



ICIMOD

Empowering Women in Geospatial Information Technology

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Poonam Tripathi

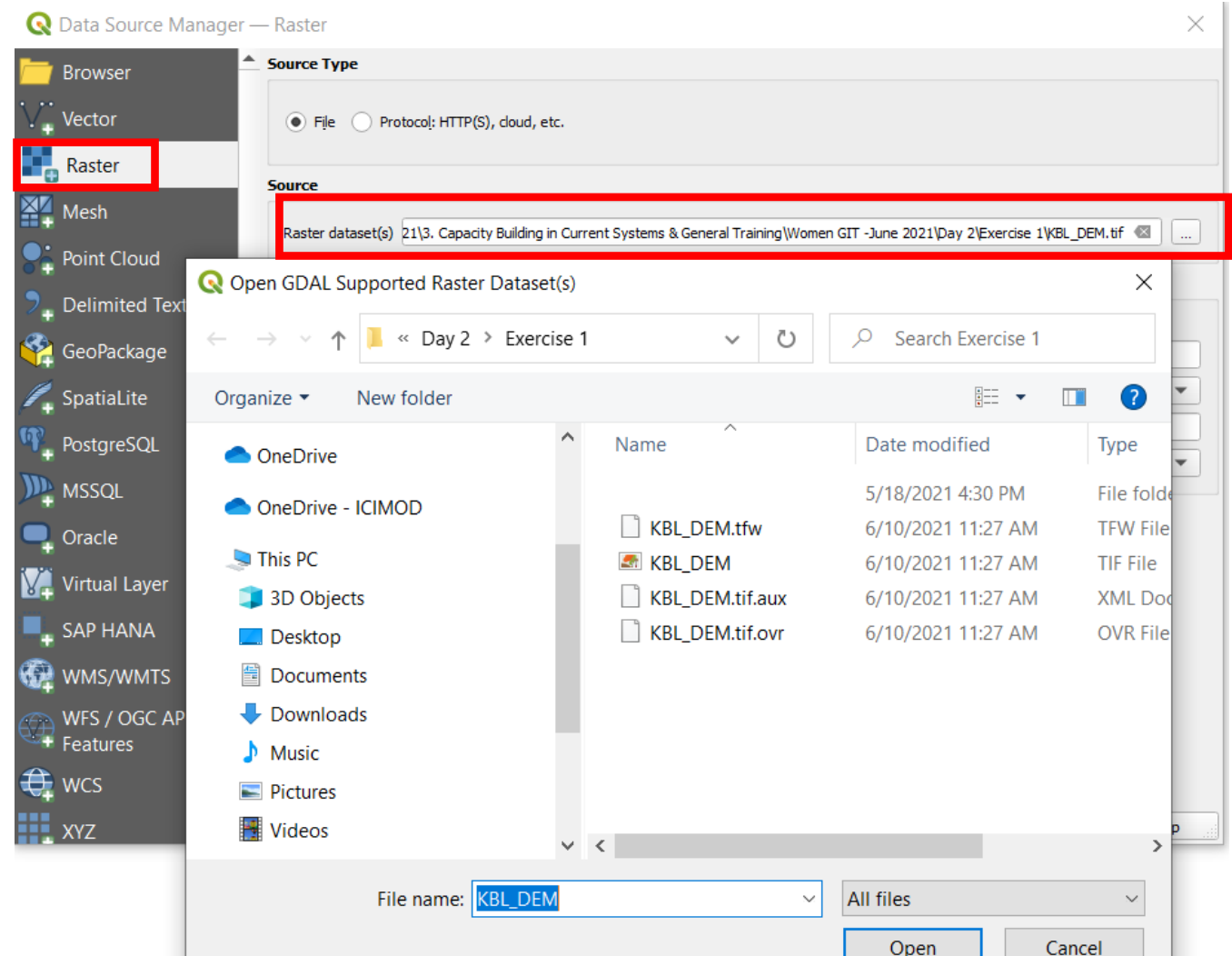
21st June 2021

Exploration and analysis of Raster data in QGIS

Raster data Analysis

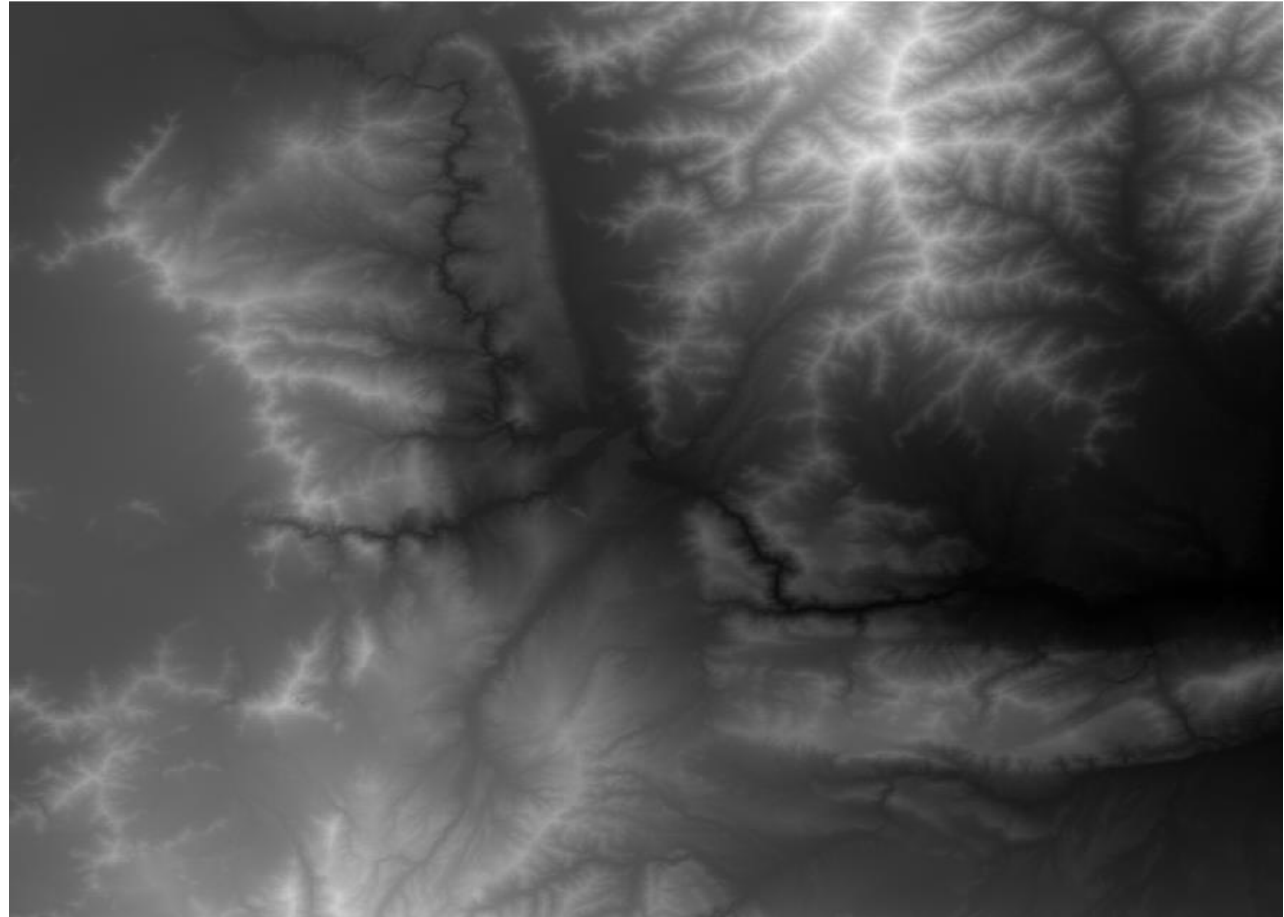
Adding Raster Data

- Click on  icon
- > Add **raster** data
- Add **KBL_DEM.tif** file from the folder



Raster data Analysis

Adding Raster Data



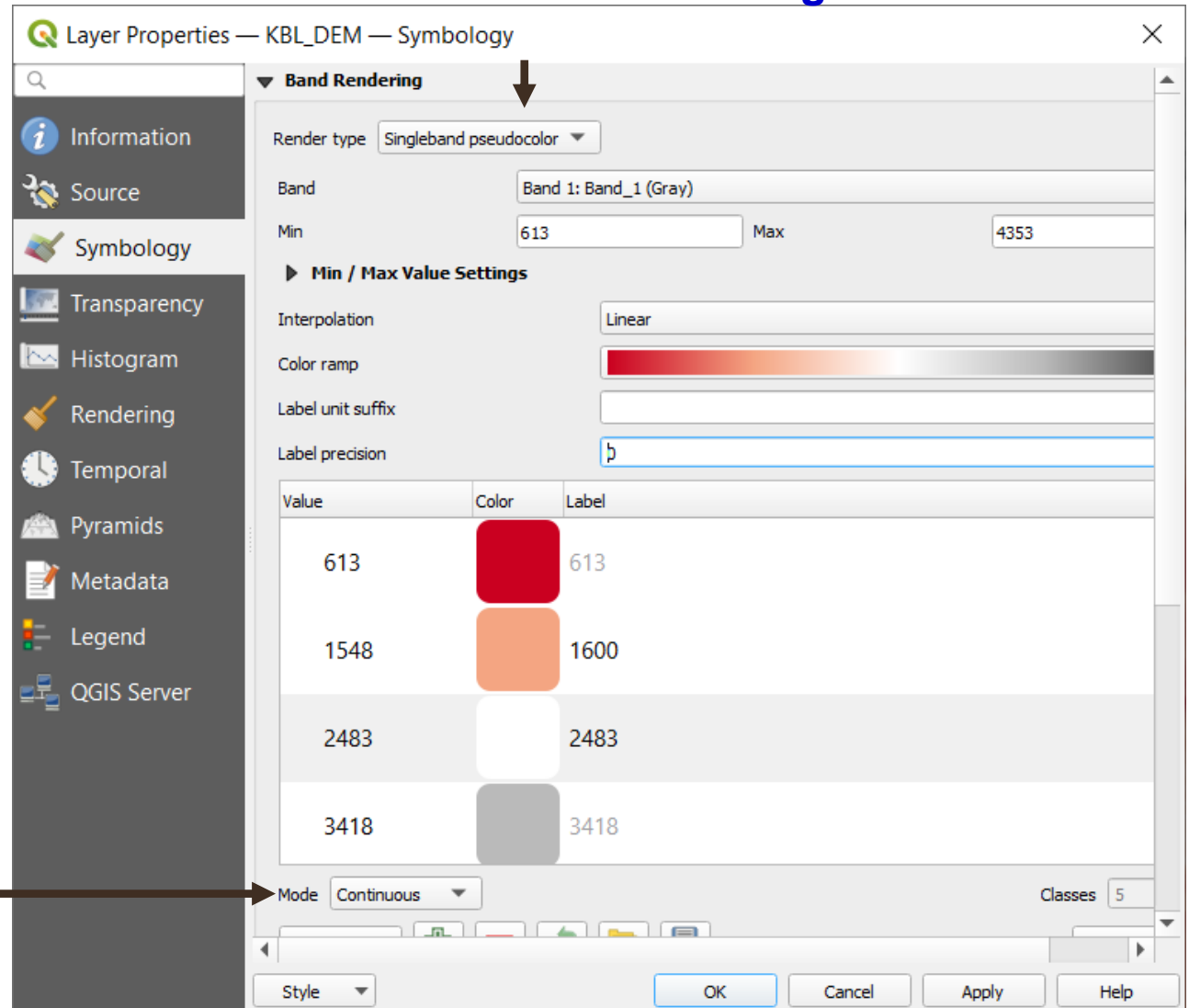
Raster data Analysis

Defining Symbolology

Right click on raster layer
->**Properties->Symbolology**

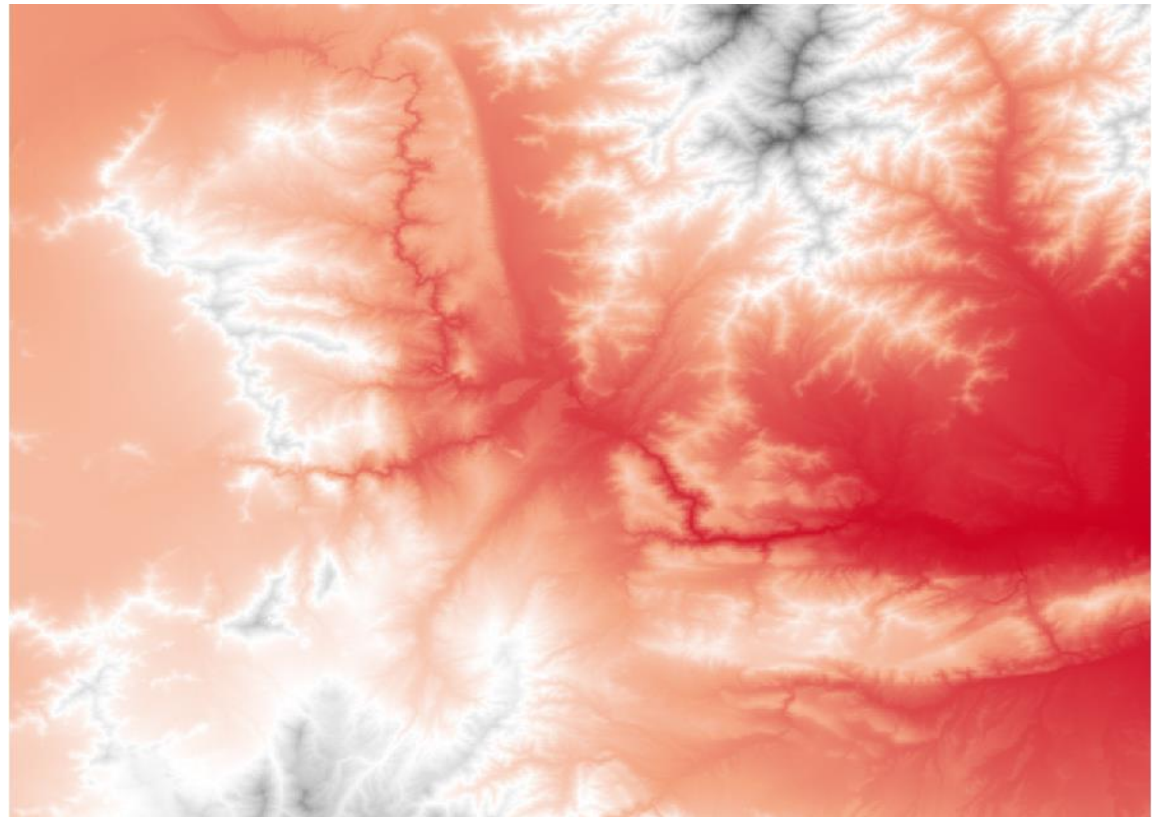
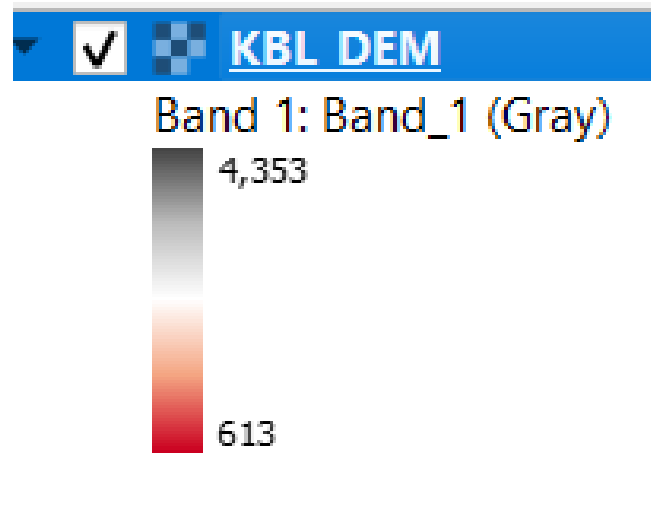
Select color Rendering

Select classification mode



Raster data Analysis

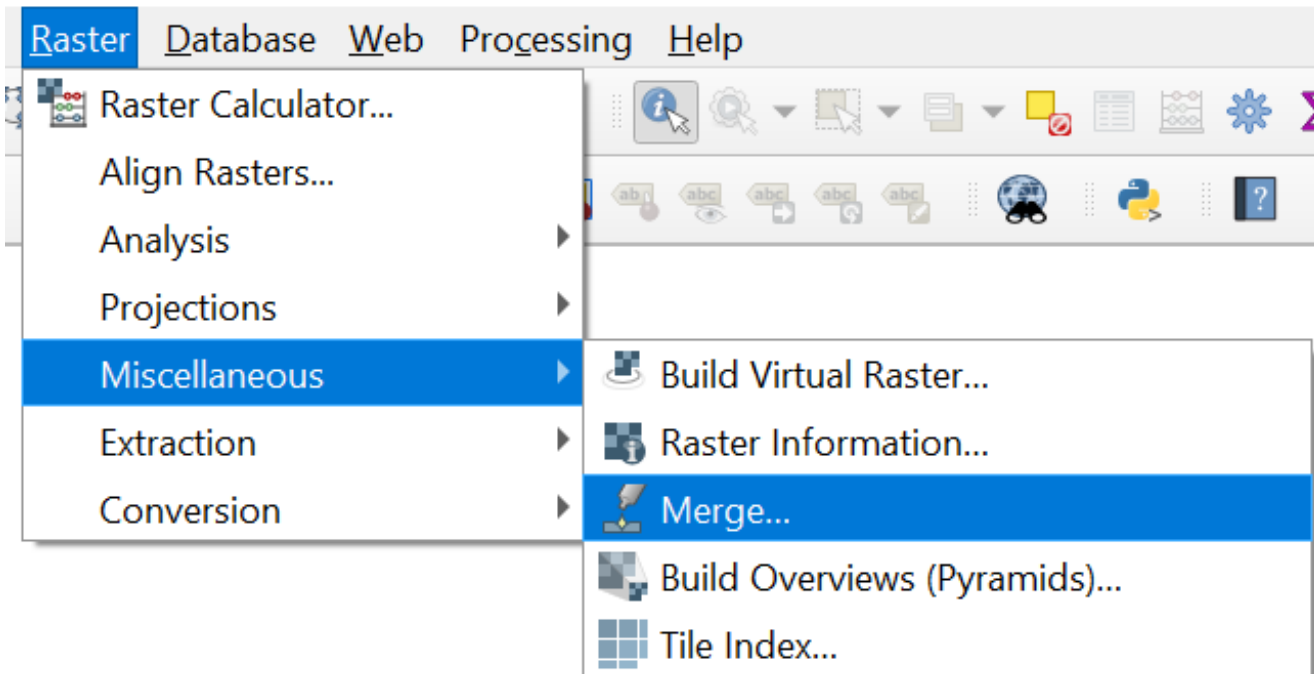
Defining Symbology



Raster data Analysis

Merging

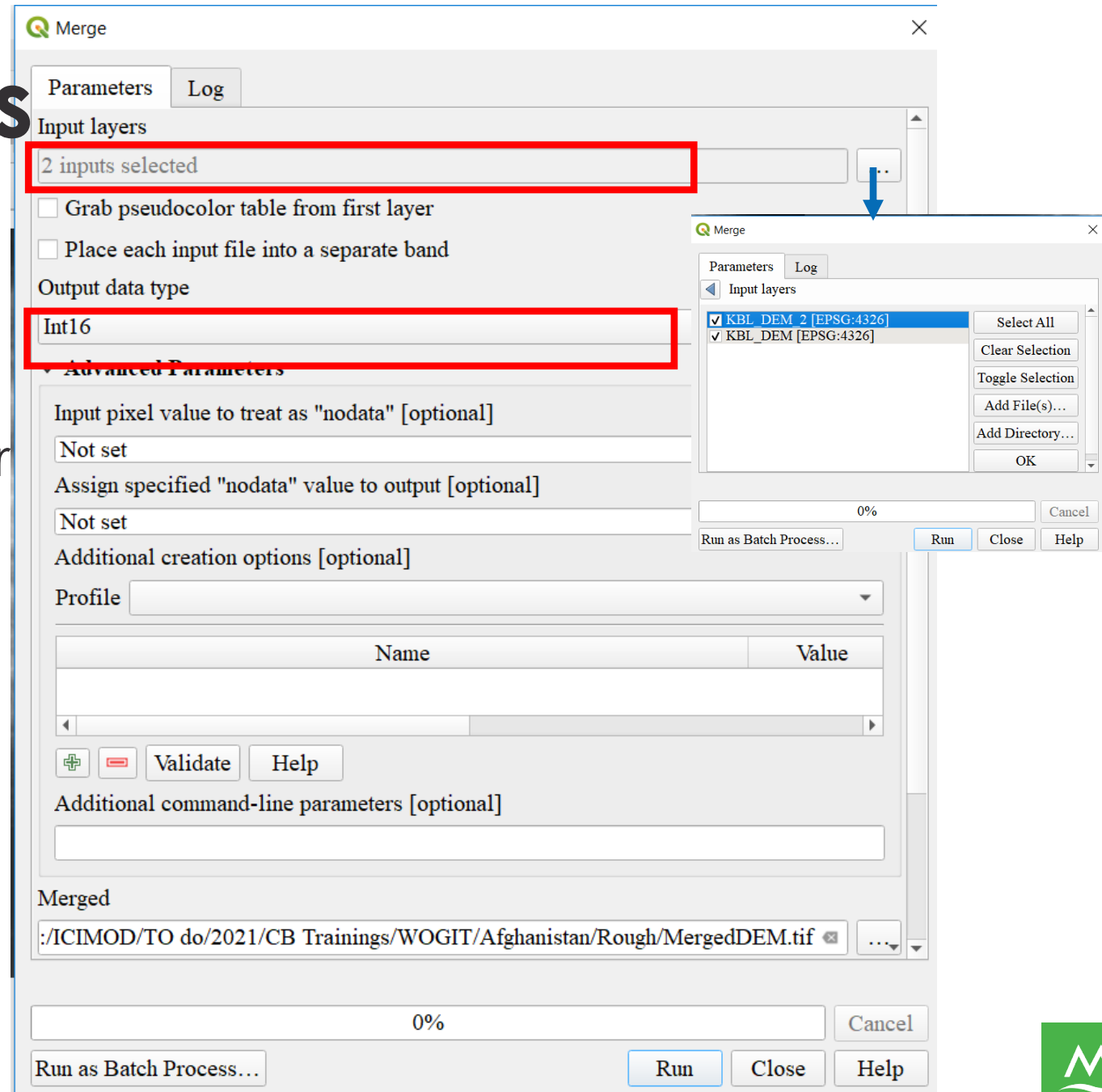
- Open the **KBL_DEM.tif** and **KBL_DEM_2.tif** .img from the folder **Day 2\Exercise 1**
- Click on Raster -> **Miscellaneous**-> **Merge**



Raster data Analysis

Merging

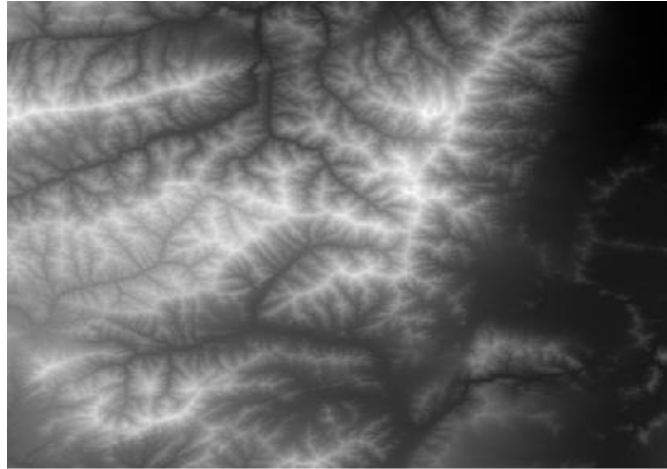
- Open the **KBL_DEM.tif** and **KBL_DEM_2.tif** .img from the folder **Day 2\Exercise 1**
- Click on Raster -> **Miscellaneous**-> **Merge**



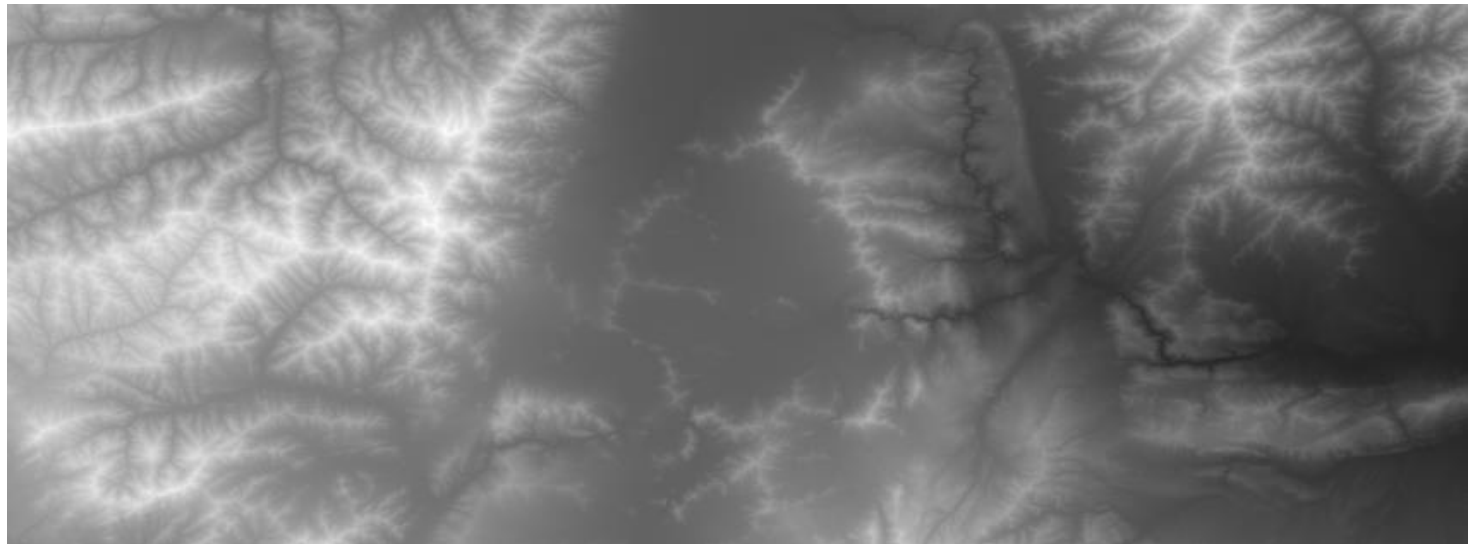
Raster data Analysis

Merge

Before



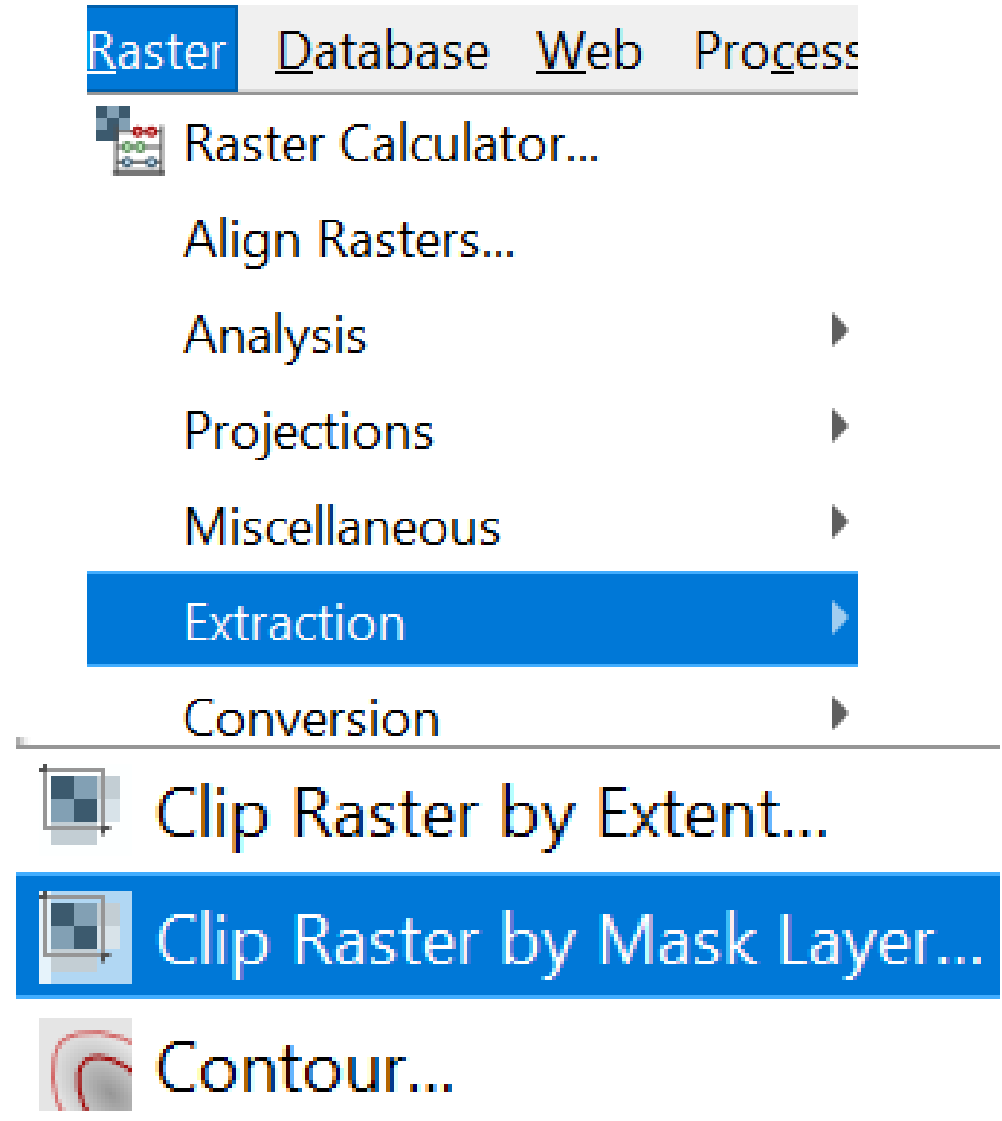
After



Raster data Analysis

Clipping

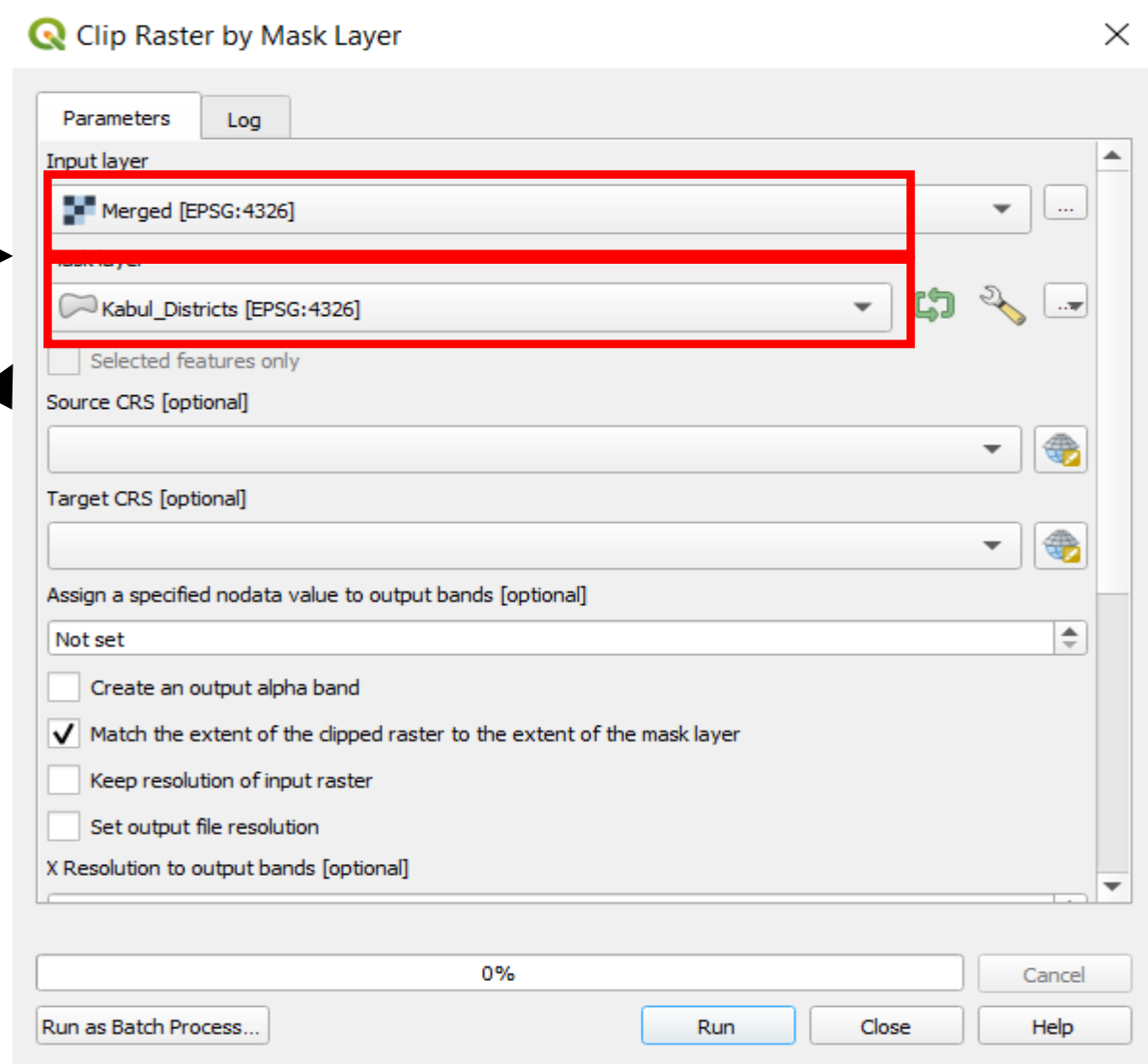
- Open the **Kabul_District.shp** file from **Day 1 \ Exercise 2**
- Click->**Raster-> Extraction-> Clip Raster by Mask Layer**



Raster data Analysis

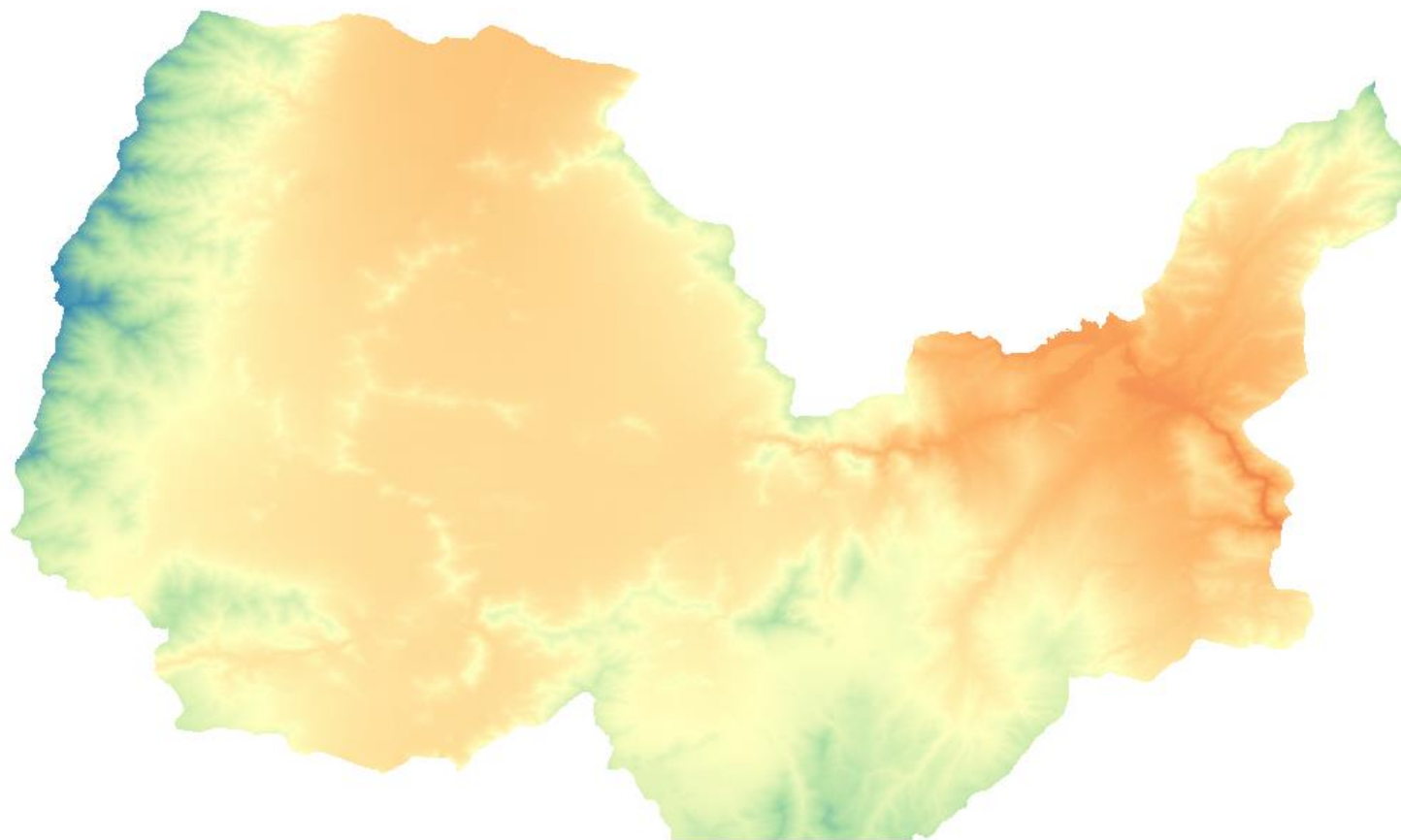
Clipping

- Select **merged DEM** file as input layer
- Select **Kabul_Districts.shp** as mask layer



Raster data Analysis

Clipping



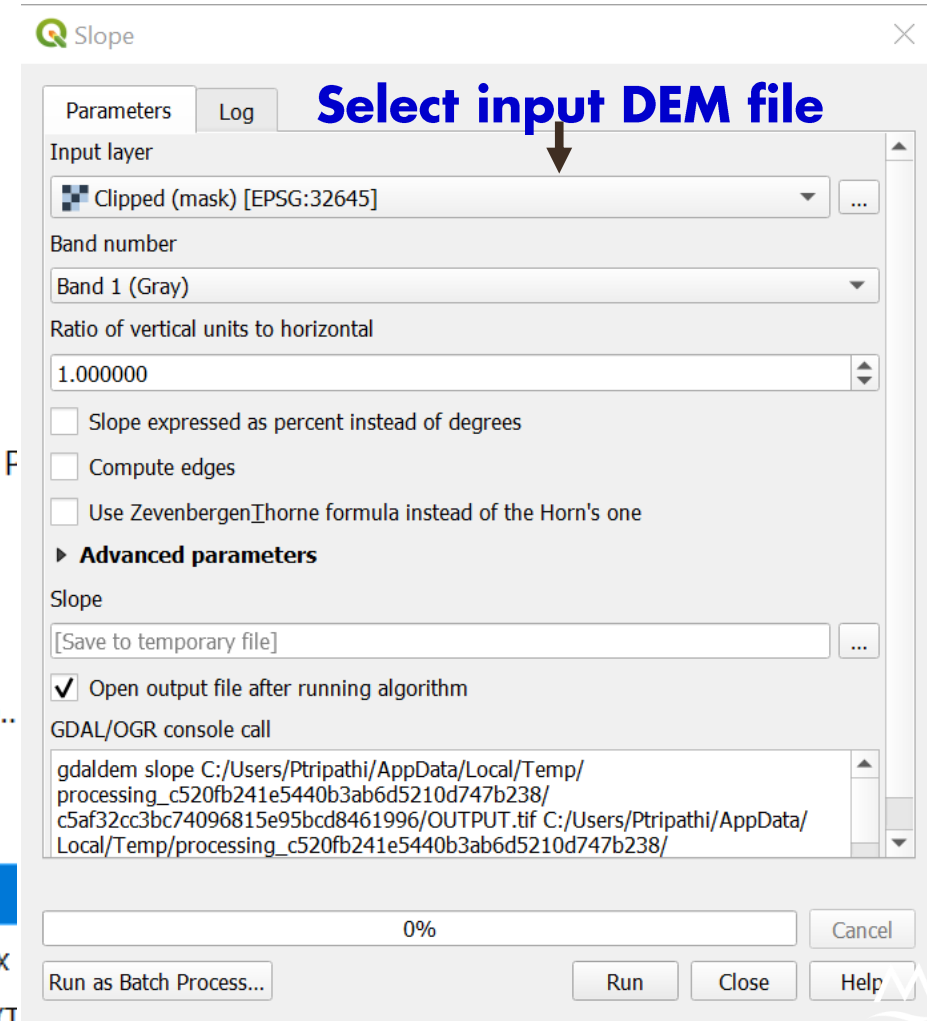
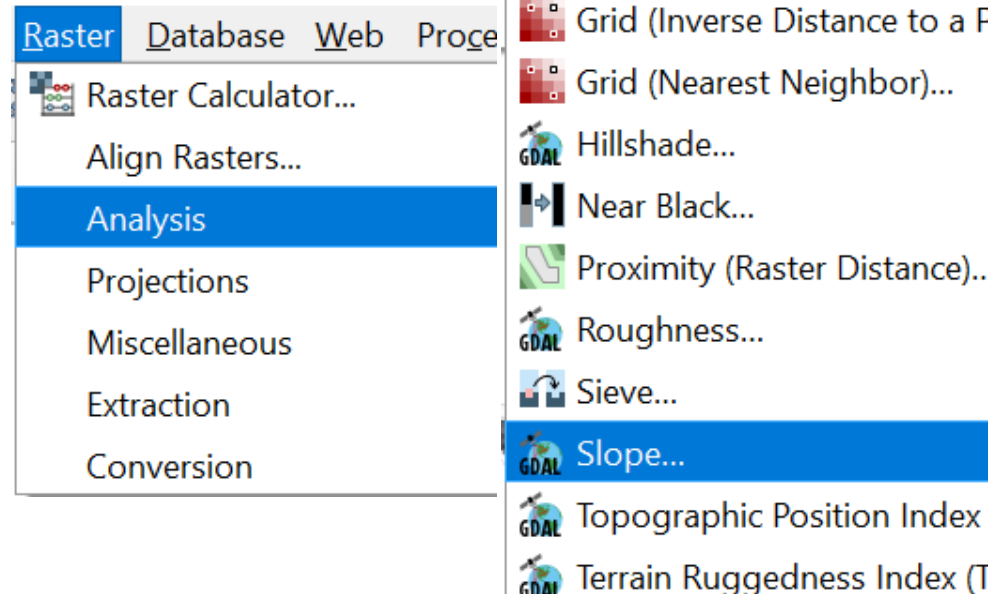
Export the clipped file as clipped Cliped_Mask.img



Raster data Analysis

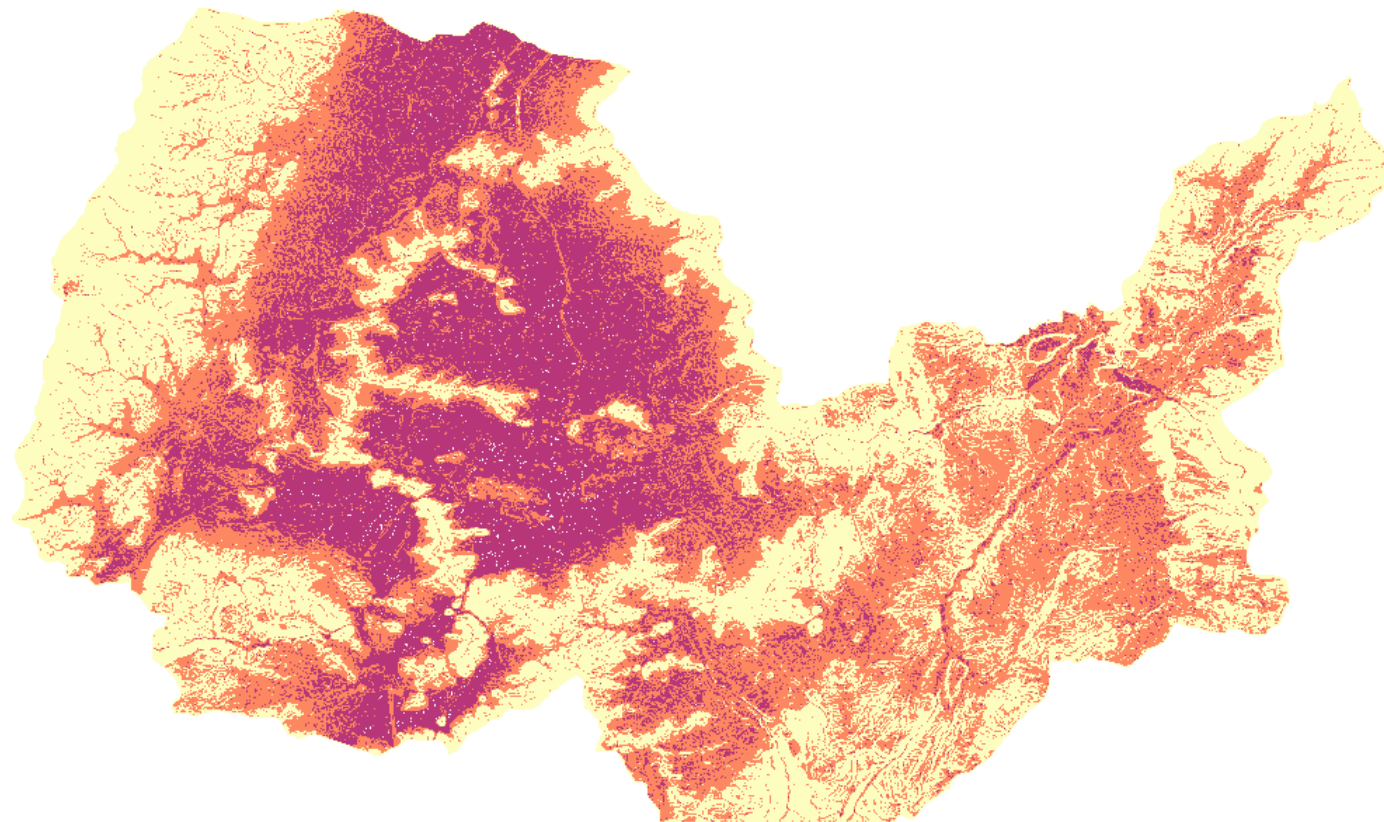
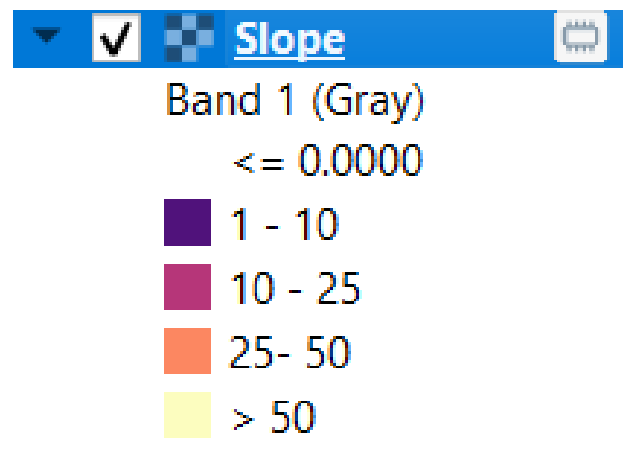
Raster Analysis (Slope)

➤ Click on **Raster** -> **Analysis** -> **Slope**



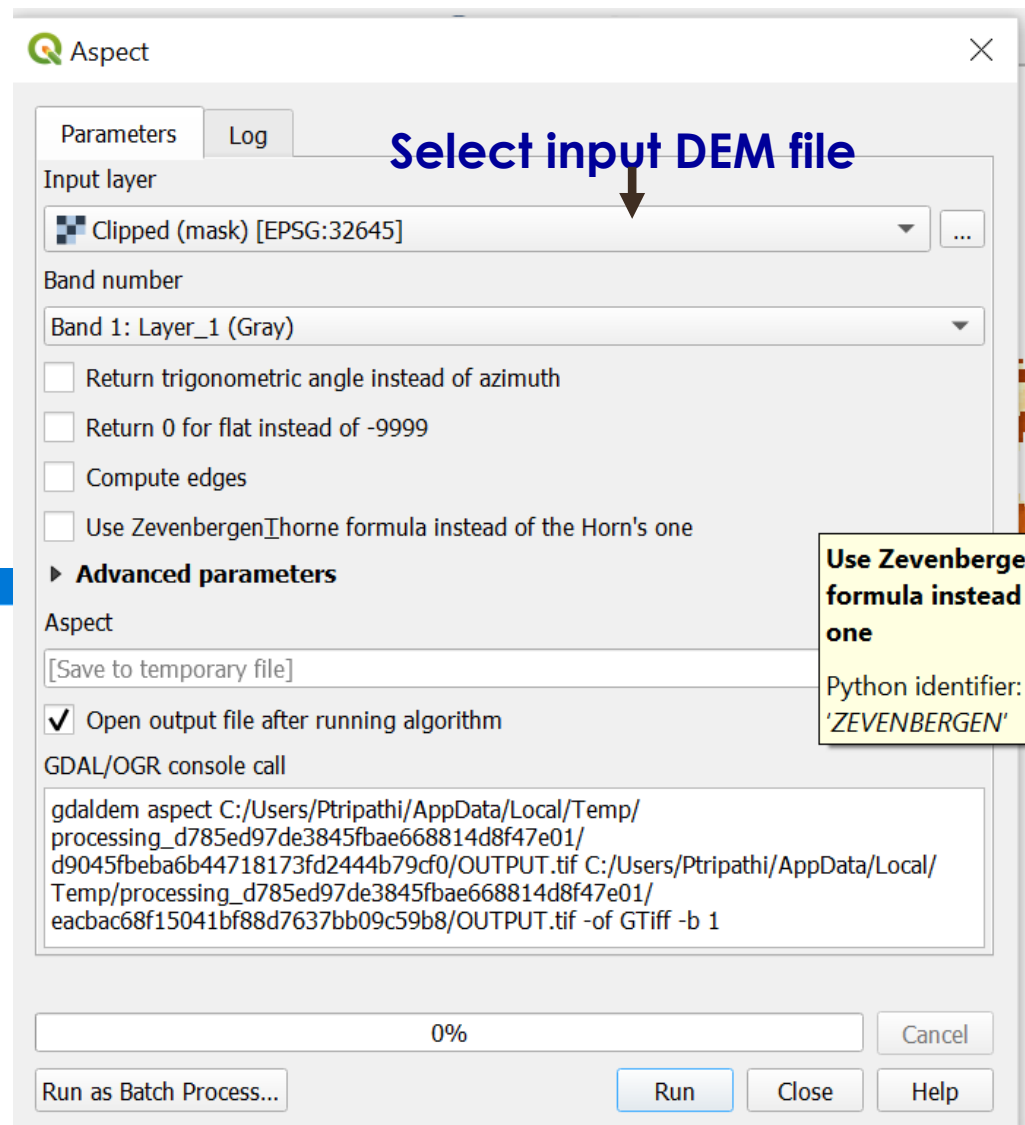
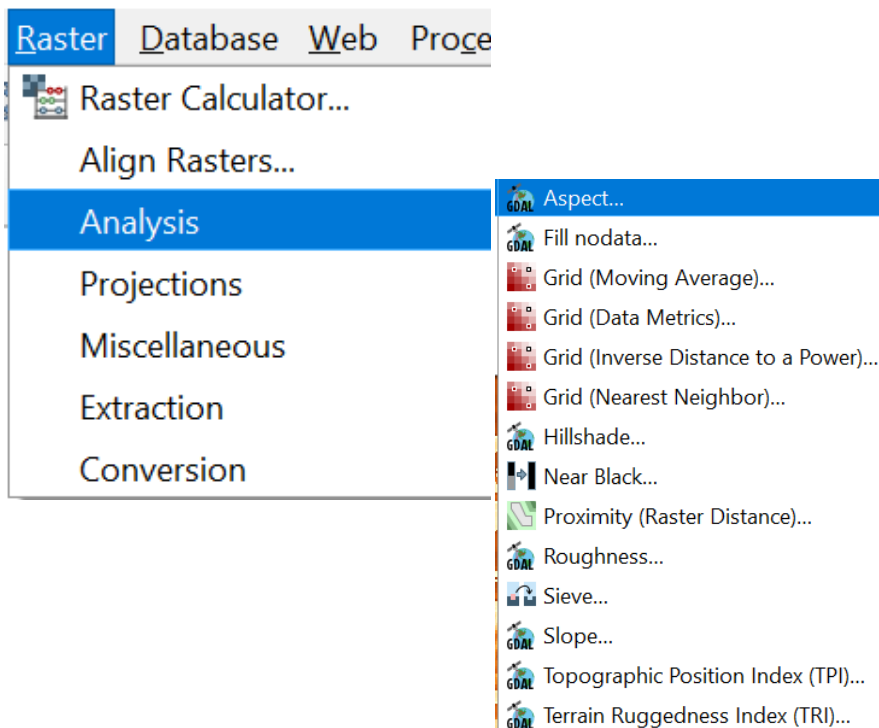
Raster data Analysis

Raster Analysis (Slope)



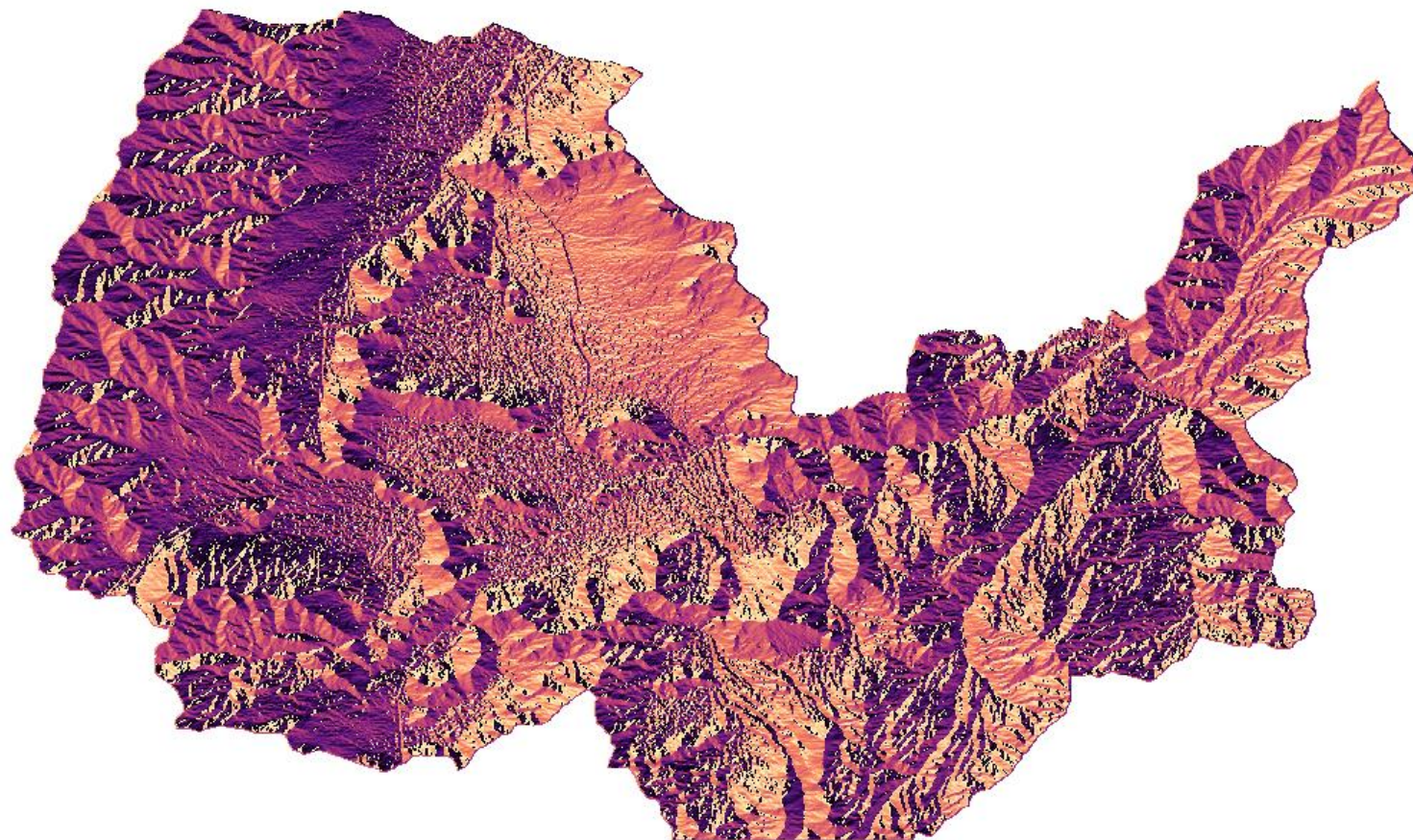
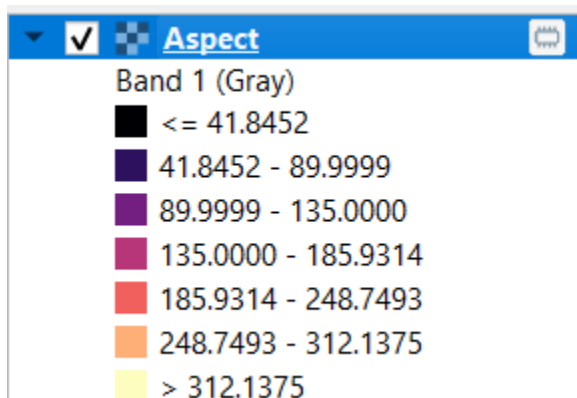
Raster data Analysis

Raster Analysis (Aspect)



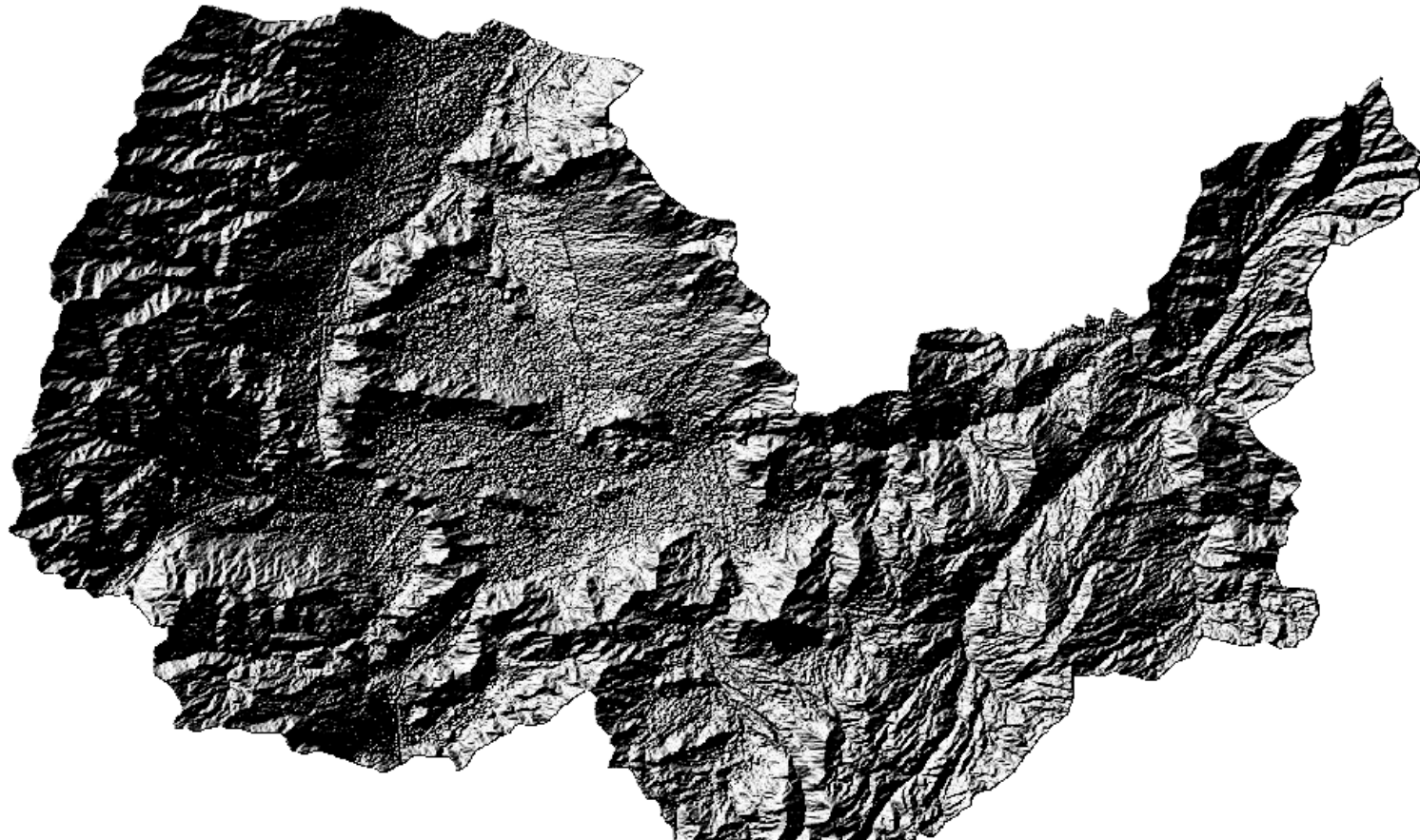
Raster data Analysis

Raster Analysis (Aspect)



Raster data Analysis

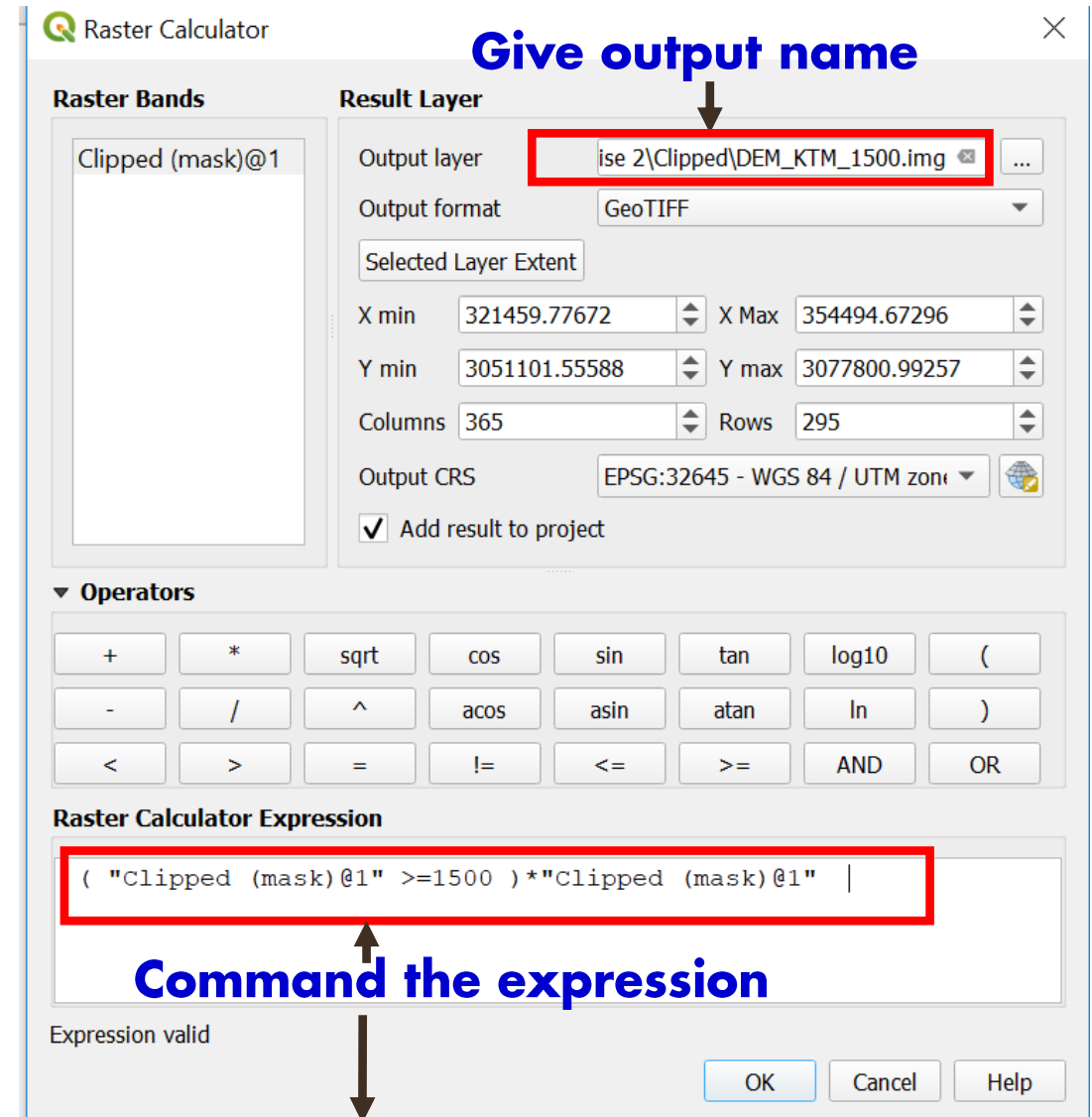
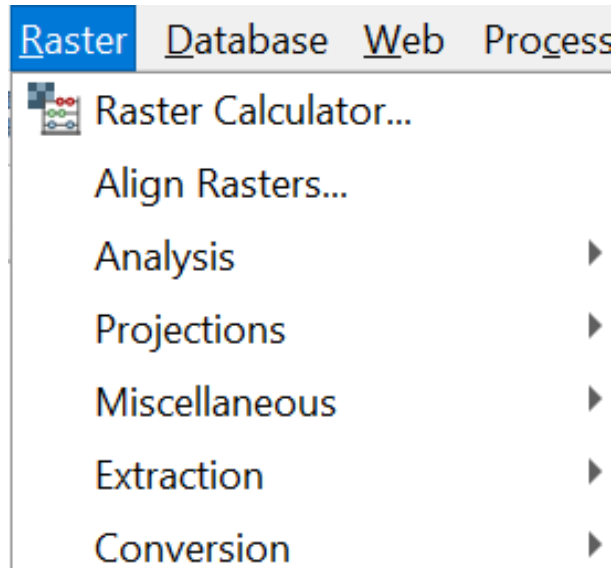
Raster Analysis (Hillshade)



Raster data Analysis

Raster Calculator

Click on **Raster**→**Raster Calculator**



("Clipped (mask)@1" >=1500)*"Clipped (mask)@1"



Raster data Analysis

Raster Calculator



Regions with $\geq 1500\text{m}$ elevation are masked





Thank you

Let's protect
the pulse.