
Practical 3 (a)

Making a Map

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Please download the following version of QGIS.

https://qgis.org/downloads/QGIS-OSGeo4W-2.8.1-1-Setup-x86_64.exe

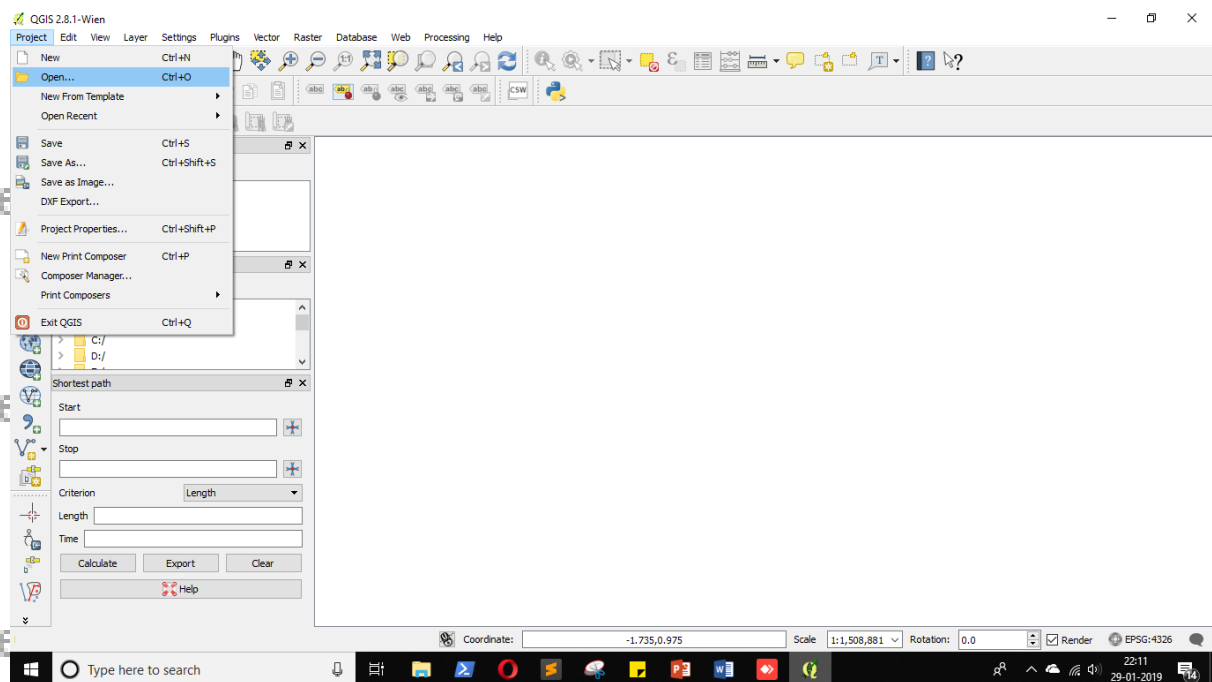
Please download the resources files from the below link.

https://drive.google.com/open?id=11PNqWA8jLFwdjlhhy57KJhdsLr_JL1

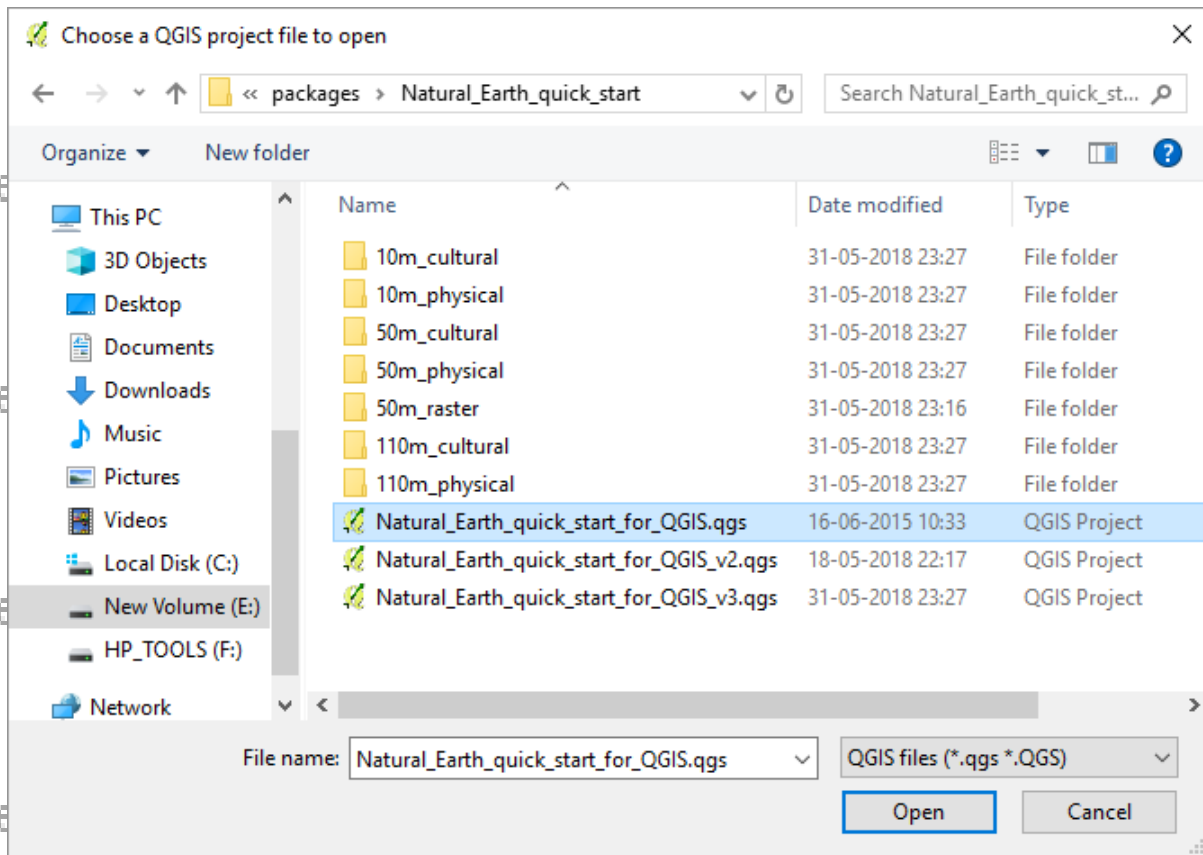
Bi

First we have to open the project. Go to

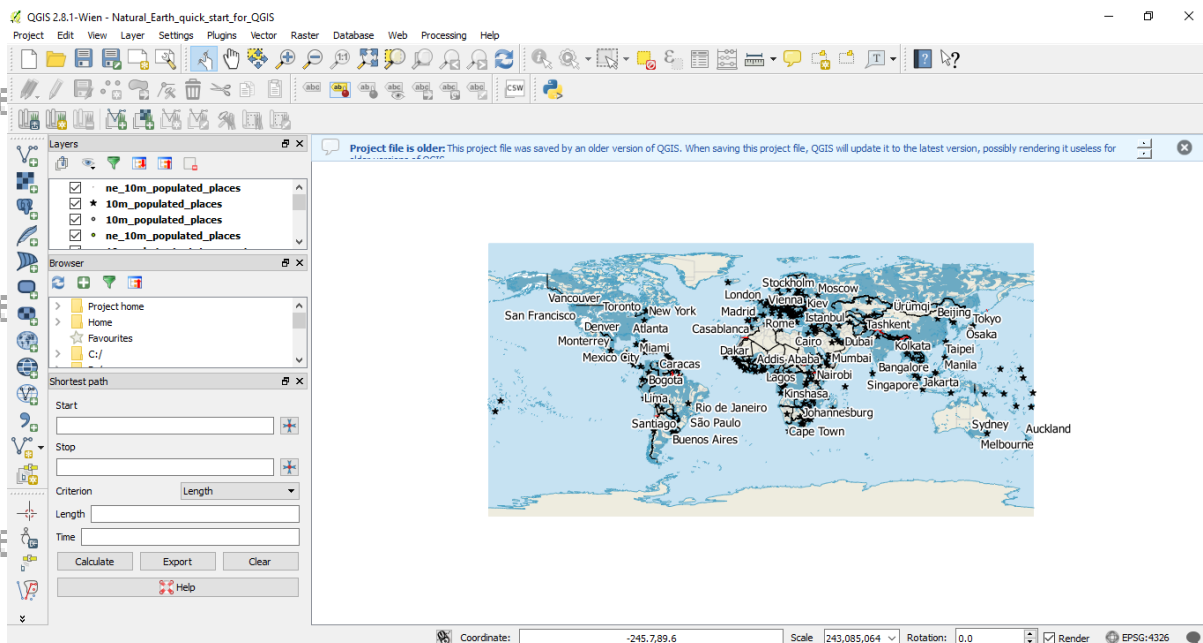
Project > Open...



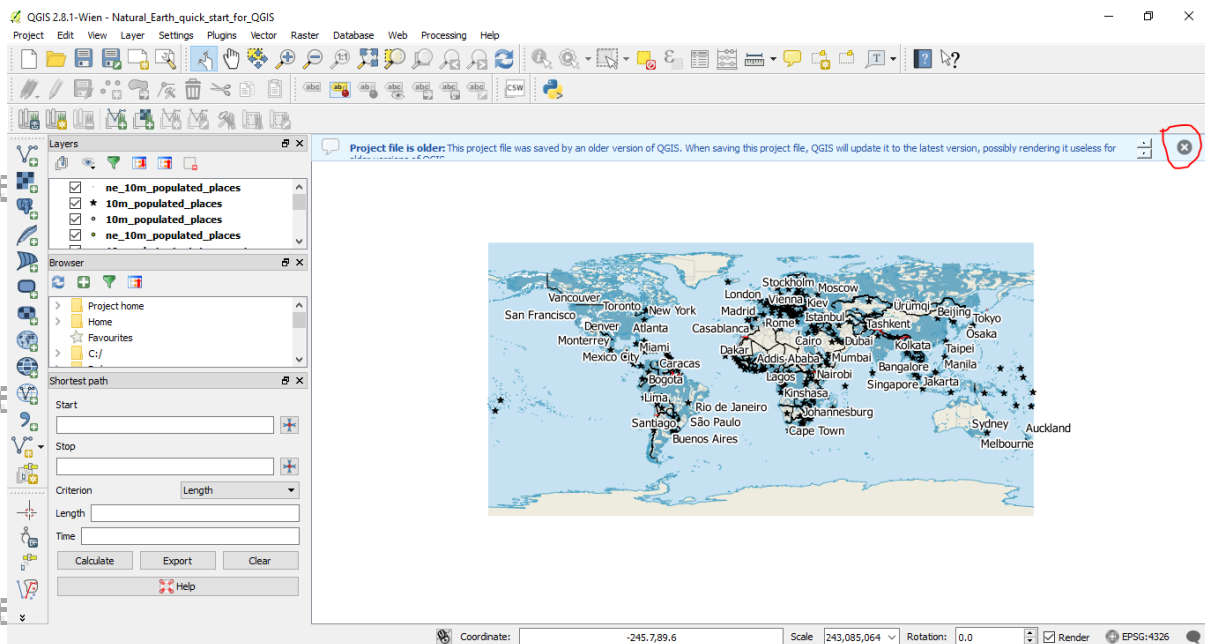
Select **“Natural_Earth_quick_start_for_QGIS.qgs”** and click open.



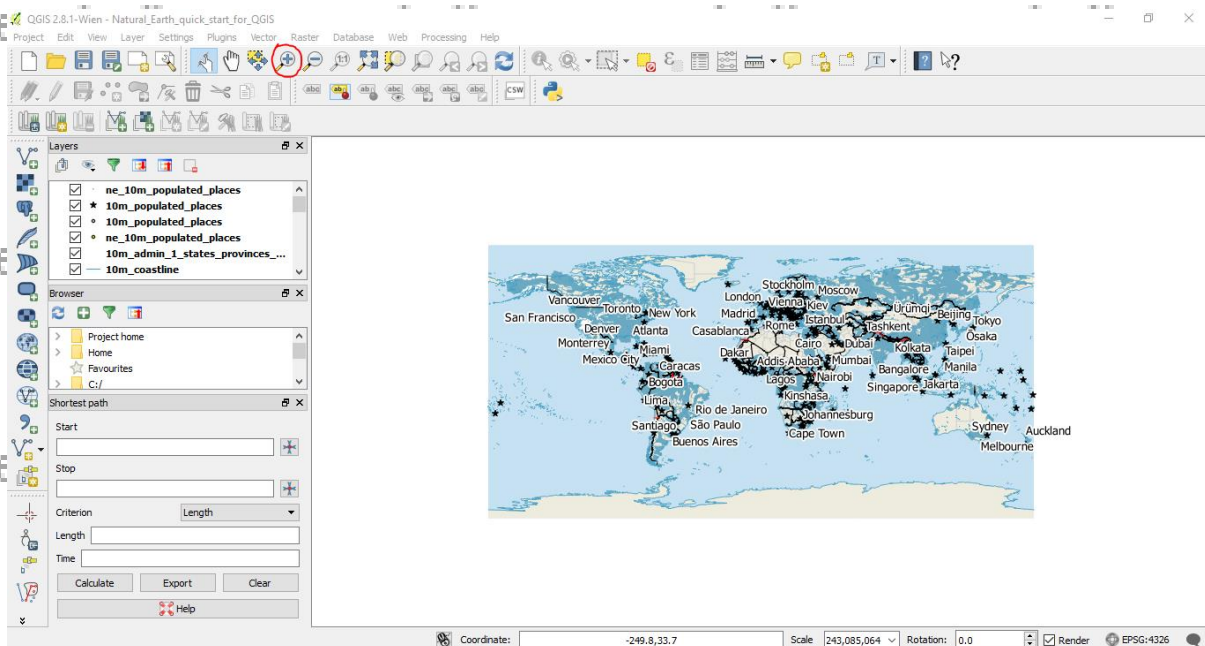
Project will get load.

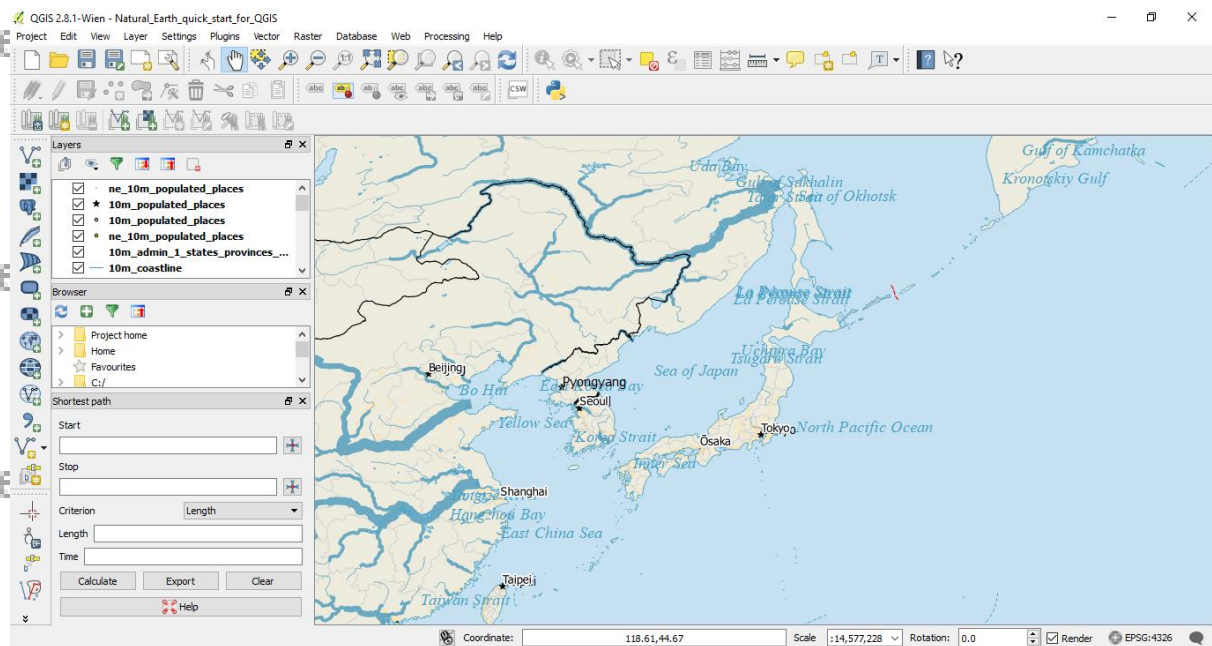
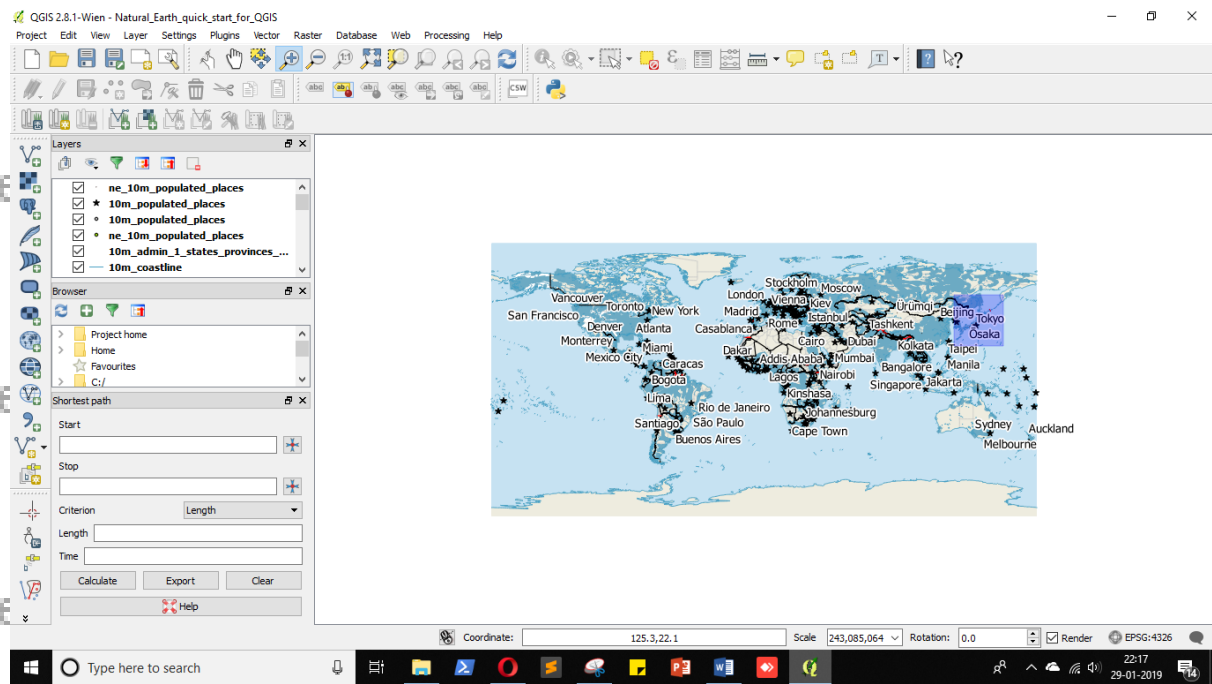


Close that message on top by clicking on “Close” button.

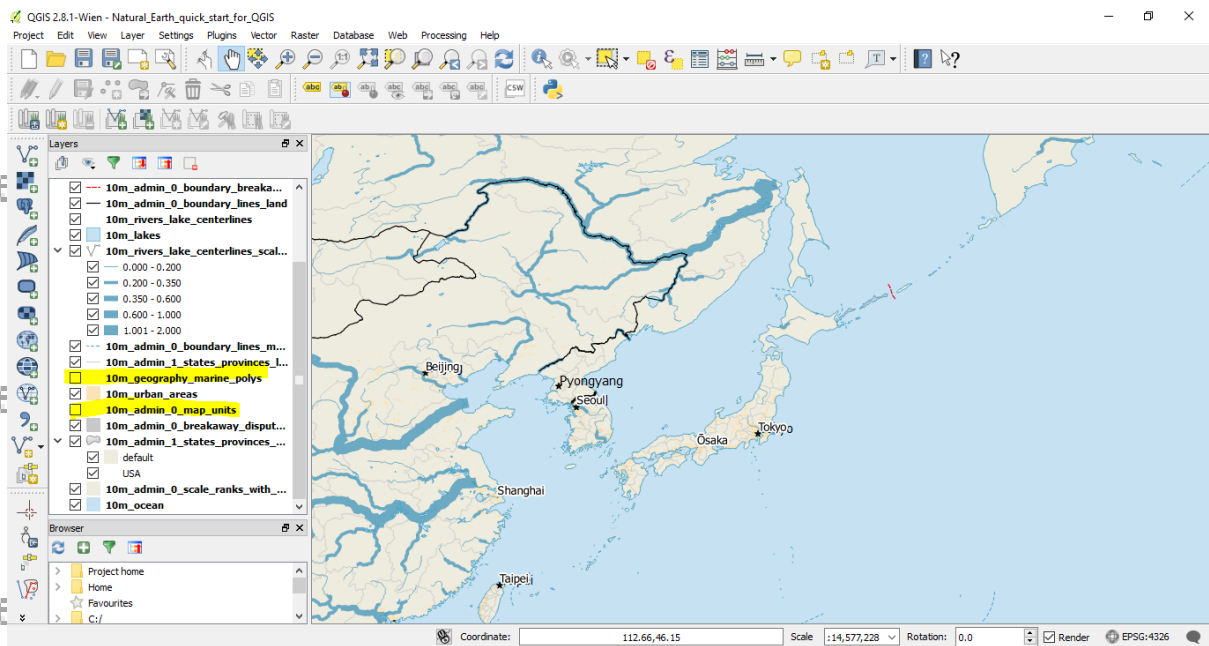


Now click on **“Zoom In”** tool and create a rectangle dragging mouse around **“Japan”** to zoom in.



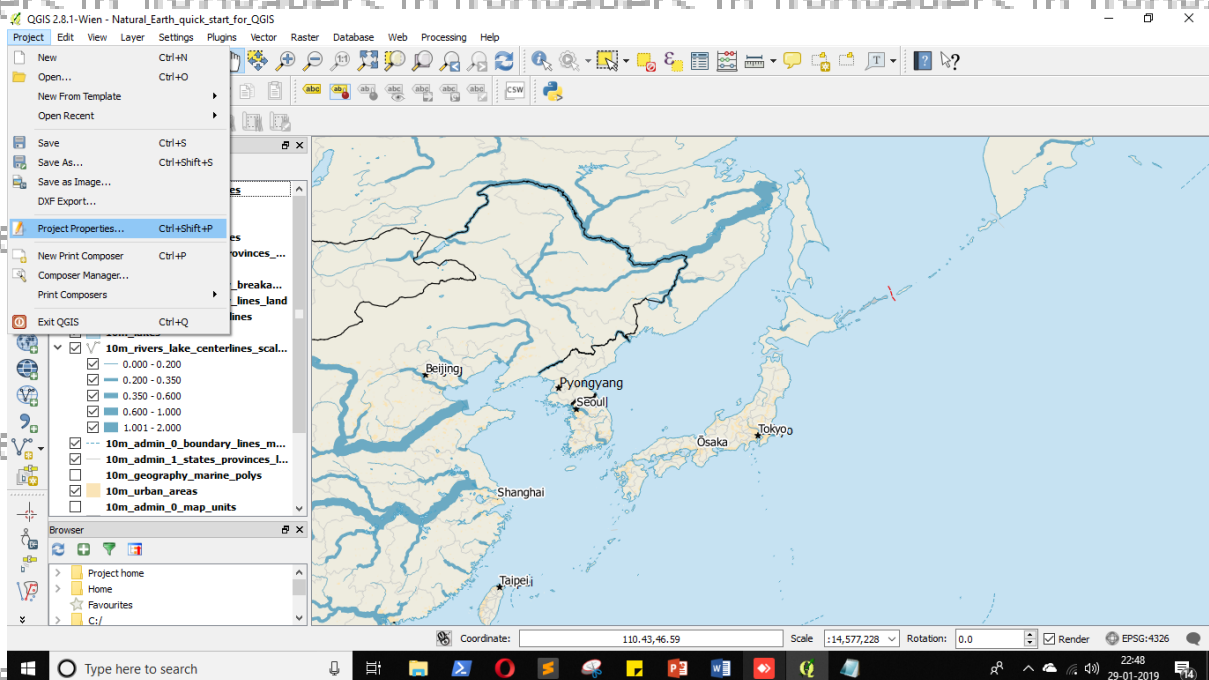


We can deselect “10m_geography_marine_polys” and “10m_admin_0_map_units” layers.

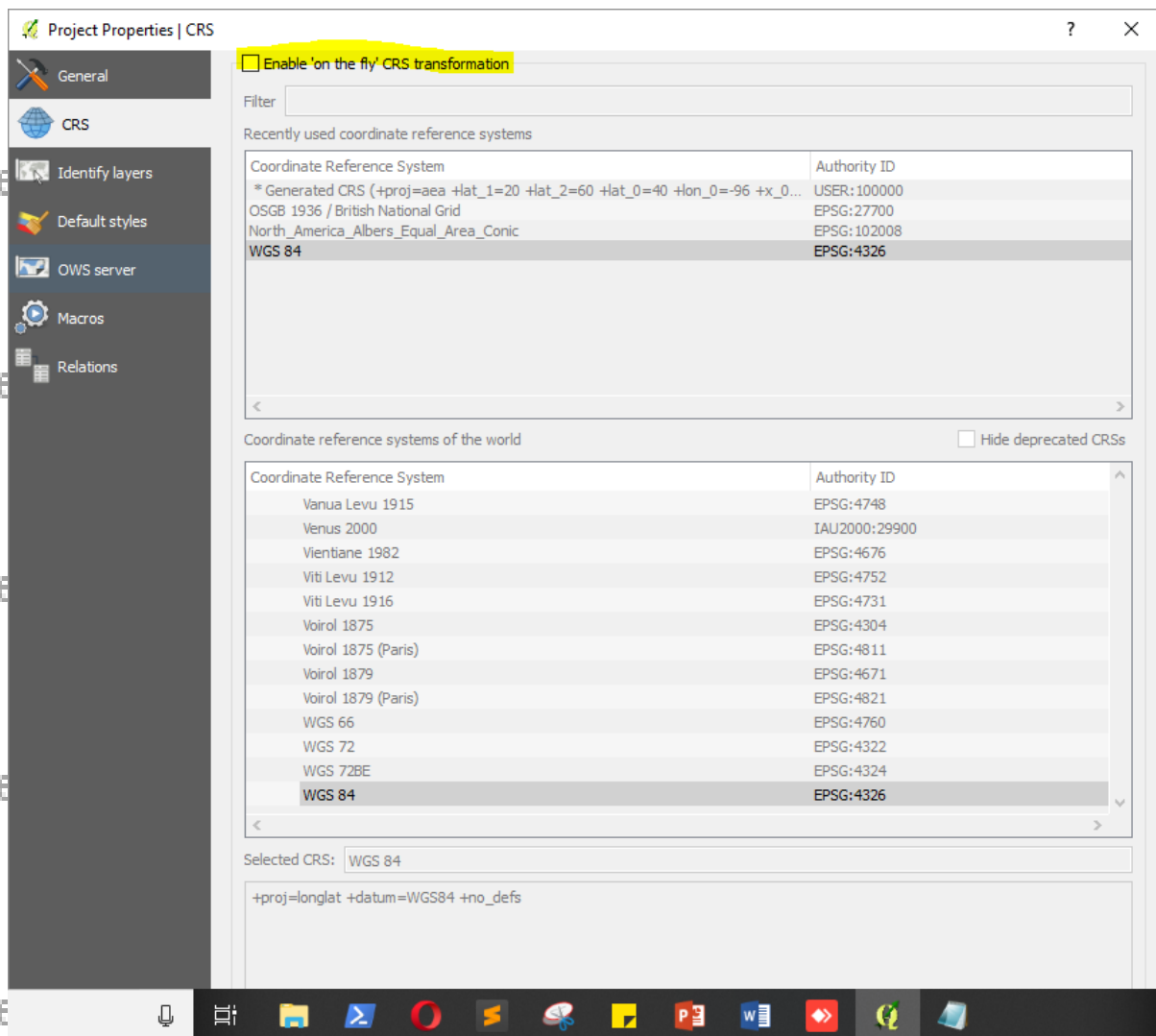


Now we have to change CRS of project. Go to

Project > Project Properties...

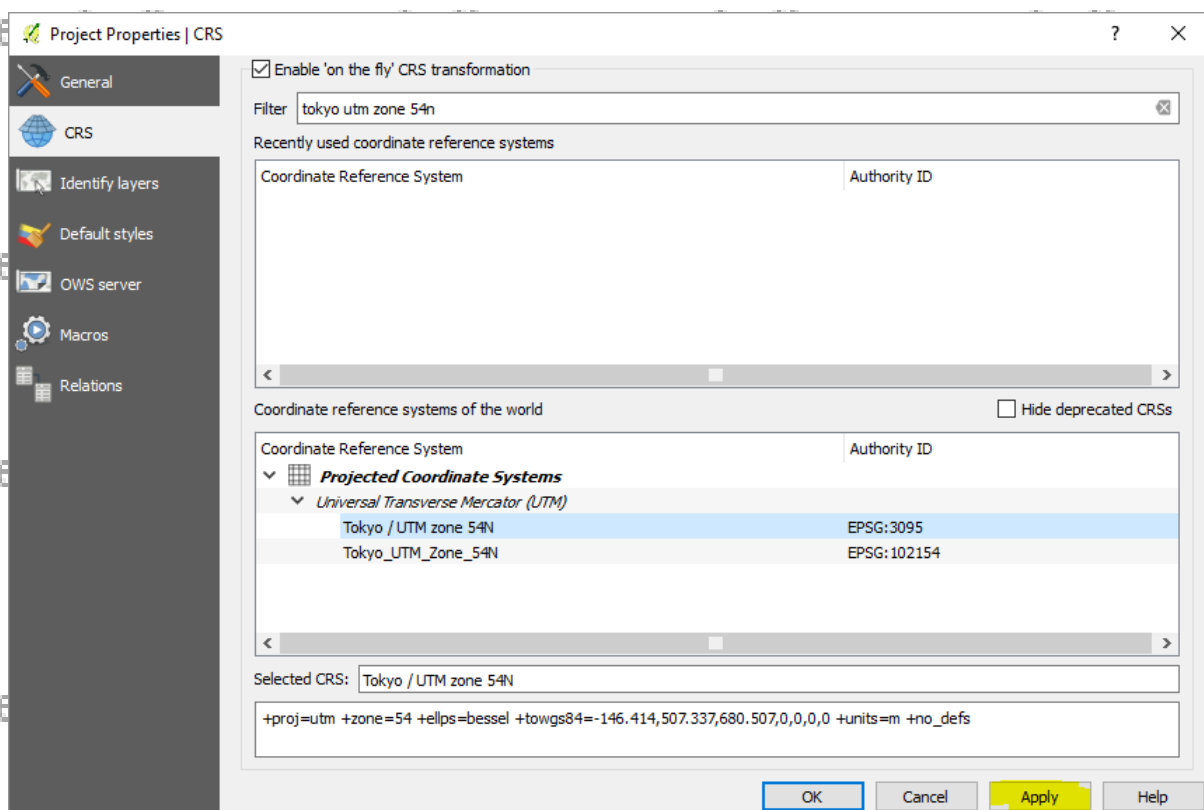
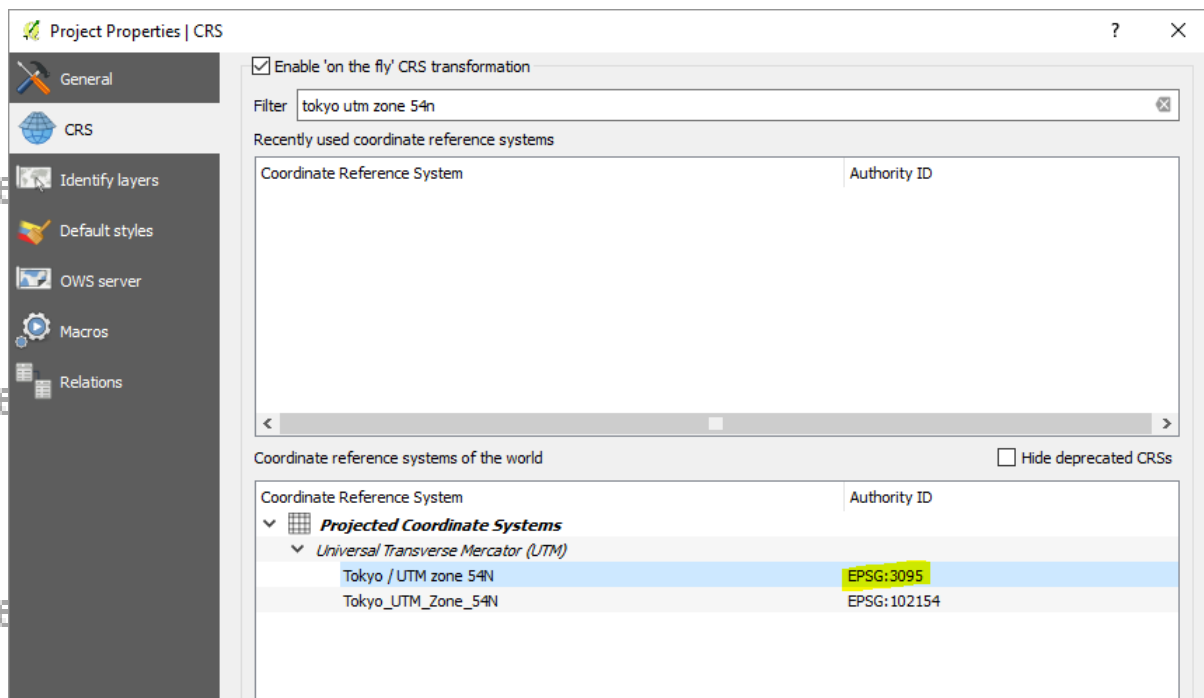


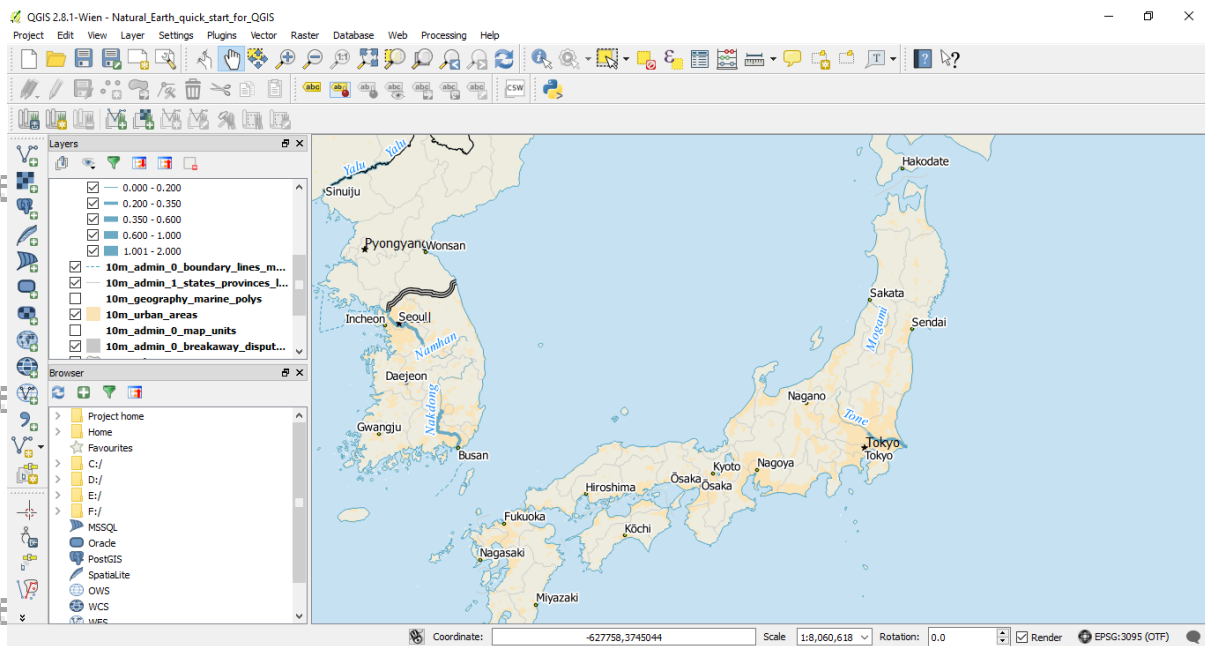
New window will appear in that go to CRS tab and select **“Enable ‘on the fly’ CRS transformation”**



Enter **“tokyo utm zone 54n”** in filter field, we will get two CRS select CRS with **“Authority ID”** is **“EPSG:3095”** .

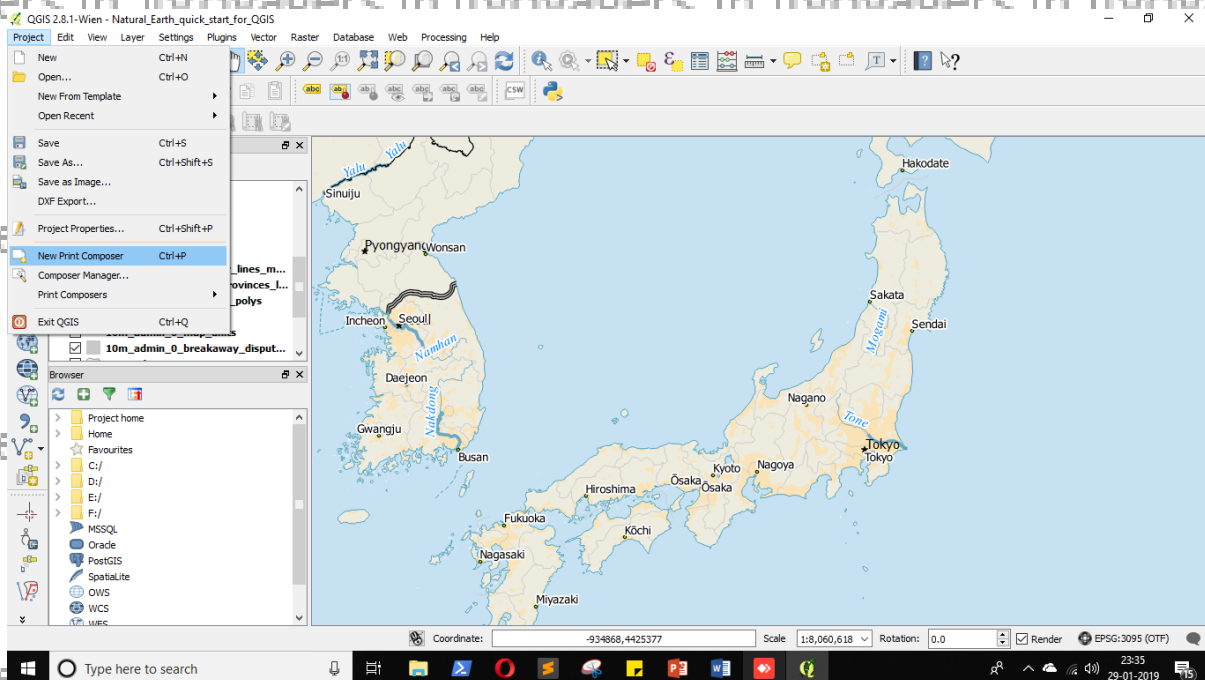
Then click on **“Apply”** and **“OK”**



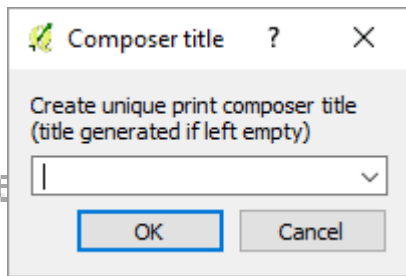


Now we are ready to create map. Go to

Project > New Print Composer



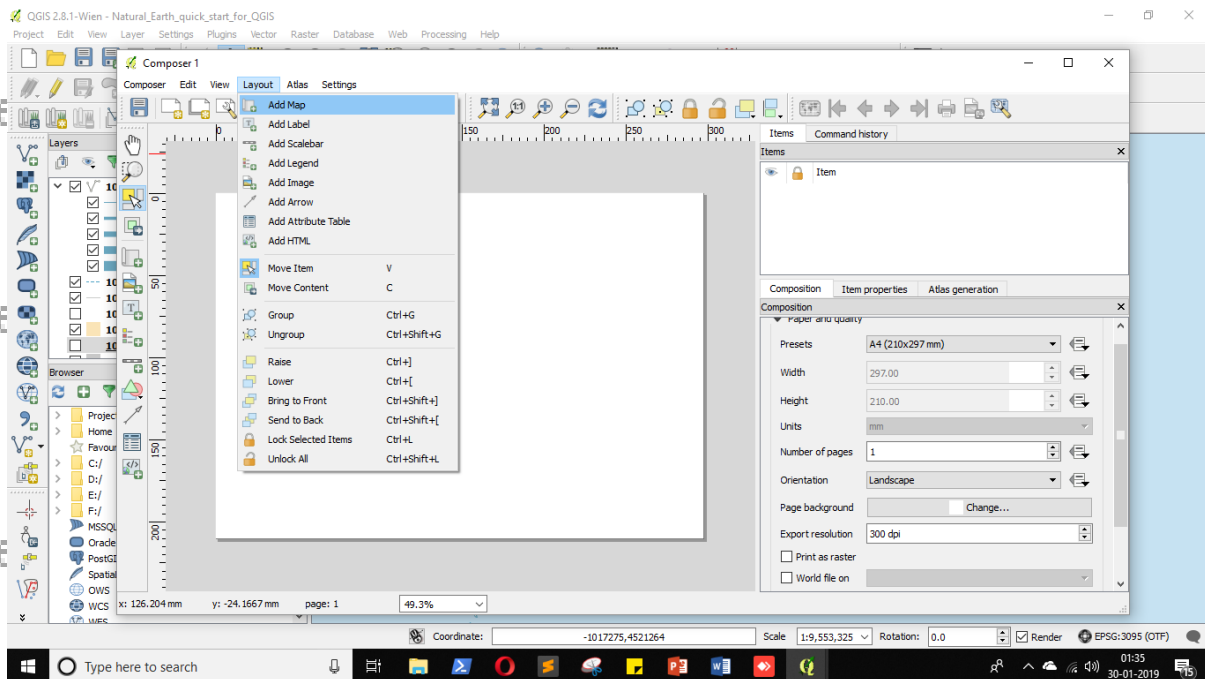
Following window will appear, don't enter any value and click **"OK"**.



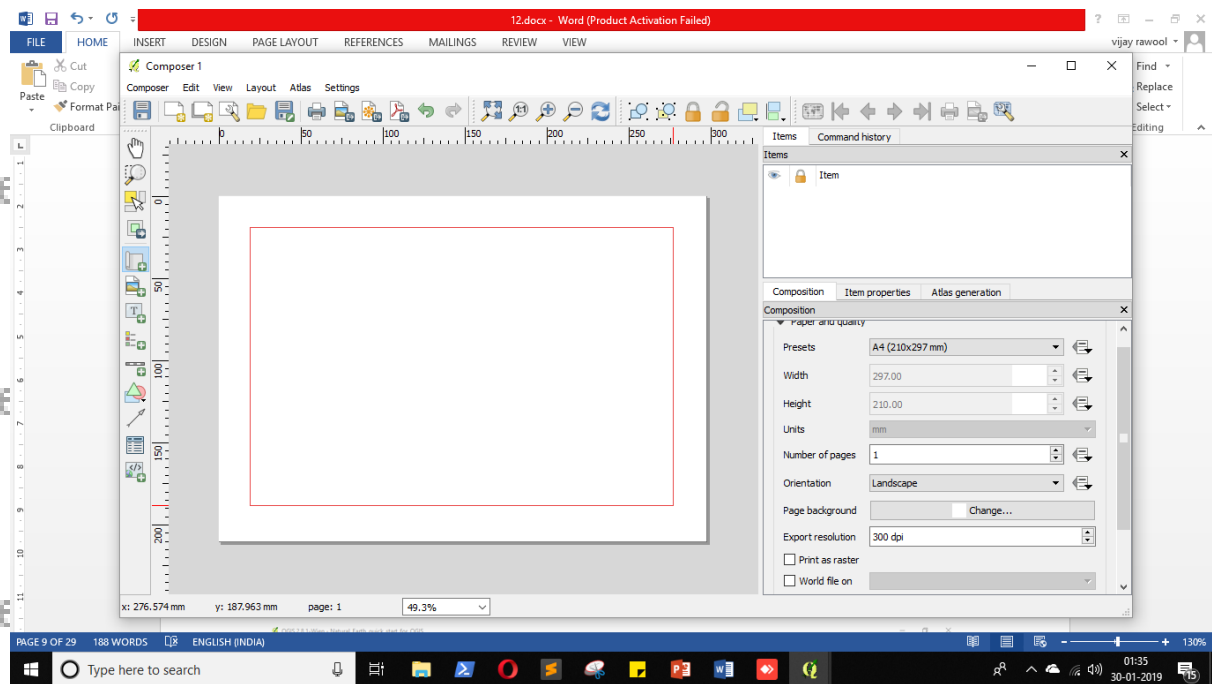
Now Composer window will appear, here we have to design our map.

Go to

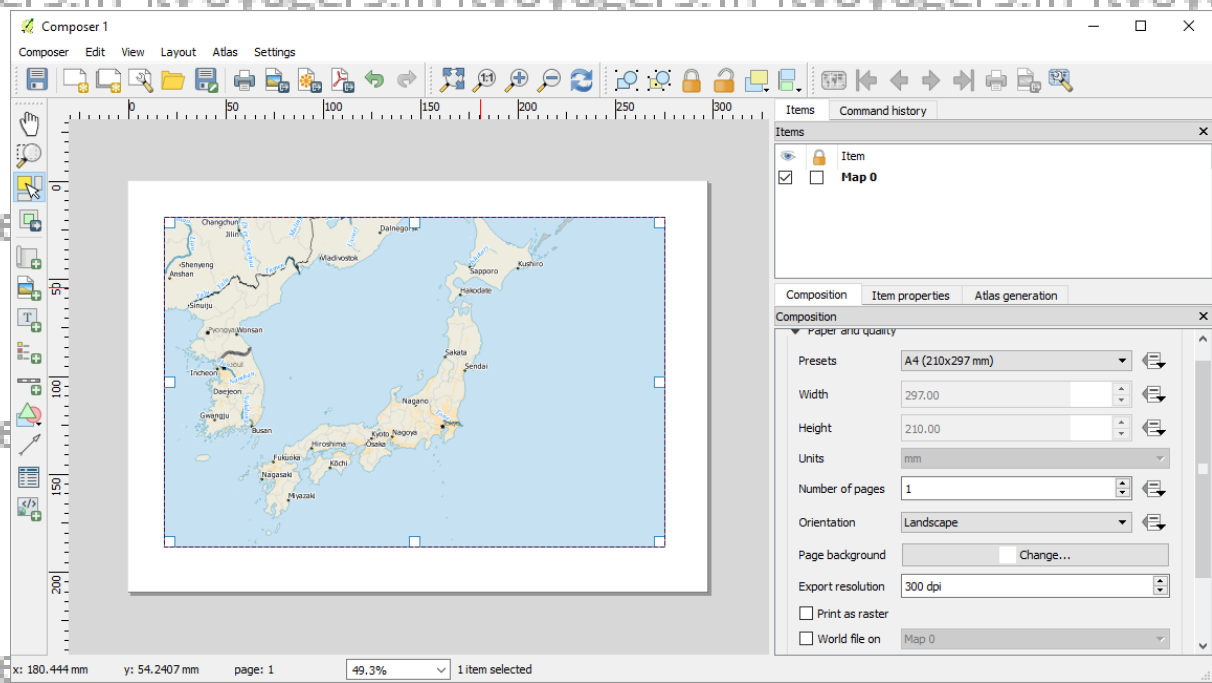
Layout > Add Map



Now mouse pointer will change we have to drag rectangular area in canvas.



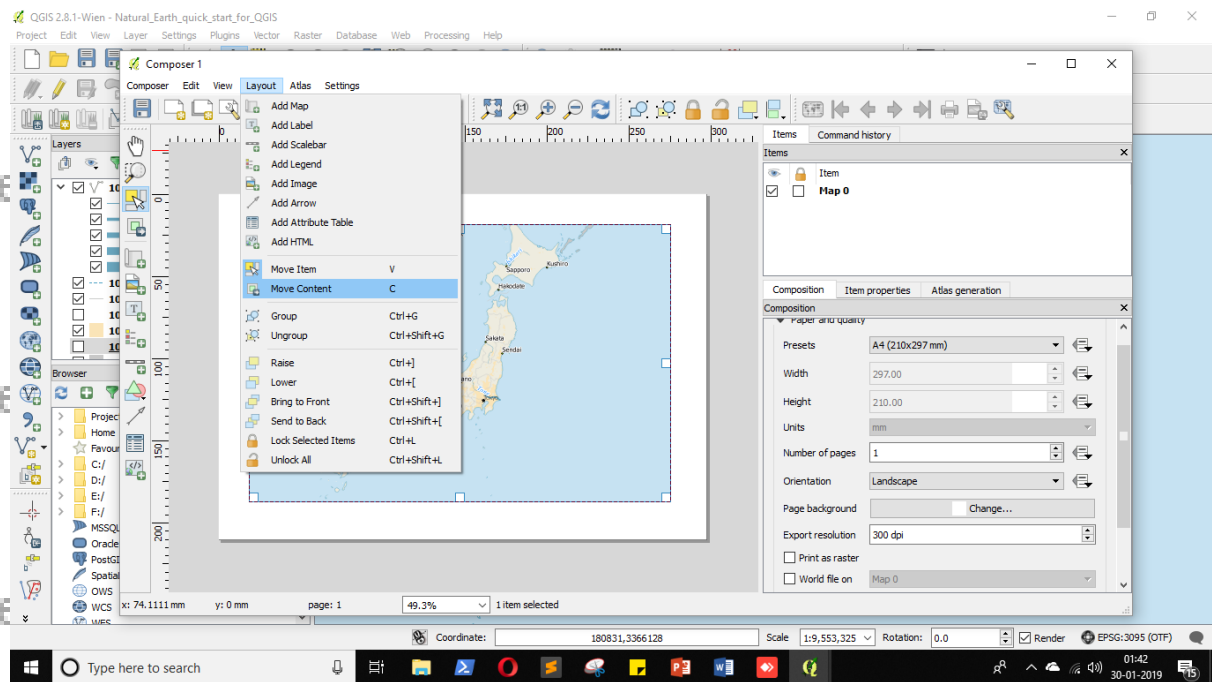
QGIS will load map which is visible in canvas of main window. Map which gets load in rectangle might not be in centre.



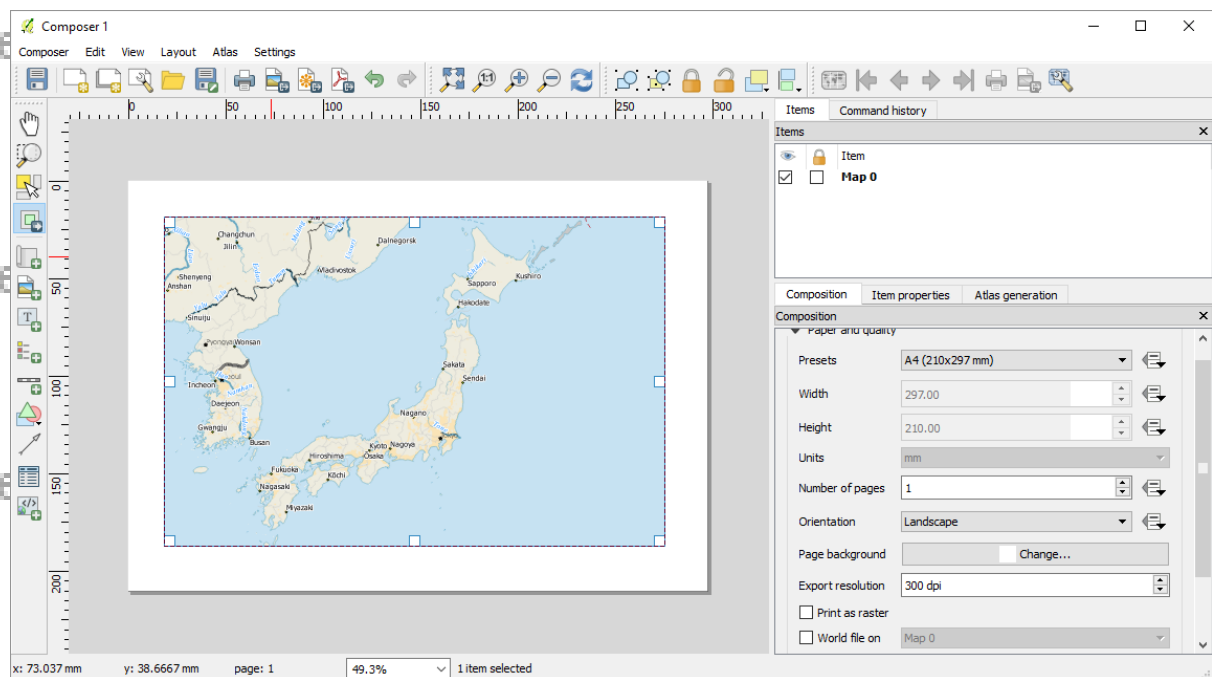
If we have to centre the map then we can use the tool name “Move Content”.

Layout > Move Content

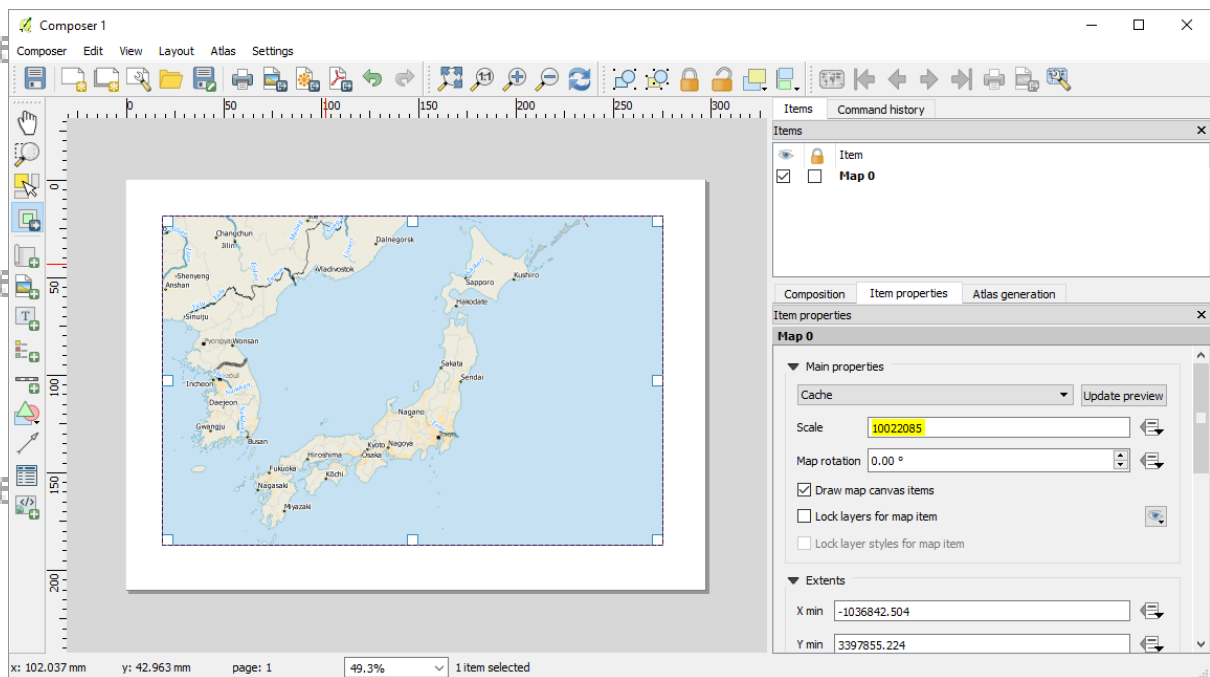
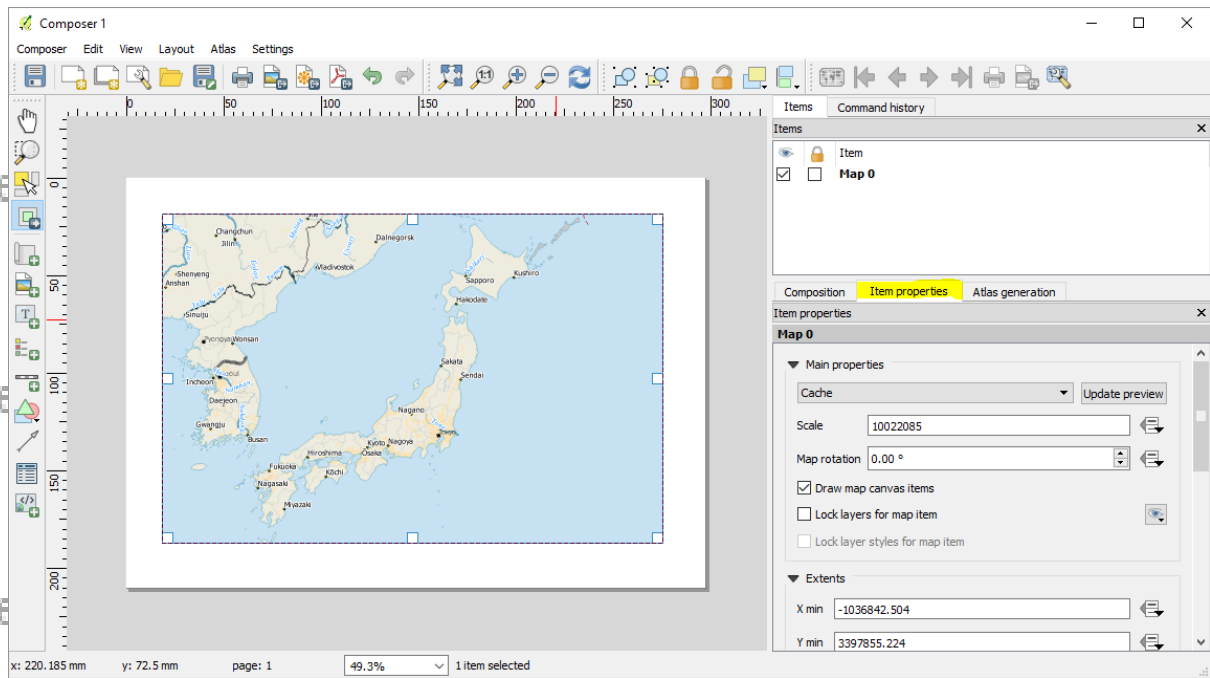
It will help us to pan the map.



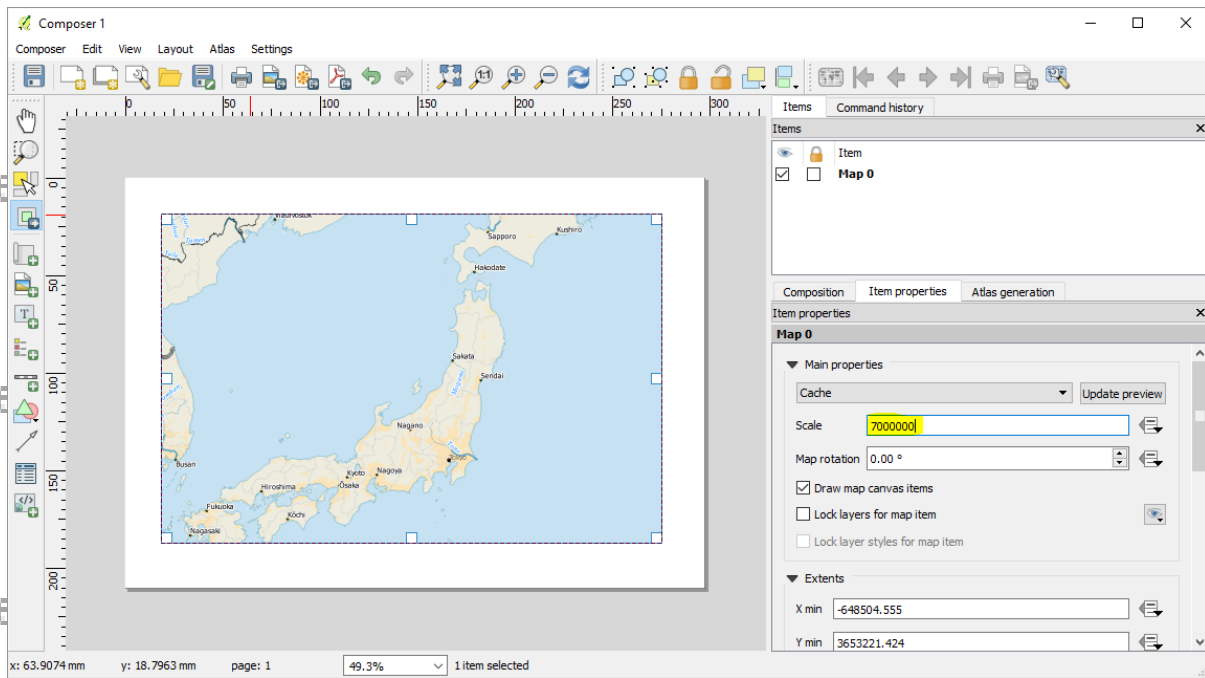
Just click and drag the map in canvas and centre it.



Go to "Item properties".

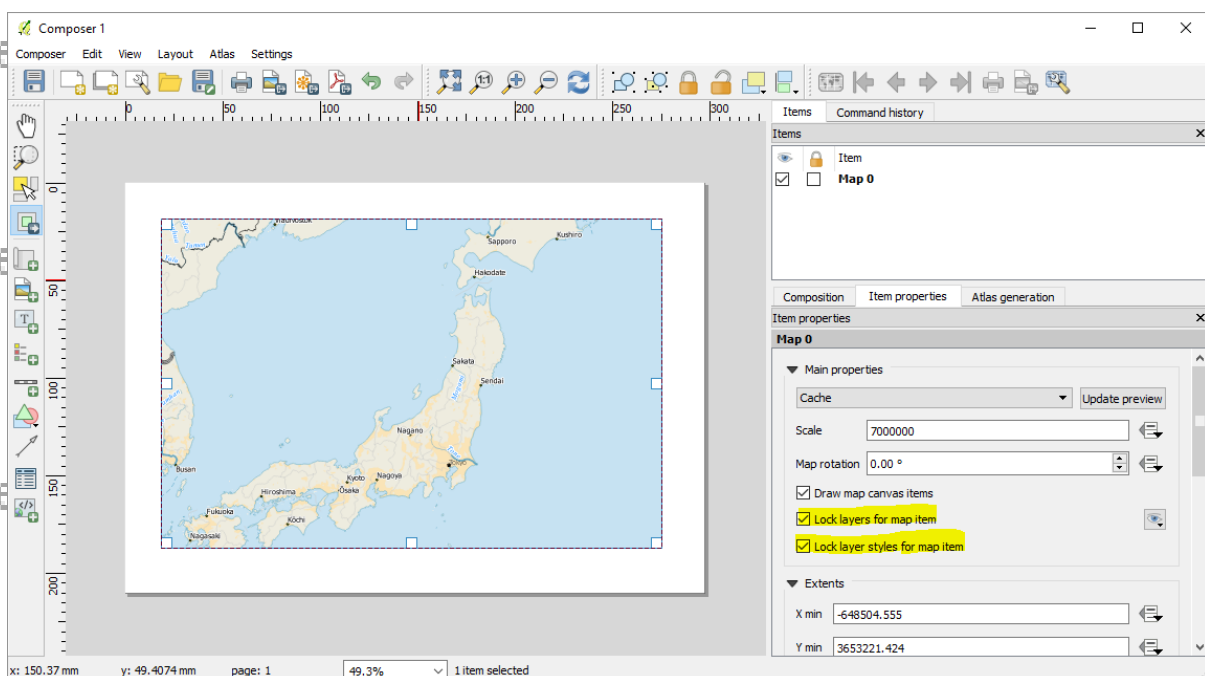


In “Main Properties” panel change the “Scale” value to “7000000”

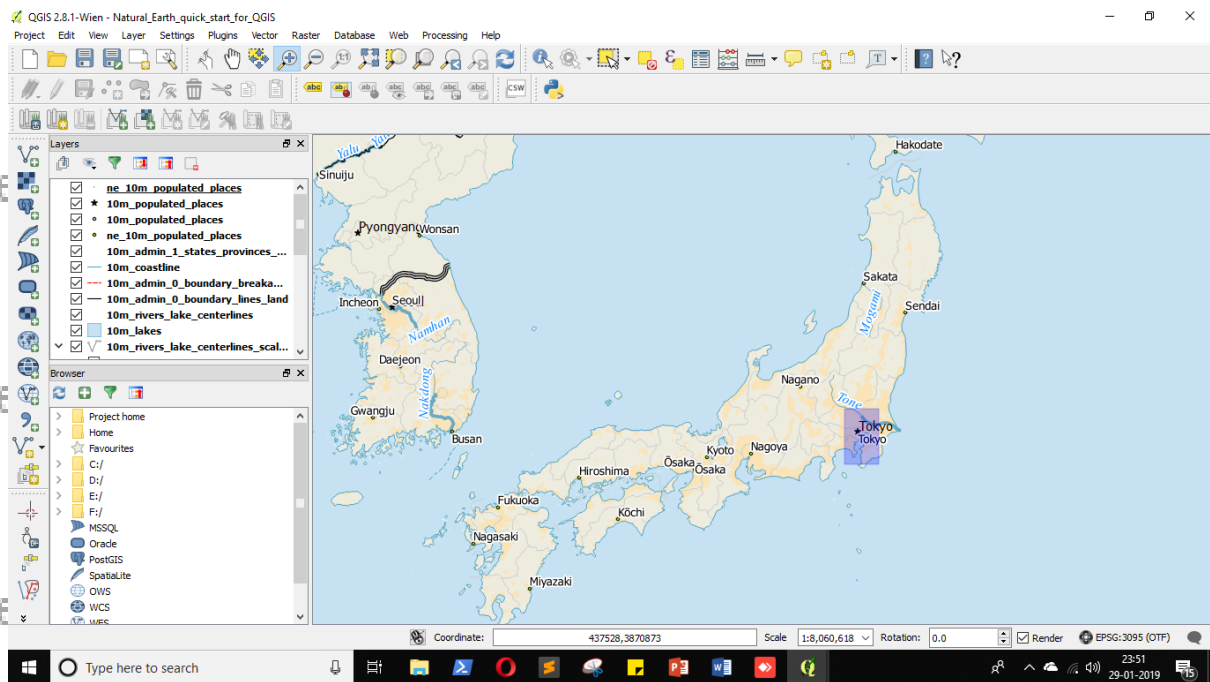


We have to lock the layers and layer style for map item it is necessary because it will ensure that even if we turn off the layer or change their style it will not affect this map/view.

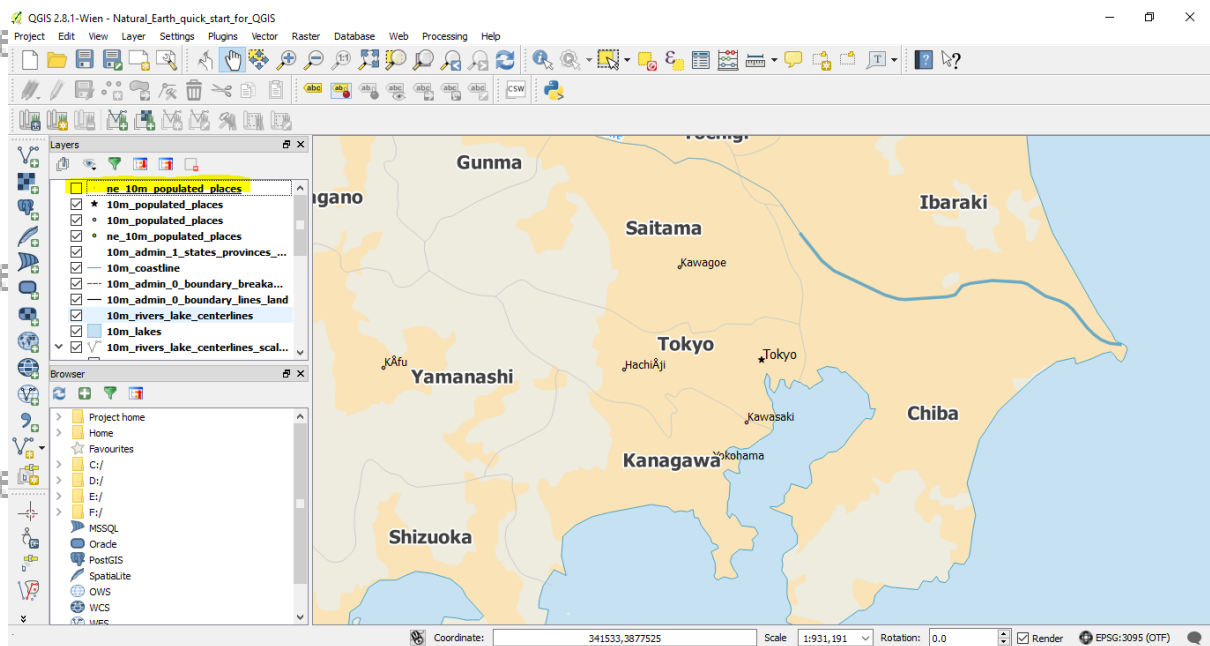
Select “**Lock map canvas items**” and “**Lock layer styles for map item**” checkboxes.



Switch to main window and select “**Zoom In**” tool and zoom in to Tokyo by dragging rectangle around it.



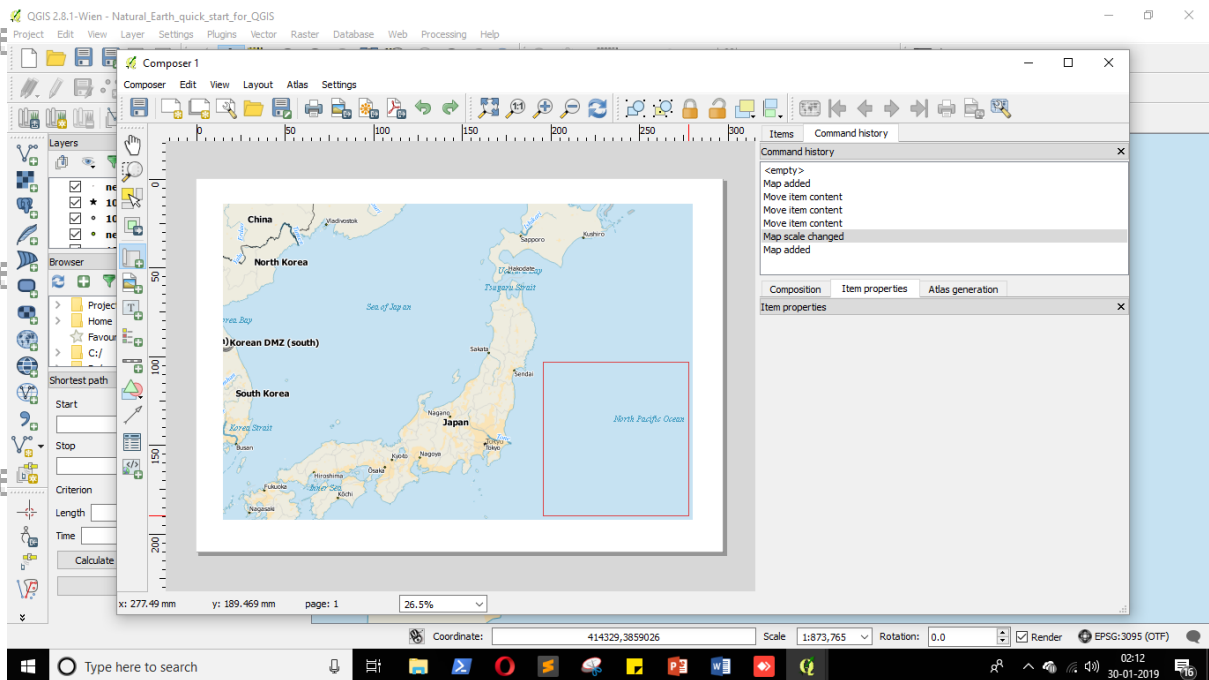
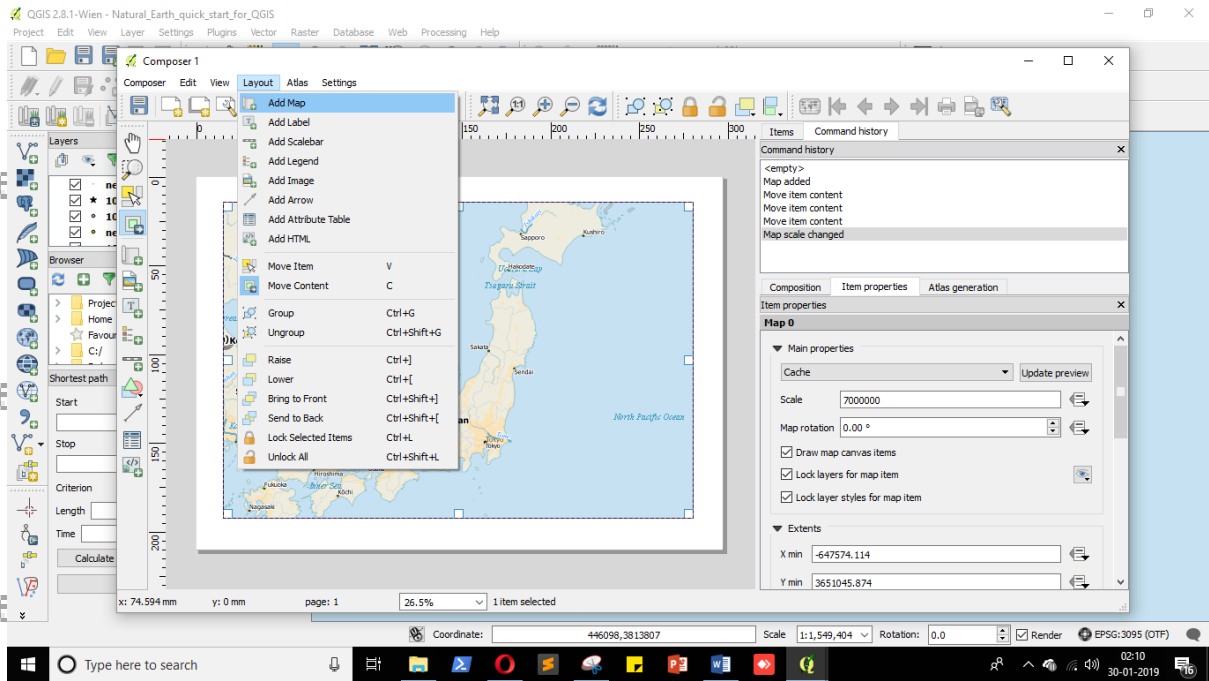
We can deselect “**ne_10m_populated_places**” layer.



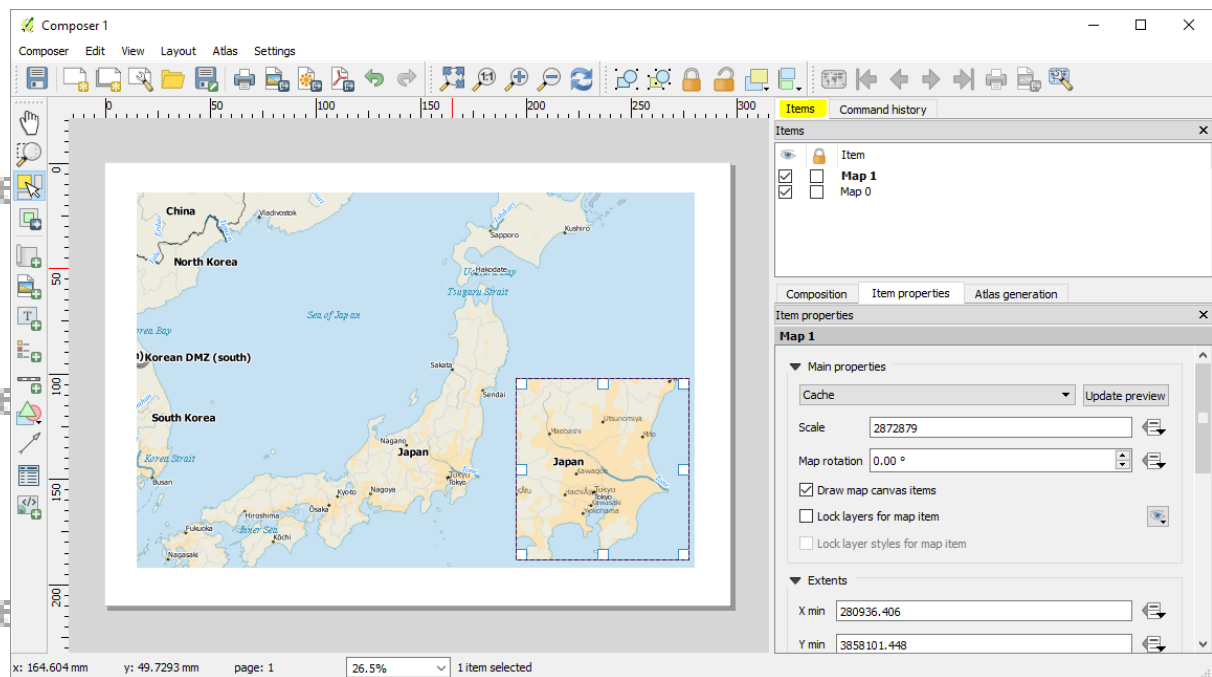
Now go back to Composer window.

We have to add that part in our map, go to

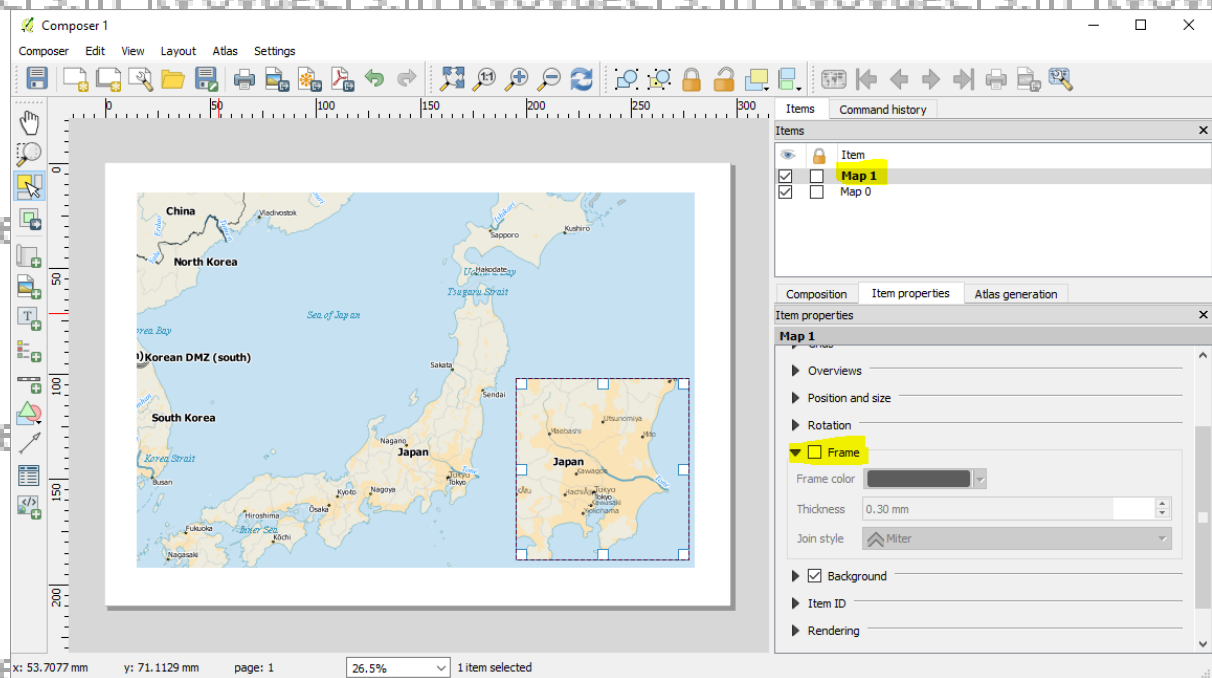
Layout > Add Map



It will load another map. Now click on "Items" tab

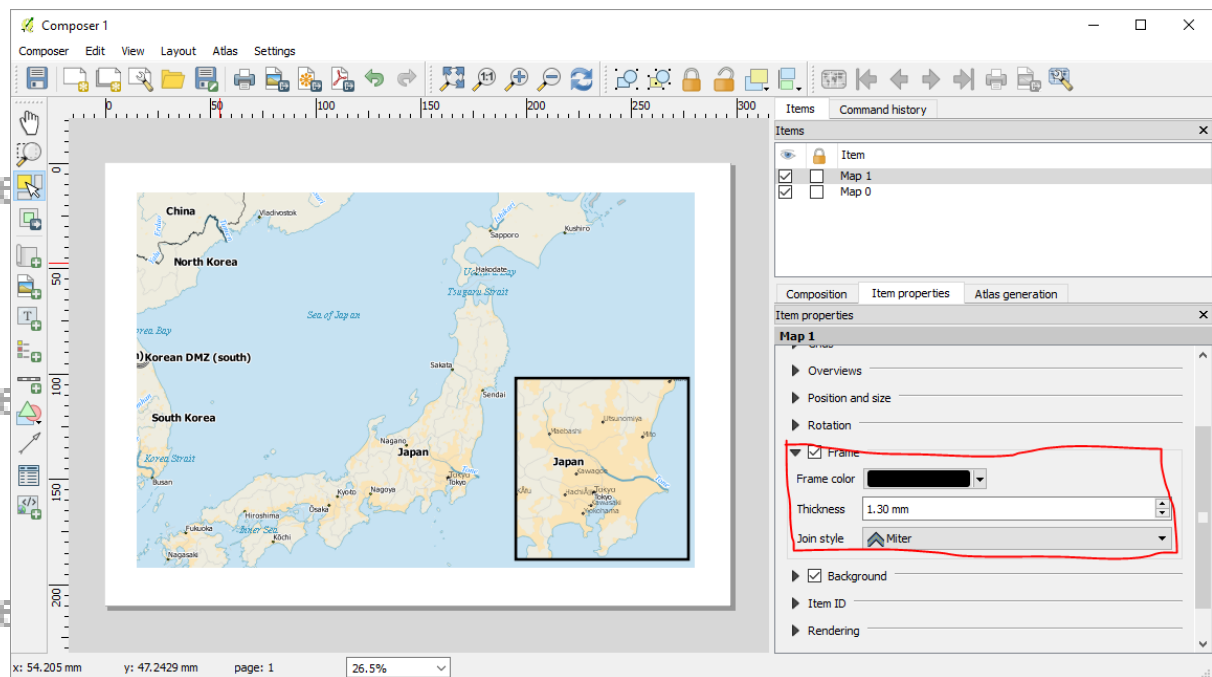


Select **"Map 1"** and click on **"Item properties"** tab and scroll down to **"Frame"** and check the check box.

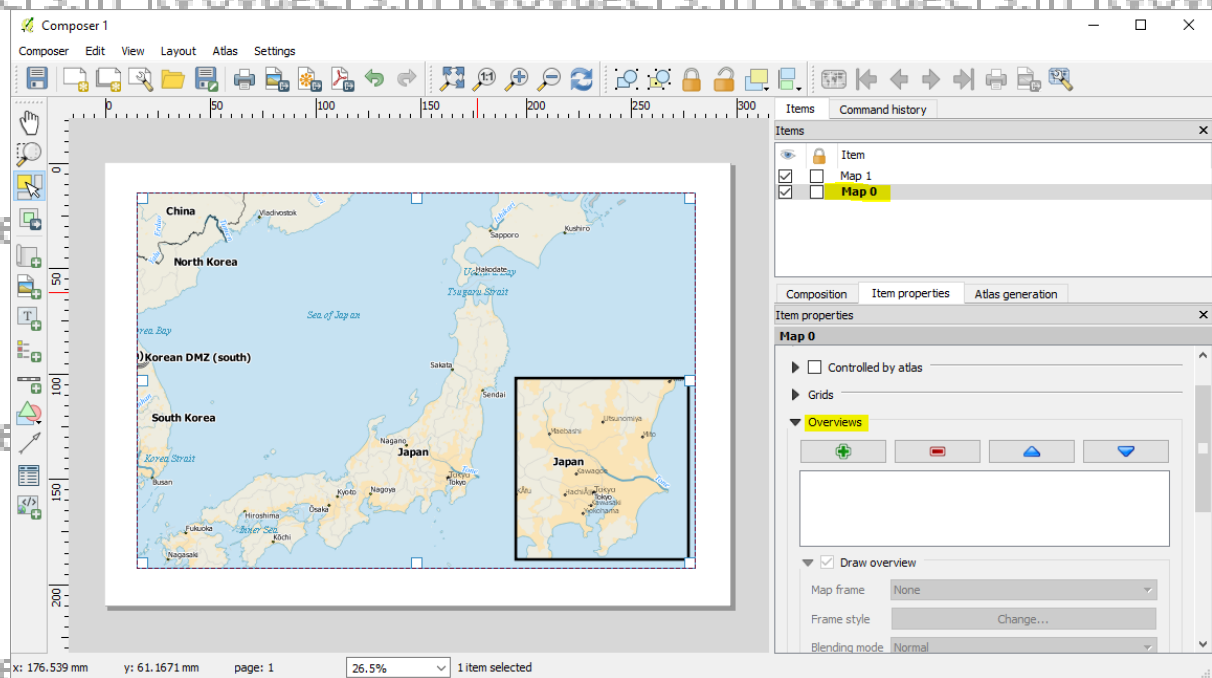


We can set any colour we want and thickness for the frame.

If you change the value of these properties it will affect the frame of **"Map 1"**. We set **"Thickness"** to **1.30mm**.



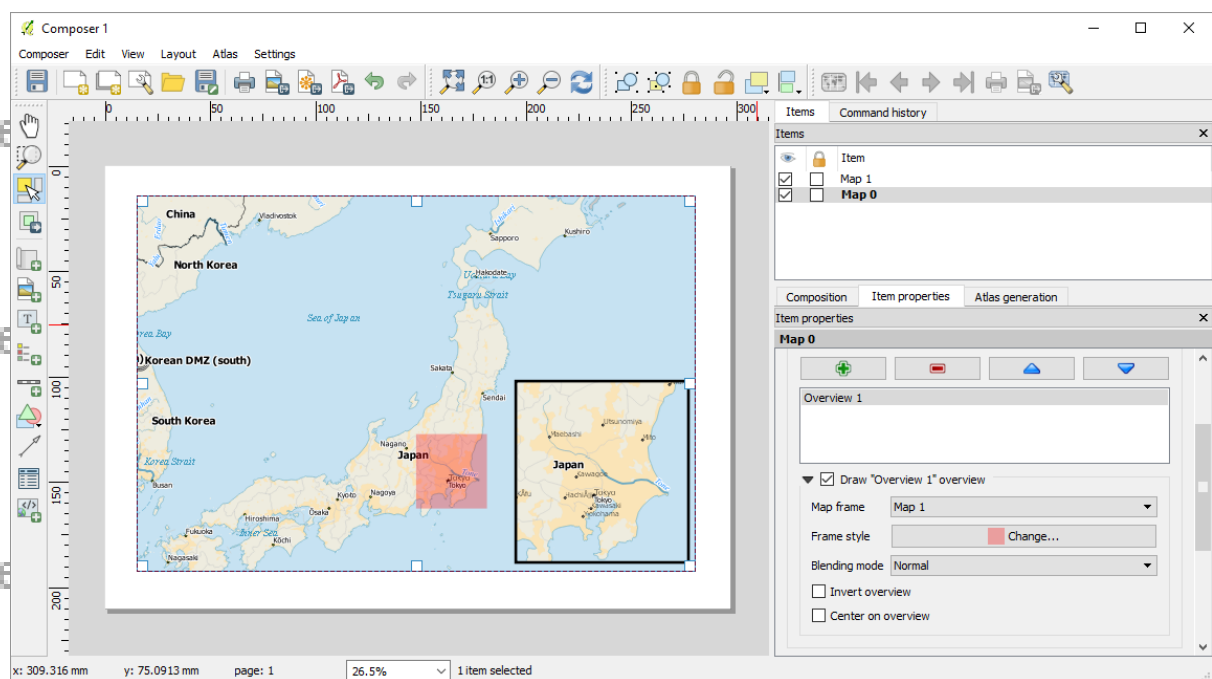
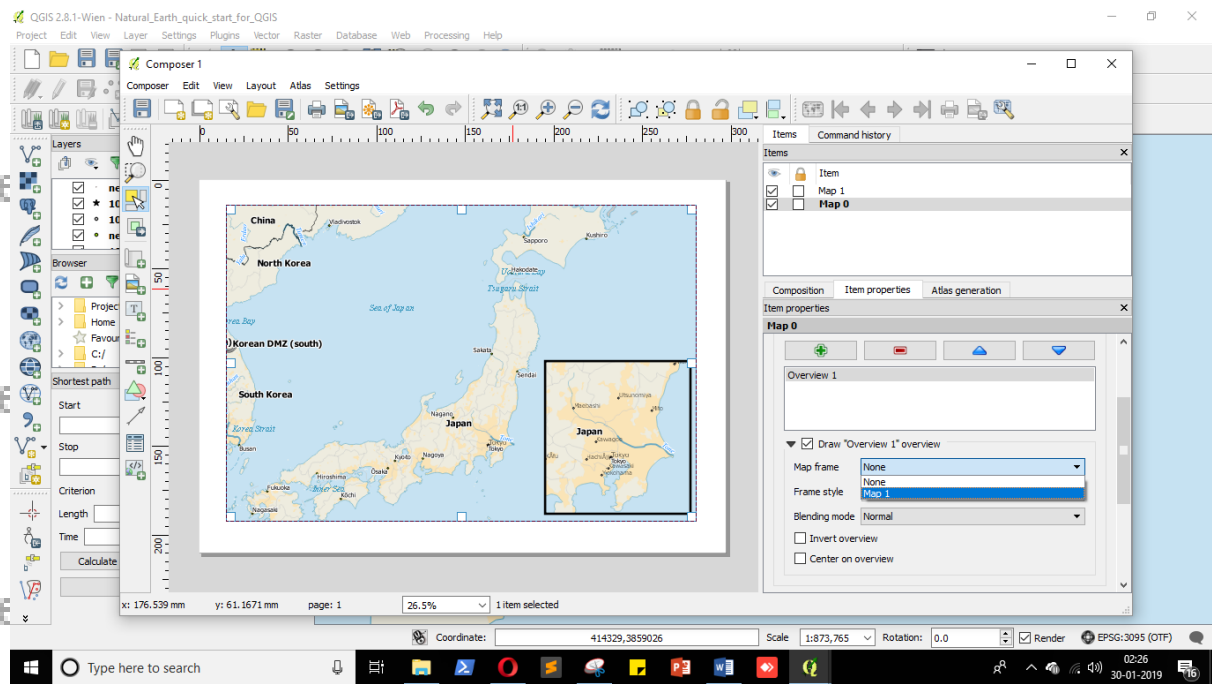
Select **“Map 0”** and click on **“Item properties”** and scroll down to **“Overview”**.



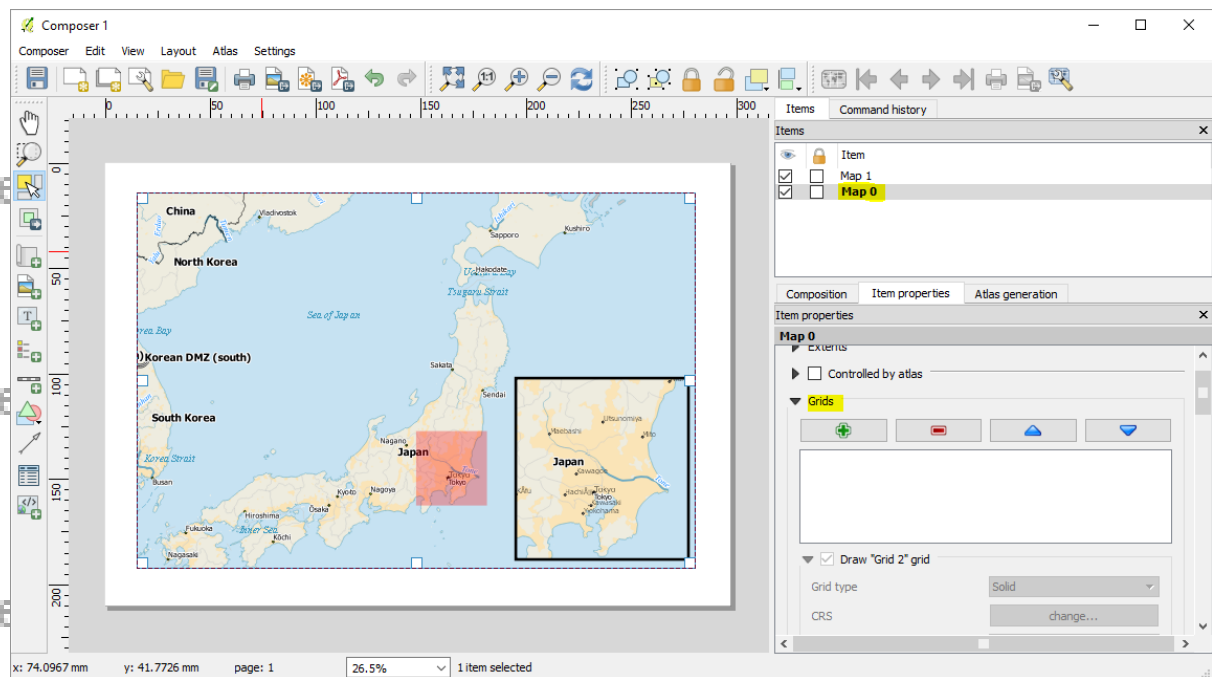
Click on  **“Add a new overview”** button to add new overview.

Once the overview is added options below will get enable.

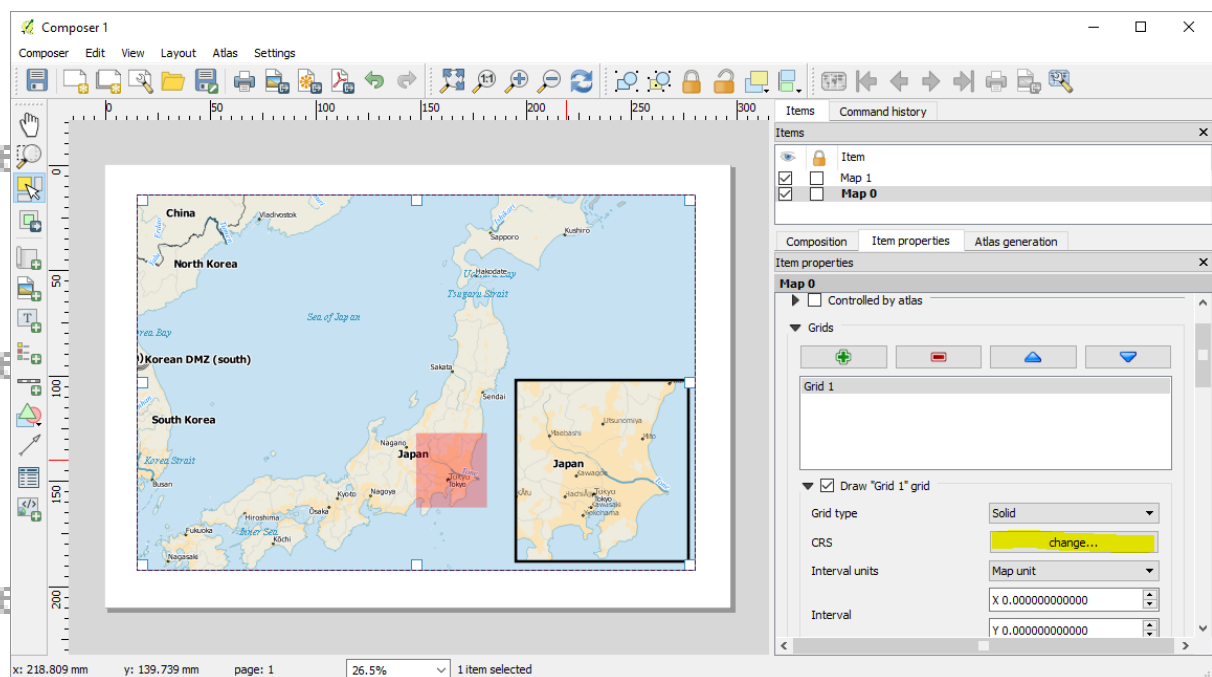
In **“Map frame”** select **“Map 1”**



Now scroll up to “Grids” panel for same layer. Click on  to add Grid.

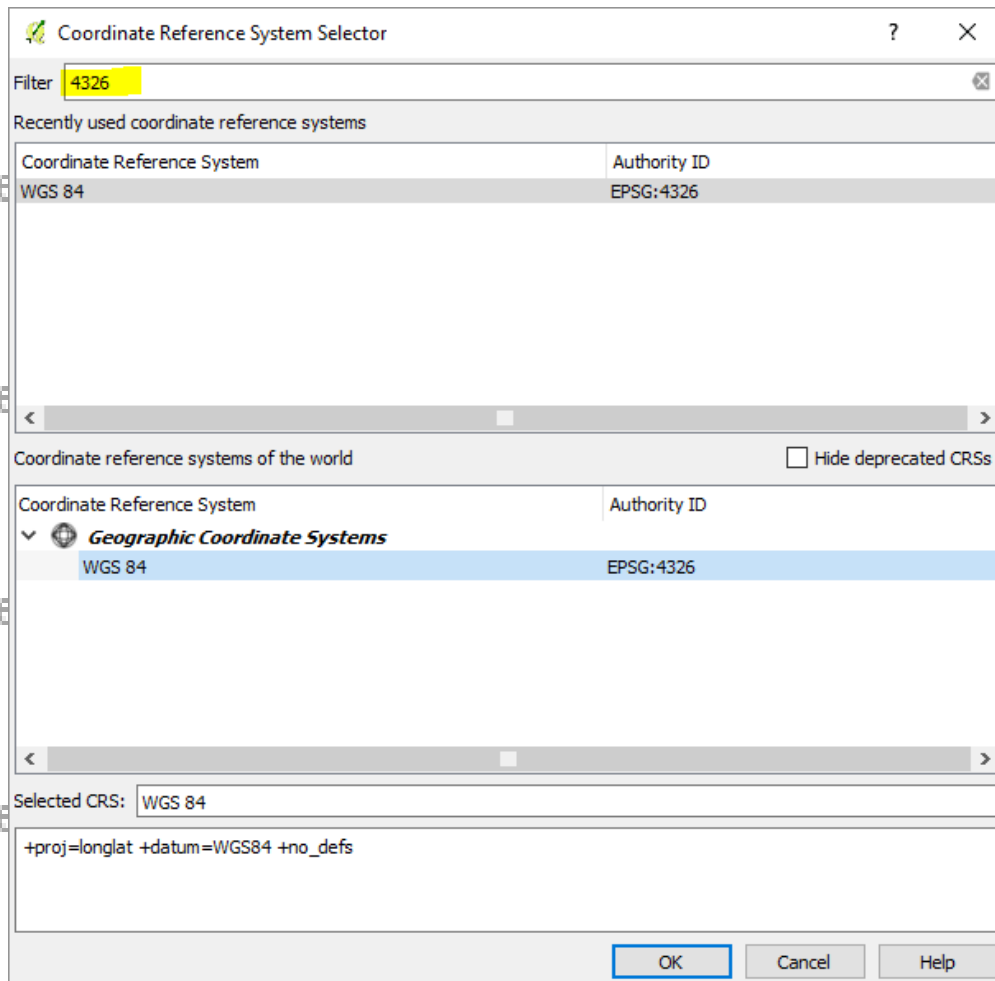


Once you add a Grid options below will get enable. Go to CRS and click on **“change...”** button in front of CRS label.

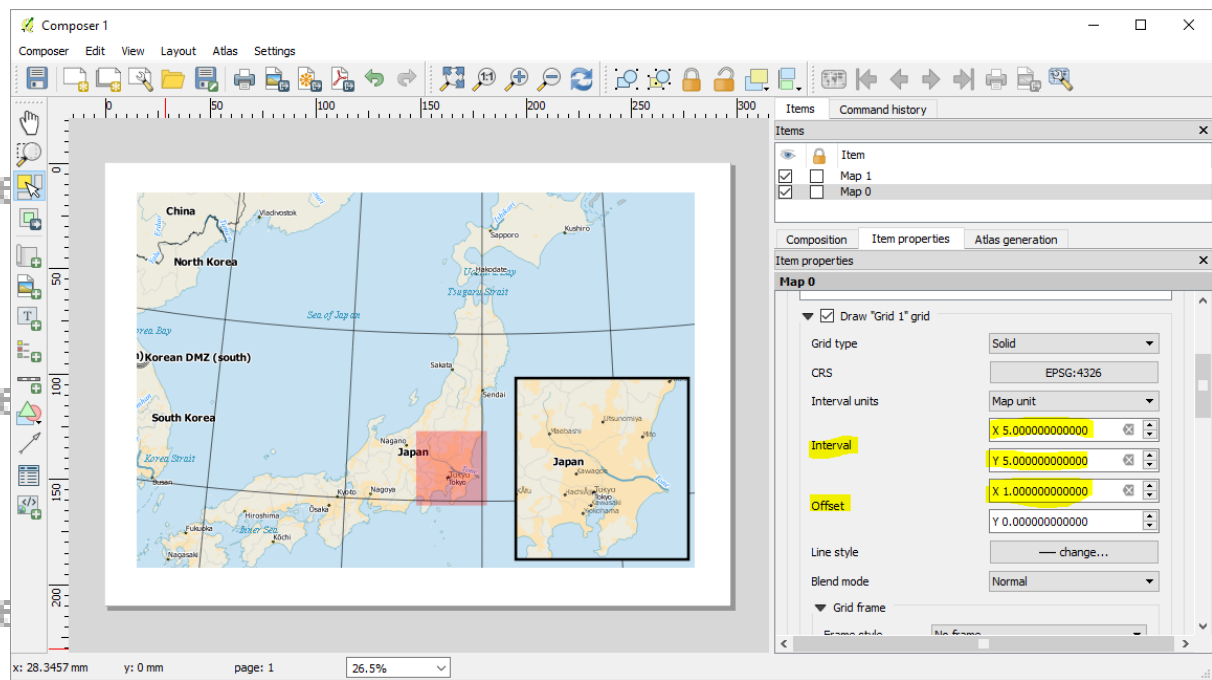


Following window will appear enter **“4326”** in **“Filter”** we will get only one result i.e.

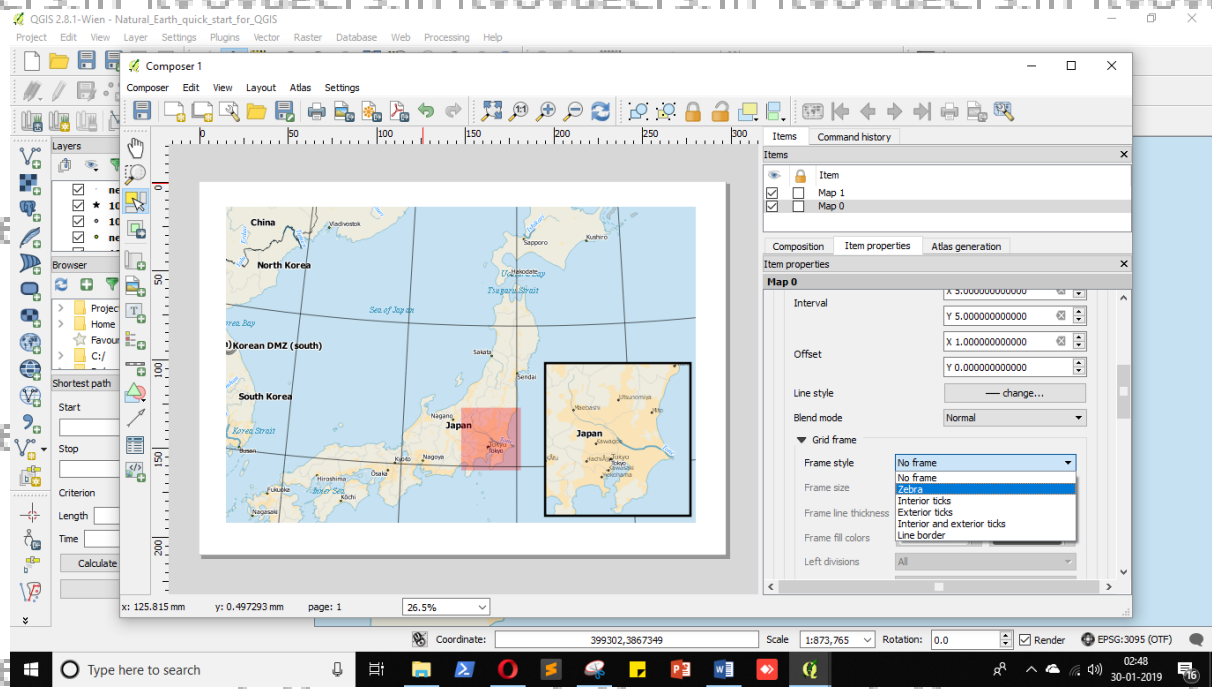
“WGS 84 EPSG:4326” select it and click on **“OK”**.

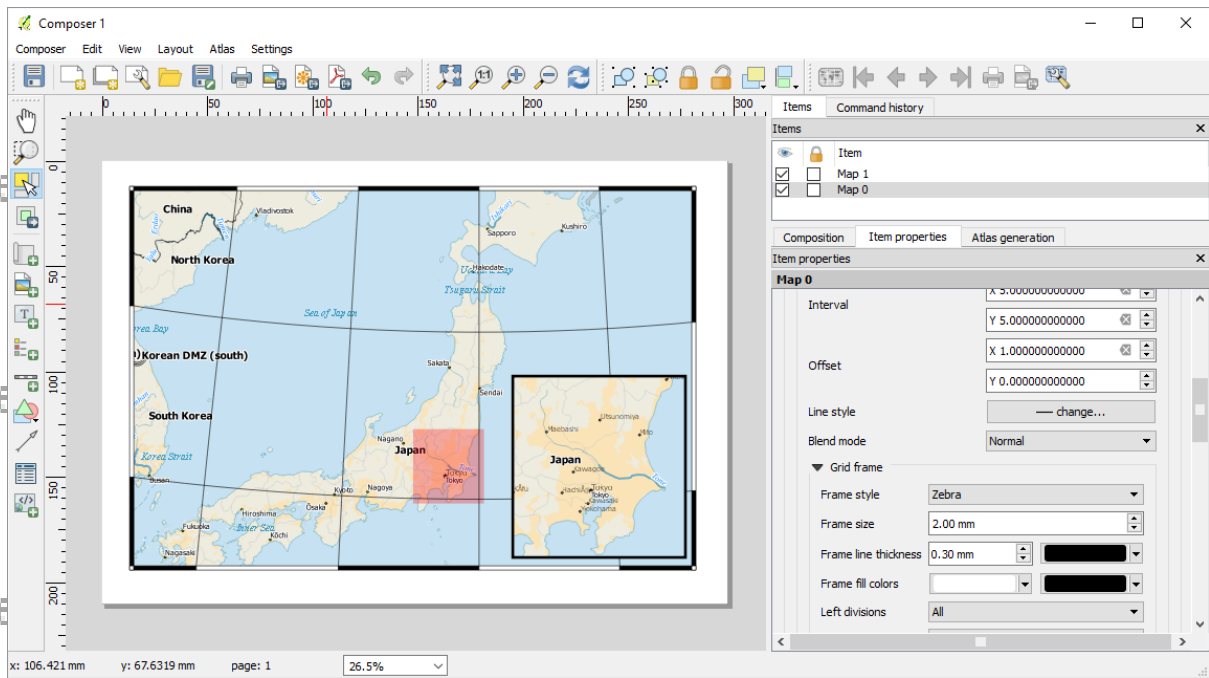


We have to change “Interval” X and Y value to 5.0 for both and “Offset” X value to 1.0



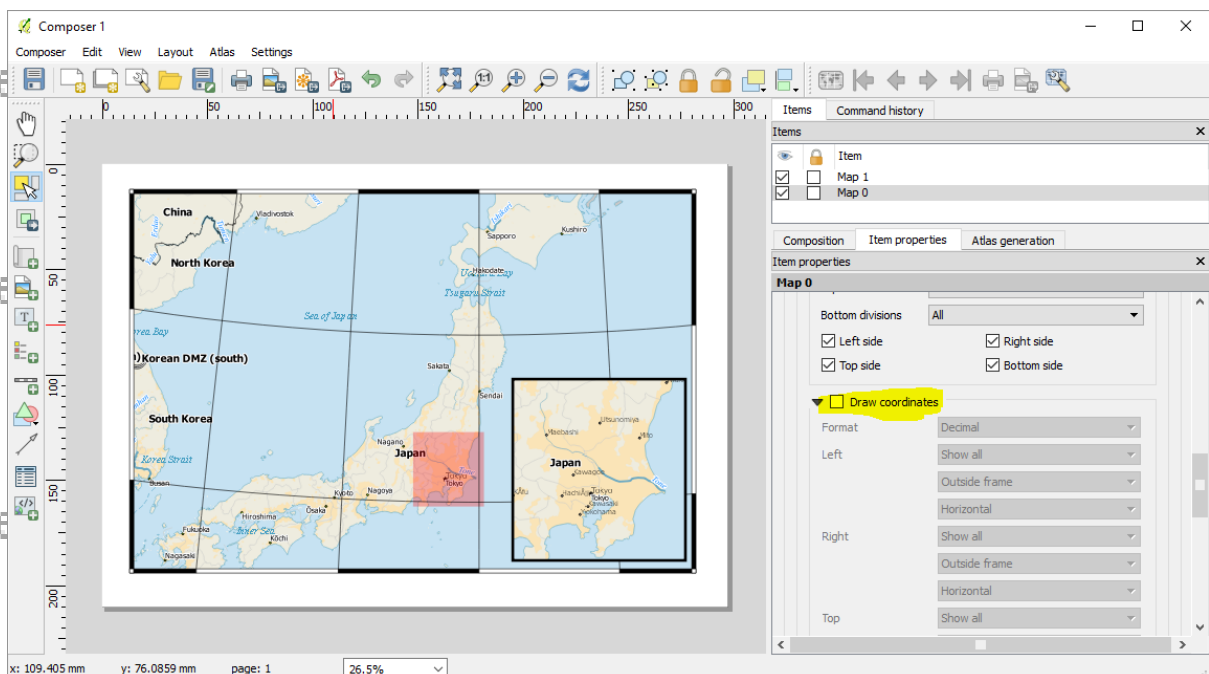
Now scroll down till “Grid frame” panel. In “Frame style” dropdown list select “Zebra”. It will give nice zebra border to map.



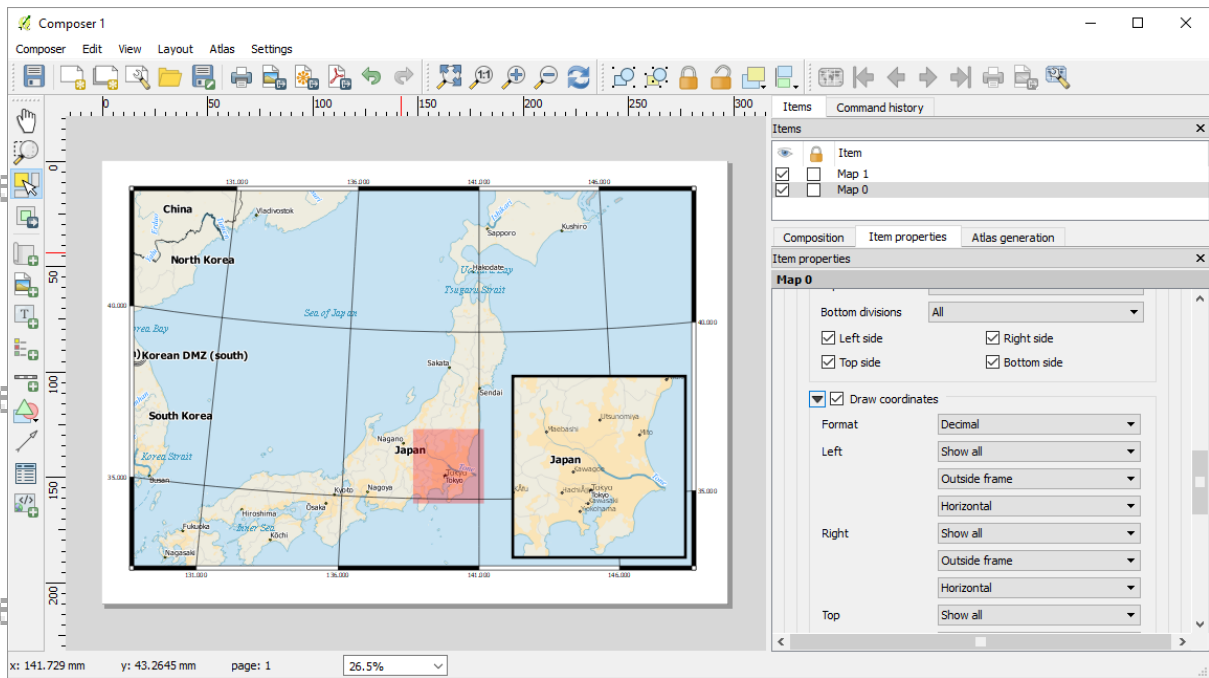


Still there are no coordinates in our map. To make them visible scroll down to **“Draw coordinates”**.

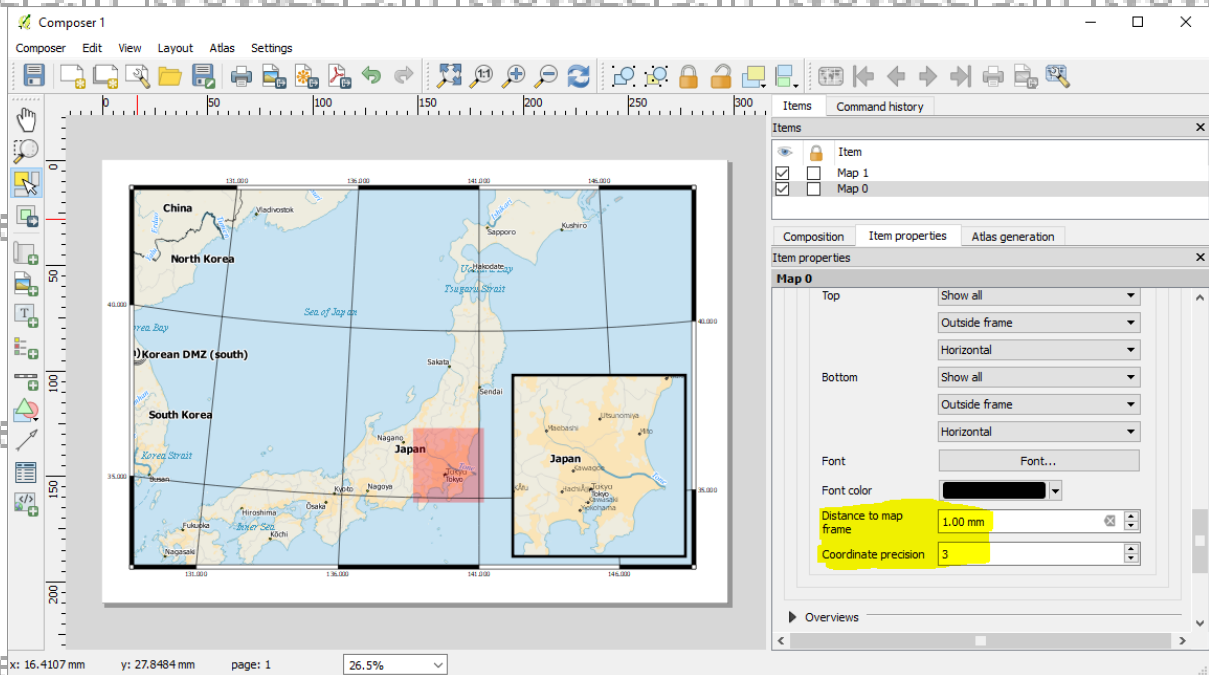
Check the check box for **“Draw coordinates”** to make options enable.



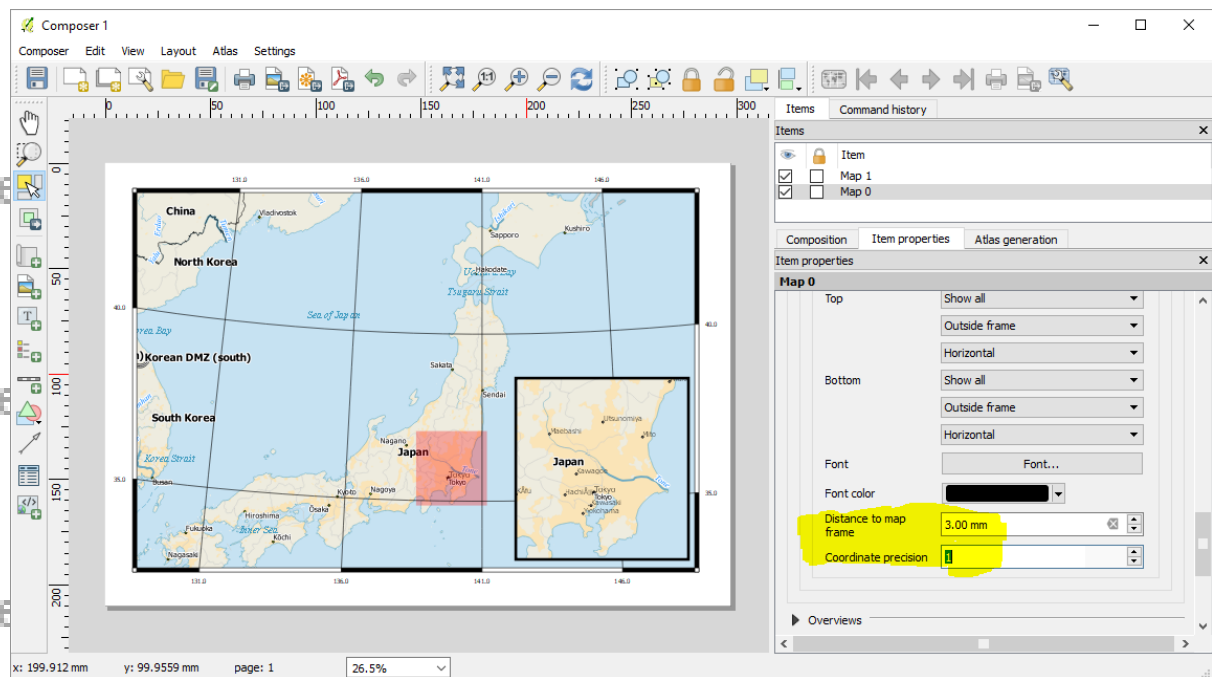
Once we check that checkbox coordinate will appear on map.



Now scroll down to **“Distance of map frame”** set it to **1.00mm** and **“Coordinate precision”** to **3**.

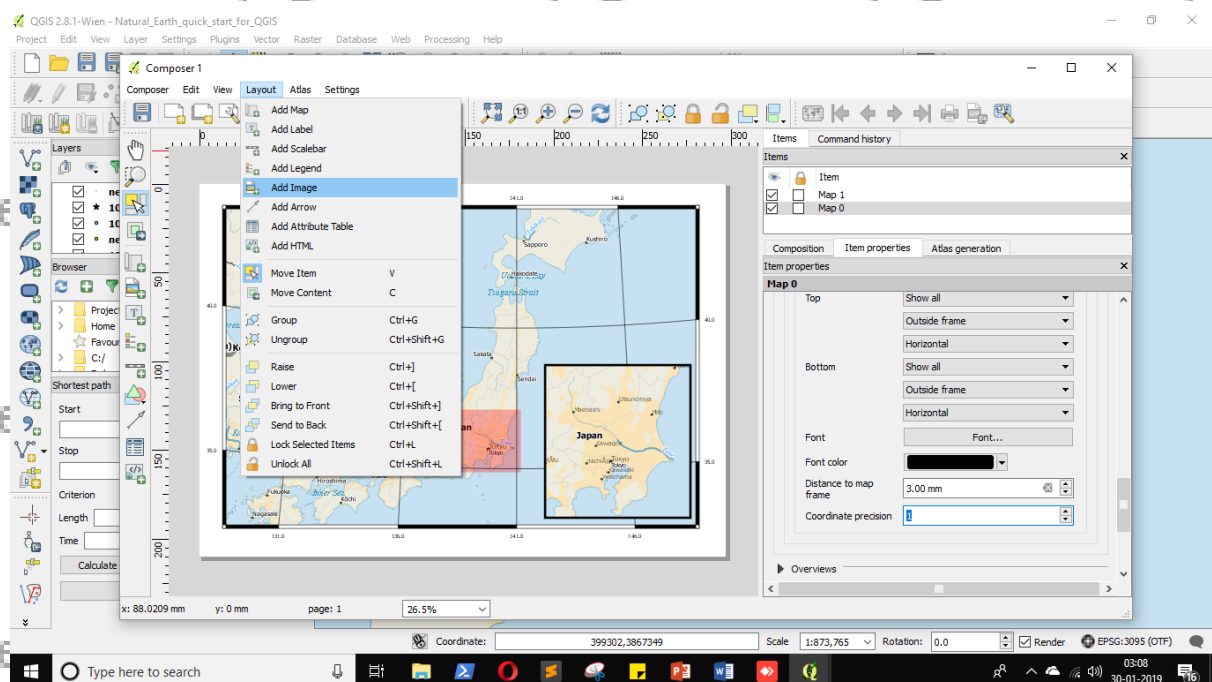


If we change those values, **“Distance of map frame”** will affect the distance between coordinate label and the zebra border and **“Coordinate precision”** will state the count of digits be visible after the decimal.

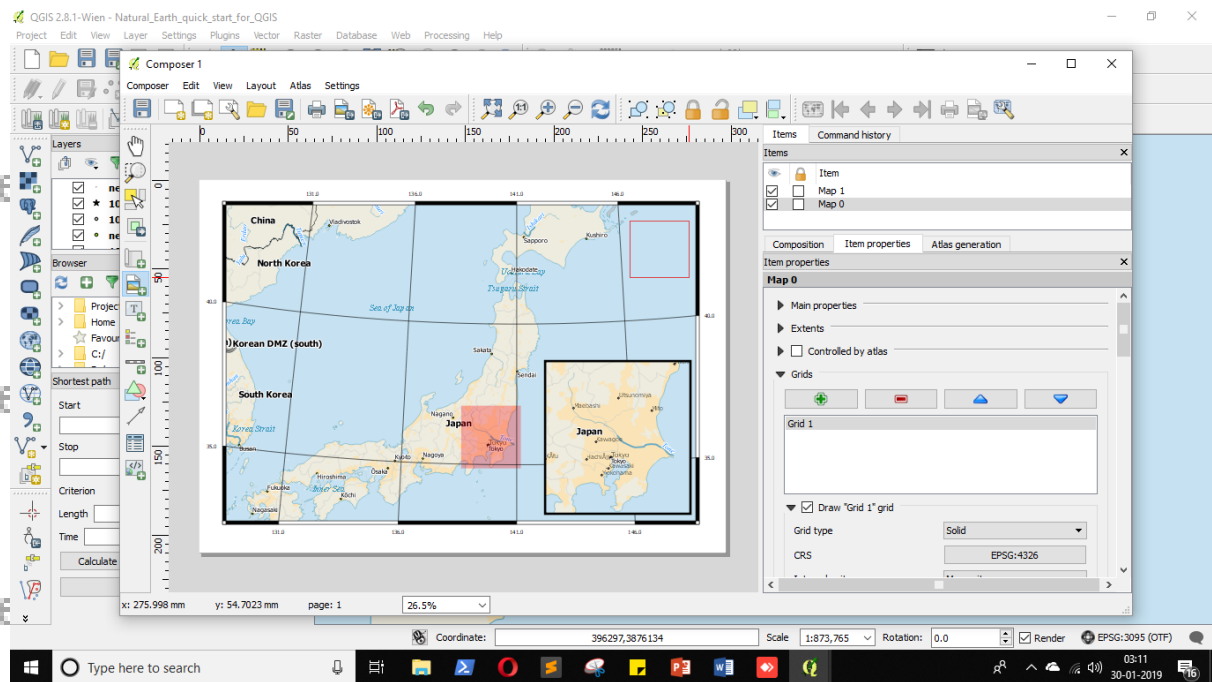


Now we know every map has “**North Arrow**”, to add that arrow go to

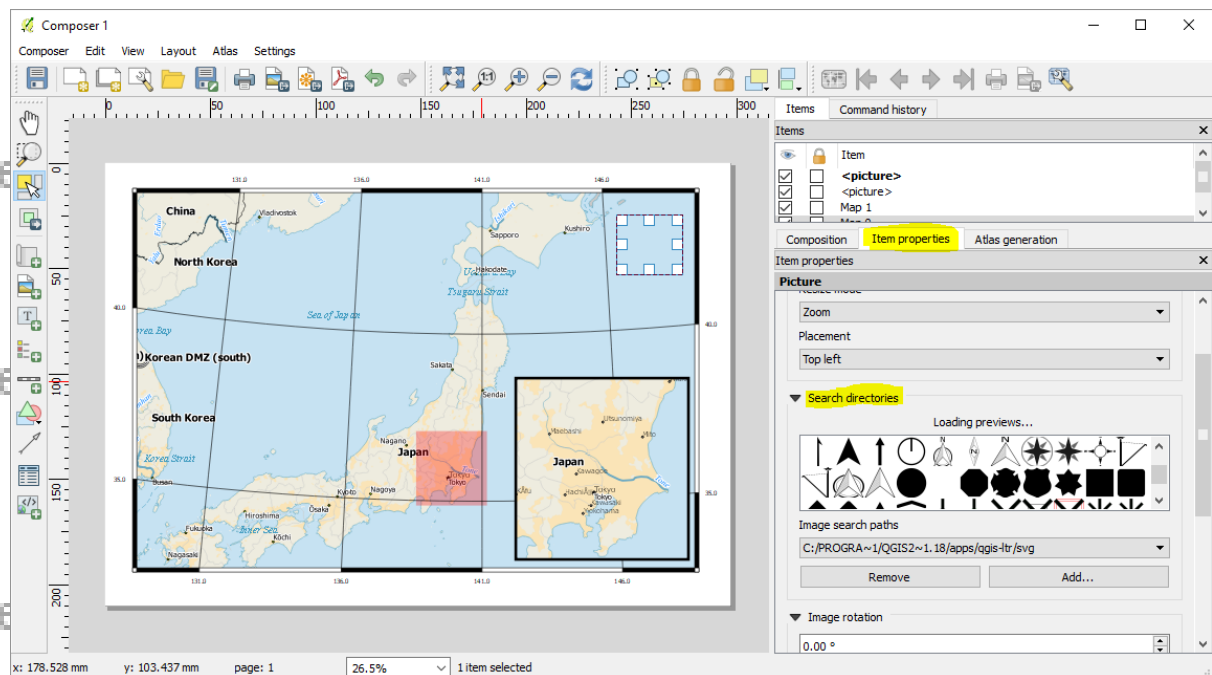
Layout > Add Image

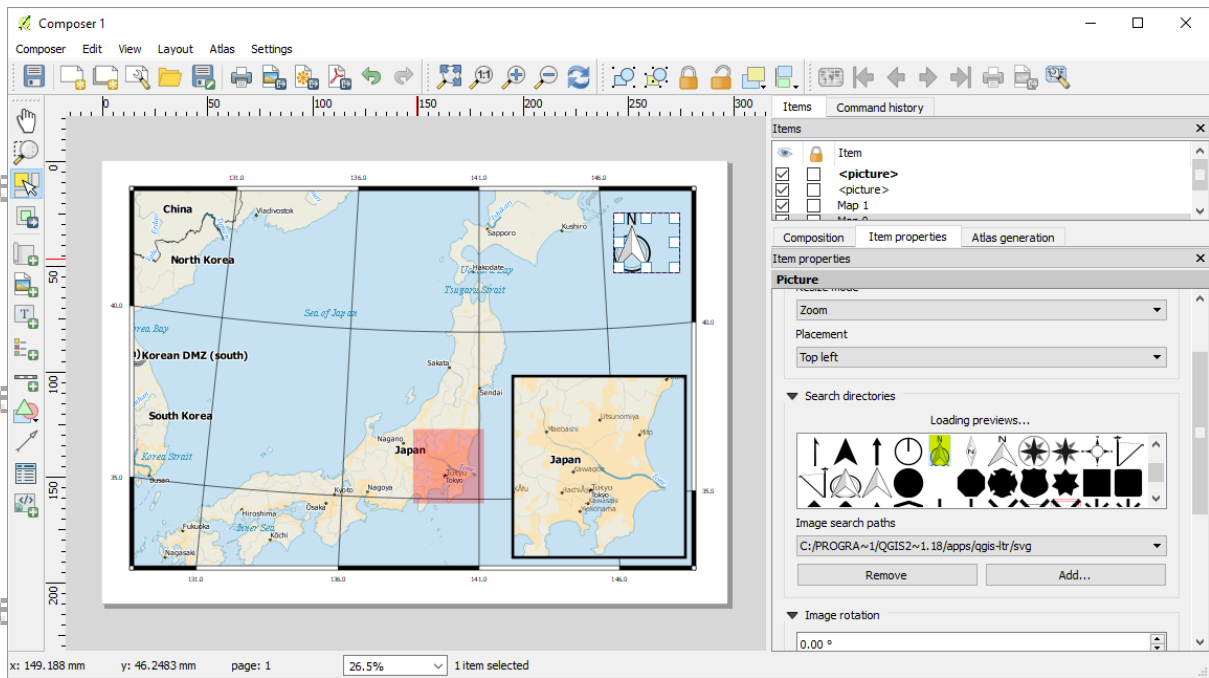


Once we click on “**Add Image**” we have to create the area in which our arrow will get load, for that we have to drag the mouse and create rectangle, normally it is on top right hand side.



Now we have to insert “North Arrow” in it, for that go to “Item properties” tab in that go to “Search directories” panel we can select which ever we want. QGIS has these images by default.

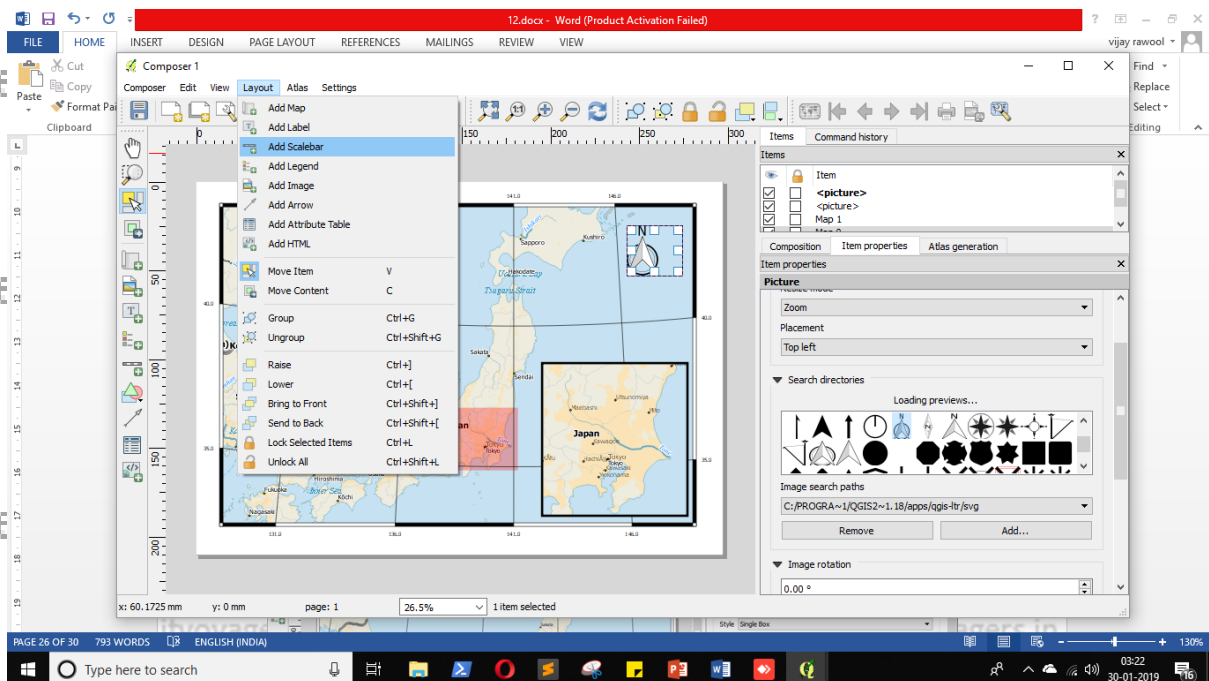


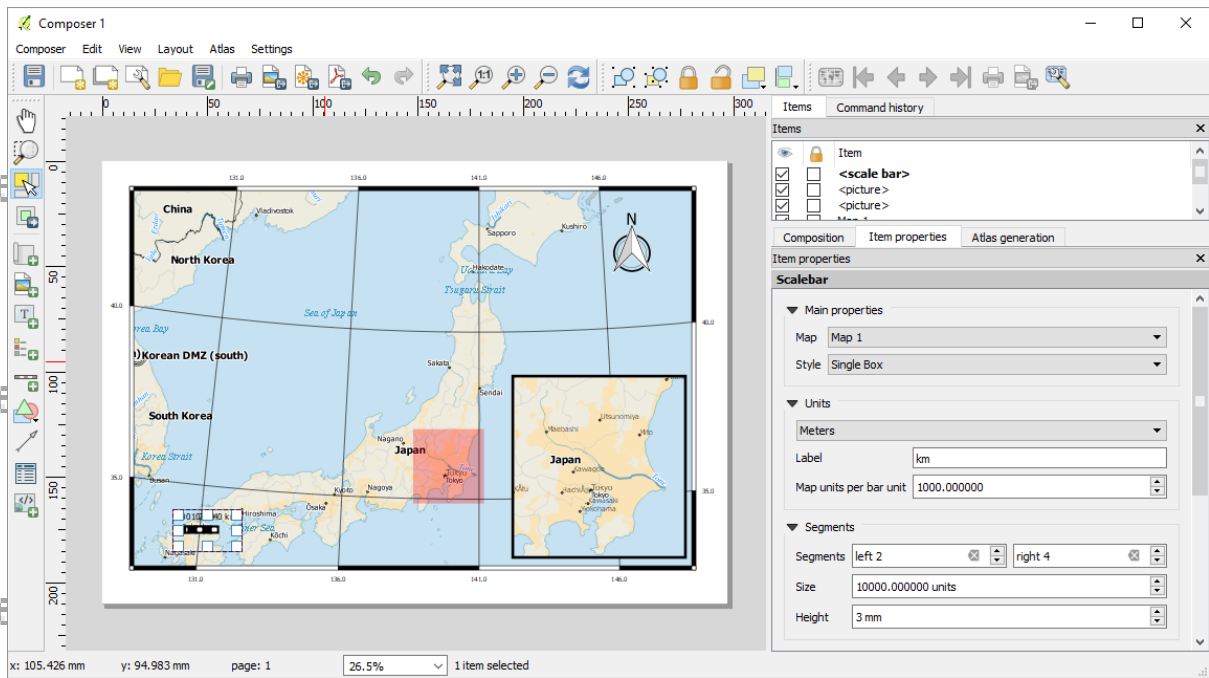


Map also has Scalebar, to add it go to

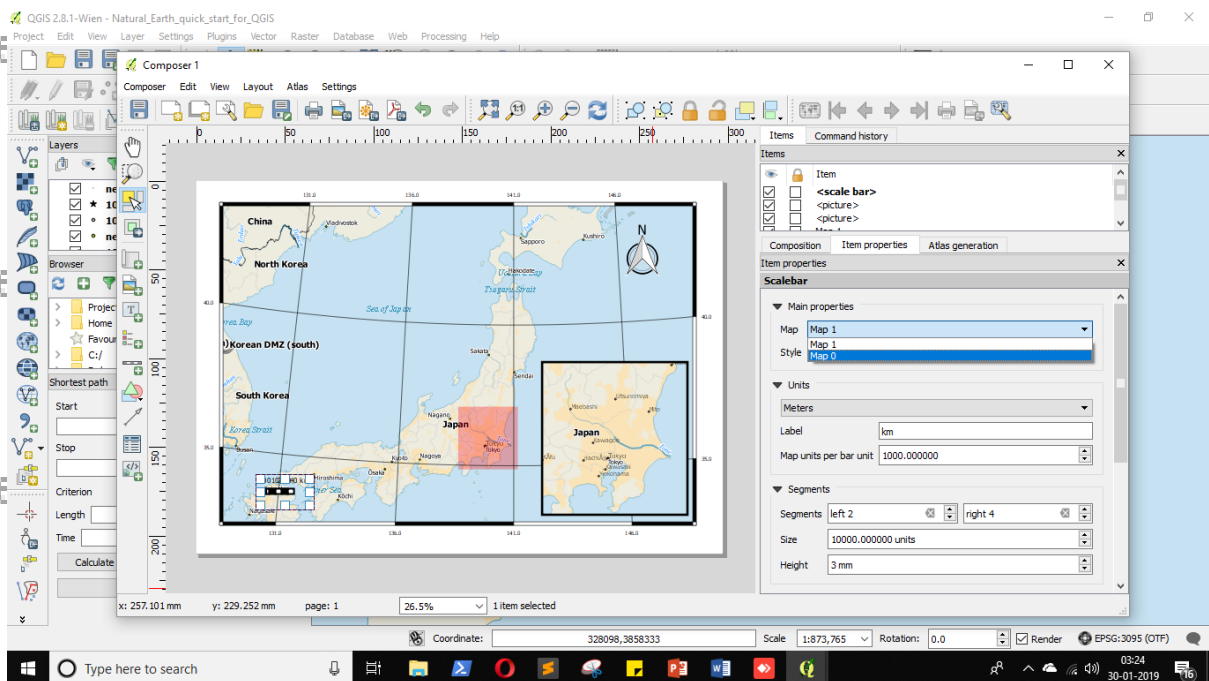
Layout > Add Scalebar

Now just click on location in map where you want to add scalebar. We want our scalebar on left bottom of map.

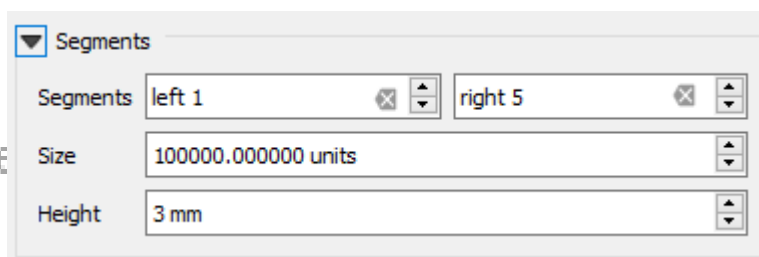


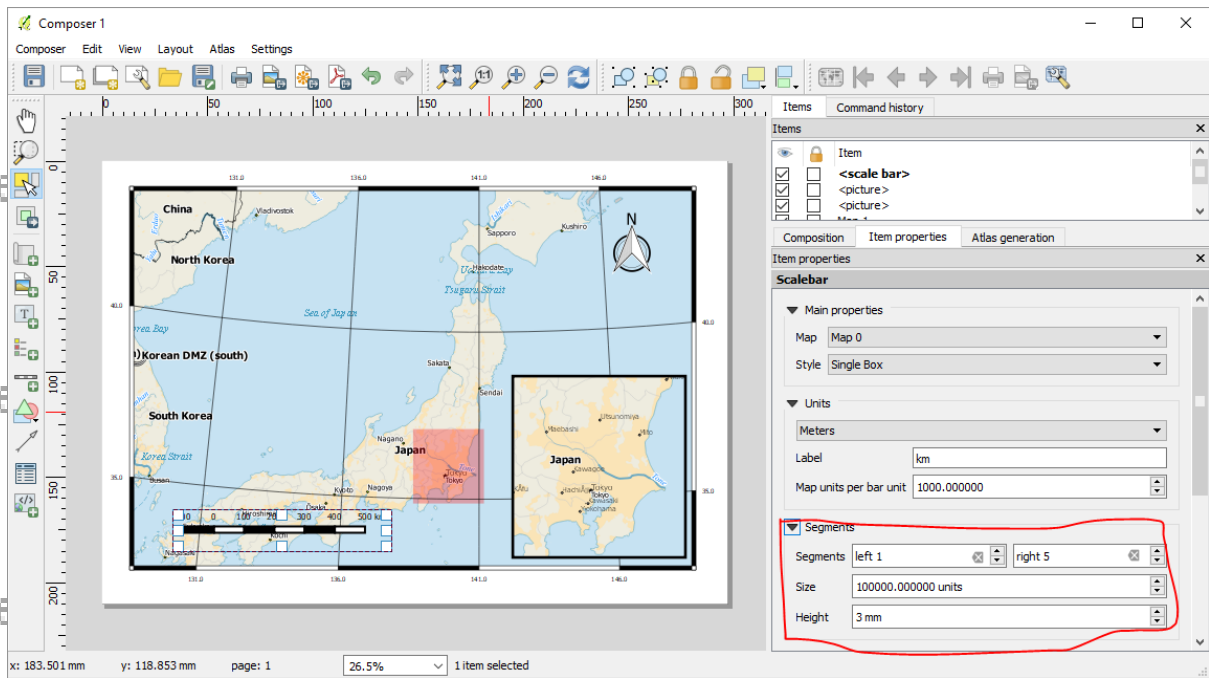


Now in **"Scalebar"** options change **"Map"** option value to **"Map 0"**



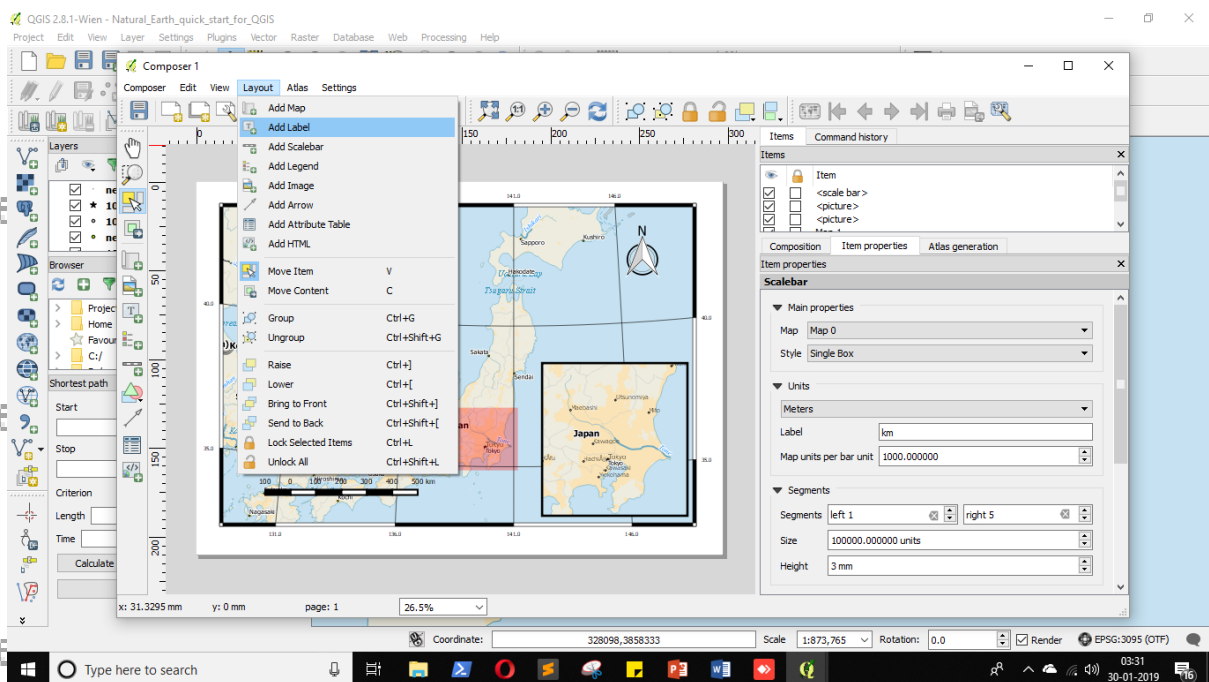
Now in **"Segments"** panel make the following changes.



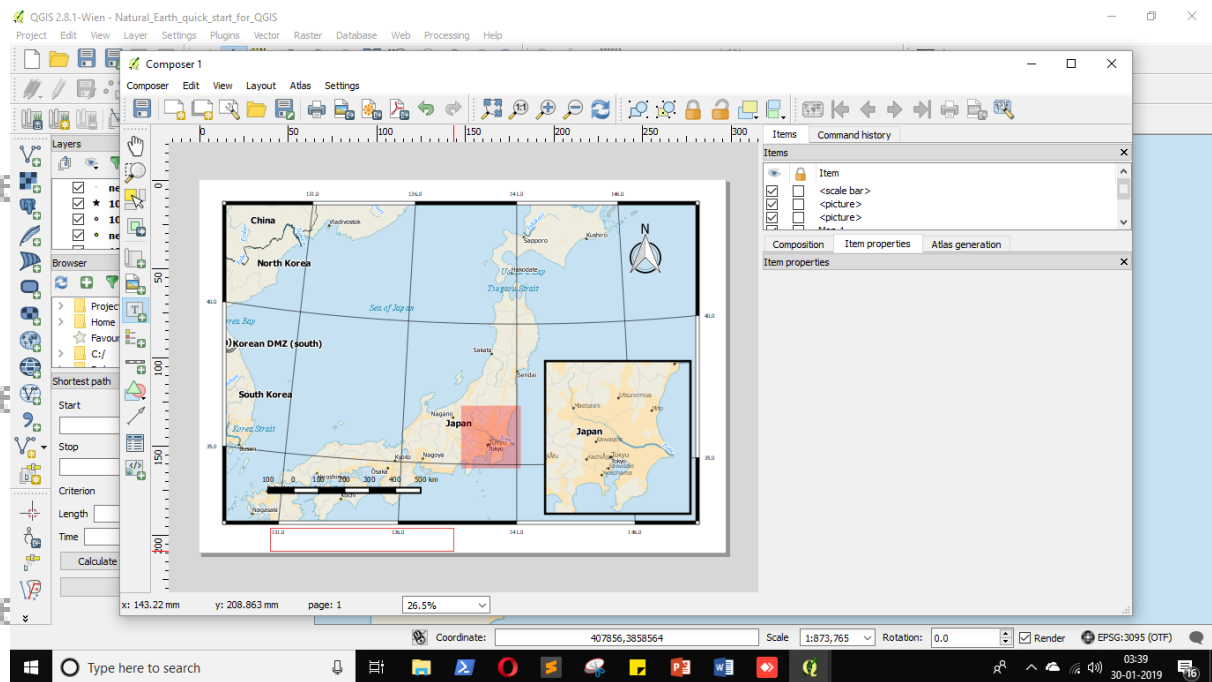


And last we have to label our map, for that go to

Layout > Add Label



Again we have to drag rectangle with mouse.



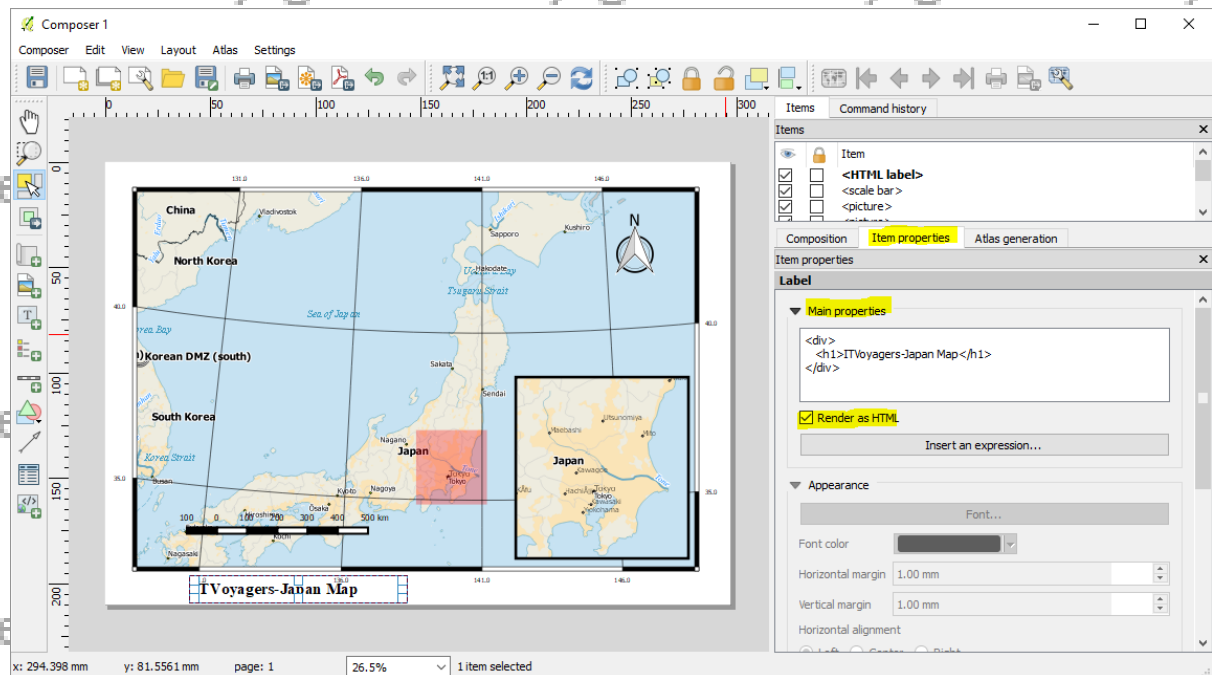
In “**Label**” panel we have to write label in “**Main properties**” text area.

We can simply write text or we can also write HTML code in it.

`<div>`

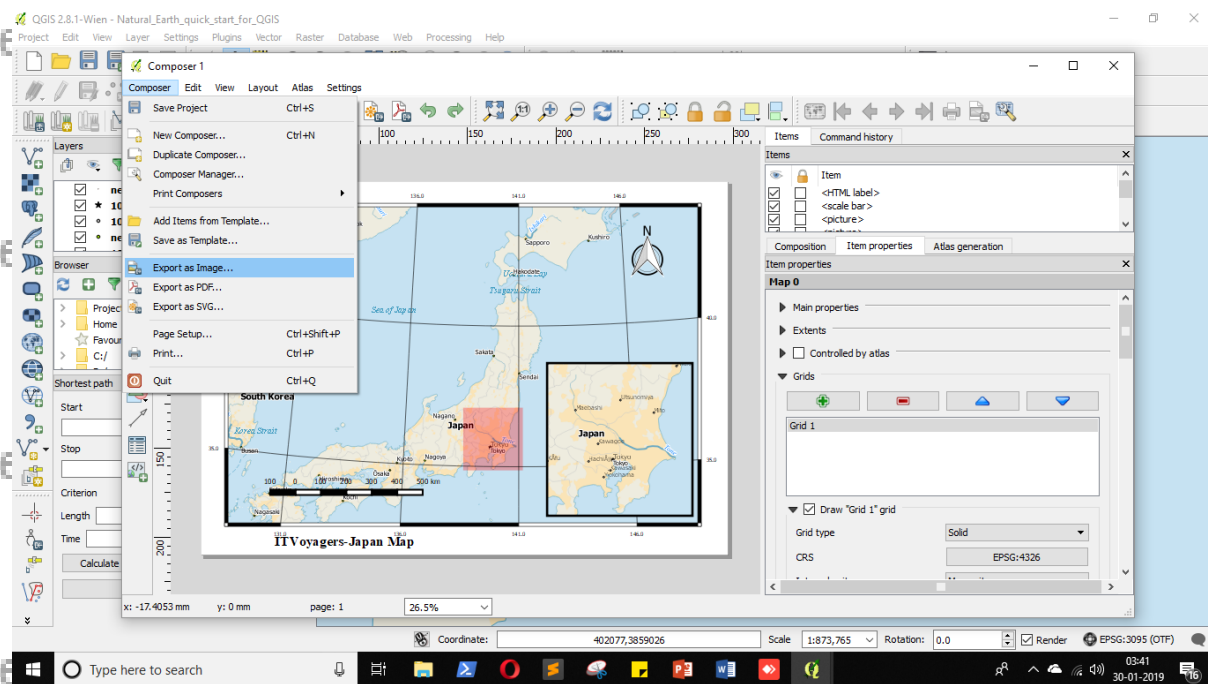
`<h1>ITVoyagers-Japan Map</h1>`

`</div>`

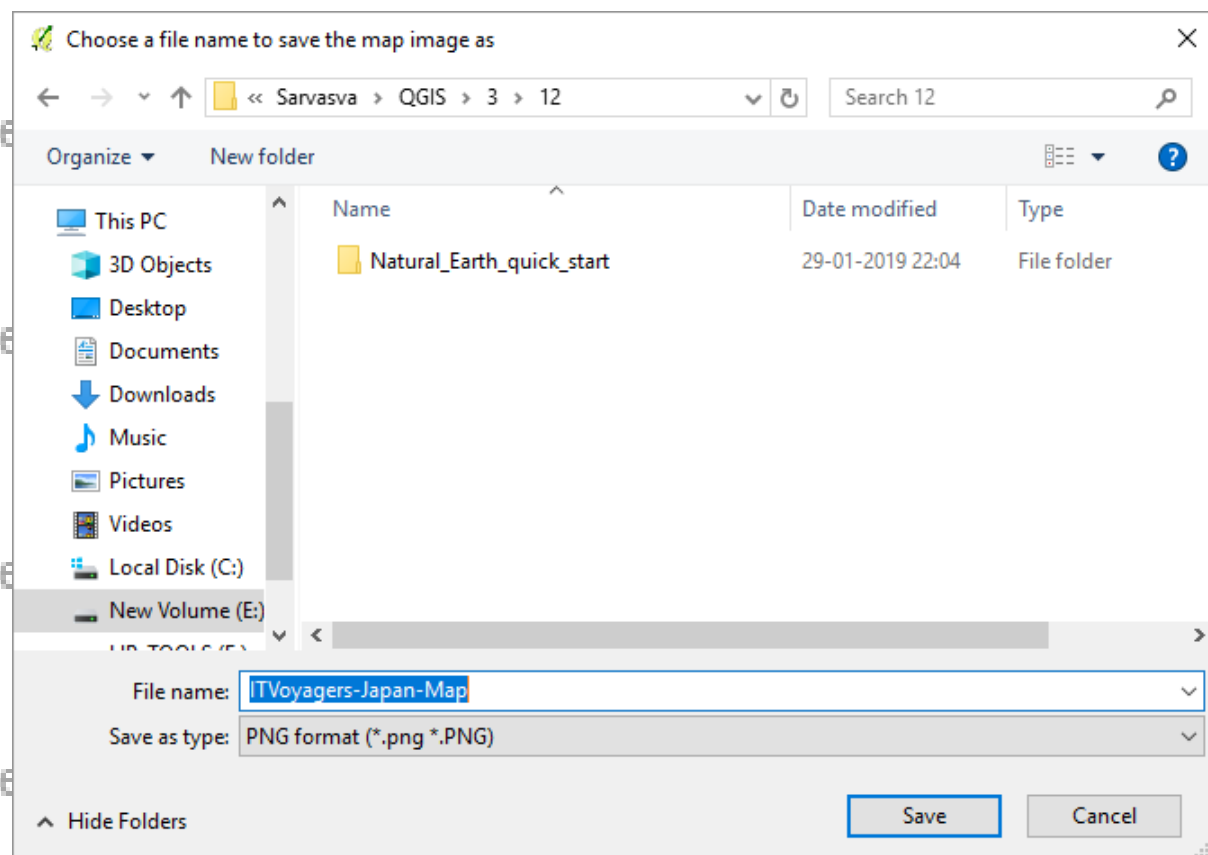


Now we will export this as a PNG image, for that go to

Composer > Export as Image...



Give name and path to image file and click save.



Final output

