

RS and GIS

Lab. 2

How to make a mosaic images?

Mosaic: It is the process of merging two or more consecutive satellite images

- Open **Arc Toolbox**
- Then, Data Management Tools>Raster>Raster dataset>Mosaic To New Raster
- In **Input Rasters**: select all the images that contribute in the mosaic (composite bands images in the previous lab.)
- In **Output Location**: select the folder you want to save the new image in.
- In **Raster Dataset Name with Extension**: Type a name for your new image with its extension (example: .tiff)
- In **Pixel Type**: Select the same pixel type
- In **Number of Bands**: Select the same number of bands
- Click OK
- Click on yes to add the mosaic image

Applying Normalized Differences Vegetation Index (NDVI)

Index (indices): it is a formula that applies to the satellite images for a specific purpose

- **$NDVI = (NIR-R) / (NIR+R)$**
NIR= near infrared, R= red
- Add a mosaic images (mosaic of each band alone)
- Open arc toolbox
- Open Spatial Analyst Tools > Map Algebra> Raster Calculator
- In the middle space of Raster Calculator write the formula:

Float (Band 5 - Band 4)/Float (Band 5 + Band 4)

- **Using Band 5 and Band 4 if we are using Landsat 8**
- Find float in the right list of mathematical operation then double click on it
- For choosing bands just double click on it from the left corner
- Specify the output raster folder direction then click OK
- The white pixels in the output image is an indicator for vegetation areas
- The NDVI Digital Number value (DN) or the pixel value ranges from +1 to -1