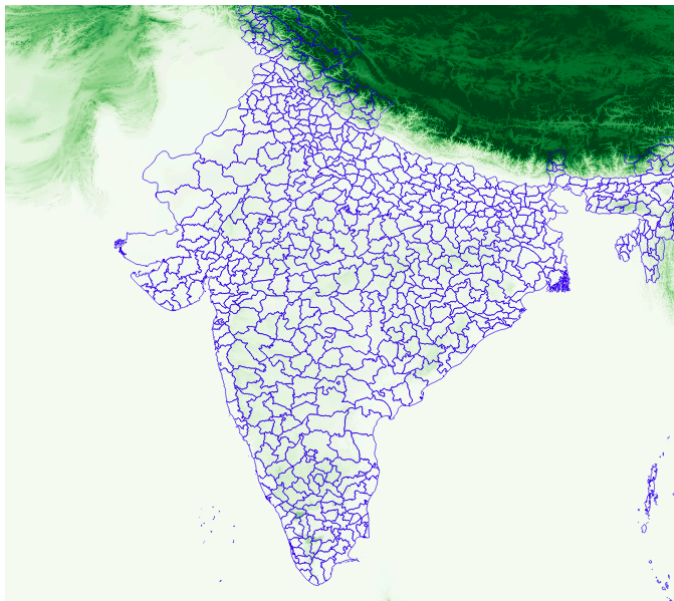


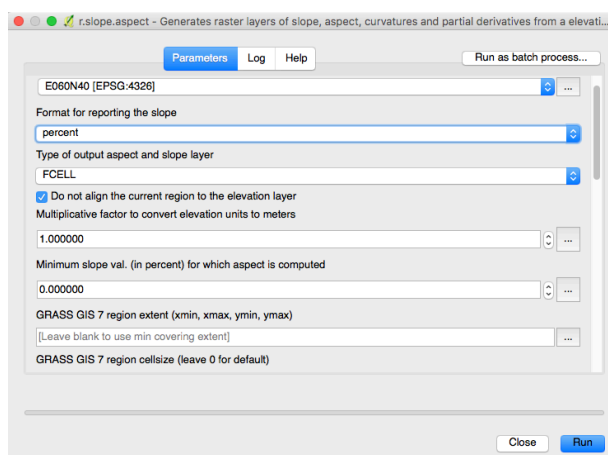
## Exercise 3A Zonal Statistics - Elevation:

1. From folder Exercise 3 load shapefile IND\_adm2.shp
2. From folder Exercise 3 load E060N40.DEM
3. Check CRS
4. Change shapefile IND\_adm2.shp to transparent fill

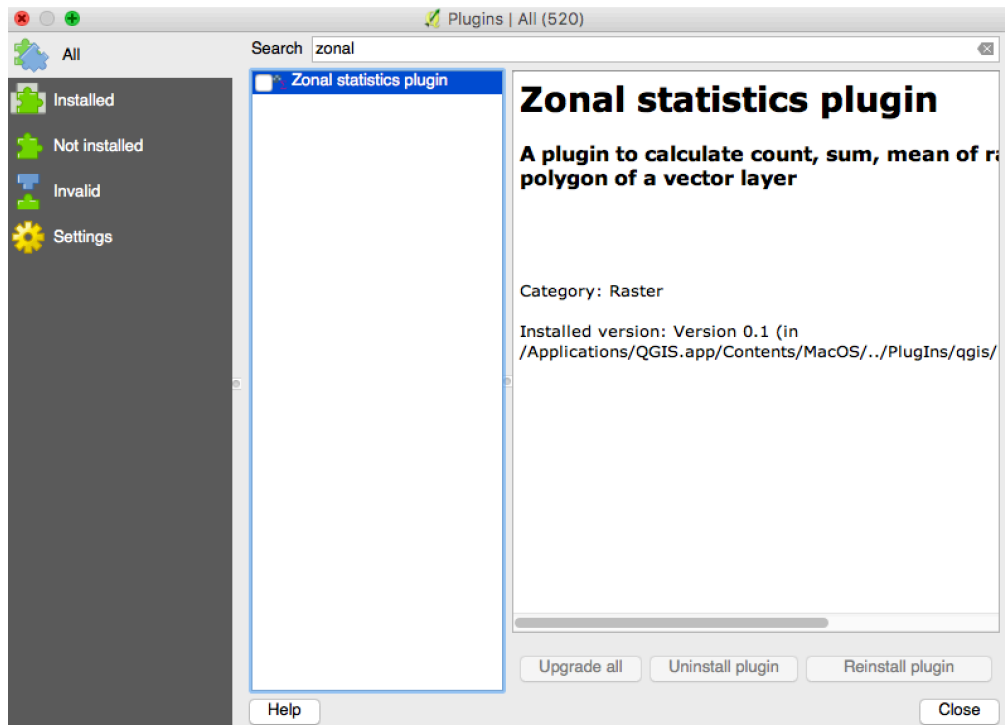


5. Try the hillshade tool  
Raster | Analysis | DEM (Terrain models)
6. Try the slope tool

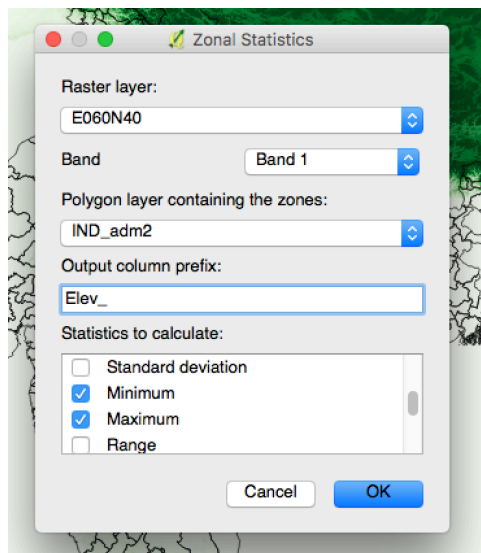
Processing | r.slope.aspect  
in percent



## 7. Install Zonal Statistics Plugin



## 8. Raster | Zonal Statistics | Zonal Statistics Pick Statistics that you want to calculate (Mean, Median, Std. Dev., Min., Max. ...)



## 9. Check the attribute table of IND\_adm2.shp

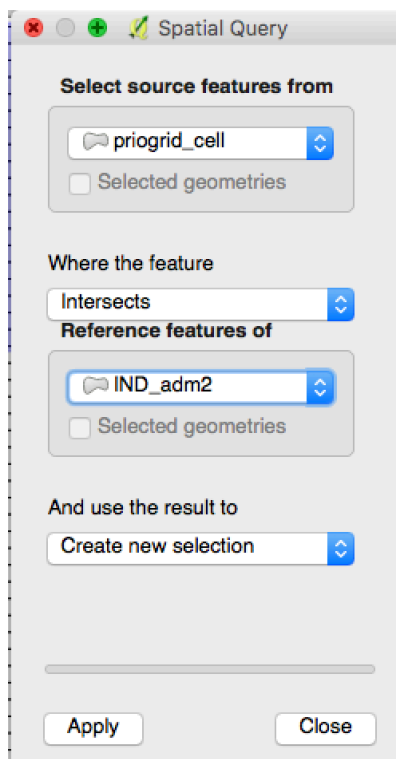
## **DIY-Exercise 3B Zonal Statistics - Population:**

1. From folder Exercise 3 load gpw-v4-population-count\_2010.tif
2. Check CRS
3. Calculate Zonal stats (Sum, Mean)
4. Check if the population figures for each state line up with India's total population in 2010 (1,231,000,000 (World Bank)).
5. Create a new shapefile of ADM2 regions where the mean elevation is above 1,000m.
6. Calculate the fraction of the Indian population that lives above 1,000.

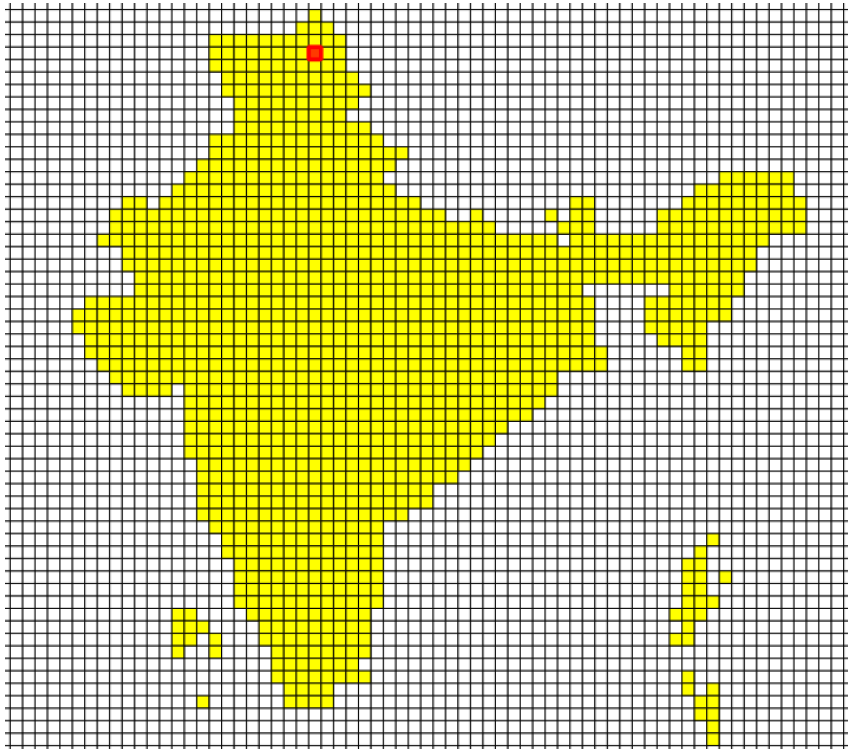
## Exercise 3C – Zonal Statistics at the GRID Level

1. From folder Exercise 3 load shapefile IND\_adm2.shp
2. From folder Exercise 3 load priogrid\_cell.shp
3. Check CRS
4. Run a Spatial Query

Vector | Spatial Query | Spatial Query



## 5. Result



## 6. Save Selected Features as new Shapefile

Save vector layer as...

Format: ESRI Shapefile

File name: or Economists/Exercises/Exercise 3/Data/India\_Prio\_Grid2.shp

Layer name:

CRS: Selected CRS (EPSG:4326, WGS 84)

Encoding: TIS-620

Save only selected features  
▶ Select fields to export and their export options

Add saved file to map

Symbology export: No symbology

Scale: 1:50000

▼ Geometry

Geometry type: Automatic

Force multi-type

Include z-dimension

7. Remove prio grid and India adm layers
8. From folder Exercise 3\Data\suit\suit load raster file w001001.adf
9. Run Zonal statistics.