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QGIS Basics I: Loading Data and getting Started

GIS, or Geographic Information Systems, software can visualize and display spatial data to help solve problems that involve spatial variables and is useful for the relating, integrating, and analyzing of information of different themes of spatial information. In the following tutorial, we'll walk through some of the tools you can use to visualize your data and make maps!

The sample data that is used is freely available and comes from the following sources:

Streets and Places datasets from OpenStreetMap (<u>https://www.openstreetmap.org/</u>) Property boundaries (urban and rural), water bodies from NGI (<u>http://www.ngi.gov.za/</u>) SRTM DEM from the CGIAR-CGI (<u>http://srtm.csi.cgiar.org/</u>)

Conveniently compiled for use here: https://Github.com/qgis/QGIS-Training-Data/archive/master.zip

Loading Vector Data:

Open the **Data Source Manager** (in the top left corner) to upload data. In the pop up, go to the **Vector** tab and enable the file source type.

Press the "…" button and select your file. In this example we're using the **protected areas** and **Places** files in the **shapefile** folder. Once selected click **Add**.

You will now see the vector data populate in your map and a **protected_areas** layer show up in the **Layers Panel**. Layers are ordered by visibility, meaning a layer on top will overlap and show above a layer beneath it.





Loading Vector data from a Geopackage Database:

Once again, click the **Open Data Source Manager** button. Go to the **Geopackage** tab. Click on the **New** button and browse to the training_data.gpkg file.

Select and **Connect**. The layers will populate in our window, select with your mouse and press the **Add** button when ready. Once added, you'll see the change reflected in the **Layers** panel.

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Loading Vector data from a SpatiaLite Database:

Data Source Manager and select the Browser tab.

Find **SpatiaLite** in the list (you'll also see the **GeoPackage** data we used in our last step)

Simply double click to add the landuse.sqlite to our **Layer Panel**.

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Reordering the layers for clarity:

If you wish to give some context to your map and data, you can add a simple world map.

Find **XYZ Tiles** and double click **OpenStreetMap** to add that layer. By default it will be at the top and hide the other layers, so position it to the bottom so that we can see your other information.



To reorder your layers, simply drag and reorder them in the **Layers Panel**. You can also hide individual layers from your vision by toggling the check marks to the left of them. The order of your layers is important, so be sure all of your information is seen.

For example, in the first image the **Roads** layer is underneath the **protected_areas** layer. By putting the **Roads** layer further up on the list, and on top of the **protected_areas** layer, all of our information can now be seen.





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