Select World Places User Manual

Reuben Walker – W0492401

Introduction

Select World Places is a Python script that is intended to be run in QGIS. *Select World Places* operates on the PlacesOfTheWorld shapefile, provided by Esri. The PlacesOfTheWorld shapefile consists of 7,334 points. Each point represents a different location on Earth and contains the location's name & population in its attribute table. *Select World Places* produces a text file report based on the user's selected points that returns the following information:

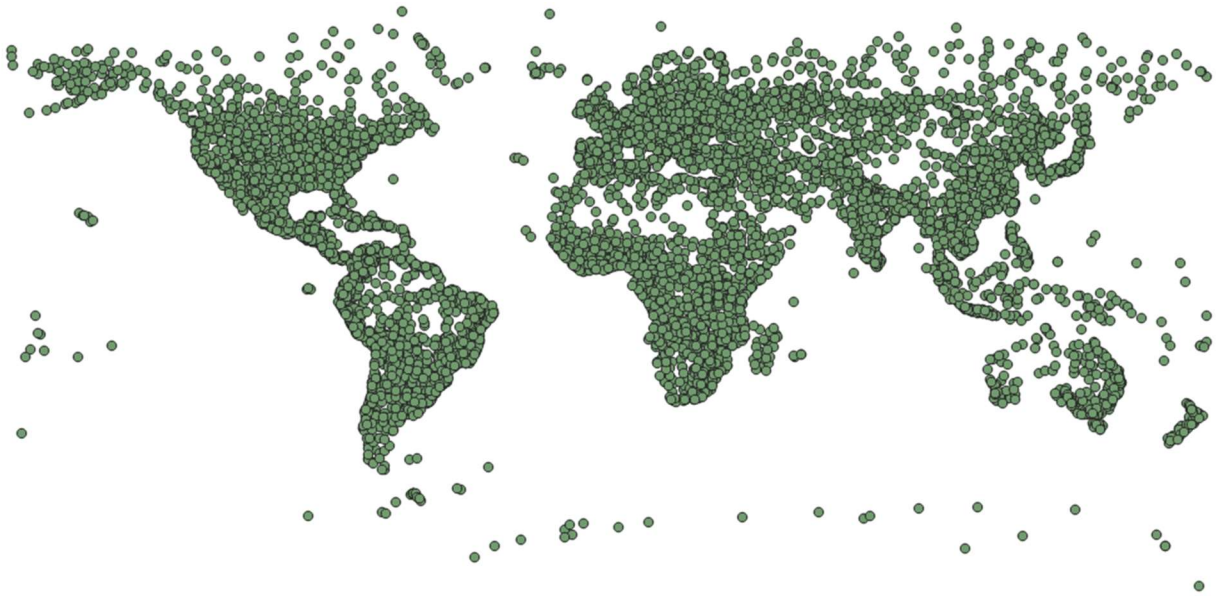
- The total number of points in the Northeastern, Northwestern, Southeastern, and Southwestern quadrants in the world.
- The total population of all selected points for each quadrant.
- The points with the highest and lowest populations, as well as which quadrant each of these points are located in.

Setup

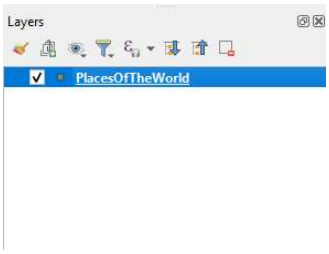
In order to run *Select World Places,* the user must have the *PlacesOfTheWorld.shp* shapefile layer loaded into their QGIS project. Two recommended methods for adding the layer are:

- Navigate to the shapefile in QGIS's browser pane, right click it and choose **Add Layer To Project.**
- Open the folder containing the layer in Windows file explorer, and drag the shapefile into the **Layers** pane in QGIS.

The layer should look like this:



Once the layer is loaded, click on it in the Layers pane to make sure that it's set as the active layer. The layer name should be highlighted in blue.



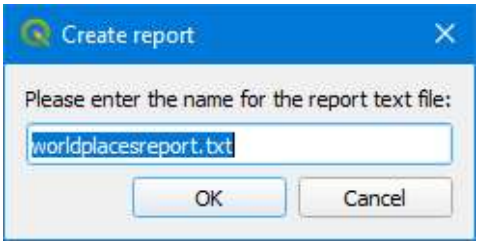
If you click on something else in the QGIS user interface, the layer will be highlighted in light grey.

Next, click **Plugins** in the top menu bar and click **Python Console**. The Python Console pane will open up in the bottom. Click the **Show Editor** icon to open up the editor. Then in the editor, click the **Open Script** icon and load the script, which will be titled *placesWorld_RW.py*. The program is now ready to run.

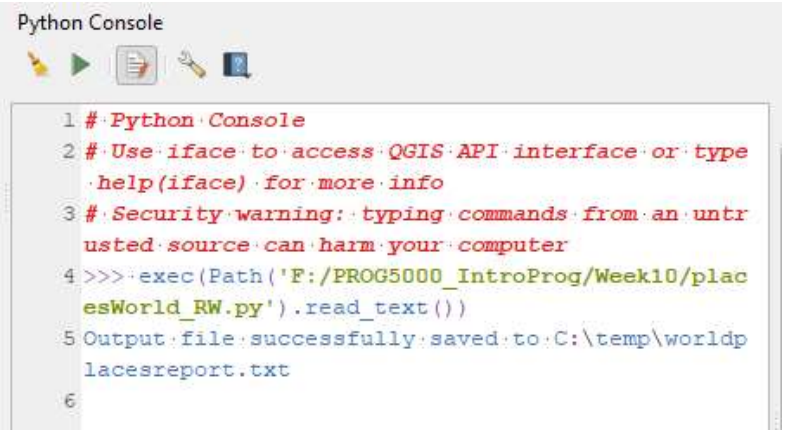
Making a Selection & Running the Program

Select World Places will calculate statistics for any points you select from the PlacesOfTheWorld layer. Features are selected using the QGIS interface – the easiest way to select features is by using the **Select Features by Area or Single Click** tool. Hold the shift key if you want to add to your current selection. Selected features will be highlighted in yellow by default. If you run the program without making a selection, then all features will be selected.

Once you have your selected features, press the **Run** button in the Python Console. The program will prompt you to enter a name for the text file report. If you do not include a .txt extension at the end, one will be automatically added. If a file with the same name already exists in this location, you will be asked if you want to overwrite it. If you select no, you will be prompted to enter a different name.



If the program has successfully run, the console will display a message that says "Output file successfully saved to C:\temp\(Your file name).txt".



Navigate to the C:\temp folder and open up your report. It should look somewhat like this:

```
Report of Select World Places
================================================================================
3466 northeastern places have a total population of 1494679575
2005 northwestern places have a total population of 509444510
940 southeastern places have a total population of 154650541
923 southwestern places have a total population of 204742005
================================================================================
The Northeastern place of Tokyo has the highest population of 35676000
The Southwestern place of Peter I Island has the lowest population of 1
```

This report was generated based off every single point in the PlacesOfTheWorld layer being selected.

The program can easily be re-run if you want to generate a different report.