HSMA Session 3B: Learning Objectives

Part 1: Advanced QGIS

Students should be able to:

- Be able to join flat data without inherent geographic information within to shapefiles to create choropleths
- Generate a print layout
- Explain where to find plugins for QGIS
- Explain at a high level how python could be used with QGIS

Part 2: Mapping in Python

Students should be able to:

- Explain the benefits and downsides of creating maps in Python rather than in QGIS
- Explain the value and key features of the Geopandas package, and the kind of data it is used with
- Import a geo file (e.g. shapefile, geojson) using Geopandas
- Create a GeoDataFrame from a standard Pandas DataFrame that contains geographic data
- Join a GeoDataFrame to an existing Pandas dataframe
- Create a simple plot using the Geopandas plot method
- Plot point data and adjust point size, colour and opacity in static maps
- Plot choropleth data and adjust opacity, colourschemes and edge boundary colour
- Select small regions within a larger area
- Add a basemap to a static map
- Add labels to a static map
- Use libraries to improve the layout of labels
- Create an inset map for a static map
- Create an interactive point map using Folium
- Create an interactive choropleth using Folium
- Add custom markers to Folium maps
- Change the basemap tiles in a Folium map
- Explain when to choose Folium vs Kepler for interactive maps