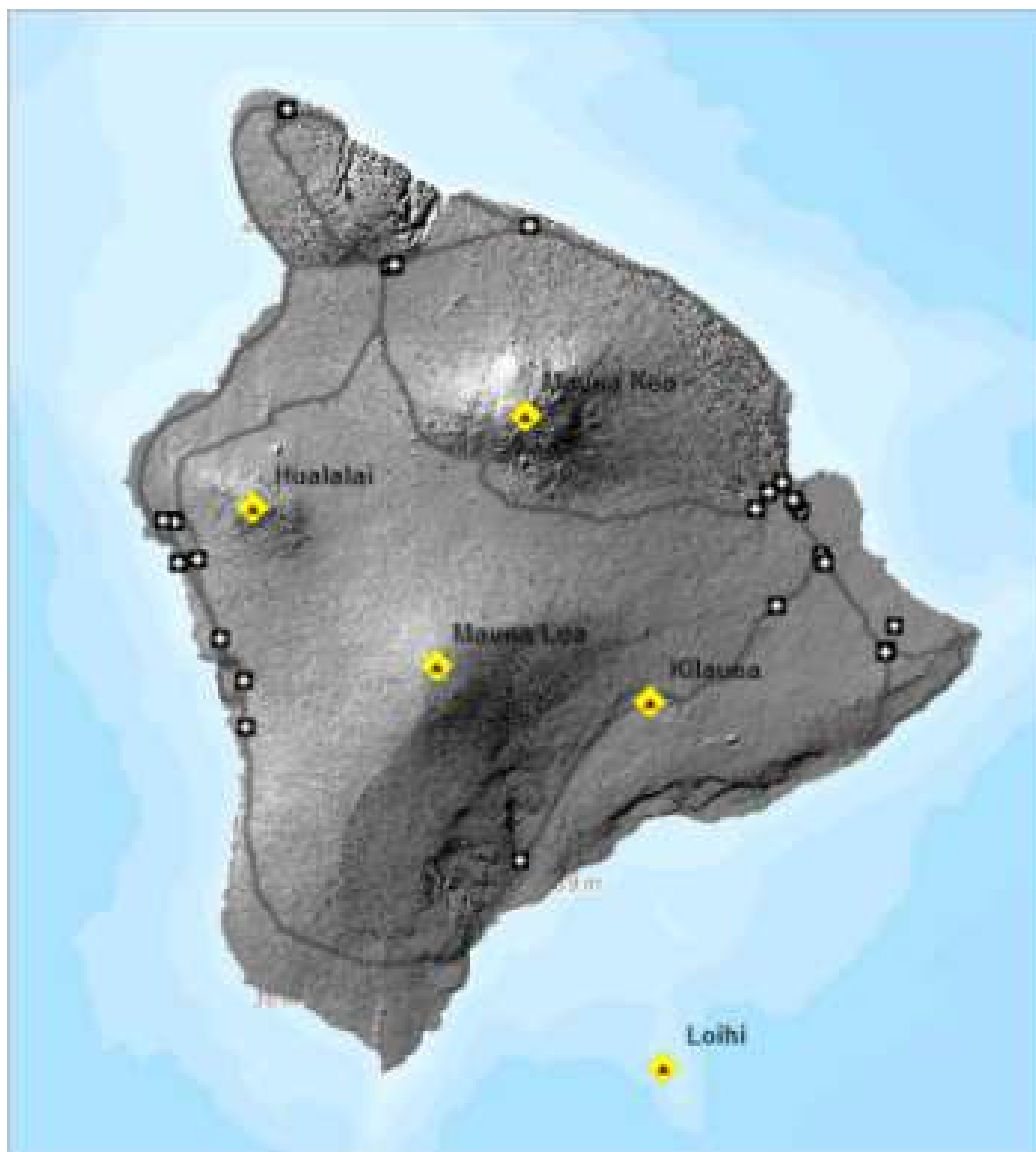
To work directly with the map layers, you have to switch to the Contents view of the map.

- 1 At the top of the side panel, click the Show Contents of Map button.



The order of layers on the Contents panel defines the order in which they are drawn on the map. At the bottom, every map has a basemap layer that covers the entire world. Every layer, except the basemap, can be turned on or off.

- 2 On the Contents panel, click the check box next to the Lava Flow Hazard Zones layer to turn the layer off.



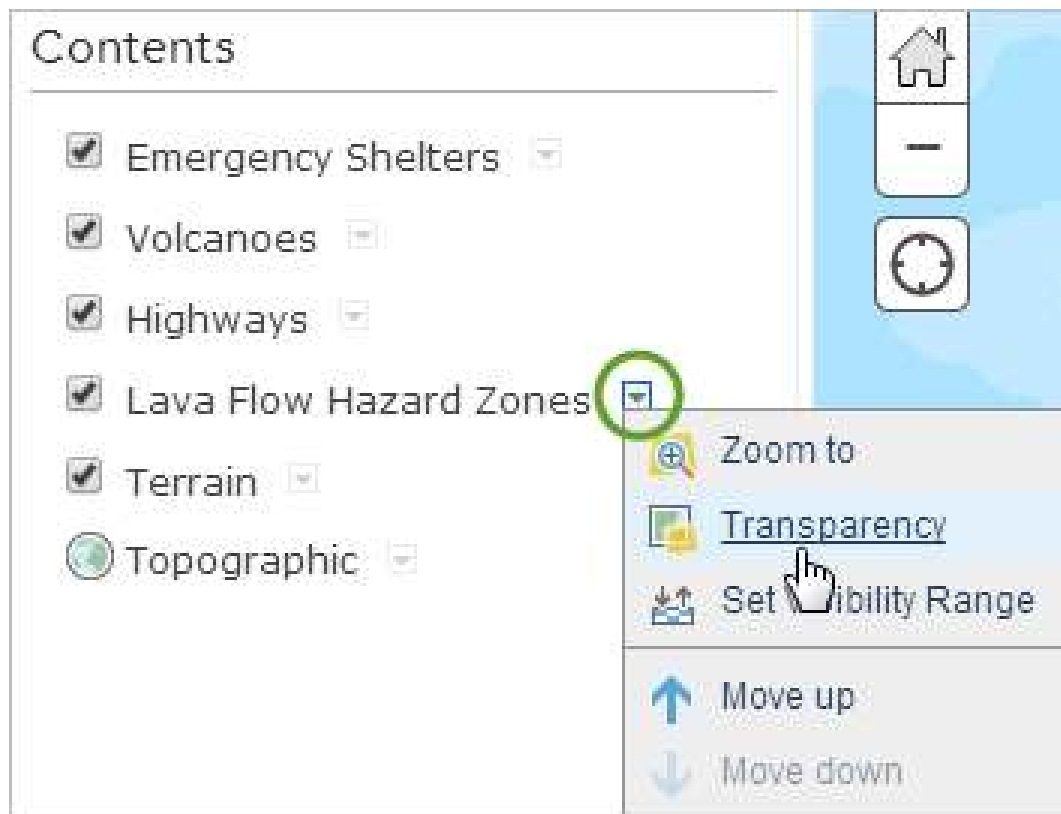
You see the Terrain layer underneath. (The Terrain layer was already partially visible because of a transparency setting on the Lava Flow Hazard Zones layer.)

- 3 Turn off the Terrain layer to see the Topographic basemap.

- 4 Turn both layers back on.

You can adjust the transparency of any layer.

- 5 Click the small drop-down arrow to the right of the Lava Flow Hazard Zones layer name and choose Transparency.



The layer is about 40 percent transparent.

- 6 Move the Transparency slider back and forth.

When the layer is completely opaque, the terrain is obscured. At the other extreme, the Lava Flow Hazard Zones layer is no longer visible.

- 7 Move the Transparency slider to a position you like. Move the mouse pointer over some white space on the Contents panel (and click if necessary) to close the layer properties.

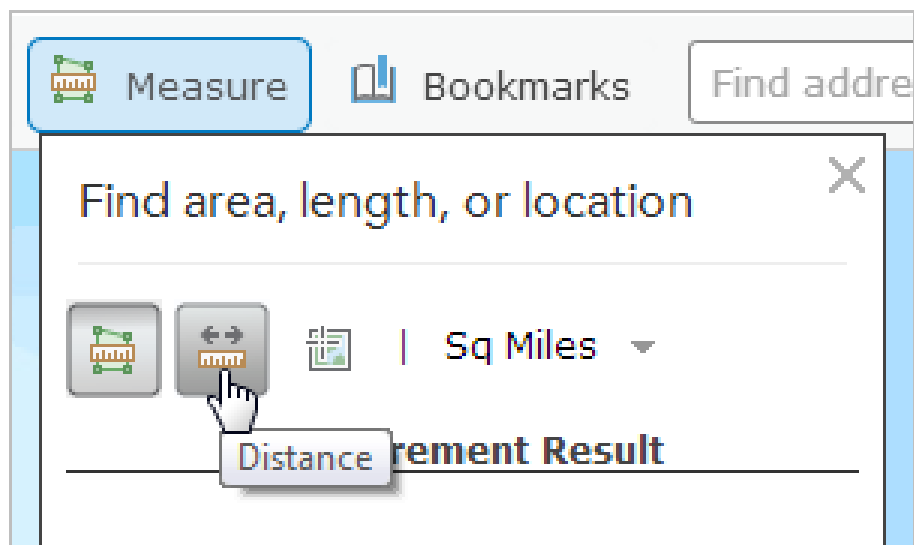
Now that you've explored the map, in the next lesson, you'll assemble the map yourself.

## Use map tools

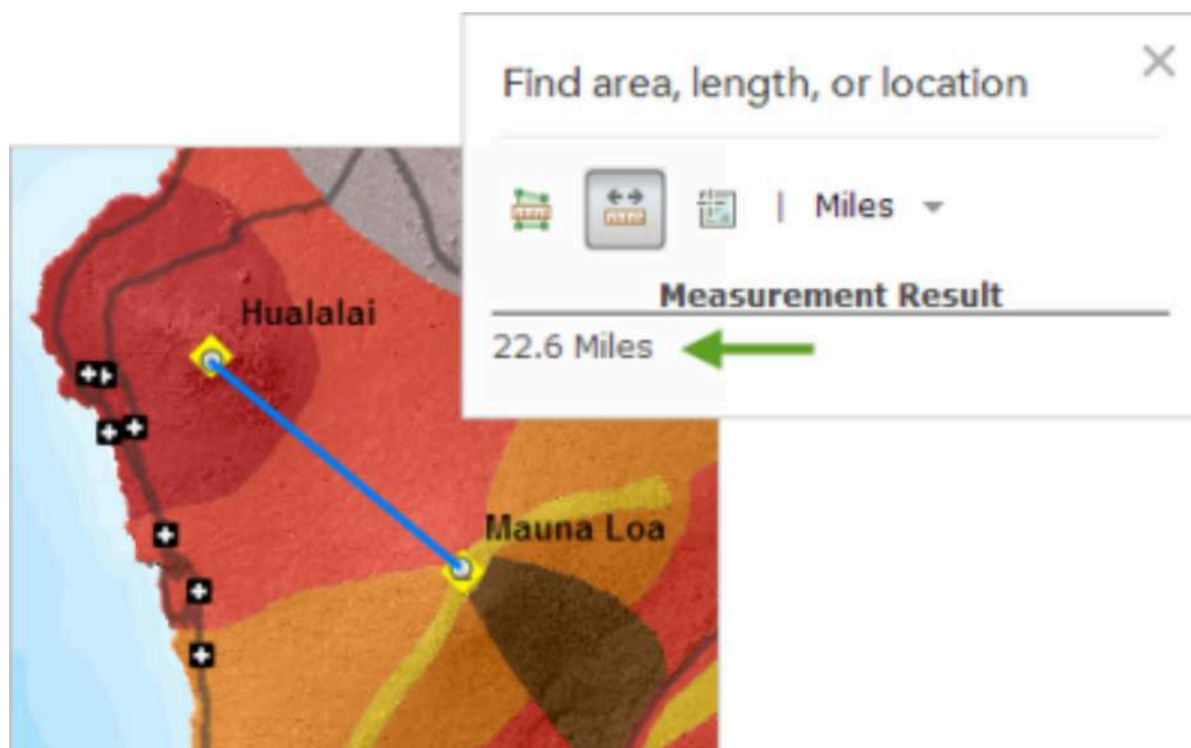
You can also work with the map using tools on the ribbon.

- 1 On the ribbon, click Measure and click the Distance tool.





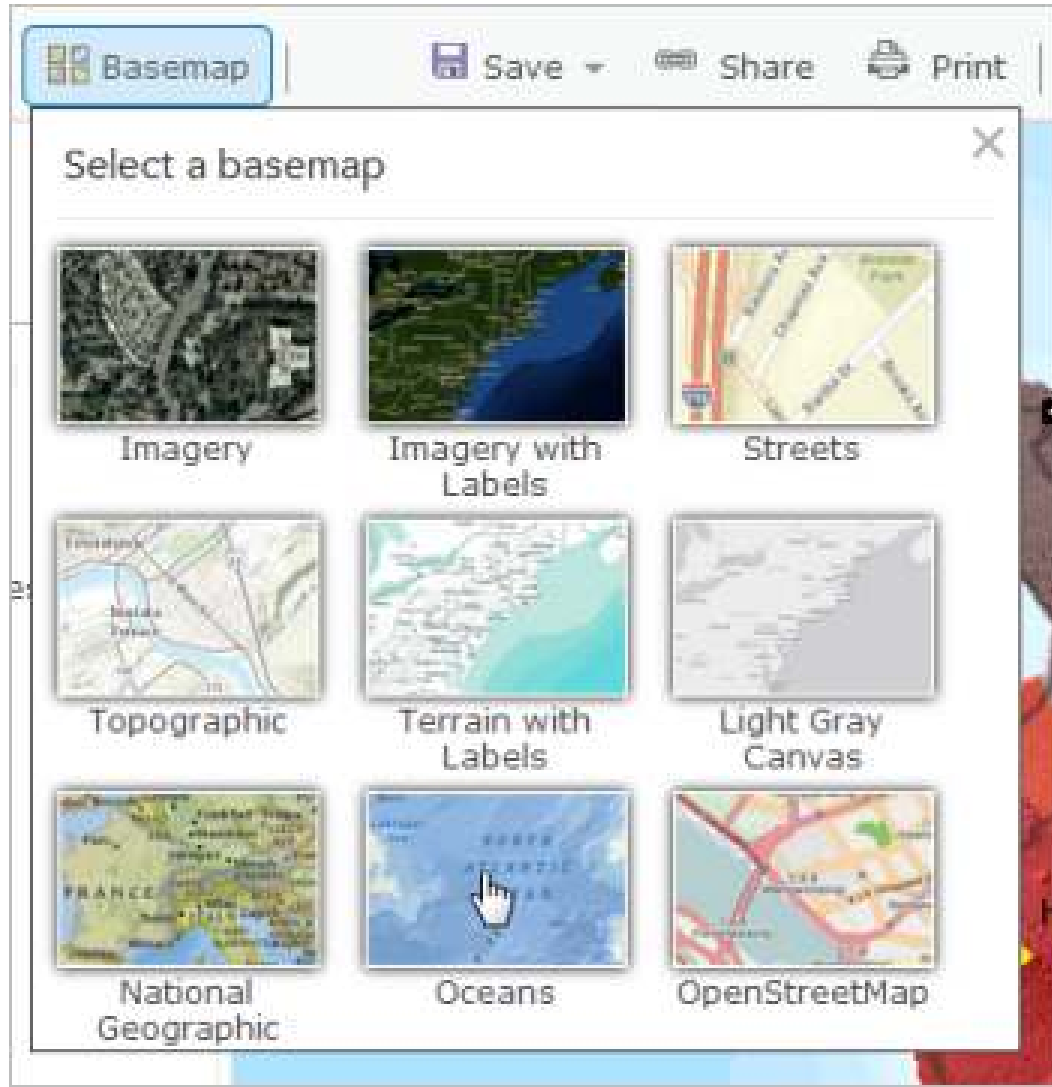
- 2 On the map, click on Mauna Loa to start a measurement.
- 3 Move the mouse pointer to another volcano, such as Hualalai, and double-click to end the measurement.



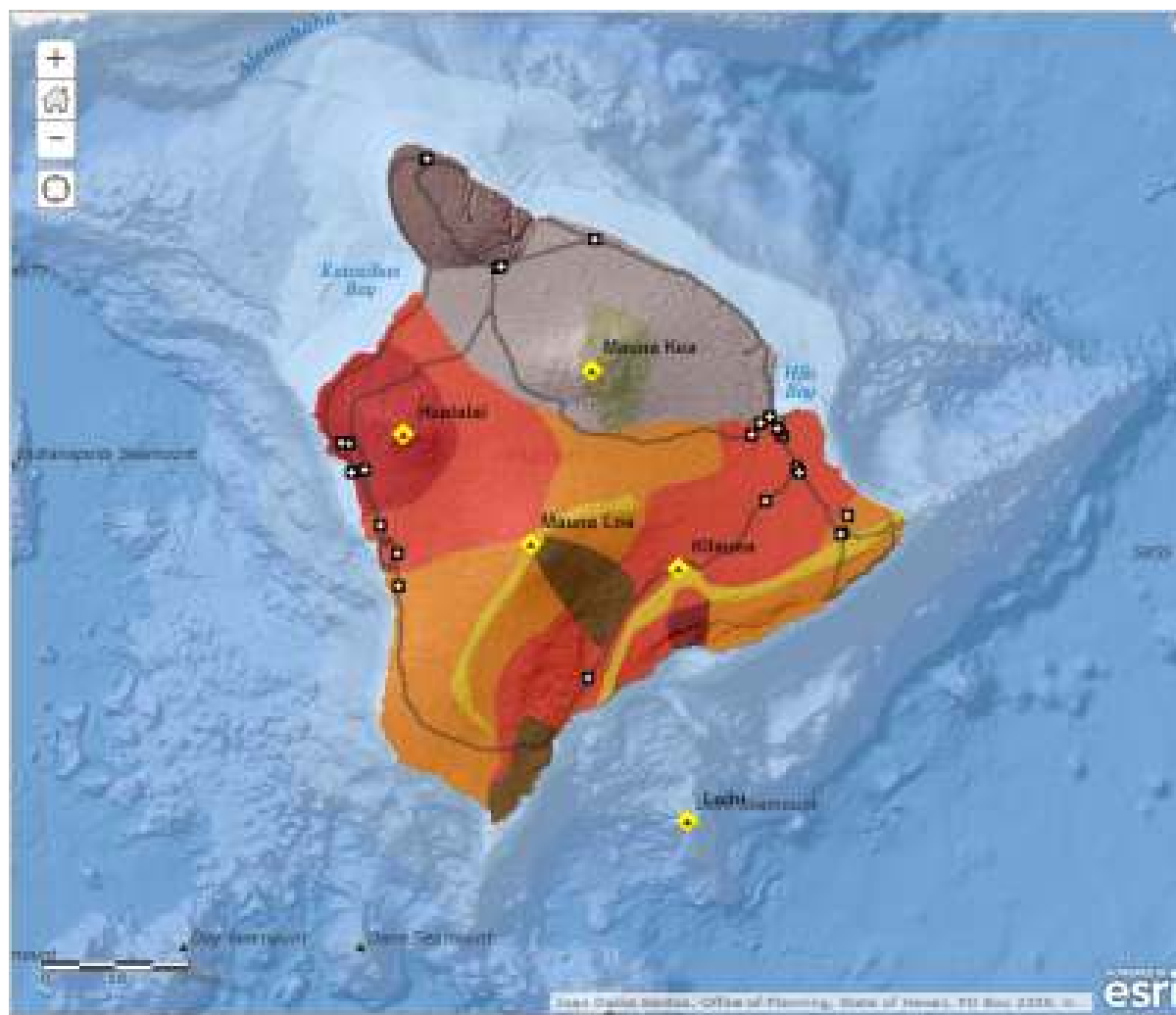
- 4 Make a few more measurements. When you're finished, click the X in the upper right corner of the Find area, length, or location box.

**Tip** During a measurement, click once to change the direction of the line.

- 5 On the ribbon, click Basemap to open the Basemap Gallery. Click Oceans or another basemap.



The new basemap replaces the old basemap.



- 6 Change the basemap back to the Topographic basemap.

You can't save changes to a map that is owned by someone else, although, as long as the owner permits it, you can save a new version of the map as your own. It's more fun, however, to build your own map from the basemap up. That's what you'll do in the next lesson.

# Create a map

In this lesson, you'll recreate the map you explored in the previous lesson. You'll start a new map, 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. In this organization, new maps start with a topographic basemap zoomed to the extent of the contiguous United States.

When you start a new map, you'll see guided tours available on the Details panel to help you learn more about online mapping. Those tours aren't part of this lesson, but feel free to explore them whenever you want.

## Create a new map

- 1 If necessary, sign in to the [LearnGIS organization account](#).

**Tip** Learn more about [signing in](#).

- 2 If a map is open in your browser, click New Map in the upper right corner of the page. On the Open map prompt, click Yes to open the map. If you are on some other page of the LearnGIS organization, click Map at the top of the page.

**Note** The Map button will open the last map you were using—you can then click New Map. In a new ArcGIS Online session, the Map button will open a new map immediately.

The new map opens to the United States.

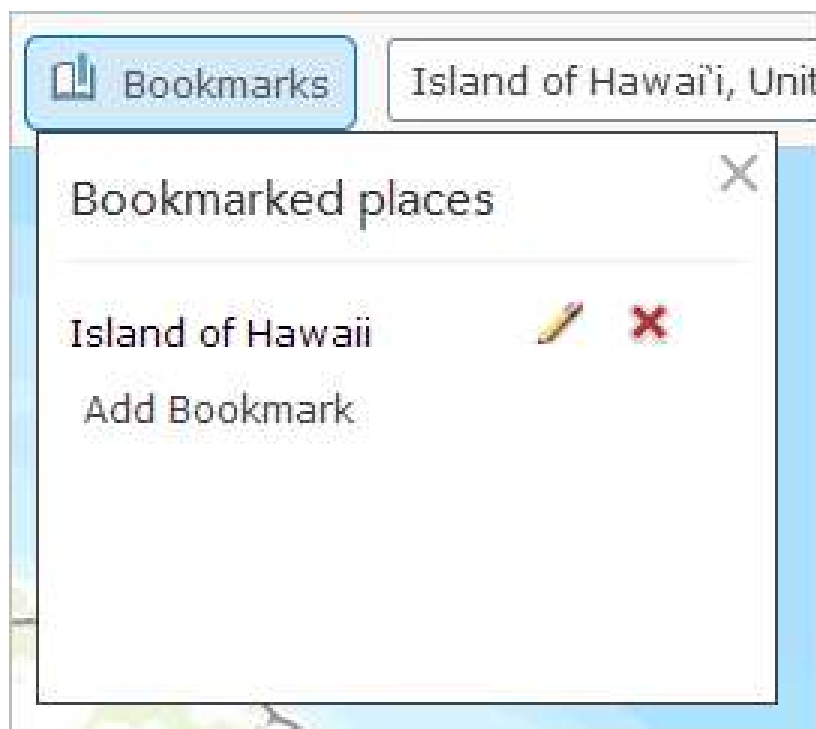


- Island of Hawaii
- Island of Hawai'i, United States
- Island of Hawaii, 2520 Kalakaua Ave, Hon...
- Island of Hawai'i, United States
- Hawaii Island Chamber of Commerce, 106 Kameha...
- Island Blvd, Hawaiian Ocean View, Hawaii, USA
- Cross Island Rd, Hilo, Hawaii, USA

- 
- A topographic map of Puerto Rico showing elevation contours and major locations. The map includes labels for various elevations in feet and meters, such as 400 m, 201 m, 3350 m, 4100 m, 3160 m, 2100 m, 1742 m, 2840 m, 1440 ft, 2037 m, 1000 m, 1000 m, 2073 m, 4164 m, 3081 m, 2028 m, 180 m, 720 m, 327 m, 114 m, 174 m, 700 m, and 20 m. Major locations marked include San Juan, Ponce, and the Puerto Rico Military Reservation. The map also shows the coastline and surrounding waters.

6 On the ribbon, click **Bookmarks**. In the **Bookmarked places** list, click **Add Bookmark**.

- 7 Type **Island of Hawaii** and press Enter.

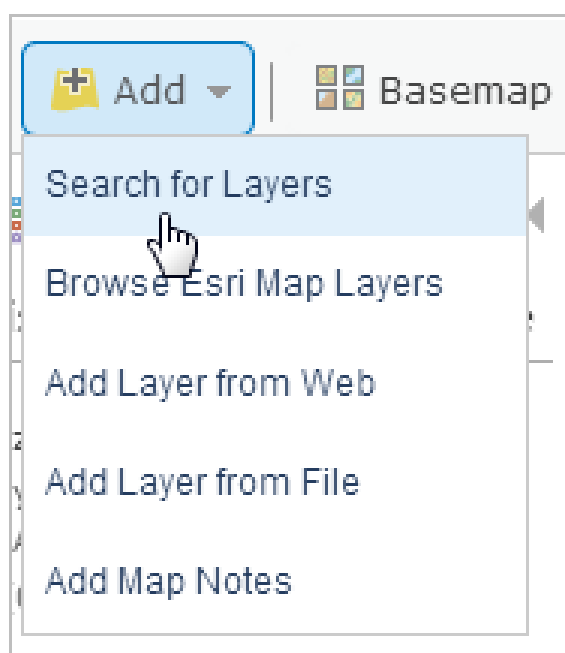


- 8 Close the list of bookmarked places.

## Add layers to the map

You're ready to start adding layers to the basemap. These layers have been created and shared by other data publishers in the LearnGIS organization.

- 1 On the ribbon, click the Add button and choose Search for Layers.



On the Search for Layers panel, 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 In the Find box, type **Hawaii** and click Go.

Search for Layers

Find:

In:  ▼

☒ Within map area

The search results are narrowed to a more relevant list.

- 3 In the list of results, locate HawaiiTerrain. Click Add to add the layer to the map.

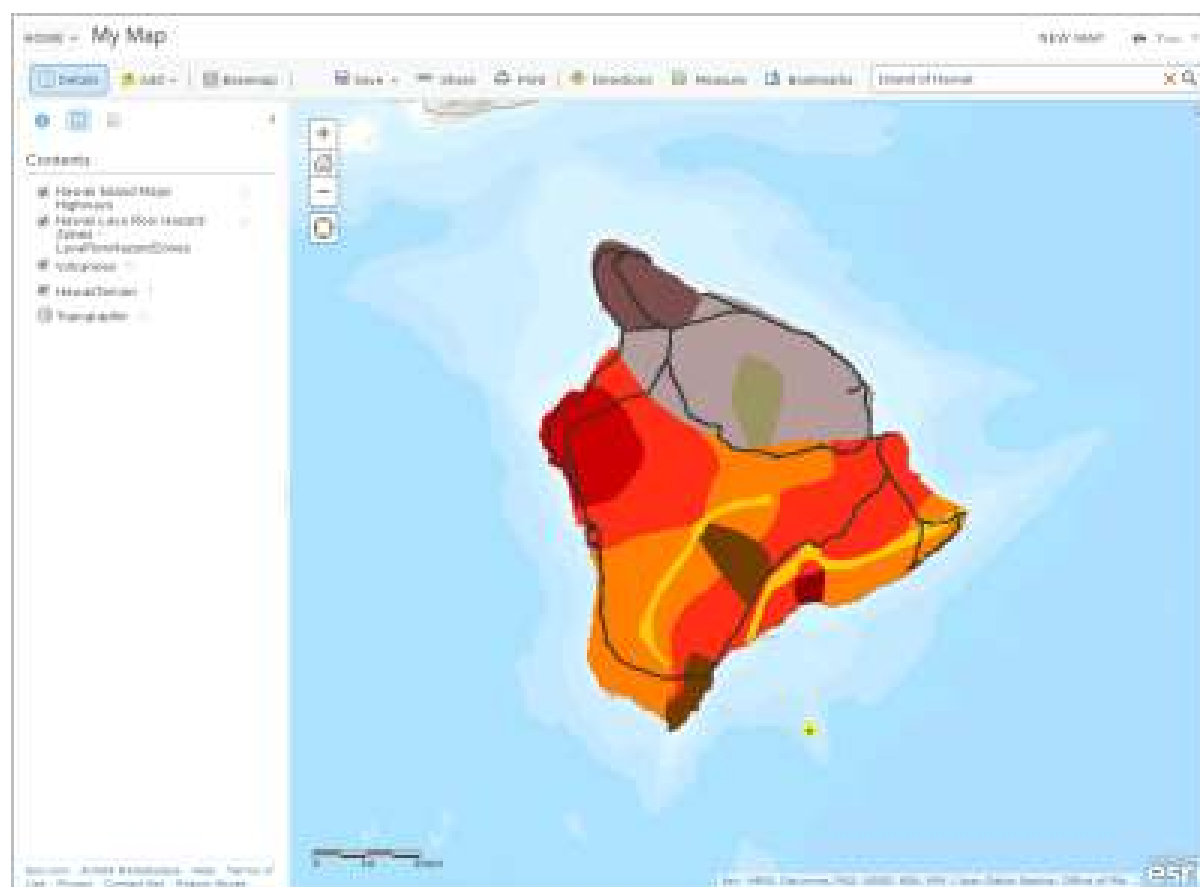
Hawaii Lava Flow Hazard Zones (Features) by tomsby_LearnGIS	Add
Volcanoes (Features) by tomsby_LearnGIS	Add
HawaiiTerrain by tomsby_LearnGIS	Add
Hawaii Emergency Shelters (Features) by tomsby_LearnGIS	Add

**Note** The layers available in the organization change, so your search results might look different.

- 4 In the same way, add the following layers from the search results to the map:

- Volcanoes (Features)
- Hawaii Lava Flow Hazard Zones (Features)
- Hawaii Island Major Highways (Features)

- 5 At the bottom of the Search for Layers panel, click Done Adding Layers.

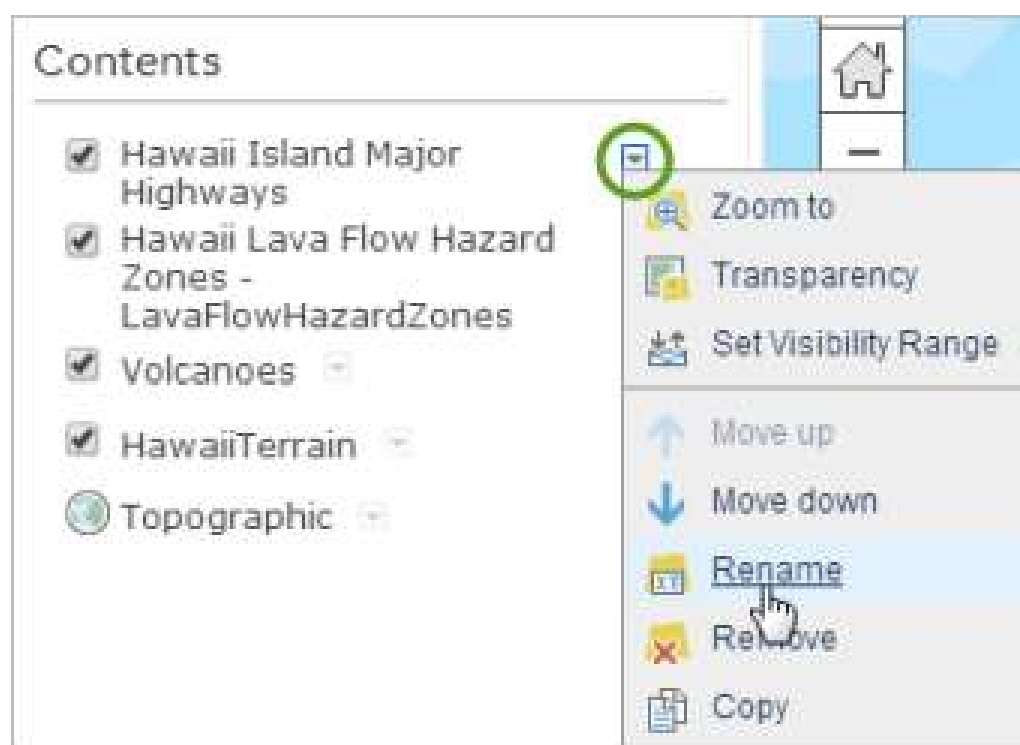


The layers are drawn, with their default symbols, in the order in which they were loaded into the map. (This is usually, but not always, the same order in which you add them.) You don't see the volcanoes on the map because they are underneath the lava flow hazard zones.

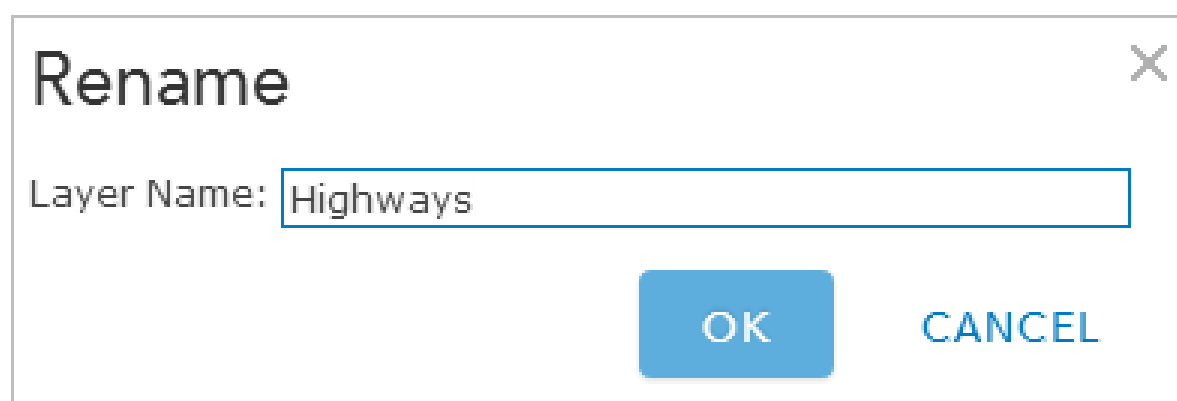
## Set layer properties

In this section, you'll change some of the properties of the layers. You'll give them shorter names, change their order, add labels, and adjust transparency. Layer properties are always accessed in the same way: by clicking the small drop-down arrow to the right of the layer name and choosing the property you want to change.

- 1 On the Contents panel, click the arrow next to the Hawaii Island Major Highways layer and choose Rename.

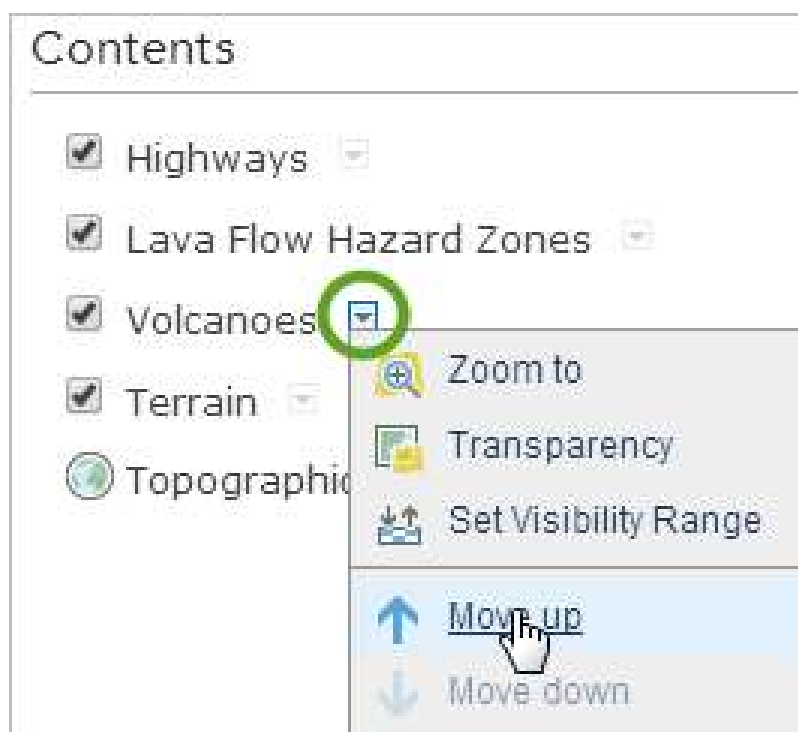


- 2 In the Rename dialog box, change the layer name to **Highways**, as shown, and click OK.



- 3 In the same way, rename the following layers:
  - Hawaii Lava Flow Hazard Zones - LavaFlowHazardZones to **Lava Flow Hazard Zones**.
  - HawaiiTerrain to **Terrain**.

- 4 Open the properties for the Volcanoes layer and choose Move up.



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

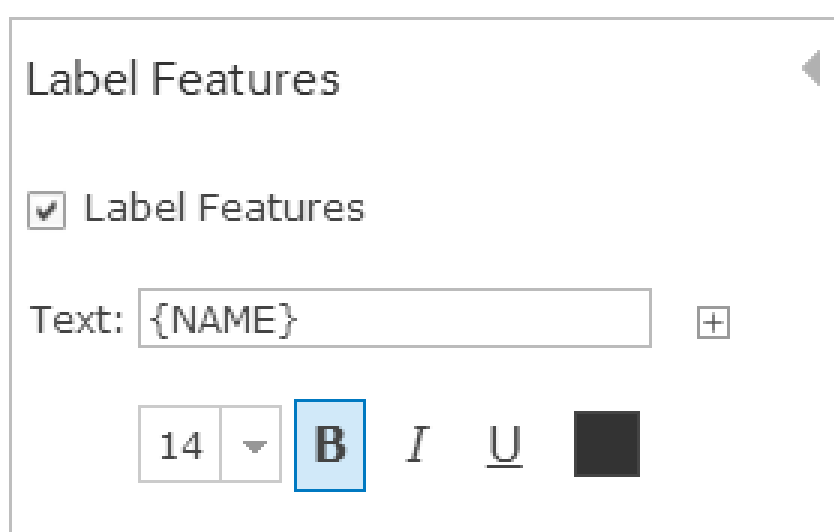
- 5 Move the Volcanoes layer up again.

Now the Volcanoes layer is at the top of the list. The standard practice is to put layers of point features (such as volcanoes) on top, followed by layers of line features (highways), and then layers of polygon features (hazard zones). The Terrain layer, like the Topographic basemap, is a tile layer, composed of images rather than discrete features. Tile layers cannot be moved above feature layers in a map.

- 6 Open the properties for the Volcanoes layer and choose Create Labels.

Each volcano is labeled with its name.

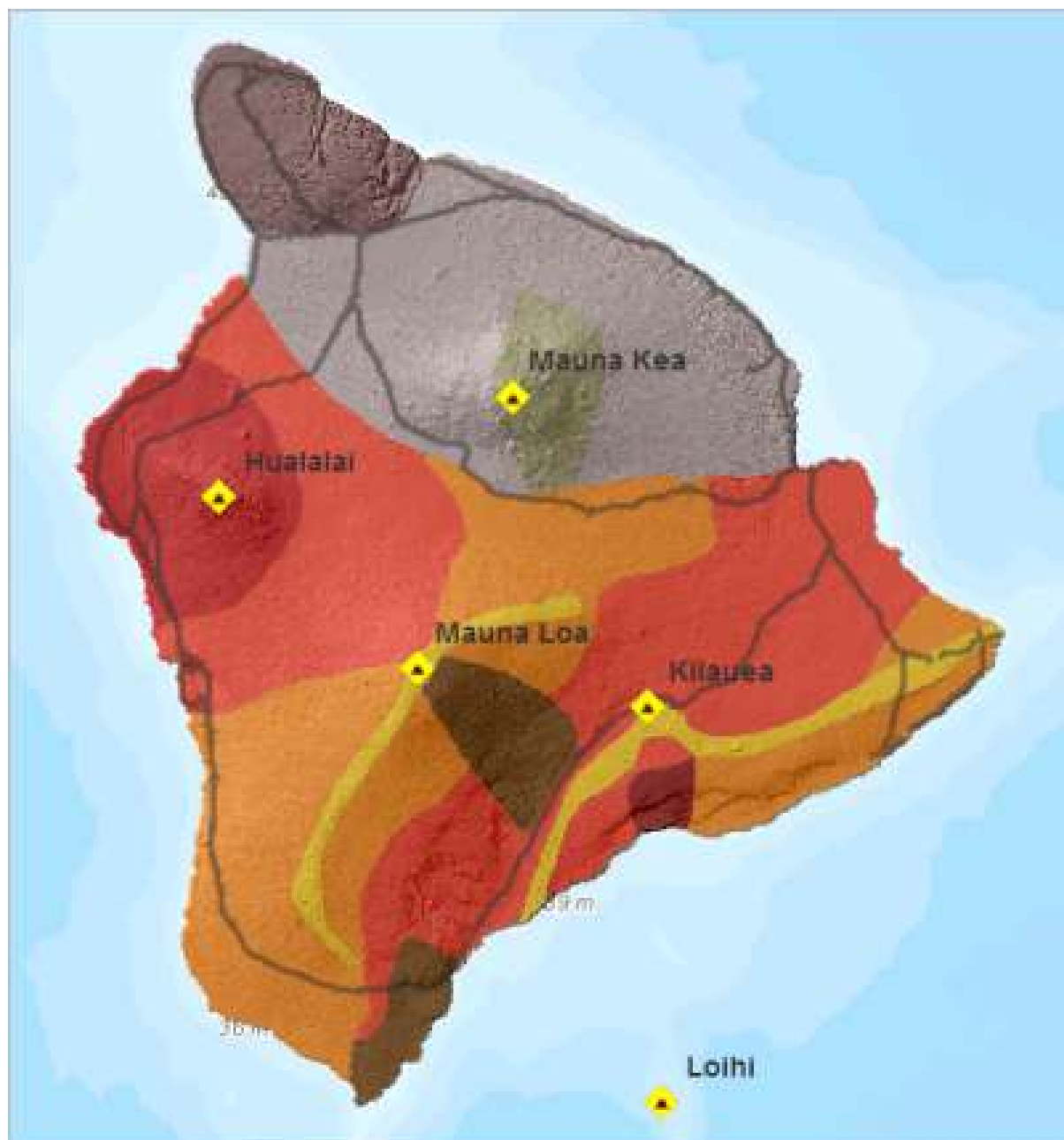
- 7 On the Label Features panel, change the label size from 13 to 14, as shown, and click OK.



- 8 Open the properties for the Lava Flow Hazard Zones layer and choose Transparency. Make the layer about 40 percent transparent, or whatever looks good to you.

- 9 In the same way, make the Highways layer about 50 percent transparent.





You have recreated the appearance of the map you explored in the last lesson, except for the emergency shelters.

## Define the map legend

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

- 1 At the top of the Contents panel, click the Show Map 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.

- 2 At the top of the panel, click the Show Contents of Map button.

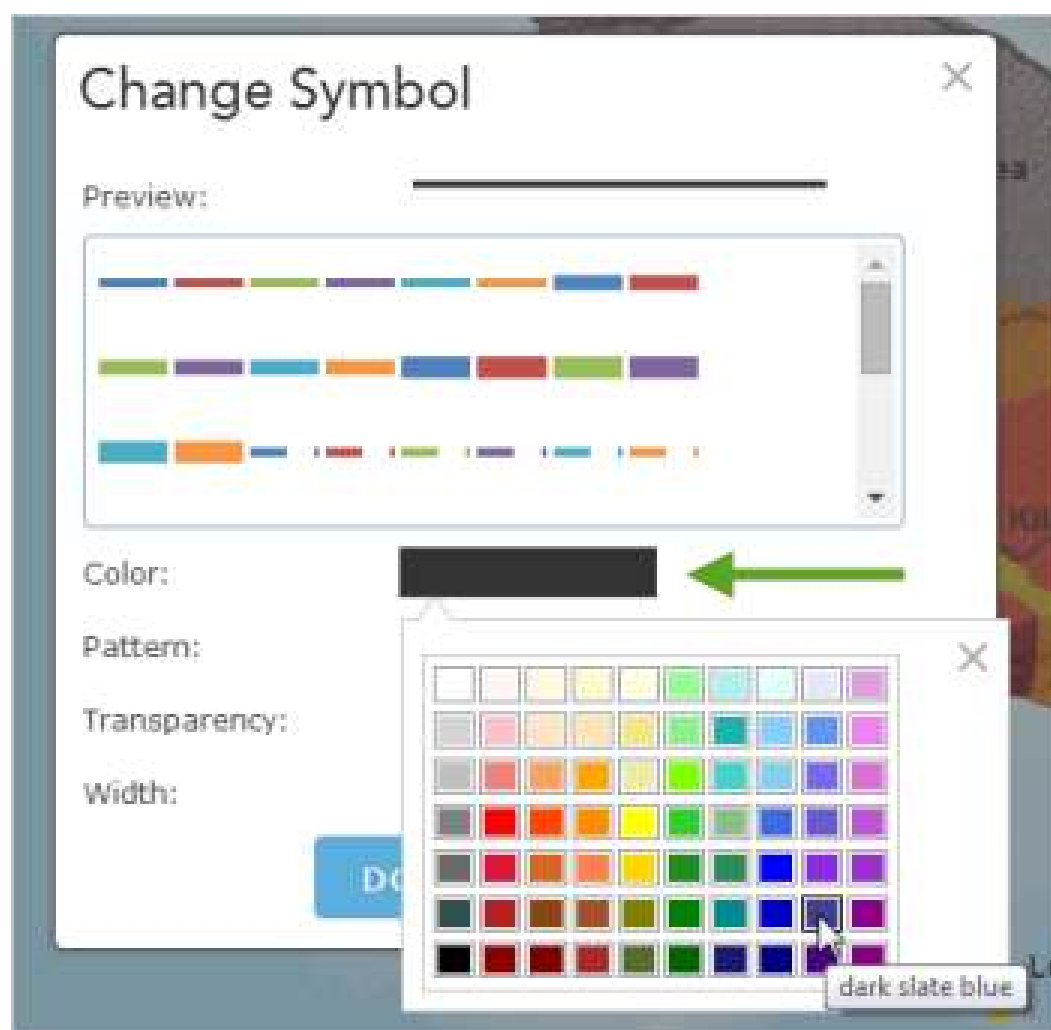
- 3 Open the properties for the Terrain layer and choose Hide in Legend.

- 4 View the legend again to see the effect, and then go back to the Contents panel.

## Change a symbol

You were able to recreate the map's appearance 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 symbology and pop-up configuration, are made by its owner. Once you add a layer to your own map, however, you are free to change those settings.

- 1 Open the properties for the Highways layer and choose Change Symbols.
- 2 On the Change Symbols panel, click the Change Symbol button.
- 3 In the Change Symbol dialog box, click the Color bar. On the color palette, choose a color that might look good.



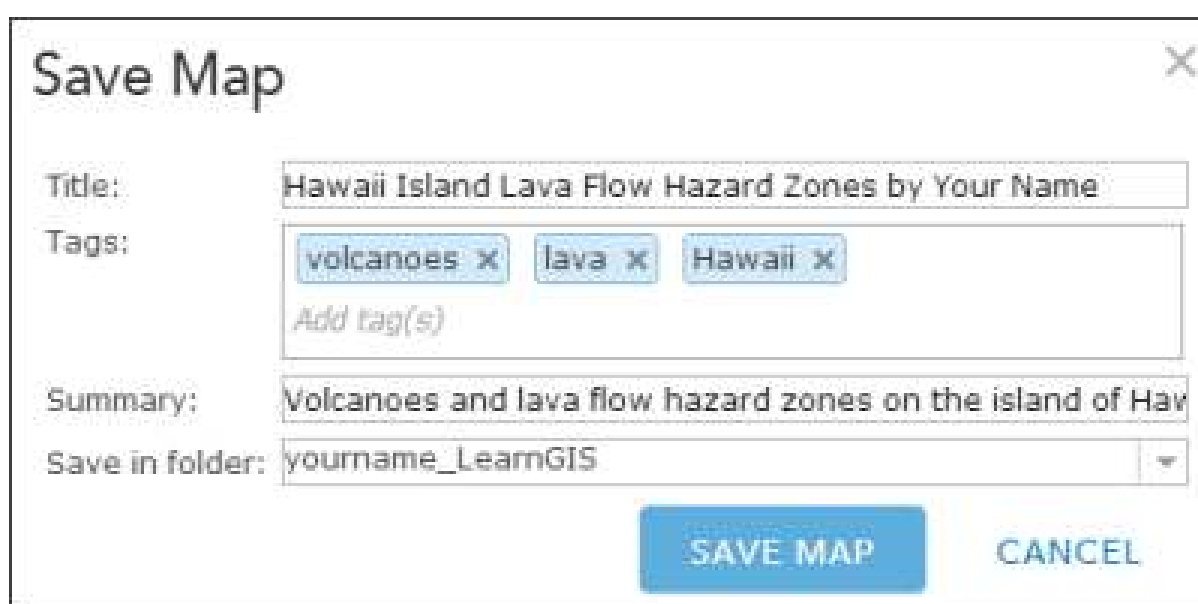
- 4 Click Apply to see the effect on the map.

**Tip** You can drag the Change Symbol dialog box out of the way.

- 5 If you want to keep the new symbol, click Done. Otherwise, change the color back to black and click Done.
- 6 At the bottom of the Change Symbols panel, click Done Changing Symbols.

## Save the map

- 1 On the ribbon, click the Save button and choose Save.
- 2 In the Save Map dialog box, for the title, type **Hawaii Island Lava Flow Hazard Zones** and add your name.
- 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.



The screenshot shows the 'Save Map' dialog box. The title field contains 'Hawaii Island Lava Flow Hazard Zones by Your Name'. The tags field contains three tags: 'volcanoes', 'lava', and 'Hawaii'. The summary field contains 'Volcanoes and lava flow hazard zones on the island of Hav'. The 'Save in folder' dropdown is set to 'yourname\_LearnGIS'. There are 'SAVE MAP' and 'CANCEL' buttons at the bottom right.

- 5 Click Save Map.

The map is saved to your My Content page in the organization.

## Edit item details

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 page, click the Home button and choose My Content.  
On your My Content page, the map is listed by its name and other details.
- 2 Hover over the small drop-down arrow next to the map title and choose View item details.

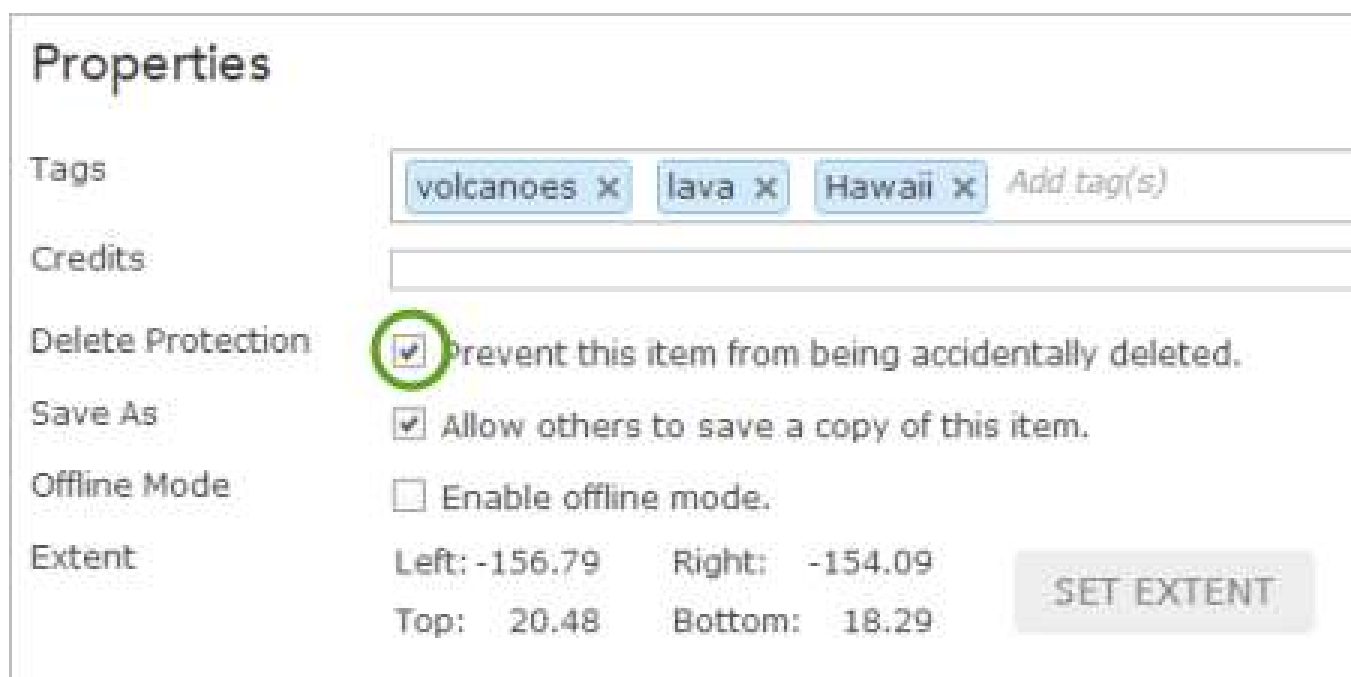


The item details page contains information about your map. It also lets you share the map through social media.

- 3 On the item details page, click the Edit button.
- 4 In the Description box, type (or copy and paste) the following text: **The classification of lava flow hazard zones on the island of Hawaii was made by the U.S. Geological Survey in 1974. The risk levels are based on the location and frequency of historic eruptions.**

**Tip** If you copy and paste the text, it may be boldfaced in the description box. You can remove the formatting by highlighting the text and clicking the Bold button on the Description toolbar.

- 5 Scroll to the bottom of the page.
- 6 Optionally, check the Delete Protection box.



This will prevent you from accidentally deleting the map.

- 7 At the bottom of the page, click Save.

Your map's item details are updated. In this lesson, you added several layers to the map and changed their properties. You have almost recreated the appearance of the map you explored in the first lesson. In the next lesson, you'll complete that work by adding a layer of emergency shelters from a CSV file.

# Add a layer from a CSV file

By now you're familiar with the locations of volcanoes and high hazard lava flow zones. For planning purposes, it might be useful to know where these areas are in relation to highways (which are already on your map) and emergency shelters (which are not).

A lot of information that is potentially spatial in nature is locked away in spreadsheets and text files. If this information is properly formatted, it can be added to ArcGIS Online and turned into map layers. All you need are well-defined street addresses or pairs of latitude-longitude coordinates.

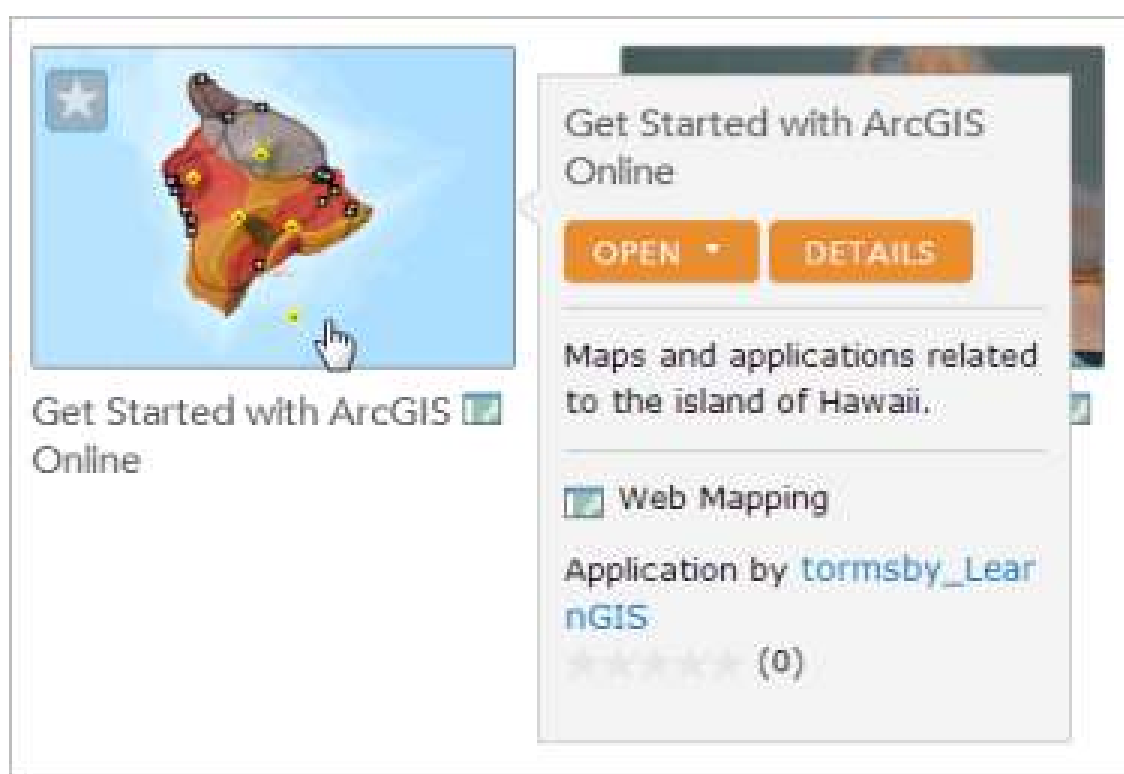
In this lesson, you'll add a CSV file of emergency shelter addresses to your map. A CSV (comma-separated values) file stores table data in a plain text format. It's an import/export format commonly supported by spreadsheet and database applications.

## Download and view a CSV file

- 1 If necessary, sign in to the [LearnGIS organization account](#).

**Tip** Learn more about [signing in](#).

- 2 At the top of the page, click Gallery. (If you have a map open, access the Gallery from the Home button in the upper left corner of the page.)
- 3 On the Gallery page, click the thumbnail image for Get Started with ArcGIS Online to open its collection of maps and data.



- 4 In the collection, click Hawaii Emergency Shelters CSV.





Depending on your browser, the CSV file may appear on your downloads bar or you may be prompted to open or save the file.

5 Open the file with your default application for opening CSV files, such as Microsoft Excel.

6 If necessary, widen the columns by dragging or double-clicking their edges.

	A	B	C	D	E	F	G	H
1	OBJECTID	NAME	ADDRESS	CITY	STATE	ZIP	PHONE	
2	1	Hilo High	556 Waianu	Hilo	HI	96720	(808) 974-4021	
3	2	Holualoa E	76-5957 M	Holualoa	HI	96725	(808) 322-4800	
4	3	Honaunau	83-5360 M	Captain Co	HI	96704	(808) 328-2727	
5	4	Hookena E	86-4355 M	Captain Co	HI	96704	(808) 328-2710	
6	5	Kau High	96-3150 Pi	Pahala	HI	96777	(808) 313-4100	
7	6	Kaumana	1710 Kaun	Hilo	HI	96720	(808) 974-4190	
8	7	Kohala Ele	54-3609 A	Kapaau	HI	96755	(808) 889-7100	

Each row in the table represents an emergency shelter. (On the island of Hawaii, most shelters are schools.) The address columns allow the table to be interpreted as spatial data.

If you're viewing the file in a text editor, you'll see the same information, but it's formatted as text separated by commas. ArcGIS Online will take it either way.

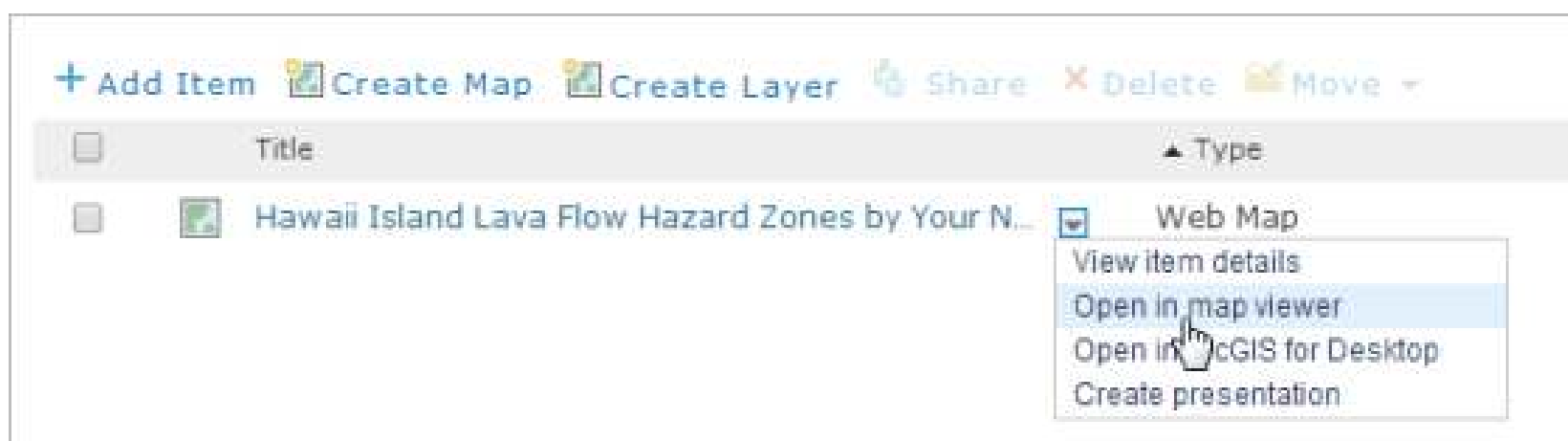
```
OBJECTID,NAME,ADDRESS,CITY,STATE,ZIP,PHONE
1,Hilo High School,556 waianu Avenue,Hilo,HI,96720,(808) 974-4021
2,Holualoa Elementary School,76-5957 Mamalahoa Highway,Holualoa,HI,96725,(80
3,Honaunau Elementary School,83-5360 Mamalahoa Highway,Captain Cook,HI,96704
4,Hookena Elementary School,86-4355 Mamalahoa Highway,Captain Cook,HI,96704,
5,Kau High and Pahala Elementary School,96-3150 Pikake Street,Pahala,HI,9677
6,Kaumana Elementary School,1710 Kaumana Drive,Hilo,HI,96720,(808) 974-4190
7,Kohala Elementary School,54-3609 Akoni Pule Highway,Kapaau,HI,96755,(808)
8,waiakeawaena Elementary School,2420 Kilauea Ave,Hilo,HI,96720,(808) 981-72
9,Hilo Intermediate School,587 waianu Avenue,Hilo,HI,96720,(808) 974-495
10,Keaau Middle School,16-565 Keaau Pahoa Road,Keaau,HI,96749,(808) 982-4200
```

- 7 In the application in which the CSV file is open, click the File menu and choose Save As. Save the file as **EmergencyShelters.csv** to a location on your computer.
- 8 If the file is open in Microsoft Excel, you'll be prompted whether you want to keep the workbook in CSV format. Click Yes.
- 9 Close the application in which the CSV is open.
- 10 If you're prompted to save changes again, click Don't Save.

## Add the CSV file as a layer

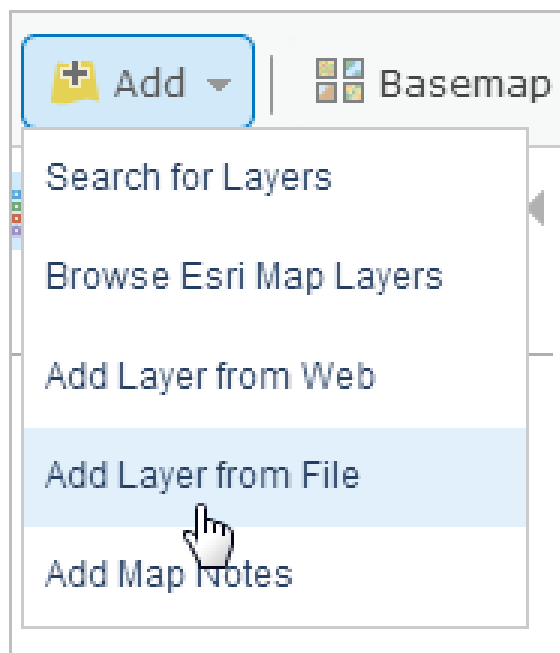
You downloaded this CSV file from ArcGIS Online. You can get CSV files from many other public servers or convert them from other file types. You can also make them by copying and pasting information from web pages or other sources.

- 1 Close the browser tab or window with the Get Started with ArcGIS Online collection of maps.
- 2 From the main Gallery page in ArcGIS Online, click My Content.
- 4 On your My Content page, click the arrow next to your map title, and choose Open in map viewer.

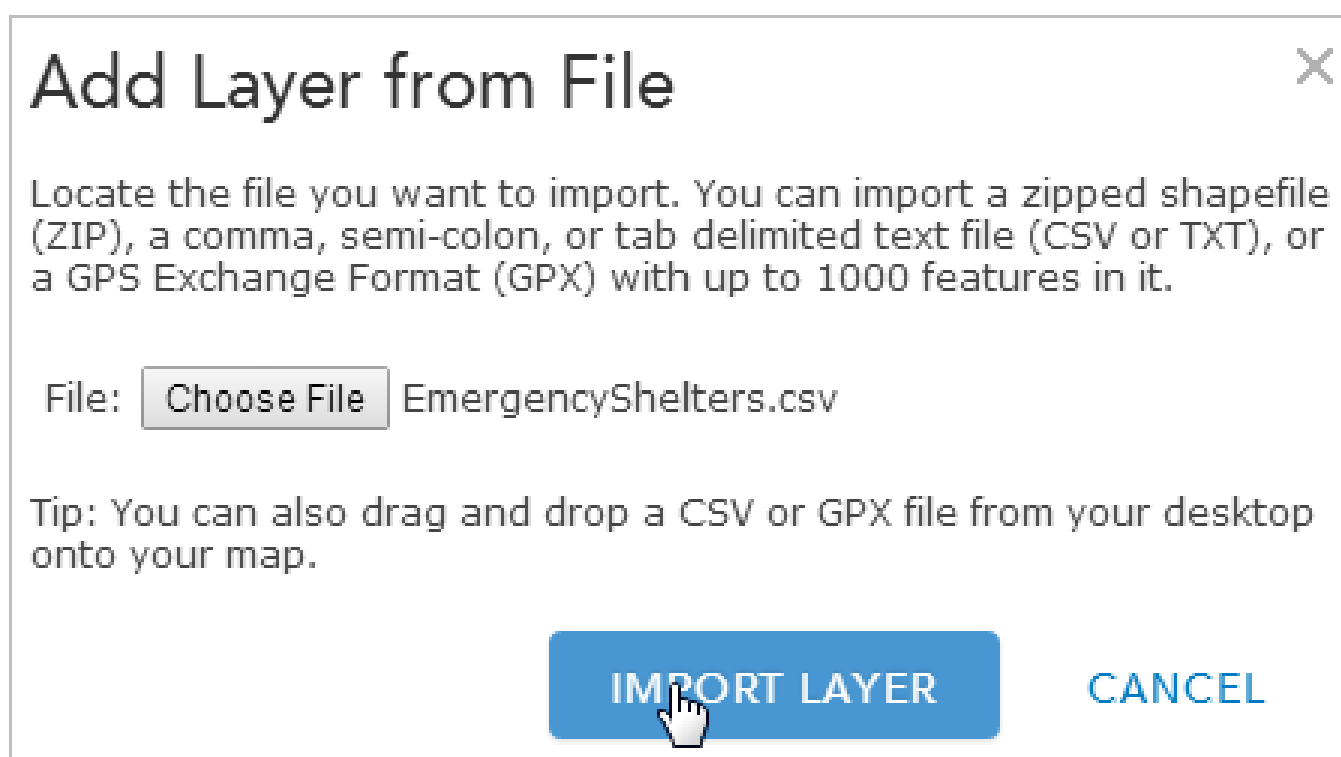


Your map from the last lesson opens.

- 5 On the ribbon, click the Add button and choose Add Layer from File.



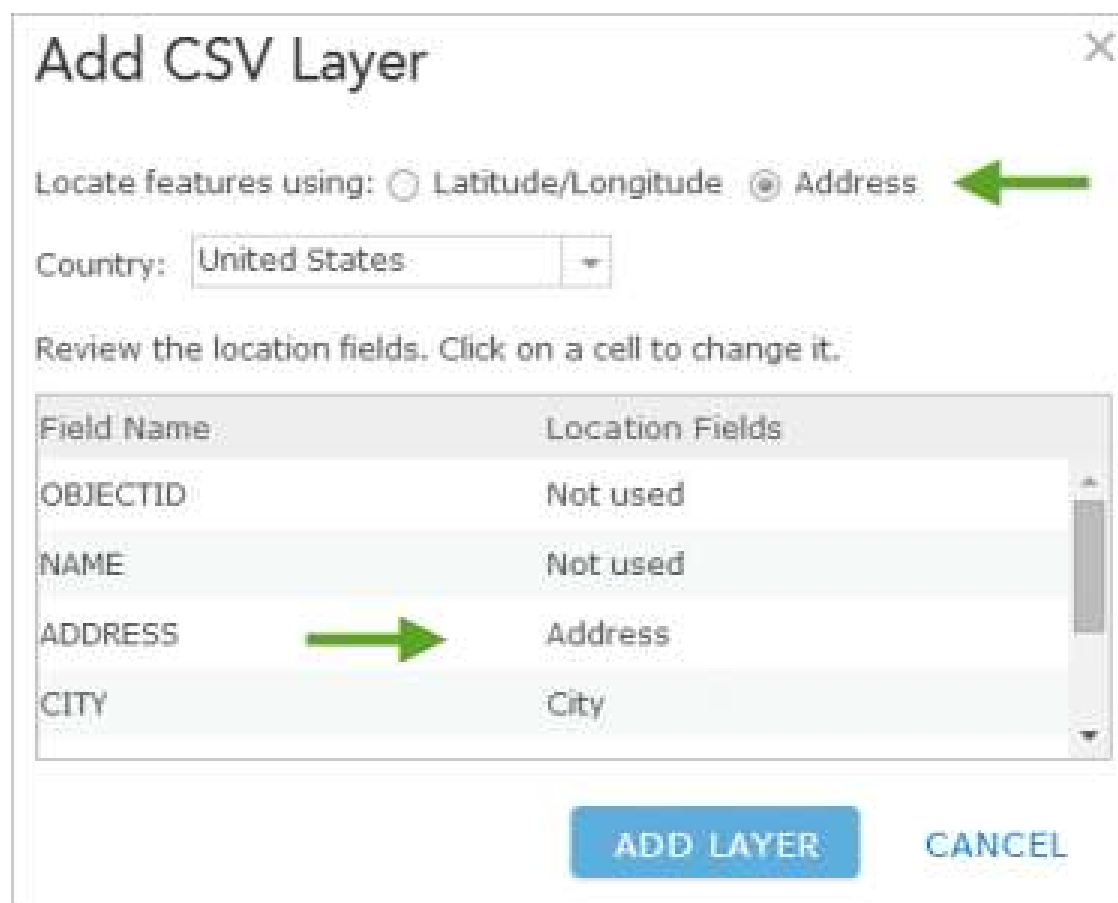
- 6 On the Add Layer from File dialog box, click Choose File (or your browser's equivalent command). Browse to the location where you saved EmergencyShelters.csv.
- 7 Click the file to select it and click Open.
- 8 On the Add Layer from File box, click Import Layer.



**Tip** You can also drag and drop a CSV file directly into a web map from your computer.

Map layers can be created either from street addresses or from latitude-longitude coordinates. In the Add CSV Layer dialog box, the file is recognized as containing street addresses. The Field Name column lists the fields from the CSV file. The Location Fields column tells you how those fields are being interpreted by ArcGIS Online. The Address field, for example, is correctly interpreted as the field with address information.





**Add CSV Layer**

Locate features using: ☐ Latitude/Longitude ☒ Address

Country:

Review the location fields. Click on a cell to change it.

Field Name	Location Fields
OBJECTID	Not used
NAME	Not used
ADDRESS	Address
CITY	City

**ADD LAYER** **CANCEL**

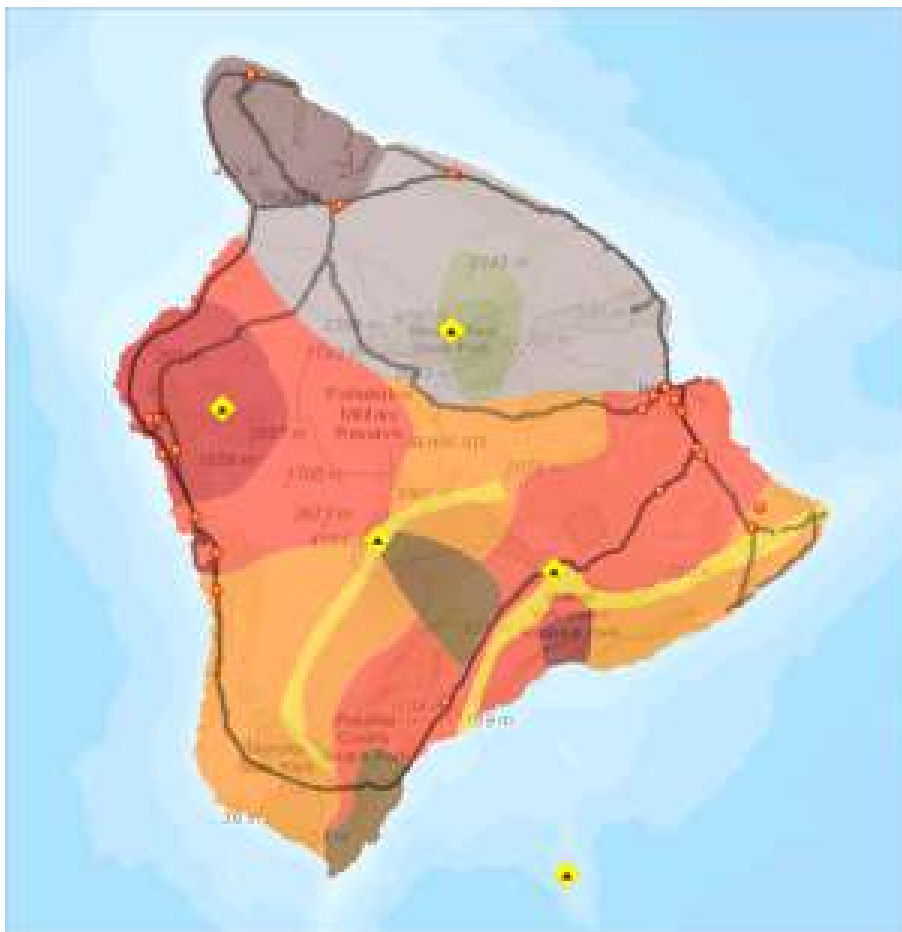
- 9 Scroll to the bottom of the dialog box to confirm that all the address-related fields are being interpreted correctly.

Field Name	Location Fields
CITY	City
STATE	State
ZIP	ZIP Code
PHONE	Not used

**Tip**

A CSV file may contain needed information, such as street addresses, stored under a field name that ArcGIS Online doesn't interpret as an address field. You can apply the interpretation yourself by clicking a Location Field value and choosing the appropriate location information from a drop-down list.

- 10 Click Add Layer.



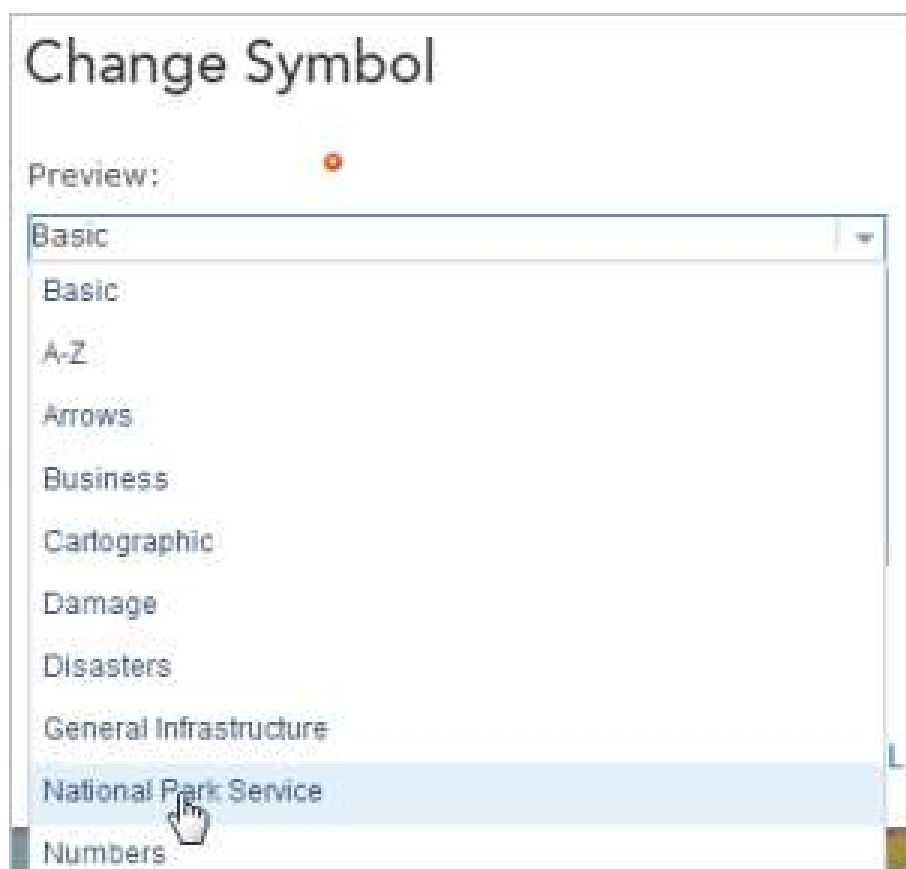
On the map, a red point feature is drawn at the location of each shelter. This is the default symbol used for layers created from CSV files.

- 11 Open the properties for the EmergencyShelters layer and rename it **Emergency Shelters**. (That is, put a space between the words.)
- 12 Save the map.

## Symbolize the shelters

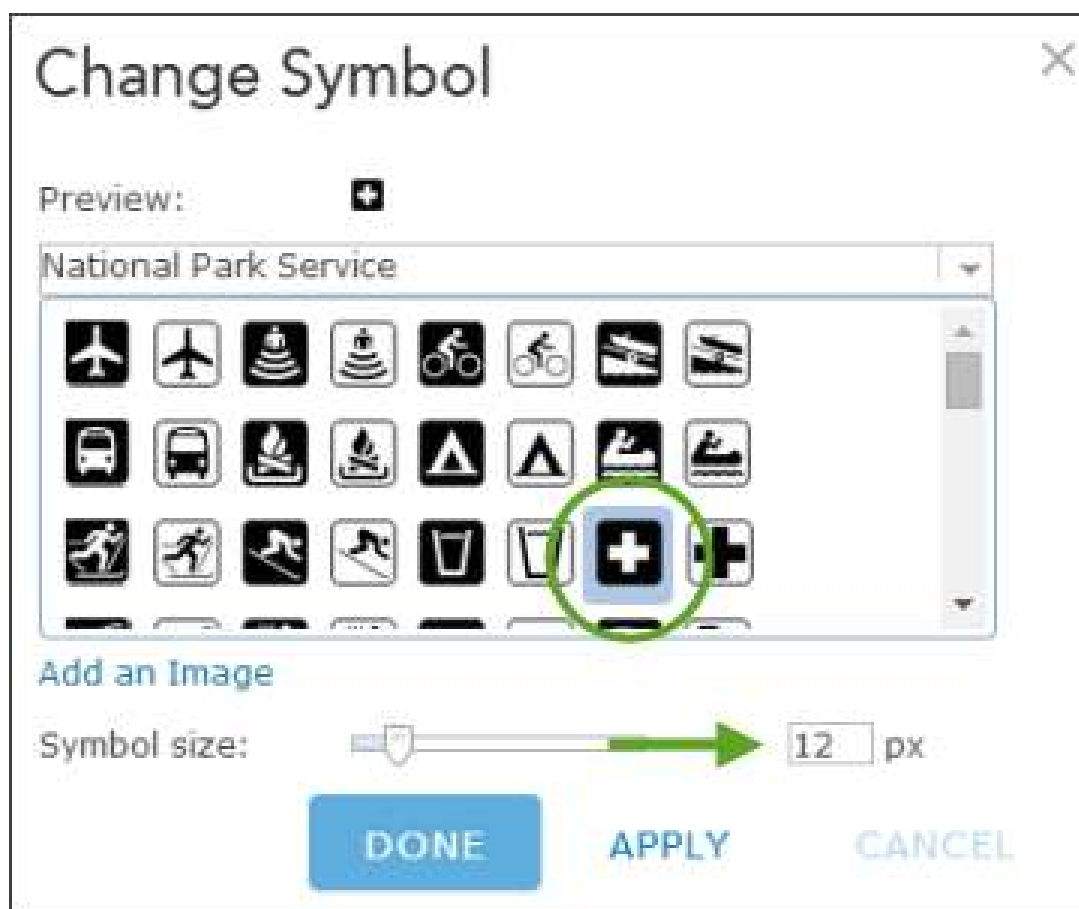
You'll change the generic red dot symbol to something that better represents emergency shelters.

- 1 Open the properties for the Emergency Shelters layer and choose Change Symbols.
- 2 On the Change Symbols panel, click Options and choose Change Symbol.  
  
The Change Symbol dialog box opens. You can choose symbols from one of several collections, or import symbols from images stored on a public server.
- 3 Click the drop-down arrow, and choose the National Park Service symbol collection.



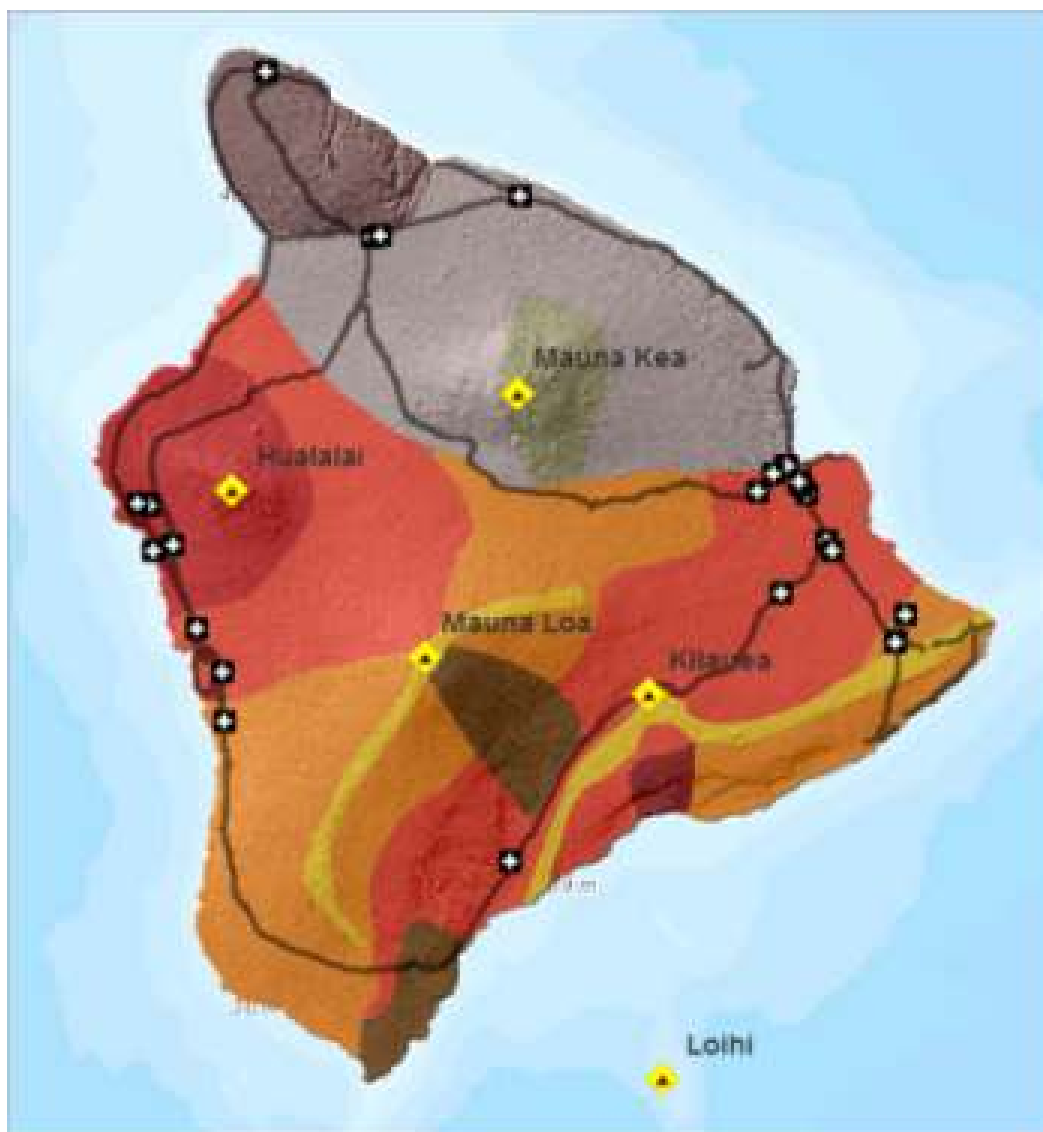
4 Click the symbol with a white cross on a black background to select it.

5 Change the symbol size to 12 px (pixels) and click Apply.



6 Click Done. On the Change Symbols panel, click Done Changing Symbols.

7 Save the map.



The symbols are intuitively recognizable as emergency shelters. Their strong black and white colors help them stand out from the reds and oranges of the hazard zones.

## Save the shelters as a layer

The Emergency Shelters layer exists in your map but nowhere else. Nobody would be able to find it, for instance, by searching the organization's layers. By saving it as a layer to your My Content page, you can share it and add it to other maps. You will be its owner, and the properties you give it will be its defaults. When someone else adds the layer to a map (assuming you share it), it will display with the symbology you chose.

- 1 Open the properties for the Emergency Shelters layer, and choose Save Layer at the bottom of the menu.

**Note** This menu choice is only available for layers that you have created. You won't see it if you open the properties for any other layers in the map.

- 2 In the Create Item dialog box, keep the title Emergency Shelters.
- 3 Add a few tags that will help people find the map through searches. After each tag, press Enter.
- 4 Add a summary of the layer's content.

## Create Item

Title:

Emergency Shelters

Tags:

emergency x

shelters x

Hawaii x

Add tag(s)

Summary:

Emergency shelter locations on the island of Hawaii

Save in folder:

yourname\_LearnGIS

CREATE ITEM

CANCEL

5 Click Create Item.

6 Save the map.

7 In the upper left corner of the page, click the Home button and choose My Content.



The layer appears as an item on your My Content page.

When you explored the Hawaii Lava Flow Risk map in the first lesson, you began by opening pop-ups for the volcanoes and lava flow hazard zones. Configuring pop-ups to present useful information is an important part of making good maps. That will be your task in the next lesson.

# Configure pop-ups

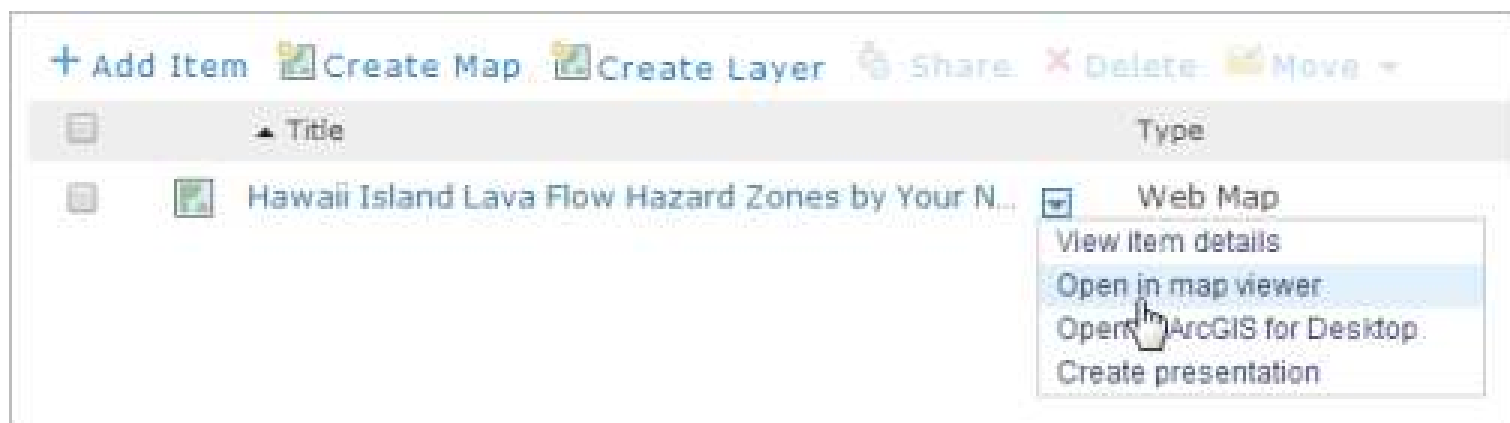
In the last two lessons, you've worked with many different layer properties. The one important one that you haven't worked with is pop-up configuration. In the first lesson, the pop-ups for the Volcanoes and Lava Flow Hazard Zones layers were prepared for you. In this lesson, you'll see how those configurations were done. You'll start, however, by working on the pop-ups for the Emergency Shelters layer.

## Configure emergency shelter pop-ups

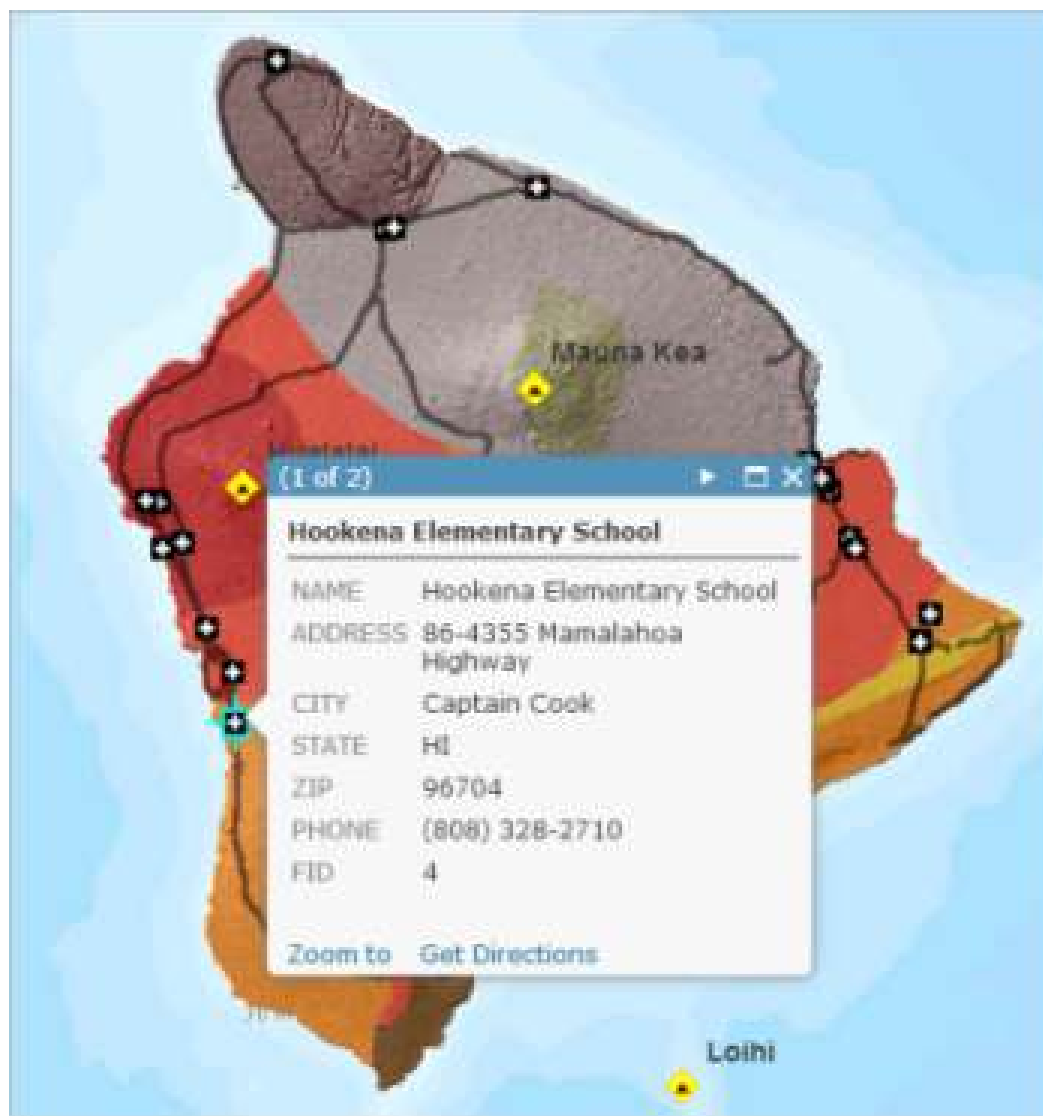
- 1 If necessary, sign in to the [LearnGIS organization account](#).

**Tip** Learn more about [signing in](#).

- 2 Go to your My Content page and open your Hawaii Island Lava Flow Hazard Zones map in the map viewer.



- 3 Click a shelter to open its pop-up.



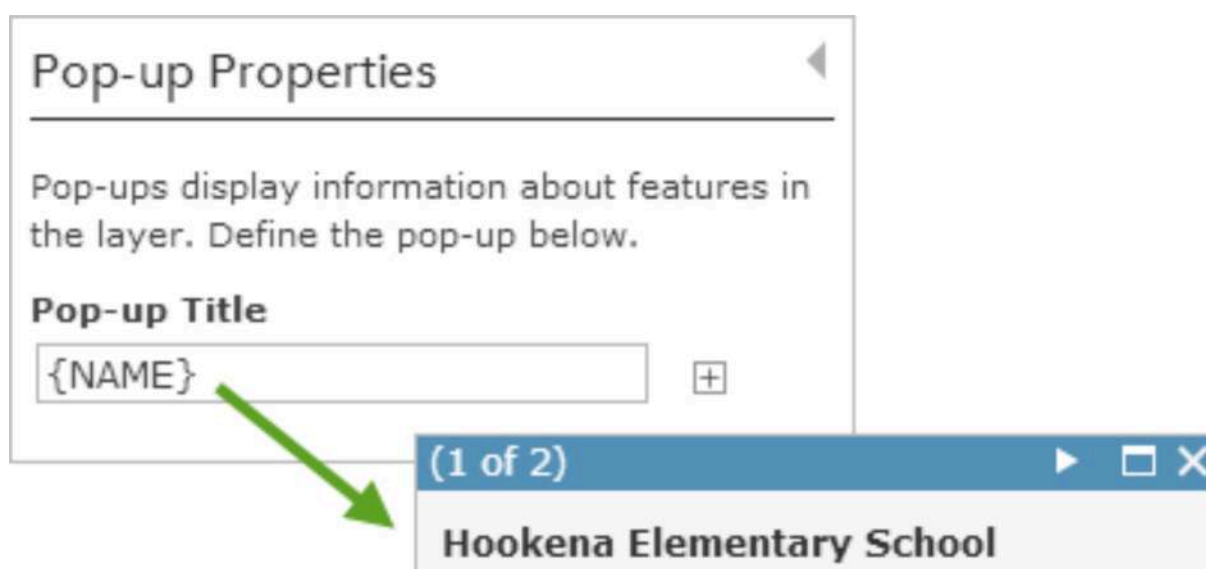
The basic configuration of a pop-up is just what you see: a list of fields and values. The information should be familiar to you because it comes straight from the CSV file (except for the FID field, a software-added identification code). Most pop-ups are essentially stylized views of a table of attributes associated with a layer.

In this case, the default configuration has a few minor problems. For example, the shelter name appears twice: first as the pop-up title, and again in the list of fields. Also, it's probably unnecessary to show the state name—anyone using the map will know that this is Hawaii—and it's definitely unnecessary to show the FID field.

4 Close the pop-up.

5 Open the properties of the Emergency Shelters layer and choose Configure Pop-up.

The default pop-up title is a field name, usually the NAME field, in curly brackets. Field names in curly brackets work like variables: when you click a shelter on the map, you see the name of that particular shelter.



Under the Pop-up Contents heading, the display is set to a list of field attributes. That setting

defines the list format that you saw in the pop-up.

- 6 Under the scrolling box of attributes, click **Configure Attributes**.

**Pop-up Contents**

Display: A list of field attributes ▼

These field attributes will display:

- NAME {NAME}
- ADDRESS {ADDRESS}
- CITY {CITY}
- STATE {STATE}

[Configure Attributes](#)

**Pop-up Media**

In the **Configure Attributes** box, attributes are listed by their display status (on or off), field name, and field alias.

- 7 In the **Display** column, uncheck the box for the {NAME} field.

<input type="checkbox"/> Display	Field Name	Field Alias
<input type="checkbox"/>	{OBJECTID}	OBJECTID
<input type="checkbox"/>	{NAME}	NAME
<input checked="" type="checkbox"/>	{ADDRESS}	ADDRESS

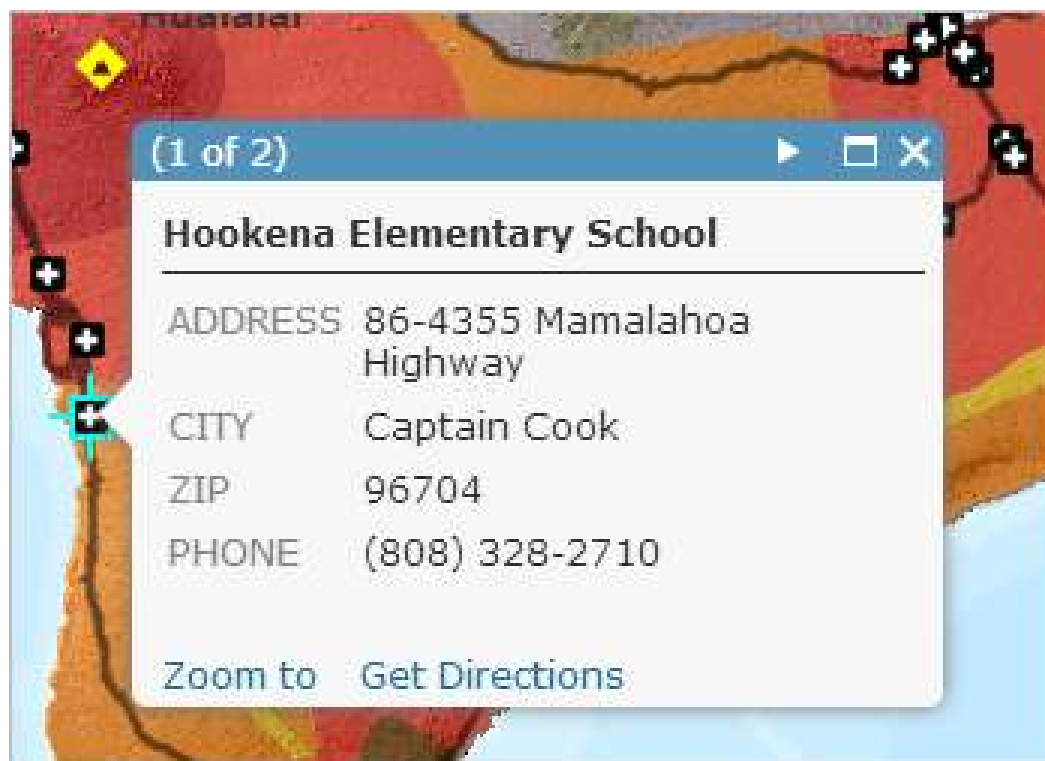
- 8 Uncheck the **Display** boxes for the {STATE} and {FID} fields as well. (You have to scroll down slightly to see {FID}.)

- 9 Click **OK** on the **Configure Attributes** box.

- 10 At the bottom of the **Pop-up Properties** panel, click **Save Pop-up**.

- 11 Click an emergency shelter on the map to see its new pop-up.





The fields that you unchecked in the Configure Attributes box no longer display in the pop-up.

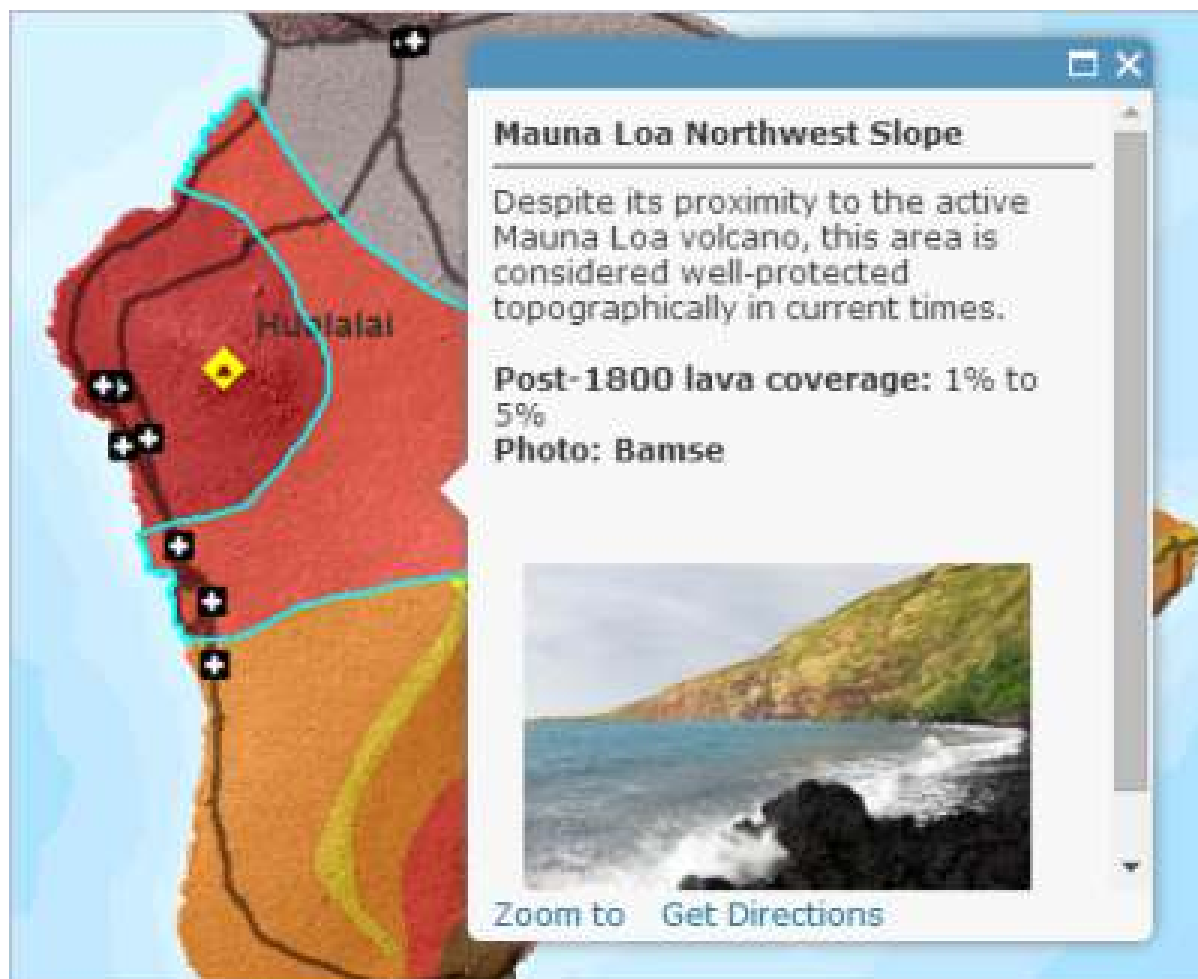
12 Close the pop-up.

**Tip** The pop-up configuration has been saved only to this map. To make it the default configuration, you could open the properties of the Emergency Shelters layer and choose Save Layer. The layer would then have this configuration whenever it was added to a map.

## Explore pop-ups for other layers

You'll look again at pop-ups for the other layers in the map.

1 Click a lava flow hazard zone on the map to open its pop-up.



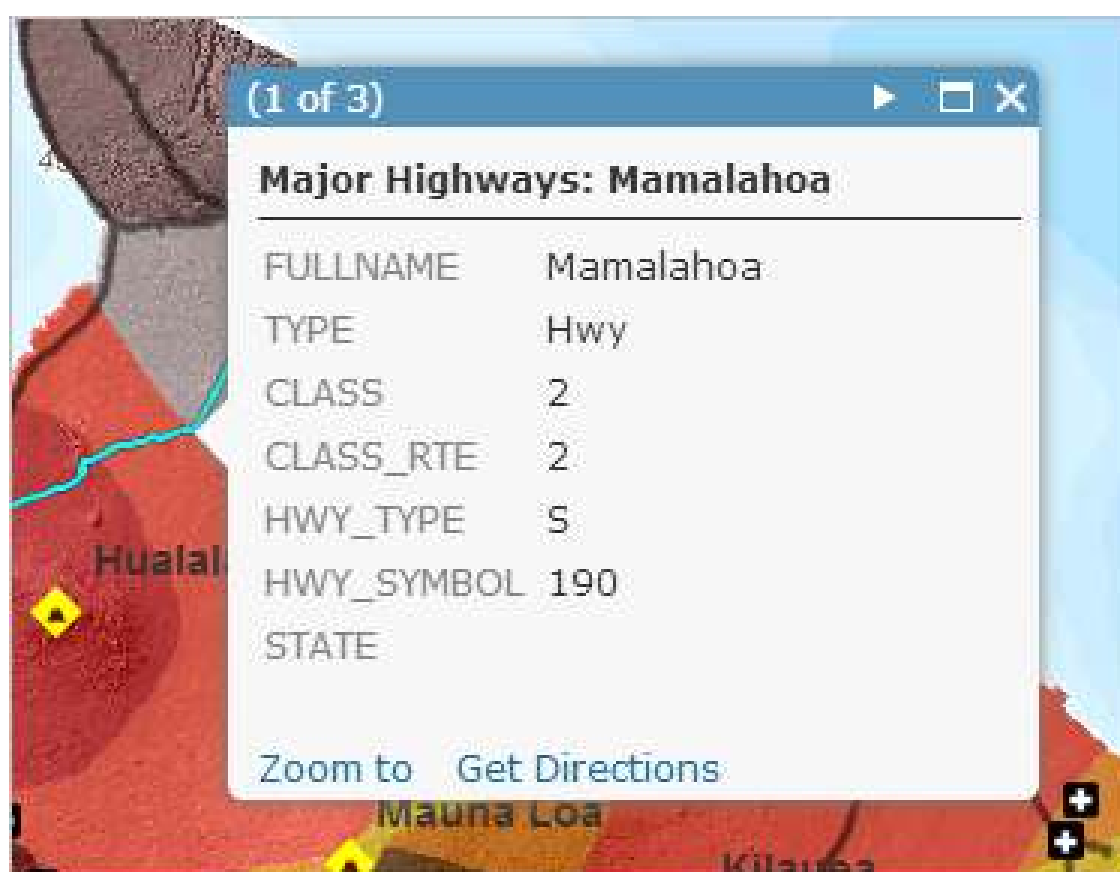
The pop-ups for this layer are configured just as they were in the map you explored in the first lesson. The layer owner has saved this configuration as a default property of the layer. You don't need to do anything with it.

2 Click a highway.

Nothing happens (except that you open a lava flow hazard zone pop-up). Pop-ups for the Highways layer have been turned off.

3 Open the properties for the Highways layer and choose Enable Pop-up.

4 Click a highway again.



The pop-up isn't nicely configured, but that doesn't really matter if you don't plan to show it. Map layers that are used for reference or background may not need to have their pop-ups

enabled.

- 5 Close the pop-up.
- 6 Open the properties for the Highways layer and choose Remove Pop-up.
- 7 Click a volcano feature on the map to open its pop-up.



The Volcanoes layer doesn't have the same nice configuration you saw in the first lesson. That configuration was saved in the map but not saved as a default property of the layer. So now you see the more typical list of fields and values—it will take some work on your part to make the pop-up look good again.

With the Emergency Shelters layer, you saw that the information in the pop-up came directly from the CSV file. The same is true for other layers: their pop-ups are formatted presentations of table data.

- 8 Open the properties for the Volcanoes layer and choose Show Table.

Volcanoes (5 features, 0 selected)				
NAME	ELEVATION	TYPE	VolcanoPicture	Volcano_Thumb
Hualalai	2,523.00	Shield volcano	<a href="http://ugis.esri.com/Hhttp://ugis.esri.com/t">http://ugis.esri.com/Hhttp://ugis.esri.com/t</a>	
Mauna Kea	4,205.00	Shield volcano	<a href="http://ugis.esri.com/Hhttp://ugis.esri.com/t">http://ugis.esri.com/Hhttp://ugis.esri.com/t</a>	
Mauna Loa	4,170.00	Shield volcano	<a href="http://ugis.esri.com/Hhttp://ugis.esri.com/t">http://ugis.esri.com/Hhttp://ugis.esri.com/t</a>	
Kilauea	1,222.00	Shield volcano	<a href="http://ugis.esri.com/Hhttp://ugis.esri.com/t">http://ugis.esri.com/Hhttp://ugis.esri.com/t</a>	
Loihi	-975.00	Submarine volcano	<a href="http://ugis.esri.com/Hhttp://ugis.esri.com/t">http://ugis.esri.com/Hhttp://ugis.esri.com/t</a>	

The information in the table matches the information in the pop-up. In the table, two of the fields have URLs as values. URLs enable pop-ups to display images and other web resources. In the default pop-up configuration, these URLs are represented by "More info" links.

- 9 Close the pop-up.
- 10 Close the table by clicking the X in the upper right corner.

## Configure volcano pop-ups

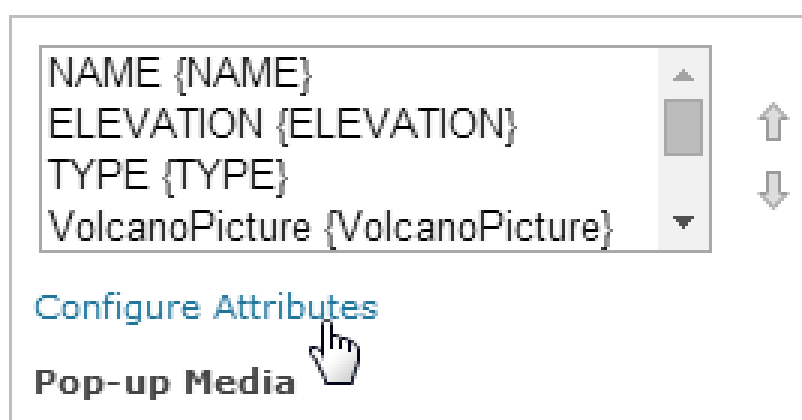
Configuring pop-ups is the process of specifying which information from a layer's table is shown in the pop-up and how that information is displayed. Part of this process involves formatting attribute names and values. Part of it involves choosing a pop-up style: information can appear in a list, for example, or in a customized paragraph form. The final part involves enhancing the pop-up with images, charts, and links.

- 1 Open the properties for the Volcanoes layer and choose Configure Pop-up.
- 2 In the Pop-up Title box, delete the text up to the {NAME} field.



The title will now show only the volcano name, not the layer name as well.

- 3 Under Pop-up Contents, keep the display set to a list of field attributes. Below the box of attributes, click Configure Attributes.



- 4 In the Configure Attributes dialog box, uncheck the Display boxes for the following fields:
  - {NAME}
  - {VolcanoPicture}
  - {VolcanoThumb}
  - {PhotoCredit}

The {NAME} field doesn't need to appear because it's already used in the pop-up title. The other three fields will be used in the Pop-up Media section. Only the {ELEVATION}, {TYPE}, and {Last\_eruption} fields should be checked to display.

<input type="checkbox"/> Display	Field Name	Field Alias
<input type="checkbox"/>	{NAME}	NAME
<input checked="" type="checkbox"/>	{ELEVATION}	ELEVATION
<input checked="" type="checkbox"/>	{TYPE}	TYPE
<input type="checkbox"/>	{VolcanoPicture}	VolcanoPicture
<input type="checkbox"/>	{Volcano_Thumb}	Volcano_Thumb
<input type="checkbox"/>	{PhotoCredit}	PhotoCredit
<input checked="" type="checkbox"/>	{Last_eruption}	Last_eruption

5 In the Field Alias column, click ELEVATION to make the text editable. Replace it with **Elevation (m)**.

6 On the right side of the box, click the Format drop-down arrow and choose 0 decimal places.

Field Name	Field Alias
{OBJECTID}	OBJECTID
{NAME}	NAME
{ELEVATION}	Elevation (m)
{TYPE}	TYPE
{VolcanoPicture}	VolcanoPicture
{Volcano_Thumb}	Volcano_Thumb
{PhotoCredit}	PhotoCredit

Format

2 decimal places

0 decimal places

1 decimal place

2 decimal places

3 decimal places

4 decimal places

5 decimal places

6 decimal places

An alias is a display name that replaces the field name in the pop-up. By default, the alias and field name match, but you can change the alias to something more informative or familiar. In this example, the parenthetical "m" means that the values are in meters. (This may not be self-explanatory, and you can use a more descriptive alias if you want.)

7 In the Field Alias column, click TYPE. Replace it with **Type** and press Enter.

8 Again in the Field Alias column, scroll down and click Last\_eruption. Replace it with **Last eruption** and press Enter.

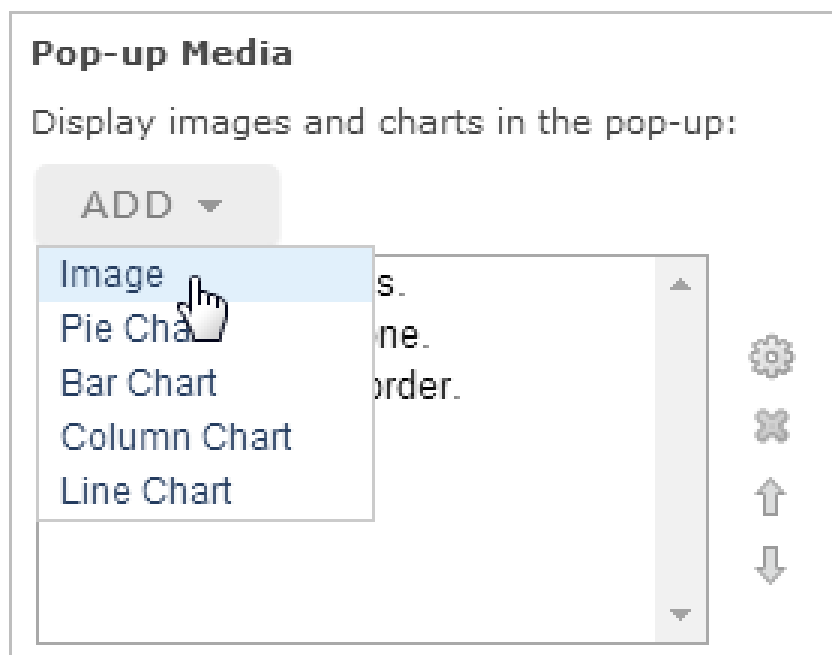
<input type="checkbox"/> Display	Field Name	Field Alias
<input type="checkbox"/>	{NAME}	NAME
<input checked="" type="checkbox"/>	{ELEVATION}	Elevation (m) ←
<input checked="" type="checkbox"/>	{TYPE}	Type ←
<input type="checkbox"/>	{VolcanoPicture}	VolcanoPicture
<input type="checkbox"/>	{Volcano_Thumb}	Volcano_Thumb
<input type="checkbox"/>	{PhotoCredit}	PhotoCredit
<input checked="" type="checkbox"/>	{Last_eruption}	Last eruption ←

Changing case and replacing underscores with spaces are small improvements to the pop-up display.

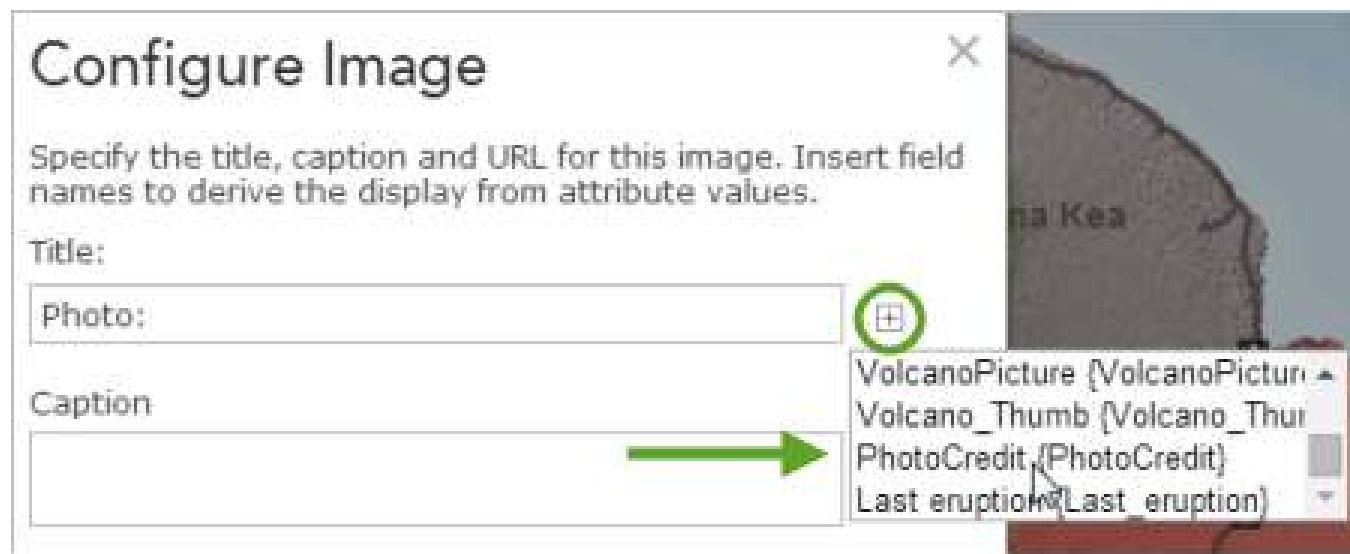
- 9 Click OK on the Configure Attributes box.

Now you'll configure the thumbnail image to display in the pop-up window and link to the large captioned image.

- 10 On the Pop-up Properties panel, under Pop-up Media, click Add, and choose Image.



- 11 In the Configure Image dialog box, delete the default title (Image 1). Type **Photo:** in its place, and press the spacebar.
- 12 To the right of the Title box, click the Add field name button. In the list of fields, scroll down and choose PhotoCredit {PhotoCredit}.



Remember that field names work like variables. In the media part of each pop-up, the correct photographer's name will appear.

Title:

Photo: {PhotoCredit} +

**Note** When you use the Add field name button, the list shows both the field name and its alias. When these are the same, as they are by default, you see entries such as "PhotoCredit {PhotoCredit}."

13 In the Caption box, type **Click image to learn more.**

14 To the right of the URL box, click the Add Field Name button. In the list of fields, scroll down and choose Volcano\_Thumb {Volcano\_Thumb}.

The URL box must contain paths to images that are stored on a publicly-accessible server, such as your account on a photo-sharing site. These images will be displayed in the pop-up and, when clicked, will open the items referenced in the Link box.

15 To the right of the Link box, click the Add Field Name button. Scroll down and choose VolcanoPicture {VolcanoPicture}.

## Configure Image

Specify the title, caption and URL for this image. Insert field names to derive the display from attribute values.

Title:

Photo: {PhotoCredit} +

Caption

Click image to learn more. +

URL

{Volcano\_Thumb} +

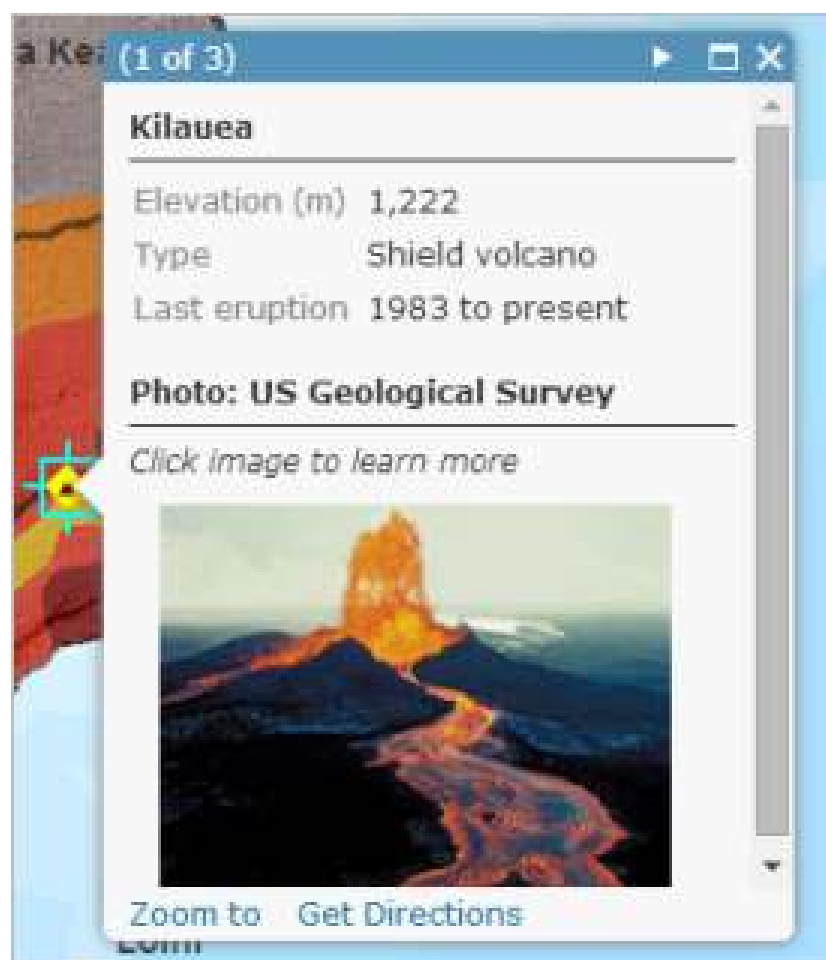
Link (optional)

{VolcanoPicture} +

OK CANCEL

Unlike the URL box, the Link box doesn't have to reference images, although it does in this case. It can go to web pages, PDFs, or any resource with a URL.

- 16 Click OK on the Configure Image box.
- 17 At the bottom of the Pop-up Properties panel, click Save Pop-up.
- 18 Click a volcano on the map.



The pop-up reflects your configuration. (Some text formatting, along with the horizontal separator lines, is applied automatically.)



- 19 Click the thumbnail image to test the link, then close the browser tab or window with the large picture.
- 20 Open pop-ups for some other volcanoes.
- 21 When you're finished, close any browser tabs or windows with large volcano pictures. Close the open pop-up on the map.
- 22 On the ribbon, click Bookmarks and click the Island of Hawaii bookmark. (Or click the Default Extent button on the map navigator.)
- 23 Save the map.

Your map is complete. The one thing left to do is publish it as a web app. This will put the map in a kind of picture frame that looks nice and shields the user from tools and functionality that may be distracting.



# Make an app

You can enrich your map by publishing it as a web app. A web app is a template, or wrapper, that enhances your map's appearance, adds (or removes) functionality, or helps you integrate the map with other media. Web apps let you add narrative and photos to your maps to tell complex stories. They allow you to compare multiple maps at the same time. And they add unique functionality such as social media feeds.

In this lesson, you'll publish your lava flow risk zone map as an app that includes room for text and presents map users with a simplified interface that doesn't distract them from the map itself.

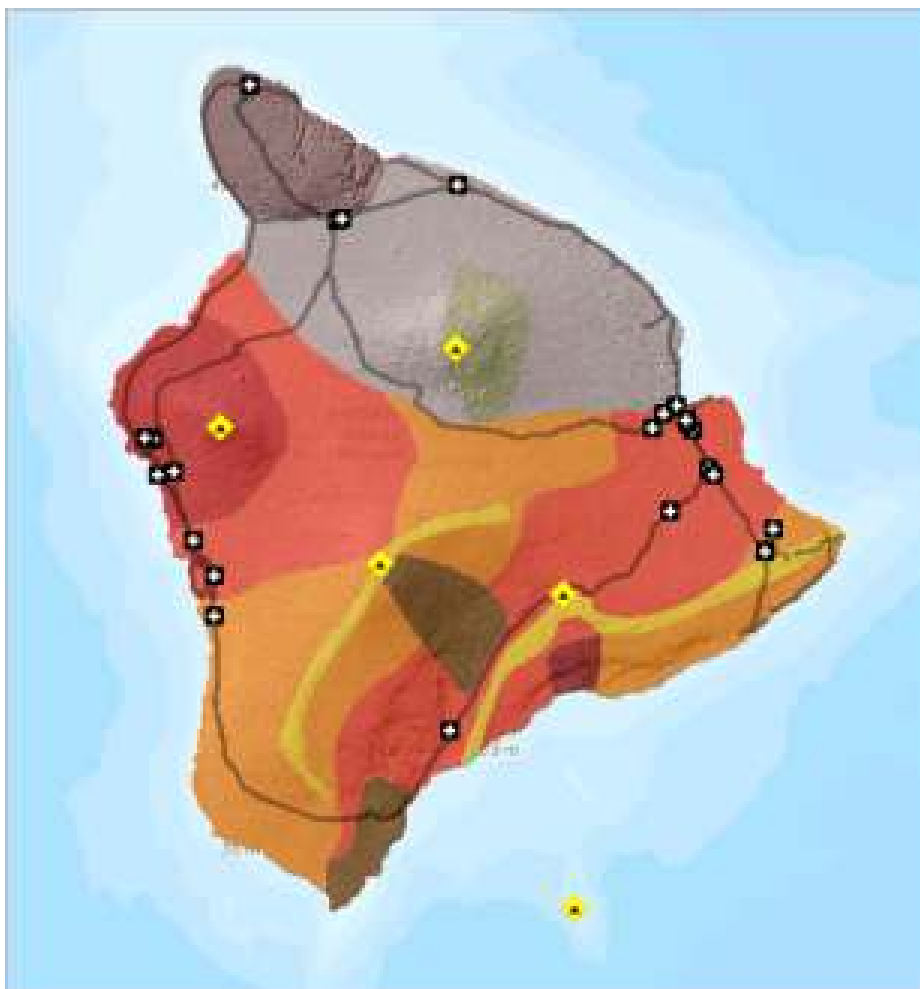
## Create a web app

Your web app will unite the map, its legend, and some descriptive text in a single interface. It will also remove unnecessary tools. You'll begin by opening and sharing your map. You can only make a web app once the map has been shared at some level.

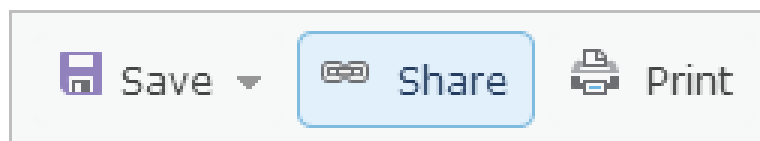
- 1 If necessary, sign in to the [LearnGIS organization account](#).

**Tip** Learn more about [signing in](#).

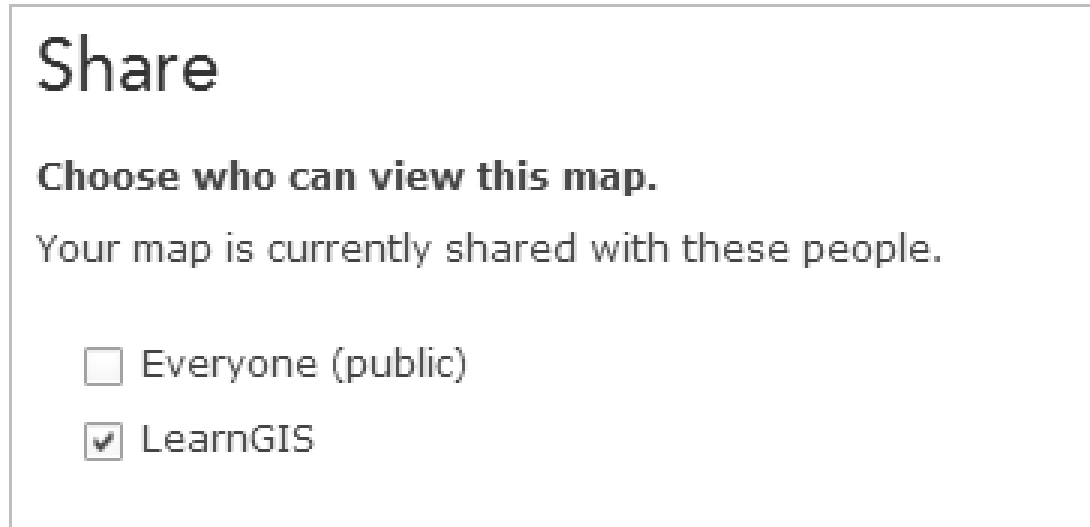
- 2 If your Hawaii Island Lava Flow Hazard Zones map isn't already open in your browser, open it from your My Content page.



- 3 On the ribbon above the map, click the Share button.

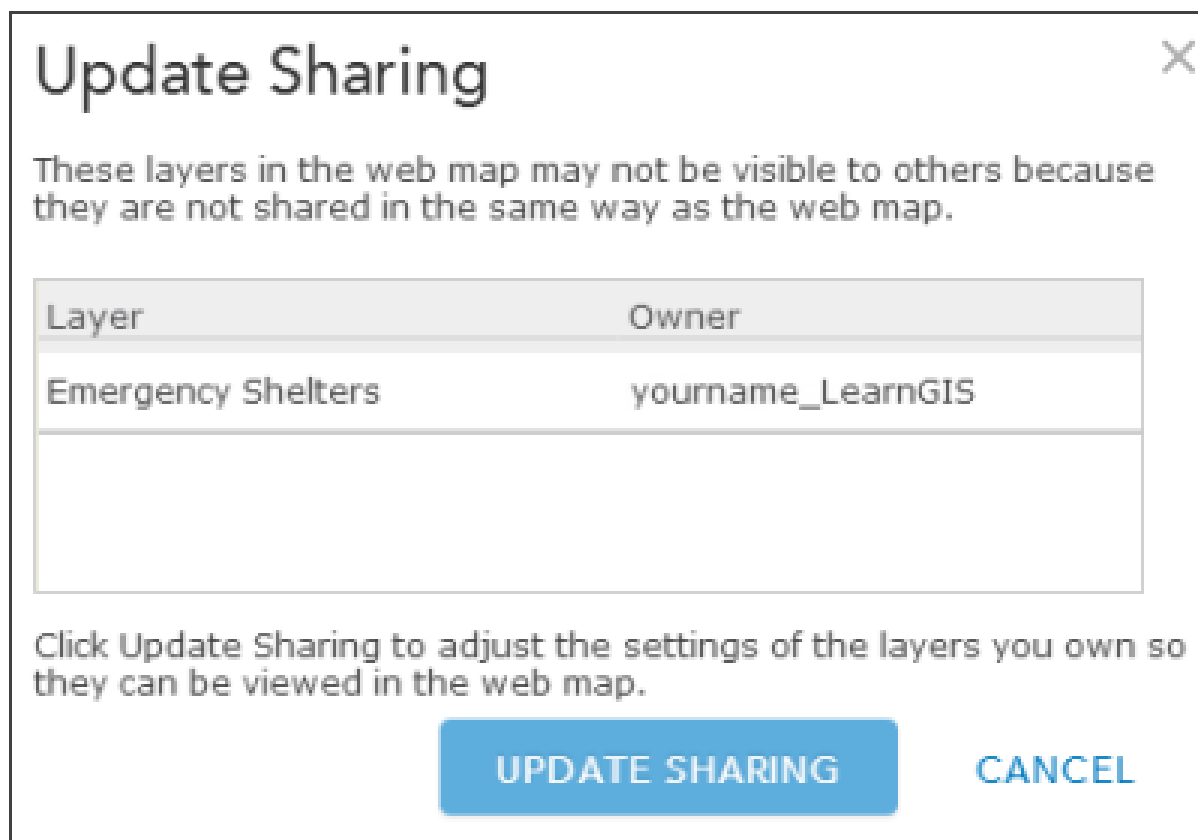


- 4 On the Share dialog box, check the box to share the item with the LearnGIS organization or share it with everyone.



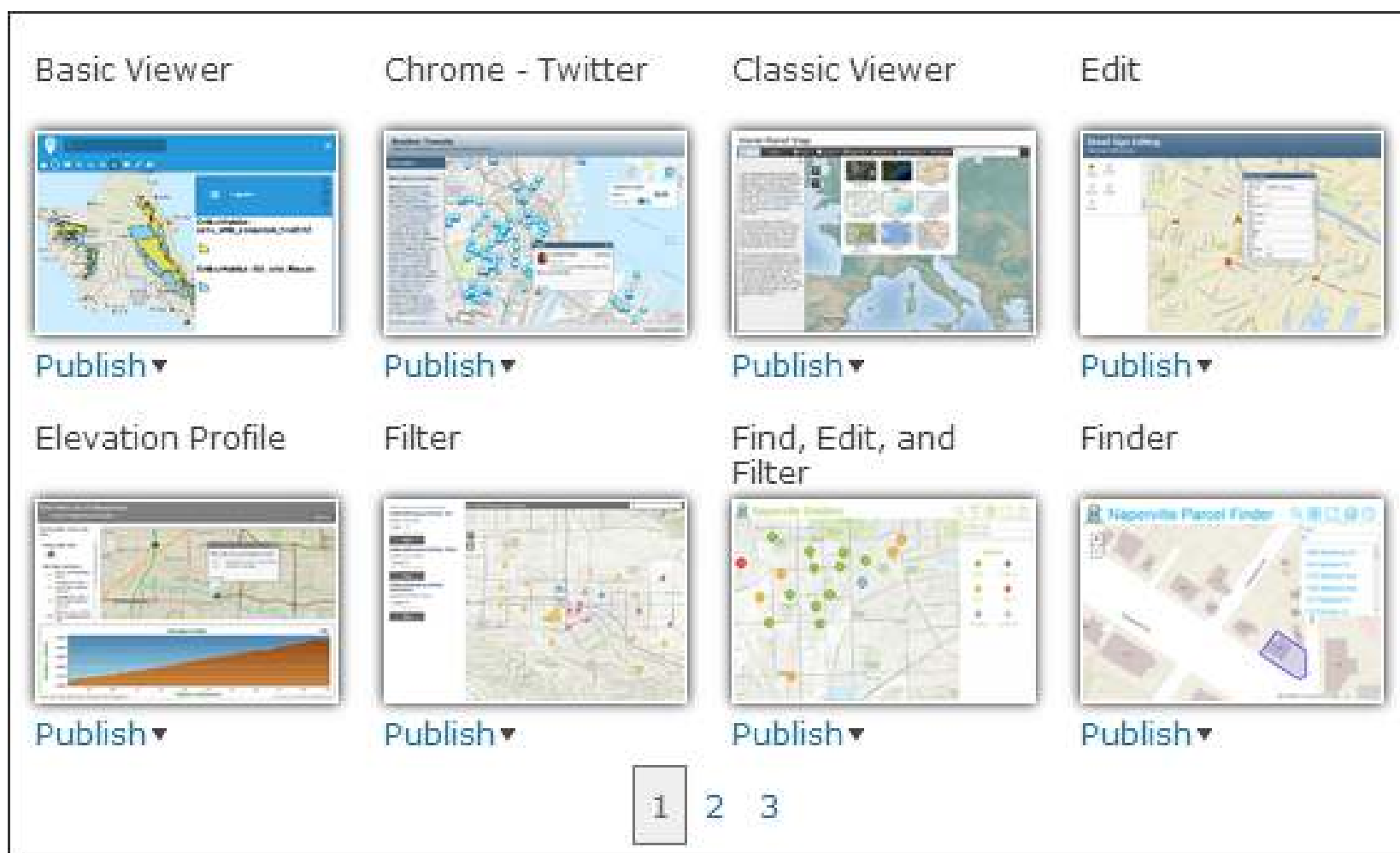
Once the map is shared, the Make a Web Application button on the Share dialog box is enabled.

- 5 Click Make a Web Application.



The Update Sharing dialog box appears. If you share a map with a certain audience—such as the LearnGIS organization—the layers in the map need to be shared with the same audience. Otherwise, users will be able to open the map, but the unshared layers won't be added to it. In this case, you need to update sharing for the Emergency Shelters layer.

- 6 Click Update Sharing.



The Share box now presents a gallery view of the available app templates. Some have specific purposes, others are for general use.

- 7 Locate the Storytelling Text and Legend app. (Use the numbers to page through the templates.) Under the thumbnail image, click the Publish drop-down arrow, and choose Publish.



- 8 On the Share dialog box, accept the default title, tags, and summary.

Title:

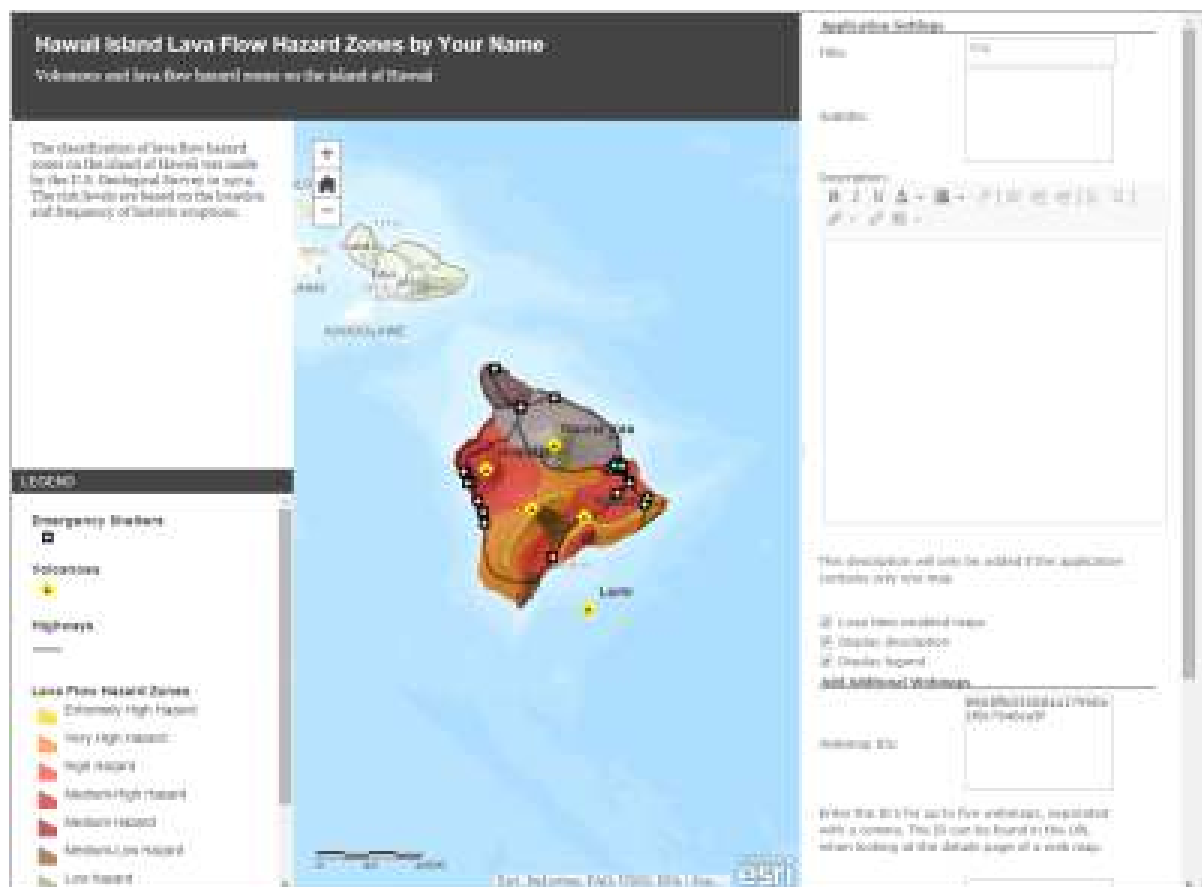
Tags:  [Add tag\(s\)](#)

Summary:

**Tip**

The web app and the web map can have the same name because they are different types of items. Using the same name makes it easy to remember the association between the app and the web map it consumes.

- 9 At the bottom of the dialog box, click Save & Publish.



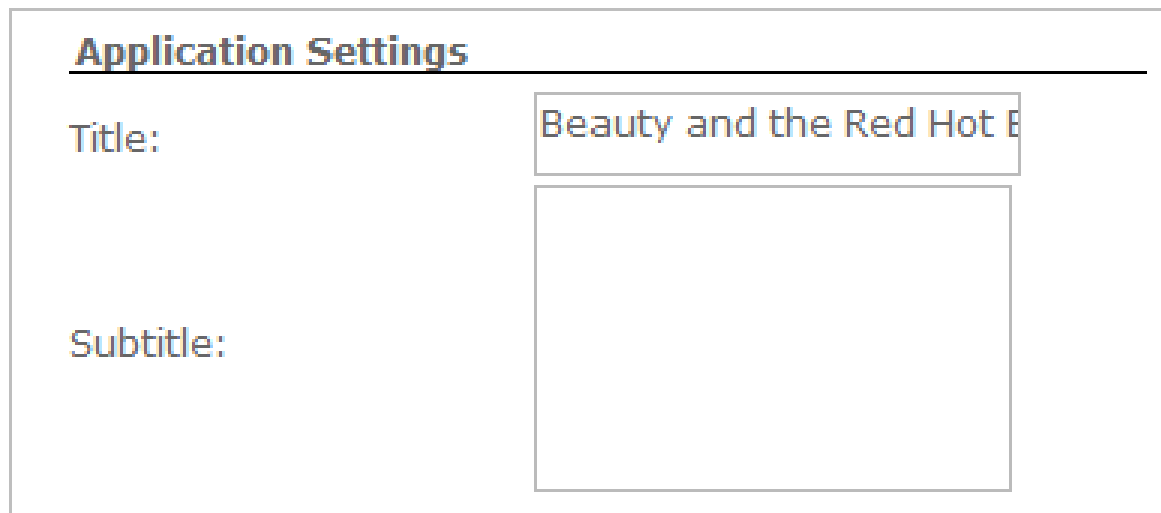
The app opens in its configurable state.

## Configure the app

Most apps have some customizable properties. The Storytelling Text and Legend template applies default values for the title, subtitle, and description, but these can be overridden. The default title matches the title of the web map that the app consumes (not the web app's title). The default subtitle matches the web map's summary, and the default description matches the web map's description. These settings are dynamic: if you open the web map's item details and edit its description, the description in the app will update automatically. Any values you type in the Application Settings panel, however, will supersede the defaults.

- 1 Under Application Settings, you can leave the Title box empty or add a title of your own, such

as **Beauty and the Red Hot Beast**.

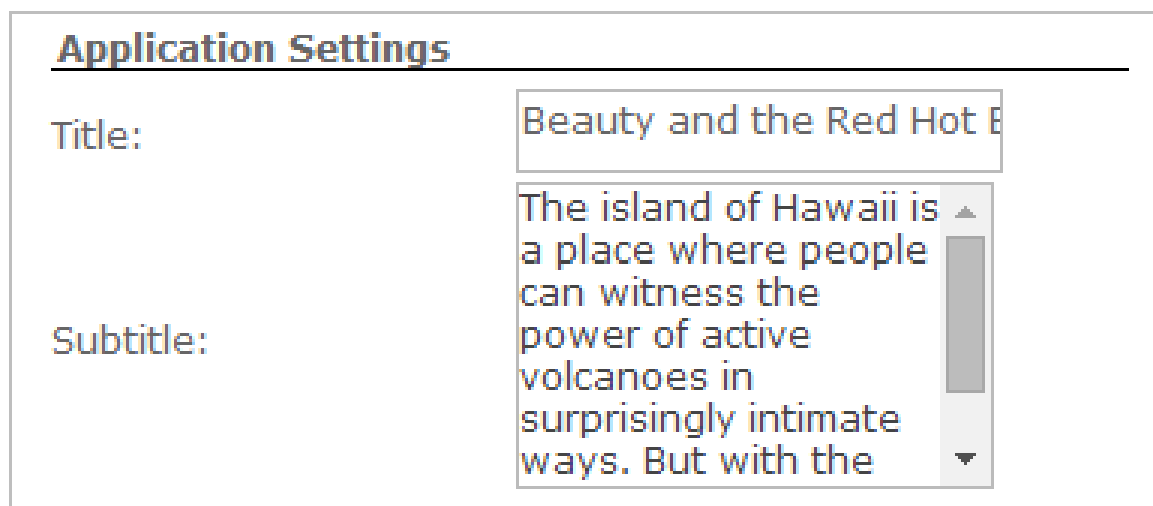


**Application Settings**

Title: Beauty and the Red Hot Beast

Subtitle:

- 2 Likewise, you can leave the Subtitle box empty or add some text of your own, such as **The island of Hawaii is a place where people can witness the power of active volcanoes in surprisingly intimate ways. But with the awesome beauty comes risk.**



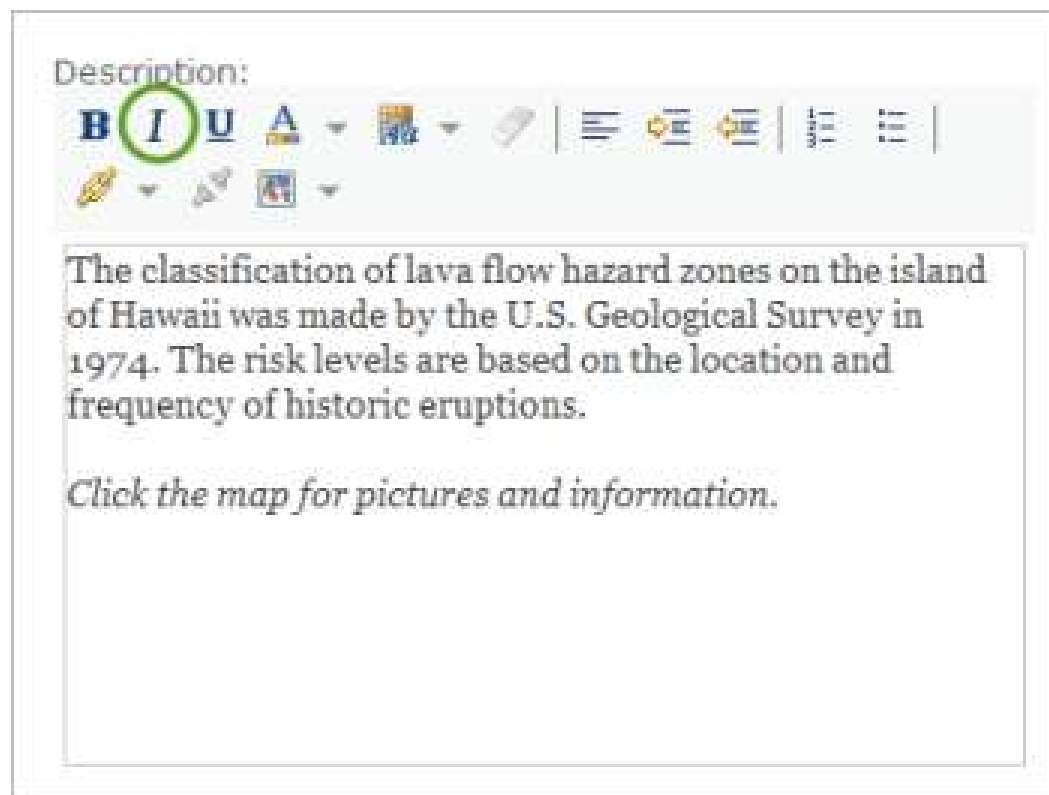
**Application Settings**

Title: Beauty and the Red Hot Beast

Subtitle: The island of Hawaii is a place where people can witness the power of active volcanoes in surprisingly intimate ways. But with the

Now you'll make a few small improvements to the default description.

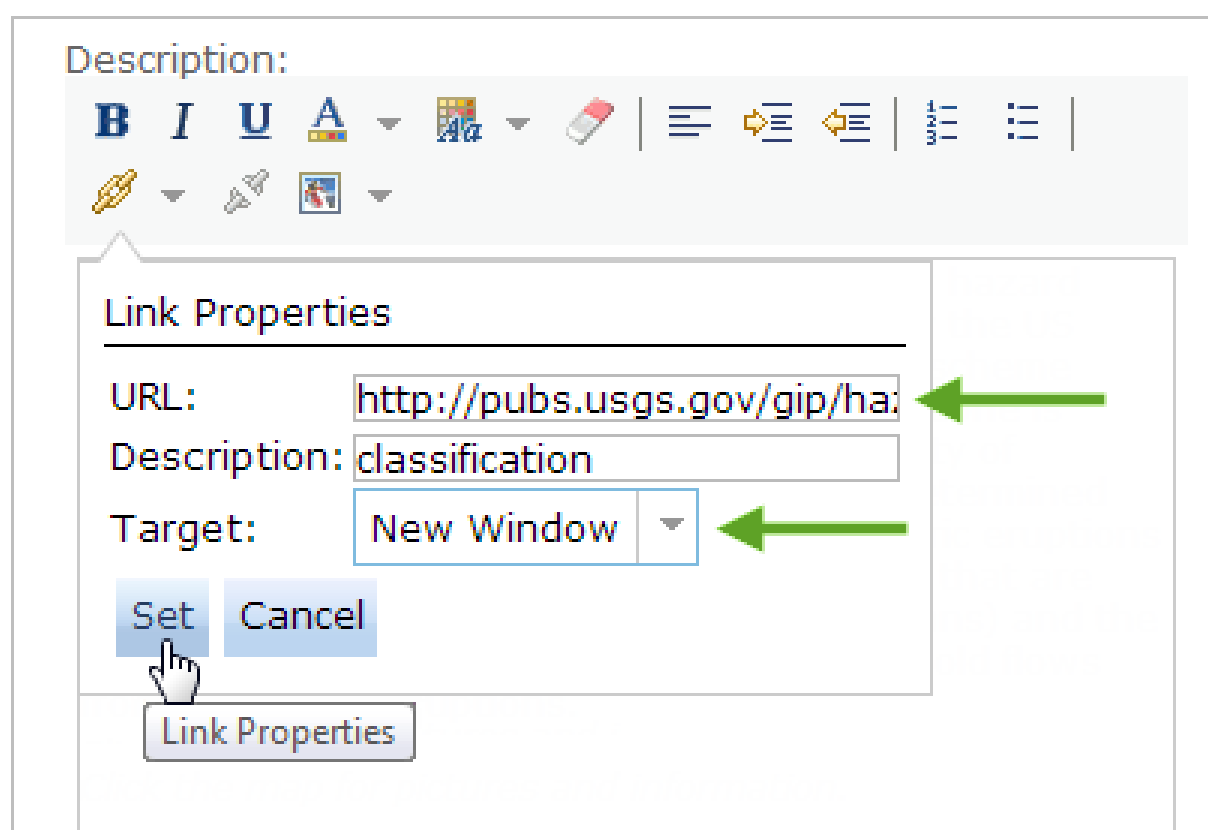
- 3 Copy and paste the description from the left text panel into the Description box under Application Settings.
- 4 In the Description box, press Enter twice to add a blank line, and type **Click the map for pictures and information.**
- 5 Highlight the sentence you just typed. On the toolbar at the top of the Description box, click the Italic button to italicize the sentence.



- 6 In the first line of text, highlight the word "classification." On the toolbar, click the Create Link button.



- 7 In the Link Properties box, in the URL text box, copy and paste this URL: **http://pubs.usgs.gov/gip/hazards/maps.html**. Click the Target drop-down arrow and choose New Window. Click Set.



The text link goes to a USGS page that describes the hazard zones in more detail.

- 8 At the bottom of the Application Settings panel, click Save.

The settings are saved and displayed on the left side of your screen.



- 9 At the bottom of the Application Settings panel, click Done.

You're taken to the web app's item details page.

## Edit the app's item details

As you did with the web map, you should add descriptive information to the web app's item details page.

- 1 On the item details page, click Edit.



- 2 In the Description box, add a description of the app. For example: **Web app showing volcanoes, lava flow hazard zones, and emergency shelters for the island of Hawaii.**

**Note** The title, summary, and description in the web app's item details are unrelated to the title, subtitle, and description that are displayed when the app is viewed.

- 3 In the Access and Use Constraints box, type **None. Public domain data and images.**

- 4 Near the bottom of the page, in the Credits box, type **Hawaii State GIS Program; US Geological Survey.**

- 5 Optionally, check the box to prevent the item from being accidentally deleted.

- 6 Click Save.

- 7 Scroll to the top of the page and click Share.

- 8 On the Share dialog box, check a box according to how you want to share the application. Click OK.

## Share

Share the item(s) with:

☐ Everyone (public)


☒ LearnGIS

These settings will replace the current settings.

No groups available to share to.

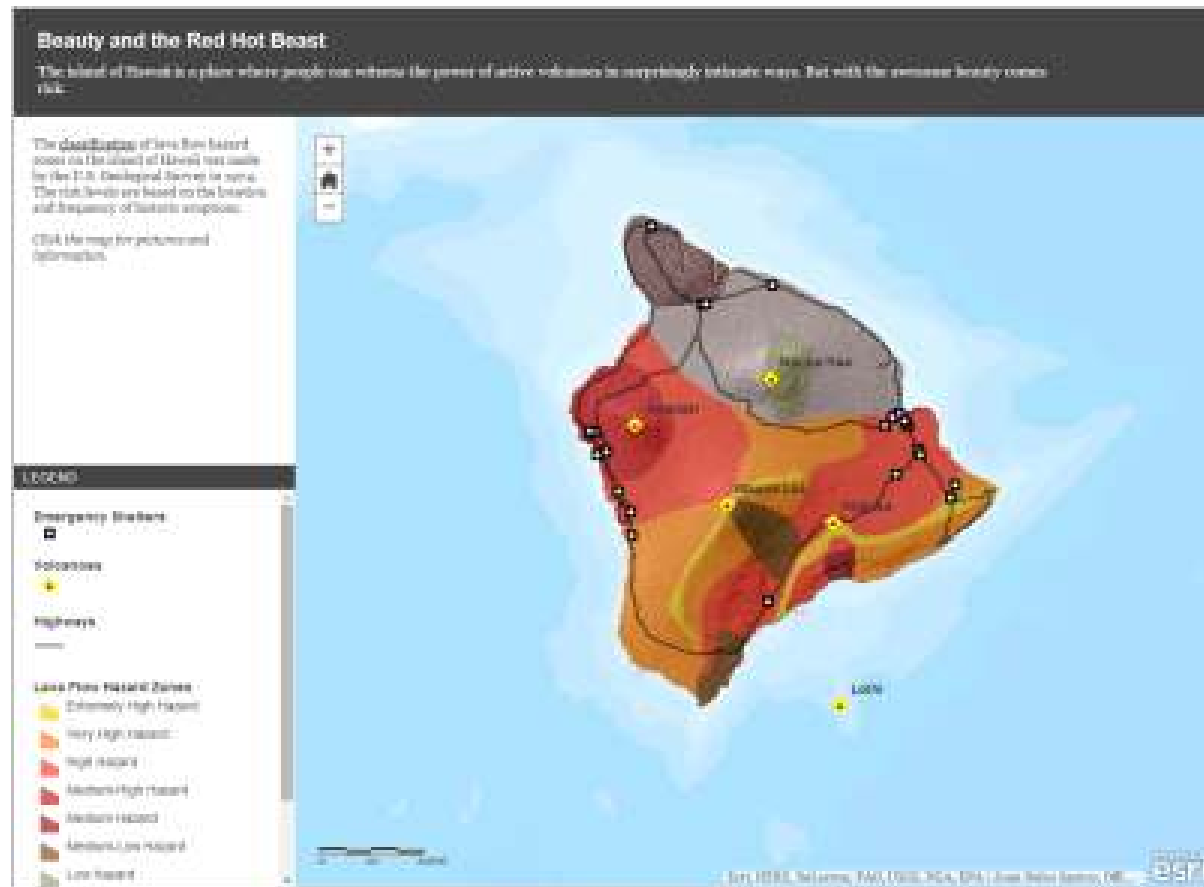
OK

CANCEL

 **Tip** Don't share the web app to a broader audience than its source web map is shared to. Otherwise, some users will be able to open the map without being able to load the map it consumes.

## View the app

- 1 Under the thumbnail image, click Open and choose View Application.



The app opens in a new browser tab or window.

- 2 Explore the app by navigating the map and opening pop-ups.

### Tip

The web app consumes its source web map. Any changes you make to the web map, such as adding or removing layers, changing symbology, or configuring pop-ups, will be reflected automatically in the app. If you delete or unshare the map, the app will no longer load it.

## Make a thumbnail image

The last thing to do is to replace the default generic thumbnail image on the item details page with one that shows your app.

- 1 If necessary, view the web app.

- 2 Capture an image of the app with your image editing software.

### Tip

If you're not sure how to do that, capture the image with the Print Screen key (PrtScn) on your keyboard, and paste it into the Windows Paint accessory. In Windows 7, you can open Paint from Start > All Programs > Accessories.

- 3 Resize the image to a width of 200 pixels, but don't alter the aspect ratio.

**Tip**

The image should have an aspect ratio of about 3:2. If the width is 200 pixels, the height should be about 133 pixels. If your image height is substantially different, you should crop the image to avoid distortion in the thumbnail.

- 4 Save the image in PNG file format to a folder on your computer.
- 5 On the web app's item details page, click Edit.
- 6 Click the default thumbnail image.
- 7 On the Upload Thumbnail dialog box, click Choose File (or your browser's equivalent command). Browse to the folder where you saved the thumbnail. Upload the image.
- 8 On the item details page, click Save.

The new thumbnail image appears after you save edits.



You now know how to make a map, find layers, make your own layers from file-based data, configure pop-ups, and publish your map as a web app. You should be able to have some fun with ArcGIS Online. What's next? Try some analysis projects. The project In Pele's Way keeps you on the island of Hawaii and takes a deeper look at the accessibility of emergency shelters.