



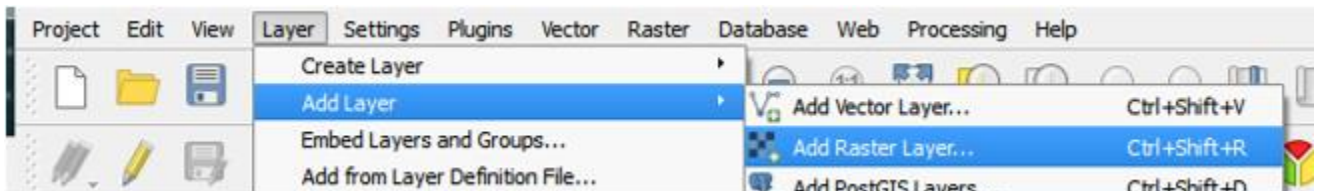
Professional Development Reunion Workshop on Integrating Geospatial Technology into the HS Classroom



Part 4 - QGIS Activity: Make your points digital

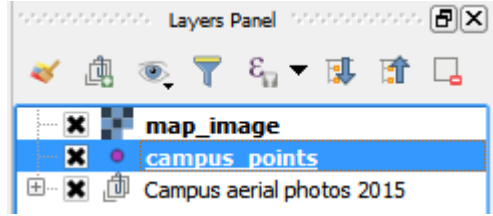
This next part uses a program called QGIS. QGIS is free and open-source GIS software that can be downloaded from qgis.org. It is an easy to use, no-cost alternative to ArcGIS, and comes with a ton of great features.

1. Go to the provided URL and download the .zip file. You can save it right to your computer desktop.
 - a. Once it is finished unzip the file.
Right-click > 7-zip > Extract Here
2. Launch the QGIS_project.prj file by double-clicking on it in the folder. This is a QGIS project file that I've created ahead of time for you to use. It contains all of the layers that we need for today.
3. The GeoTIFF that you saved of your map back in Part 3 is an *image*, which means that it is a *raster* format. To add the image of your map to this project, click on Layer in the top toolbar. Then select Add Layer, and Add Raster Layer.

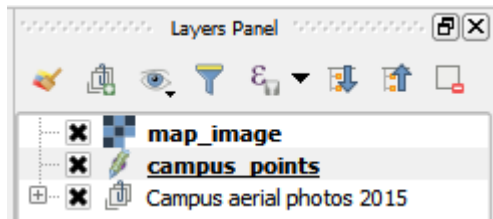


- a. In the window that opens, browse to where you saved the GeoTIFF (it will have a .tiff extension) and open it. The image of your map should now be visible in your project, in the correct geographic location.

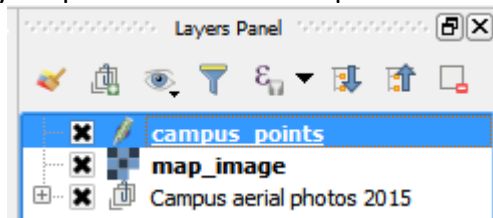
- Now it's time to digitize your points! On the left side of your screen, in the Layers Panel, you should see a layer called `campus_points`. You'll need to click once on it to select it (it will appear highlighted). Make sure that you click on the name of the layer, and not on the box to the left of the layer.



- Next, right-click on the layer and select 'Toggle Editing' (look for the pencil icon). You'll notice that a little pencil appears next to the layer in the Layers Panel now. This indicates that the layer is currently editable.



- If your `campus_points` layer is underneath your map image, like mine is above, you'll need to drag and drop it in the Layers Panel so that it appears on top of the map image. Otherwise, you won't be able to see your points in the next step!

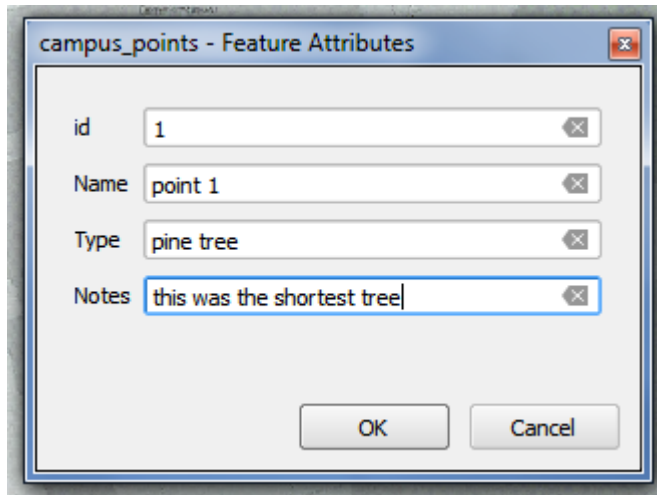


- In the toolbar directly above the Layers Panel, you will see the editing tools. Hover over the buttons, and click on the one that says 'Add Feature' (hint: it has a yellow asterisk next to it).



- Move the cursor over your map. Notice that it is now in the shape of a cross-hair. Click on one of your points.

- b. A window will appear that will ask you to assign *attributes* (a label, ID number, other characteristics) to your point. Fill in what you think is appropriate (you can leave the ID blank if you want, or number the points in order as you edit).

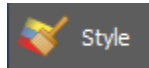


- c. Click OK. A point should appear on your map.

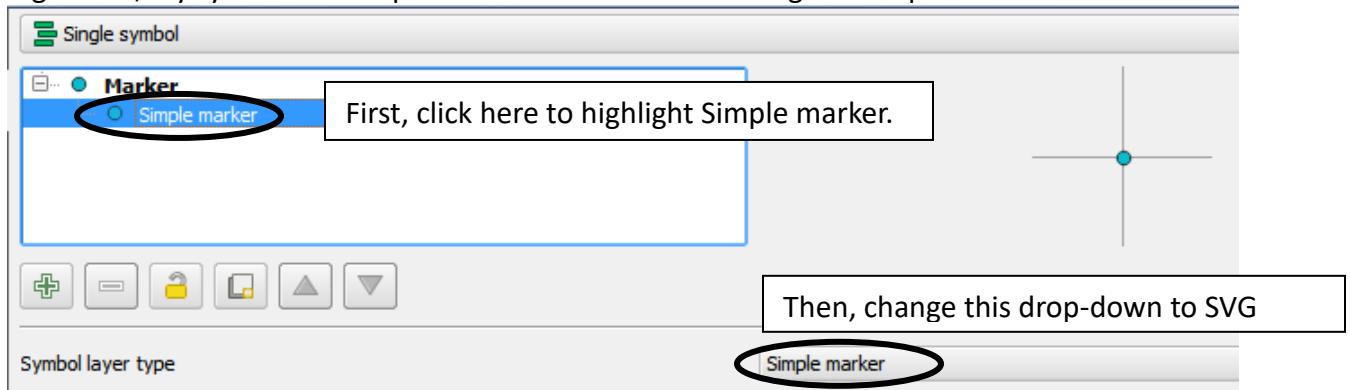
- d. If you want to move any of your points, you can use the Move Features button:

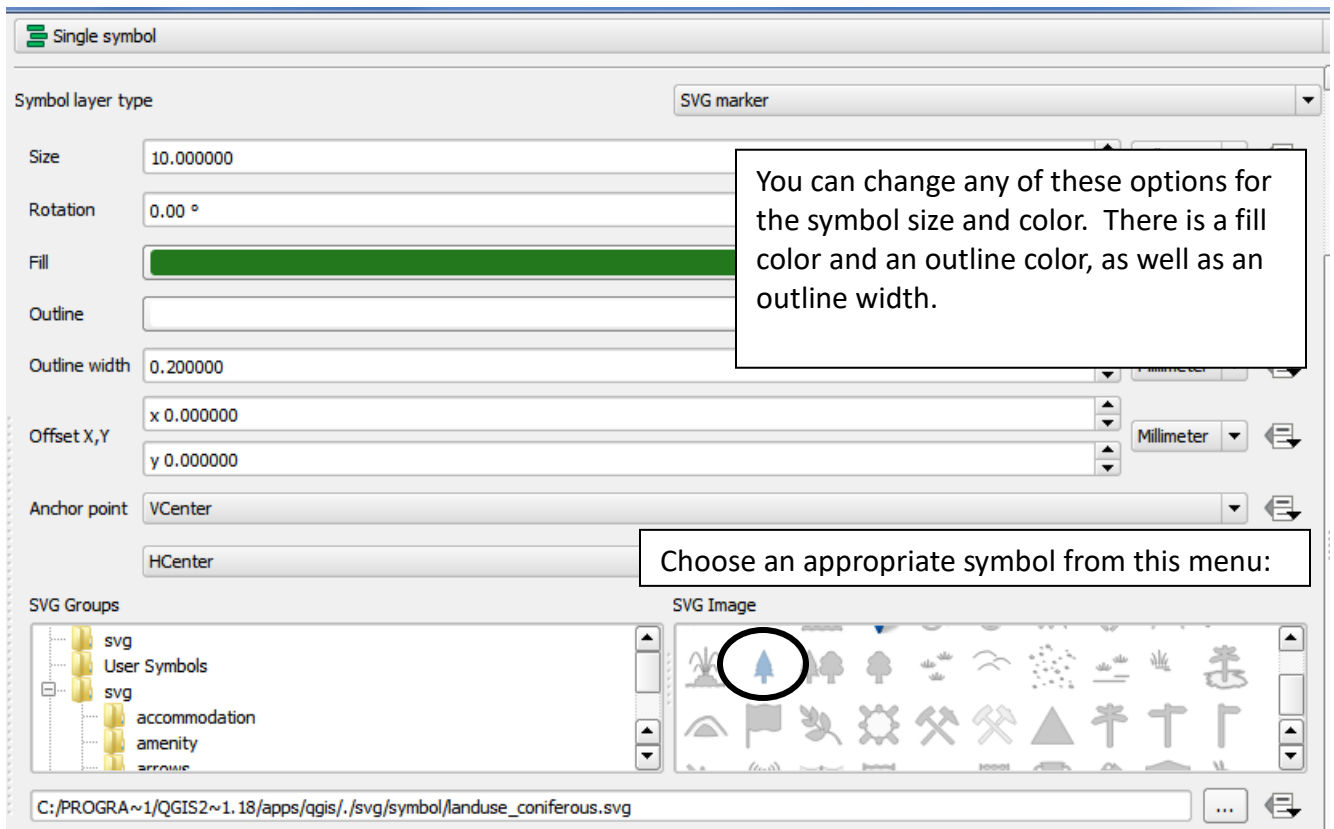


7. When you are done editing, and have all of your points in the location where you want them, you can toggle the editing off. Either right-click on the layer in the Layers Panel and select Toggle Editing again, or you can click the pencil button in the editing toolbar.
 - a. You will be given the option to save your changes when you stop editing. Make sure you click Save!
8. Optional: to change the symbol (color, shape, size), right click on campus_points in the Layers Panel and select 'Properties'. Then click on the Style tab and explore the options:



Right now, my symbol is a simple dot marker. I want to change it to a pine tree. Here's how:





And the final result is:

