

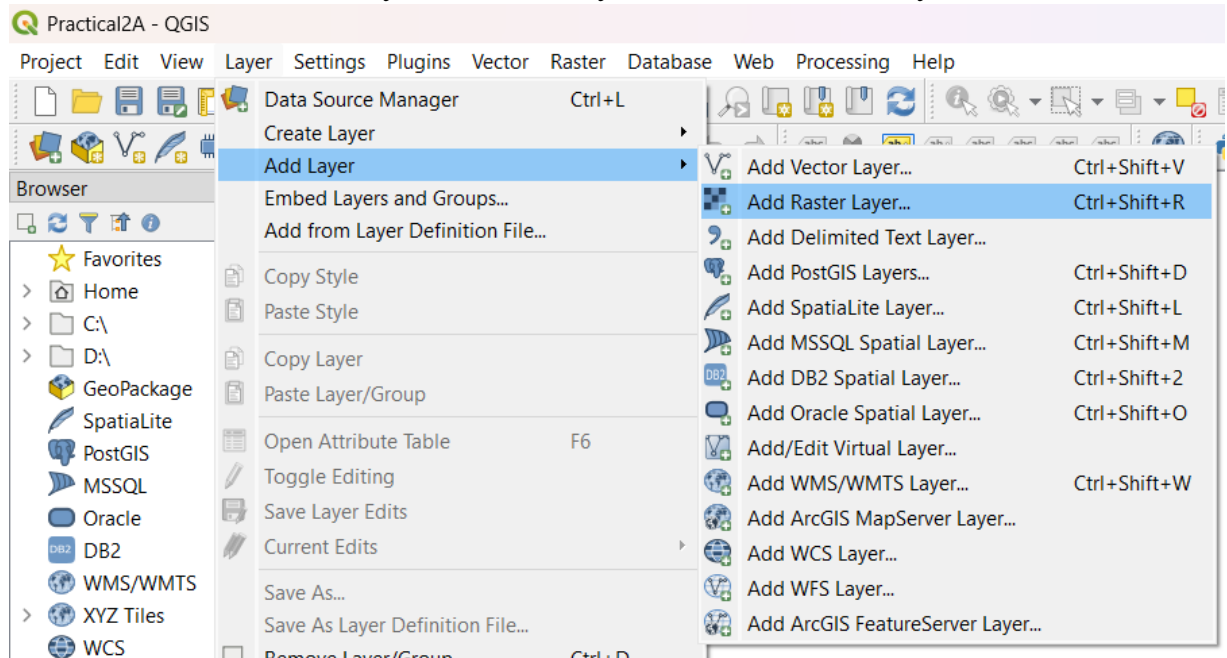
# PRACTICAL 2

Aim: To Explore and Manage Raster data

## a) Adding Raster Layer

Procedure:

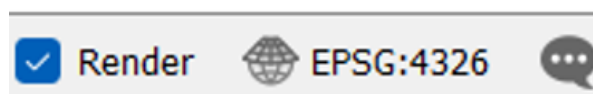
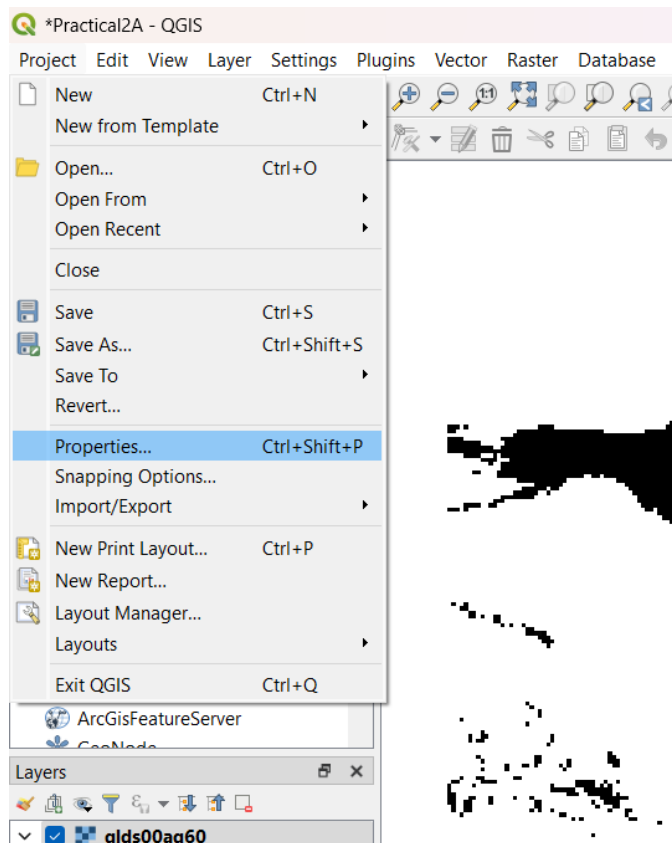
- From menu bar select Layer → Add Layer → Add Raster Layer



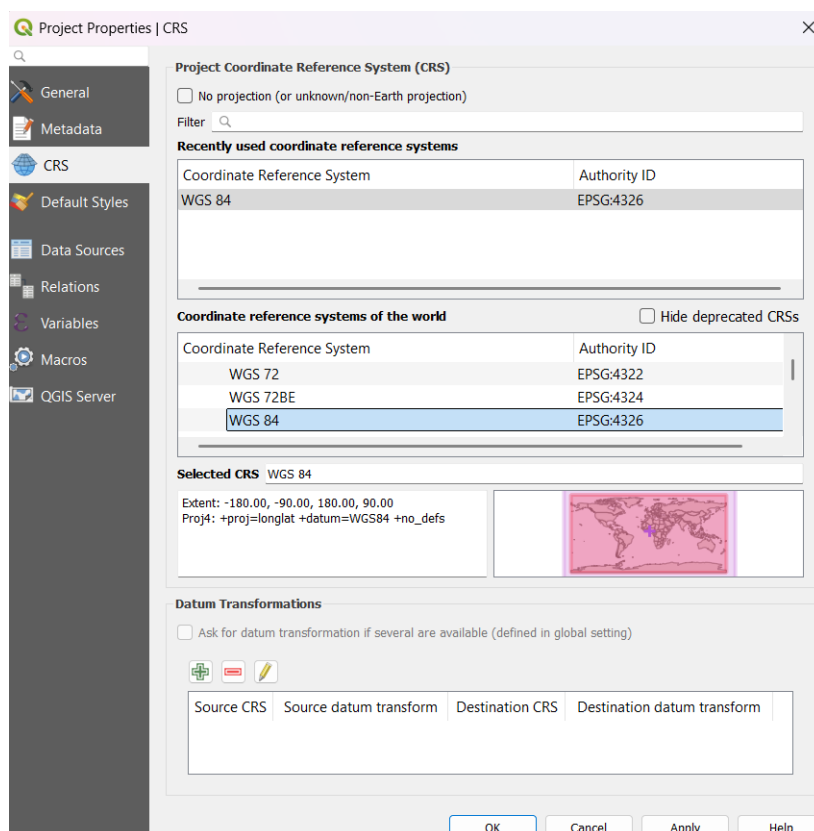
- Select Gridded Population of the World (GPW) v3 dataset from Columbia University, Population Density Grid for the entire globe in ASCII format and for the year 1990 and 2000.  
"GIS\_Workshop\Practicals\Practical\_02\A\Data\gl\_gpww3\_pdens\_90\_ascii\_one\glds90ag60.asc"  
"GIS\_Workshop\Practicals\Practical\_02\A\Data\gl\_gpww3\_pdens\_90\_ascii\_one\glds00ag60.asc"

A screenshot of the 'Add Raster Layer' dialog box in QGIS. The 'Source type' section has 'File' selected. The 'Source' section shows the path 'als\Practical\_02\A\gl\_gpww3\_pdens\_90\_ascii\_one\glds90ag60.asd' in the 'Raster Dataset(s)' field. Below this, there is another identical section for the year 2000, with the path 'als\Practical\_02\A\gl\_gpww3\_pdens\_00\_ascii\_one\glds00ag60.asc' in the 'Raster Dataset(s)' field.

- Go to Project → Properties OR Press the Set CRS option on bottom right corner.



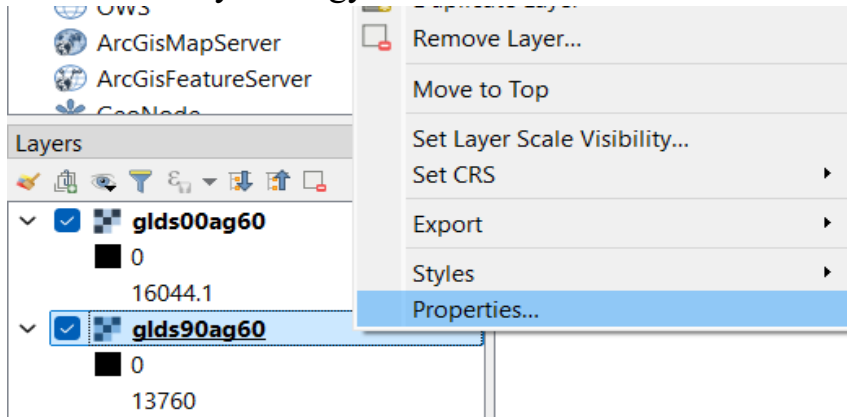
- Select WGS 84 EPSG: 4326 and Press OK



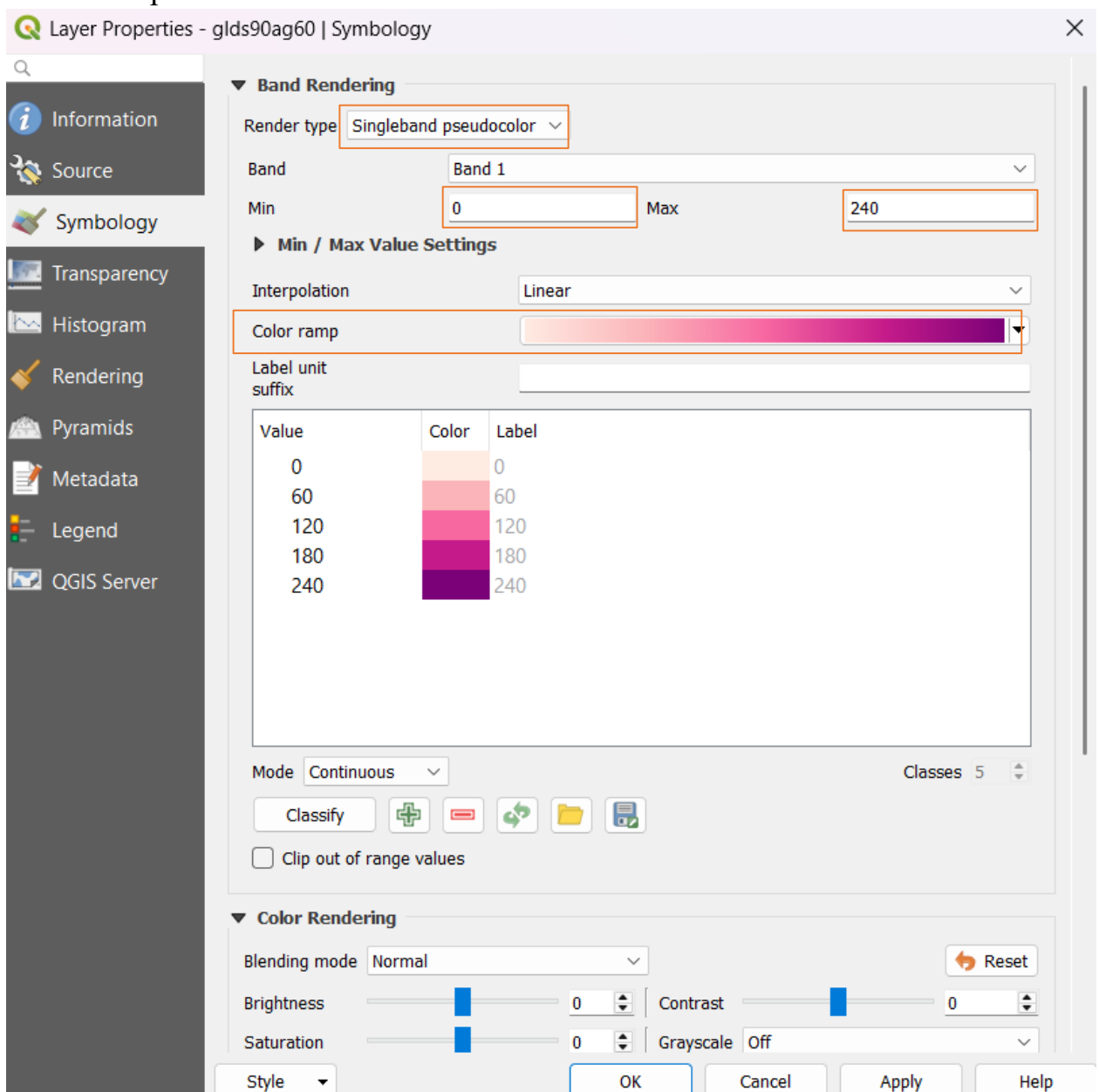
## b) Raster Styling and Analysis

### Procedure:

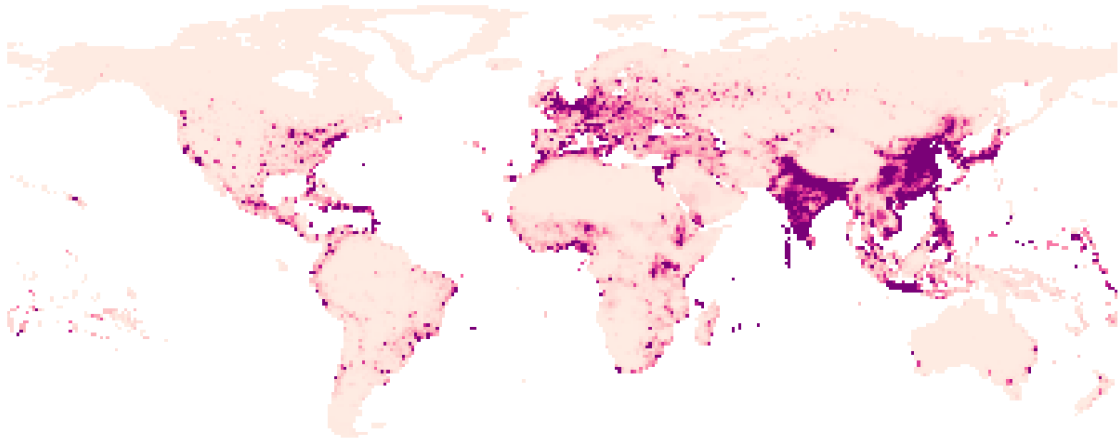
- To start with analysis of population data, convert the pixel from grayscale to Color. Select “glds90ag60.asc” Layer from layer Pane → select property OR double click on it. Select Symbolology



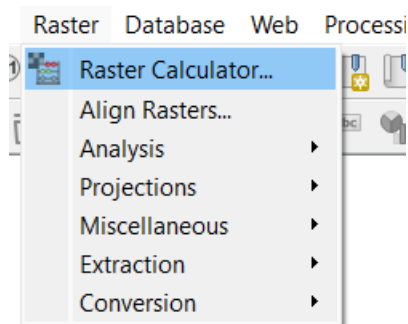
- Select Render Type as “Singleband pseudocolor”. Min=0 and Max=240. Select the Color Ramp. Press “APPLY” .



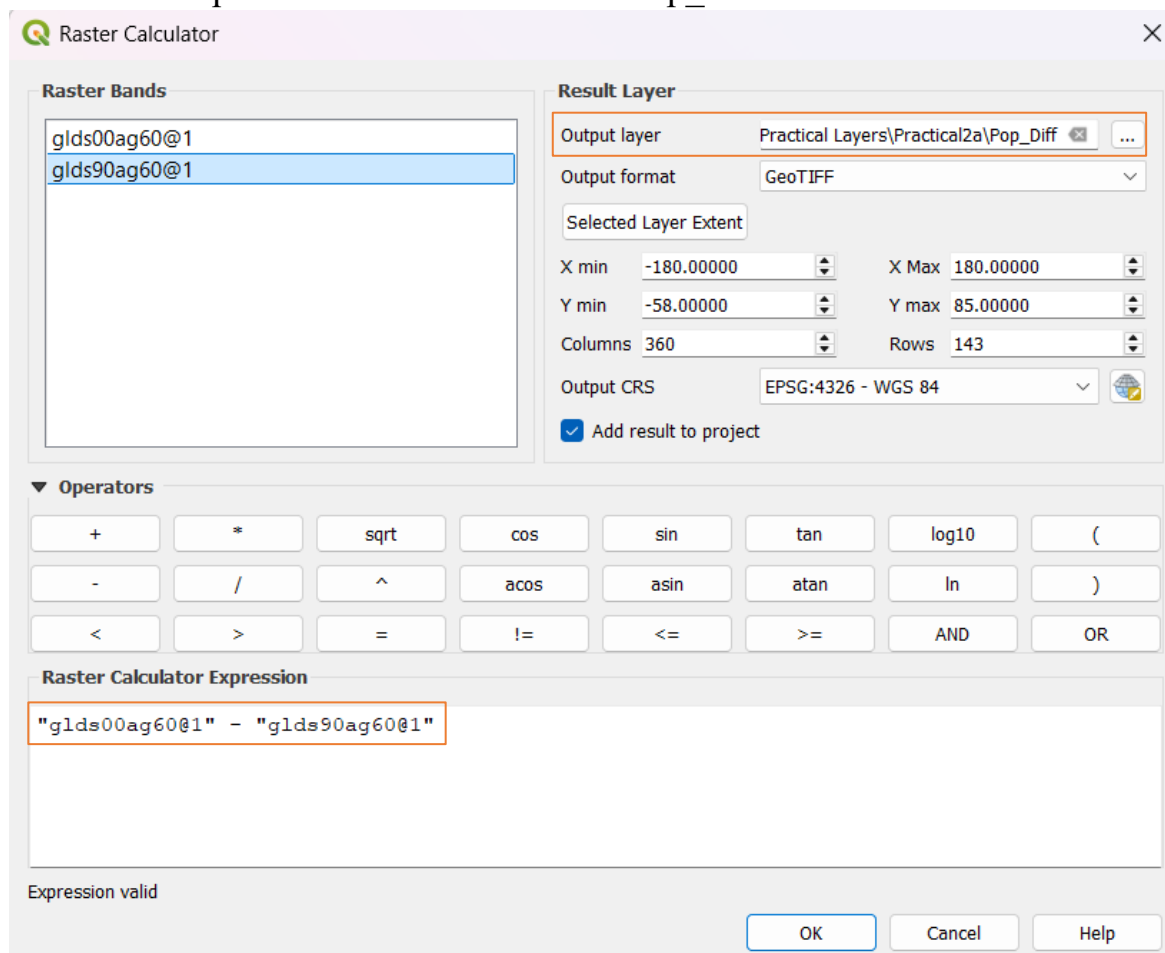
- Repeat the same for “glds00ag60.asc” Layer
- Layer output after applying style.



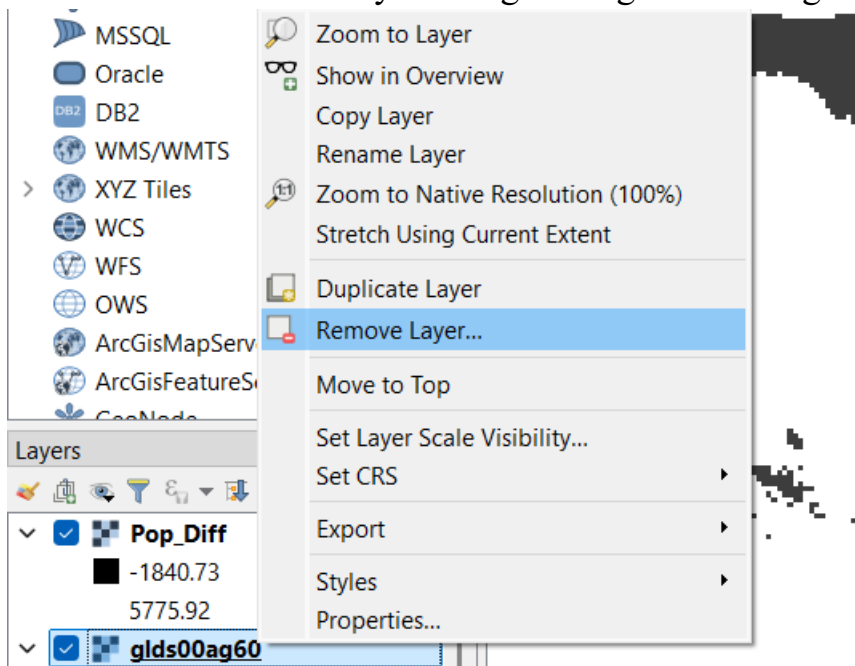
- Go to Raster → Raster Calculator



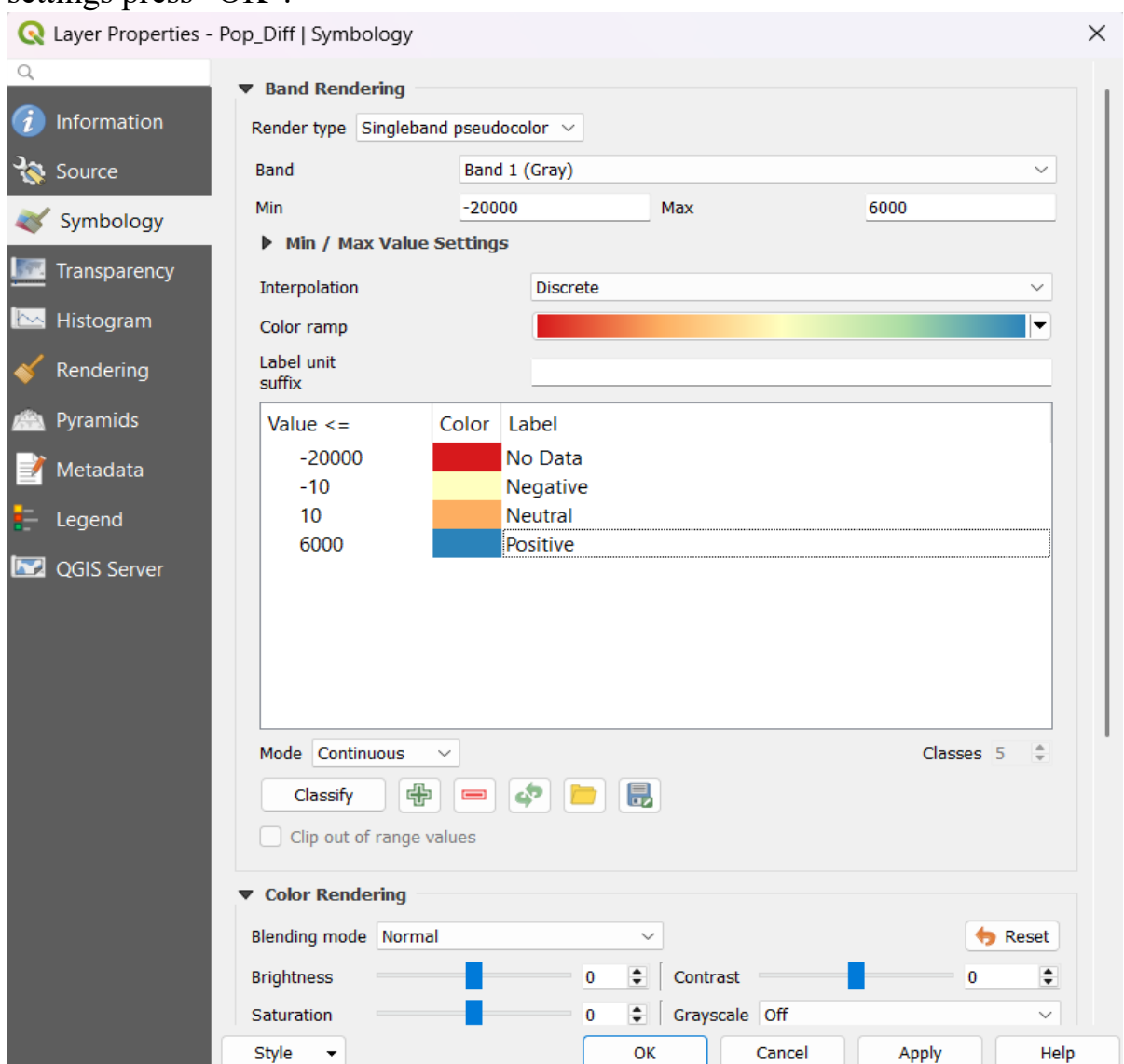
- Put the expression "glds00ag60@1" - "glds90ag60@1"
- Select the output file location & name as Pop\_Diff and Press OK.



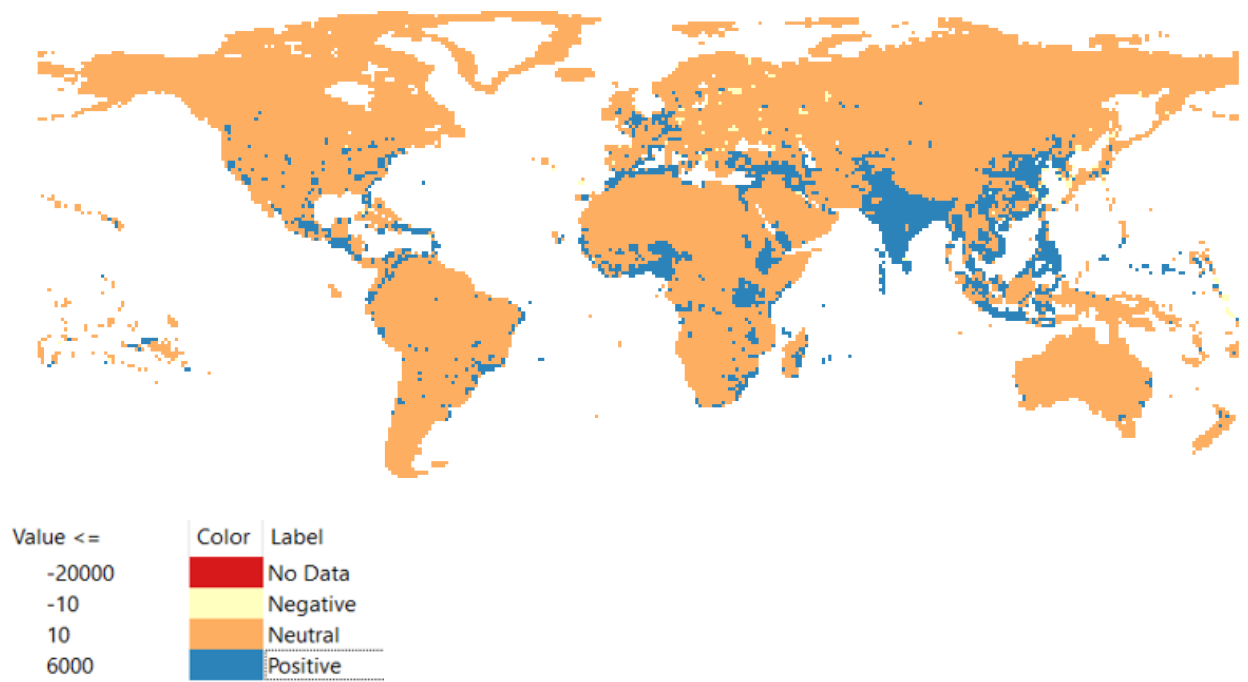
- Remove the other two layers i.e. glds00ag60.asc and glds90ag60.asc



- Double click on pop\_diff layer. Select Symbology
- Set Render Type to “Single band Pseudo color”, Interpolation as Discrete, and remove all classification and add as shown in figure above using button. After all settings press “OK”.



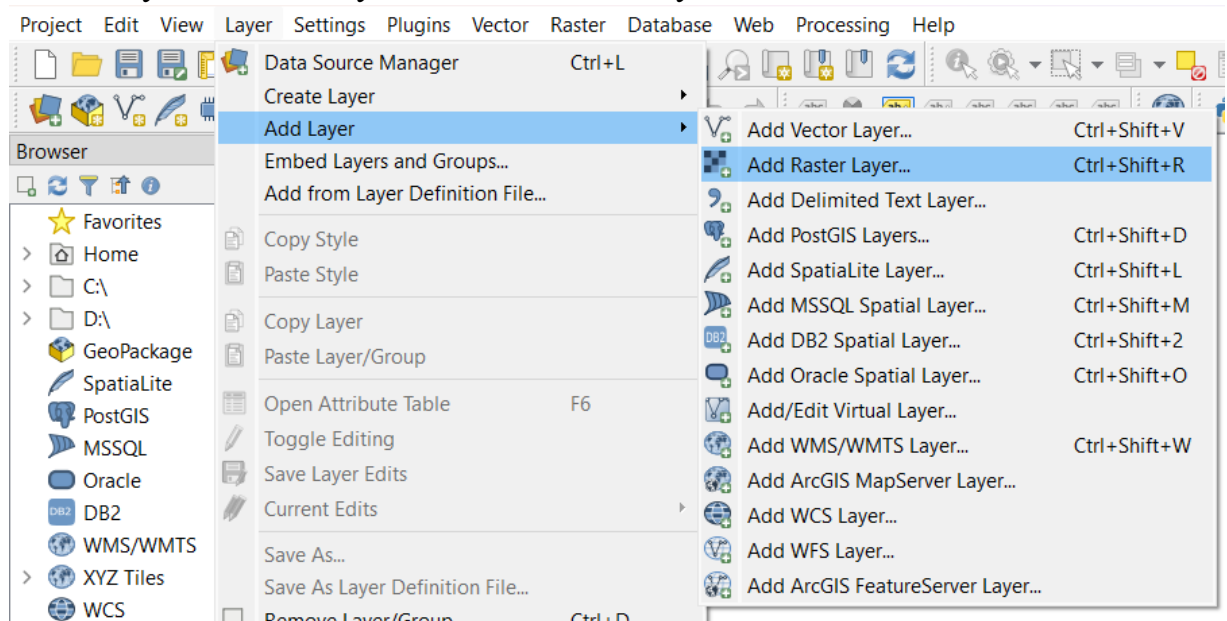
- Layer will appear like:



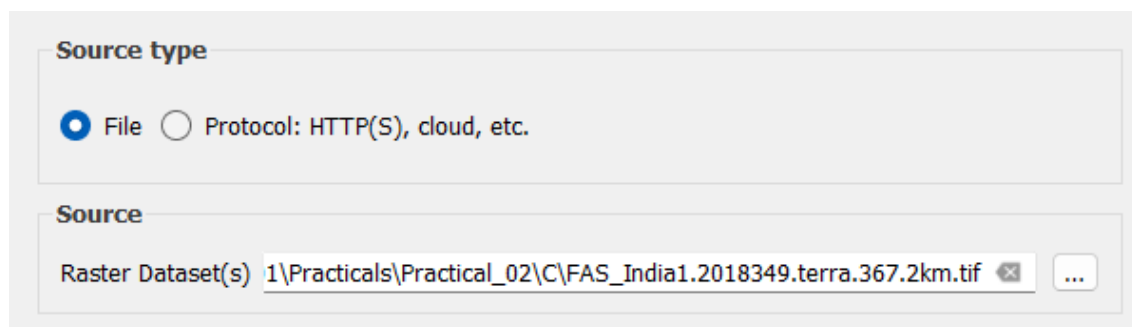
### c) Raster mosaicking and clipping

#### Procedure:

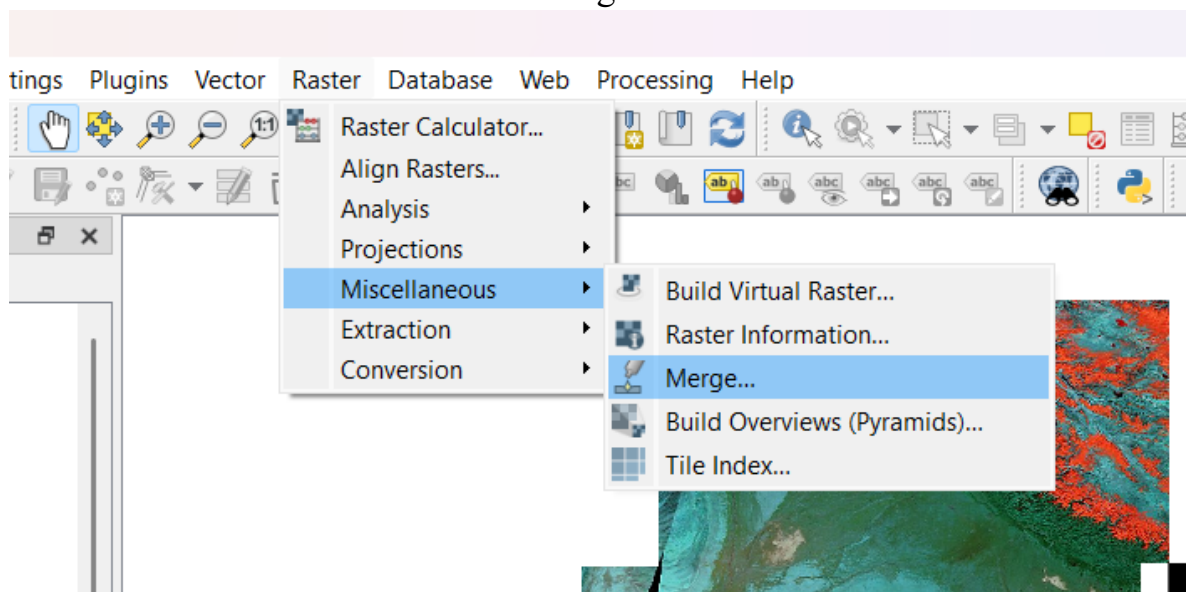
- Go to Layer → Add Layer → Add Raster Layer.



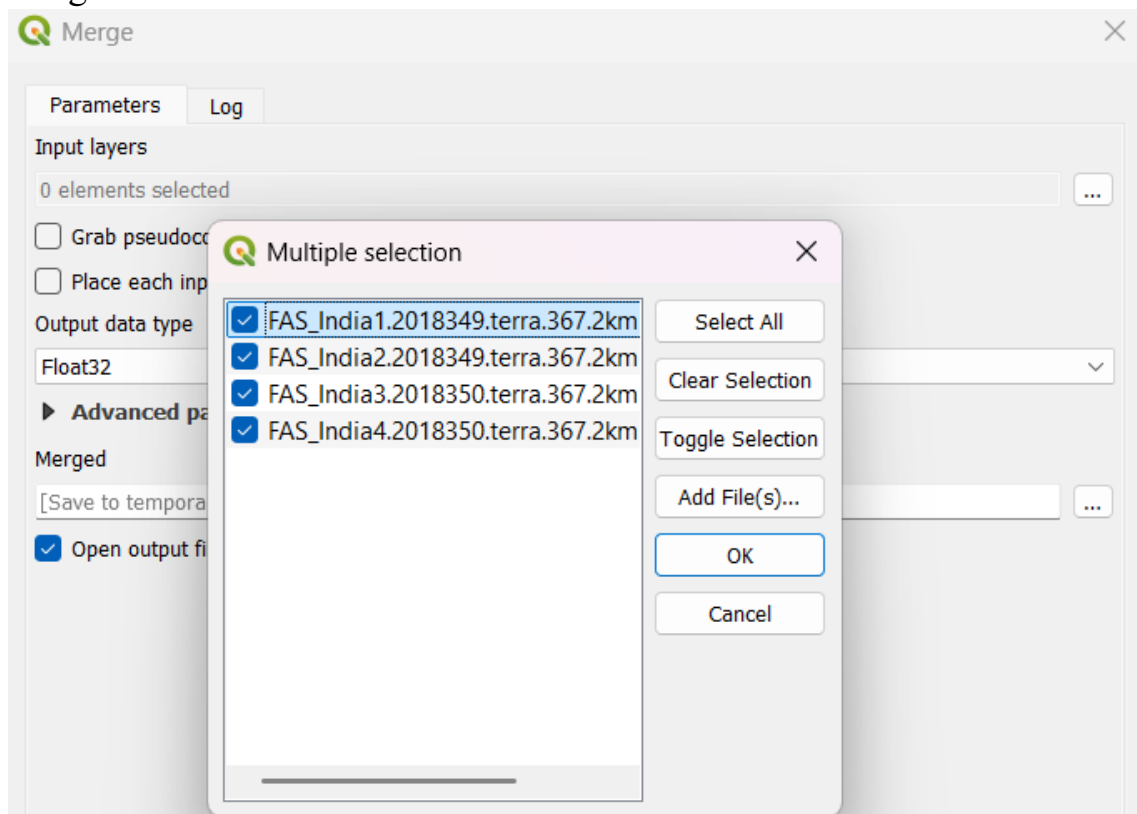
- Select the following “.tif” raster images  
FAS\_India1.2018349.terra.367.2km.tif FAS\_India2.2018349.terra.367.2km.tif  
FAS\_India3.2018349.terra.367.2km.tif FAS\_India4.2018349.terra.367.2km.tif
- Raster window click Add.



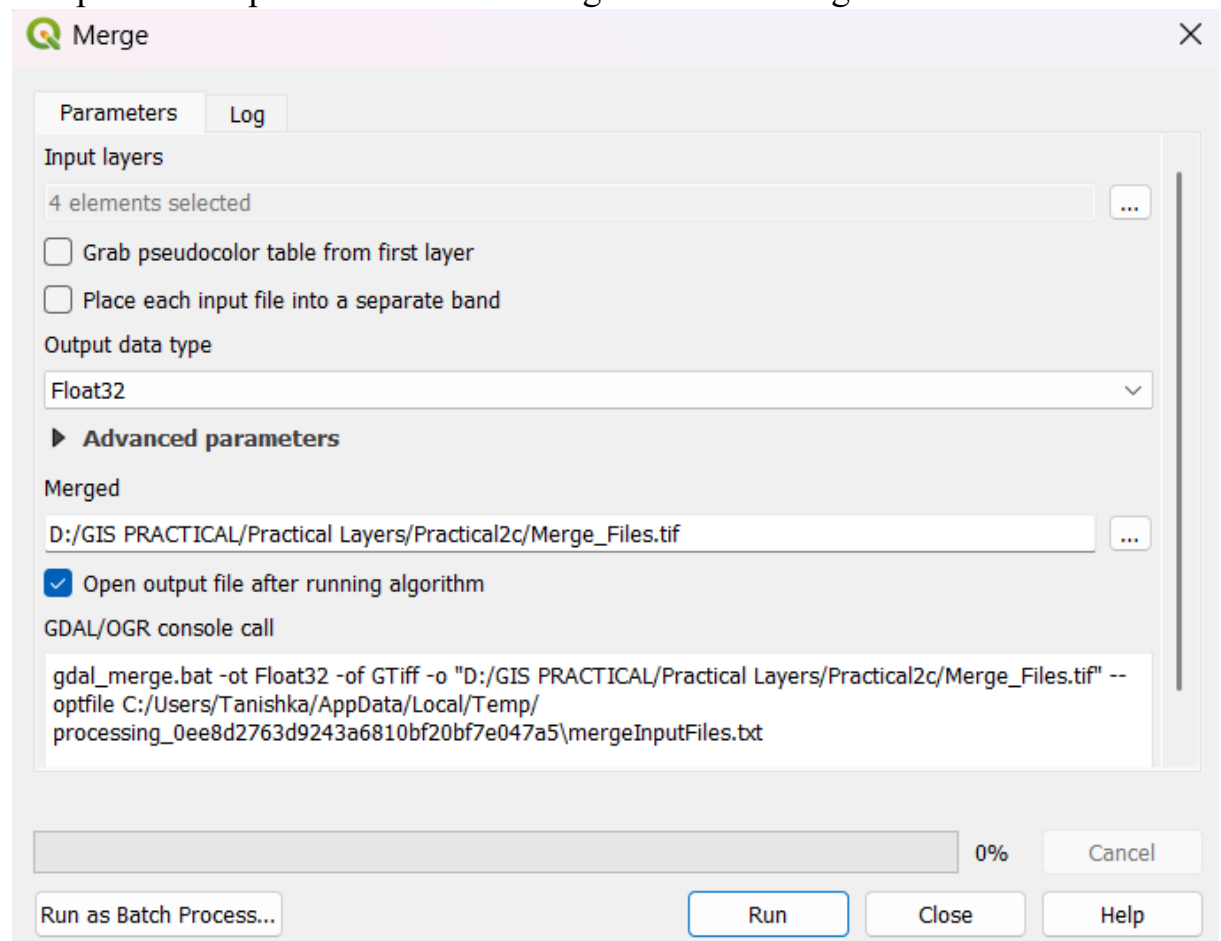
- Go to Raster → Miscellaneous → Merge



- In the Merge dialog window. Select three dots Input Layers. Select all layers and Press OK. In Merge dialog window select a file name and location to save merged images.

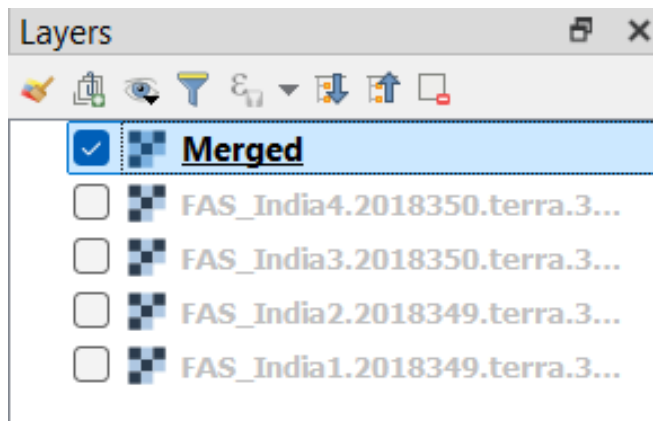


- Save the file to a location with the name as Merge\_Files.tif ➤ Press Run and after completion of operation close the Merge window dialog box.

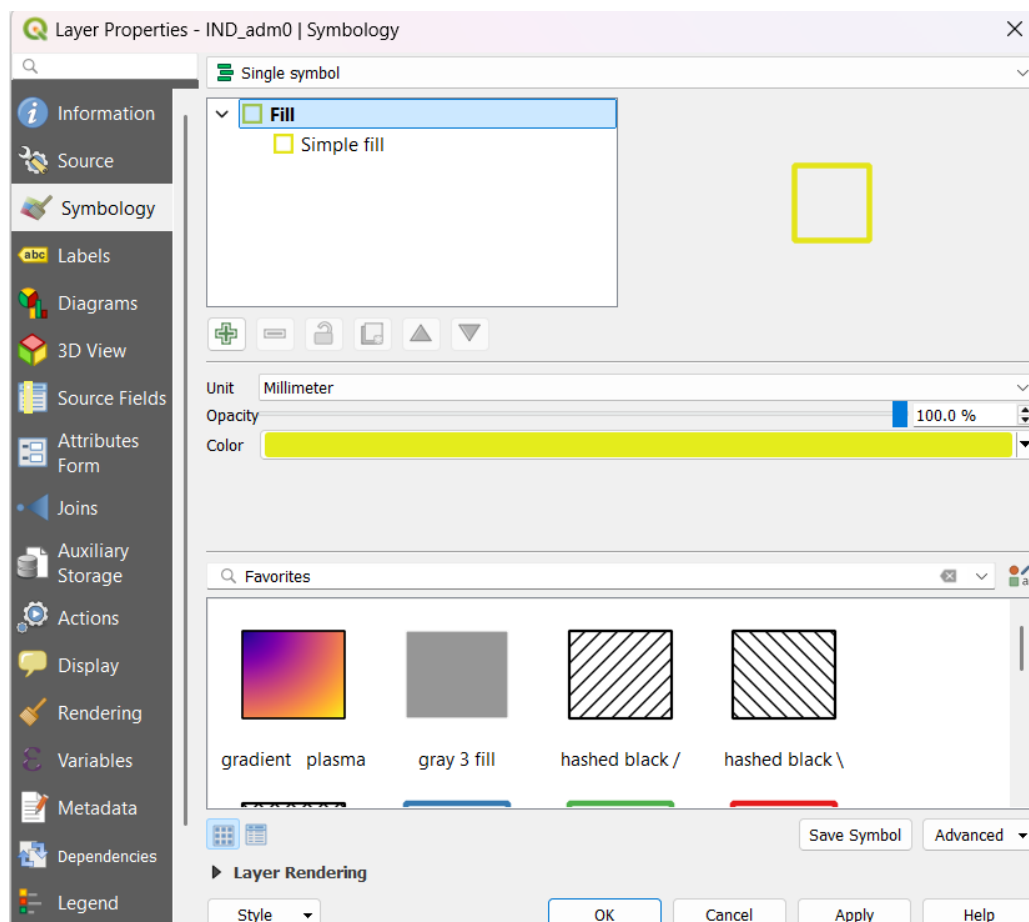
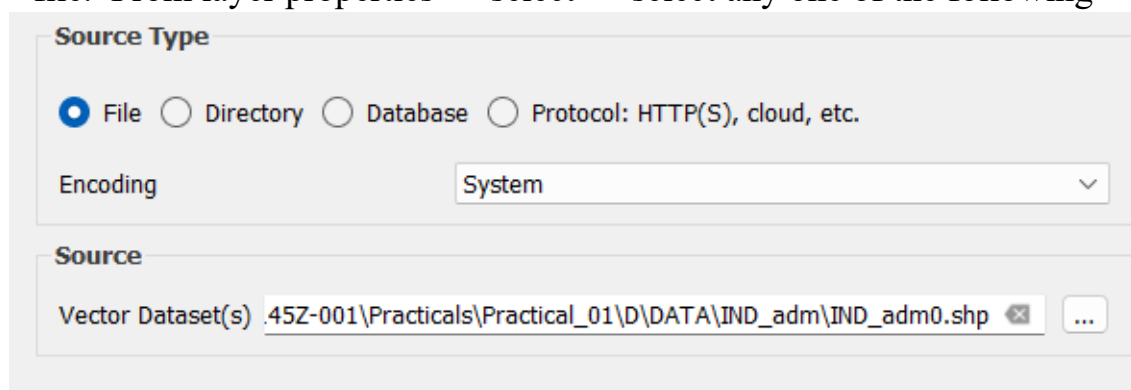




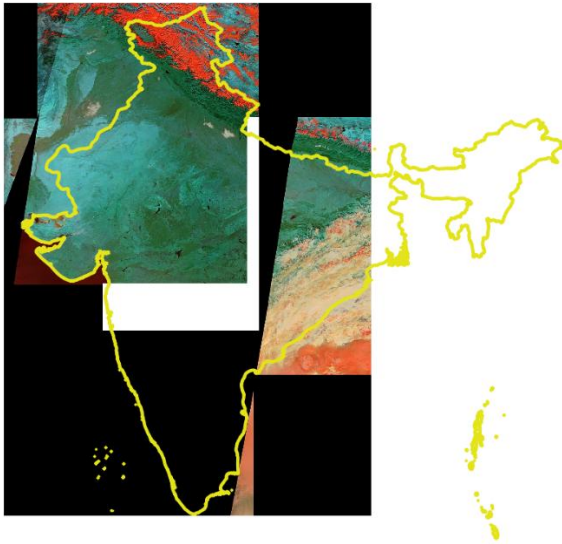
- You can now deselect individual layers from layer pane and only keep the merged raster file.



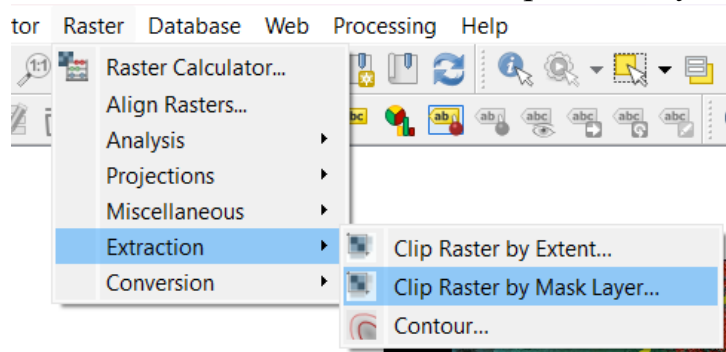
- Go to Layer → Add Vector Layer → Select \GIS\_Workshop\Practicals\Practical\_02\C\IndiaAdminBoundry\IND\_adm0.shp file. From layer properties → select → select any one of the following



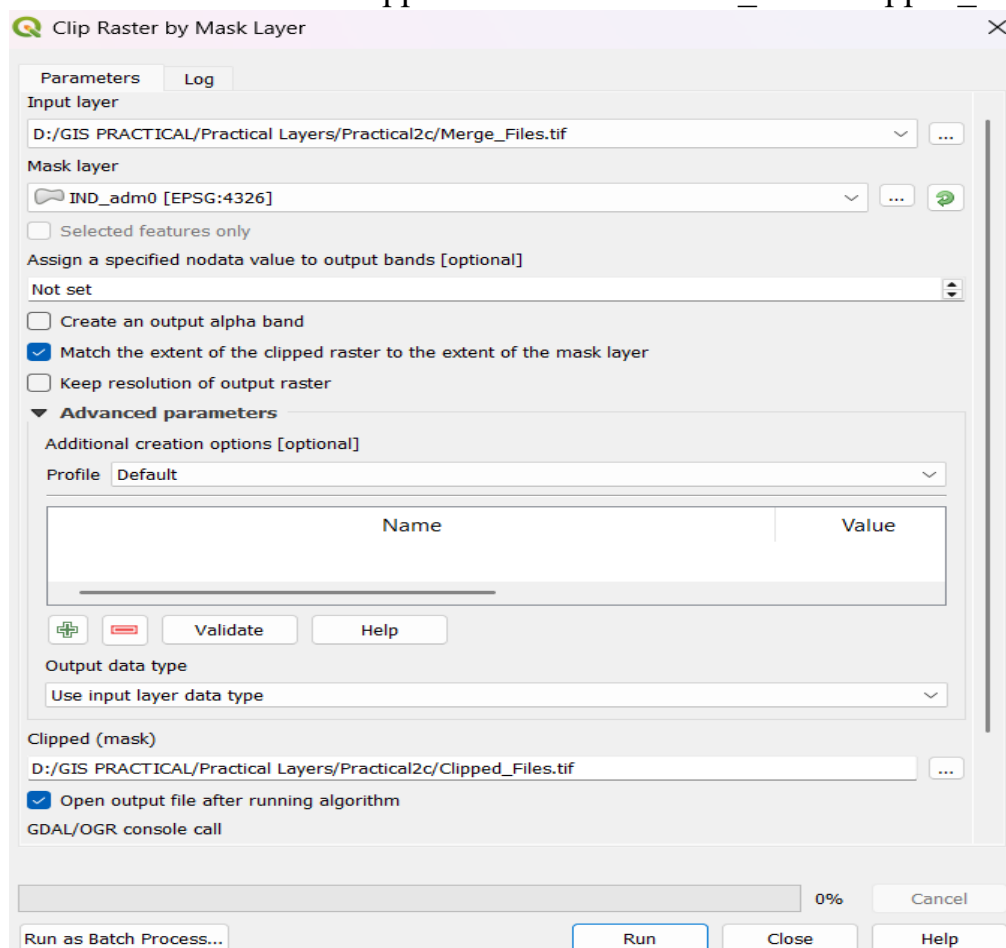
- The result will be



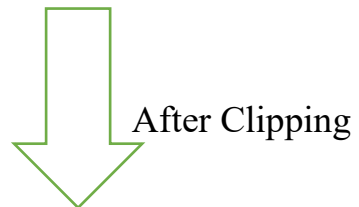
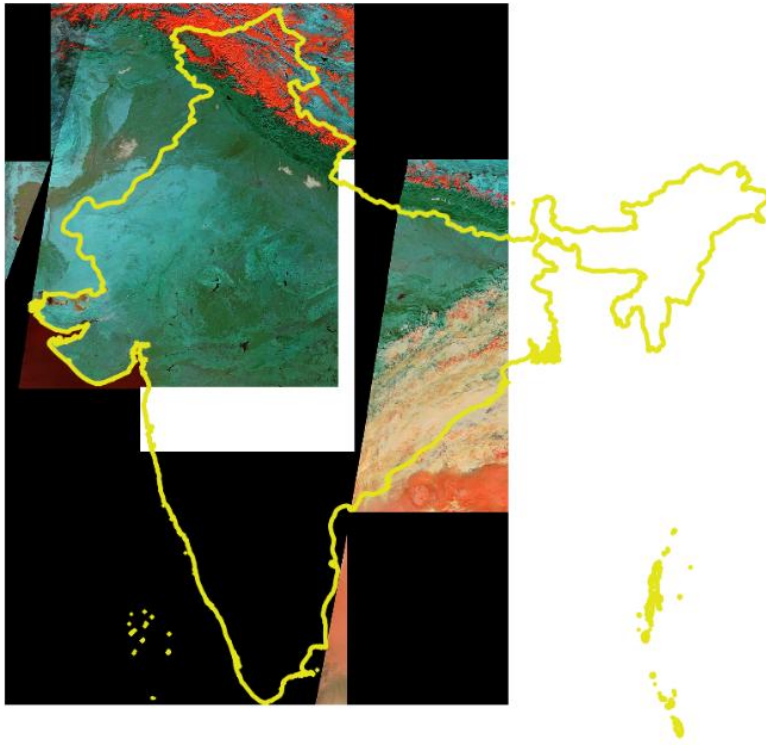
- Go to Raster → Extraction → Clip Raster by Mask Layer



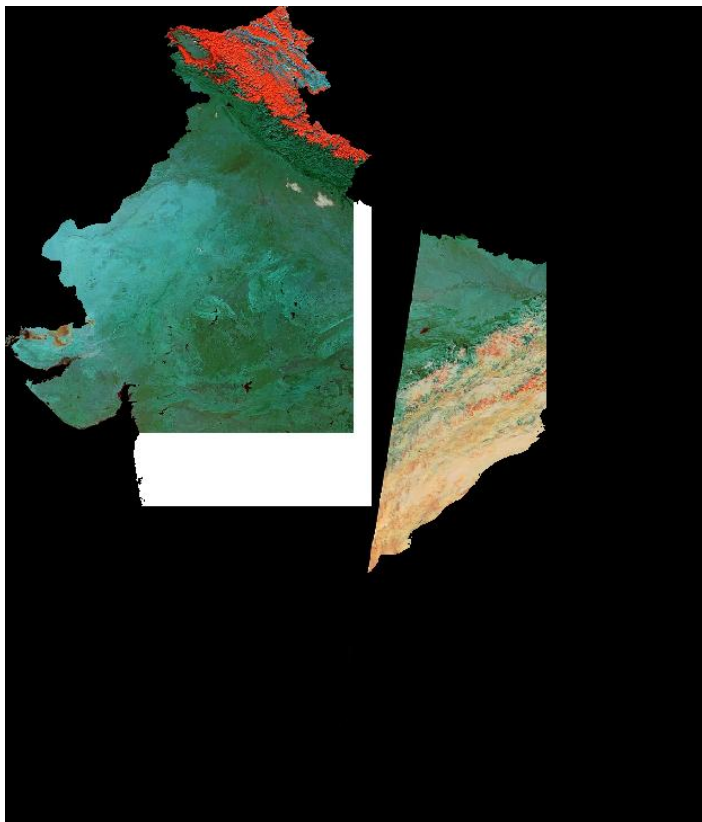
- Select the merge raster image as input and Ind\_adm0 as mask layer. Select a file name and location for clipped raster as /Practical\_02/C/Clipped\_File.tif.



- Press RUN



After Clipping



Output: Raster data has been explored and managed successfully.