



ASOR Cultural Heritage Initiative

QGIS

Module 02.21: Designing Final Maps for Print or Export

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ASOR QGIS Module 02.21 – Designing Final Maps for Print or Export

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 (02.21)** will provide instructions on how to design finalized maps and export them as PDFs or image files in QGIS.

KEY CONCEPTS

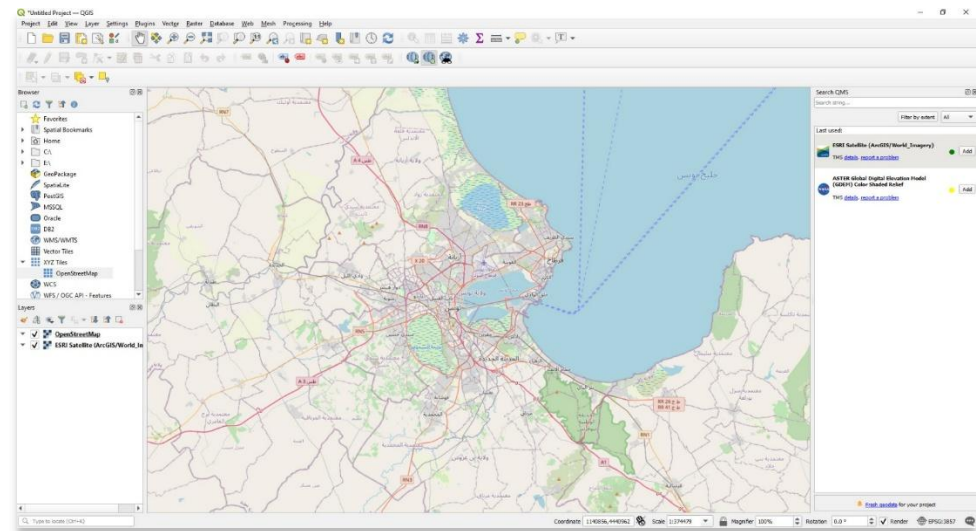
- ❖ **Print Layout Function** | QGIS's Print Layout feature allows users to convert GIS project files into printable or shareable formats, enabling customization of paper size, orientation, and layout elements.
- ❖ **Map Elements and Tools** | Common tools in the Print Layout toolbar include options to add and adjust the map, title labels, legends, scale bars, north arrows, and images—each customizable through the Item Properties panel.
- ❖ **Creating Inset Maps** | Inset maps act as locator maps showing the main map's position within a larger area. Users can lock layers, add a secondary map frame, adjust scale, and configure overview frames for clear geographic context.
- ❖ **Export and Output Options** | Finalized maps can be exported in multiple formats—Image, SVG, or PDF—or printed directly, ensuring compatibility with systems that may not have QGIS installed.

PRINT LAYOUTS

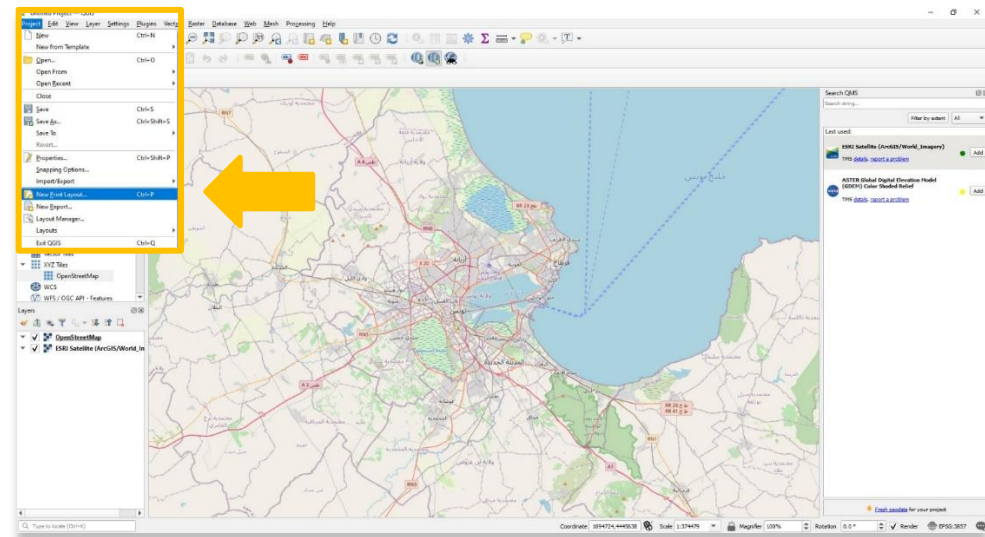
Now that you've got a map, you need a way to print it or to export it to a document. A GIS project file is not an image. Your project saves all the layers, their labels, colors, etc., however, someone else who doesn't have the data layers or the same GIS program (such as QGIS) cannot view the map.

QGIS can export its map file to a format that any computer can read, as well as print out the map if you have a printer connected. Both exporting and printing is handled via the **Print Layout** feature.

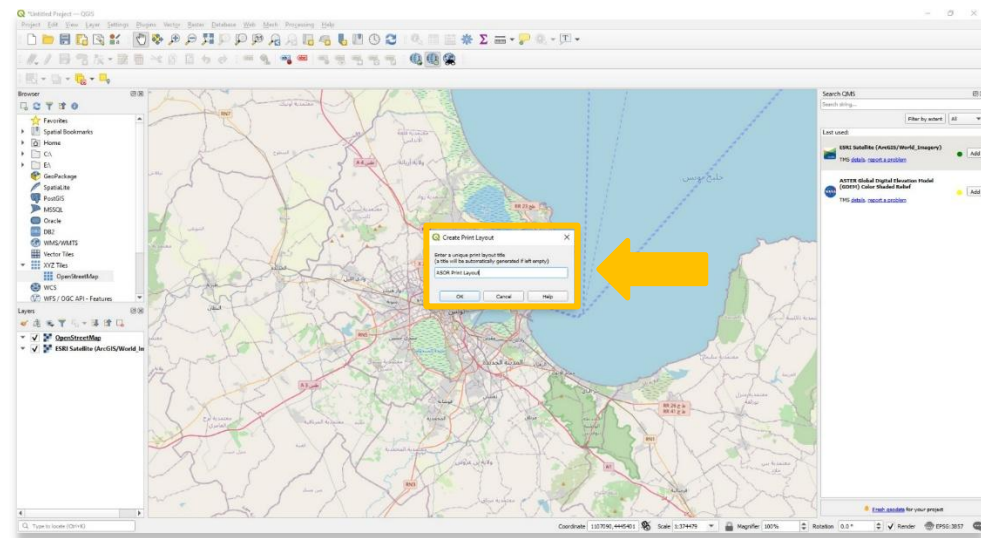
Align your map in the **Map Viewer** to the specific geographical scene you wish to export/print



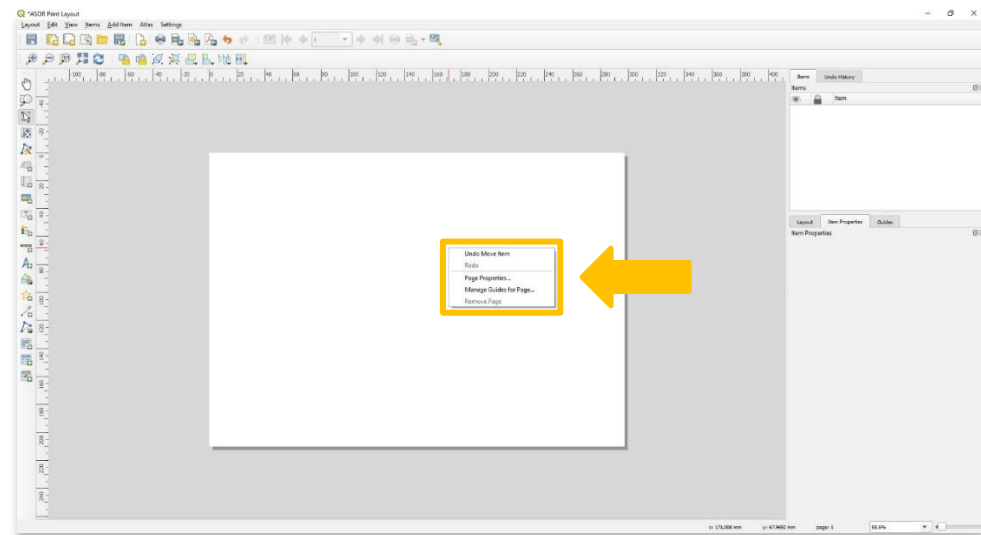
Open the Print Layout by **Project > New Print Layout**.



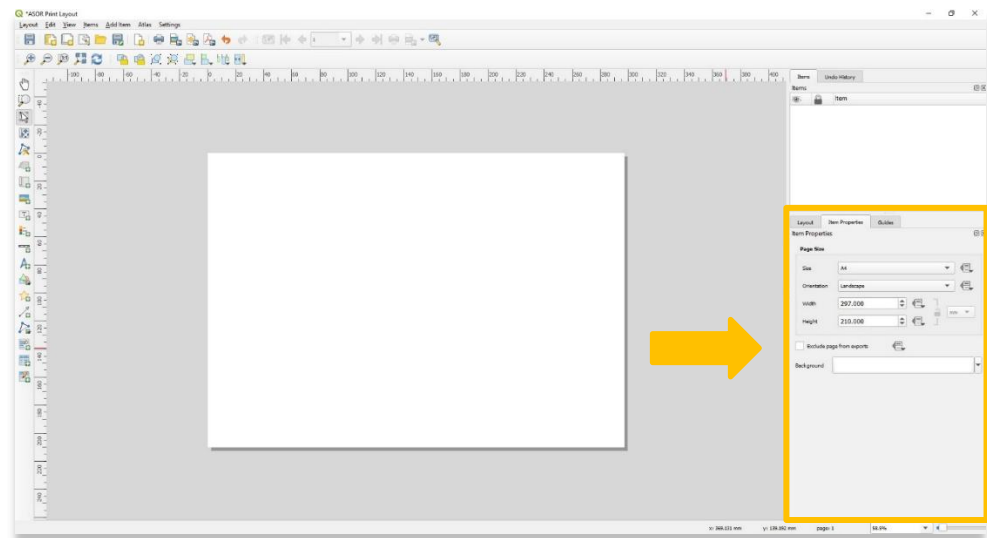
Name the new print layout project. This template will be saved as a separate file on your computer. Select **OK**.



The **Print Layout** will open in a separate window. **Right-click** on the drawing area, then select **Page Properties**.



Change the paper type, orientation, and width/height as needed in the **Item Properties** panel to the right of the **Print Layout** Dashboard.



Explore the toolbar functions on the left by hovering your mouse over each tool. Some of the most common tools you will use to build your map layout include:



Pan (move) layout



Zoom Layout



Select/Move Item



Move Item Content



Add Map



Add Picture



Add Label



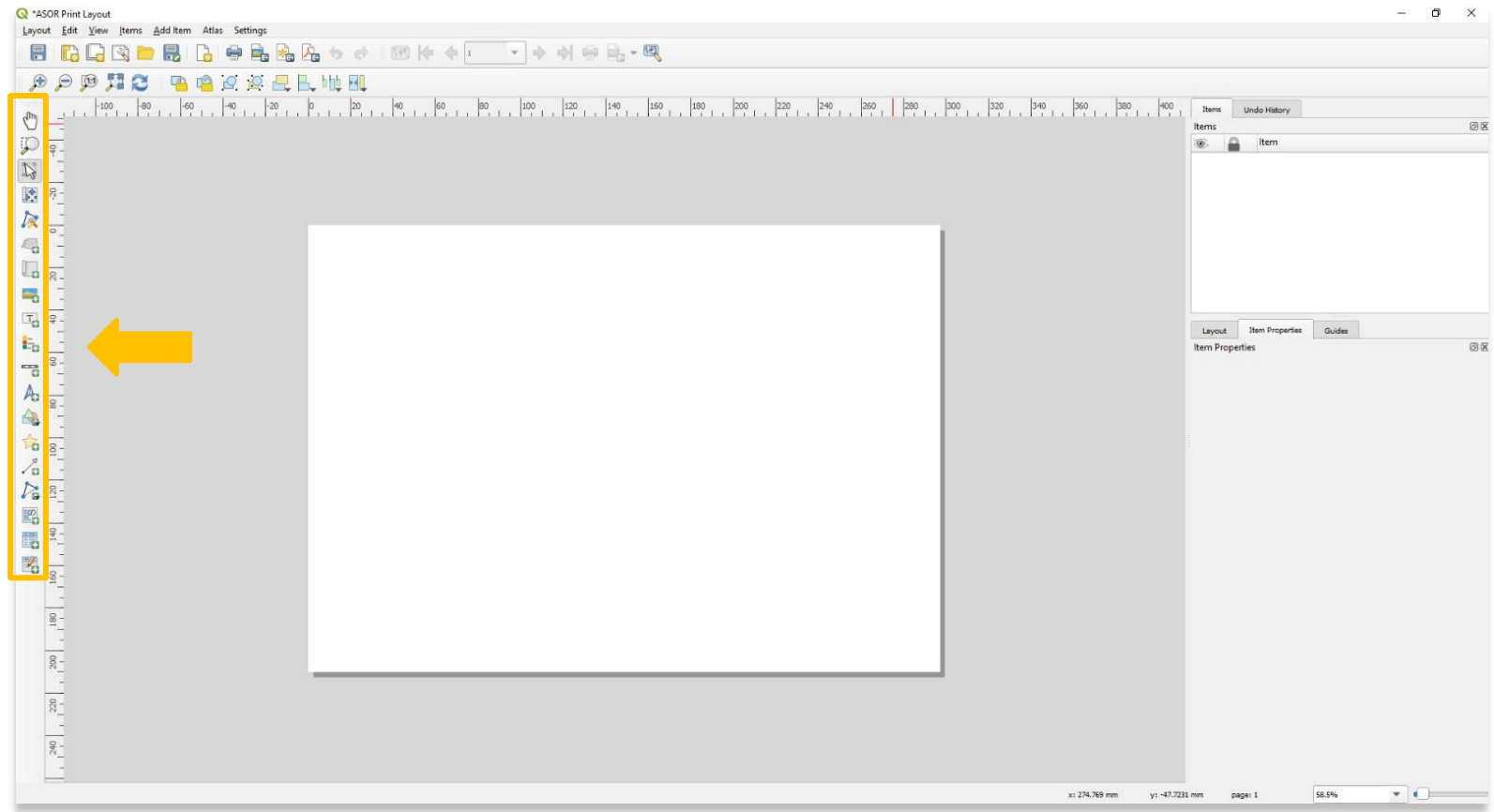
Add Legend



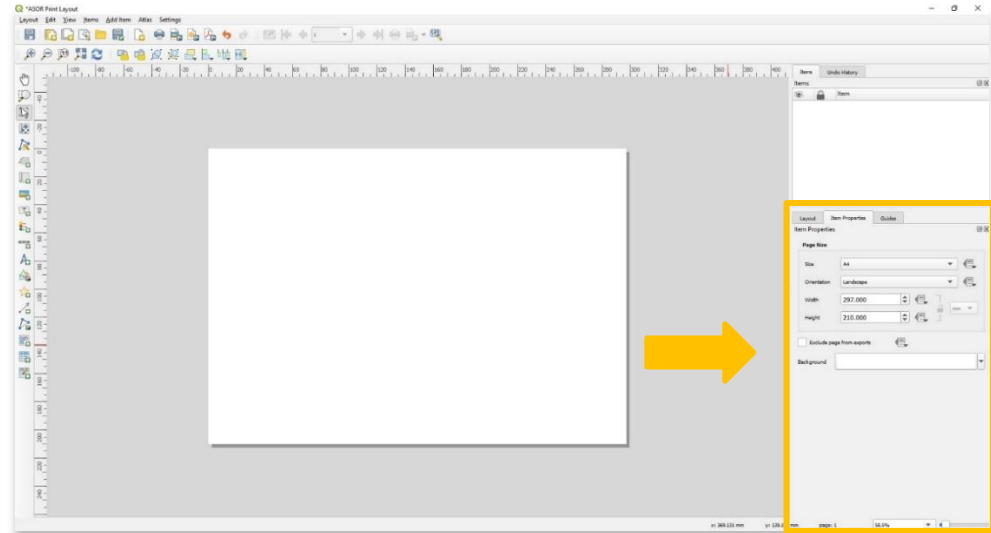
Add Scale Bar



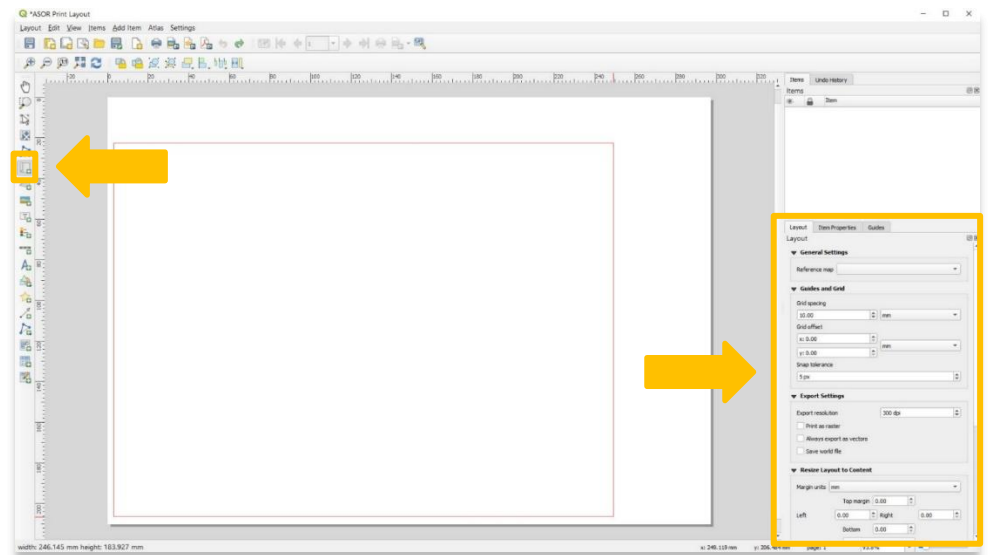
Add North Arrow



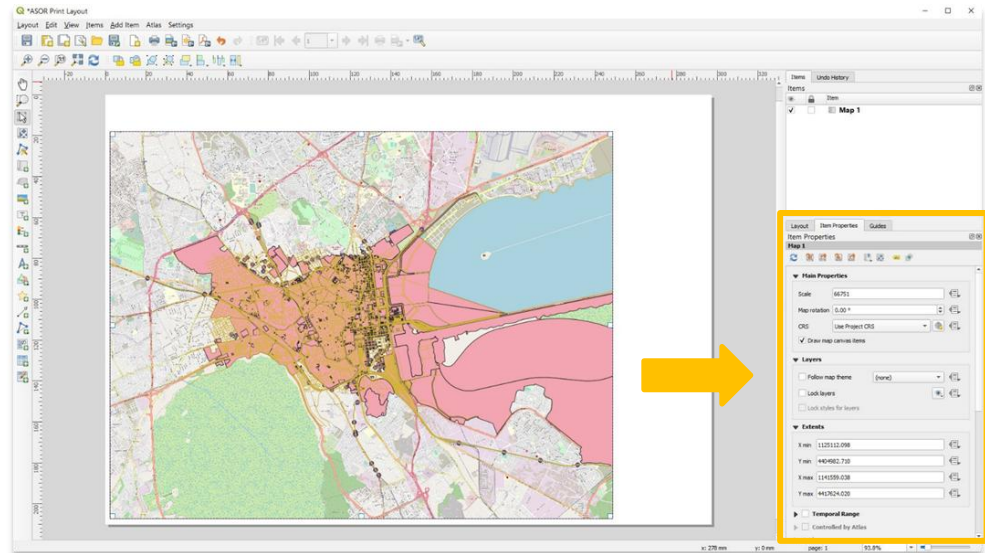
Change the paper type, orientation, and width/height as needed in the **Item Properties** panel to the right of the **Print Layout** Dashboard.



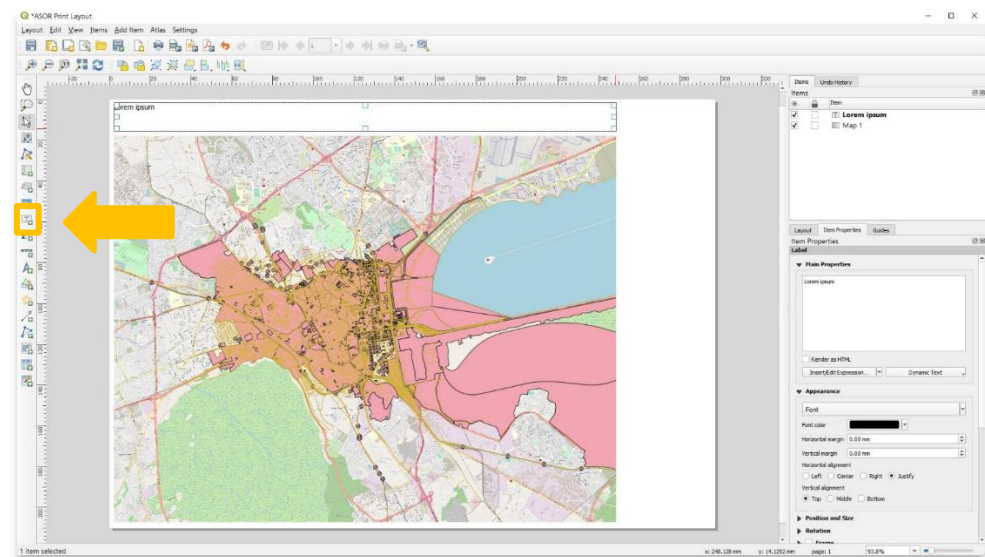
A map can be added through the **Add Map** button in the toolbar. This map will mirror the geographical scene currently showing in your QGIS project's **Map Viewer**.



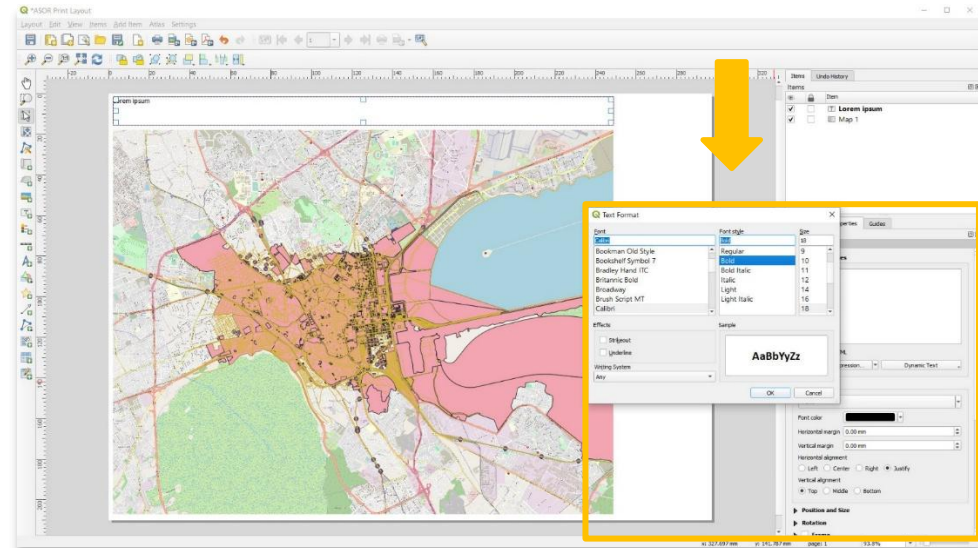
The map design can be adjusted through the Item Properties tab.



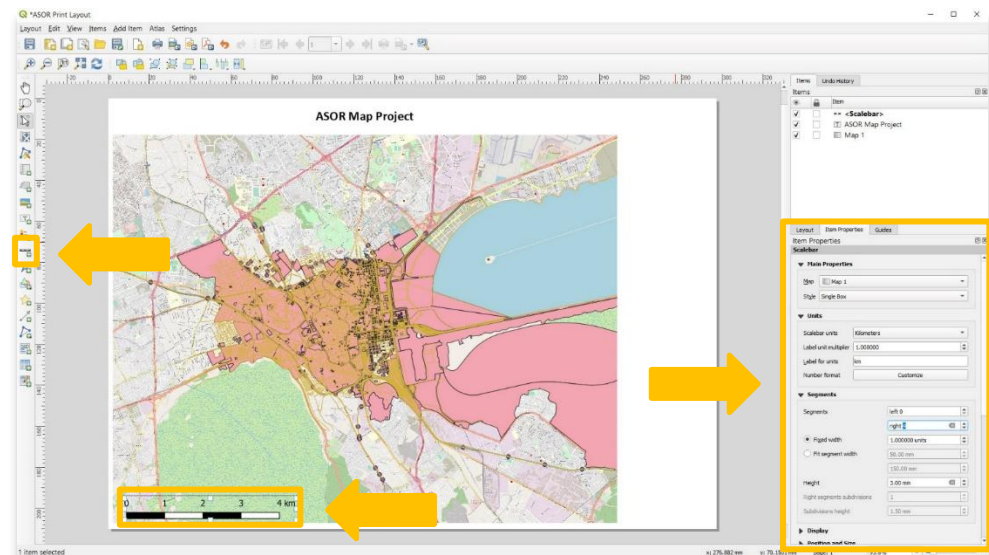
A map title and labels can be added through the **Add Label** button in the toolbar.



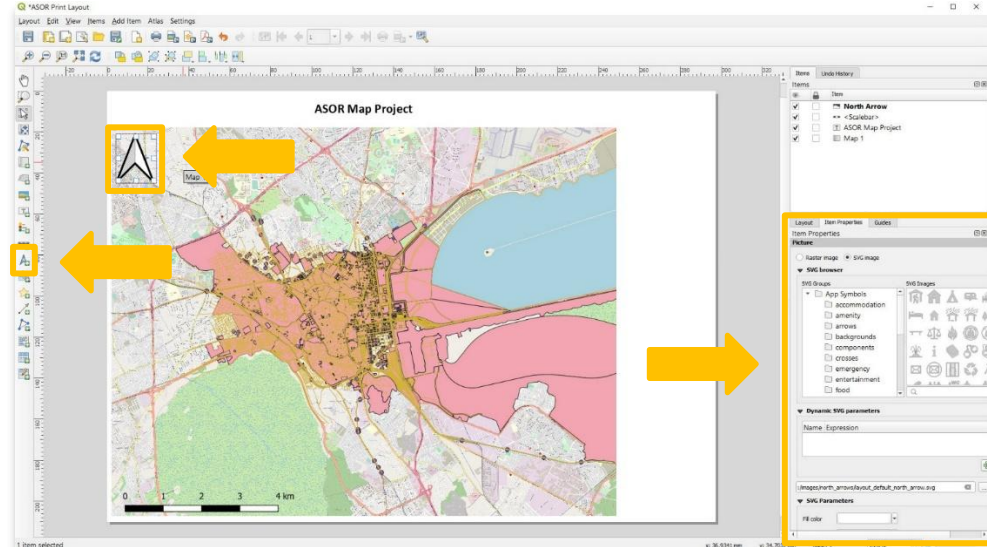
Label designs can be adjusted through the **Item Properties** tab.



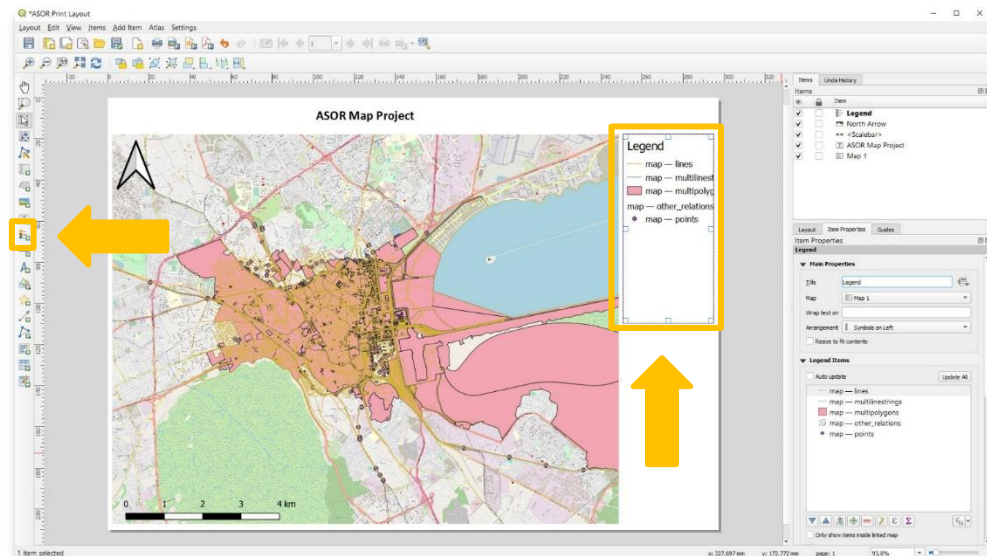
A scale bar can be added through the **Add Scale Bar** button in the toolbar.



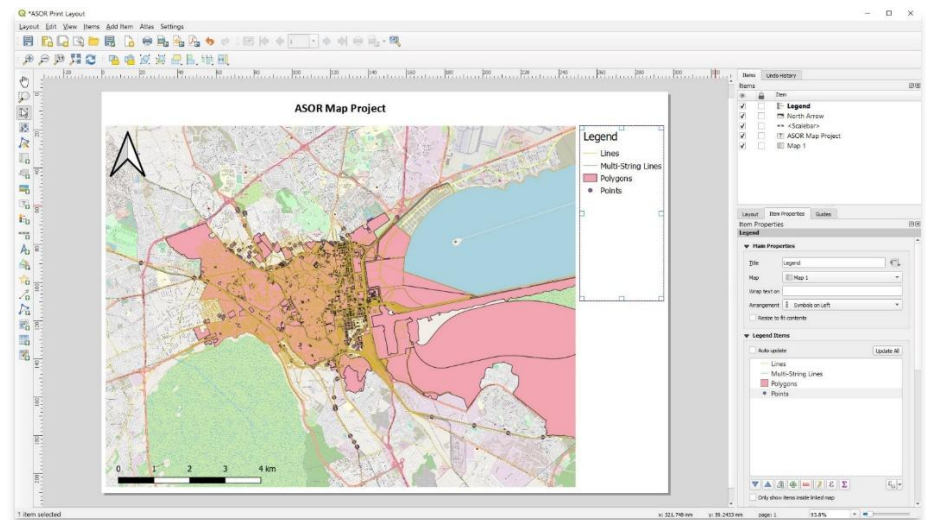
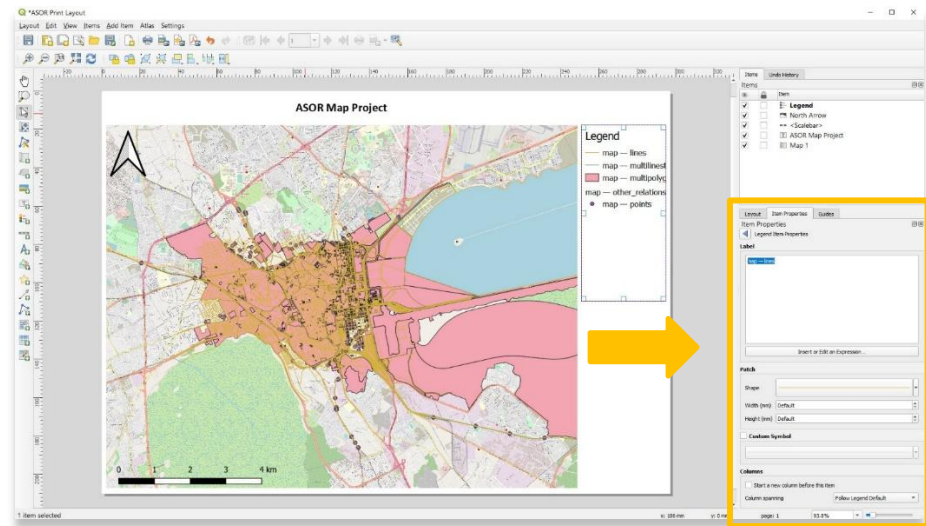
North Arrows can be added through the **Add North Arrow** button in the toolbar.



A Legend can be added through the **Add Legend** button in the toolbar.



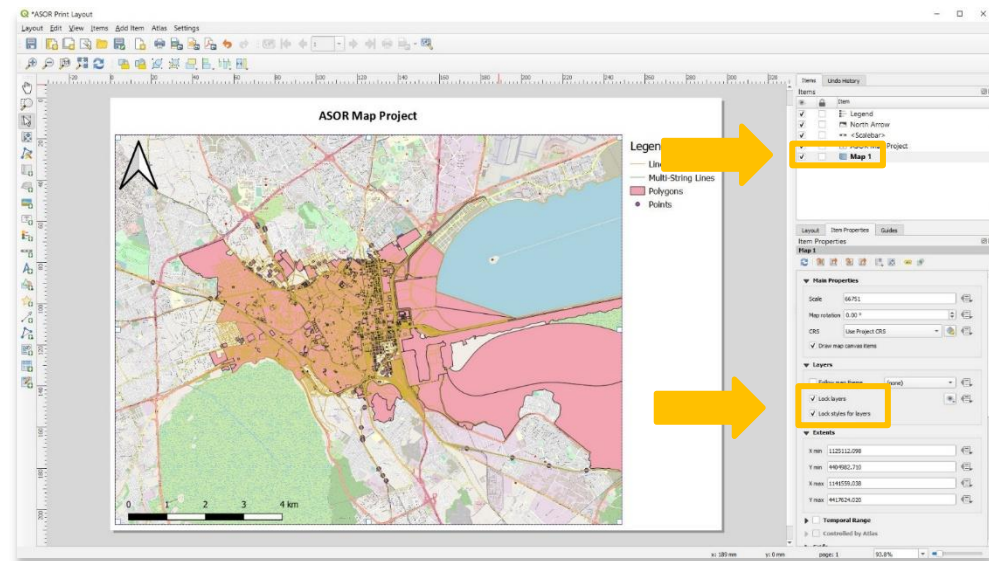
Legend designs can be adjusted through the Item Properties tab.



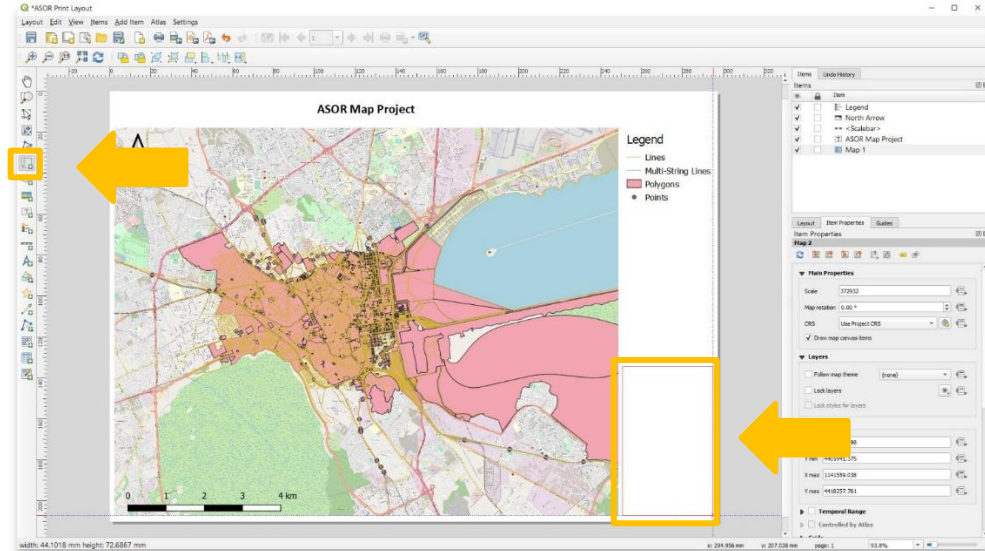
ADDING AN INSET MAP

An inset map is a smaller map featured on the same page as the main map. Inset maps are typically used as locator maps to show the area of the main map in a broader, more familiar geographical frame of reference.

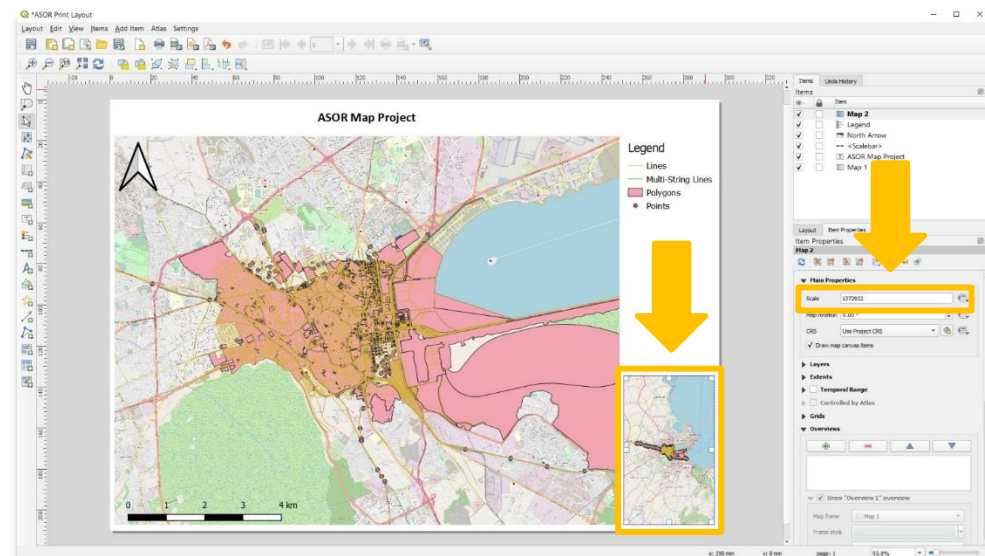
To add a secondary (inset) map to your print layout, first select the **Map 1** layer in the **Items** panel. In the **Items Properties**, check **Lock Layers** and **Lock Styles for Layers**.



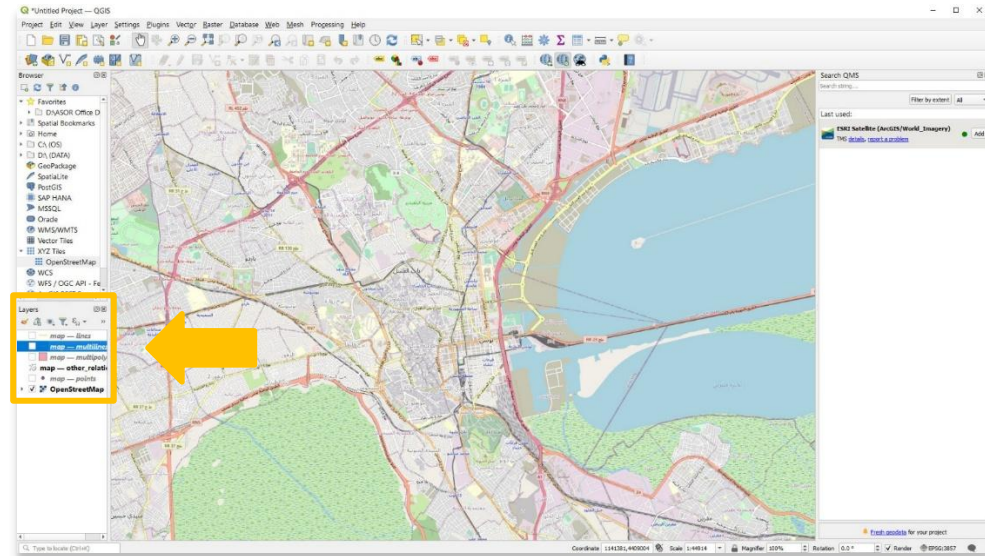
Add the inset map through the **Add Map** button in the toolbar.



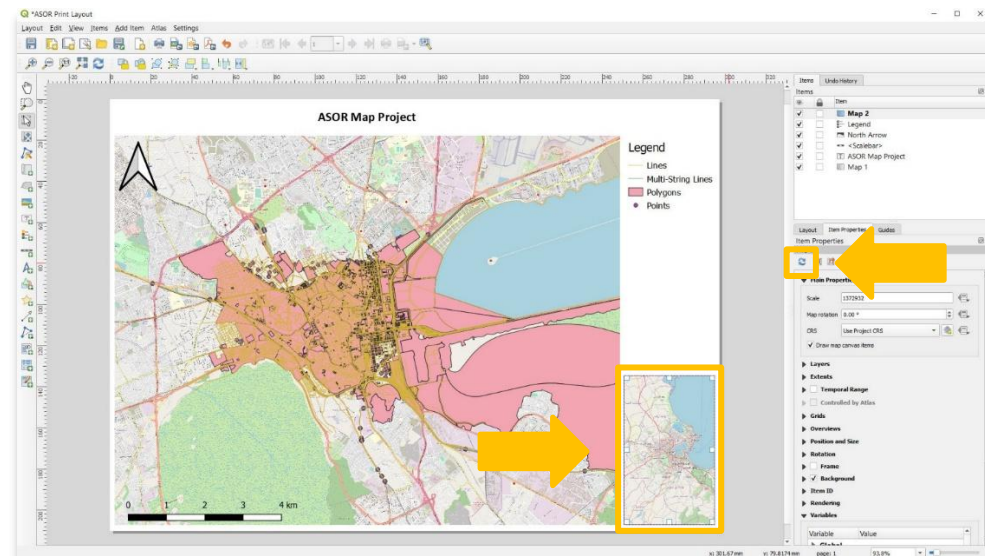
With the inset map layer selected (**Map 2**), decrease the scale so the inset map shows a broader geographical area.



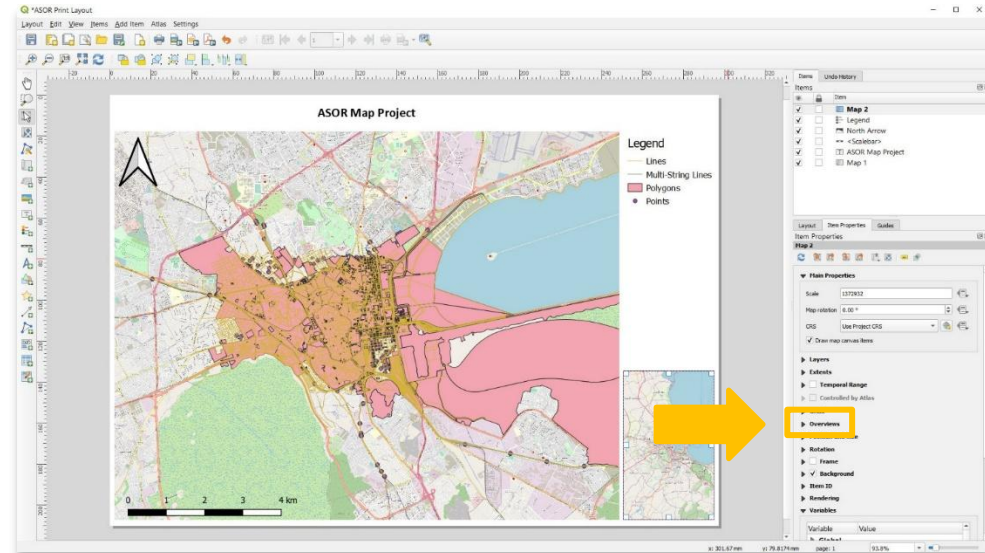
You may wish to remove the vector data from the inset map because the vectors become indistinct as the scale decreases. To remove the vector data from displaying in the inset map, return to your QGIS project and turn off all layers except the basemap. Ensure that layers **are locked** on Map 1, but not Map 2.



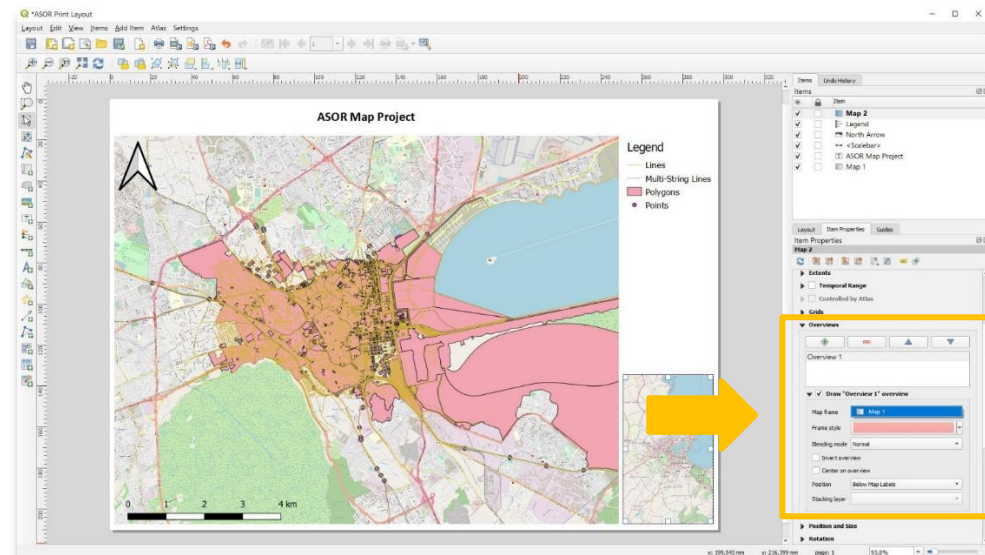
Return to the **Print Layout** and select the **Update Map Preview** button to remove the vector data.



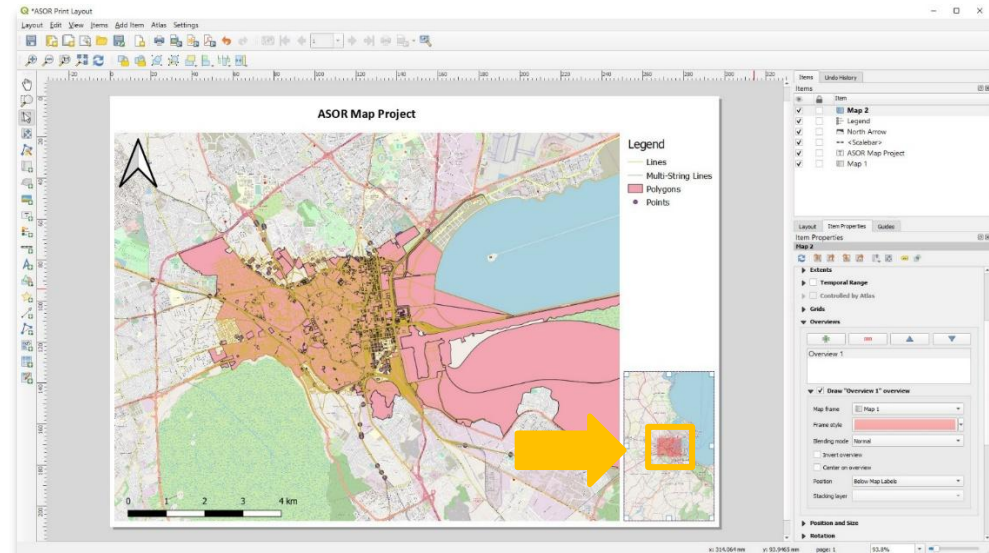
Select the **Overview** section within Map 2's Item Properties.



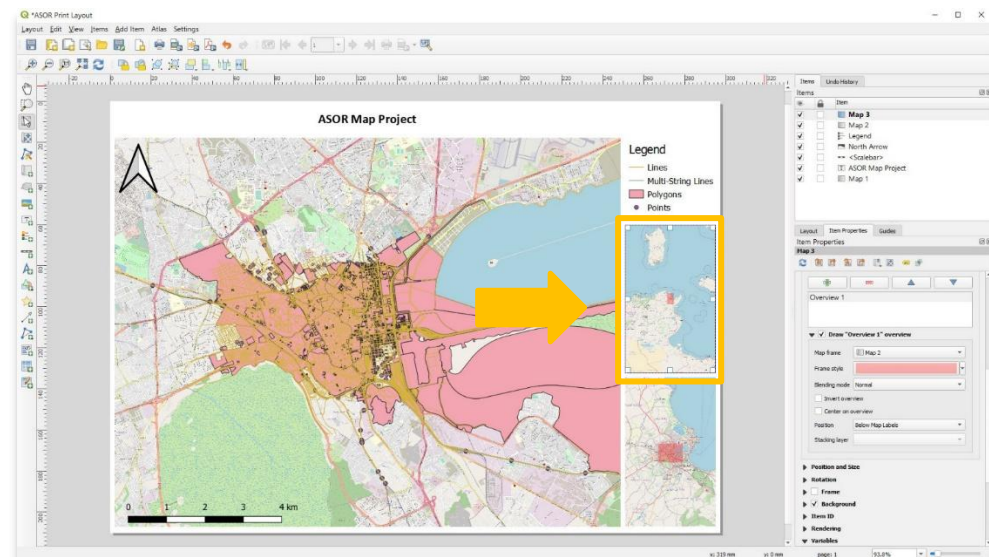
Add a new overview layer. Select **Map 1** from the **Map Frame** dropdown and choose the **Frame Style** color.



An overview window showing the area covered in **Map 1** will now appear in **Map 2**.

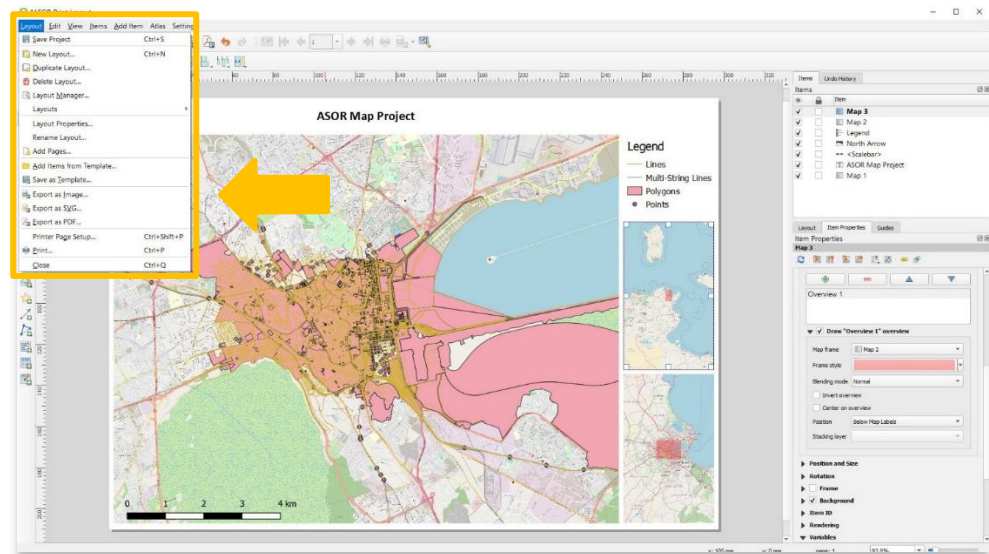


Additional inset maps can be added to widen the geographical area covered.



EXPORTING & PRINTING FINAL MAP AS IMAGE OR PDF

Final maps can be exported as Image, SVG, and PDF file types or printed directly from your computer using the **Layout** menu.



RESOURCES

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