




ICIMOD

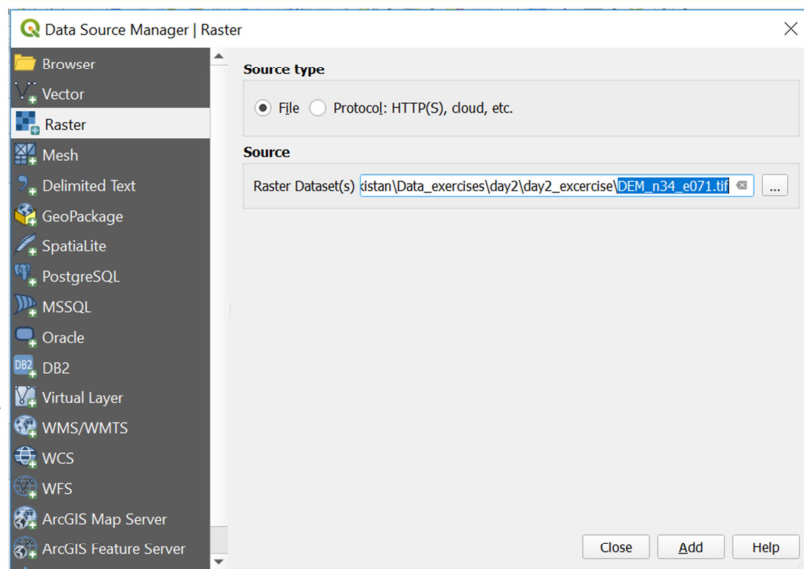
DAY2 Exercise 1

Exploration and analysis of
Raster data in QGIS

Exploration and analysis of Raster data in QGIS

Adding Raster Data

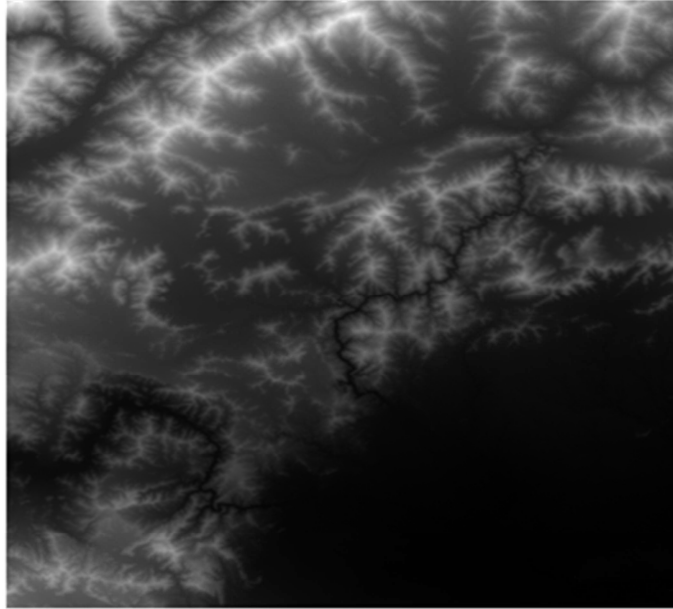
- Click on  icon -> Add **raster** data
- Add **DEM_n34_e071.tif** file from the folder **D:\day2\day2_exercise\exercice_1**



Exploration and analysis of Raster data in QGIS

Adding Raster Data

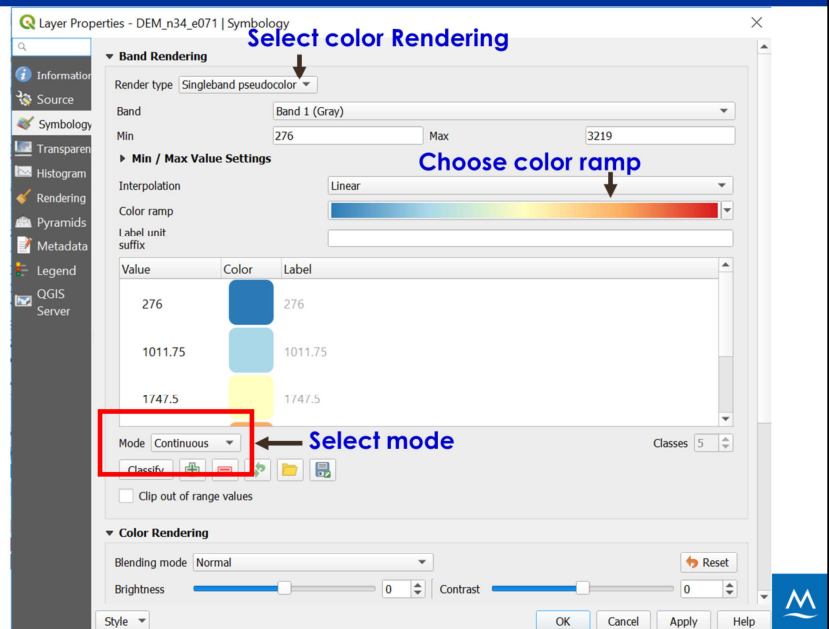
Added DEM file



Exploration and analysis of Raster data in QGIS

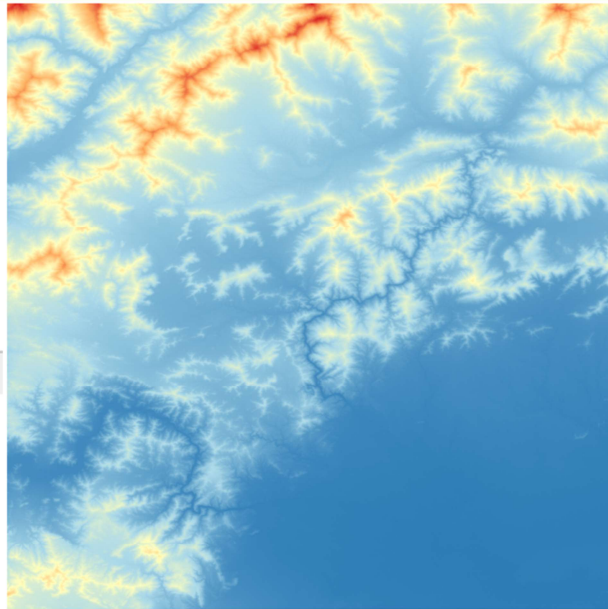
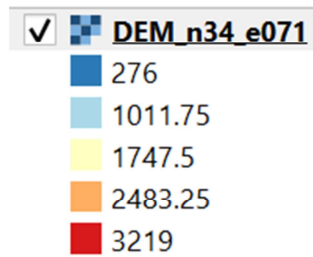
Defining Symbology

- Right click on the raster layer
- >Properties->Symbology
- Select render type as Singleband pseudocolor



Exploration and analysis of Raster data in QGIS

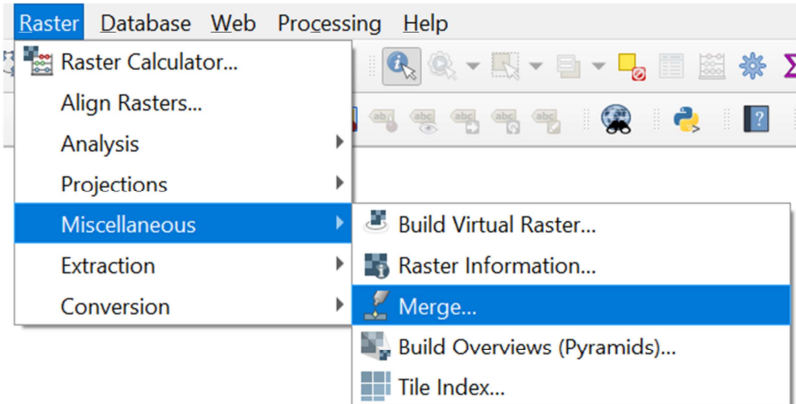
Defining Symbology



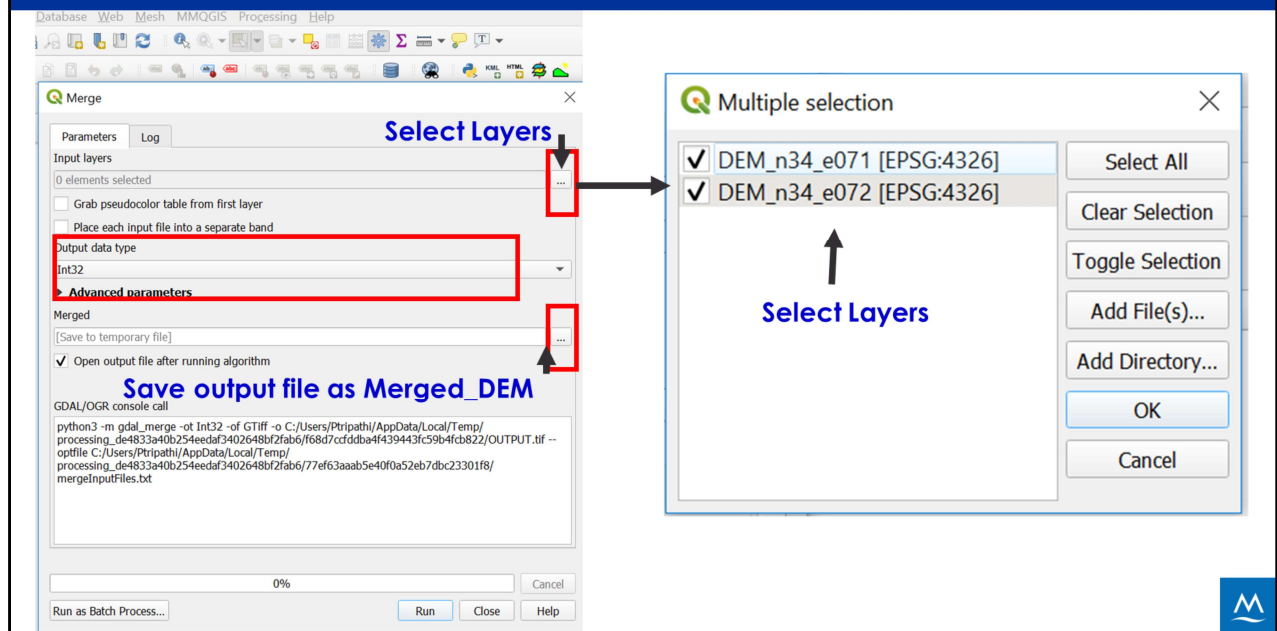
Exploration and analysis of Raster data in QGIS

Merging

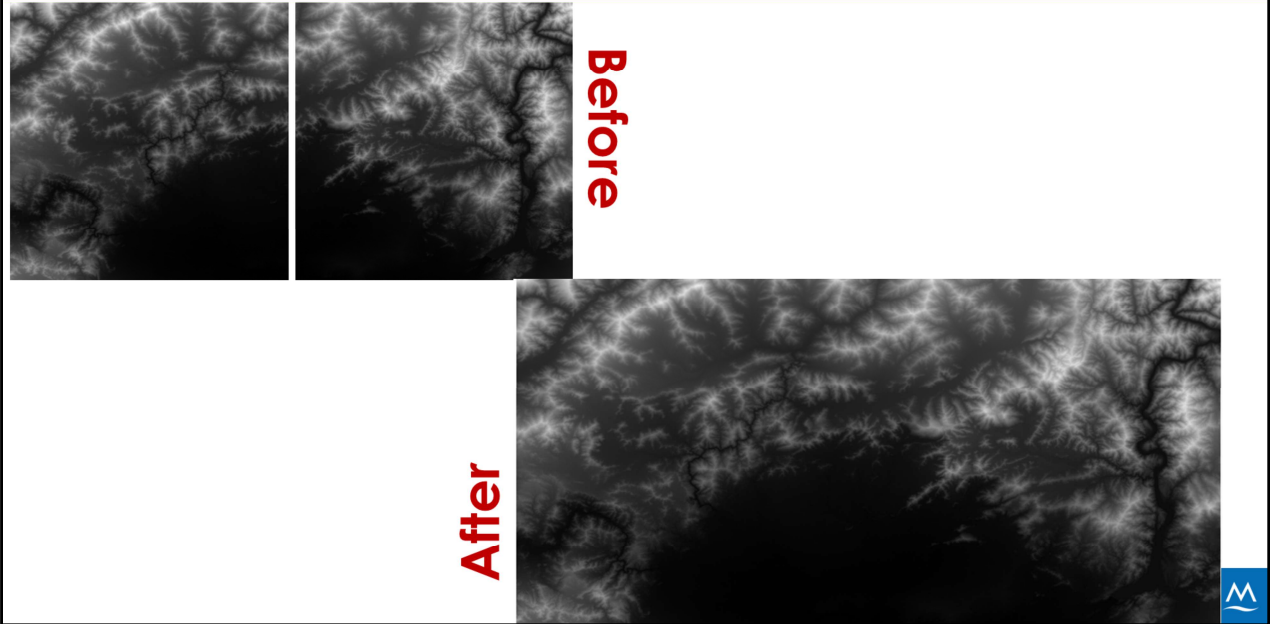
- Open the **DEM_n34_e071.tif** and **DEM_n34_e072.tif** from the folder **D:\day2\day2_exercise\exercise_1**
- Click on **Raster** -> **Miscellaneous**-> **Merge**
- A merge window opens



Exploration and analysis of Raster data in QGIS



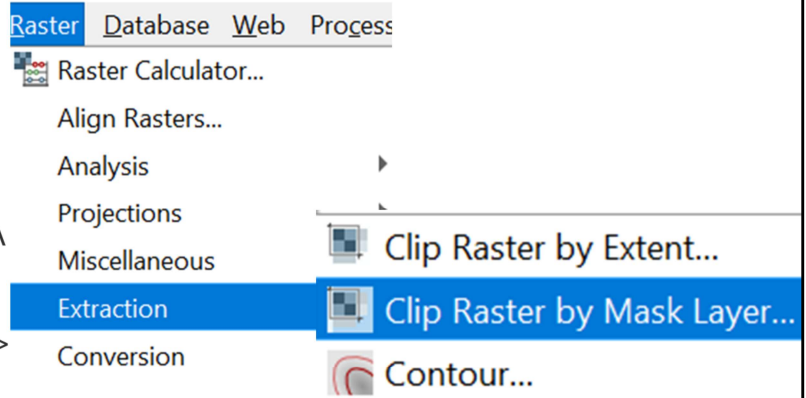
Exploration and analysis of Raster data in QGIS



Exploration and analysis of Raster data in QGIS

Clipping

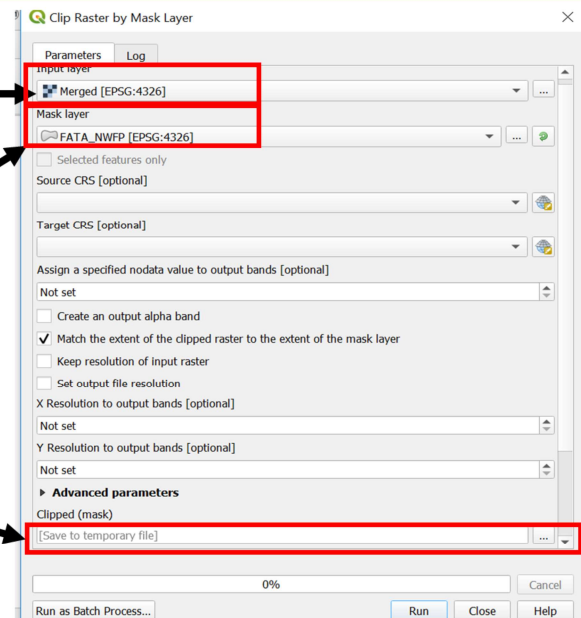
- Open the **FATA_NWFP.shp** file from **D:\day2\day2_excercise\exercise_1**
- Click->**Raster-> Extraction-> Clip Raster by Mask Layer**
- A **Clip Raster by Mask** window opens



Exploration and analysis of Raster data in QGIS

Clipping

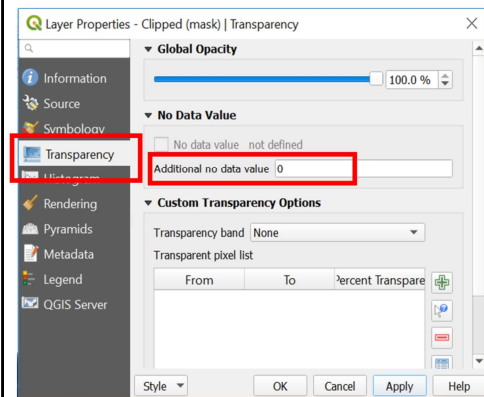
- Select **merged_DEM** file as input layer
- Select **FATA_NWFP.shp** as mask layer
- Save output file as **Clipped_DEM** by clicking on **Clipped (mask)**



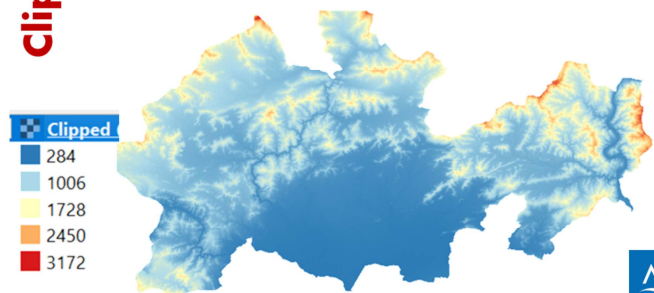
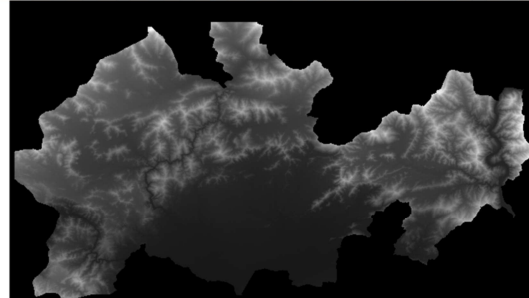
Exploration and analysis of Raster data in QGIS

Clipping

Click on **Properties->Transparency** set **Additional no data value** as 0



Clipped Image



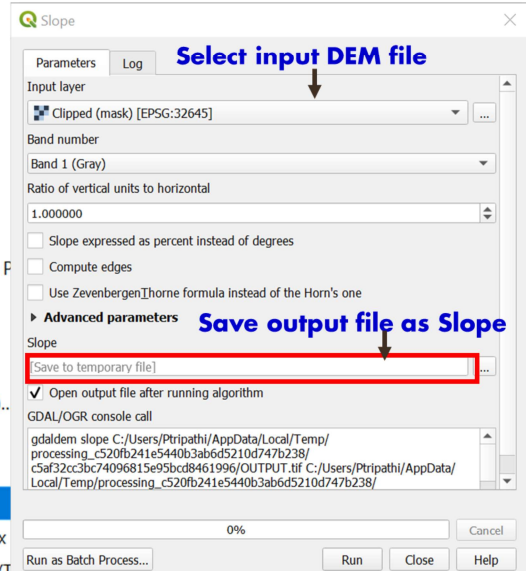
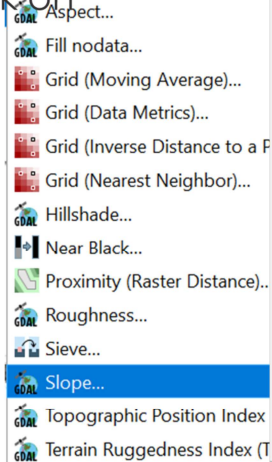
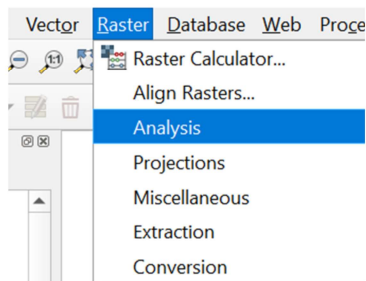
Exploration and analysis of Raster data in QGIS

Raster Analysis (Slope)

➤ From the main tab click on

Raster

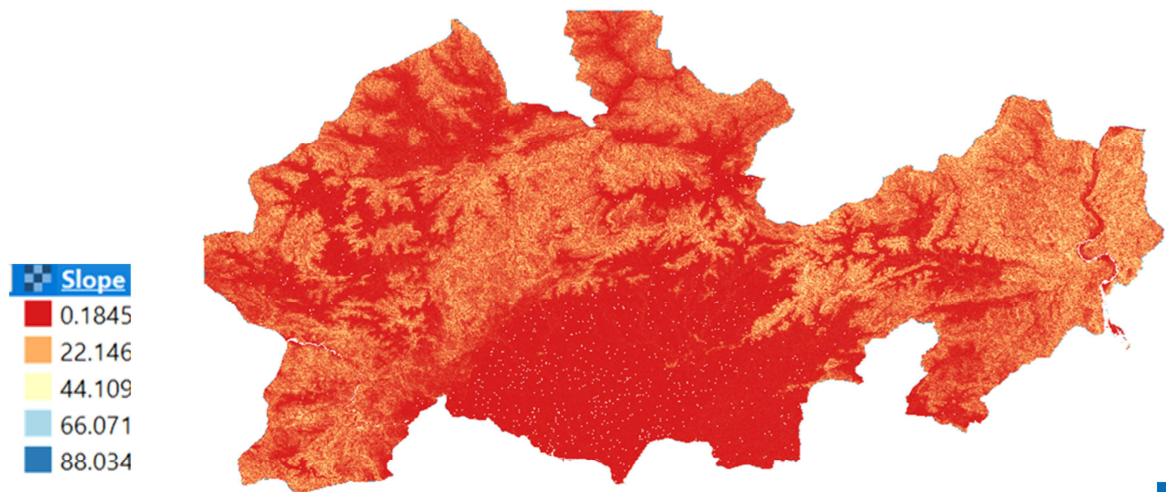
-> Analysis -> Slope



<https://desktop.arcgis.com/en/arcmap/10.3/tools/spatial-analyst-toolbox/how-slope-works.htm>

Exploration and analysis of Raster data in QGIS

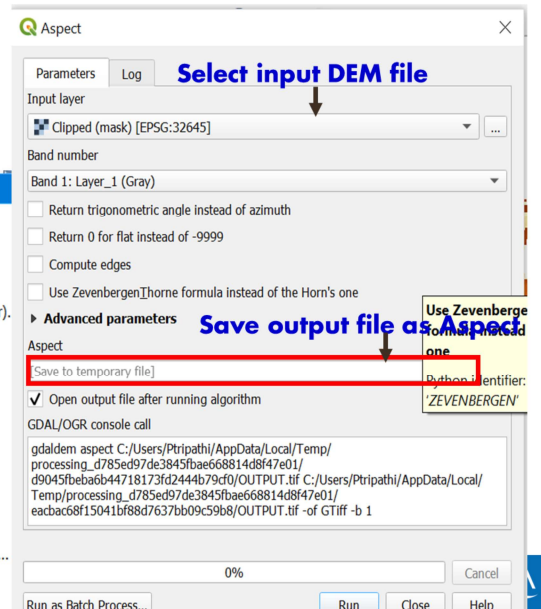
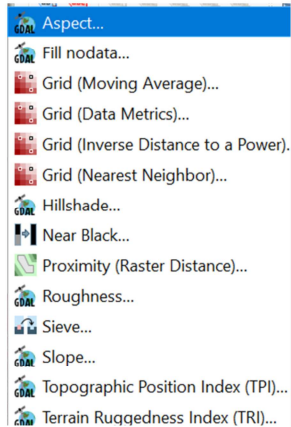
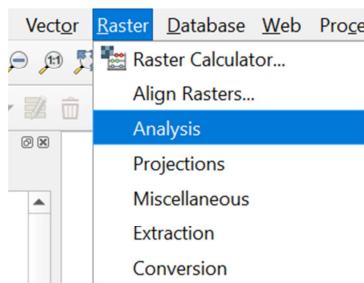
Raster Analysis (Slope)



Exploration and analysis of Raster data in QGIS

Raster Analysis (Aspect)

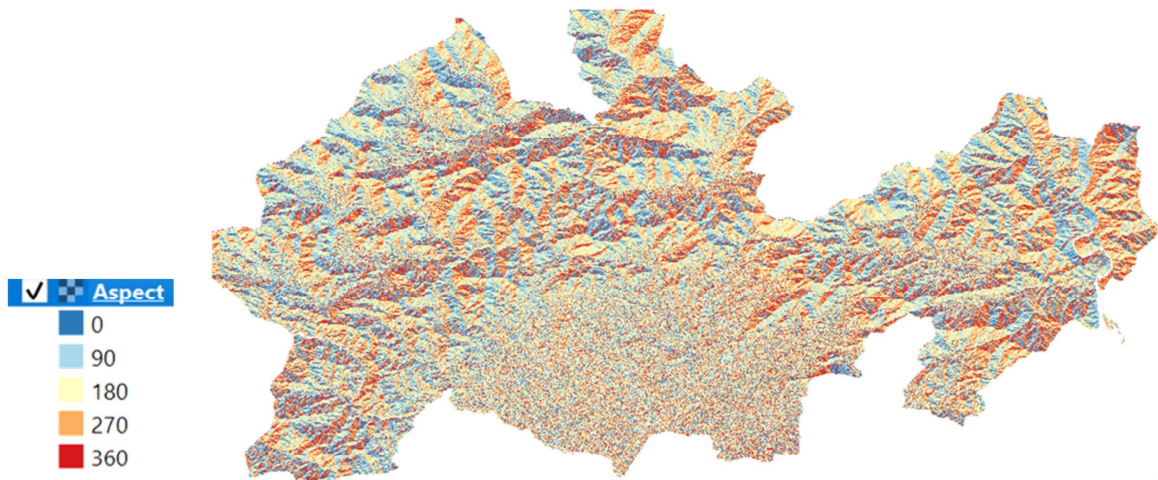
- From the main tab click on **Raster**
-> **Analysis** -> **Aspect**



<https://gisgeography.com/slope-aspect-microclimate-south-facing/>

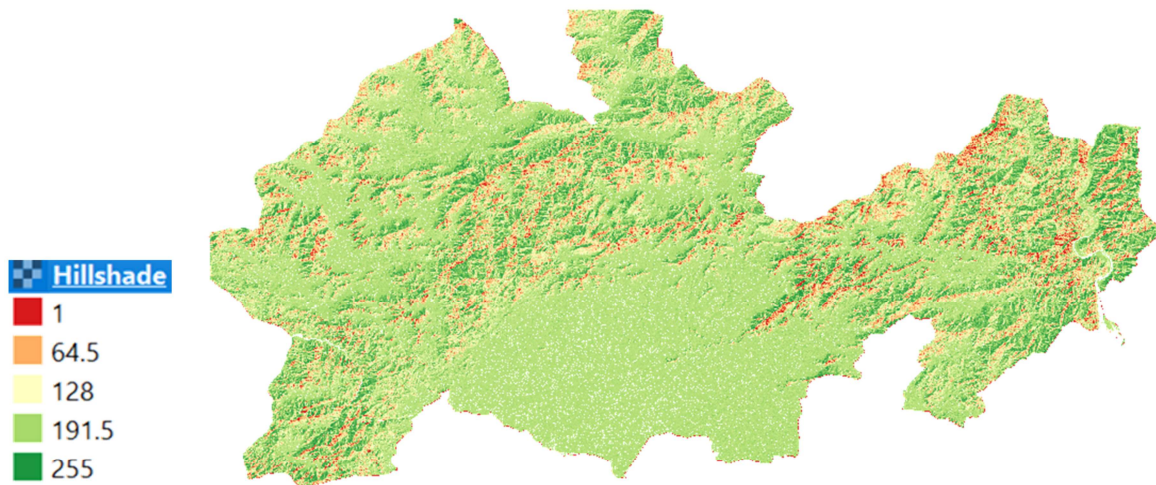
Exploration and analysis of Raster data in QGIS

Raster Analysis (Aspect)



Exploration and analysis of Raster data in QGIS

Raster Analysis (Hillshade)

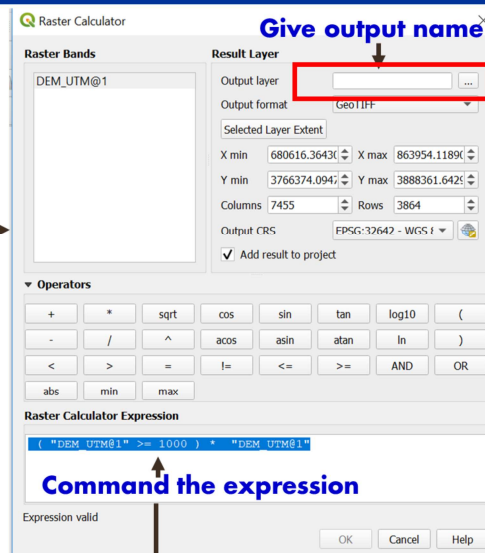
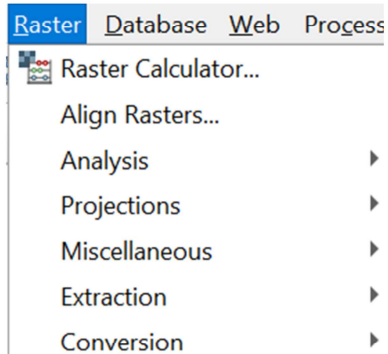


<https://desktop.arcgis.com/en/arcmap/10.3/tools/spatial-analyst-toolbox/how-hillshade-works.htm>

Exploration and analysis of Raster data in QGIS

Using Raster Calculator

- Click on **Raster->Raster Calculator**



$(\text{"DEM_UTM@1"} \geq 1000) * \text{"DEM_UTM@1"}$



Exploration and analysis of Raster data in QGIS

Using Raster Calculator

