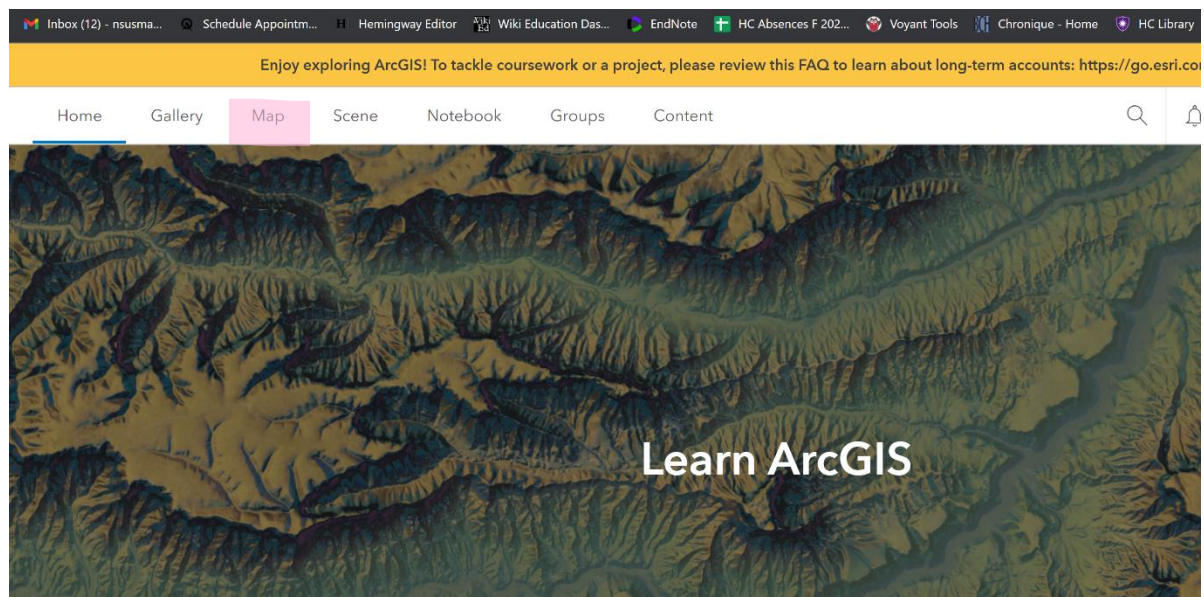
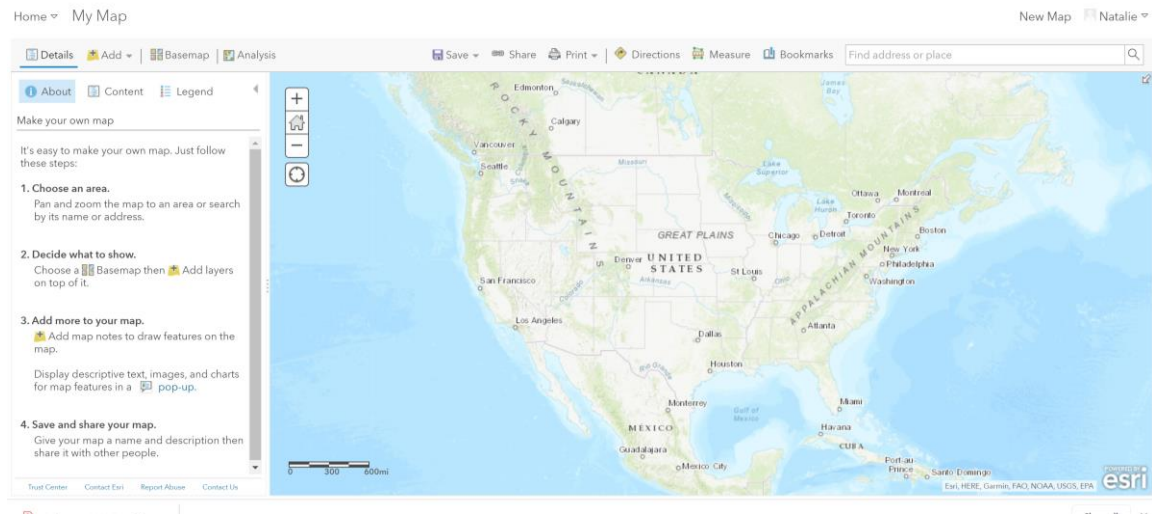


I. Getting Started

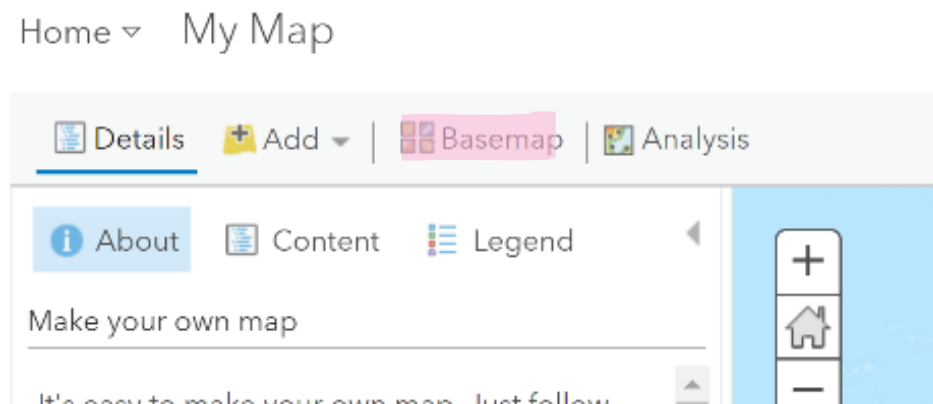
1. Before you begin: we are using an online tool that provides a free trial account for 21 days. Don't feel like you need to use your Holy Cross email account when you signup. I just use an old email or create one quickly on Gmail/Yahoo.
2. Go to <https://learn.arcgis.com/en/become-a-member/%20> and follow the prompts to create a free educational account. Note: you do need to **opt in** to email communications for this to work (so don't check the last box).
3. You will get a confirmation screen. It will tell you to check your email for an activation link. Find that "An invitation to join..." email and follow the prompts.
4. FYI: they are going to automatically create a username for you. When you login in the future, you will need that username. Make sure you write it down somewhere!
5. You'll see the online GIS platform.
6. Click on **Map**.



- The screen is going to look somewhat similar to Google Earth. You'll see a **map screen** which shows the world. If you move around the map by dragging your cursor, zooming in and out, etc. (just like you would on Google Earth or Google Maps) you'll see the rest of the world.

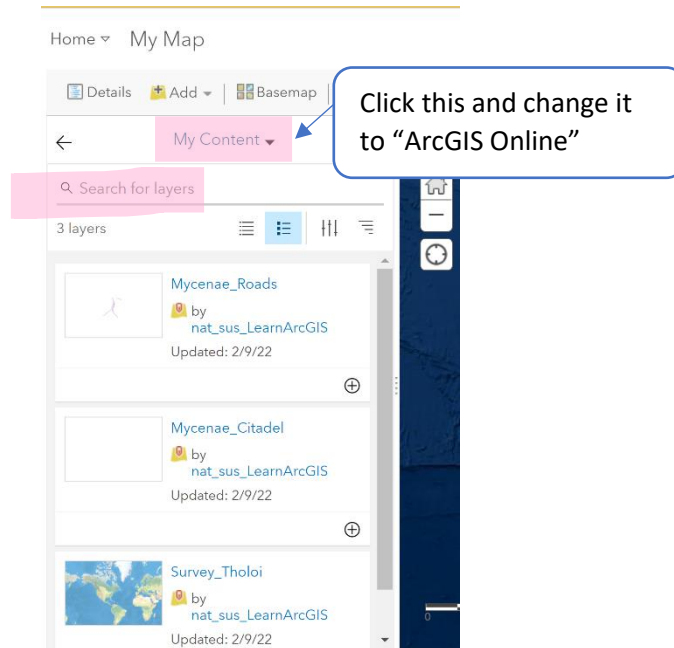


- On the left, select **Basemap**. This is going to show you a variety of options for displaying the world (it's like a background). Choose **Imagery**. The map screen should now show true color satellite imagery.

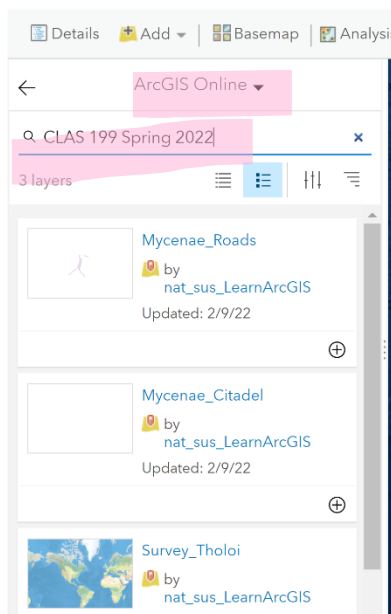


- Now, click on **Add → Search for Layers**.

10. By default, ArcGIS will show you whatever data is stored in your account (which is nothing). I have made the files we will use and loaded them to their cloud. Click on the **dropdown menu** and choose **ArcGIS Online**.

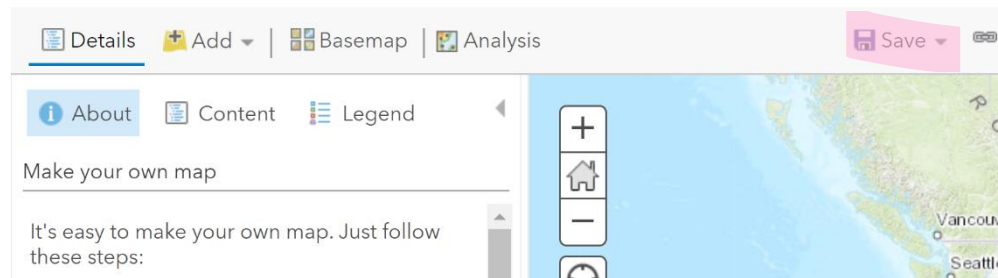


11. In the **Search for Layers** box, type **CLAS 199 Spring 2022**. Make sure you type this correctly – it's a tag connected to certain files.

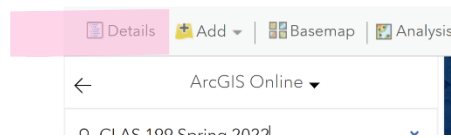


12. You'll see three shapefiles appear in the list. Click the + next to each one and this will add it to your map.

13. **Save your map.** Name it DIY CLAS 199 Map 1.



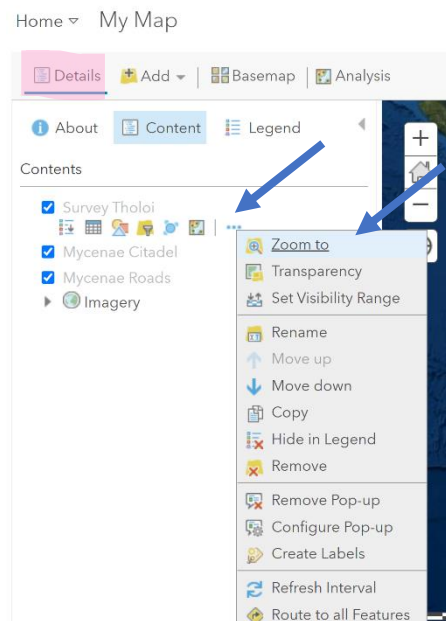
14. On the lefthand side of the screen, click **Details** on the **table of contents**.



15. You should see all of the shapefiles listed there.

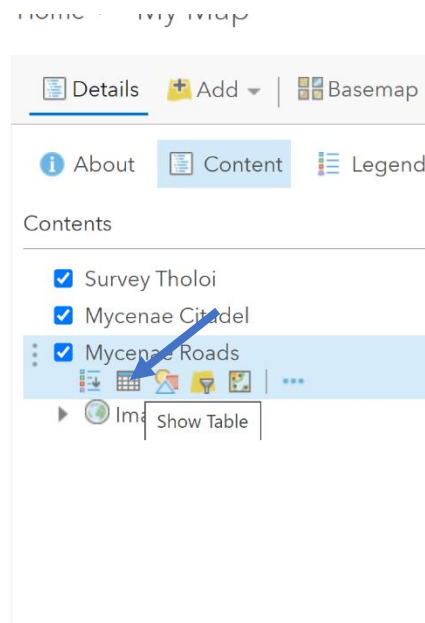
16. Since you've added the shapefiles, your map screen will move – now you're looking at the archaeological site of Mycenae, in Greece. We've been here before – this is the same place where we learned about Google Earth survey and found tombs.

17. If you hover your mouse over the map screen, you can try some basic moves.
- Zooming in and out happens with the plus/- sign on the lefthand side of the map. Or, you can click once on the map and type + or - . You can also zoom by scrolling on a mouse.
 - Panning (moving around) happens when you click and drag.
 - If you accidentally get lost and can't see the site anymore: click on the 3-button menu next to any of the shapefiles and choose **Zoom To**. The map will bring you back to where your shapefiles are located.



18. Some of the shapefiles are hard to see. We can change their **symbolology** (think color, thickness of lines, etc.).
19. Let's look at **Mycenae Roads**. On the map screen, you will see a bunch of lines. These are representing several different roads in the region, and they are showing up as one color. This is the default – it's symbolizing (color coding) the roads as one color and not distinguishing them by any unique characteristics. Are there any other options?

20. Click once on **Mycenae Roads** to reveal a small menu beneath it. Click on the **attribute table**. This is the 2nd option from the left and looks like a tiny chart.



21. On the bottom half of your map screen, a chart will appear. This is the **attribute table**. It functions very similarly to an Excel spreadsheet. Every **row** represents one road, and each column records information about that road. This attribute table is pretty simple. There's not much distinguishing information, except for the names of each road.



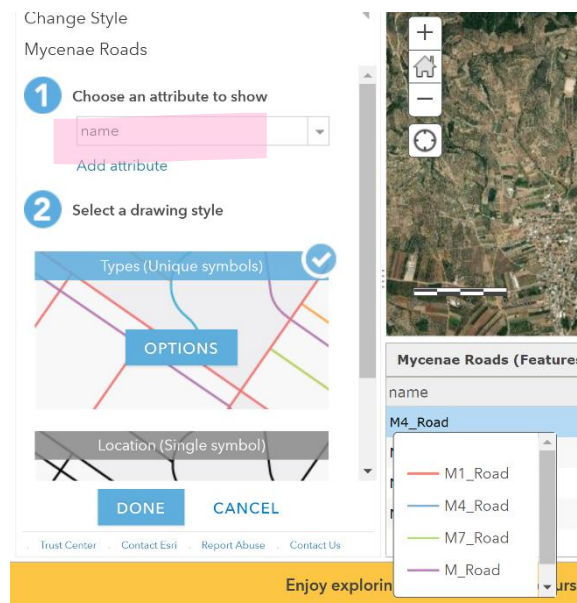
Mycenae Roads (Features: 4, Selected: 1)	
name	tessellate
M4_Road	1
M1_Road	1
M_Road	1
M7_Road	1

22. Try **clicking on one of the rows**. Pay attention to the map as you do – what happens?
23. The attribute table showed us something important: when I made this shapefile, I did not store all of these roads in a single one row (i.e. one record). Instead, I chose to make a separate record and distinguish them based on their names. With this understanding that the **attribute table** records each road's name, we can assign each road a unique color.
24. Go back to the **table of contents**. Choose **Mycenae Road's Symbology** tab (this is the 3rd option from the left and has a bunch of shapes). Again, this is an option that allows us to change the appearance of **Mycenae Roads** based on what's recorded in its **attribute**

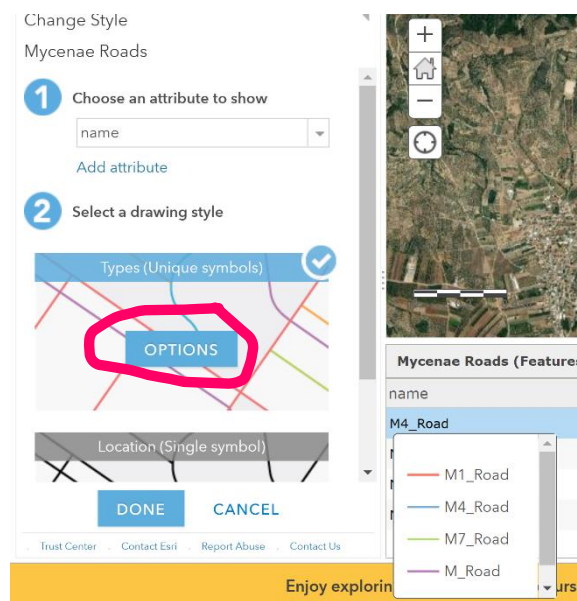
table.

25. The default is set to **Show Location Only**. That means the roads are all one color – the function is purely to explain where they are. Click the **Choose an attribute to show**. A dropdown menu appears. **Where have you seen this list before?**

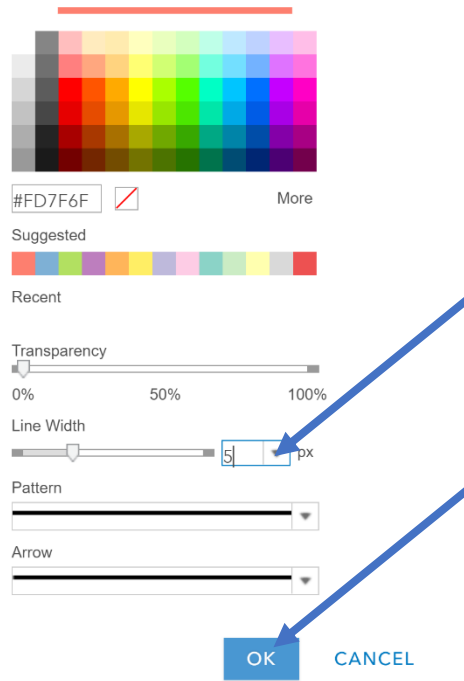
26. Choose **name**. Now look at the map screen. **What's happened to the roads?**



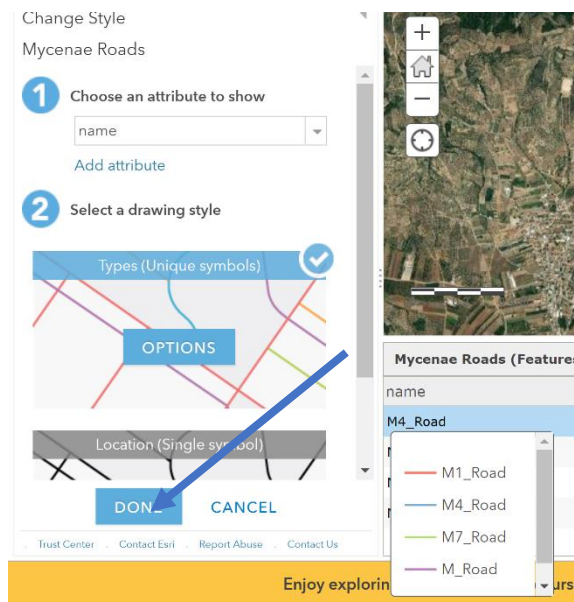
27. We want to make the roads a little thicker + easier to see. Under **Choose a Drawing Style** click the **Options** for **Type (Unique Symbols)**.



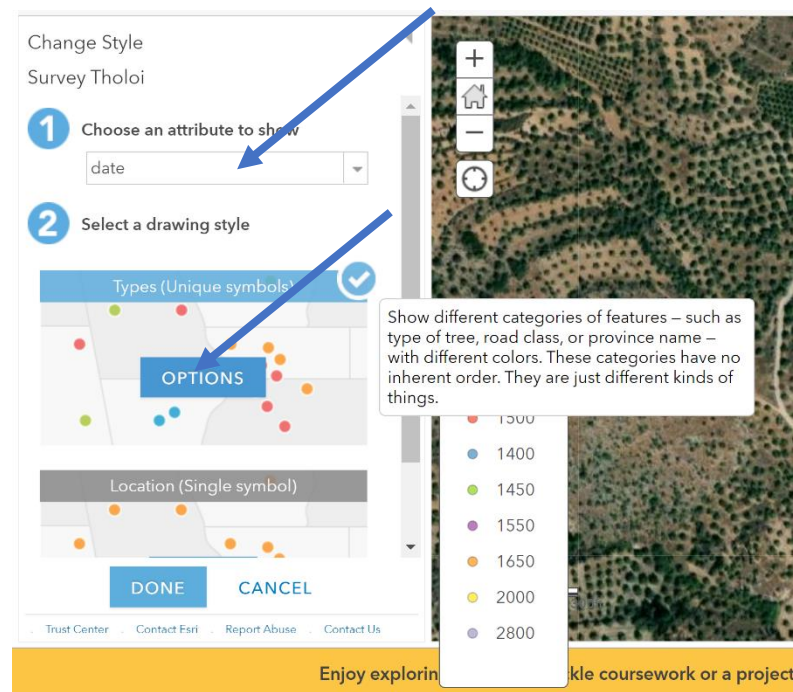
28. If you click on the colored lines, you can change the color as well as line thickness. Feel free to adjust the colors as you like. I recommend increasing each road's **Line Width** to 5 or so. Change the colors if you want, keeping each road distinctive.



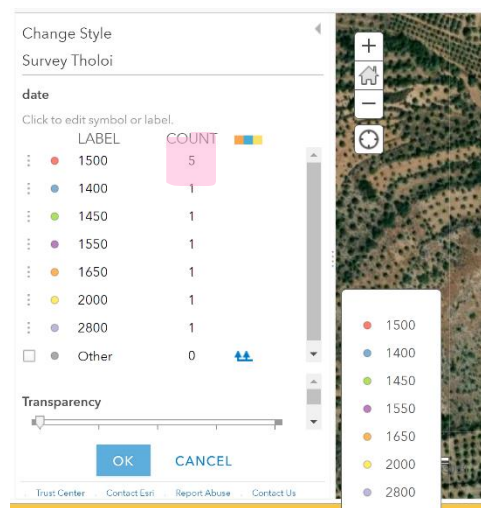
29. Repeat this process until all of the lines are thick + easy to see. You can look at the map screen as you work. When you're finished, click **OK** to exit the change style screen. Click **Done** to exit the drawing style screen.



30. We will change how the tholoi (tombs) look as well. In your **Table of Contents** find the **Survey Tholoi** file. Click on the **Symbology** menu. We see that the tholoi are symbolized by location (again, this is the default) so they all look the same.
31. When you click on the **Choose attribute to show** dropdown, there are a lot of options – this means that the **Survey Tholoi** attribute table has a lot more data recorded than in comparison to the road file. Choose **Date**. Click **Options** under **Types – (Unique Symbols)**.



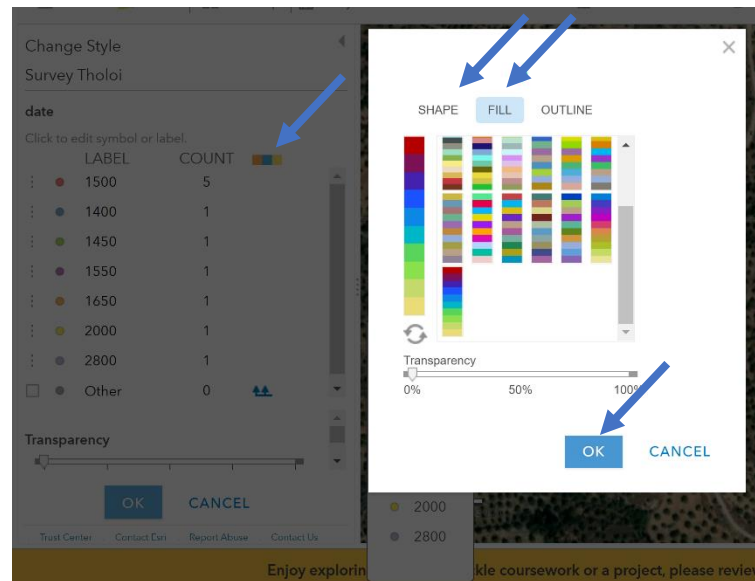
32. Like before, you see a list. Notice that there is a count of **5** associated with the date **1500**. What does this tell you?



33. We're going to change the symbology using a faster method than before. Next to **count** click on the little color bar. This tool allows you to change the symbology settings for all of the dates at once.

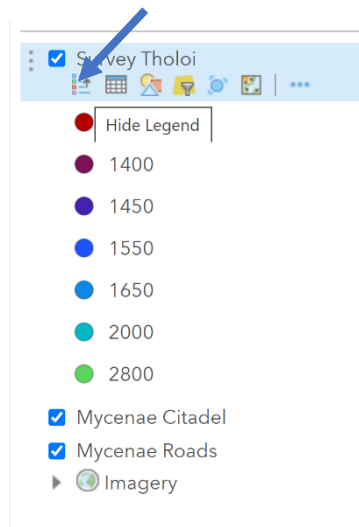
34. Pick what shape you want. Underneath, adjust the size (I suggest 13 – 15).

35. Next, go to fill. This is going to give you **color ramp** options for the tholoi. Pick the option at the very bottom, which shows a color gradient from red to yellow.



36. Click **OK**. Click **OK** again and click **Done** to exit the whole symbology menu.

37. On the **Table of Contents** click on the **Legend** button underneath **Survey Tholoi** to reveal a list – it shows you what colors associate with what dates.



38. Now look at the map.

- a. Think back to when you began: all of the roads were shown in the same color; all of the tombs were shown in the same color. How do these new symbology settings help convey new information?
- b. Thinking about the tombs specifically, do you notice any spatial patterns? Think about connections between the date (again, this is when they were made, in years BCE) and their locations – in connection to one another or with the citadel? FYI: the citadel was built in 1350 BCE.

39. Save your map.

