



ASOR Cultural Heritage Initiative

QGIS

Module 02.12: Drawing Shapefiles (Vectors)

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ASOR QGIS Module 02.12 – Drawing Shapefiles (Vectors)

QGIS is a free and open source Geographic Information System (GIS), or geodatabase, licensed under the GNU General Public License. QGIS runs on Linux, Unix, Mac OSX, Windows and Android and supports numerous vector, raster, and database formats and functionalities. Download QGIS here: <https://qgis.org/>.

QGIS users can view, edit, and analyze spatial information through its free software toolkit.

This **ASOR Tutorial (02.12)** provides an overview for creating new shapefiles.

KEY CONCEPTS

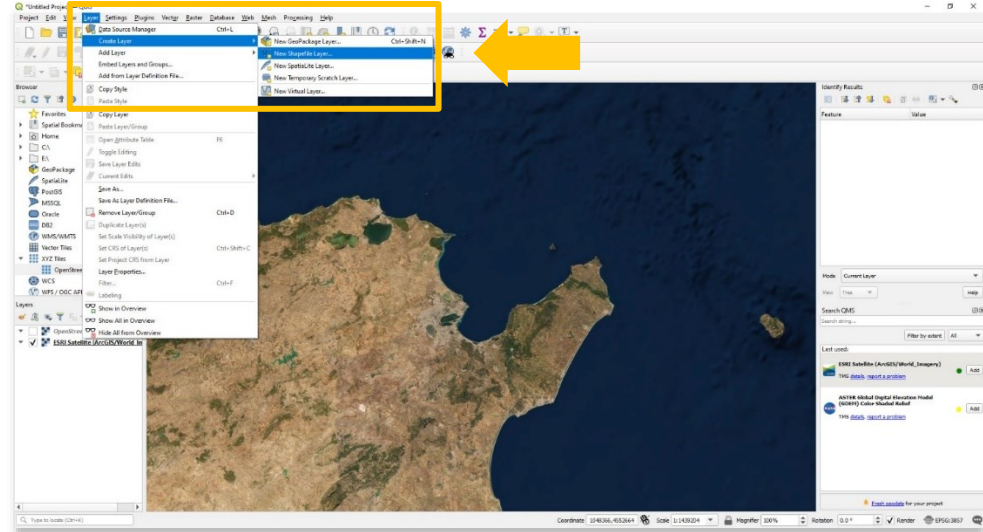
- ❖ **Creating New Shapefiles** – In QGIS, users can create shapefiles (points, lines, polygons) via *Layer > Create Layer > New Shapefile Layer*, assign geometry type, and define attribute fields with data types such as text, numbers, or dates.
- ❖ **Drawing Features** – After enabling editing mode, users can add points (or other geometries) directly on a basemap, enter attribute data, and save edits to build custom spatial data.
- ❖ **Layer Management & Tools** – Newly created shapefiles appear in the Layers Panel; editing requires toggling the editing tools, saving edits, and using functions like Identify Features to review attribute tables.

DRAWING NEW SHAPEFILES

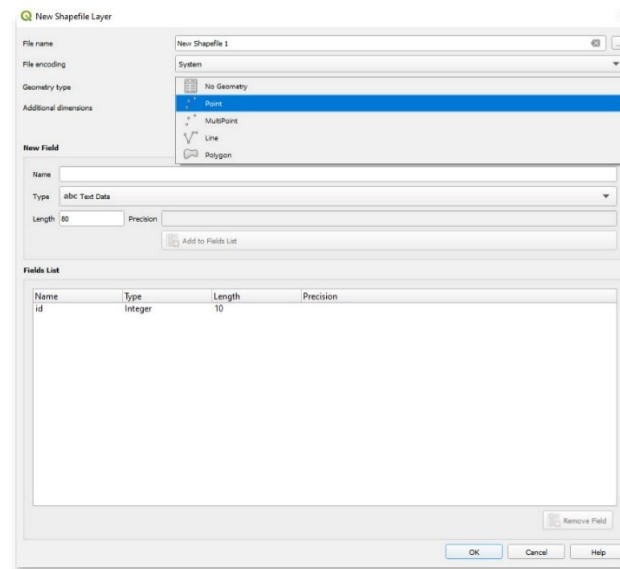
QGIS also allows users to draw points, lines, and polygons directly onto a basemap. This workflow is useful for planning survey areas in advance using satellite imagery.

Open a new QGIS project and add a basemap.

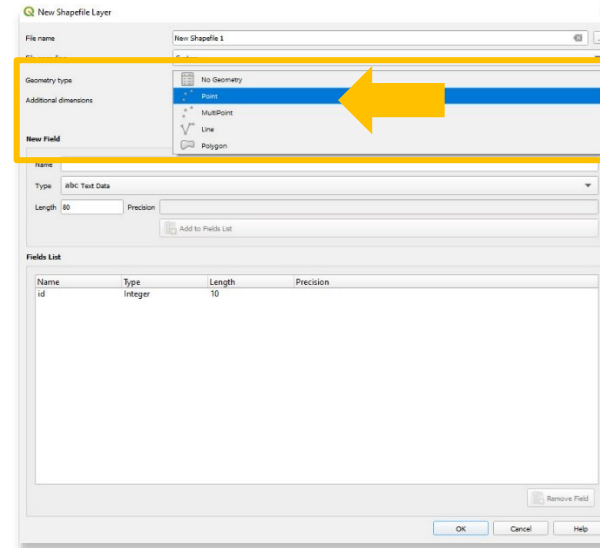
Next create a new shapefile by **Layer > Create Layer > New Shapefile Layer**.



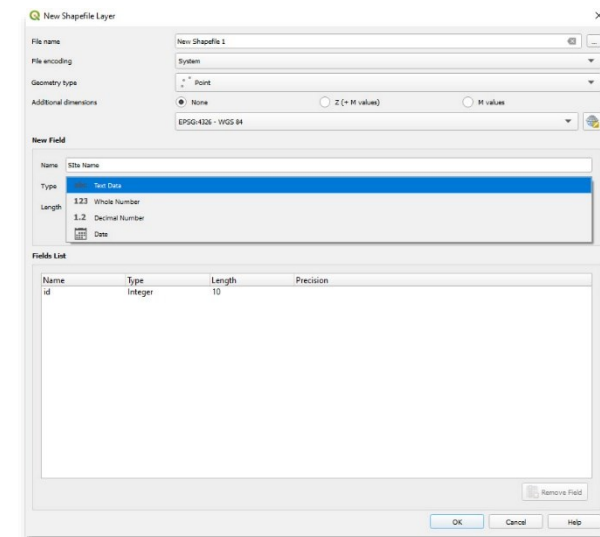
In the pop-up, type in a File Name and select the **Geometry Type** (point, line, polygon).



For this example, select **Point**.

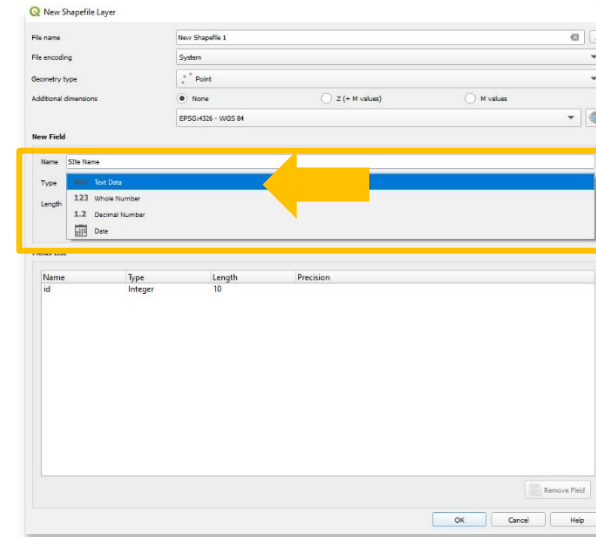


You can then add fields to this shapefile layer. These fields will become the columns in your new shapefile's attribute table.

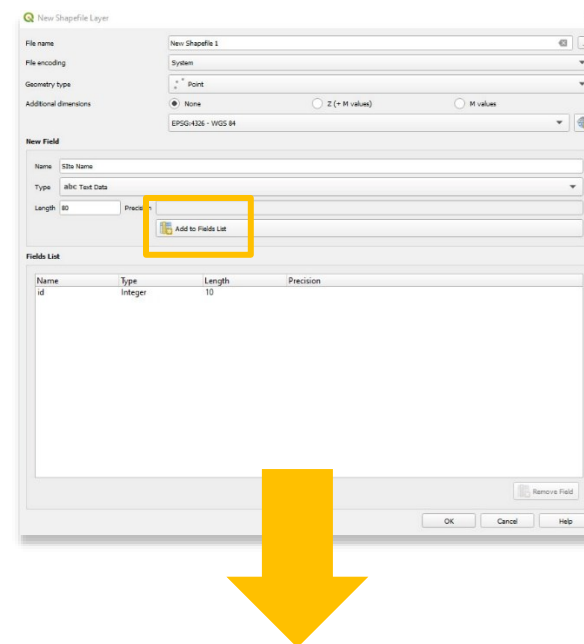


The Value Types (the descriptive data in the attribute table) are limited in form to **Text Data**, **Whole Number**, **Decimal Number**, and **Date**.

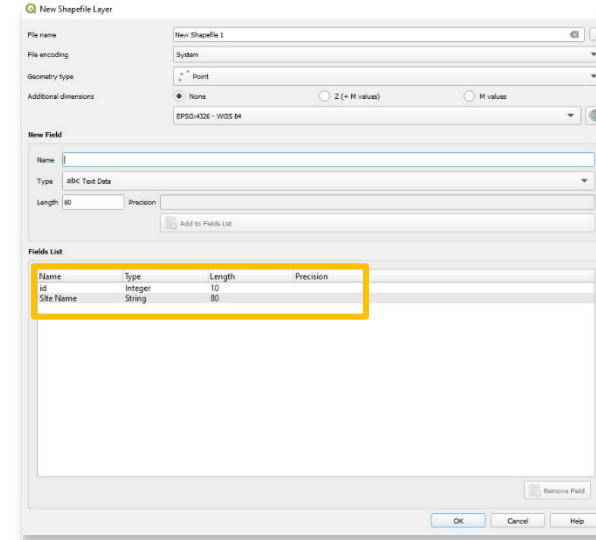
Choose **Text Data**.



Select the **Add to Fields** Button

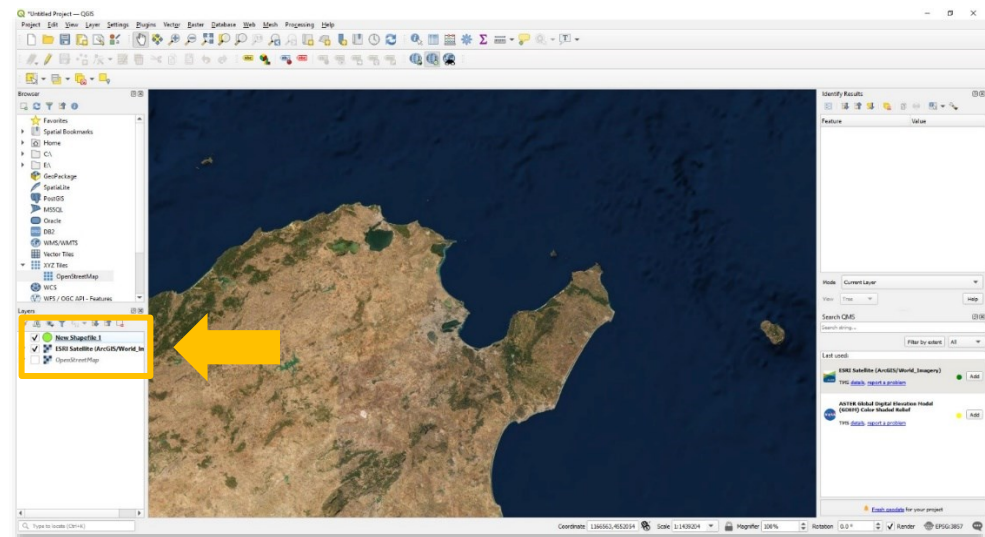


This new column will appear in the **Fields List** window below. You can add as many columns as you wish depending on the nature of your project.

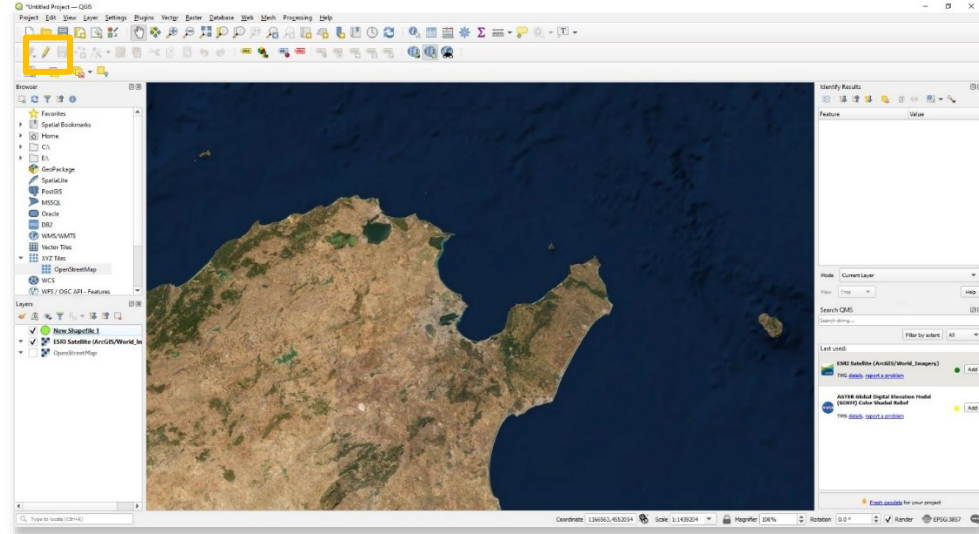


After adding all fields to your new shapefile, select **OK**. The new shapefile will now appear in the Layers Panel.

No points will appear in the Map Navigation window until you draw them on your basemap.

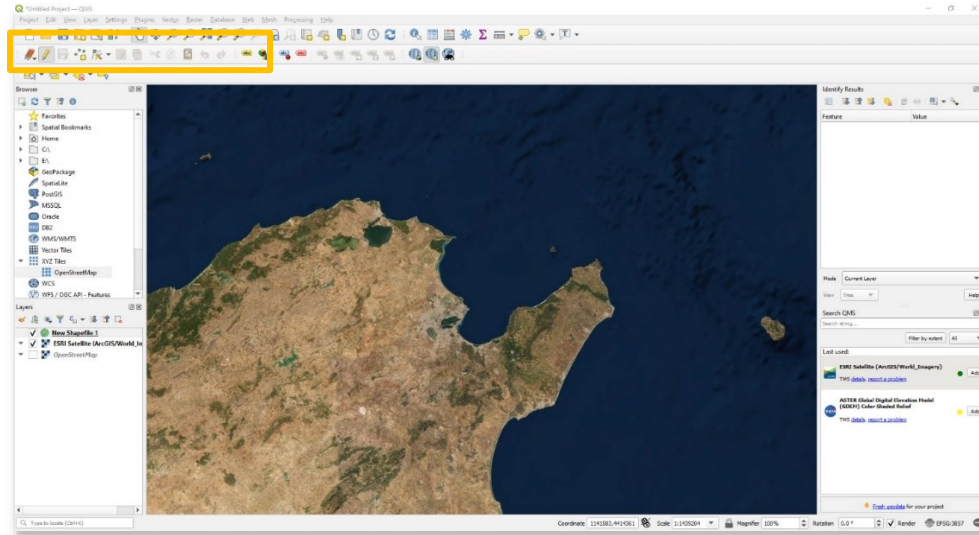


To draw a point on the map, select the **New Shapefile 1** layer in the Layers Panel, then the **Toggle Editing** button from the toolbars shown in the screenshot.

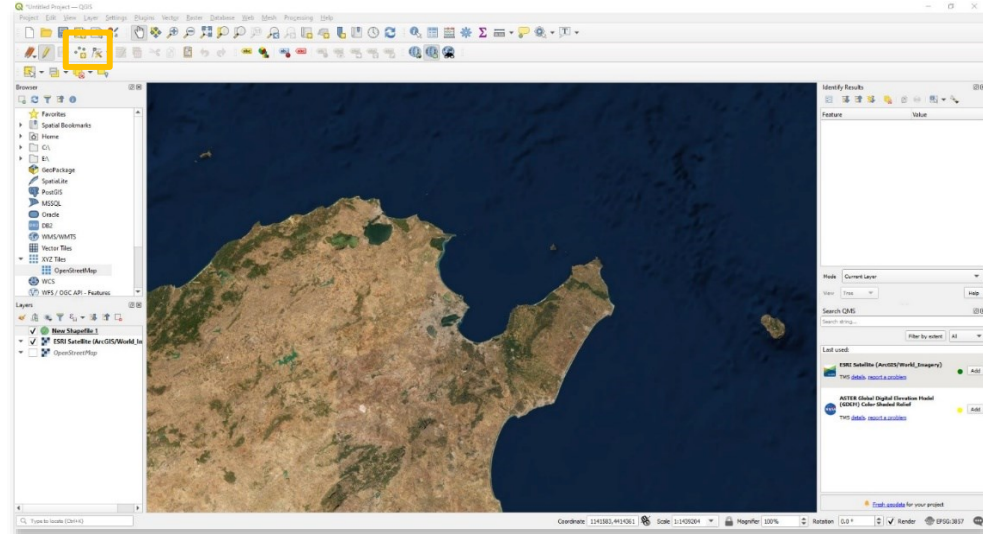


Additional tools are now available for users to draw points on your map.

* If the Toggle Edit button does not appear among the tool bars located near the top of the QGIS program, please review steps 1 and 2 in ASOR Tutorial 02.04 (Overview of Toolbars, Panels, and Settings) for an explanation on how to activate the toolbars needed to edit new shapefiles.



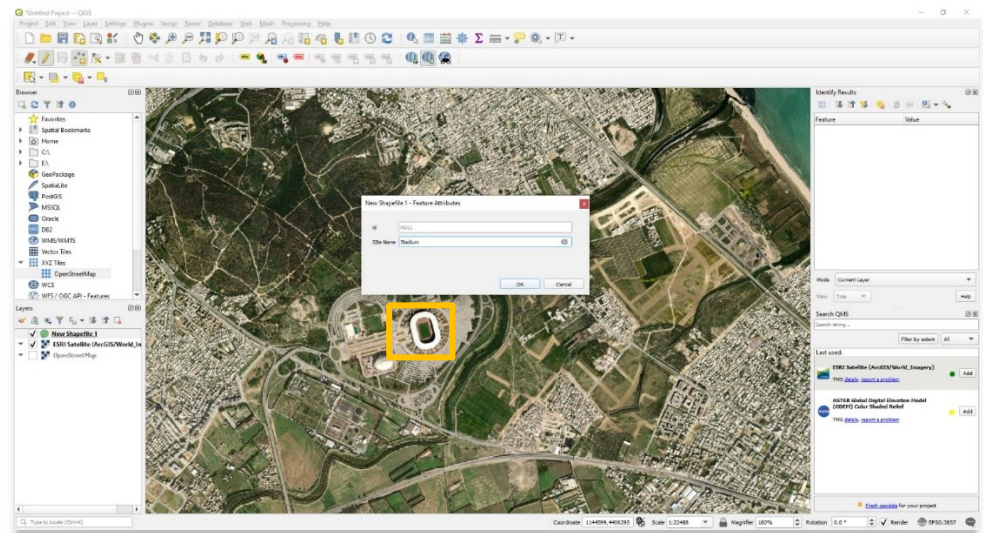
Select the **Add Point Feature** button. The mouse will change to resemble a target.



Navigate to the location you wish to add a point to, then left click your mouse.

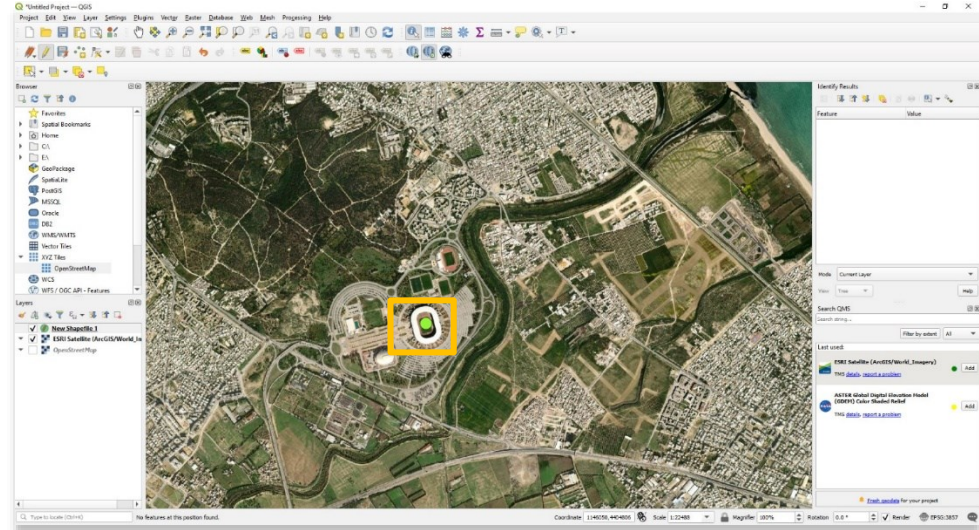
A Feature Attributes pop-up will appear.

Select **OK** when you have finished entering the attribute information.

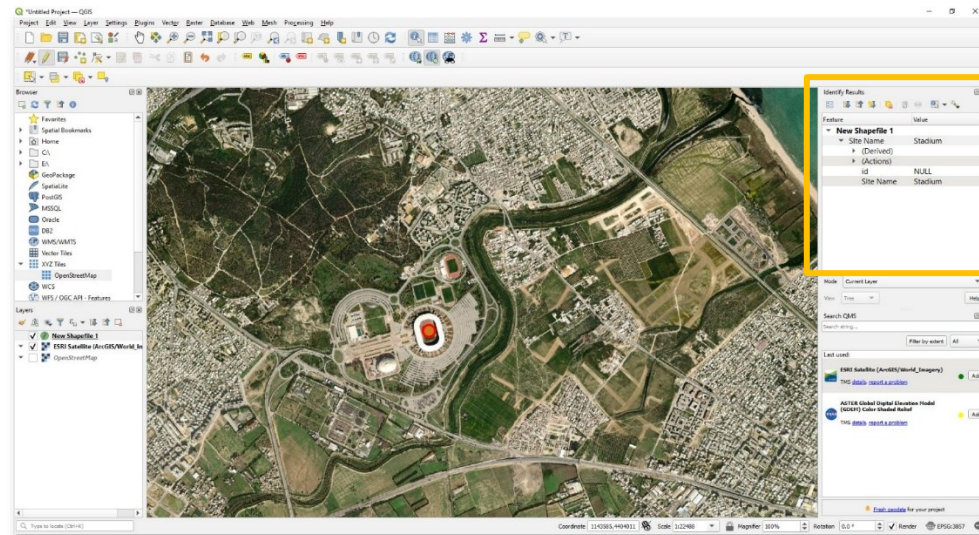


The new point now appears on your map.

You can continue adding points by repeating these steps.

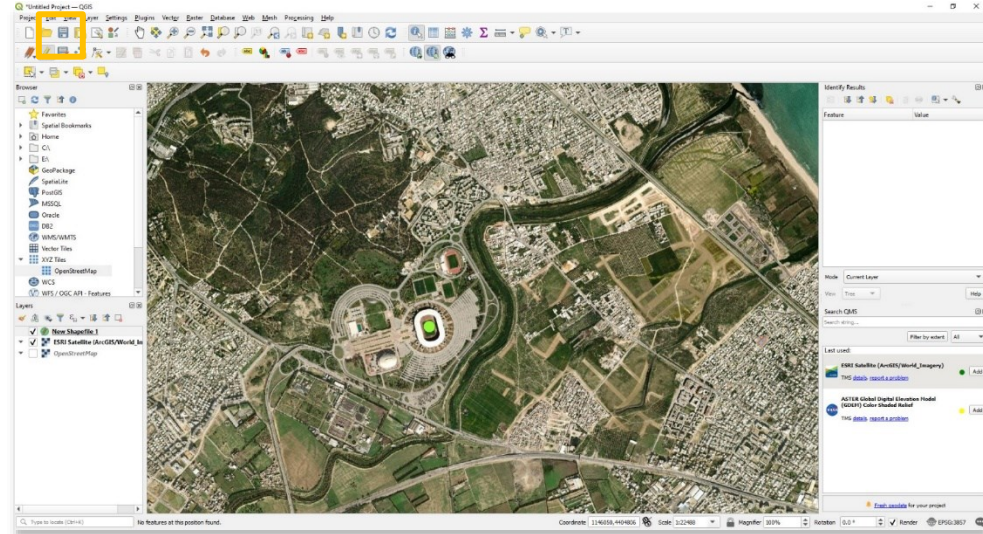


Use the **Identify Features** button to display the attribute table for your new shapefile.

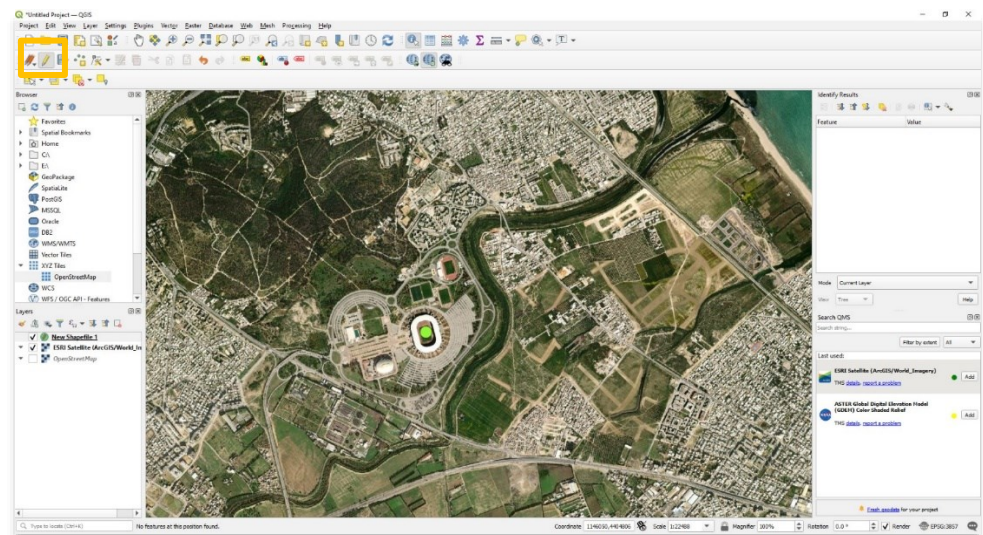


The new point now appears on your map.

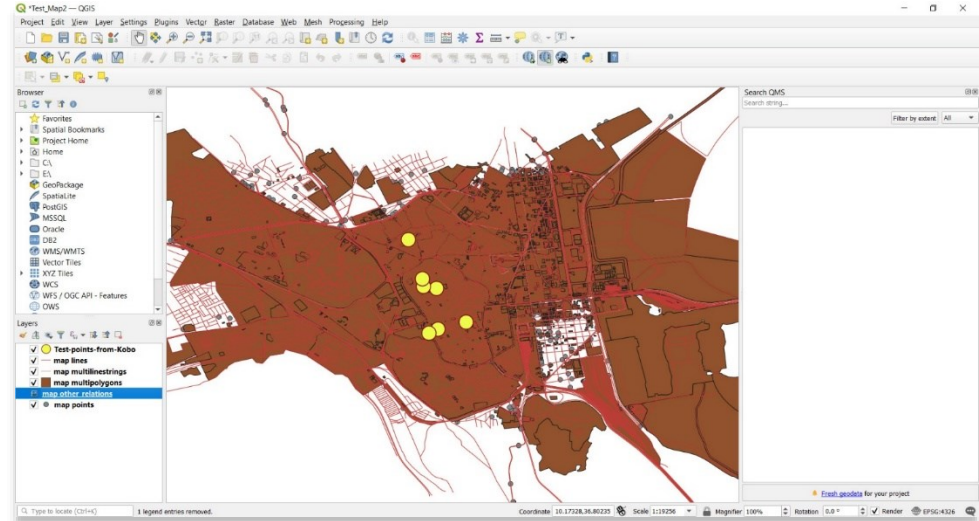
Once finished adding new points, choose the **Save Layer Edits** button.



Finally select the **Toggle Edits** button again to stop editing the New Shapefile 1 layer.



You can create more shapefiles by repeating steps in this tutorial, including adding lines and polygons to your map.



RESOURCES

QGIS Download: <https://qgis.org/>



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