

----- Practical 2 -----

Exploring and Managing Raster data: Adding raster layers, raster styling and analysis, raster mosaicking and clipping

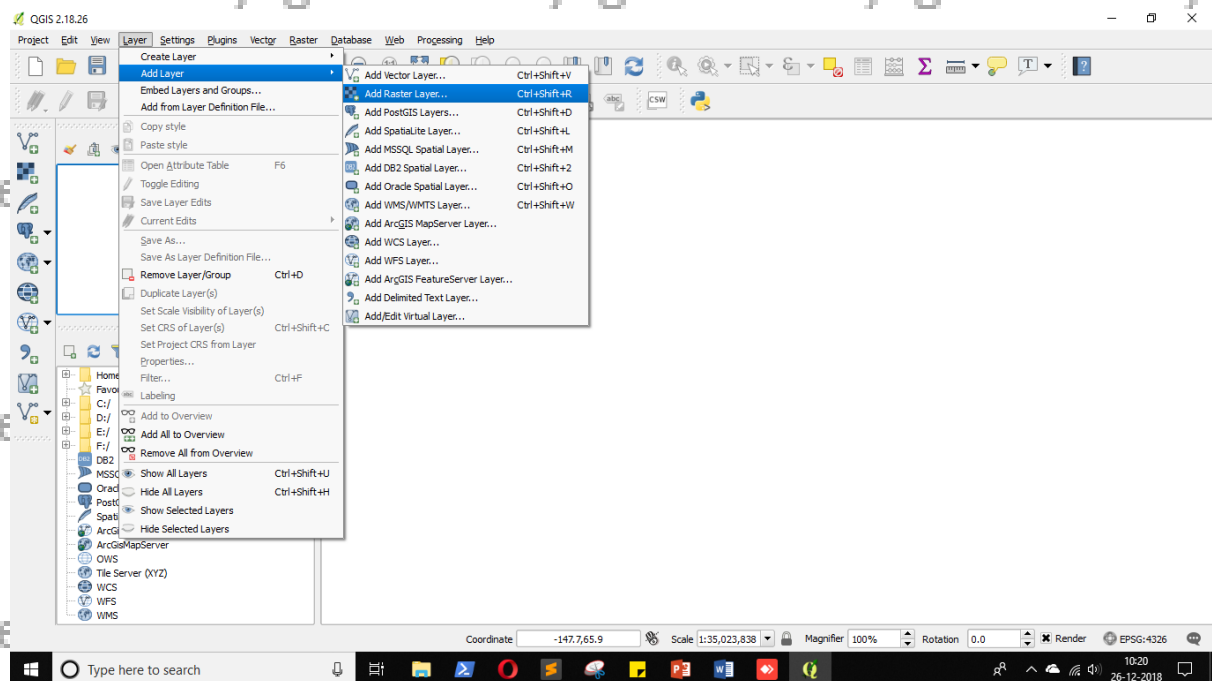
You can download the resources from the below link.

<https://drive.google.com/open?id=11A60DrMi0QZBlCddFzOVQfEsO0k-PrM>

And extract that file. And open QGIS.

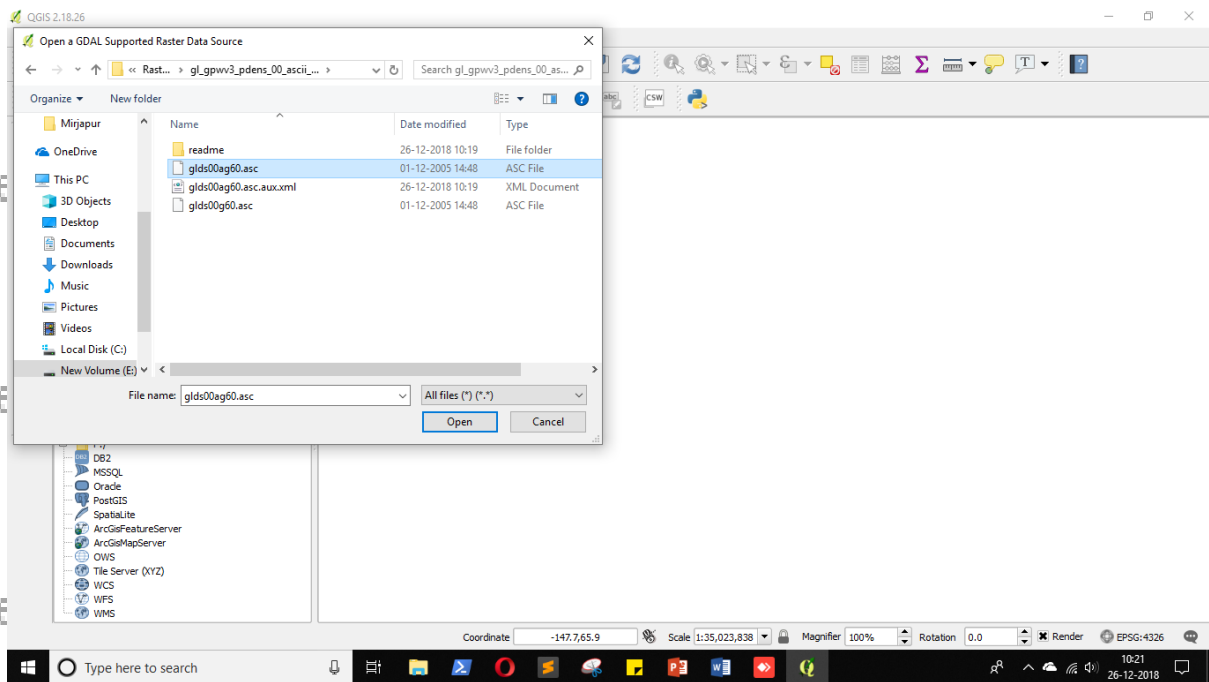
Go to

Layer > Add Layer > Add Raster Layer...



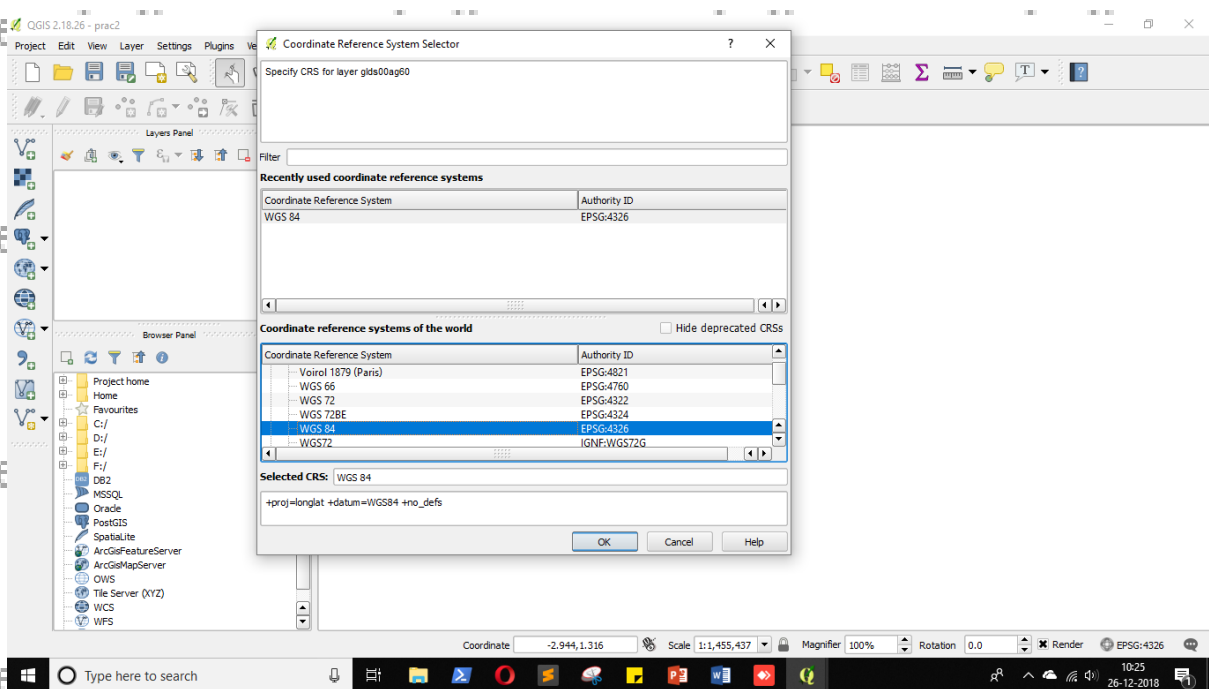
Select the “glds00ag60.asc” file from “gl_gpww3_pdens_00_ascii_one” folder.

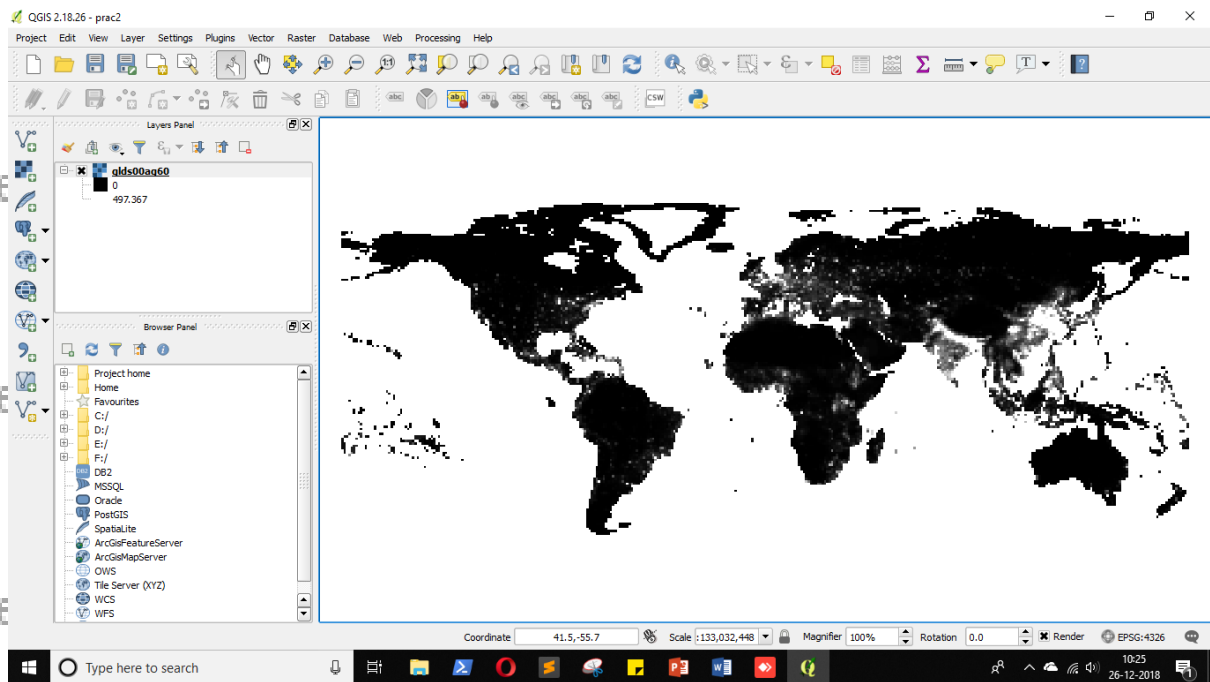
Click on “Open”



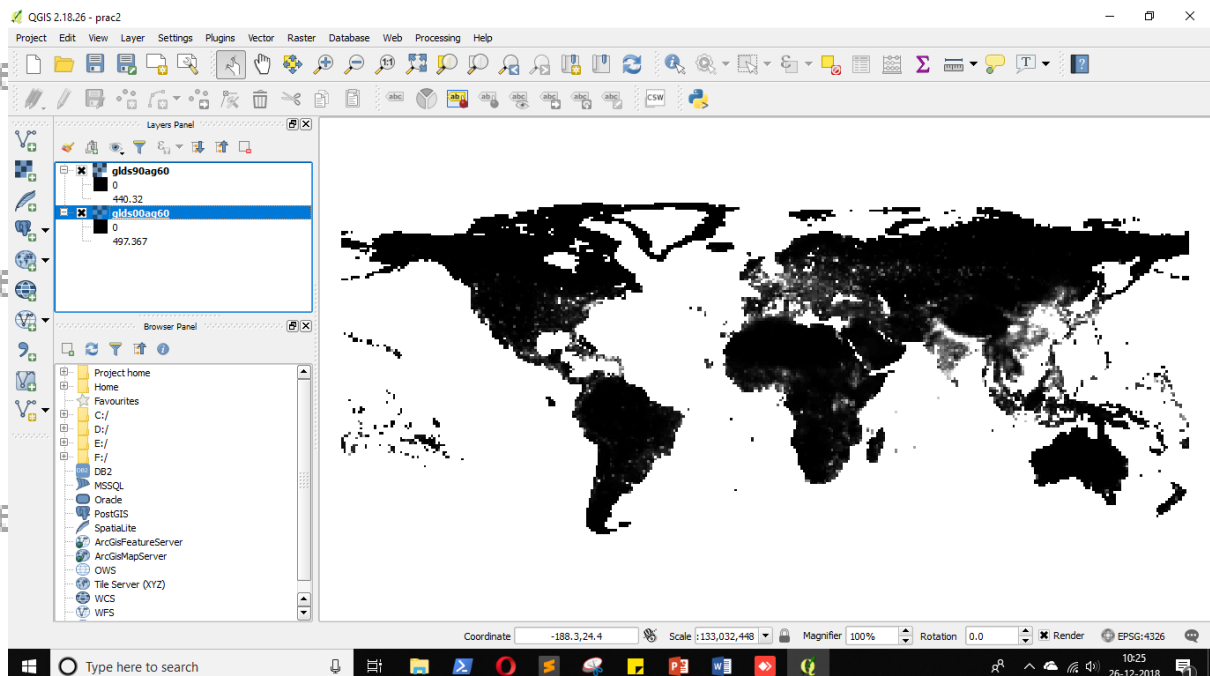
Once you click on “Open”, “Coordinate Reference System Selector” menu will appear.

Select “WGS 84 EPSG:4326” from “Coordinate reference system of the world” window and click “OK”.

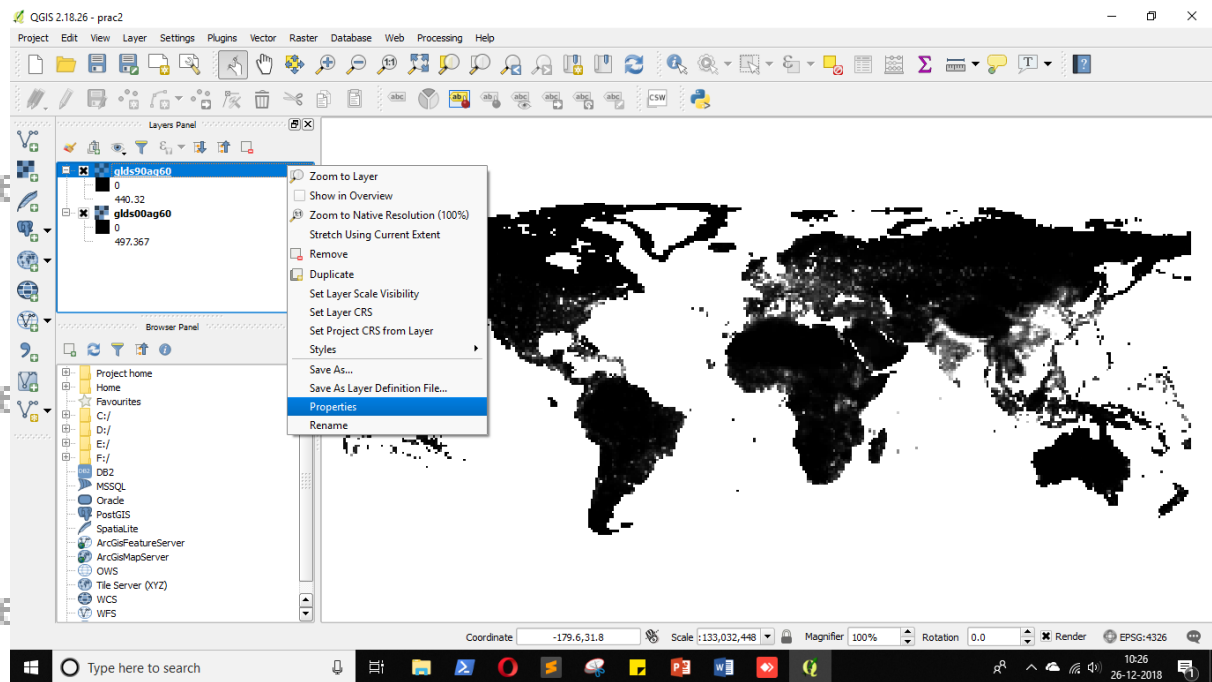




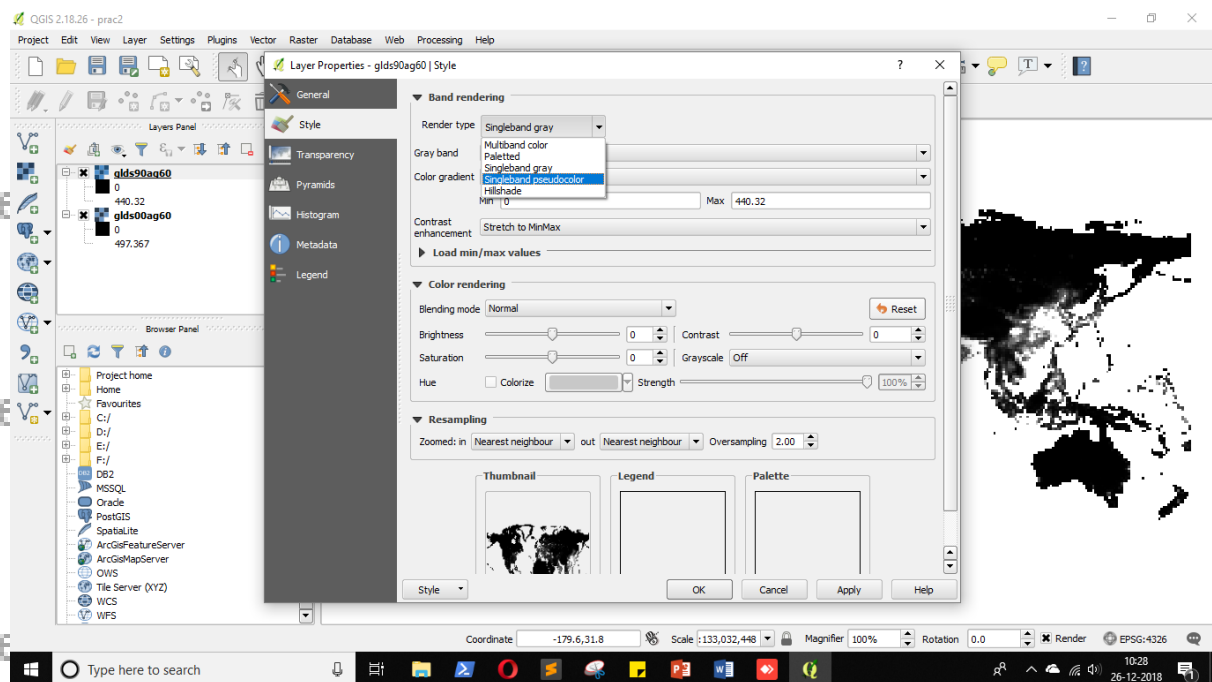
Repeat above steps for “glds90ag60.asc” file from
“gl_gpww3_pdens_90_ascii_one” folder.



Right click on “glds90ag60” layer and select “properties”.



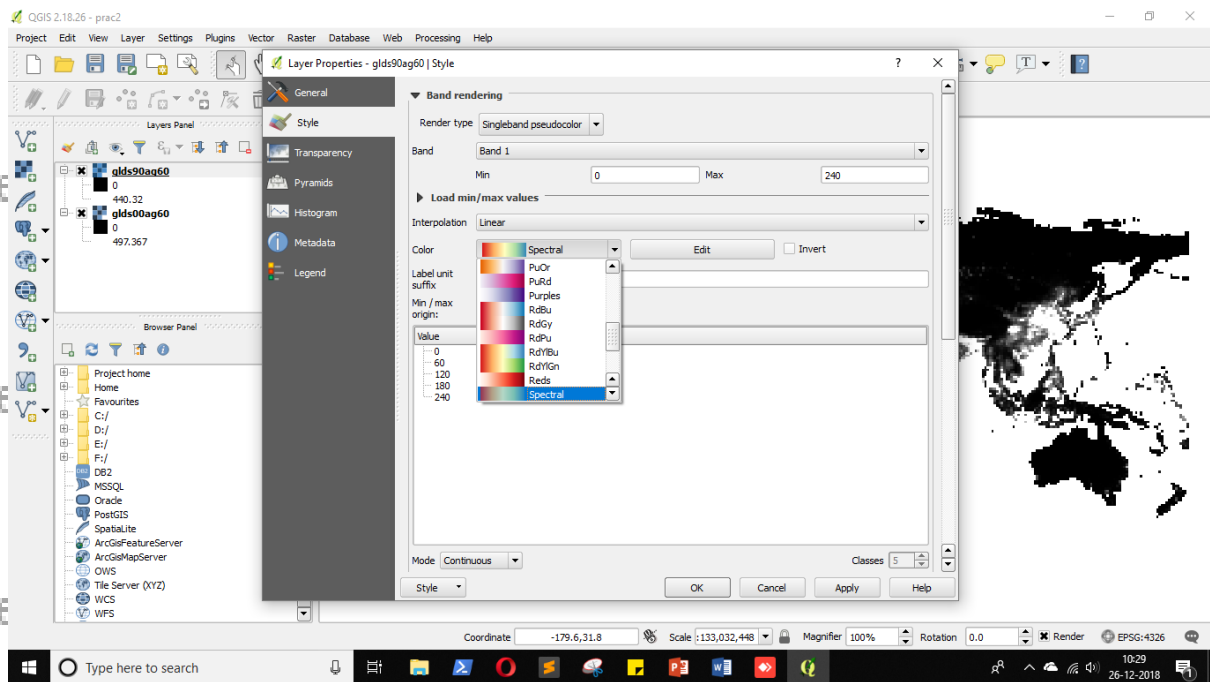
Select “style”. In “Render type” select “Singleband pseudocolor”.



Set 0 in min textbox and 240 in max textbox.

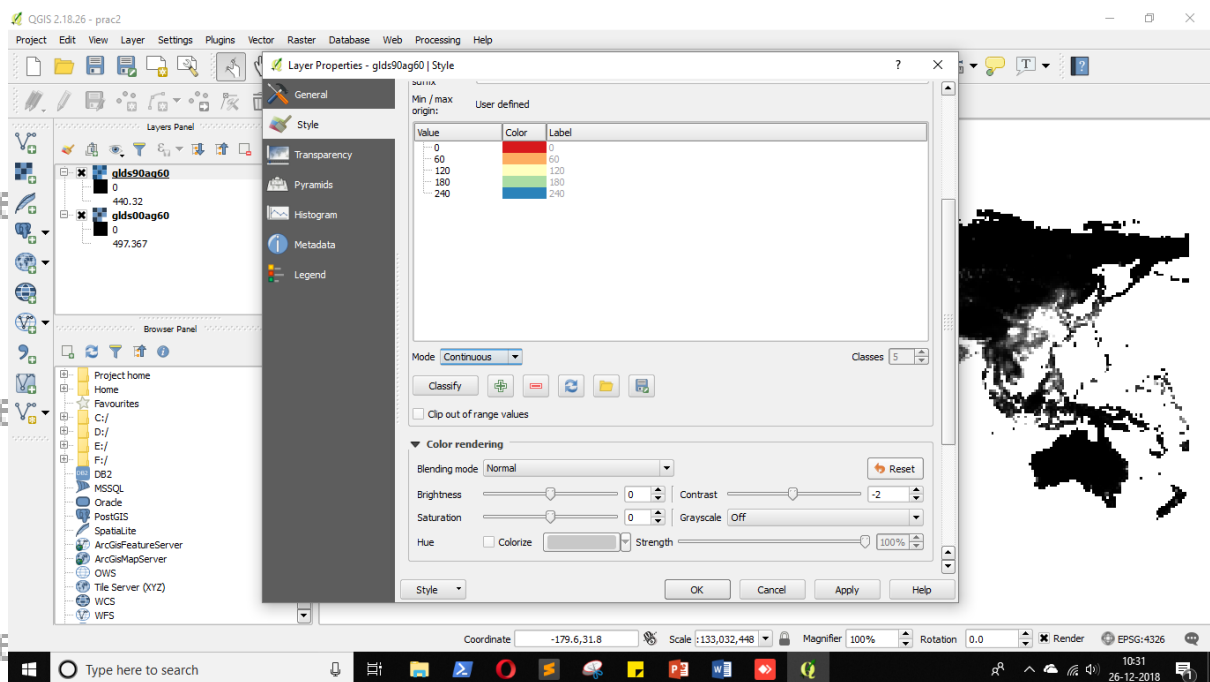
In “Interpolation” select “Linear”.

In “color” menu select “Spectral”.

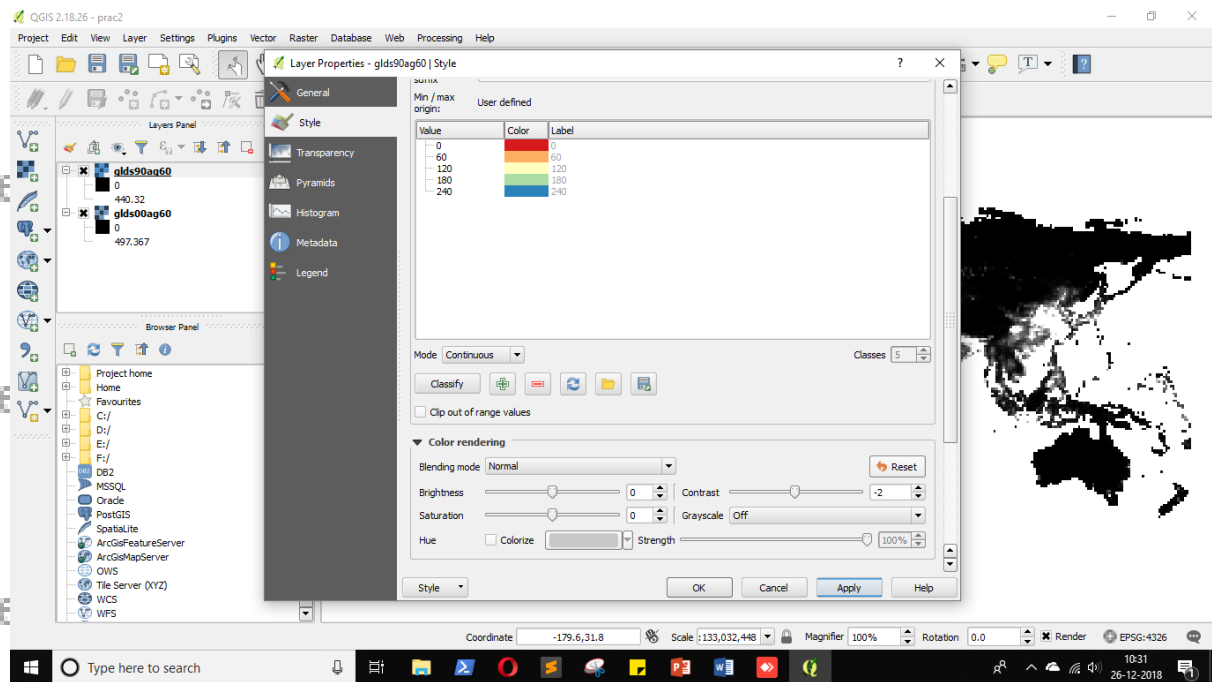


Scroll down you will get the options to edit the color origin values.

We can add or remove the band

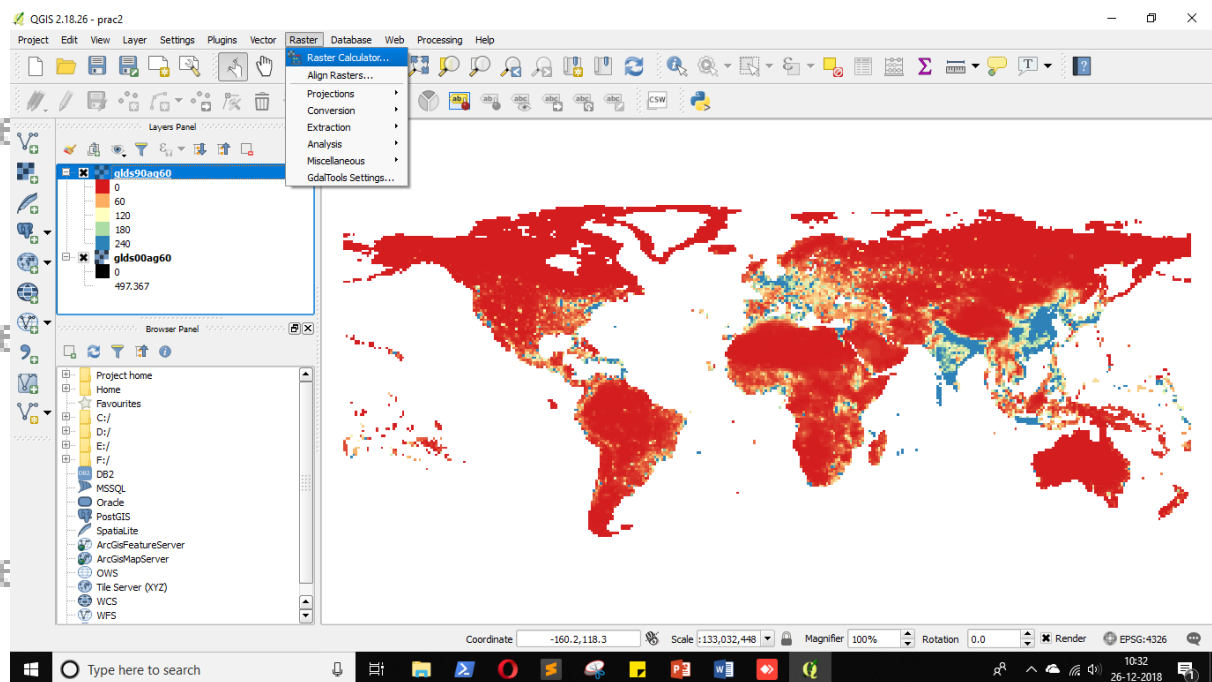


Click on “Apply” and then “OK”.



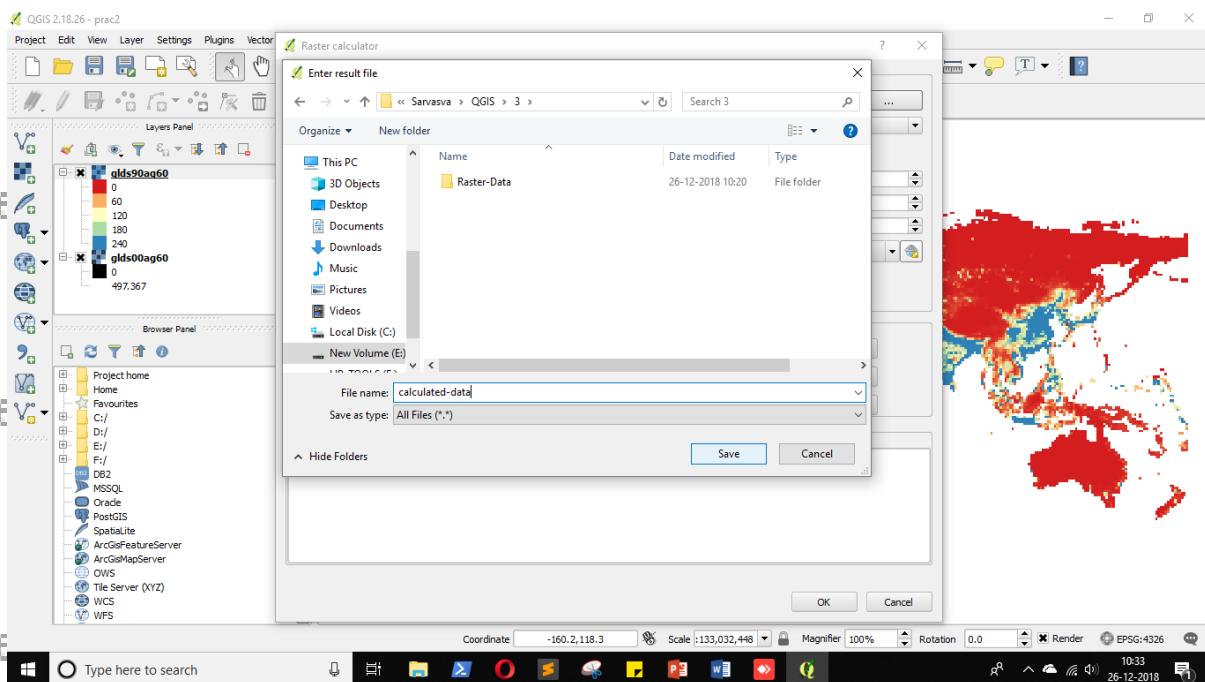
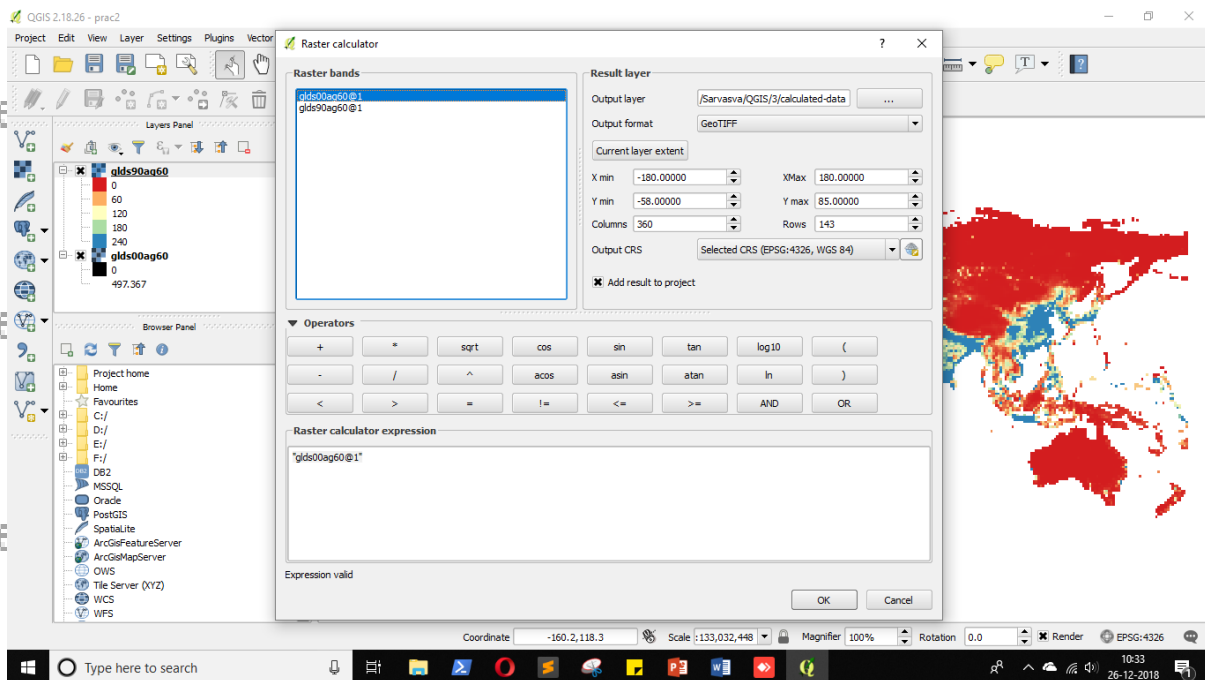
Go to

Raster > Raster Calculator...



Click on  button, menu will appear select the path where you want to save output.

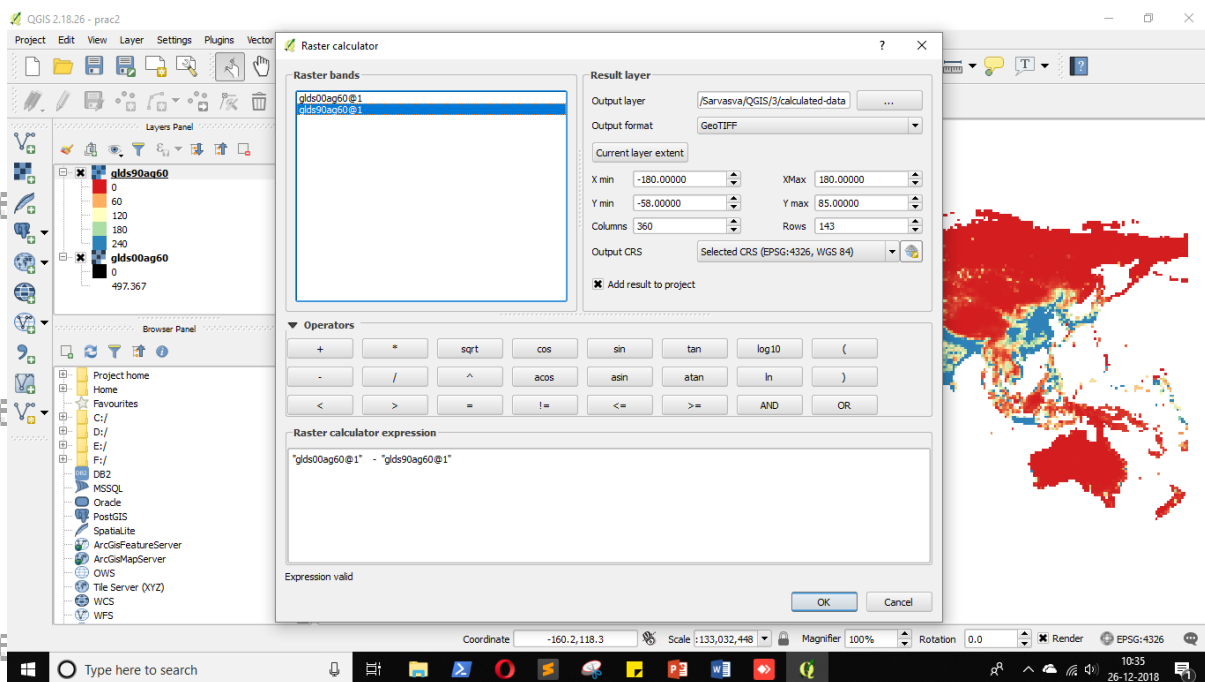
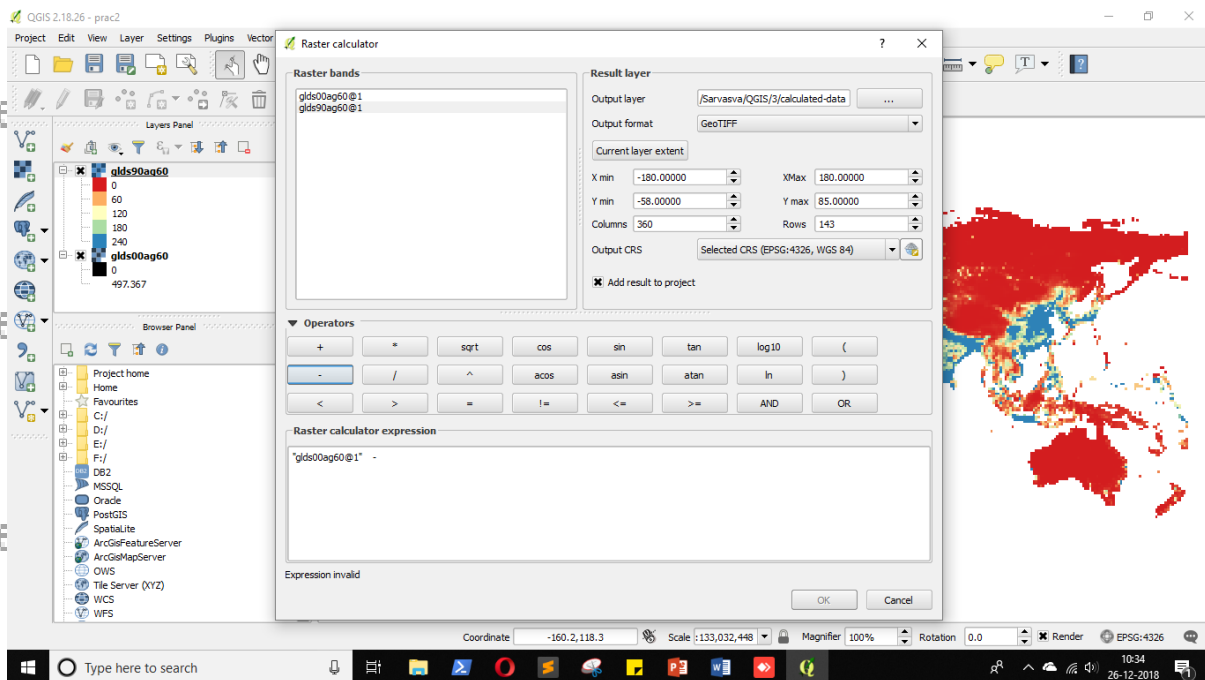
Enter name for output file and click on “Save”.



Double click on “glds00ag60@1” it will appear in “Raster calculator expression” and the click on  to add minus sign or you can just type.

And then double click on “glds90ag60@1”.

Our expression will be > “glds00ag60@1” - “glds90ag60@1”

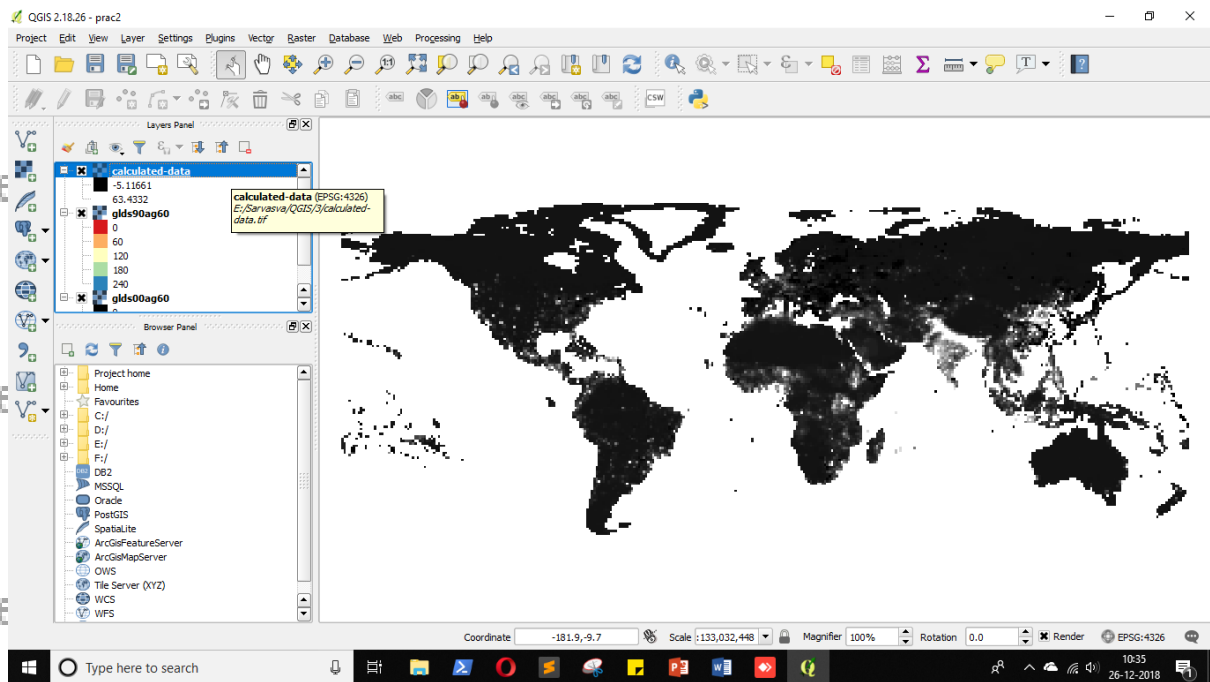


Click on “OK”.

It will create new layer.

Select that layer “Right click” on it and select properties.

In properties select style tab.

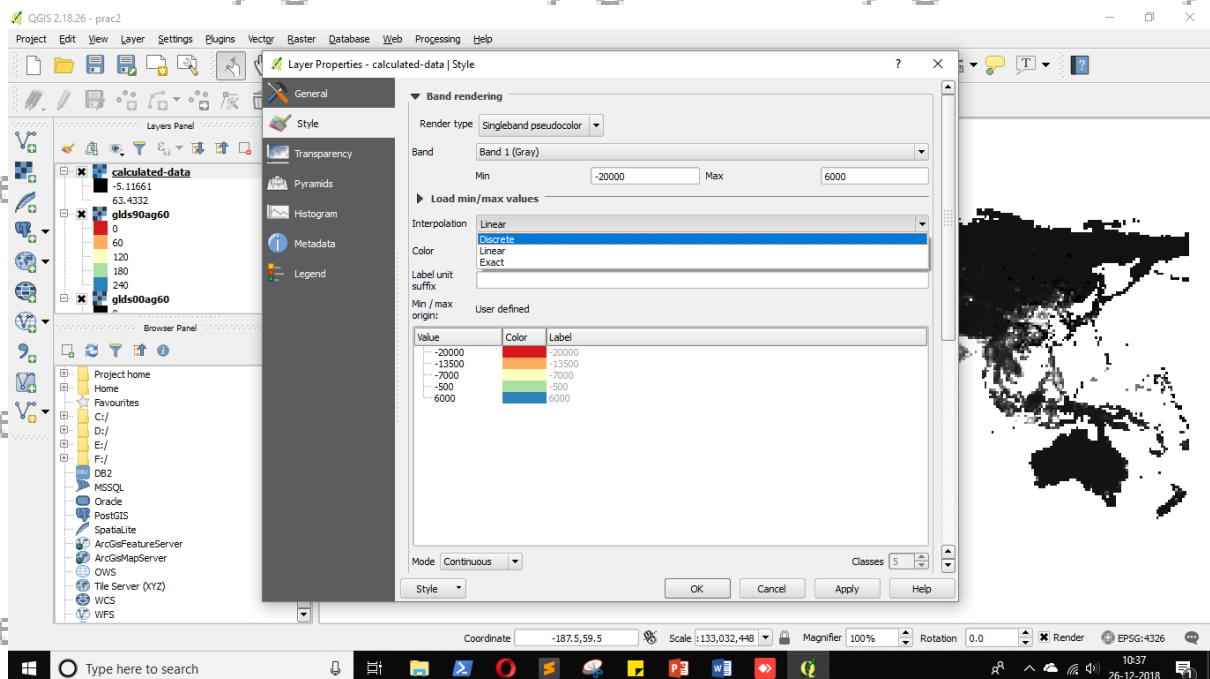


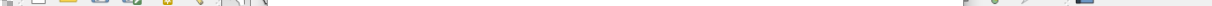
In “Render type” select “Singleband pseudocolor”.

Set -20000 in min textbox and 6000 in max textbox.

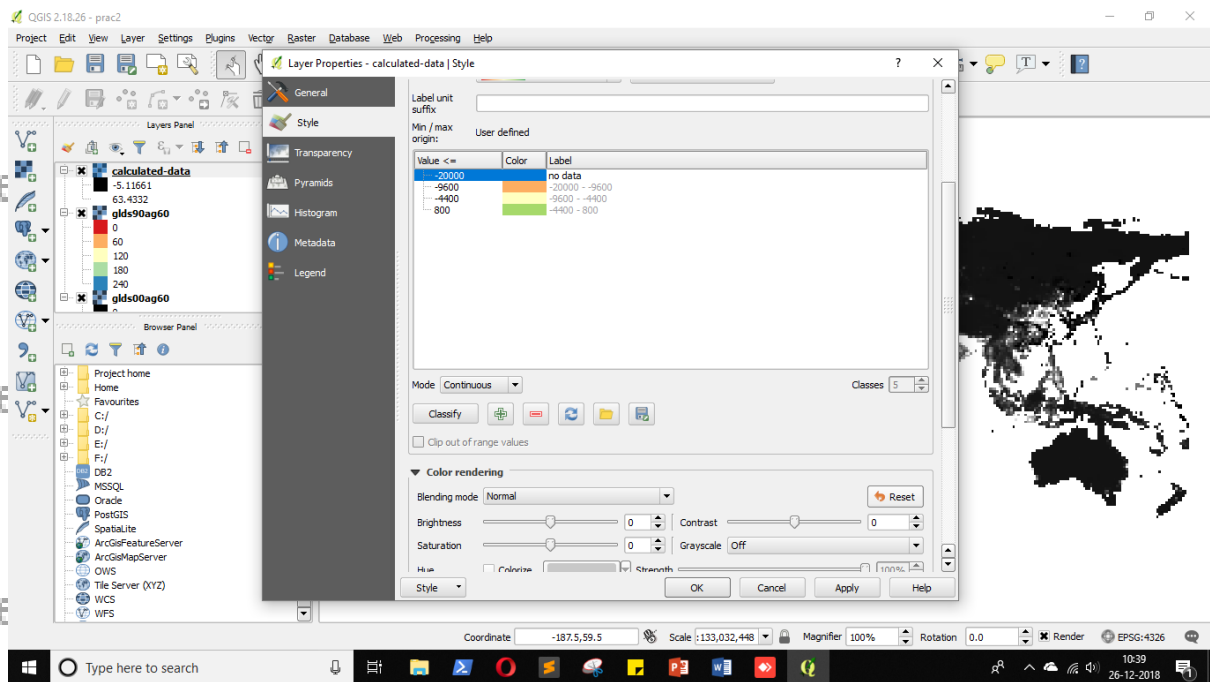
In “Interpolation” select “Discrete”.

In “color” menu select “Spectral”.

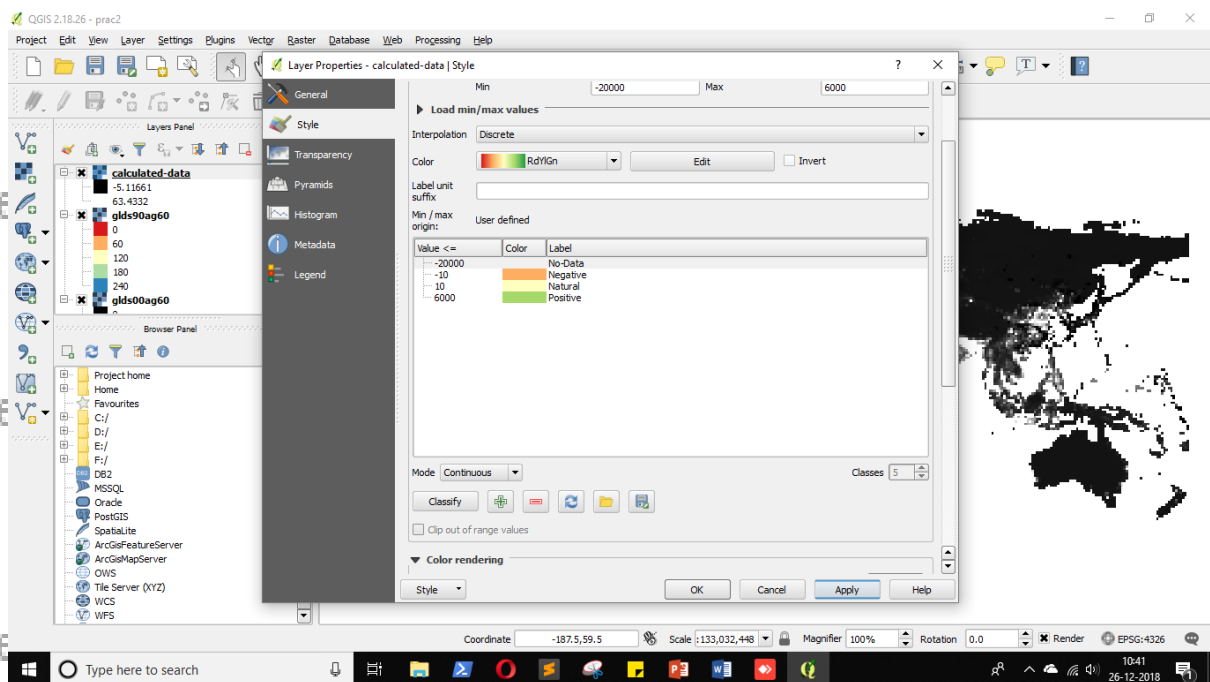




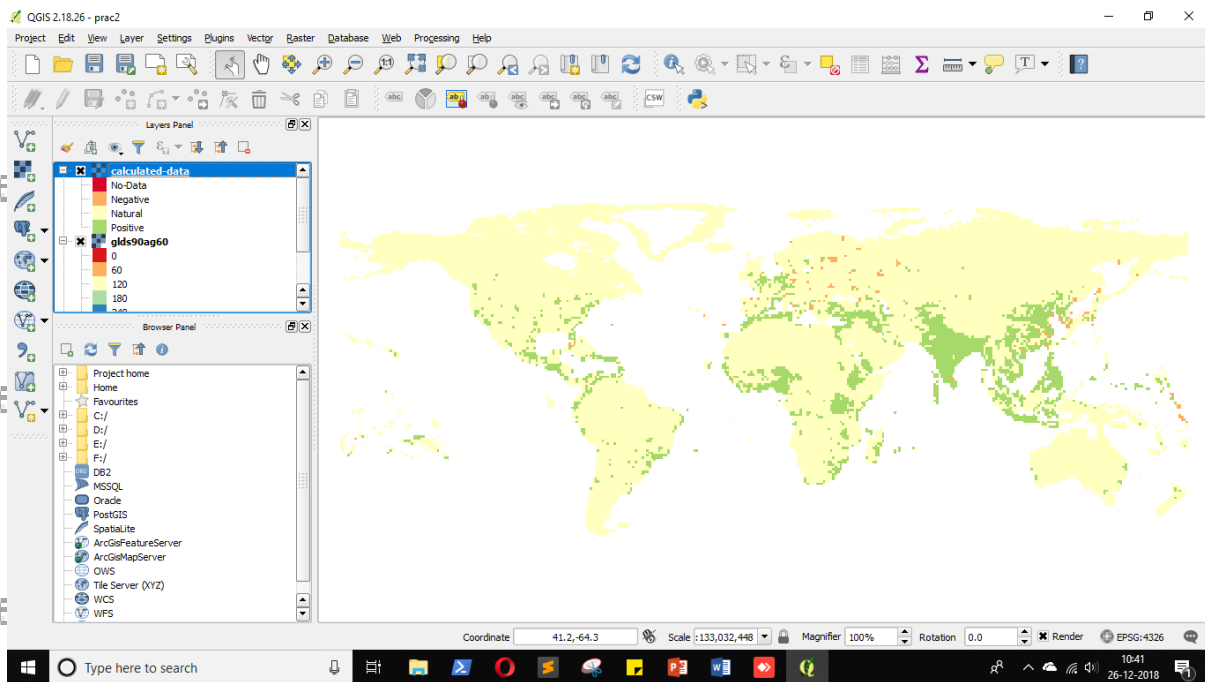
It will be easy to understand if we set values ourselves



We are giving the following values.



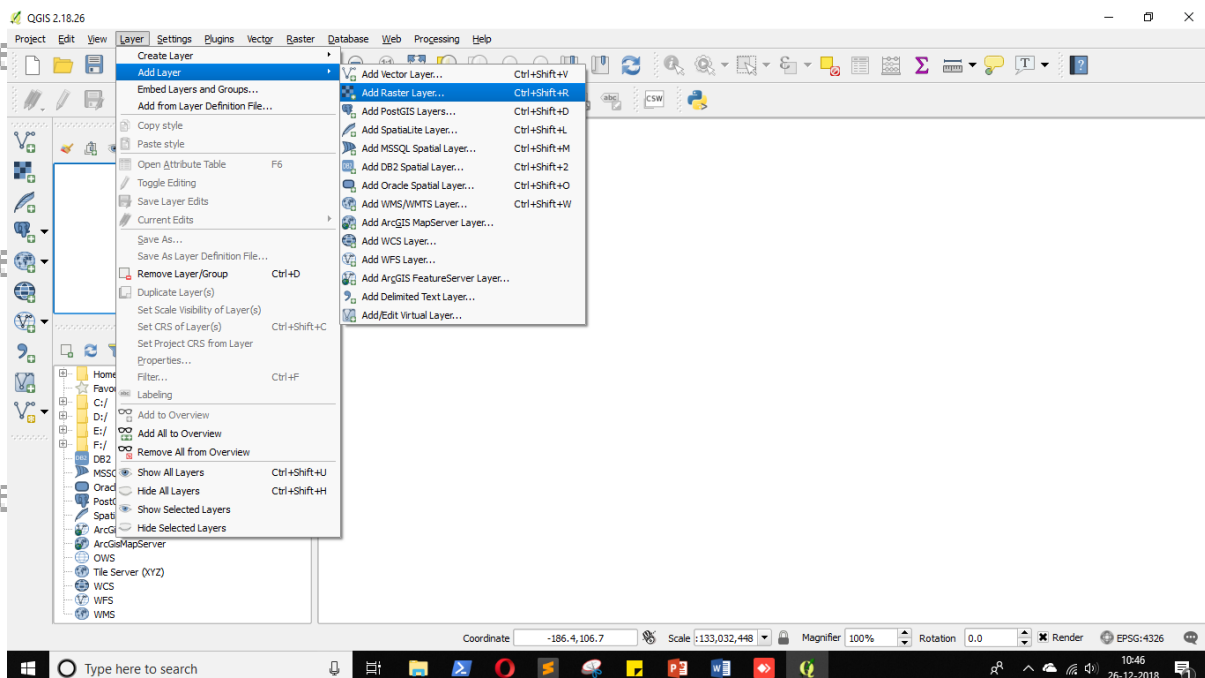
Click on “Apply” and the “OK”.



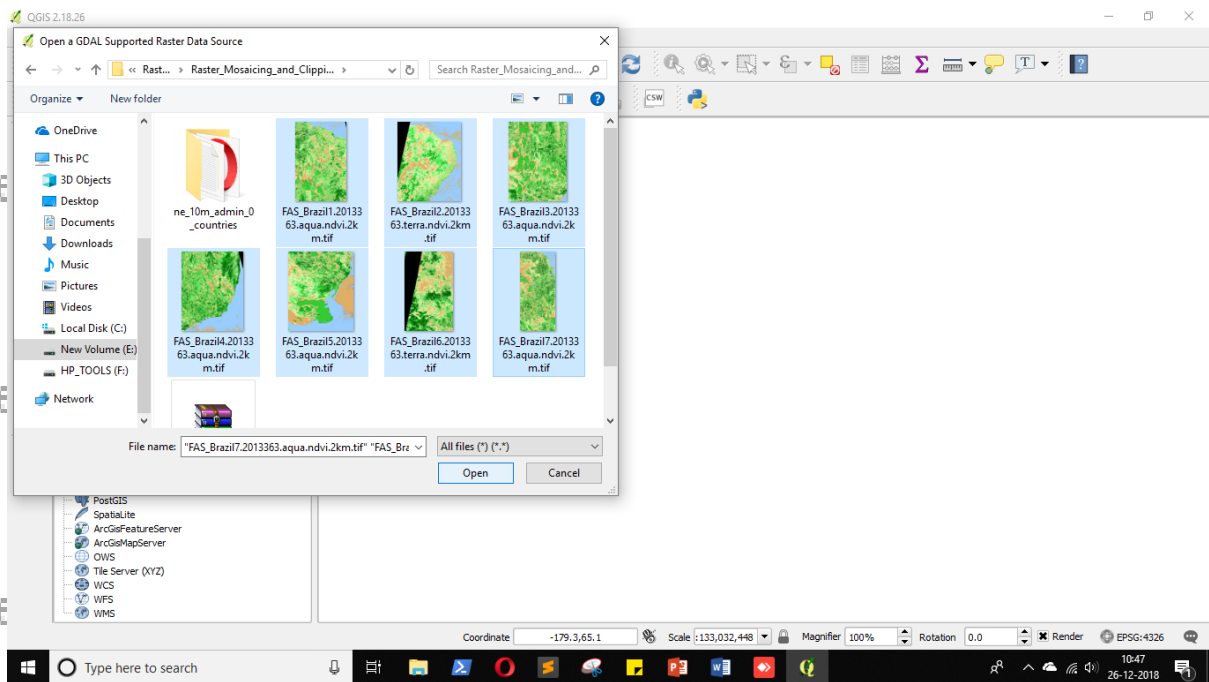
Mosaicking and Clipping

Go to

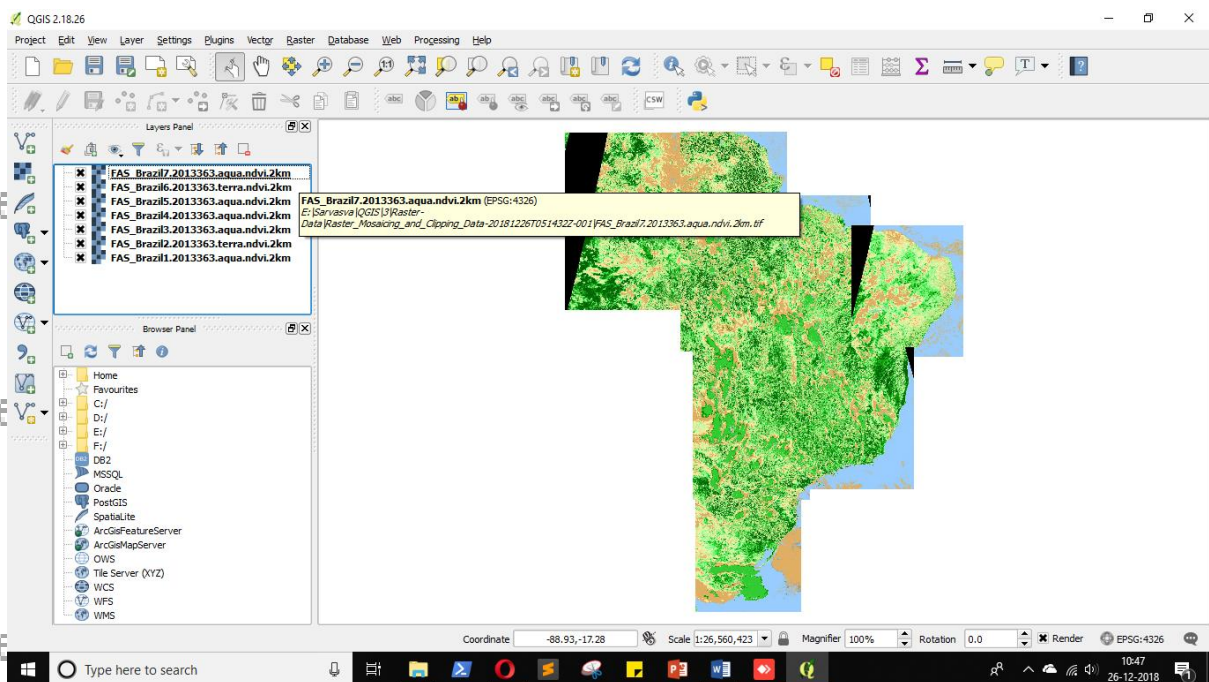
Layer > Add Layer > Add Raster Layer..

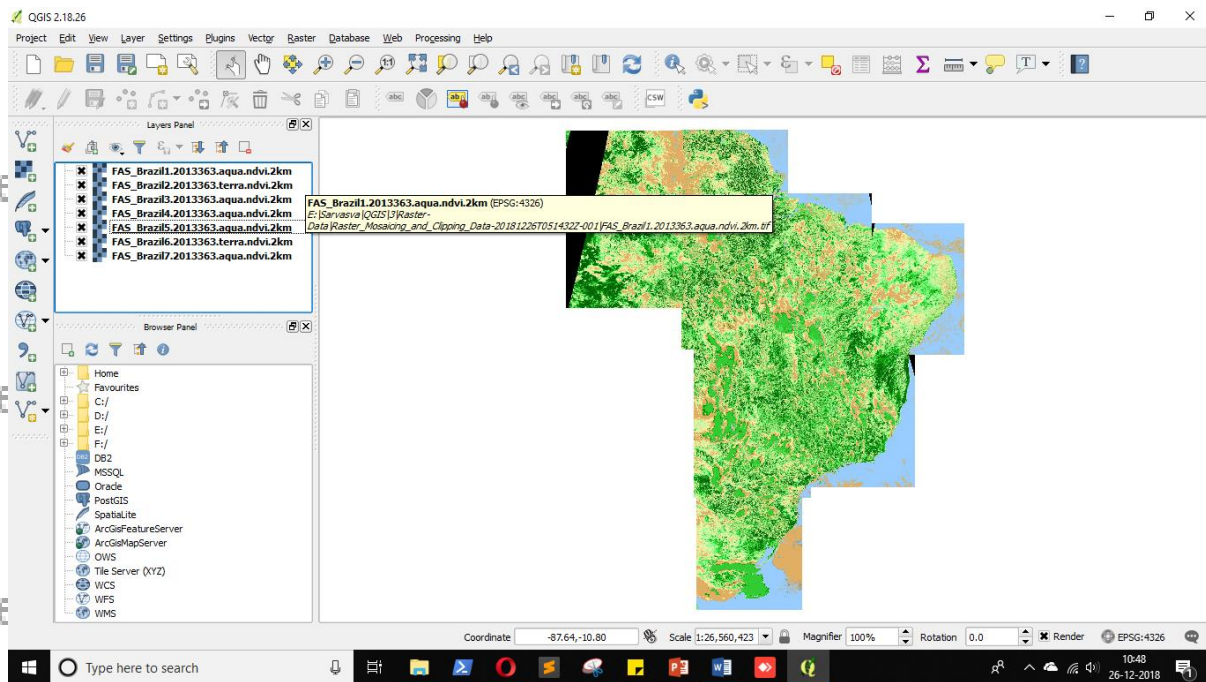


Select all the 7 “.tif” files as shown in bellow.



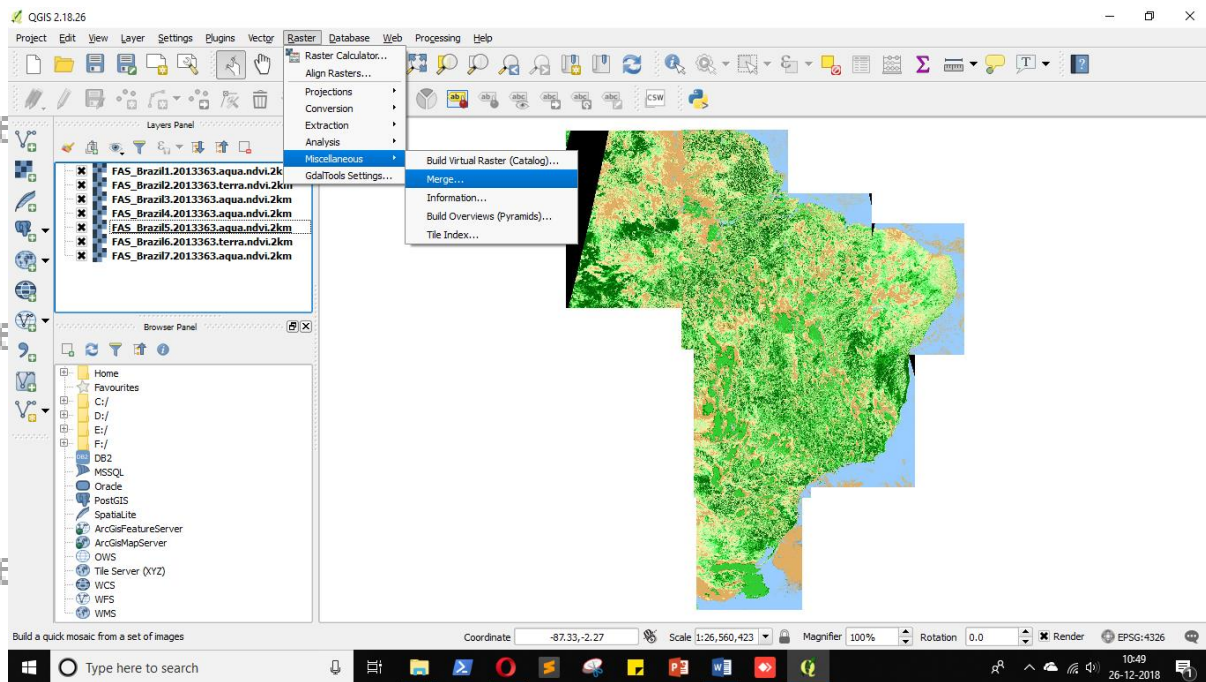
If layers are not in order bring them in order.





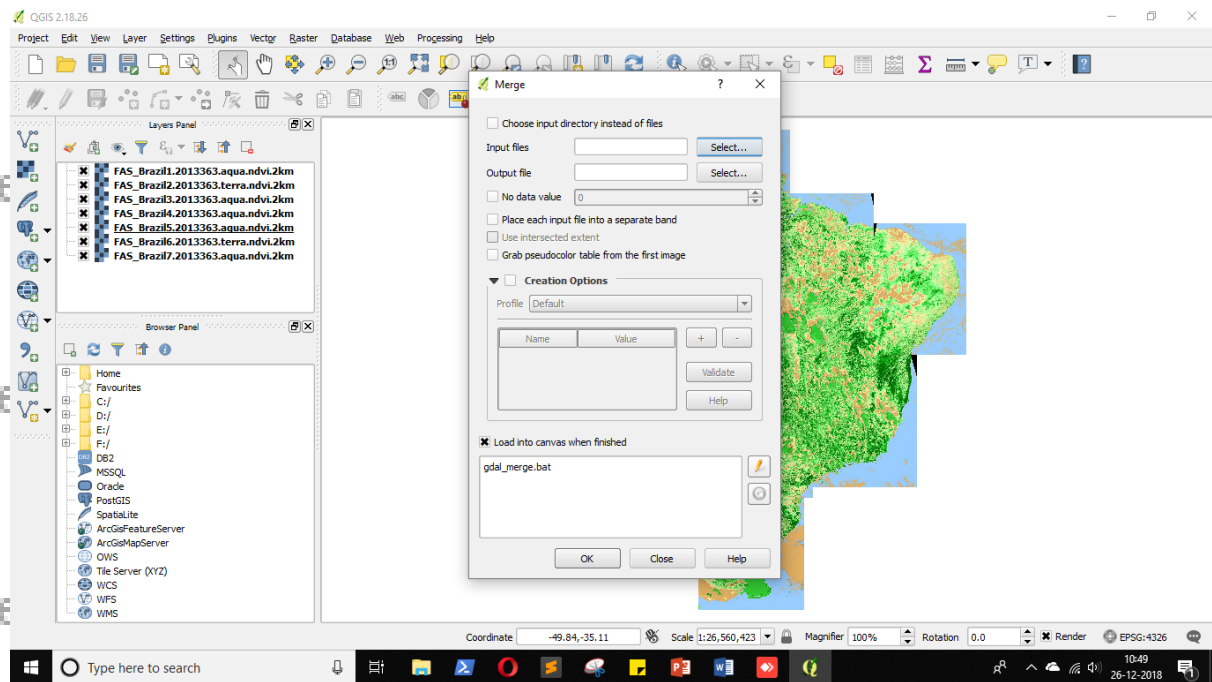
Go to

Raster > Miscellaneous > Merge...

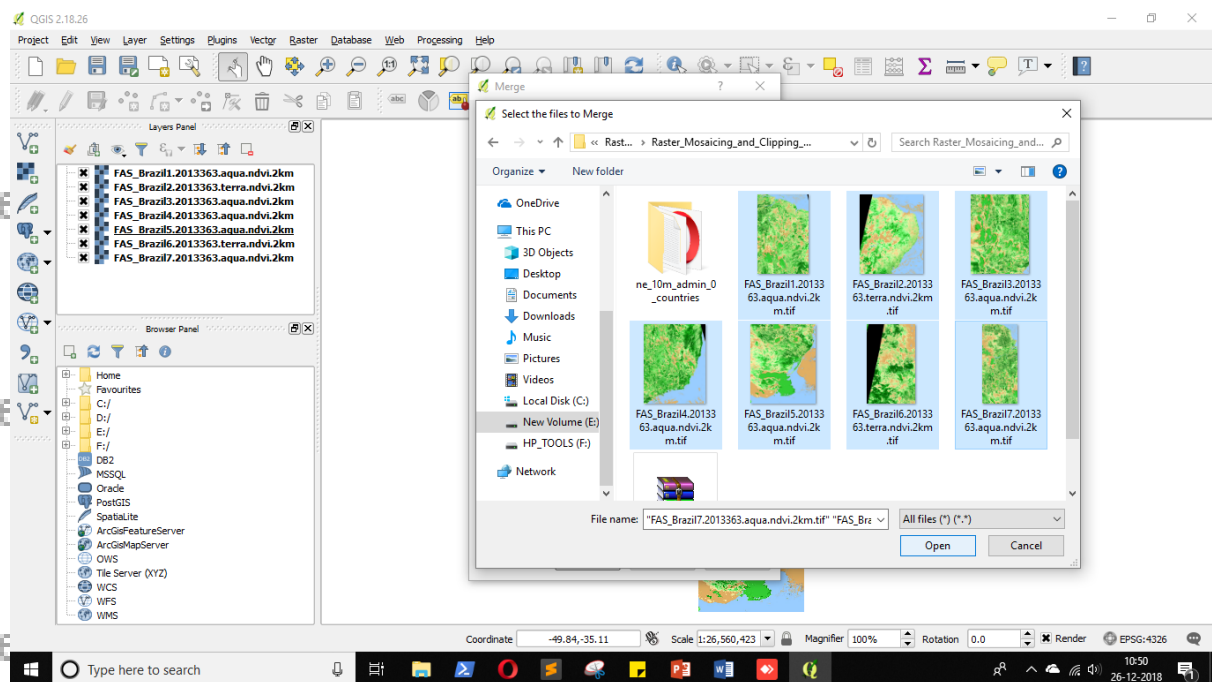


In merge menu

In “Input files” we have to select all the seven layers by clicking “Select...” button.

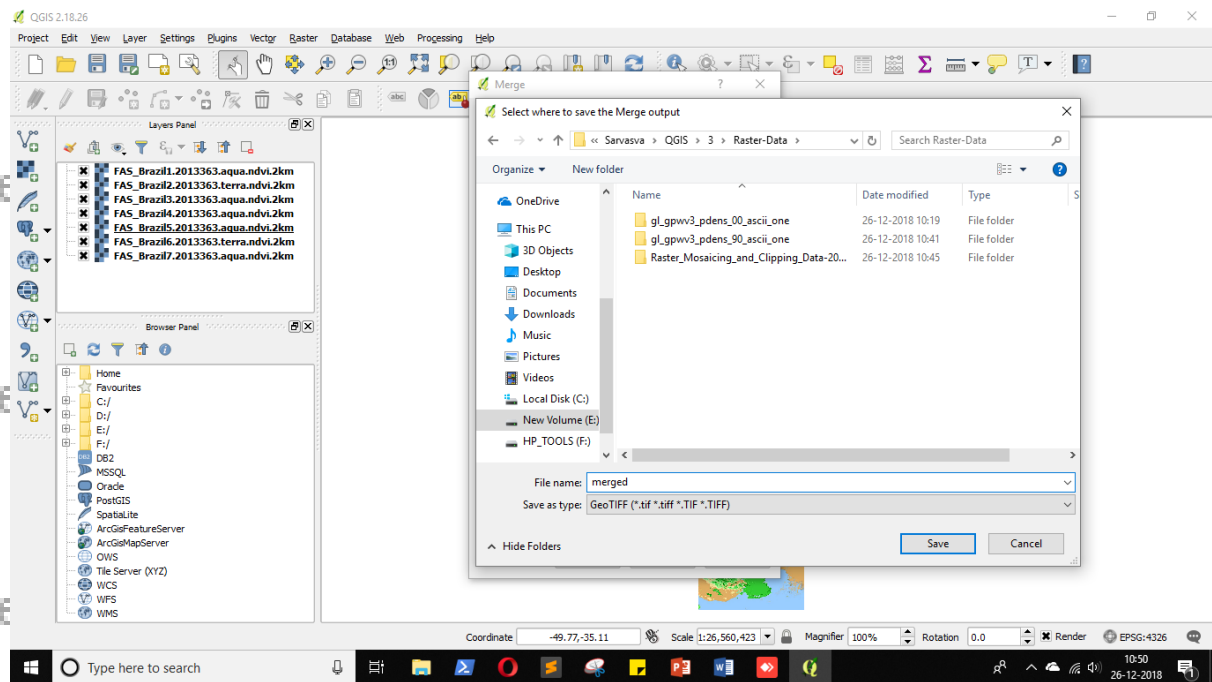


Select all seven “.tif” files and click on “Open”.

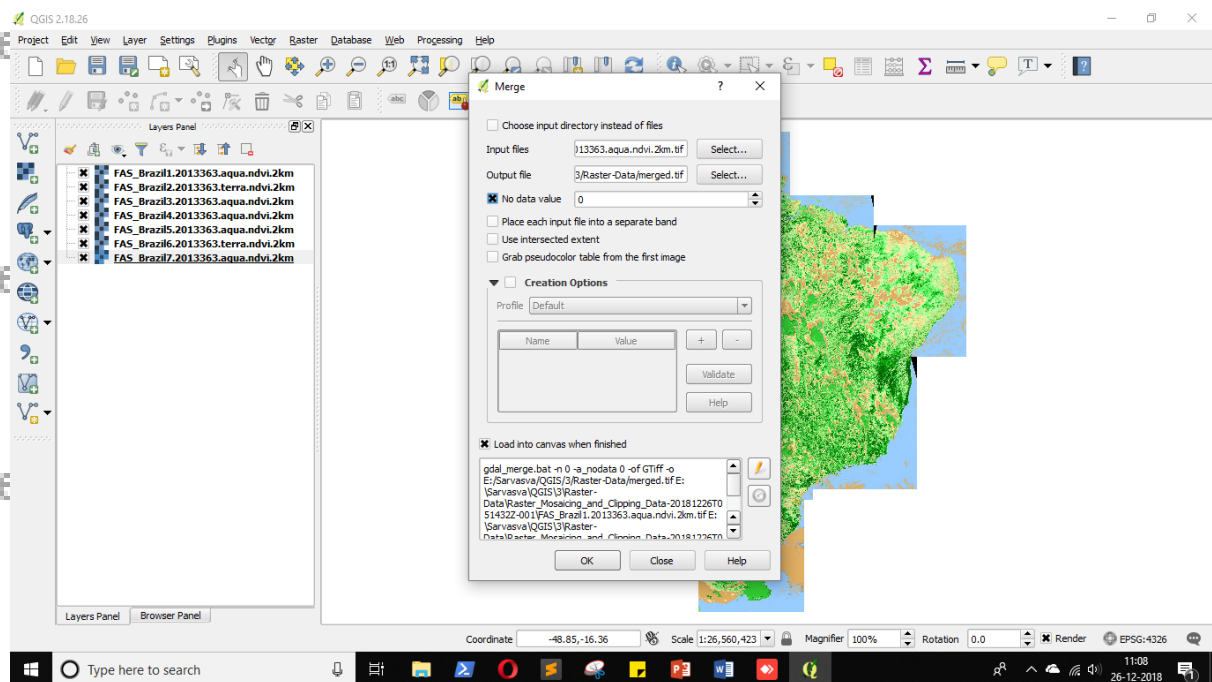


In “Output file” we have to enter the name and path for the output file.

Click on “Select...”



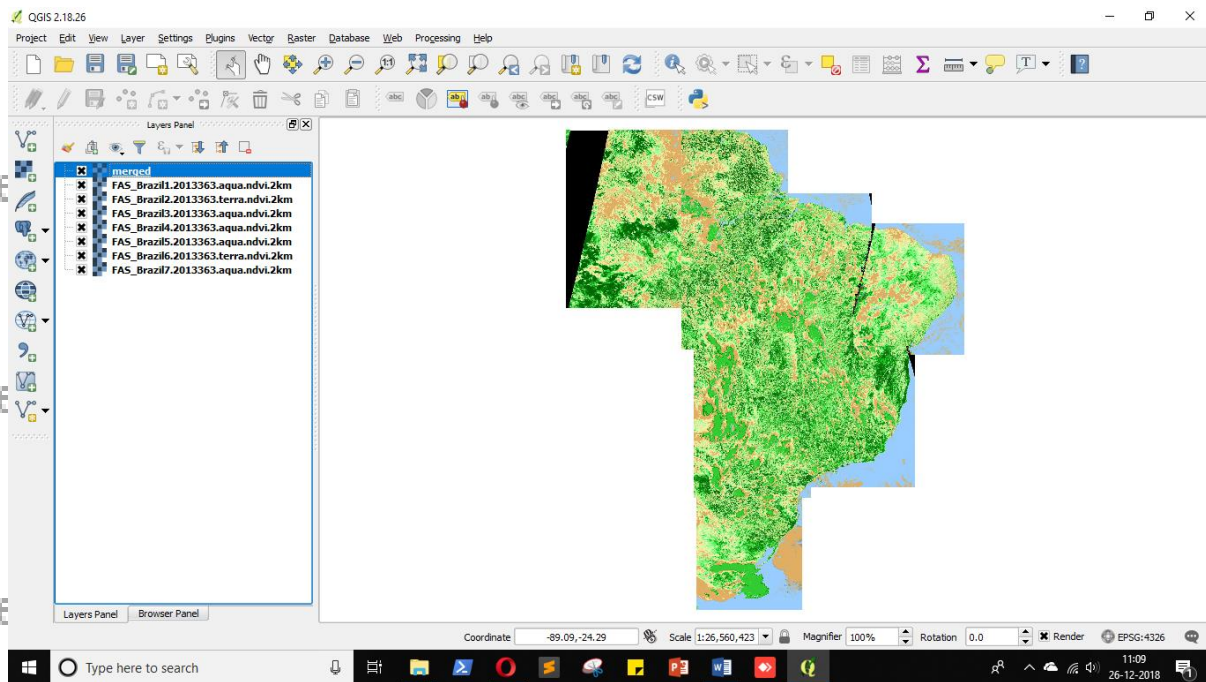
Enter file name and click on “Save”.



Select “No data value” check box.

Click on “OK”.

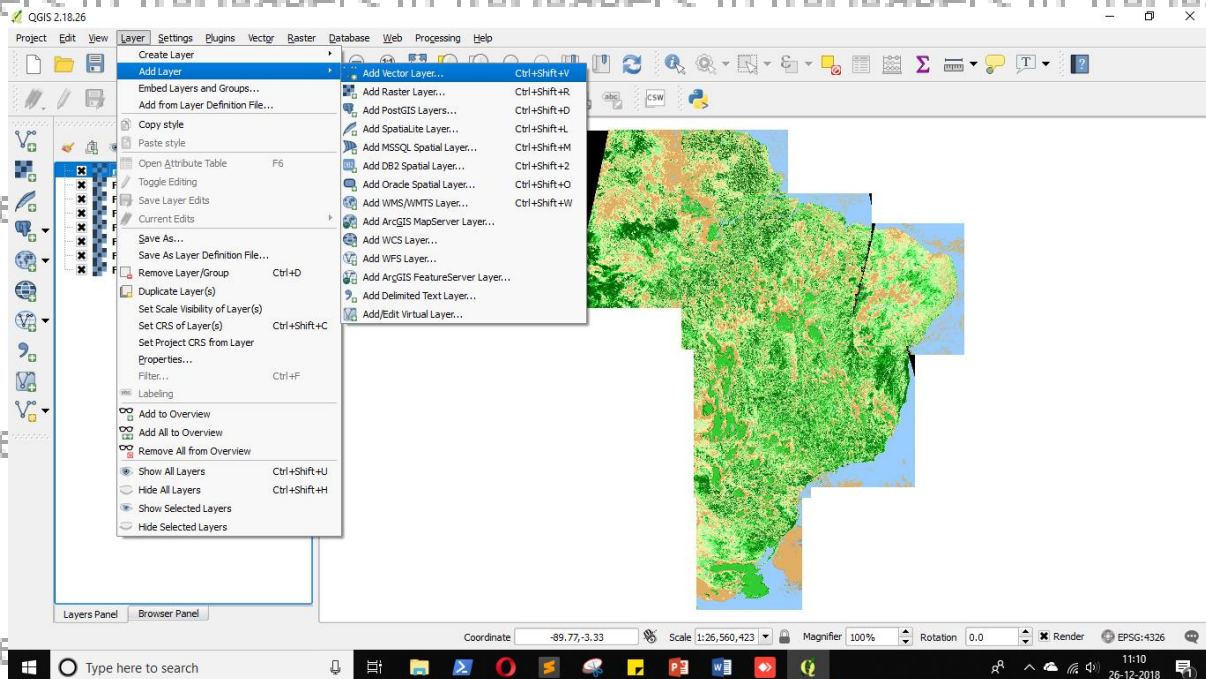
merged layer will appear.



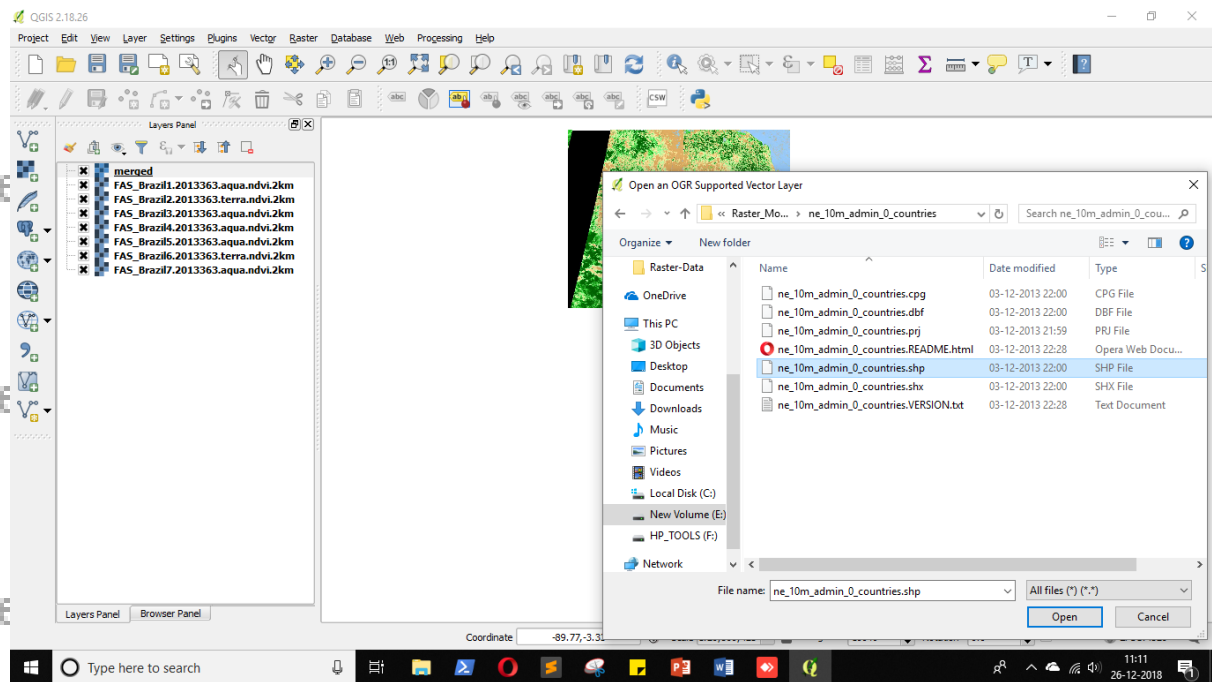
We have to add Brazil's vector layer on it so that we can perform clipping.

Go to.

Layer > Add Layer > Add Vector Layer...

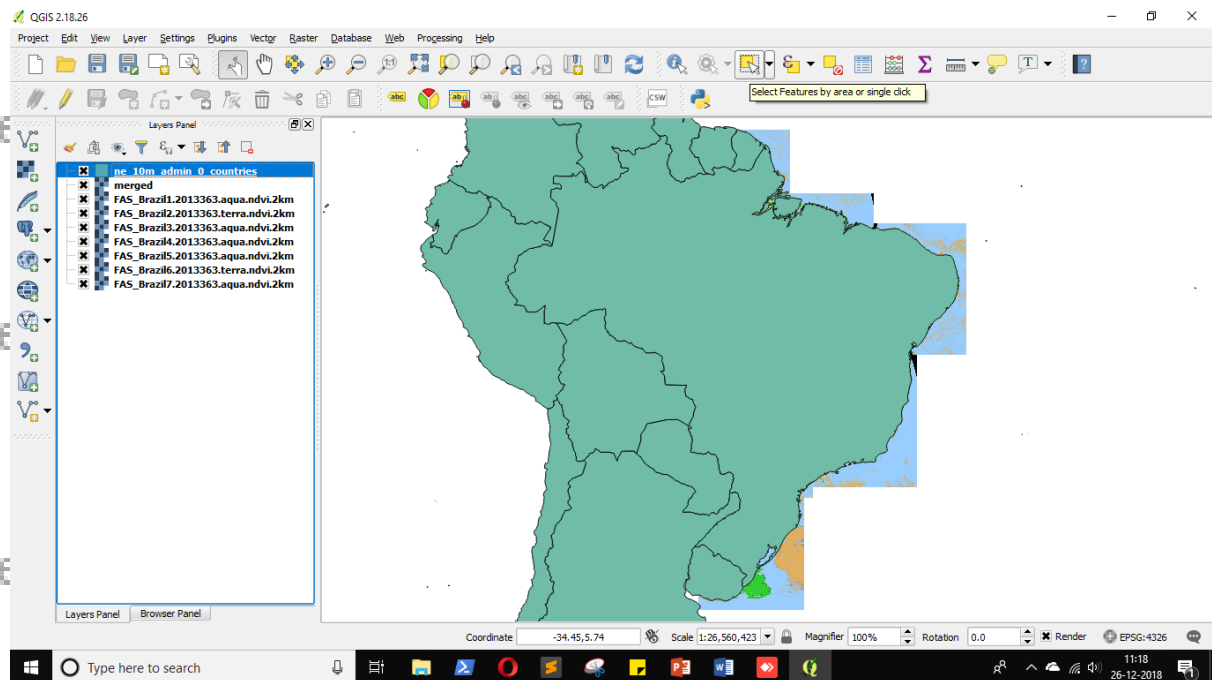


Select "ne_10m_admin_0_countries.shp" file and click on "Open".

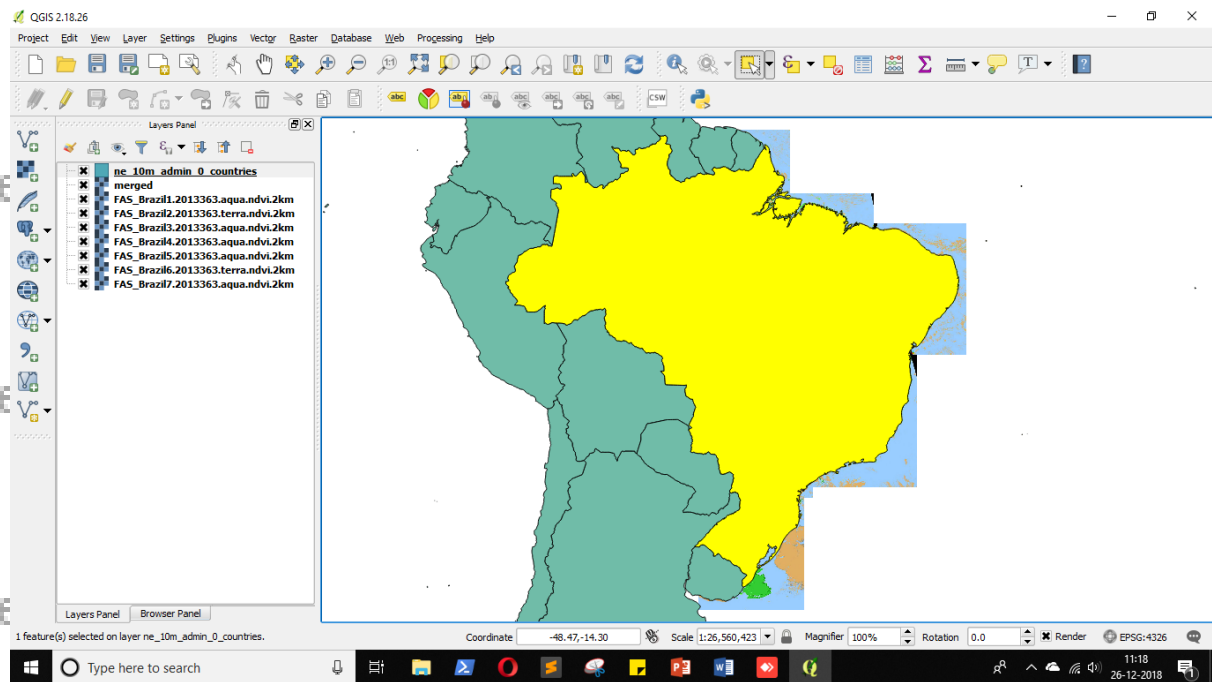


From whole map we have to get Brazil as a different layer.

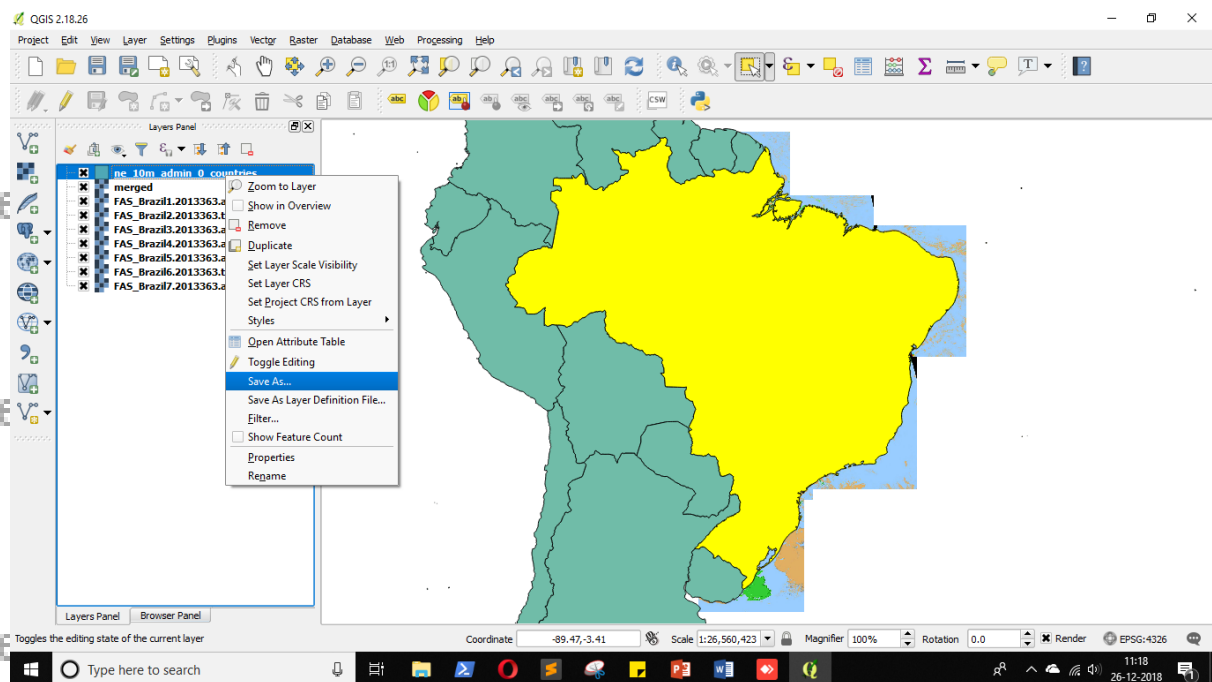
To do that click on  “Select Features by area or single click” button.



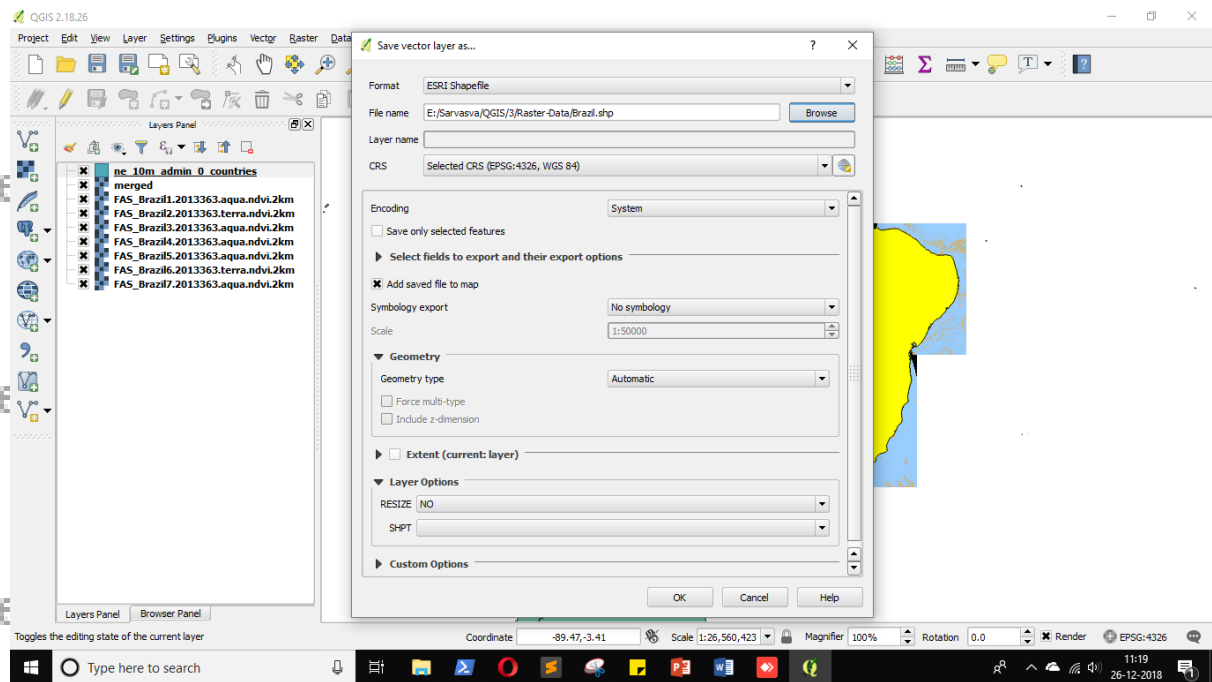
Click on “Brazil” and right click on the “ne_10m_admin_0_countries” layer.



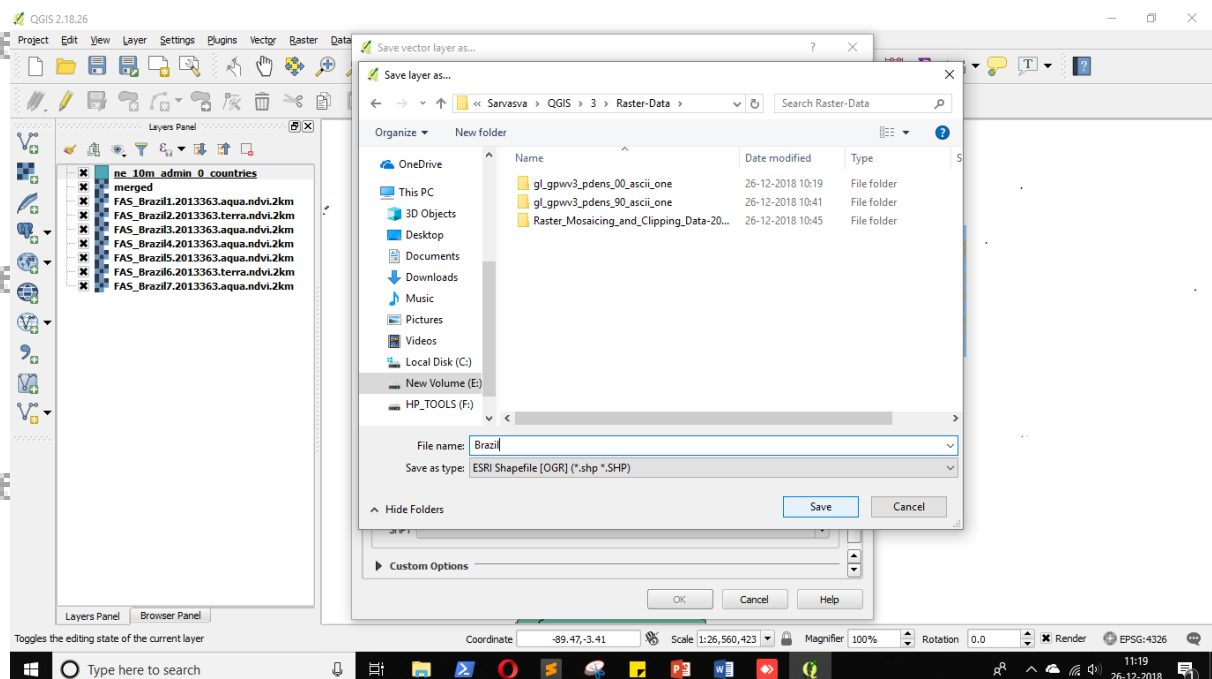
Select "Save As..."



Give path and name to output file by clicking on **Browse** button. **"Browse"**

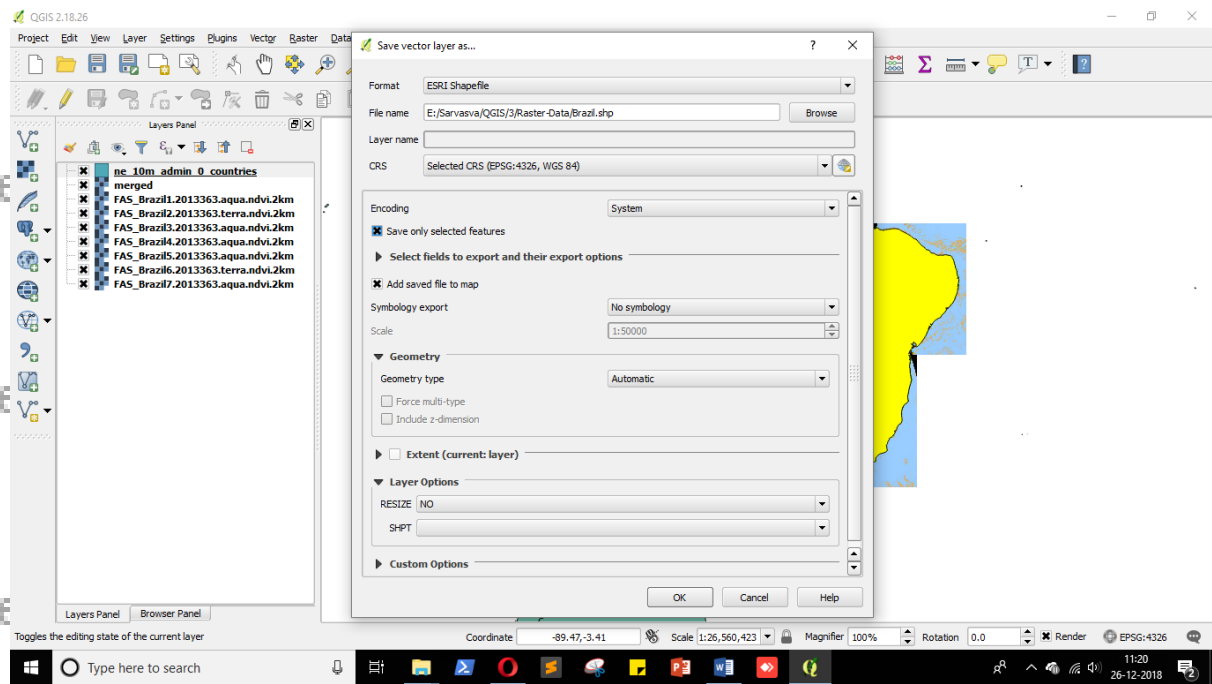


Enter name for file and click on “Save”.

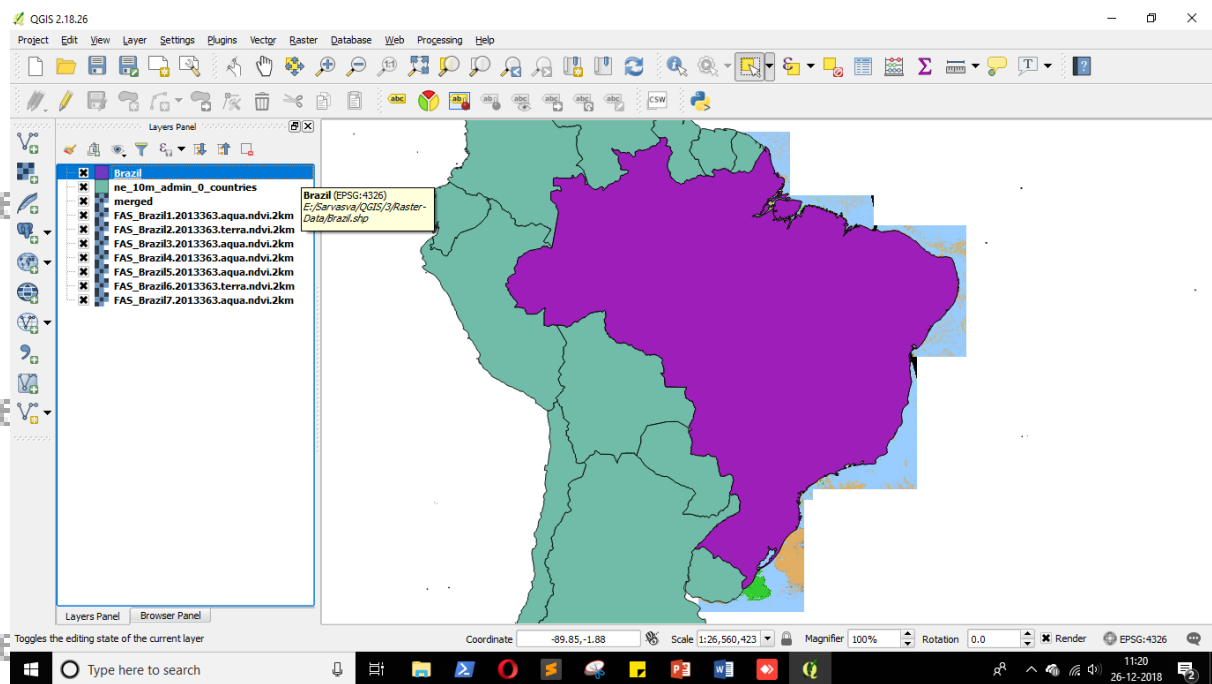


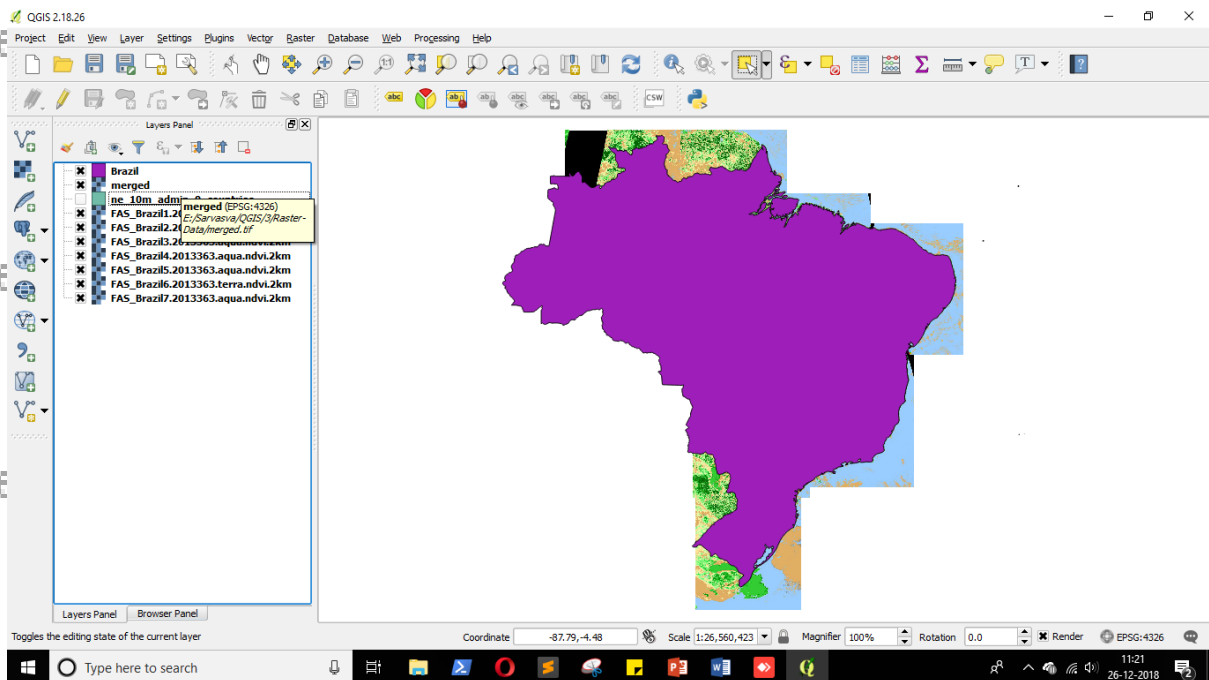
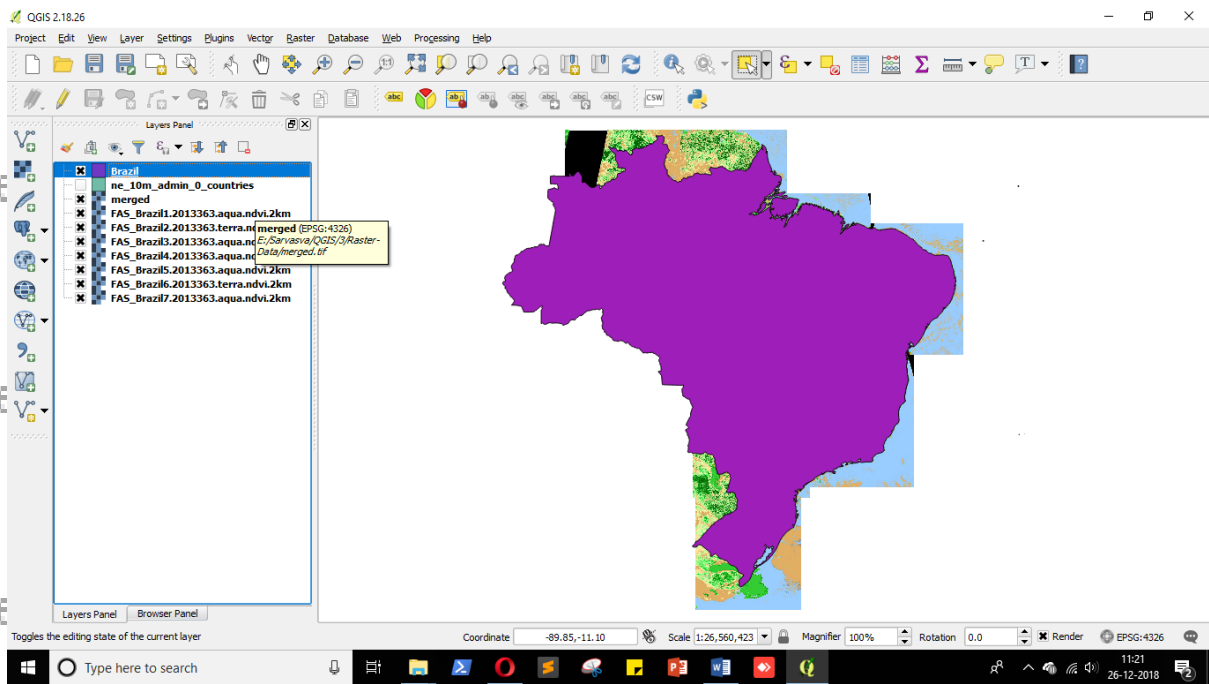
Click on “Save only selected features” checkbox.

And click on “OK”.

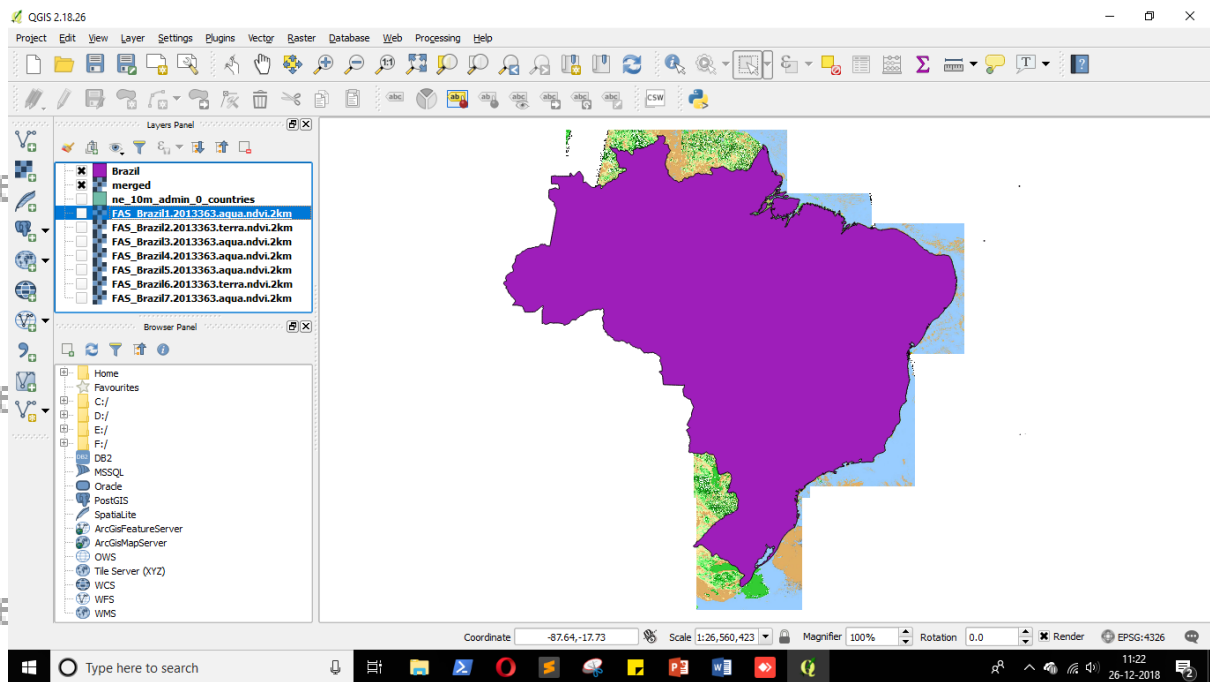


Separate Brazil will appear in Layer Panel.



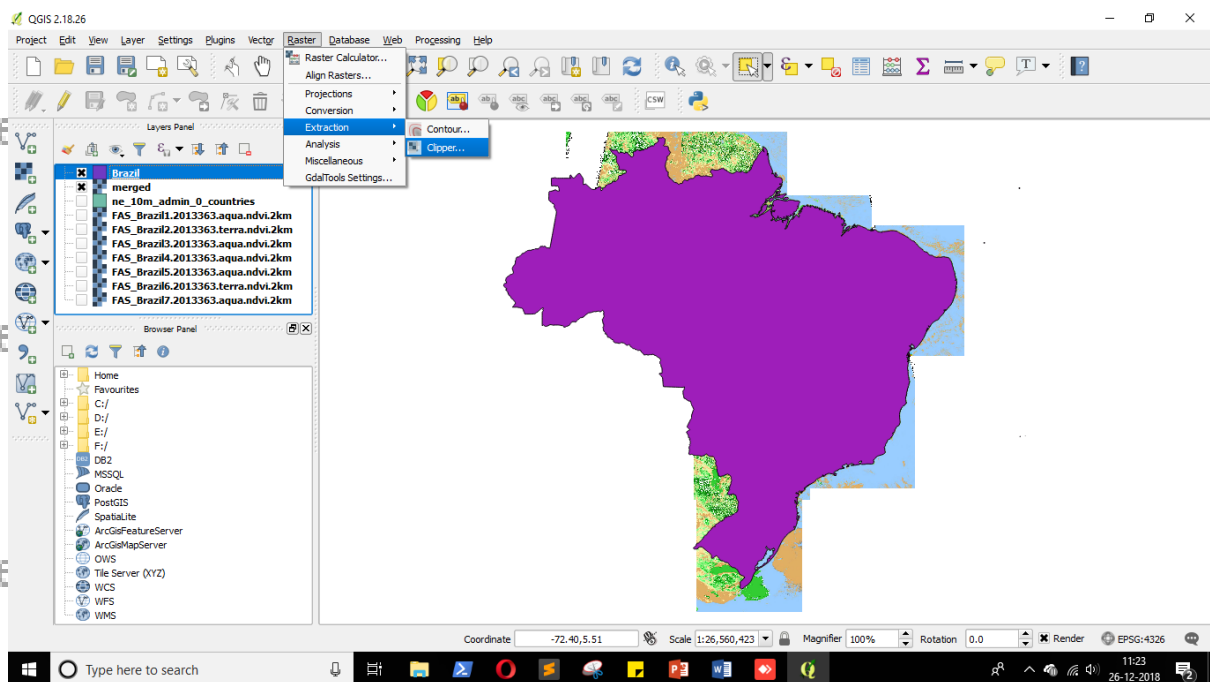


You can select only “merge” and “Brazil” layers.

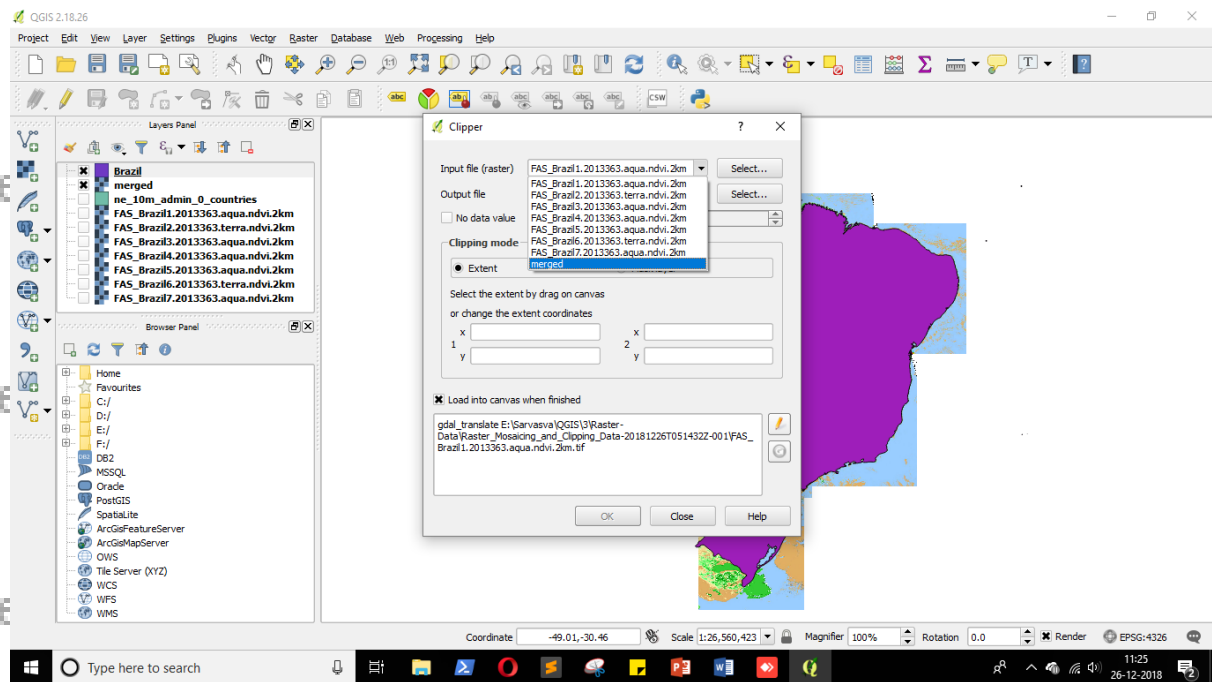


Go to:

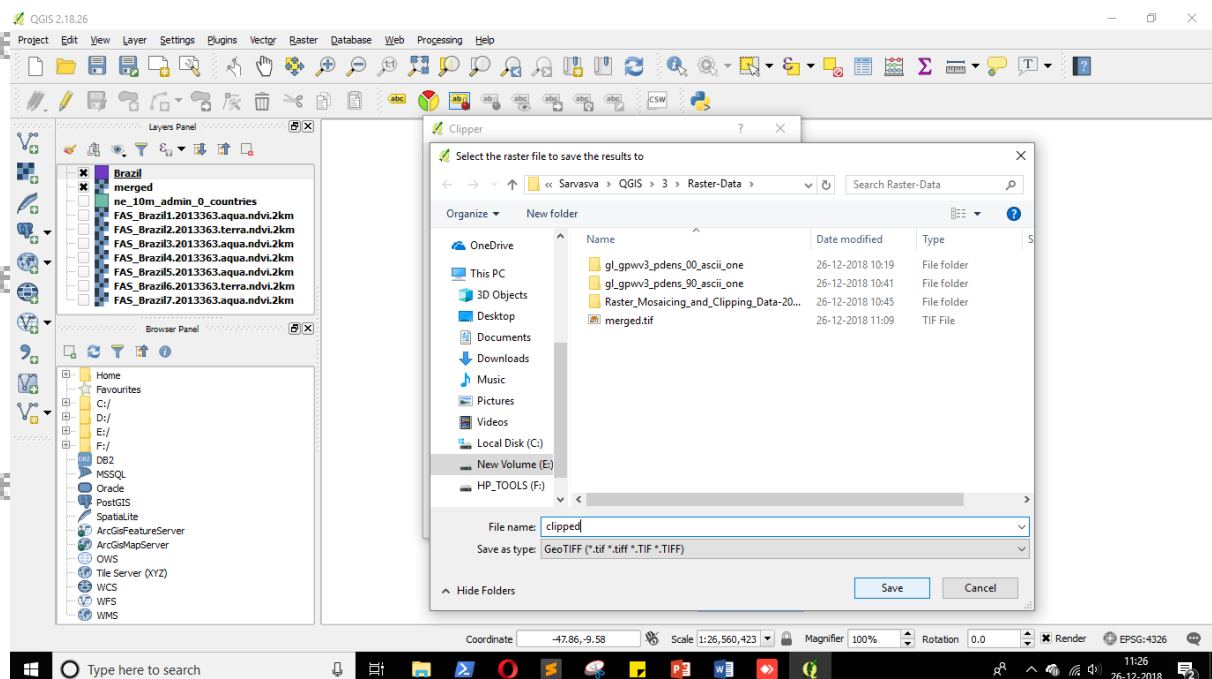
Raster > Extraction > Clipper...



In “Input File(raster)” select “merge” layer

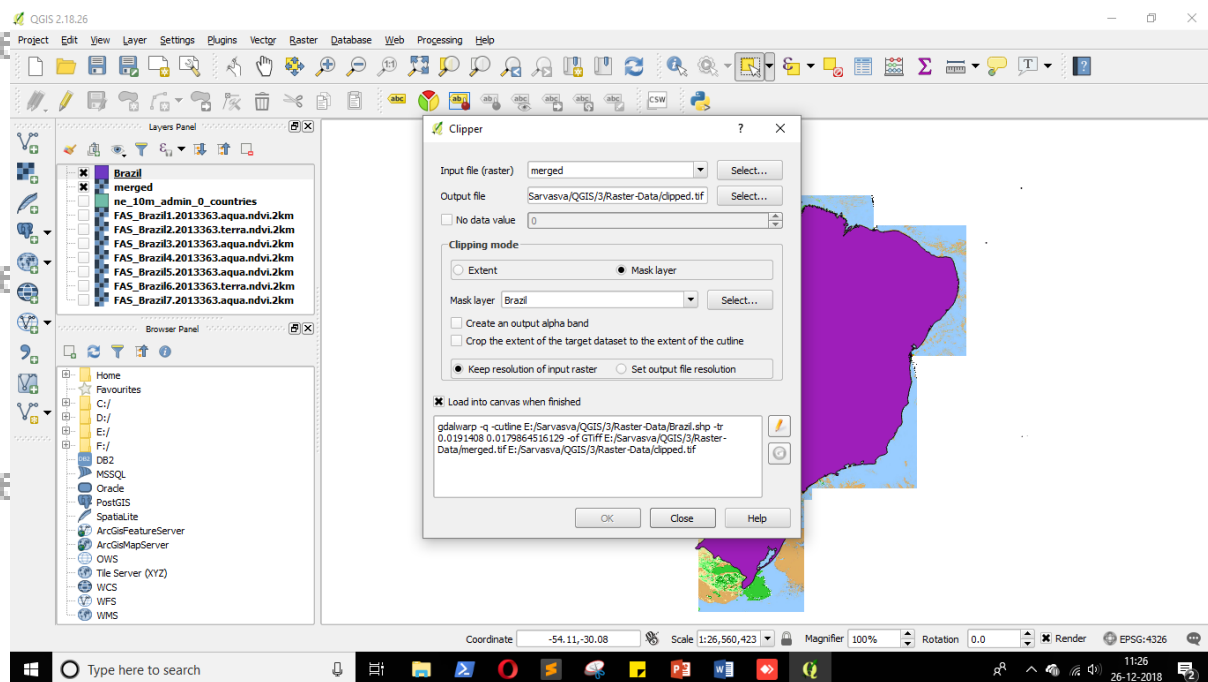
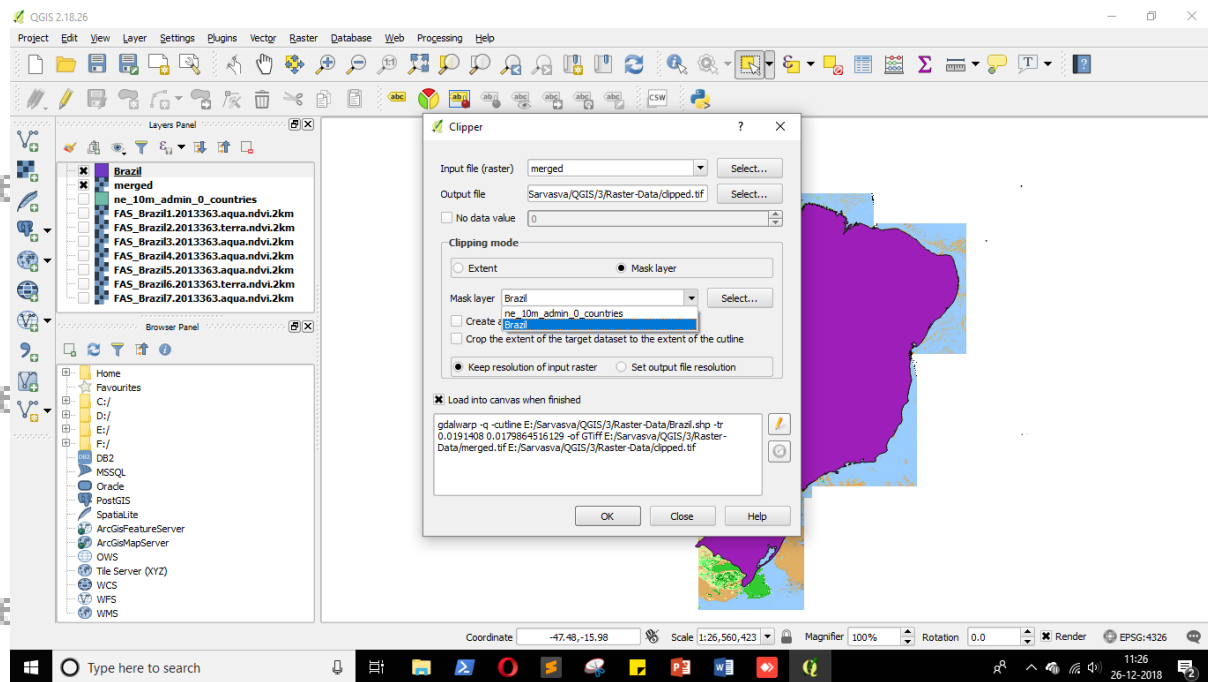


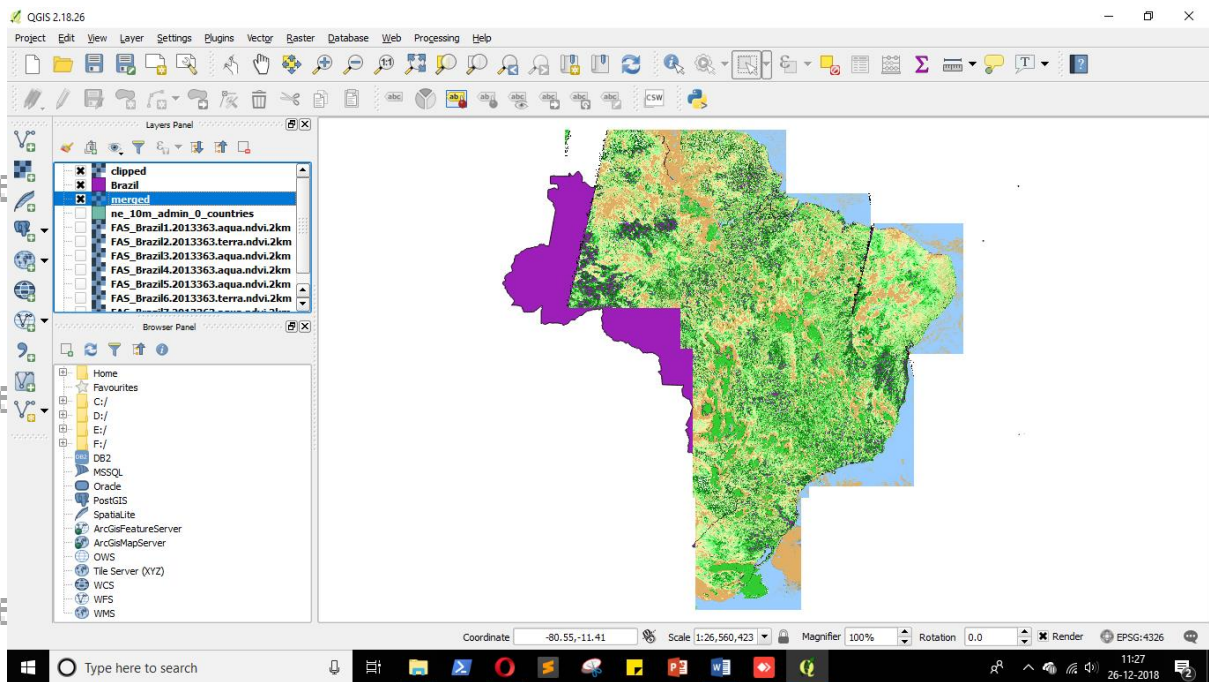
In “Output File” give path and name to output file.



Click on “Mask layer” radio button.

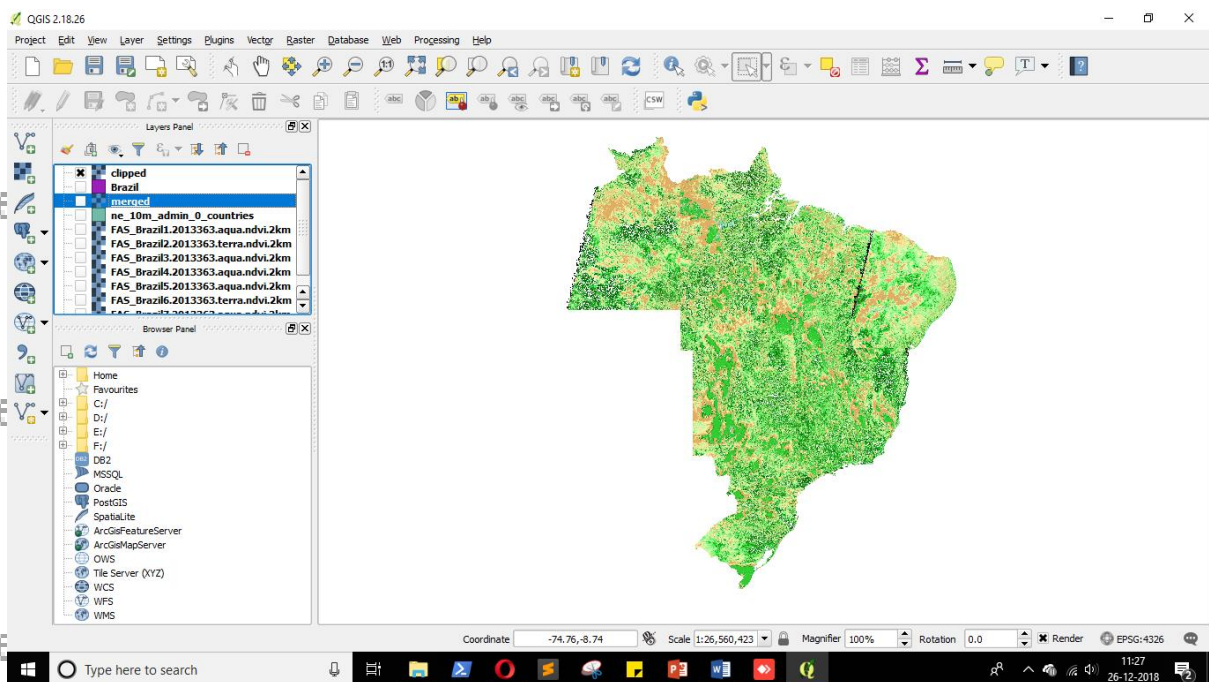
And in “Mask layer” drop down list select “Brazil” layer and click on “OK”.





New “clipped” layer will appear.

Deselect all the layers except “clipped” layer.



And we have our clipped layer.