OPEN SOURCE GIS GUIDE

4. AN INTRODUCTION TO QGIS

An introductory guide to working with Ordnance Survey data in QGIS

Consultancy and Technical Services
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Responsibility for this document

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INTRODUCTION

This white paper forms part of a series of white papers covering the installation and usage of various open-source GI applications intended for use across the Public sector communities. This white paper is NOT intended to be a definitive guide but rather as a user-friendly guide to the use of the open-source QGIS desktop GI application. More definitive information can be found on the QGIS web site:

http://www.qgis.org/

A manual for the latest version of QGIS can be found at:


These notes have been compiled for use with version 2.12.1 ‘Lyon’ version of QGIS. However, most of the functionality described in this guide will be the same in earlier releases and in the current long term stable version for corporate use (Version 2.1.4 ‘Wien’).

PART ONE – THE QGIS INTERFACE

CUSTOMISING TOOLBARS

The top area consists of various toolbars; the left hand pane of the user interface below the toolbar area is the layers window. This will be the area where the individual layers of map data will be displayed. The main large (blank area in the screenshots) is where the data will be displayed.

The user can chose which Toolbars are displayed. These can be activated from the View menu and then by selecting the Toolbars drop down menu. This opens a menu with a list of available toolbars; those that have been activated have an x next to them. To activate a toolbar click in the box next to its name on the menu (see below).
The toolbars can also be ‘grabbed’ and moved around by placing the mouse over the stippled area on the left hand side of each toolbar and dragged to a convenient position to make them easier to see. In this way, the user can customise the toolbar area to make the application easier to use.

Some of the toolbars may have elements which are hidden (usually off to the right) If so, the user will see arrows at the right hand end of the toolbar. To see the hidden elements either reposition the tool bar by grab and dragging it or click on the black arrow to reveal the hidden tools.

The bar at the bottom displays information on the co-ordinate position of the cursor, the map scale and the co-ordinate reference system selected by default.

**CHANGING THE DEFAULT CO-ORDINATE REFERENCE SYSTEM**

When QGIS is installed on a PC which has not had a version of QGIS previously installed on it, the coordinate reference system (CRS) defaults to WGS 84. This is a latitude/longitude reference system which is used in many parts of the world. However, if the user wishes to load Ordnance Survey data into QGIS, this default CRS should be changed to OSGB 1936 EPSG 27700.

To change the CRS, carry out the following procedure:

1. Select Settings – Options from the menu options.
2. Click the CRS tab in the left-hand pane of the window.
2 On the right hand side of the top pane 'Default Coordinate Reference System for projects', click on the Select… button.

3 In the resulting dialogue box, a very long list of coordinate reference systems is displayed.

![Coordinate Reference System Selector](image.png)

4 In the filter box at the top of the window, type in the words EPSG 27700. The system will automatically select from the list the correct CRS to display the data in QGIS in British National Grid. Click ‘OK’ to accept.

5 Once selected click OK to complete the operation. The box will close and EPSG 27700 is now the default CRS. **NOTE: QGIS has to be re-started for the default CRS to be correctly displayed as.**
In the ‘Options’ box below, make sure that the box ‘Enable projection ‘on the fly’ reprojection by default’ is selected – this will ensure that if the users want to use another data layer which is not cast on British National Grid, it will display correctly without having to reset the default CRS.

In the pane ‘Coordinate system for new layers’ at the bottom of the Options dialogue, make sure that the ‘Use default CRS displayed below’ option is selected. This will ensure that any new layer that the user creates is cast on the default CRS, and will display correctly.

If British National Grid does not appear here you will need to click Select… to the right of the displayed CRS and select OSGB British National Grid using the method described previously.

Once selected, click OK to accept – the coordinate reference system should now be correctly set.

MANAGING PLUG-INS

QGIS uses a variety of plugin tools to perform certain functions. To use Ordnance Survey data, it will be necessary to manage a plugin and install a new one from an online repository.

From the menu, select the option ‘Plugins and Manage Plugins…’

QGIS will search online for the list of QGIS repositories which are required to install plugins. Please note that for this operation, an internet connection is required.

In the resulting dialog box, type ‘GDAL’ in the search box to see if the GDAL tools plugin has been installed. If there is a cross in the box next to Gdal Tools, the plugin is available. If not, place a cross in the box next to the tool. The plugin will automatically install.
This tool is needed to manage Ordnance Survey raster data.

3 Next, the user will need to install the OS MasterMap GML converter plugin written by a third party supplier, Lutra Consulting, into the list of plugins. This plugin is required to convert OS MasterMap GML data into shapefile format which is the vector data format that QGIS can read.

4 Type ‘OS’ in the search box at the top and then place a cross in the box next to the Ordnance Survey Translator plugin option. This will install the plugin.

5 Once the plugin has been installed, the user will see a new button (The ‘Q’ button illustrated below) will have now been added to the plugin toolbar in the main interface.

This procedure can be repeated for other third party plugins.

6 When QGIS is first installed, it may be necessary to change some of the plugin settings to suit user requirements. Open the plugins window as previously described, and then select the ‘Settings’ option on the left-hand side of the window.
7 In more recent versions of QGIS, Python and other plugins are all installed using the method described above. To see what plugins are installed, open the window using the menu option ‘Plugins – Manage and Installed plugins’ and in the resulting window, click on ‘Installed’ in the left-hand pane of the window.

OTHER TOOLBAR FUNCTIONS

Some other basic toolbar functions as shown above are:

1. Save project (after a project has been saved for the first time, which will be dealt with later in these notes)

2. Drag the map window
3. Zoom the map in (the user can also enter a specific scale by typing in a scale in the scale box at the bottom of the application screen)

4. Zoom the map out

Note the position of the toolbars will vary for above depending on which tools you have loaded and any customisation you have made to the toolbars. In later versions of QGIS, after version 2.0, other commonly used buttons appear on the left hand side of the window.

5. Add vector layer.

6. Add raster layer.

7. Add PostGIS layer.

**LOADING ORDNANCE SURVEY RASTER DATA**

There are two ways in which Ordnance Survey raster data can be loaded into QGIS. The first way is to load the data as individual map tiles and the second is to create a virtual raster catalog. Once the individual tiles have been loaded, they can be grouped together by selecting the individual tiles in the layer window, right-clicking on them and selecting ‘group selected’ (See below for more detailed instructions).

The use of a virtual raster catalog has the benefit of being able to load a large number of raster tiles in one go without the need to select and load individual tiles.
LOAD THE RASTER DATA AS INDIVIDUAL TILES

It is important to organise the raster data correctly so that data management becomes easier. It is highly recommended to create separate folders for each product. For raster products, the user will need to store the appropriate georeferencing files into the same folder as the raster data is stored in order that the data can be placed in its correct spatial position on the national grid. QGIS uses the ESRI world file format (.tfw) to do this; these are available from the product pages on the Ordnance Survey web site – https://www.ordnancesurvey.co.uk/business-and-government/help-and-support/products/georeferencing.html

The illustration below shows a typical product folder with the .TIF raster data files and their associated georeferencing files (.tfw) stored correctly.
**Note:** At the time of writing these notes (December 2015), two Ordnance Survey products, OS VectorMap Local and District raster products do not need georeferencing files. These products are supplied in GeoTIFF format which contains the necessary georeferencing information stored in the TIFF header.

To load the data:

1. Select the ‘Add raster data’ button from the QGIS toolbar area.

2. Navigate to the folder which contains the raster data to be loaded. Note that **only the files ending in .TIF should be selected for loading**. If the user selects the files ending in .tfw as well as the .TIF files, an error message stating that the user has selected a file which is not a supported raster data source will appear. In later versions of QGIS, the file type defaults to .TIFF as shown in the box at the bottom right of the window so the .TFW files will not be displayed.

3. The files should now open using the default CRS which has been previously defined (in this case ESPG 27700, British National Grid).
CREATING DATA GROUPS

If you are going to be working with different raster datasets each containing a number of individual tiles, QGIS provides a simple method of grouping the tiles together. This will allow the user to turn off or turn on each different dataset as one entity rather than having to click on each tile in the layer window to turn it off or on.

To create a product group;

1. Right click the mouse in the layer window on the left hand side of the interface. A dialog box appears as shown below. From this select ‘Add New Group’.

2. A new layer item appears with the list of tiles in the layer window. By default, it will be called ‘group1’. It is already highlighted so that it is possible to overwrite the word group with a product name, in the case shown below, ‘25K raster’.

3. Move the group item just created to the top of the list by left clicking on the item. Holding down the mouse button, drag it to the top of the list.
4. Select all of the raster tiles that are to be included within the new group by holding down the ‘shift’ key and clicking on all of the tiles (standard windows selection action). The tiles should be highlighted as shown below;

5. With the tiles highlighted left click on them with the mouse and drag them up to the lower border of the 25k raster group at the top of the list. Release the mouse button and the tiles should now appear within the 25K raster group.

6. By clicking on the box containing X to the left of the 25K raster group entry, it is now possible to turn off all of the raster tiles in one operation rather than having to turn them off individually. (This can still be done if required by clicking the X in the box against each tile within the group).

**BUILDING A VIRTUAL RASTER TABLE (VRT)**

Another way of loading a number of raster tiles for an individual raster product is to create a virtual raster table. This will allow the user to load just one file and all component raster files contained within the virtual table. This is particularly useful if large amounts of tiles need to be loaded. However there is a limit to the number of tiles which can be loaded into a VRT it is suggested that for large scale raster data a series of tables are created based on 100km squares.

The virtual raster table creation tool is a GDAL tool which was activated earlier in the manual when the appropriate GDAL tools plugin was selected. If the options described below do not appear, this tool needs to be activated using the ‘Plugins – manage plugins option’ from the main menu.

1. From the main menu in QGIS, select ‘Raster, Miscellaneous, Build Virtual Raster (Catalog)’.
2. A dialogue box will open. This will allow the user to create the virtual raster. The user can create a virtual raster catalog table by either selecting a whole folder (directory) by clicking in the box and then navigating to that folder. Alternatively the user can navigate to a folder and select a number of individual tiles.

3. In the ‘Input files’ box select the tiles which are to be included. It is important that the appropriate georeferencing files are in the same folder as the .TIF files. Select only the files ending in .TIF and not the georeferencing files. If those are included, an error message will result.

4. In the ‘Output file’ box, the user can give a name to the virtual raster table being created. Ensure that the correct output folder is selected in the folder box at the top of the window.

4. The user can then select a resolution for the output table. The default is ‘average’. If the user selects ‘highest’, the output table will appear better on the screen but it may take longer to load depending on how many component raster tiles are incorporated within it. The user can also specify to have the completed virtual raster tables automatically loaded once created by leaving the marker in the load into canvass when finished option.

5. Select ‘OK’ when finished. The tool will create a new file with a .VRT extension with the name given by the user. This is the virtual raster table which will be loaded into QGIS.
6. If not automatically loaded, in the main QGIS program, click on the ‘Add raster layer’ button and navigate to the folder which contains the .VRT file just created. Select that file and click ‘open’.

7. The virtual raster table will open as one layer. The title of the layer will appear in the layers window on the left of the interface. The main map window will show all of the raster tiles included within the virtual raster table.

This layer can now be turned off and on by clicking on the cross in the box next to the layer name in the layers window.

**SAVING THE PROJECT**

Once you have loaded the data and are satisfied with the result, it is prudent to save the progress as a project. In that way you can return to the exact point at which the work was last saved.

To save the project:

1. Select ‘File’ – ‘Save Project As’ from the main menu options.

2. In the open dialog give the project a name and specify a location where the project is to be saved. This will create a new file with a .qgs extension; this extension is the standard one for all QGIS projects. The project file be double-clicked from Windows Explorer at a later time and this operation will start up QGIS and launch the project if QGIS is not running. (As long as this file association is set in Windows).
3. Alternatively if QGIS is running the user can load the project from either the list of recent projects using the menu option ‘File – Open recent Projects’ or using the Open Project… open on the same menu.

PART THREE – LOADING ORDNANCE SURVEY VECTOR DATA

It is important to understand that QGIS will only read some of the more common vector file-formats natively, such as the ESRI shapefile format. If the vector data is only available in other non-common formats, the user will have to use a third party application to translate that format into ESRI shapefile or MapInfo MID/MIFF format. For OS MasterMap Topography layer data, please refer to part four of these notes.

This section utilises the OS OpenData vector dataset, OS VectorMap District as examples on how to load vector data. The dataset is supplied as 100km grid squares based upon the British National Grid, such as SU. It is recommended that a spatial index be added to each of the shapefile layers to improve performance. This can be done by right-clicking on the layer, selecting ‘Properties’ and then selecting the ‘General’ tab on the left hand side of the resulting window. The button ‘Create Spatial Index’ is displayed. Click on it to create the spatial index.

As with other vector datasets, the product is broken down into shape files containing various elements of the whole dataset. This allows the user to turn on individual elements of the dataset, as well as allowing the user to apply different styles to different features. QGIS allows the user to carry out these functions.

LOADING THE VECTOR DATA

1. Select the ‘Add Vector Layer’ from the toolbar button on the main interface.

2. In the resulting new window, select the ‘File’ button in the Source type area of the window to select individual shape files; alternatively choosing the Directory option allows the user to select a whole directory (folder) which containing shape files. Navigate to the appropriate folder where the data resides by clicking the ‘Browse’ button.
3. In the resulting window select the shape files you wish to load and click ‘Open’. **NOTE:** depending on how large the area the user has selected, this may take a few minutes so patience is required! However if this is the case it is possible to turn off displaying files as they are loaded. To do this go to the Settings menu and select Options. In the dialog chose the Rendering tab and uncheck ‘By default new layers added to the map should be displayed’.

4. There are two points to note upon inspection of the loaded map data. Firstly, QGIS applies a random style pattern to all of the data elements in the dataset. Secondly, in the layer window on the left hand side of the screen, the elements of the data are placed in a random order. This ordering is important because if the data is ordered incorrectly, some elements of the data could be obscured beneath others; this is dealt with in the next section.

**ORDERING OF DATA LAYERS**

The vector data layers need to be placed in the correct order to allow the user to be able to see all of the elements. Usually, the protocol for layering of data is polygon shapes at the base, overlain by line features, and finally point features at the top. In terms of the polygon layers, it is usual to place tidal water below land and then surface water and woodland/buildings on top of that in order that the user can see all of the data layers. The exact ordering will depend upon the dataset being used.

To order the data in QGIS:

1. Click on the layer which is to be moved up or down in the layers window.

2. Hold down the left mouse button, click on and drag the layer up or down to suit requirements.

3. The figure below shows the un-ordered layering of OS VectorMap applied by QGIS upon data load and the result of ordering polygon layers ordered beneath the other layers. This procedure should be continued until all the point features lie on top of the line layers.

4. Some Ordnance Survey vector data products, including all of the OS OpenData products, are now supplied with predefined styles which are available for download from GitHub. For example, the link to the latest styling for OS VectorMap District can be found at;

   **https://github.com/OrdnanceSurvey/OS-VectorMap-District-stylesheets**

   Within this download, there are instructions on how to use the style files. There is also included a recommended layer order for each of the component layers of the data. This will allow the data to be styled correctly, but can be modified according to user requirements.
STYLING OF VECTOR DATA WITHIN QGIS

When your data is loaded initially into QGIS the software will pick a random colour style. The procedure for styling features in QGIS is dependent upon the feature being styled, whether it is a polygon, line or point. Features can also be styled by bringing in a style from a predefined QGIS style file (ending in a .qml extension).

TO STYLE A POLYGON FEATURE IN QGIS FROM SCRATCH.

1. In the Layers window select and right click on the layer to be styled. In this example, the buildings layer has been selected, which is a polygon layer. Then select ‘Properties’.
2. In the resulting window, select the ‘Style’ tab at the top-left hand side of the window. The user will be presented with the random colour style in the box on the left hand side. To change the colour to something else, coloured square below the ‘Fill’ entry in the table or select a colour from the drop-down option next to the ‘Color’ entry.

3. The Select Colour window is activated; this allows the user the option to select from a variety of colours within the spectrum palette or to enter specific RGB (red green and blue) values if required. Once an appropriate colour has been selected from the palette click the OK button.

4. In the layer properties window the colour selected will appear within the box and on the change button has changed to match this. If satisfied with this selection, hit the ‘OK’ button at the bottom of the window.

5. The feature selected will now be displayed using the style selected.

6. The type of styling available will depend on the feature type to be styled, e.g. different fill patterns for polygons; line styles for lines and different symbols for markers.

7. For line styles it may also be necessary to turn on Symbol levels. This controls the way in which different line segments within a layer are displayed. The result is that lines will appear as one as opposed to a series of lines joined together.

6. The user can also save a defined style as a QGIS style file by selecting the ‘Save Style’ button at the bottom of the layer properties window. The user will be asked to give the new style file a name and save it to a folder of the user’s choice.

**TO STYLE A POLYGON FEATURE IN QGIS USING A PREDEFINED STYLE FILE.**

A quick way of applying symbols is by using a predefined styling. Users can also create and share symbols styles where uniform styling across a project or organisation is required.

1. Bring up the ‘Layer Properties’ window in QGIS as previously by right clicking on a layer in the layers window. Click on the ‘Load Style’ button.
2. A new window, the ‘Load layer properties from style file’ window appears. The user is then prompted to navigate to the folder where the relevant style files are stored (these have the extension .qml). Select the appropriate style file from the list.

3. Click ‘Open’ in the ‘Load layer properties from style file’ window. In the resulting layer properties window for the layer selected (buildings in this example), the colour will change to the colour defined in the predefined style file. Click OK in the bottom of the window to accept this style.

4. The feature will now appear in the selected colour in the map.

WORKING WITH LAYERS IN VECTOR DATA

One of the major benefits of using vector data within a GIS is the ability to customise its appearance and to use only the layers which are needed for a piece of work. QGIS allows the user to order layers as previously described and to turn layers off and on as required. This is accomplished by clicking in the box next to the layer to be turned off or on.

By turning off layers which are not required a map display can be given completely different appearance from the default view and tailored to user requirements.

PART FOUR – LOADING AND VIEWING OS MASTERMAP TOPOGRAPHY LAYER DATA

OS MasterMap Topography layer data is supplied as compressed GML (.gz) file format. From version 1.8.0 of QGIS, new functionality was added so that QGIS is able to read this data in its natively supplied format. In versions prior to 1.8.0, QGIS needs to be translated into a suitable format before use.

A plugin from the third party provider, Lutra Consulting is provided in QGIS to be able to translate the compressed GML format into ESRI shapefile format. Details of how to install this plugin are given in part one of these notes.

Other translators are available from other third party suppliers. Some of these are free under the open source GNU licence such as the Astun Technology loader. Others are available under commercial licence.
1. Select the Lutra plugin button by clicking on the appropriate button on the plugin toolbar.

2. A new window appears (see below). Browse to the folder containing the file to be translated and select the folder.

3. Select a folder for the outputs in the box entitled ‘Folder for Outputs’.

4. The output format defaults to ESRI shape.

5. The temporary folder can be left as default.

**Important Note** At this point, the Lutra plugin appears to only convert one OS MasterMap .gz file at a time. Therefore, the user should ensure that the input folder selected only contains one .gz file or an error message will result. The output folder will be given a prefix name starting with the name of the .gz file to make the output unique.

6. Click ‘convert’ – a message appears to indicate that QGIS may become unresponsive for some time while the conversion process takes place.

7. The user will notice several command line windows opening and closing during the conversion – **No user input is required during this process.**

8. When the process is complete, a window appears. Click ‘OK’ to close it.

9. The user should then hit the ‘close’ button in the Ordnance Survey Translator window.

10. The user should now see a new folder created within the specified output folder, with the same name as the original OS MasterMap Topography layer .gz file supplied. Within this folder are the shape files for OS MasterMap which can now be loaded with QGIS.
LOADING AND ORDERING OF OS MASTERMAP TOPOGRAPHY LAYER DATA IN SHAPEFILE FORMAT WITHIN QGIS

1. To add OS MasterMap data into QGIS, click on the ‘Add vector layer’ button as previously described when loading OS VectorMap data (Part three of this guide).

2. In the resulting window, navigate to the folder just created using the browse button.

3. In the resulting window, the user should see (within the newly created folder described above) a number of shape files which make the elements of OS MasterMap Topography layer.

4. Select all of these files and click the ‘open’ button.

5. In the ‘Add vector layer’ window, in the dataset box, all of the OS MasterMap shape files will have been inserted.

6. The OS MasterMap data will load into the map window in a default style applied by QGIS. The data will also be randomly ordered in the layers window on the left hand side of the screen.

7. As in the case of OS VectorMap District data described in part three of this guide, the data needs to be ordered correctly in order that no line or point data is obscured by polygon data.

8. Click on a layer in the layers window and drag the layer to its correct position. The user will need to order the OS MasterMap Topography layer data as indicated in the illustration above.

LOADING OS MASTERMAP TOPOGRAPHY LAYER DATA INTO QGIS DIRECTLY USING QGIS VERSION 1.8.0 OR LATER

As previously indicated, from version 1.8.0 of QGIS ‘Lisboa’, OS MasterMap Topography layer data can now be loaded into QGIS from its natively supplied format (either compressed or uncompressed GML).

To do this:

1. Click on ‘Add vector layer’ from either the toolbar button or menu option in QGIS.

2. The ‘Add Vector Layer’ window will appear.

3. Select the ‘Browse’ button next to the Dataset box and navigate to the folder where the OS MasterMap data is stored.
4. Select the OS MasterMap data file to be loaded from the list of files. The list of files displayed can be refined by selecting the ‘Geography Mark-up Language’ option in the ‘Files of Type’ drop-down box.

5. Once the file has been selected, click ‘Open’. The user is returned to the previous window and the files selected for opening will appear in the ‘Source Dataset’ box. Click ‘Open’.

6. The user will now be prompted to add the vector layers contained with OS MasterMap Topography layer to the map interface (see above). The user can select as many as required. Once selected click ‘OK’.

7. The OS MasterMap Topography Layer data will now be loaded into the QGIS map window. The data will be loaded un-ordered and un-styled as in the case of the shape file option described previously.

**STYLING OF OS MASTERMAP TOPOGRAPHY LAYER DATA**

OS MasterMap Topography layer is a large scale vector dataset with a detailed classification scheme and attribution. As the styling of this data is complex and can be time consuming, Lutra Consulting has produced a set of style files which can be applied to the OS MasterMap Topography layer data as converted using their plugin as described above. These files are downloadable from:

http://www.lutraconsulting.co.uk/resources/ostranslator

Navigate to the bottom of the page to the section on ‘applying styles’ and click on the links. The user will need to download two files, ‘OSAreasrulesbased’ and ‘OSLinesrulesbased’. Extract the contents of these two .zip files to a convenient folder – generally where the original OS MasterMap .gz files reside would be a good idea. *Please Note – These style files will NOT work on OS MasterMap data loaded from .gz or .GML natively as described in the previous section of this guide, style files will have to be manually created in this case.*

These are the two files which will style the vast majority of features in the OS MasterMap data.

To apply the styles to the data:

1. Right click in the ‘layers’ window on the layer which is to be styled. The Layer properties window will open.

2. Select the ‘style’ tab on the left hand side of the window.

3. At the bottom of the window, select the ‘Load Style’ button.

4. Navigate to the folder where the ‘OSAreasrulesbased’.qml file resides.

5. Select the ‘OSAreasrulesbased’.qml file and click ‘Open’
6. A new layer properties window will open (see below), which will display all of the area classifications in new colours against a specific set of rules-based attributes.

7. Click ‘apply’ and then ‘OK’. The colours of the area features within the map window will change to reflect the styling within the predefined style file.

8. The above process needs to be repeated with the ‘OSlinesrulesbased’ for the Topographic Line layer of OS MasterMap using the procedure described above. The illustration below gives an example of what the resulting map of OS MasterMap Topography Layer will look like.

9. The user will have to manually style the remaining layers in OS MasterMap Topography layer as Lutra Consulting have not provided style files for the remaining layers.

10. Finally, labels can be added by right-clicking the Cartographic Text layer in the Layers window and after selecting ‘properties’ from the drop down window, the Layer Properties window will appear.
11. In this window, select the ‘Labels’ tab on the left hand side of the window. Select ‘Show Labels for this layer’ in the top drop-down options box. In the ‘Label with’ box below this, select the button on the right hand side of the box and scroll down the list of available attributes to ‘textstring’. This will be the attribute in the data which will be used as a label on the map.

12. Select ‘Apply’ and ‘OK’. A label will now have been applied to the data. These labels will all appear horizontal and not aligned with the features. These labels can be changed in various ways but the options available are beyond the scope of this guide. Please refer to web tutorials for more information on labelling options.

The illustration above shows what can be achieved using very simple labelling options available in QGIS without the need for complex queries to position text.
13. The user should save the project at regular occasions throughout this work in order to preserve the styling and labelling applied, as previously described in the relevant section of this guide.

PRINTING A MAP USING THE PRINT COMPOSER

1. From the main menu in QGIS, select ‘File – New print composer’

![Print Composer Window]

2. Firstly, a window will appear to provide an option to give the composer file a name if required. This is a feature of more recent releases of QGIS. It can be left blank if not required. A new print composer window will appear. This window contains a blank canvass upon which the user can draw various items including a map window and various legend text boxes. All of these options can be selected by using the various controls on the right hand side of the window or by using the buttons at the top of the window.

![Print Composer Toolbar]

3. To add the current map window to the canvass, click on the ‘add new map’ button on the left hand side of the window. Click the left hand mouse button in the top left hand part of the canvass and holding it down, drag open a window across the canvass. The map window will appear to whatever extent the user requires.
4. The user can carry out a number of options on the map canvass by using the buttons on the top of the window. The map can then be either printed out to a local or network printer or exported to a .PDF or .SVG document. There are also a great number of other customisable options available which are beyond the scope of this guide. The whole print composer can itself be saved as a separate template by clicking on the ‘save template’ button (second button from left) for future use.

**FURTHER INFORMATION**

Further information can be found the QGIS manual that is part of the install or from the QGIS website - [http://qgis.org/](http://qgis.org/).