



# GIS



## Digital Story Mapping Activity



### Grades

K-12

### Career Pathways

Geospatial Analyst  
Imagery Analyst  
Health Geographer  
Marketer

### Academics

Geography  
Language Arts: Storytelling  
Science: Geology, Systems  
Math: Area, Distance

### Professional Career Skills

Organization  
Communication  
Creativity  
Problem Solving  
Digital Citizenship  
Data Collection

### Materials

Computer  
Internet Access  
ArcGIS Accounts (Free for Education)

Optional –

GPS Unit  
Camera

### Team Goal

#### Level 1

Create a Story Map that clearly connects information to tell a story about a topic or issue using sourced text and images. Be sure to properly cite all information.

#### Level 2

Use *Strategies of Effective Storytelling with Maps* to design a Story Map with original and/or sourced text and images that contribute to understanding an issue. Be sure to properly cite all information.

#### Level 3

Use *Strategies of Effective Storytelling with Maps* to design a Story Map with original text and images that contribute to understanding new patterns about an issue. Information should combine relevant research and original data collected in the field with geospatial and digital tools.



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# Think like a Geospatial Analyst with ArcGIS Story Maps

## Esri Story Map

Everything happens somewhere! Esri Story Maps are a visual way to tell an interactive story! Esri has a mapping tool that lets you combine narratives, images, data and more multimedia content with locations on a map. It helps you share information and find patterns!



## Global Positioning System

GPS uses satellites to provide exact locations for places and all navigation on Earth. It can be used to track or monitor objects and helps with precise time measurements. GPS is used in all industries including disaster response, entertainment, health, construction, environment, business, engineering, and more.



## Latitude & Longitude

Every location on Earth has a unique position measured in coordinates with degrees and minutes. Longitude measures east to west across the globe; Greenwich, England is at the meridian (0 degrees). The distance north or south of the equator is latitude. For example, Wailuku on Maui has the coordinates 20.8911° N, 156.5047° W.



## Visualization

When data or events are mapped on the globe, you may begin to see, or visualize, patterns about location, frequency of events, area of impact and more. Mapping helps you see data in new ways to find problems and design solutions!



## Thematic Map

This map type has visual layers that focus on a single topic called a theme. For example, a map that shows only population density would be a thematic map. Or a map that shows only the species of trees in an area. Use dots, proportional symbols, isolines, or areas of color to visualize information on a thematic map layer.



## Geography & Geology

The study of geography and geology are interconnected. Geography studies locations of human impact/activity on Earth: population, cities, resources, land use, etc. Geology is a science that explores Earth's physical make up over historical time: substance, tectonics, erosion, weathering, natural features, etc.



## GIS

Geographic Information System is a mapping tool that layers data to discover patterns and relationships about different locations. GIS helps to capture, store, and analyze location data to visually represent the real world.



## Topographic Map

This map type shows the "shape of the land." A topographic map shows a 3D mountain, valley, or other landscape drawn onto a flat or 2D map. A topographic map may also show the depth of the ocean and ocean trenches.



## Choropleth Map

These maps use a color key to show differences in values between areas. For example, the Hawaiian islands would have a color range that would help the viewer compare the estimated number of native bats per island.



## Proportional Symbol Map

The value or size of data on a map can be represented by the size of the symbol. For example, a bigger symbol means a large value, and small symbol represents a proportionally smaller value. Something half as large, has a value that's half the size!



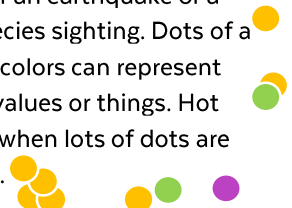
## Isopleth Map

Also known as a contour map, with lines, called isolines, that chart a constant value, like elevation to show mountains or air pressure to show weather.



## Dot Map

Dots on a map pinpoint a specific location! A dot could represent the location of an earthquake or a native species sighting. Dots of a variety of colors can represent different values or things. Hot spots are when lots of dots are very close.





# Engineering Design Process Directions:

Level 1  
Level 2



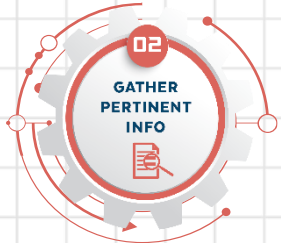
## Define the Problem

Choose a goal to tackle with your team!

Then decide on one issue to share in your story map.

You may want to explore the *STEMworks™ Community Issues Cards*.

For inspiration, explore the Story Map gallery! [storymaps.arcgis.com/en/gallery](https://storymaps.arcgis.com/en/gallery)



## Gather Pertinent Information

Do research to discover new information about your issue. You may need to collect original data using GPS, take photos, or even use a survey: **Esri ArcGIS Apps: Getting Started with Survey123**. As you collect data and information, look for patterns or connections. For a clear message, you will organize patterns and connections into three or more main points in your story map.



## Generate Multiple Solutions

Brainstorm a plan to convey information! Use **Storyboarding Your Story Map & Strategies for Effective Storytelling with Maps**.

Highlight the patterns and connections you found from data and research!

How will you 'bring your message to life' through maps, images, and text?



## Choose a Solution

Bring team ideas together into one solution. How will you hook your audience?

How will you choose information to best connect with your audience?

Does your story map inspire? Does your interactive map share information in a way that empowers your audience with new knowledge or possible solutions?

Use [storymaps.arcgis.com](https://storymaps.arcgis.com) to convey your message with maps.



## Design a Culturally Responsive Solution

Is your information sequenced so it tells a story that makes sense? Reread your text and look at the images you chose. How does each image, title, and sentence add to your message? Should they be reworded? How can your team share the work to reach goals and deadlines?



## Test and Optimize

Share your story and ask for feedback. For example: What images and text connect most with your audience? What do viewers think your message is? What is confusing to your audience? Do you have enough data and information to support your issue/message? What could be improved?

Use what you learned to improve your creative solution.



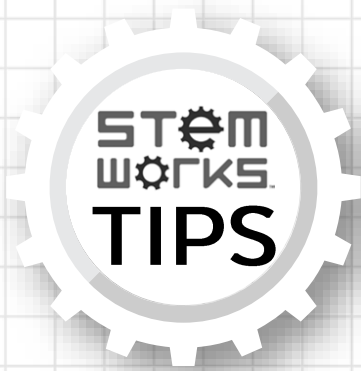
## Share & Reflect

How did your team find solutions and practice perseverance?

What was one problem your team encountered and had to overcome?


How well did you communicate your message?





# Strategies for Effective Storytelling with Maps



 [storymaps.arcgis.com](https://storymaps.arcgis.com)



## Connect!

Who is this story for?

Carefully choose....

- Informative Data
- Images
- Vocabulary

Be inviting to your audience!



## Hook!

How can you catch their eye?

Make it engaging!

- Beautiful Images
- Exciting Titles
- Clear Information

Hook your audience!



## Clarity!

What is your message?

Stay organized....

- Sequence Matters
- Relevant & Useful Content

All info adds to one clear message about an issue!



## Empower!

Be a part of future impact!

Raise awareness with content.

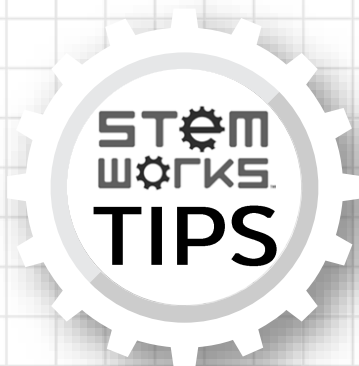
- Be Accurate & Relevant
- Invite Action
- Suggest Solutions

Empower your Community!










# Storyboarding Your Story Map

 [storymaps.arcgis.com](https://storymaps.arcgis.com)

Brainstorm to develop your team's ideas for a clear message. Use research and data to design a digital model that visually conveys information using ArcGIS.

Story Map Title: \_\_\_\_\_

Authors: \_\_\_\_\_

Problem

*Introduction:*

*What is your main message about an issue?*



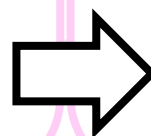
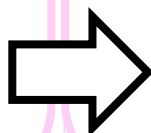
*What will you share first about your issue?*

*What will you share next about your issue?*

*What else should be shared about your issue?*



Analysis



Solution

*Conclusion:*

*Why is this information important for your community?*

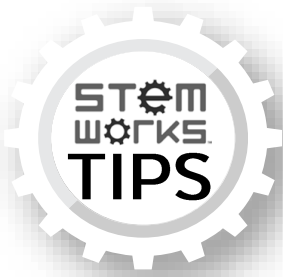
*Or... How can you empower your community to take action on your issue?*



STEM  
WORKS

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# Esri ArcGIS

## Getting Started with Students



K-12 schools have free access to ArcGIS through Esri!

### Teacher Directions: Sign-in: [storymaps.arcgis.com](http://storymaps.arcgis.com)

1. Check the Esri Organization map to see if your school has an AQOL account:

- <http://esriurl.com/usk12gis>
- Zoom in to the islands and click on the schools

a. If your school is not on the map, apply here: <http://www.esri.com/connected#school>

Complete the form: 'Request a Free ArcGIS for Schools Bundle'

a. If your school is on the map, contact [denissa@medb.org](mailto:denissa@medb.org) so that you can connect with the teacher managing your school's accounts; you can be an administrator too!

2. Once Esri gives your school an account, set up student IDs:

- Set up an excel file. Use exact spelling, column order, capitals (see sample below)
- Save file type as: CSV (comma delimited)

File name:

Save as type:

Email	First Name	Last Name	Username	Password	Level	Role	Allow Esri Access
Teacher email	Student1	Student1	Baldwin1	Password1	2	Student	"true" = "NOT"}}
Teacher email	Student2	Student2	Baldwin2	Password1	2	Student	"true" = "NOT"}}
Teacher Email	Leilani	Asaka	Leiasaka1	Password 1	2	Teacher	true

- In your teacher Esri Account: ([storymaps.arcgis.com](http://storymaps.arcgis.com))
  - Choose "Members" → "Invite Members"
  - Then choose "Add members without sending invitations"
- Upload your classroom CSV file.
  - If upload does not work, check capitals and spaces
  - Each account needs to be unique, so adding a letter or number to names may help!

Overview Members Licenses Status Settings

Invite members

Search members

3. Distribute usernames and passwords to students:

- If students work in teams/pairs, choose one student login for teams to share
- If account has just been created, the student is prompted to change their password
- Have students write username and NEW password on the **Geospatial Analyst ID Cards**

### Teacher Resources:

- Esri K-12 GIS Organization: <http://k12.maps.arcgis.com/home/index.html>
- Explore GeoInquiries by subject: <https://www.esri.com/en-us/industries/education/schools/geoinquiries-collections>
- Distribute STEMworks THINKit™ **ArcGIS: Build a Story Map / ArcGIS Online: Mapping Basics** student directions
- Explore State of Hawaii Office of Planning Maps & Data: <http://planning.hawaii.gov/gis/download-gis-data>

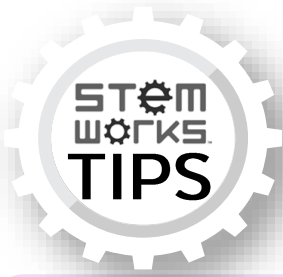
To create a **Story Map**, students may need to document, collect, save or gather data:

- Image Files (.jpg, .png)
- Website Links
- Coordinates
- Video Files (uploaded to Vimeo or YouTube)
- Summaries
- GPS data in an AQOL Map (See the **Create AQOL Map Using GPS Data** sheet)
- Field Notes

**Data Tip:** Use **Survey123 (Esri ArcGIS Apps)** to gather real time mappable data from the community!

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# Geospatial Analyst ID Cards

A fun way for students to save and organize their ArcGIS Accounts!



**Geospatial Analyst**  
*Esri ArcGIS Software ID*

Username: \_\_\_\_\_

Password: \_\_\_\_\_

Step  
1

Be Inspired! Explore the Gallery!  
[storymaps.arcgis.com/en/gallery](http://storymaps.arcgis.com/en/gallery)

Step  
2

Sign in with your Account!  
[storymaps.arcgis.com](http://storymaps.arcgis.com)

Step  
3

Collect data, Choose a  
Template & Create Map



**Geospatial Analyst**  
*Esri ArcGIS Software ID*

Username: \_\_\_\_\_

Password: \_\_\_\_\_

Step  
1

Be Inspired! Explore the Gallery!  
[storymaps.arcgis.com/en/gallery](http://storymaps.arcgis.com/en/gallery)

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Step  
1

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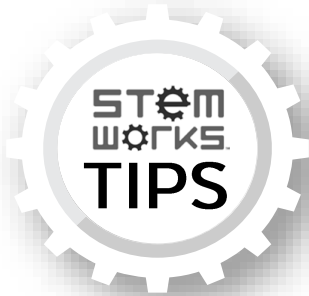
Step  
2

Sign in with your Account!  
[storymaps.arcgis.com](http://storymaps.arcgis.com)

Step  
3

Collect data, Choose a  
Template & Create Map





# Esri ArcGIS Apps

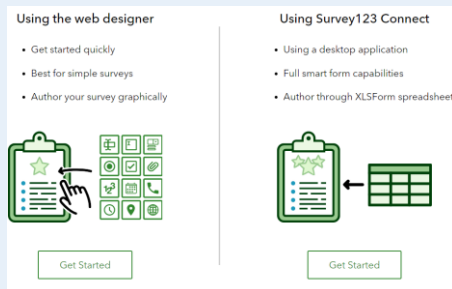
## Getting Started with Survey123

Collect geospatial data from a phone to your map!



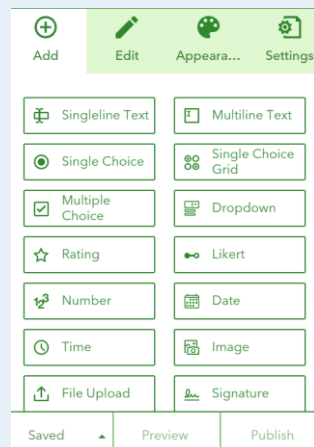
### Create Survey!

1. Go to: <https://survey123.arcgis.com>
2. Sign in with your ArcGIS account
3. Click on "My Surveys"
4. Click [+ Create a New Survey](#)
5. Choose either:



6. Enter your Survey: Name, Tags & Summary. Click Save.

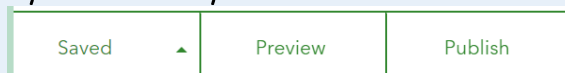
7. Build survey by dragging and dropping question types. Write questions necessary for your data collection.



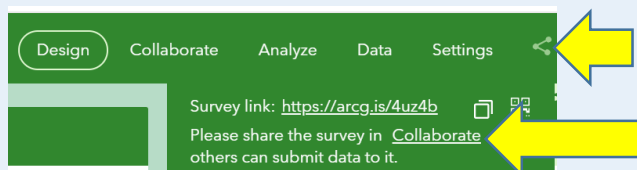
8. Add the GeoPoint question to attach a geolocation to data!



9. Be sure to save, preview, and publish when you are ready.



10. Click the share icon, then click "Collaborate".



11. **Safety TIP!** Choose to make your survey public or only viewable to your organization!

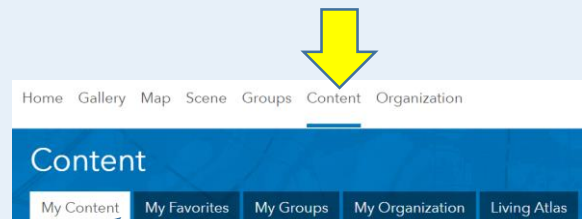
Choose who can submit data to this survey:

- ☐ Everyone (Public)
- ☐ Members of my organization (Hawaii K12 Education)

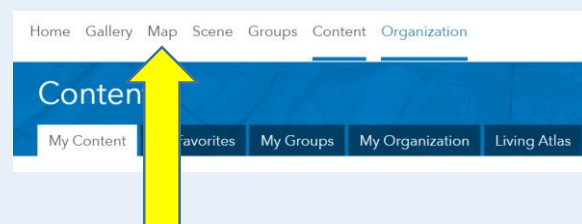
12. Share survey link to collect data!

### Map Survey Data as a Layer!

1. Sign in into your ArcGIS Online account. <https://hi-doe.maps.arcgis.com>
2. Your survey data will be saved in a layer file under "Content" then "My Content"

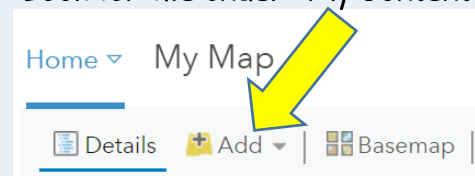


3. To use this data, click on "Map"

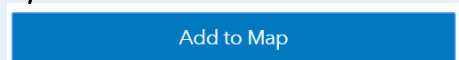


4. Click on "Add" then scroll to "Search for Layers."

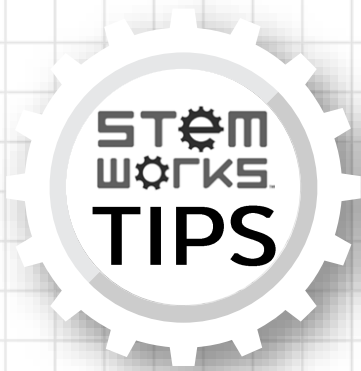
- Look for file under "My Content"



5. Choose your file. Then click "Add to Map"







# ArcGIS: Build a Story Map

 [storymaps.arcgis.com](https://storymaps.arcgis.com)



Level 1  
Level 2

**Students may need:** Images, Videos (uploaded to Vimeo or YouTube), Website Links, Summaries, Field Notes, Coordinates, GPS data in an AGOL Map (See “Using Field Data with ArcGIS Online”), etc.

## 1. Go to: [storymaps.arcgis.com](https://storymaps.arcgis.com)

“Sign-in” in to your account.

Username: \_\_\_\_\_

Password: \_\_\_\_\_

## 2. Scroll down to “Create Story.”

Get started right away!

CREATE STORY

## 3. Choose “Map Journal.”



MAP  
JOURNAL

## 4. For Layout, select “Side Panel.”

Which layout do you want to use?



Side Panel

...and then

START

## 5. Type in a “Title” for your Map Journal, and then click the arrow.

What do you want to call your Map Journal?

Enter your title...



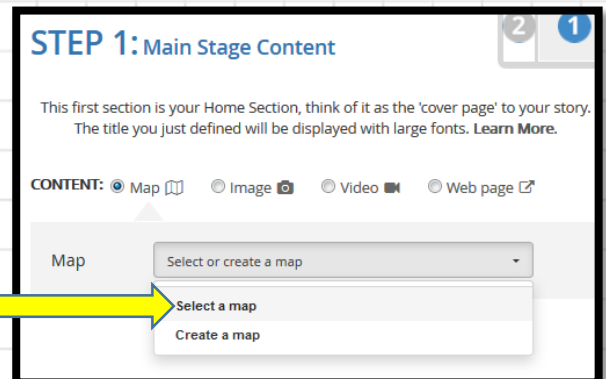
## 6. Main Stage: Connect content to a map.

*Option 1:* Map with your GPS data “Using Field Data with ArcGIS Online” directions.

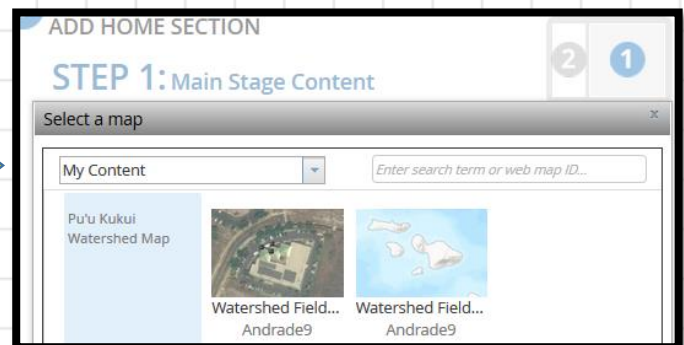
*Option 2:* Survey data “Esri ArcGIS Apps Getting Started with Survey123” directions.

*Option 3:* Search and use a map that is already created.

### a. Click “Select a map”



b. In “My Content,” your saved ArcGIS Online (AGOL) maps will be listed. Select the map that you created with GPS (Using Field Data with ArcGIS Online) or Survey123 data.



OR (instead of “My Content”) choose “ArcGIS Online” OR “My Organization” search and select a map to use.


### Image Citations:

1. Story Maps. (2018). Retrieved August 14, 2018, from <https://storymaps.arcgis.com/en/>
2. Story Map Journal. (2018.). Retrieved August 14, 2018, from <https://hi-doe.maps.arcgis.com/apps/MapJournal/index.html?appid=cebbb07f2bed49c1a735bdae015c3c67&edit>





# ArcGIS: Build a Story Map

 [storymaps.arcgis.com](https://storymaps.arcgis.com)

## 7. Next to “Location,” select “Custom configuration.”

Location

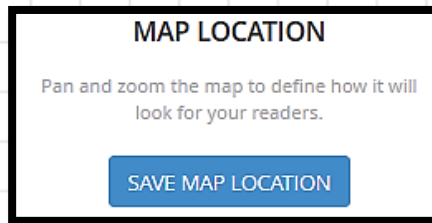
Map default

Custom configuration

- a. Pan and zoom to choose the map location that you want to show your readers.



- b. Once positioned correctly, select “**SAVE MAP LOCATION.**”



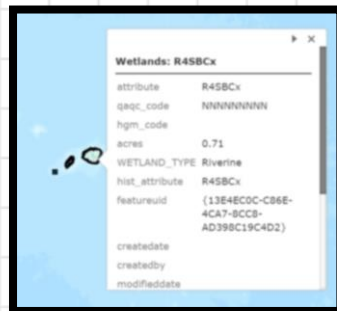
## 8. A Pop-up displays information on your map. If you want to display a Pop-up, select “Custom configuration” next to “Pop-up.”

Pop-up

Map default

Custom configuration

- a. Click the data point that you would like the Pop-up to display.
- b. Select “**SAVE THE POP-UP CONFIGURATION.**”



## 9. Select

**NEXT**

## 10. Side Panel Content: Add text, links and images to your story! This information will become a section on the side panel.

ADD HOME SECTION

### STEP 2: Side Panel Content

This first section is your Home Section, think of it as the 'cover page' to your story. The title you just defined will be displayed with large fonts. [Learn More.](#)



Add text, links, and small graphics here.

Bring your message to life one panel at a time. Use **Strategies for Effective Storytelling** to share the:

- Problem (Hook)
- Analysis (Connect & Clarify)
- Solution (Empower)

When section is complete, click “**ADD.**”

## 11. Add more to your story Select “**ADD SECTION.**”



ADD SECTION

- a. Add another map, image, video, or web link. (Follow all copyright rules and include all sources.)
- Map: Repeat steps 6-11.
  - Images: Upload from Computer, Flickr, Google+, or link.
  - Video: YouTube, Vimeo, or link.

**REPEAT Step 10 & 11: Add more side panels!**

Be sure to **SAVE** often!

Click “**Share**” and choose “**Organization**” or “**Private**.”  
Ask your teacher if they want you to share your map link.

 Private

 Organization

 Public

[Preview](#)



### Image Citations:

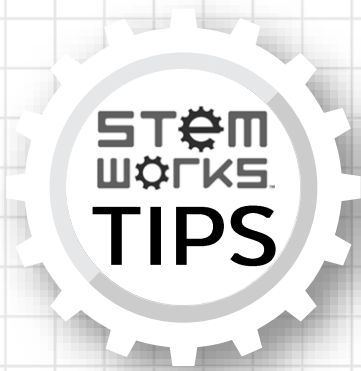
1. Story Maps. (2018). Retrieved August 14, 2018, from <https://storymaps.arcgis.com/en/>
2. Story Map Journal. (2018.). Retrieved August 14, 2018, from <https://h1-doe.maps.arcgis.com/apps/MapJournal/index.html?appid=cebbb07f2bed49c1a735bdae015c3c67&edit>



Info below = DRAFT 1

Needs to be tested (ArcGIS updated)





# Using Field Data with ArcGIS Online GPS Waypoints into AGOL Map

<https://arcgis.com>



Level 2  
Level 3

Students need: Computer, internet, GPS with data, USB cable

## 1. Connect GPS to computer.



## 2. Sign-in to your account.

Go to: [www.arcgis.com](http://www.arcgis.com)

Username: \_\_\_\_\_  
Password: \_\_\_\_\_

Sign In

Sign In 

Username  
Password

☐ Keep me signed in

**SIGN IN**

## 3. Select **Map** tab.

ArcGIS **Features** Plans Gallery **Map** Scene Help

## 4. Choose “**Save**” then “**Save As**”

ArcGIS ▾ My Map



## 5. Save Map

- Enter a **Title** for your map.
- Choose one **Tag** (one worded description)
- Summary**: Write a brief description.
- Save** map

### Save Map

Title: Pu'u Kukui Watershed Map

Tags: watershed x invasive species x native species x  
Add tag(s)

Summary: invasive species taken 2-22-17 during watershed site visit.

Save in folder: Andrade9

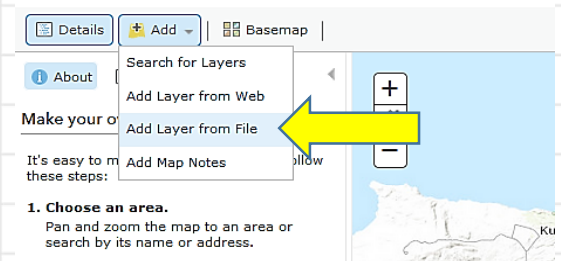
**SAVE MAP**

CANCEL

## 6. Add Layer for Data

- Select **Add**
- Choose **Add Layer from File**

ArcGIS ▾ My Map



### c. Select **Browse**

### Add Layer from File

Locate the file you want to import.

- Shapefile (ZIP archive containing all shapefile files)
- CSV or TXT files with address or latitude, longitude (comma, semi-colon or tab delimited)
- GPX (GPS Exchange Format)

File: **Browse...** No file selected.

Note: You can import shapefiles and CSVs with 1000 features or 250 address locations. No feature limits on GPX files.

**IMPORT LAYER**

CANCEL

Image Citations:

1. Story Maps. (2018). Retrieved August 14, 2018, from <https://storymaps.arcgis.com/en/>
2. Story Map Journal. (2018.). Retrieved August 14, 2018, from <https://h1-doe.maps.arcgis.com/apps/MapJournal/index.html?appid=cebbb07f2bed49c1a735bdae015c3c67&edit>

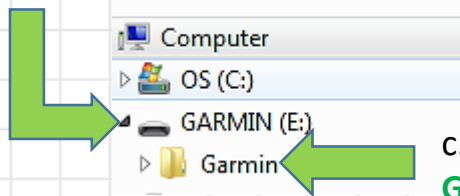


# Using Field Data with ArcGIS Online GPS Waypoints into AGOL Map

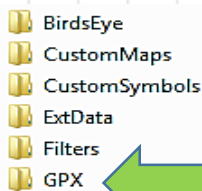
## 7. Locate GPS Data on Computer

On your computer...

- Choose **"My Computer"**.
- Double click to open the **USB Drive (GARMIN)** connected to the GPS (See STEP 1).



- Open the **GARMIN** folder



- In **GARMIN** folder, open **GPX** folder.

- Select the file **"Waypoints\_Date.gpx"** (If time was set up on the GPS, your data should automatically have the correct date).

File folder	GPX File
Current	
BirdsEye Demo.gpx	GPX File
Garmin Waypoints.gpx	GPX File
Grand Canyon National Park.gpx	GPX File
Waypoints_05-FEB-26.gpx	GPX File
Waypoints_21-FEB-17.gpx	GPX File

## 8. Import data to ArcGIS Online

### Add Layer from File

Locate the file you want to import.

- Shapefile (ZIP archive containing all shapefile files)
- CSV or TXT files with address or latitude, longitude (comma, semi-colon or tab delimited)
- GPX (GPS Exchange Format)

File:  Browse... Waypoints\_21-FEB-17.gpx

Note: You can import shapefiles and CSVs with 1000 features or 250 address locations. No feature limits on GPX files.

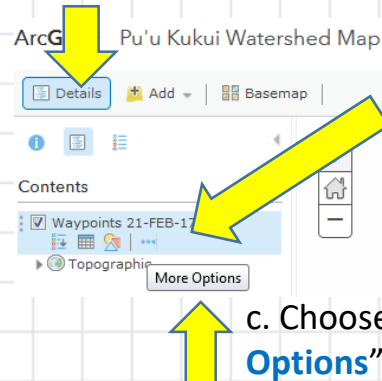
Tip: You can also drag and drop a CSV or GPX file from your desktop onto your map.

Select **"Import Layer"**.



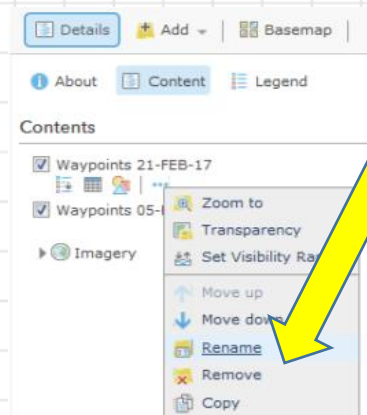
## 9. Name Data Layer

- Click on **Details** tab



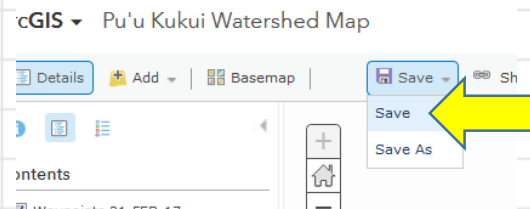
- Under **Contents**, find **"Waypoint\_date"** file & hover over three blue dots.

- Choose **"More Options"** menu



- Select **"Rename"**. Choose a name that describes the data layer.

## 10. Save work!



## 11. Add More Layers from GPS

Repeat steps 6-10 to add more data layers.

Try Story  
Mapping!

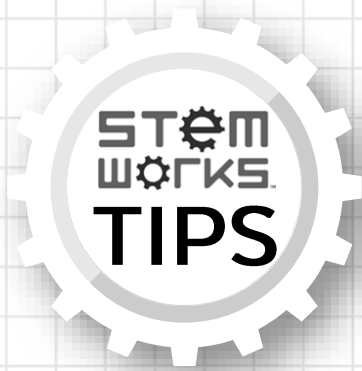
STORY  
WORKS  
TIPS

ArcGIS: Build a Story Map

See Step 7: Main Stage

### Image Citations:

- Story Maps. (2018). Retrieved August 14, 2018, from <https://storymaps.arcgis.com/en/>
- Story Map Journal. (2018.). Retrieved August 14, 2018, from <https://h1-doe.maps.arcgis.com/apps/MapJournal/index.html?appid=cebbb07f2bed49c1a735bdae015c3c67&edit>



## ArcGIS Online: Mapping Basics

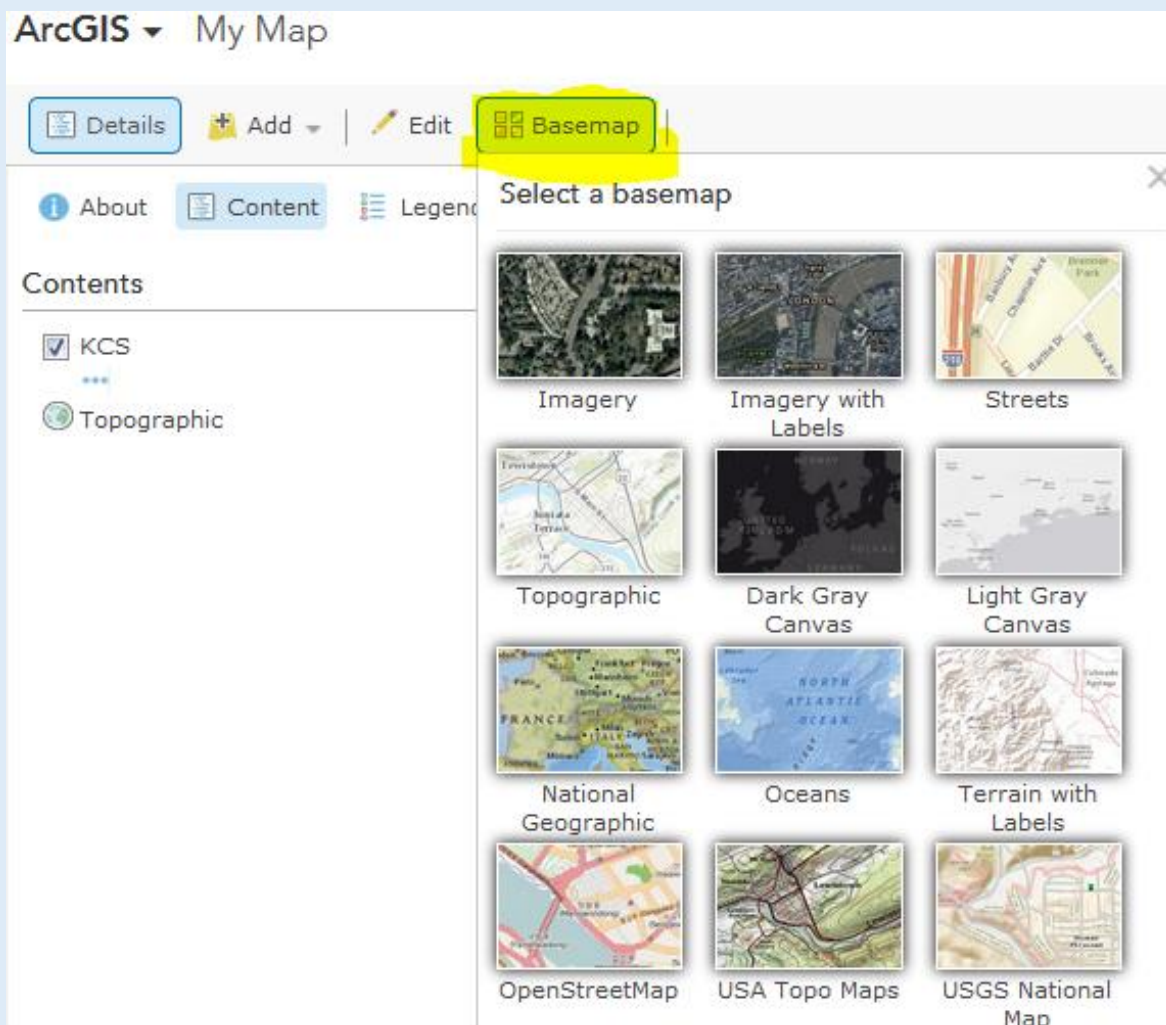
### Change Basemap

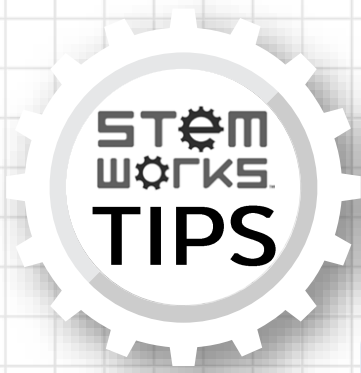
#### STEP 1

Zoom into area of map you want to explore by using the mouse scroll wheel or the + (plus) or – (minus) features located on the top left side of map.

#### STEP 2

Hover mouse over **Basemap** located on left top-side of screen and click each selection to explore the features of each **Basemap**.



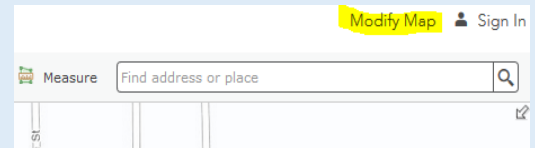


# ArcGIS Online: Mapping Basics

## Create a Point

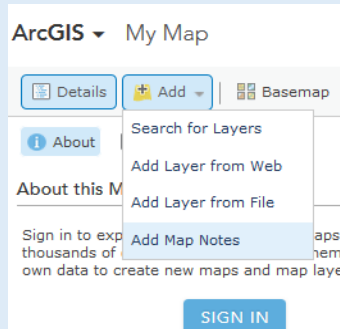
### STEP 1

Select “Modify Map”



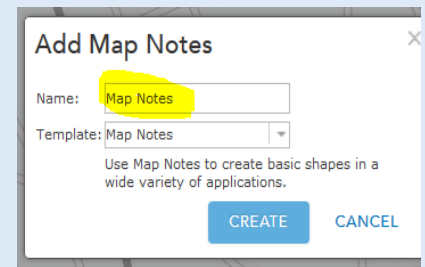
### STEP 2

- Select “Add”
- Then select “Add Map Notes” from drop down menu.



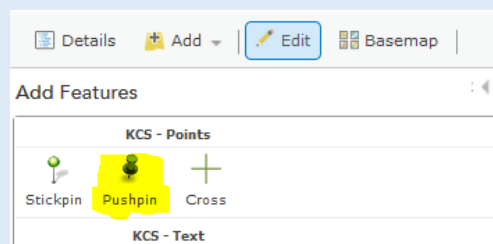
### STEP 3

In the “Name” field, type in the name of your Point.



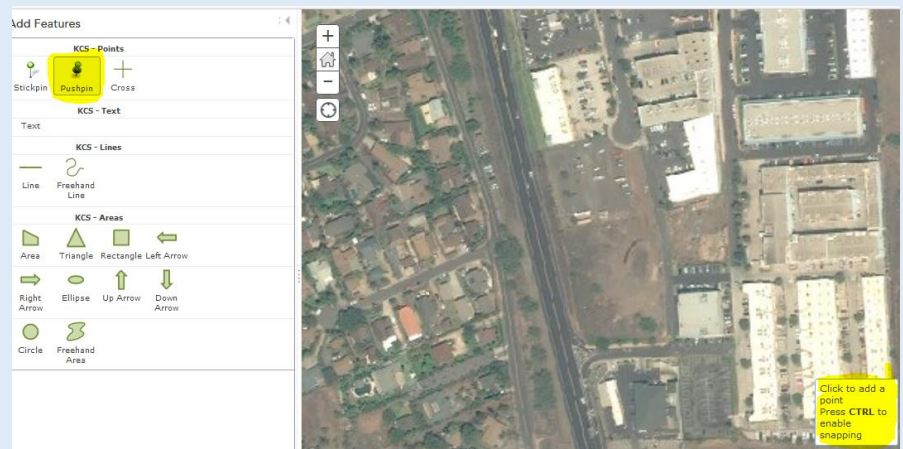
### STEP 4

- Choose “Add Features”,
- Highlight “PUSHPIN”.



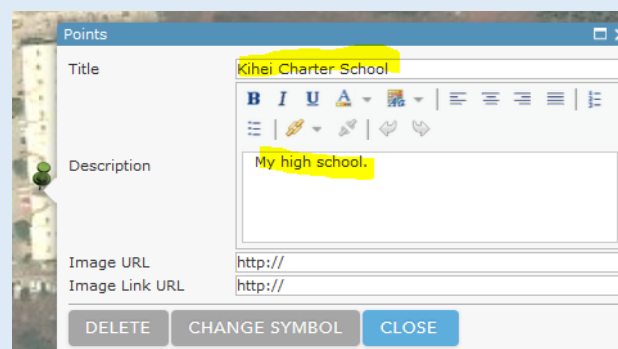
### STEP 5

- While “Pushpin” is highlighted, position pointer (mouse) over location, then **LEFT CLICK ONCE** while pressing **CTRL** to ‘snap’ point to map.

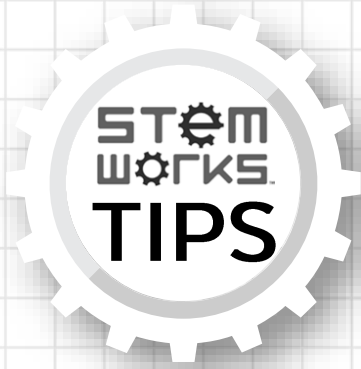


### STEP 6

- In “Title” field, type in the full spelling of your school
- In “Description” field, type in a short description of your school.
- Select “CLOSE”.







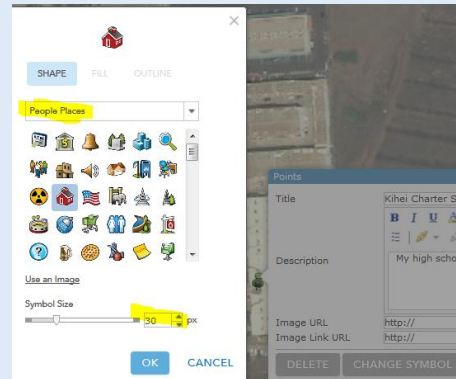
## ArcGIS Online: Mapping Basics

### Points & Lines

#### Edit a Point

##### STEPS 7, 8, 9, 10

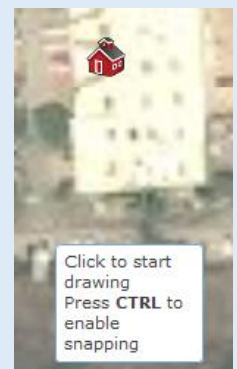
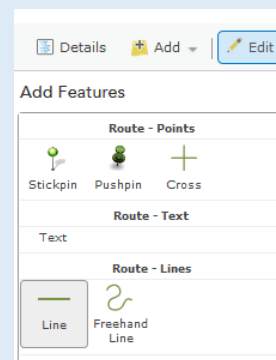
- Click newly created point/ pushpin & select **"Change Symbol"**.
- Scroll through "Shapes" drop-down menu & find "People Places".
- Select the 'red school' icon.
- Slide Symbol Size bar to '30' pixels & select **"OK"**.



#### Create a Line

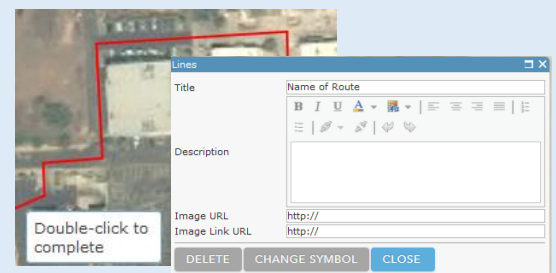
##### STEPS 1, 2 & 3

- Select **"Add Map Notes"** (HINT: Refer back to **CREATE A POINT** for instructions). Name **Map Note "Route"** and select **"CREATE"**.
- In the 'Add Features' menu, highlight **"Line"**, then guide pointer to starting location, press **CTRL & LEFT CLICK** (once only) to set start of line.
- **DRAW LINE:** Drag the line along your chosen route. To change direction, **LEFT CLICK ONCE**.



##### STEP 4

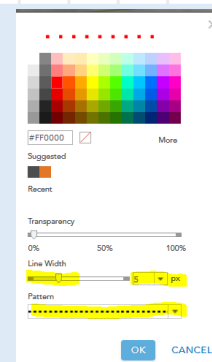
- To complete LINE, **DOUBLE-CLICK**.
- In "Title" field, enter a short name describing the route, (e.g., Route from school to grocery store). Select **"Close"**.

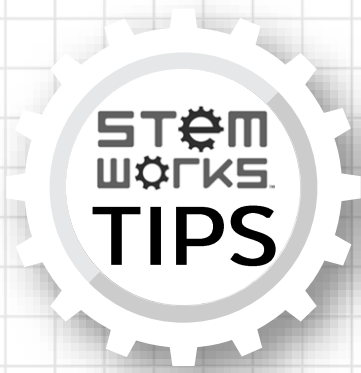


#### Edit a Line

##### STEP 1

- Click LINE to activate PopUp.
- Select **"CHANGE SYMBOL"**.
- Select a brighter **Color**, such as RED. Change the Line Width to 5 pixels by **moving slider**.
- Change the line **Pattern**. Select **"OK"**.



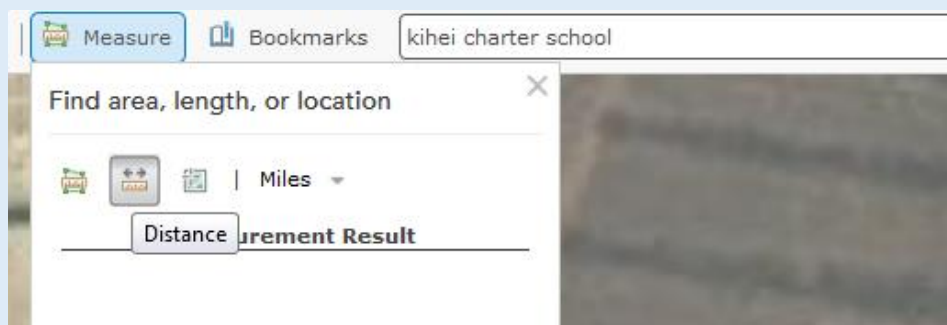


## ArcGIS Online: Mapping Basics

### Measure Distances

#### STEP 1

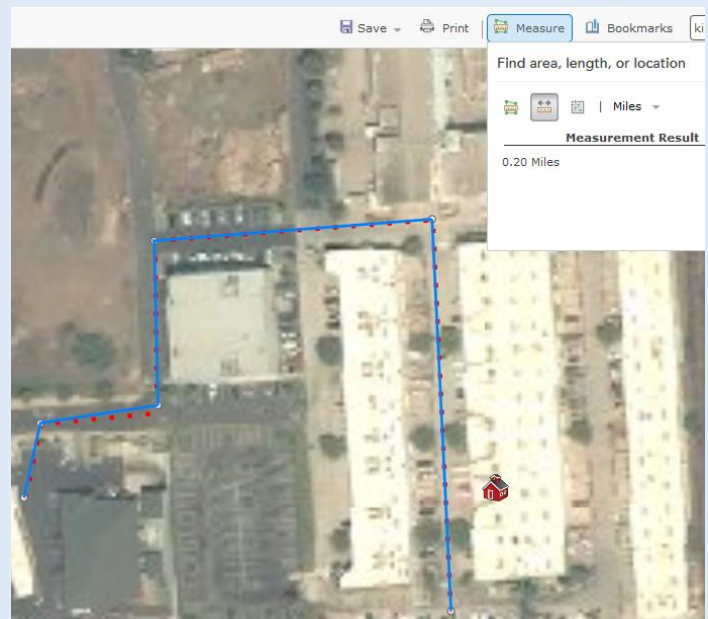
- Select “**Measure**” at top right of screen.
- Highlight 2<sup>nd</sup> **DISTANCE** icon (hover over 2<sup>nd</sup> ruler icon and Distance tag appears).
- Ensure that **Miles** (or measurement of preference) is selected.



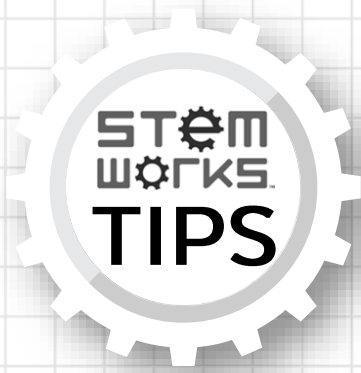
#### STEP 2

- **LEFT CLICK ONCE** at starting point of distance to measure (in this example, measure the LINE ((route)) previously created).
- **LEFT CLICK ONCE** to change direction.
- **DOUBLE-CLICK** to end the line. The distance will appear under “**Measurement Result**”.

*Note: If Route Map Note is highlighted (has box around line), click anywhere on map to disengage before measuring line.*





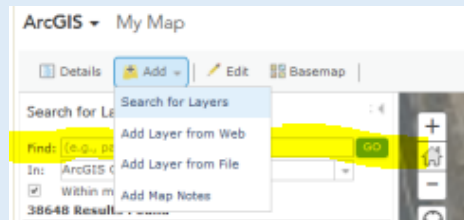


## ArcGIS Online: Mapping Basics

### Add a Layer

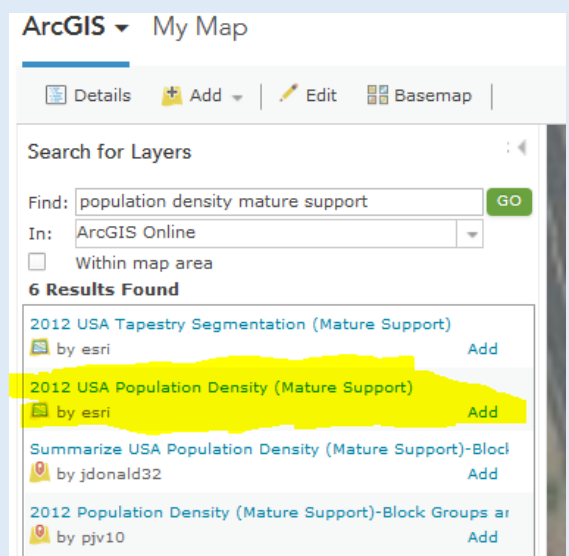
#### STEP 1

- Select **“Add”** on left top of screen and select **“Search for Layers”**.



#### STEP 2

- In the **“Find”** field, type the layer you are searching for, such as.... **“Population Density Mature Support”**.
- Make sure that the **“In”** field says **“ArcGIS Online”**. Uncheck **“Within map area”**.

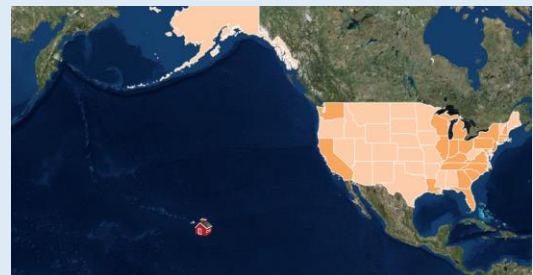


#### STEP 3

- Select the layer you want, such as... **“2012 USA Population Density (Mature Support) by Esri”**
- Click **“Add”**.
- Select **“DONE ADDING LAYERS”**.

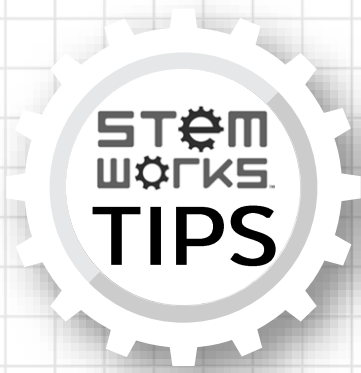
#### STEP 4

- For 2012 Population Density activity, zoom out until you see the USA.



#### STEP 5

- Select **“Details”** on the top, left side of the screen, then select **“Legend”** underneath.
- While zoomed out, **“States”** should appear above the color representations. Select any state to note the population density.
- Select another state and compare.
- Zoom in closer to Hawaii until **“States”** changes to **“Counties”** in the Legend. Zoom in closer to Maui until **“Counties”** changes to **“Tracts”**.

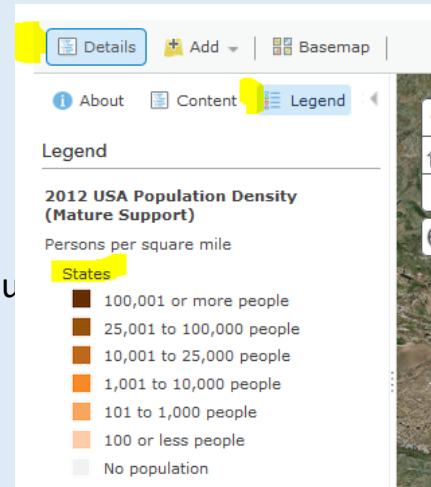


## ArcGIS Online: Mapping Basics

### Add a Layer (continued)

#### STEP 5

Select “**Details**” on the top, left side of the screen, then select “**Legend**” underneath. While zoomed out, “**States**” should appear above the color representations. Select any state to note the population density. Select another state and compare. Zoom in closer to Hawaii until “**States**” changes to “**Counties**” in the Legend. Zoom in closer to Maui until “**Counties**” changes to “**Tracts**”.



#### STEPS 6 & 7

- Change “**Basemap**” to “**Streets**”.
- Select “**Content**” to access layer data. Hover over the layer *2012 USA Population Density* until three, small dots appear beneath.
- Click on the dots to activate popup menu & select “**Transparency**”.
- Move slider to make Population Layer transparent.

