

Calculating NVDI

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Below I have gathered Landsat data which will be used to calculate NVDI:

```
all_landsat_bands <- list.files("C:/Users/kaitlyn/documents/earth-analytics/data/week6/Landsat/LC8
0340322016205-SC20170127160728/crop",
    pattern=glob2rx("*band*.tif$"),
    full.names = T)
landsat_stack_csf <- stack(all_landsat_bands)
```

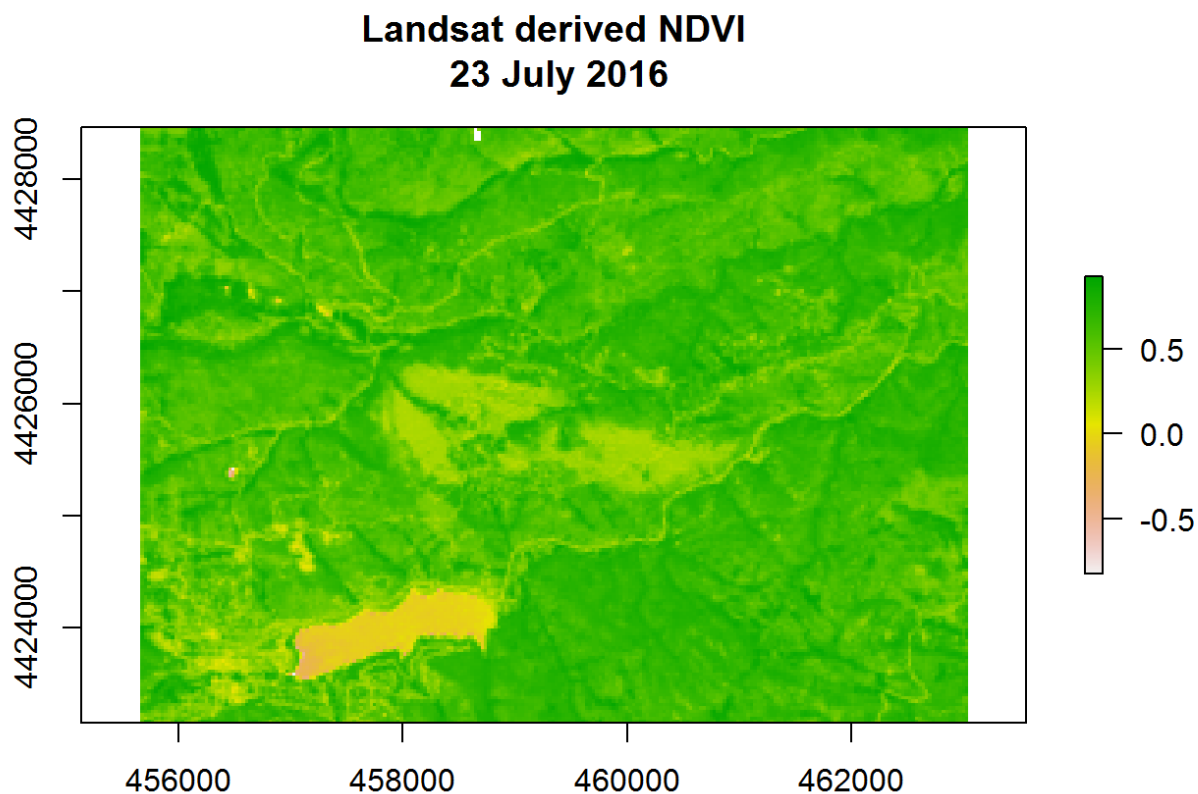
The script above instructs *r* to gather all the bands and stack them together.

The red and infrared bands will be used to calculate the index using a specified ratio:

```
landsat_ndvi <- (landsat_stack_csf[[5]] - landsat_stack_csf[[4]]) / (landsat_stack_csf[[5]] + land
sat_stack_csf[[4]])
```

Then the result is plotted:

```
plot(landsat_ndvi,
    main="Landsat derived NDVI\n 23 July 2016")
```



The values are examined in the histogram below:

