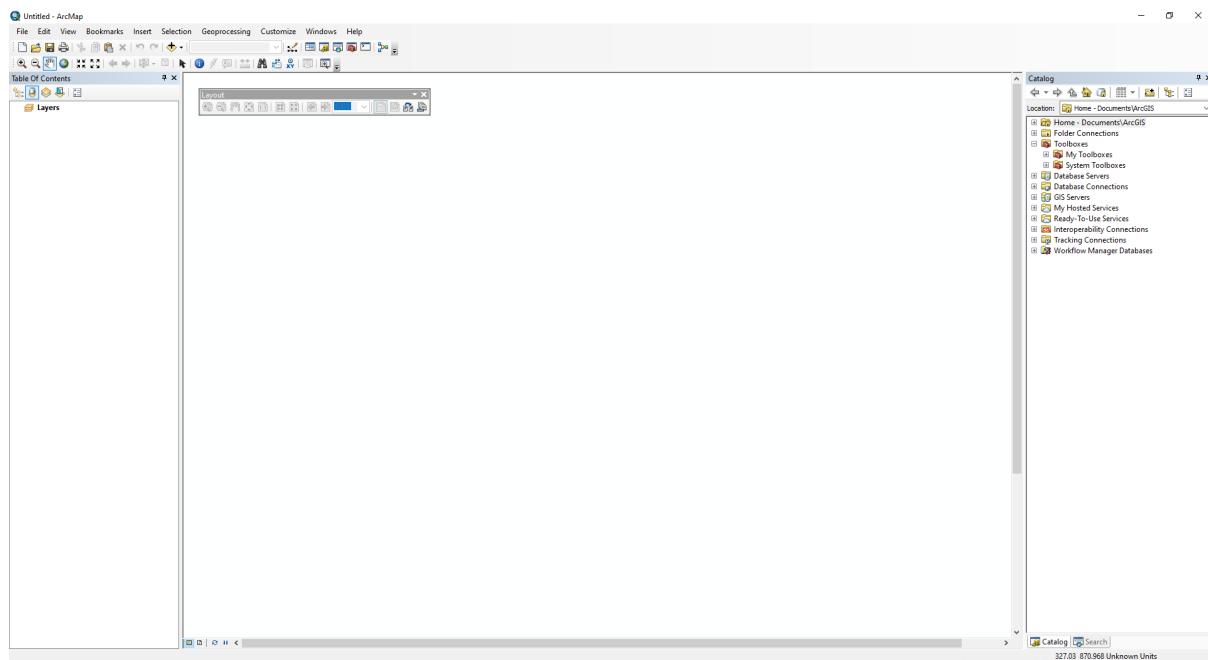


Getting started with ArcMap.

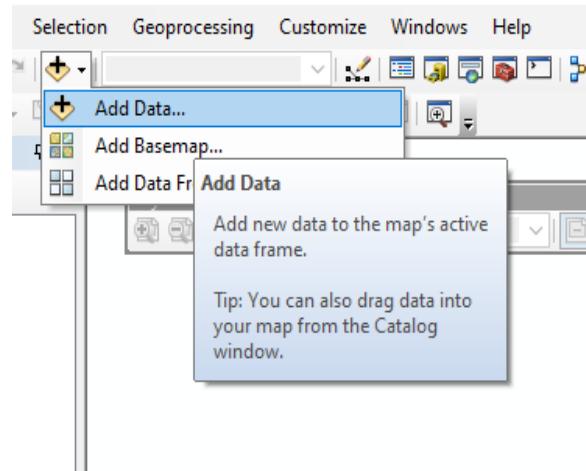
When you first open ArcMap the window below will appear.



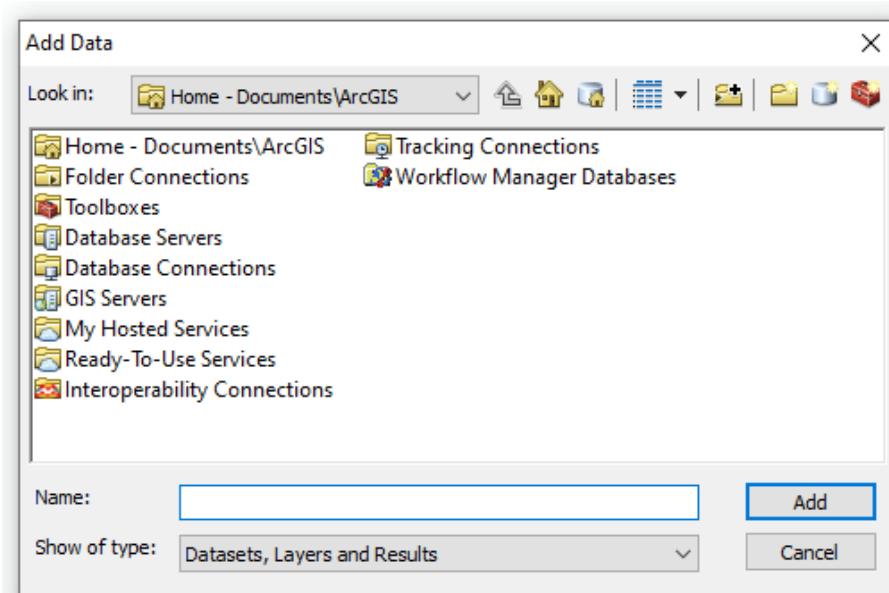
Stage one: Adding the shape data.

The first step will be to add your data into ArcMap. The data will need to be in a shape file format to do this. These are the files which end with '.shp'. You will not open the files with different endings, but they will run in the background while you use ArcMap so do not move or delete these files.

1. To add the data, select the black plus button and click on 'Add Data'.

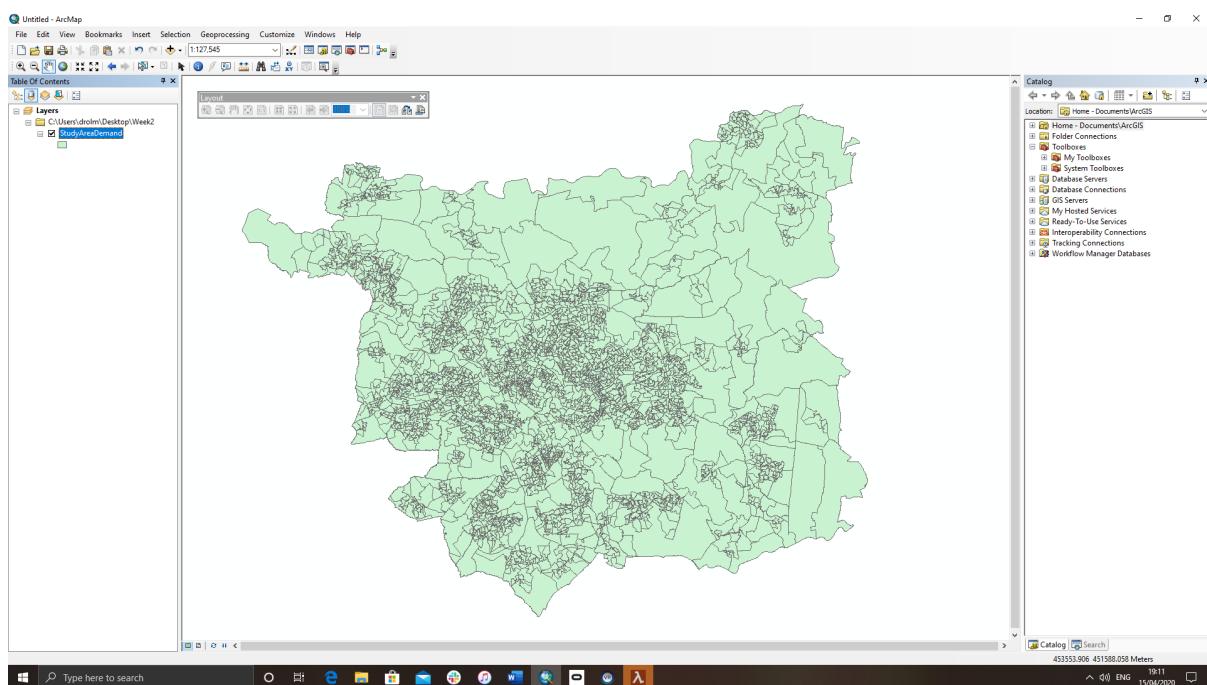


This window will then pop up.



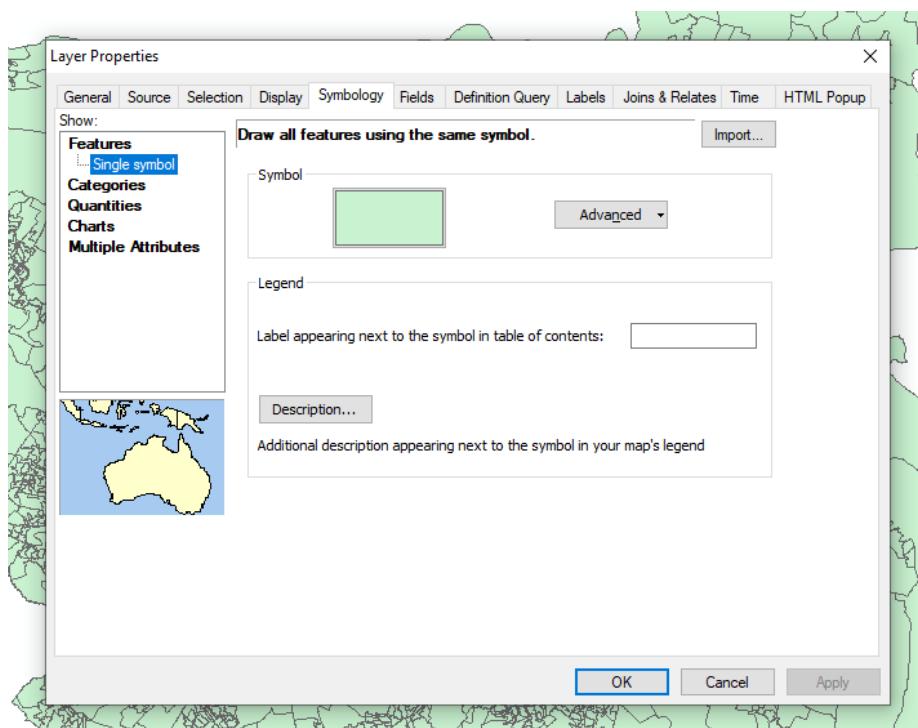
2. You will need to navigate to the folder where your data is but first select the icon with the folder and plus button.
3. Click the folder where the data is located and then click 'OK'.

4. You will then return to the above window where you can find the relevant folder and click the .shp file you want to open.
5. Then select 'Add'.
6. You should now see your shapefile in the ArcMap window. ArcMap will randomly assign a colour to the map.



7. To change the colour of the map, double click on the shapefile name (this is highlighted blue on the map above).

8. The window below will then appear. Click on the coloured square (in this instance the green square) and choose a colour.

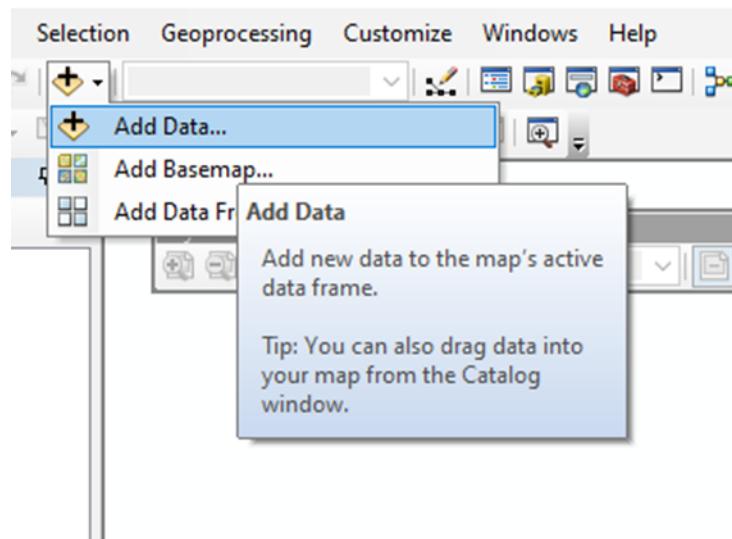


9. Click 'OK' on this window and the previous window to return to the map.

Stage two: adding the Excel data.

In order to map characteristics of the chosen study area, the relevant data will need to be added into ArcMap.

1. Repeat step 1 from stage one of the practical and select add data.



2. Navigate to the folder where the data is located and then select the data.
3. Click 'Add'.
4. You should now see the name of your Excel file below that of the spatial file in the layers panel on the left-hand side.

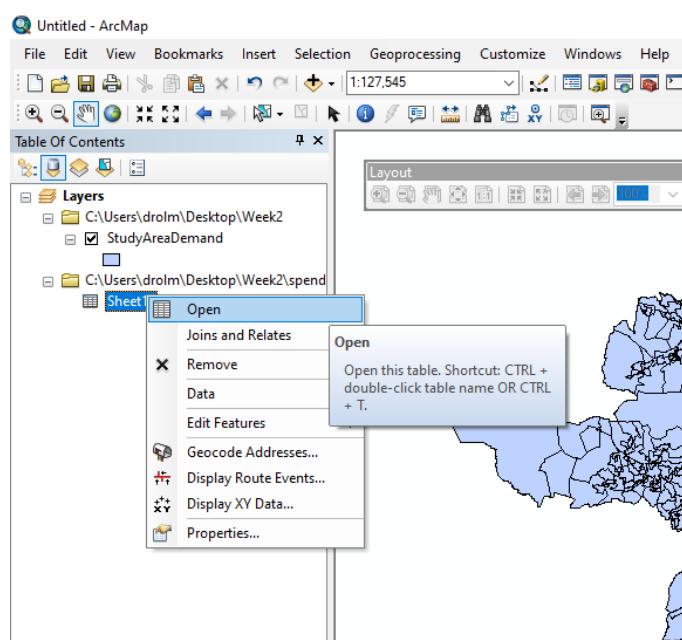
Stage three: Joining the data.

In order to be able to map the data onto the map, we need to perform a join. A join is a link between two datasets based on a common feature, i.e. a column with information featured in both datasets. It is likely that you will be joining your data based on a spatial location- this could be by county, postcode, LSOA, etc.

1. Find a column in each dataset on which you will base your join- they must match up or the join will not work!

Tip: How to find information about columns.

In order to establish which columns are present in both datasets, right click on the data and click 'Open'.

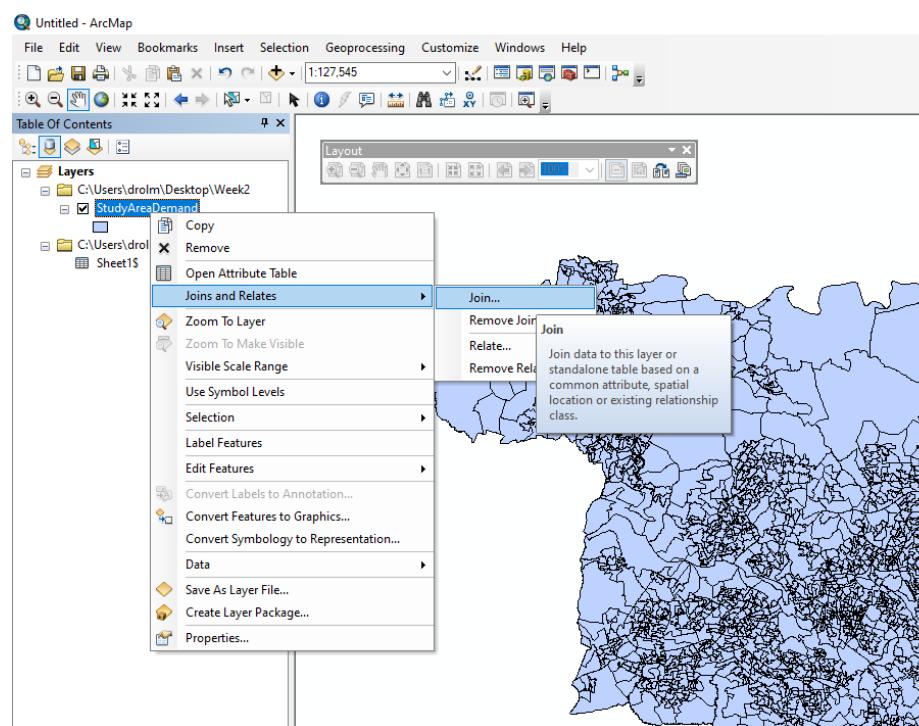


The data will now appear in a pop-up window.

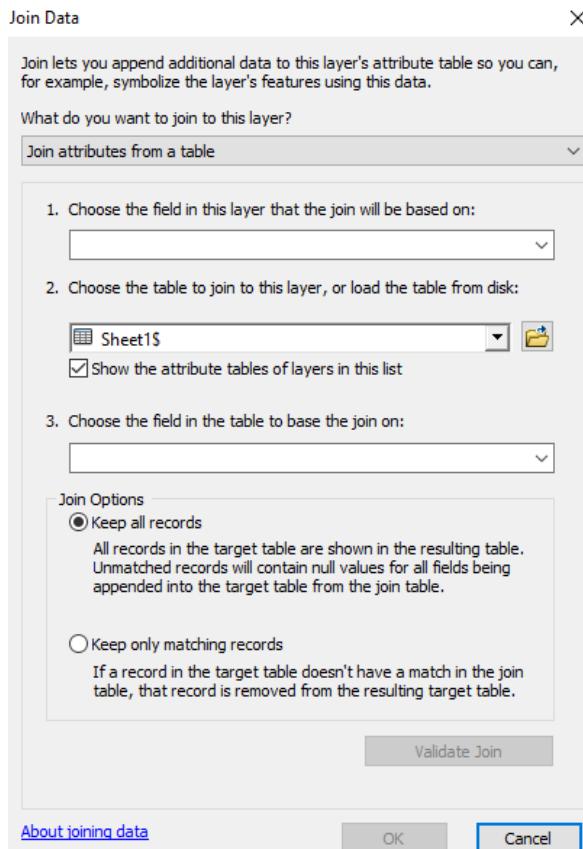
Repeat the process with the study area data file and identify columns with the same data.

Now that we have established which columns the join is going to be based upon, we can begin the process. We will be joining the excel data to the spatial data.

2. Right click on the spatial file and select join



3. The following window will then appear.



4. Leave the first drop down box as 'Join attributes from a table'

5. For drop down box one, select the relevant column from the spatial data

6. Leave drop down box two as it is- it should contain the name of your Excel data file.

7. For drop down box 3 choose the relevant column from the Excel data file.

8. Then click 'OK'

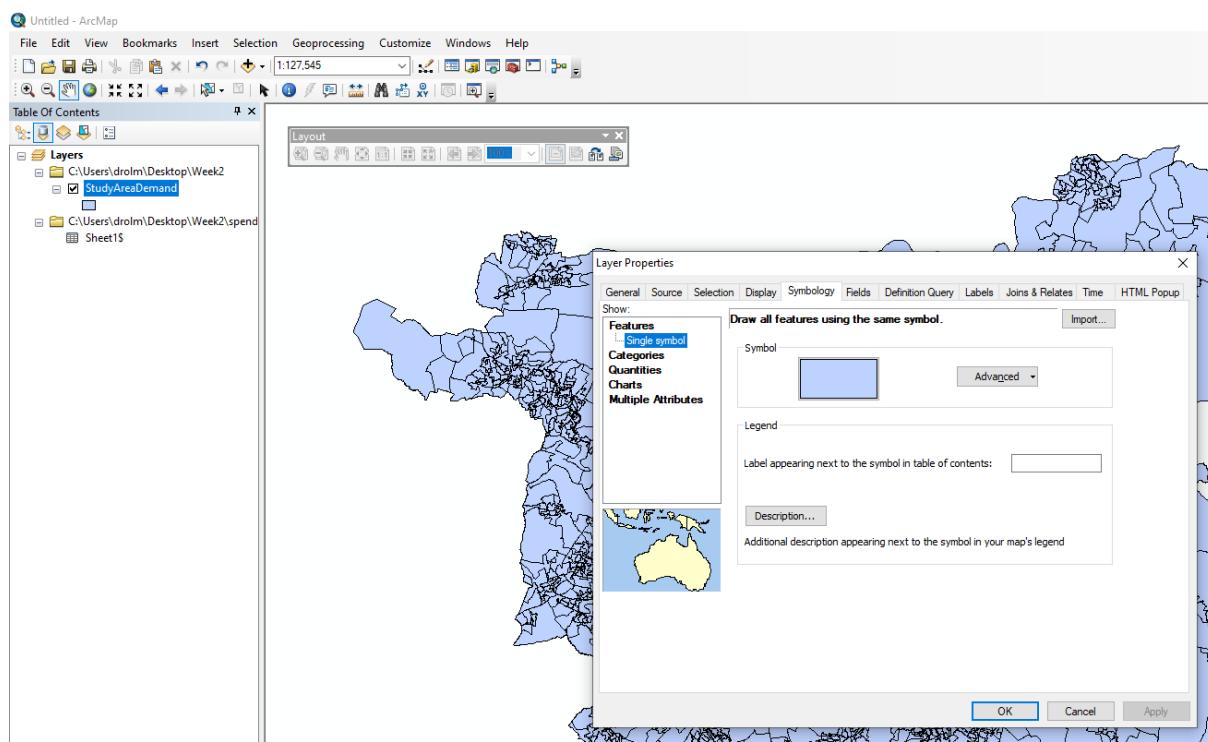
9.

10. The join is now complete! The next stage will be mapping this data.

Stage three: Mapping the data.

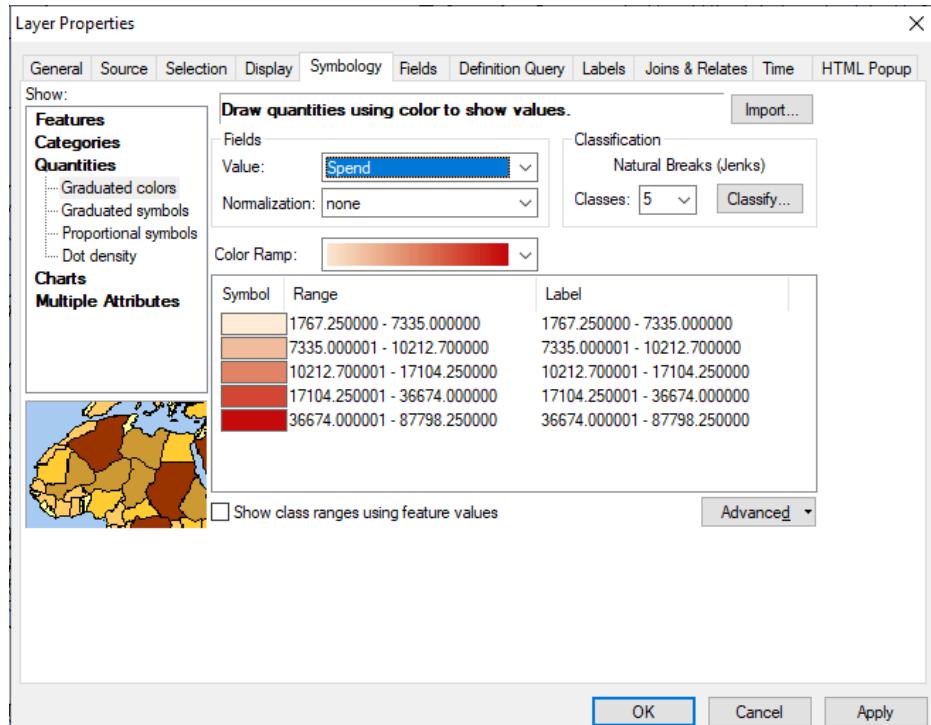
1. Double click on the spatial file (highlighted in blue above)

2. A window will now appear with a 'Symbology' tab

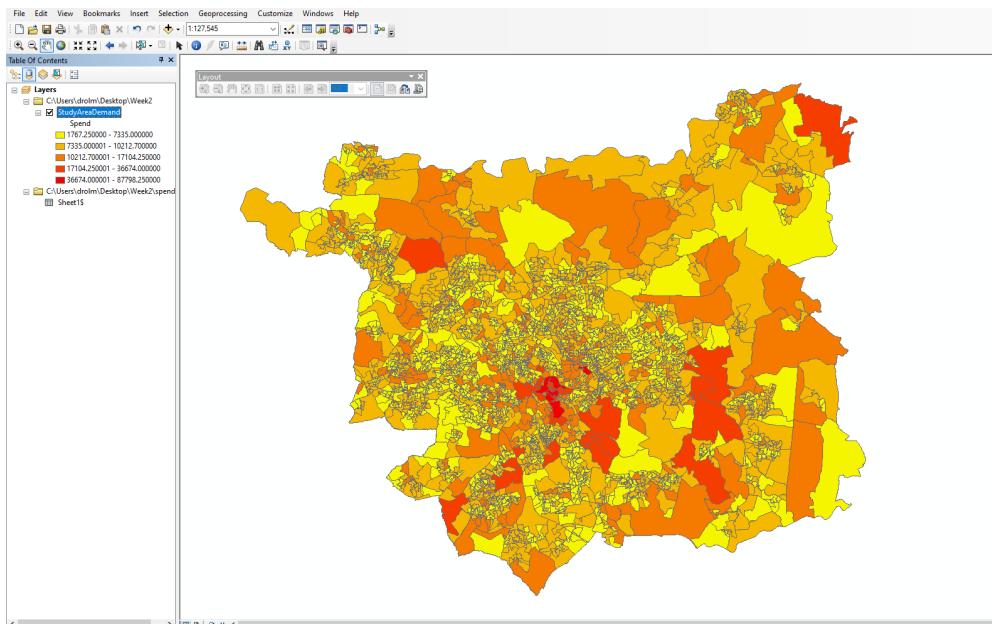


The next steps produce a choropleth map, but the steps are very similar for a graduated map so please read them.

3. Select quantities and then graduated colours on the left of the window.



4. In the drop-down box next to 'Value' (highlighted blue) select the variable you intend to map.
5. By selecting the drop-down bar next to 'Color Ramp' you can choose an appropriate colour scheme. This will depend on your data.
6. You can also modify the classification of the data by selecting the classify button. Select the most appropriate method for your data ensuring that you have no more than 7 categories (if possible), with 5 being ideal.
7. Click 'Apply'
8. Your map should then appear with a graduated colour scheme.



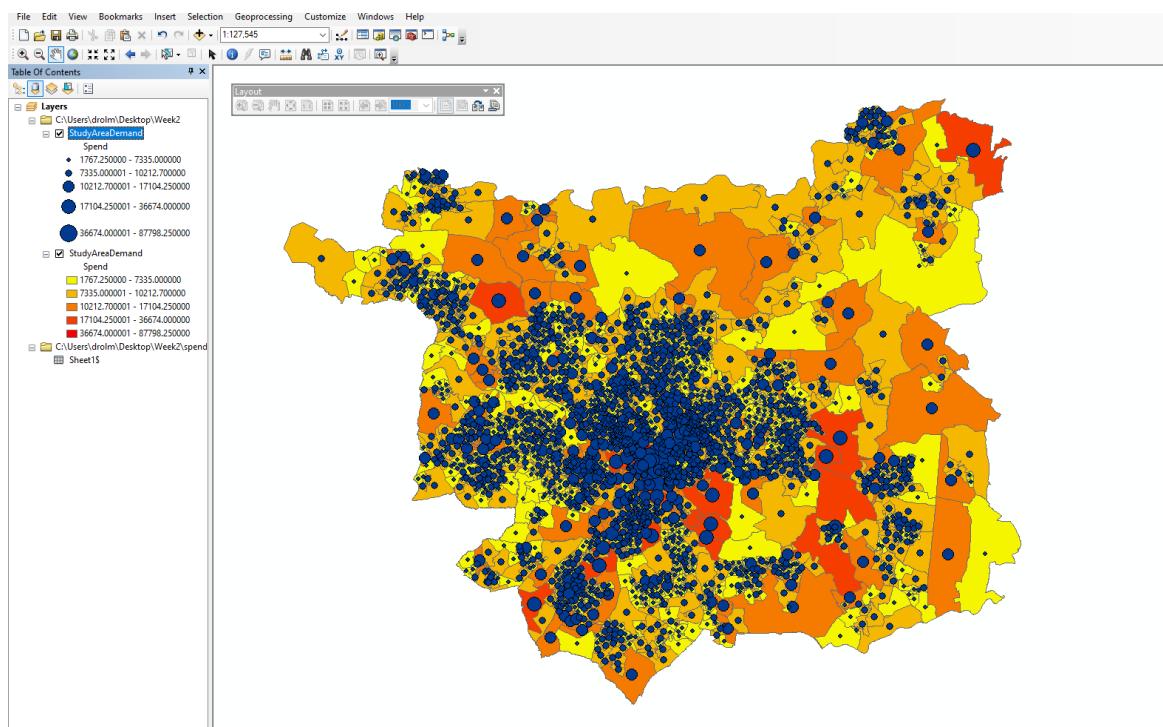
Graduated symbol maps.

The process for making a graduate symbol map is much the same except you would select the 'Graduated symbol' option on the symbology tab.

Combining graduated symbol and choropleth maps.

- *It is possible to produce a map with both graduated symbols and a choropleth map.*
- *In order to do this, you need to copy and paste the spatial file.*
- *Then on the copied version you can add another type of map by double clicking the file name and editing the symbology tab as above.*

- In order to see the graduated symbols, they will need to be above the choropleth map in the layers window on the left-hand side. You can change the order of the maps simply by dragging the graduated symbol layer above the choropleth later.



- Your map should then display both types of visualisation as above.

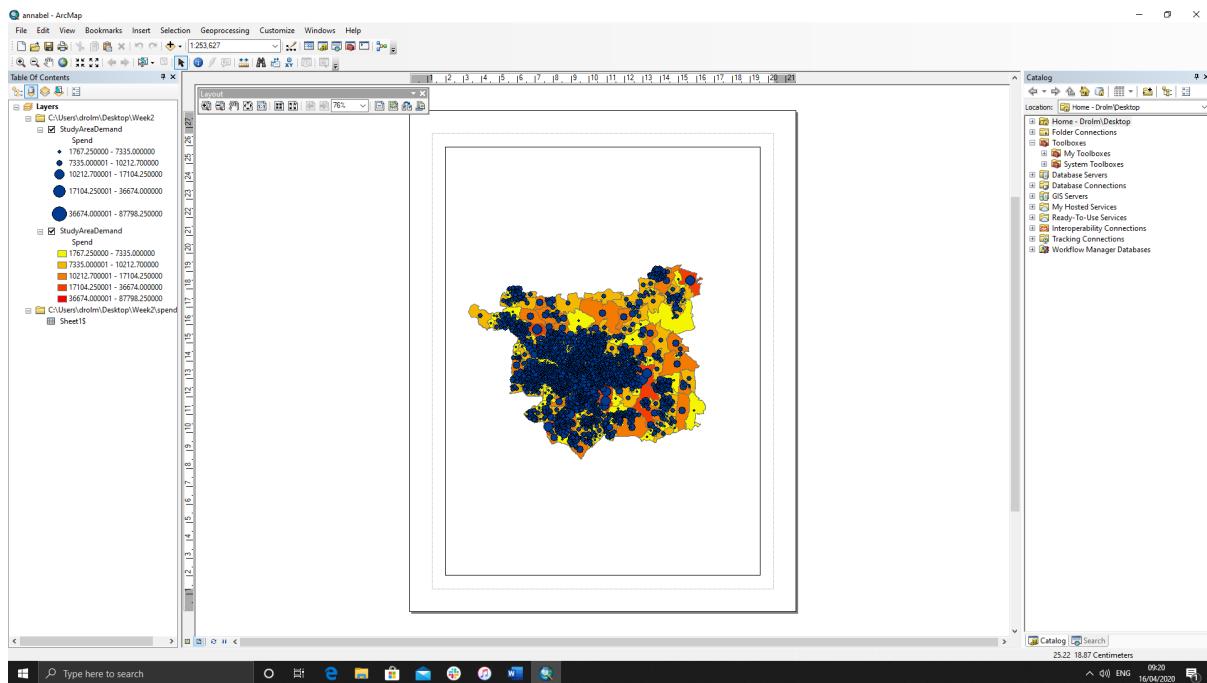
Stage four: Producing a layout.

A layout allows us to produce a professional map with additional information included, such as a title and scale bar.

1. To do this, click the layout view button at the bottom left of your map window.

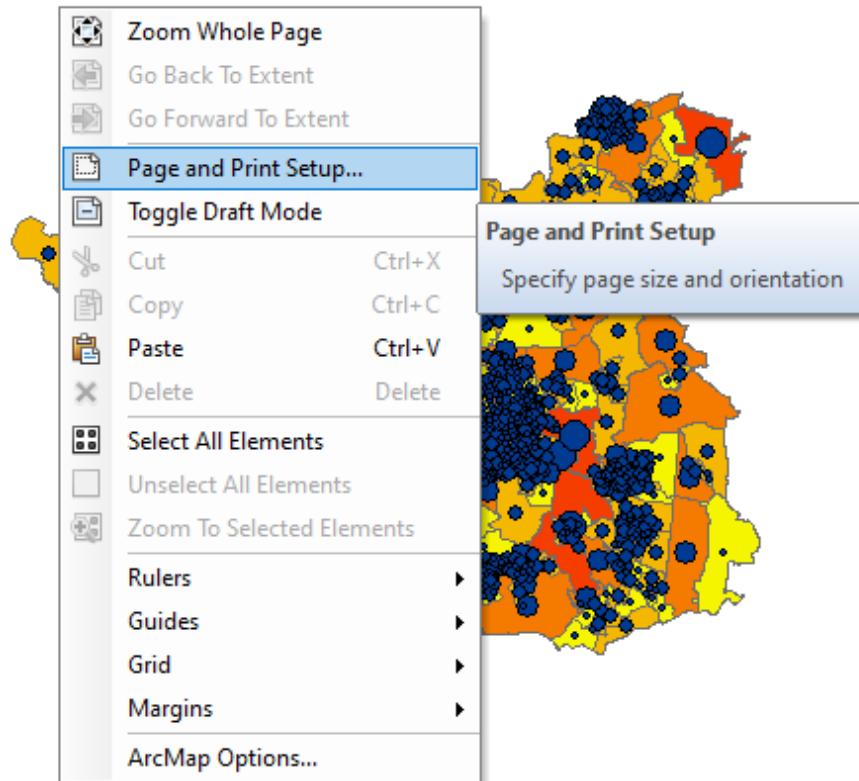


2. A new window will then appear

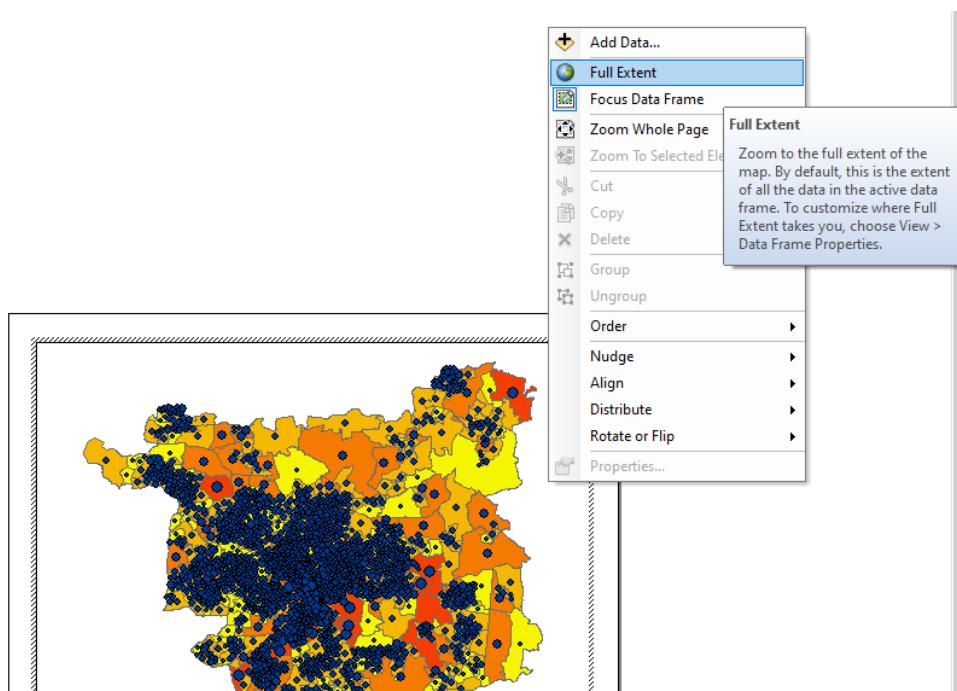


3. The next step is to choose the most suitable page orientation for your map.
4. To change the page setup, right click on the map and select 'Page and Print Setup'.

You can then select landscape or portrait.

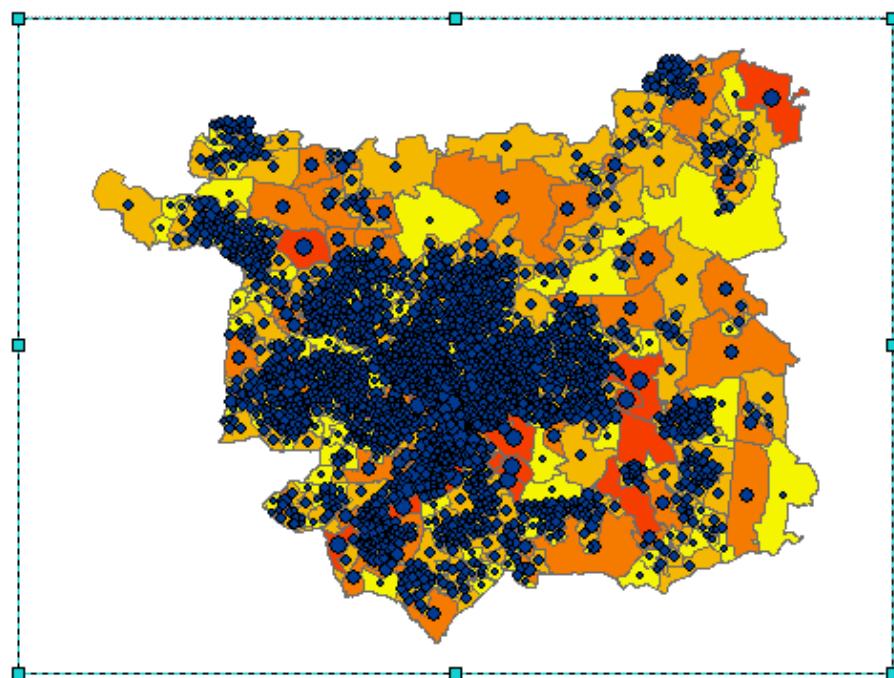


5. Then adjust your image so it fits within the page outline. A good way to do this is by right clicking on the map and selecting 'Full Extent'.

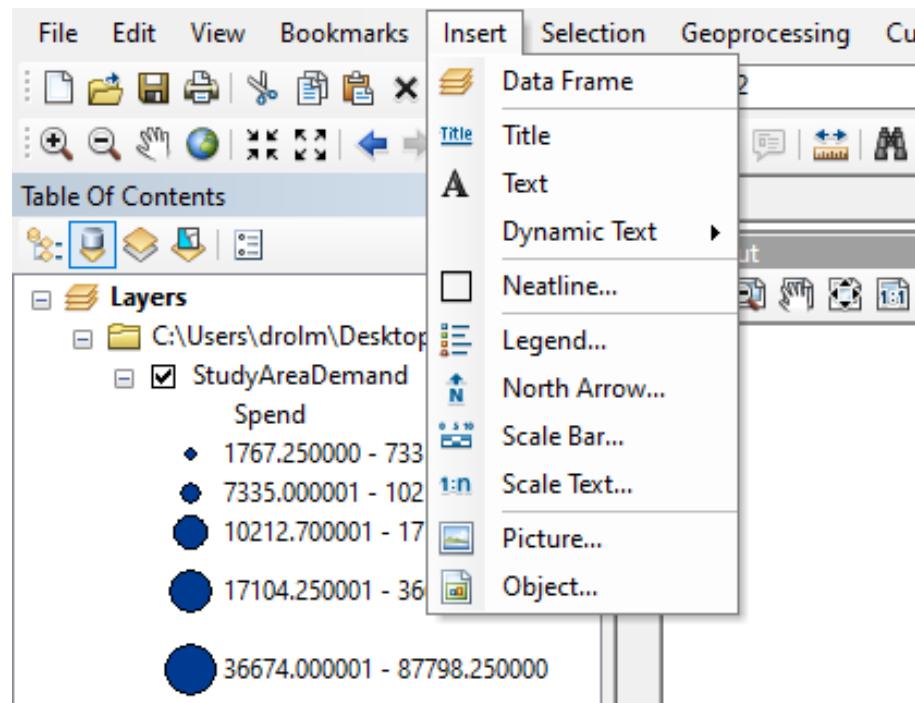


6. Next, we will add the North arrow, scale bar etc.

7. Firstly, you must click the map until the outline turns blue, as shown below.



8. Then select the 'Insert' option on the top toolbar. There will then be options to add a title, scale bar, north arrow, legend and text.



Tip:

Use the text option to add the author name, the date you made the map and the data source.

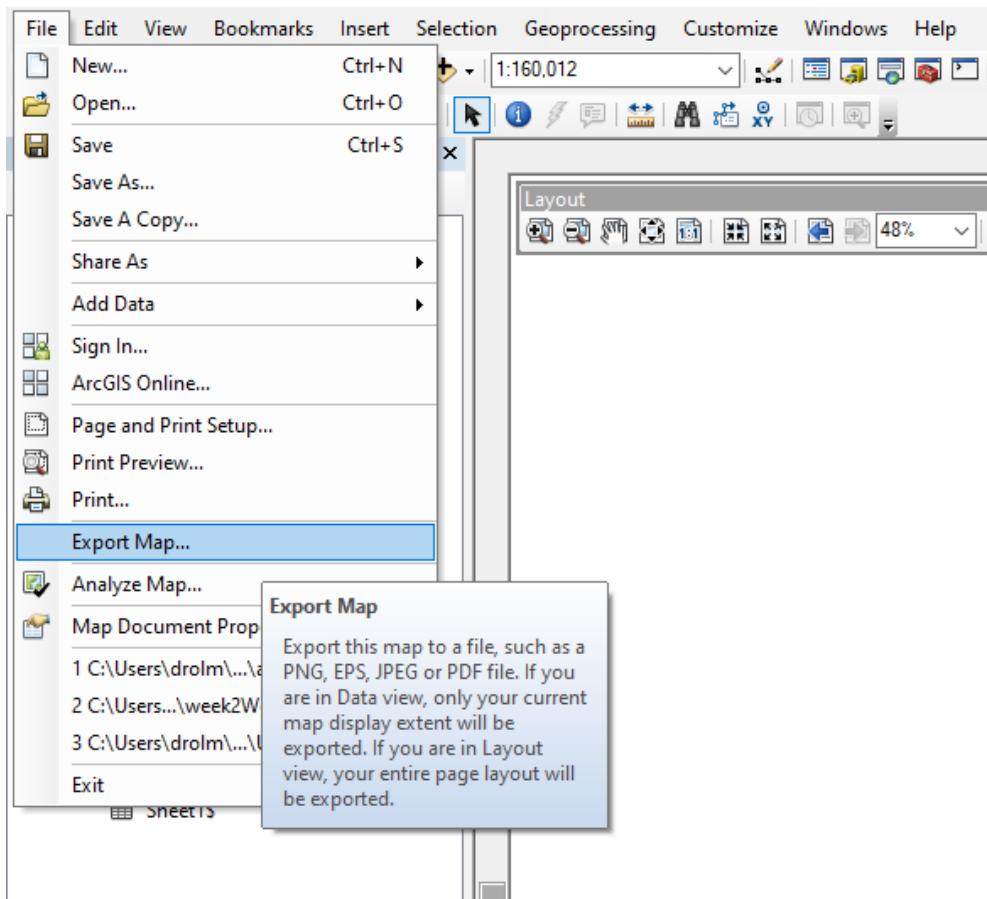
Example:

Author: Annabel Whipp, April 2020.

Data source: Office for National Statistics, 2012.

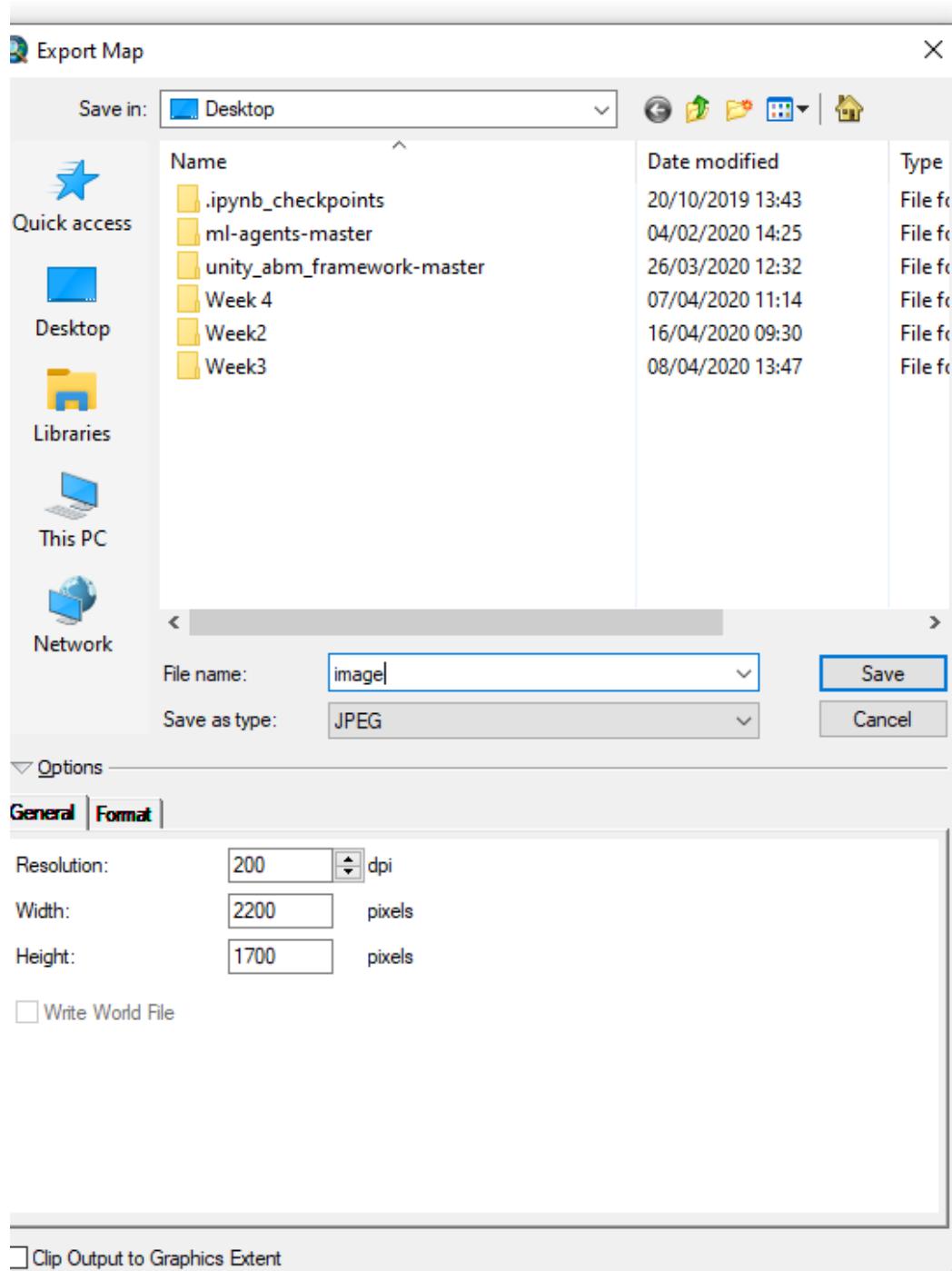
9. Now the map is finished it needs to be exported.

10. Select 'File', then 'Export Map'.



11. Navigate to where you want to save the image.

12. Name the file, specify you want to save it as a .jpeg and make sure the resolution is set to 200 dpi. This ensures the image is good quality.



13. Click 'Save'.

Tip:

When you make a map, produce a layout straight away rather than coming back to it later.

This avoids potential loss of any layers.

Final Stage.

Don't forget to save your workspace! Even though you now have the map, you may want to go back to make changes at some point.

To save the workspace, select 'File' and 'Save as'.