UNIVERSITY LIBRARIES

UNIVERSITY AT ALBANY
State University of New York

IMC
Innovate Make Create
https://library.albany.edu/imc
518 442-3607

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

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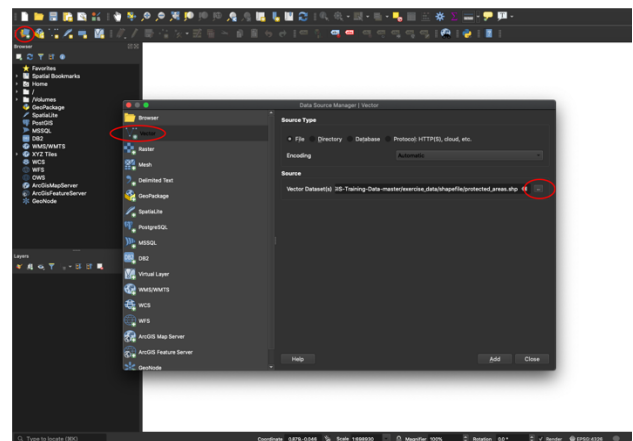
Press the "…" button and select your file. In this example we're using the **protected areas** and **Places** files in the **shapefile** folder. Once selected click **Add**.

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.
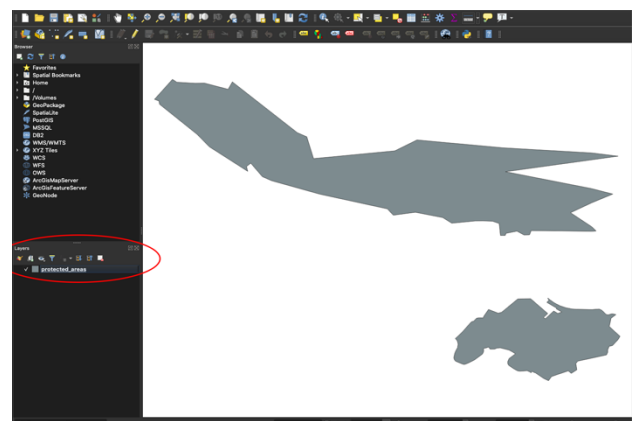
Loading Vector data from a Geopackage
Database:

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,
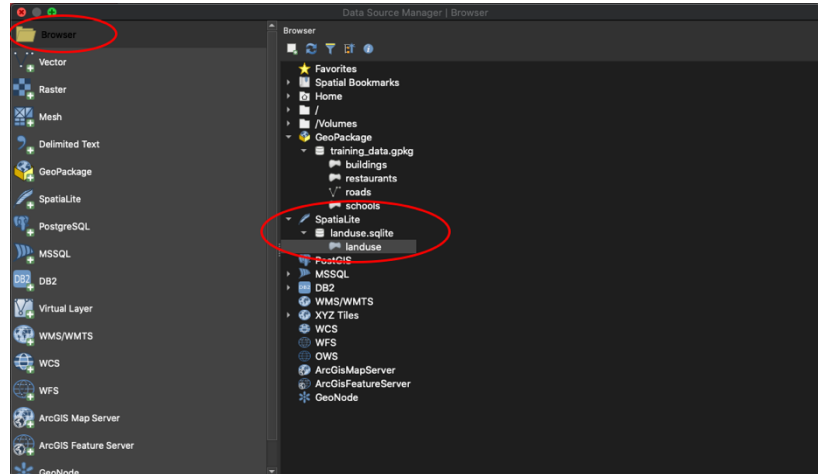you'll see the change reflected in the **Layers**
panel.
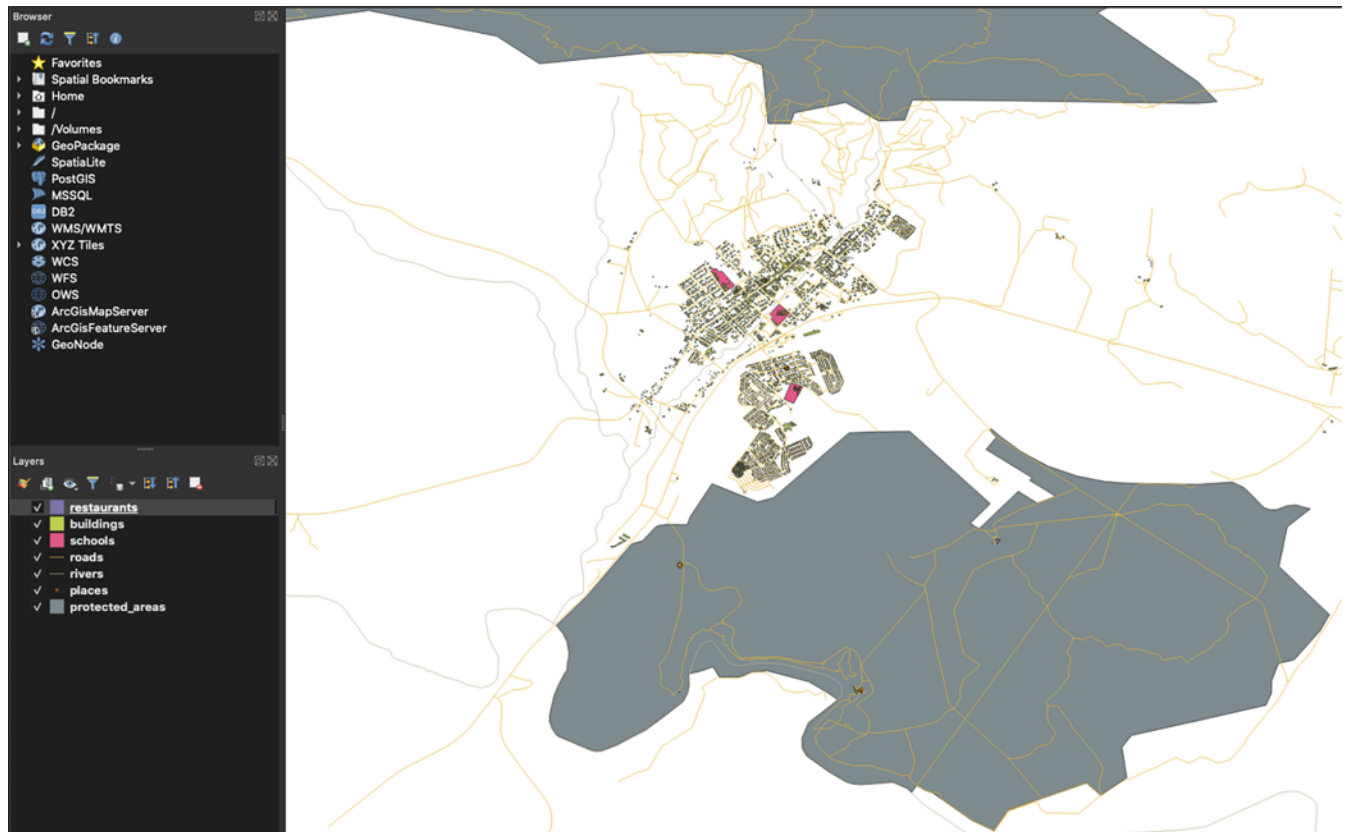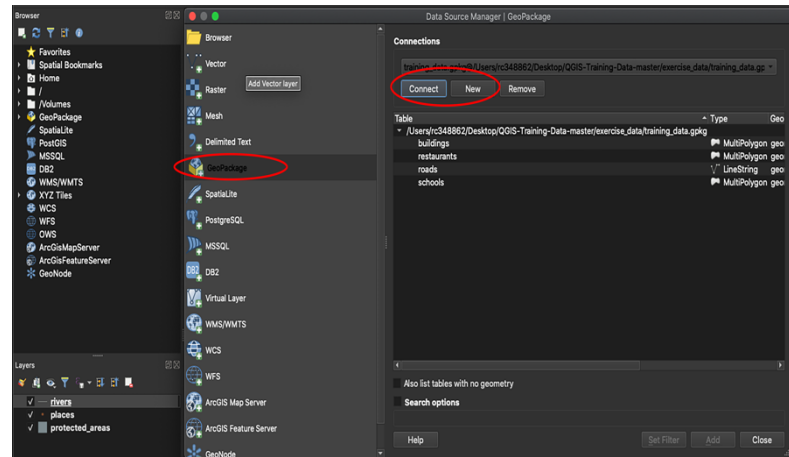
Loading Vector data from a SpatiaLite
Database:

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**.

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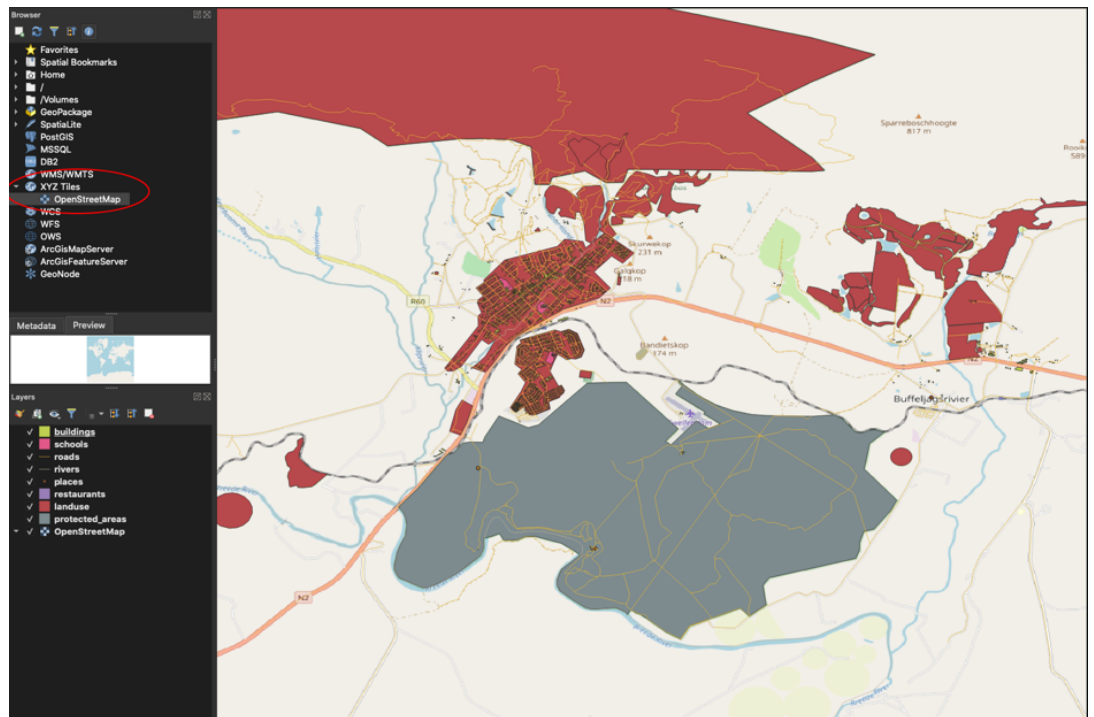
To reorder your layers, simply drag and reorder them in the **Layers Panel**. You can also hide
individual layers from your vision by toggling the check marks to the left of them. The order of
your layers is important, so be sure all of your information is seen.

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.