

GIS and Habitat Management (ACBA 7005)

Habitat Mapping (Phase 1/NVC/UKHab)

Aim

In this lab we will be building on the skills we developed last week and applying this to construct a Phase 1 Habitat Map. In the practical exercises this week we add aerial maps to QGIS, and create a custom series of shapefiles to produce:

- a) Phase 1 habitat map for a select area or a UKHab Map for a select area.

Goals

- Further develop our understanding of the GIS interface
- Interrogate satellite imagery (Google Earth)
- Add a Geopackage into QGIS
- Interrogate large attribute tables to isolate required information
- Map this data on a custom map.

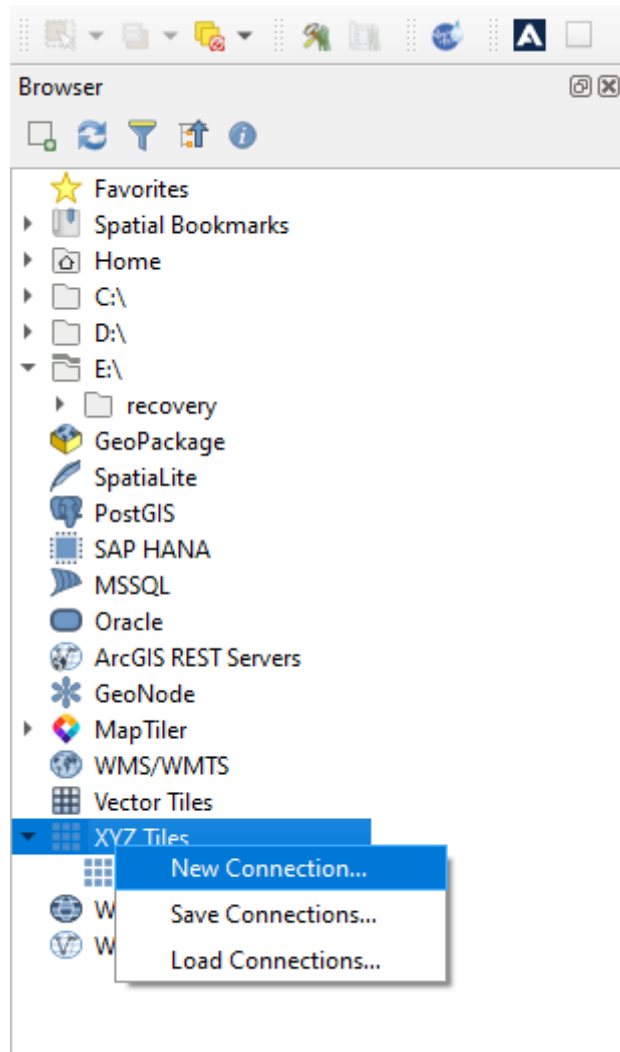
Activity 1 – Customising NVC Map

Brief: This week we will be exploring the utility of Phase 1, NVC and UKHab classifications for habitat mapping. Firstly, you will explore digitised datasets using the NVC classification. We will explore existing NVC classifications for Scotland. In this part of the activity, you will learn to load a Geopackage and interrogate the data provided using the attribute table. You will then customise a map to display a custom NVC type.

Instructions:

Step 1: Adding a Basemap

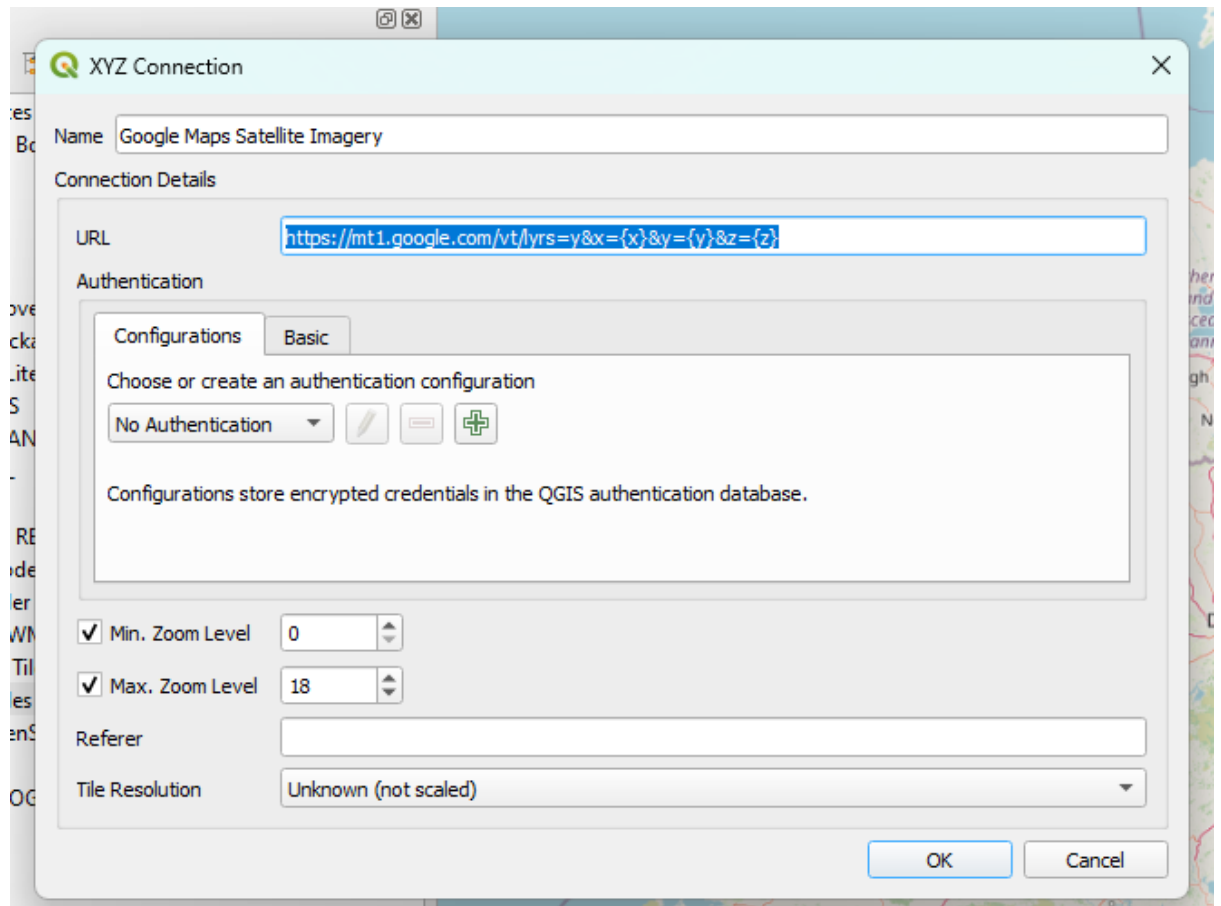
- 1) **Open QGIS** and select the new project button.
- 2) Today we will be adding a aerial basemap for our project. To do this we will be adding new tiles. Click on the Browser panel and then navigate to the 'XYZ Tiles' button. Right click this button and select 'New Connection...'



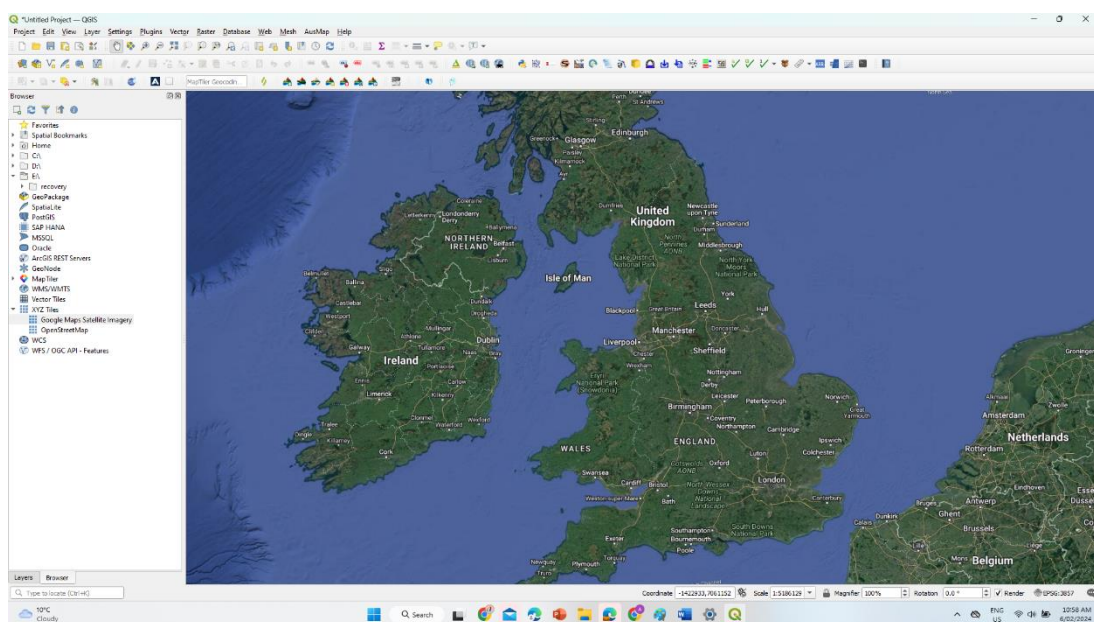
- 3) In the "New XYZ Connection" window, enter the following:

- Name: **Google Maps Satellite Imagery**

URI : <https://mt1.google.com/vt/lyrs=y&x={x}&y={y}&z={z}>



- 4) Click "OK" to save the connection.
- 5) In the XYZ Tiles window, select "**Google Maps Satellite Imagery**" from the list of connections.
- 6) Click "Add" to add the "**Google Maps Satellite Imagery**" basemap to your project.
- 7) The basemap will appear in the Layers panel. You can adjust the opacity and style of the basemap as needed.



Step 2: Downloading an existing Geopackage.

- 8) Click on: <https://www.data.gov.uk/dataset/89c2dd96-a6f6-4ca9-8257-bb34a6924945/habitats-data-nvc-polygons>
- 9) Download the geopackage file (Geopackage (135MB, EPSG:27700))
- 10) Save this folder to your OneDrive in a folder named: Lecture2. Remember to unzip the file.
- 11) Add this to QGIS by dragging and dropping the required file into the QGIS application.

Using what you learnt from last week, see if you can customise your map.

To interrogate the attribute table you may want to read this section: [Working with the Attribute Table \(qgis.org\)](#).

We will be using this map for next week, so please save it as 'Lecture3_NVC_Basemap'.

Activity 2

You will be producing a Habitat Map for a select location in the UK. You can use either the Phase1 or UKHab classification to derive a map highlighting habitat areas. Create a new QGIS project and save it in your Lecture2 folder.

You can call it HabitatMap_ 'Location', replacing the 'Location' name with your chosen location. (Hint: it may be useful to have a location that you are considering for your riparian management plan).

- 1) Click on: [Terrestrial Phase 1 Habitat Survey | DataMapWales \(gov.wales\)](#)
- 2) Download the zipped shapefile of this data. It will display the counties for the Phase 1 habitat data. There are lots of files available:

This dataset contains the following layers:

- **Vegetation Voronoi:** Showing the boundaries and attributes of vegetation polygons with upland mixed habitat polygons subdivided into their component habitats
- **Habitat:** Point data showing the location of habitats mapped in mixed habitat polygons during the Upland Vegetation Survey
- **Mospolys Voronoi:** A grid coloured in chequerboard fashion according to Phase1_Code and in proportion to their extent to enable the visualisation of mosaics
- **Mosnotes Varanoi:** Point data to describe habitat composition of mosaic polygons
- **Scattered Vegetation:** point data showing the location of scattered vegetation
- **Target Notes:** record the position and reference number of Phase 1 target notes

- **Mosaic Voronoi:** Browser table to supply habitat types, areas and proportions for mosaic polygons

You are welcome to download as many datasets as you are interested in. Each maps a different feature.

3) Save this file in your OneDrive. Once you unzip the file, add this to QGIS.

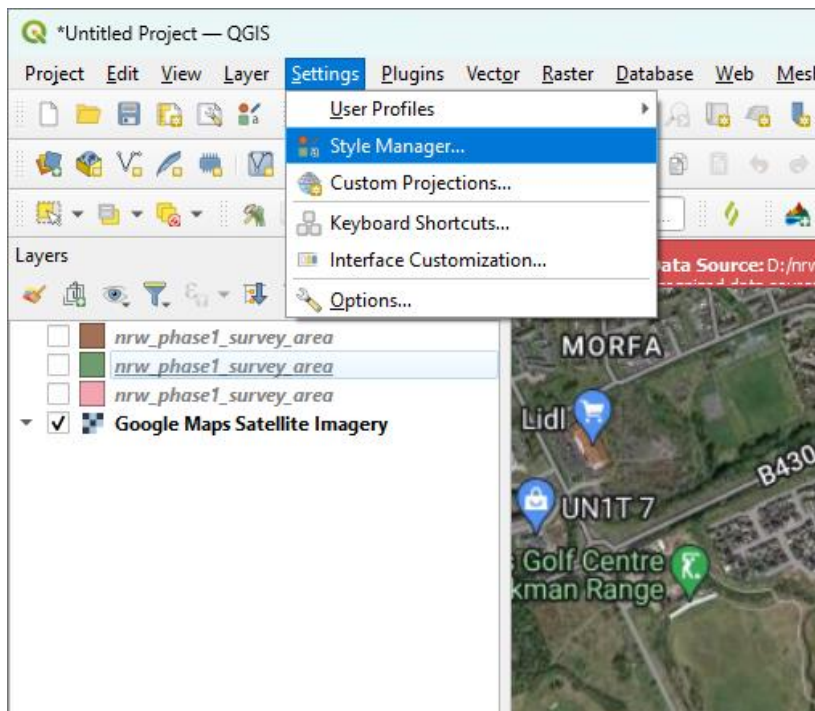
4) You will be making a new Shapefile to digitise different Phase 1 Habitats. Zoom into your chosen area (it is more fun if there are varied habitats).

5) In making your map you will be using a custom style (someone has developed the Phase 1 Style so you can import it into QGIS)

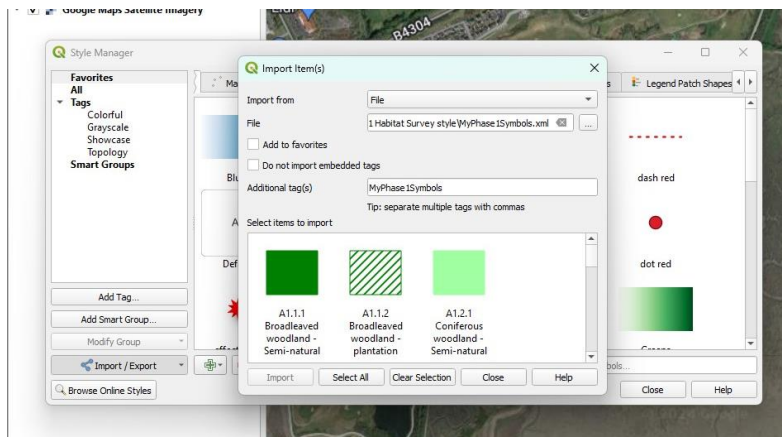
6) Click on: [QGIS Style](#)

7) Download the custom style.

8) To add this custom style in QGIS, click on: Settings, Style Manager.



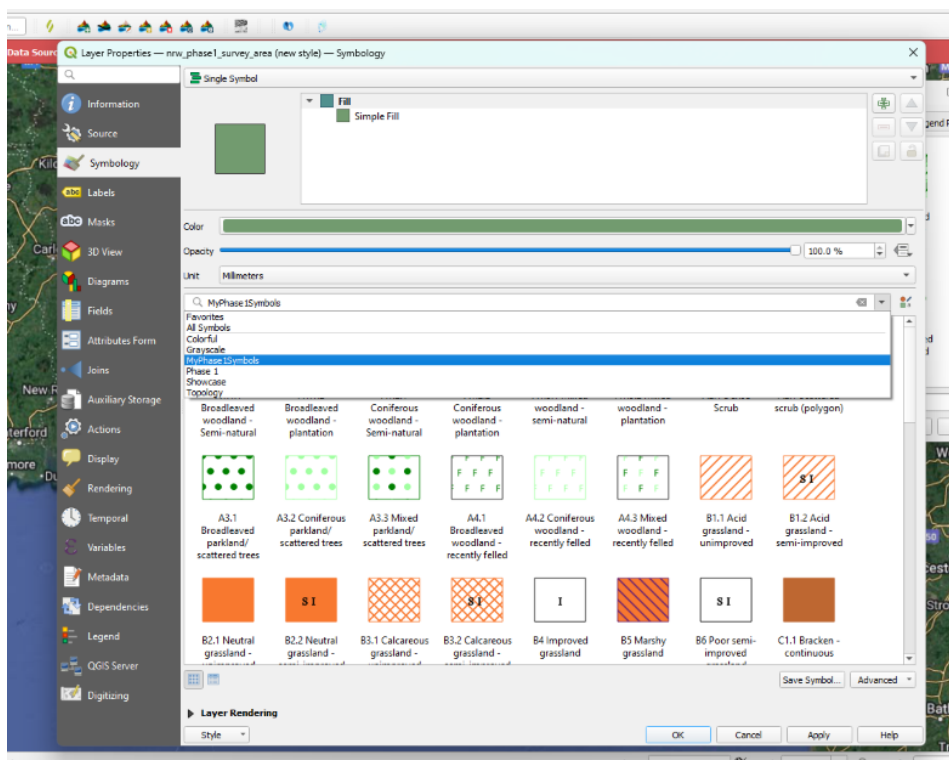
9) You will then need to navigate to import/export. A new box will appear and you will need to add the XML file (the custom script) into the FILE area (shown below).



10) Click on 'select all', and then press import. This style is now imported.

More information on the style manager can be found here: [14.1. The Style Manager — QGIS Documentation documentation](https://docs.qgis.org/en/latest/docs/userguide/adding_data/style_manager.html).

11) You can then use this custom Phase 1 symbology whilst making your map. You will be able to find it under 'Layer Properties' which is accessed by right clicking on your layer. You will then click on properties. A new box will appear. There is a dropdown box that will now contain your custom symbols.



Digitise your Shapefiles. Remember to add columns to your attribute table to specify which class is which.

Further questions:

Bonus Content

- For your selected area, do you notice any discrepancies?
- Are there errors or poor overlap. Has there been any changes since the Phase1 habitat survey was carried out? How might you display this?
- Try to have a go at creating a map for your own digitised content (local area of your choice).
- If you have some more time, you are welcome to create a UKHab Map!