

Fire & Spectral Remote Sensing Exercise

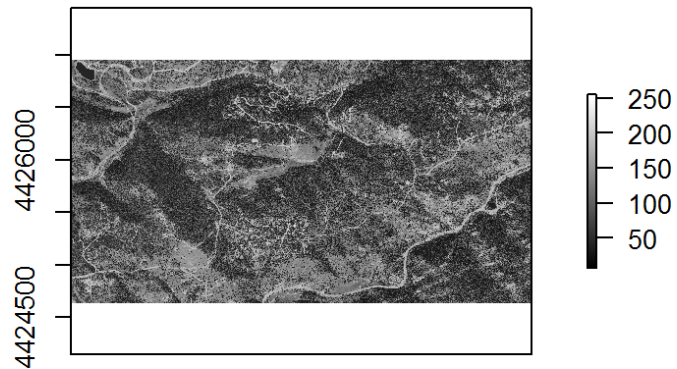
K Perham

May 2017

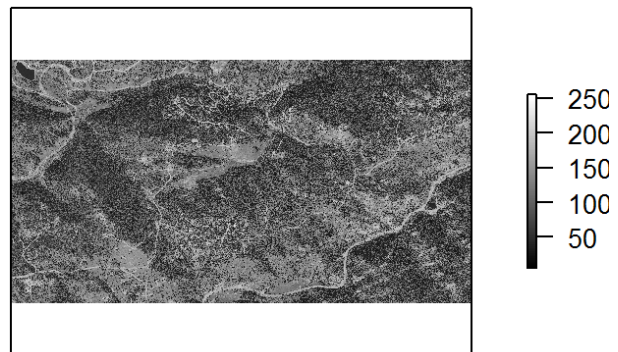
This exercise examines NAIP imagery of a fire study area in Colorado.

Below, we can view all four bands of pre-scar imagery in four separate plots, after creating a rasterstack in r.

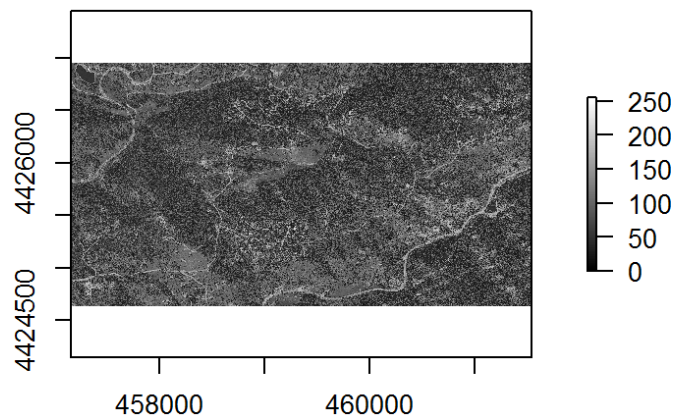
m_3910505_nw_13_1_20130926_crop.1



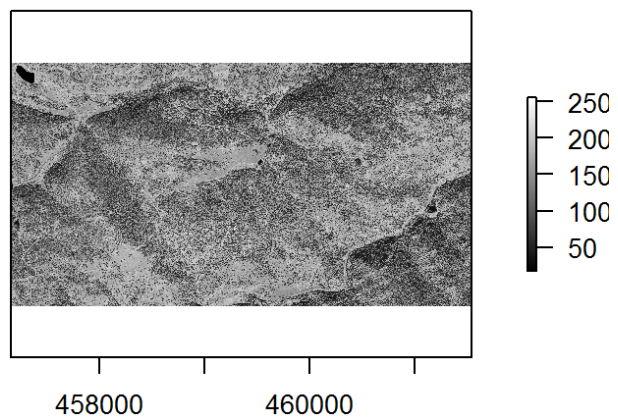
m_3910505_nw_13_1_20130926_crop.2



m_3910505_nw_13_1_20130926_crop.3



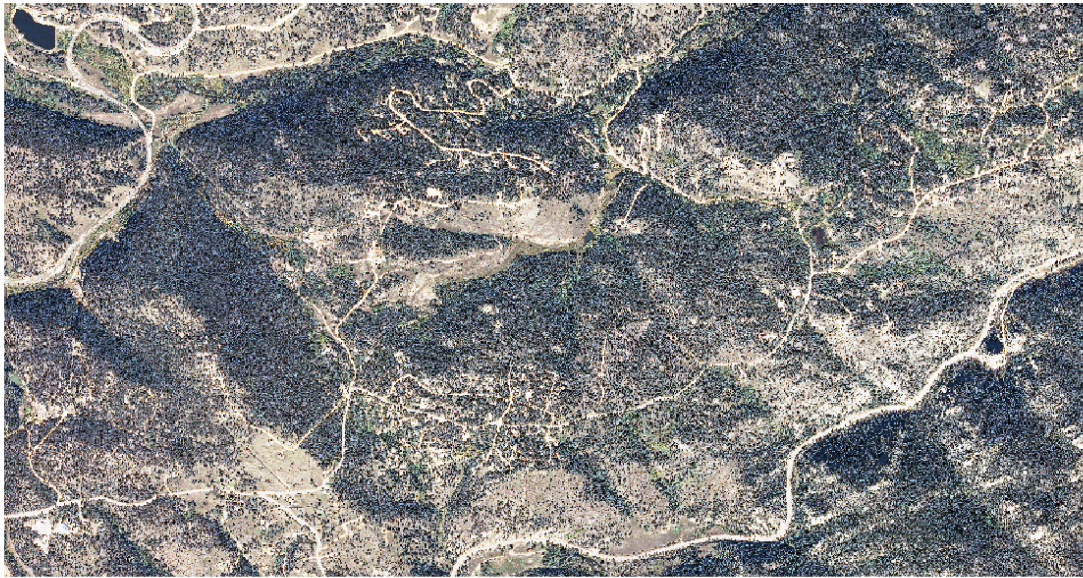
m_3910505_nw_13_1_20130926_crop.4



Next, we can plot these bands together, specifying which bands to plot together (Showing bands 1, 2, and 3 as R, G, and B respectively):

```
par(col.axis="white", col.lab="white", tck=0)
plotRGB(naip_stack_csf,
  r = 1, g = 2, b = 3,
  axes = T,
  scale = 800,
  stretch = "hist",
  main = "RGB image \nColdsprings fire scar")
box(col="white")
```

RGB image Coldsprings fire scar



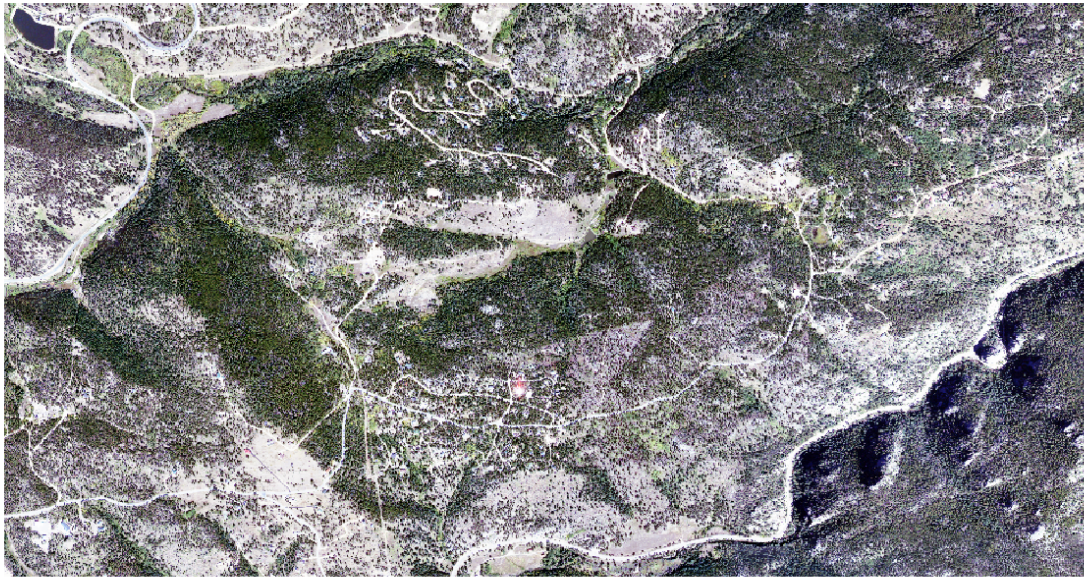
I've

also added the parameters to 'stretch' the values and increase contrast. Since the range of raster values are evenly distributed (viewed as a histogram in this exercise, not shown), it doesn't significantly alter the contrast in this image. If the original raster was darker, a linear stretch could be used to distribute values more evenly and create contrast.

Next, we'll examine the post-fire imagery:

```
par(col.axis="white", col.lab="white", tck=0)
plotRGB(post_stack,
        r = 1, g = 2, b = 3,
        scale = 800,
        stretch = "hist",
        axes = T,
        main = "RGB image \nColdsprings - Post-fire")
box(col="white")
```


RGB image
Coldsprings - Post-fire



I used

the same scale and stretch parameters, to make an accurate comparison of the values. In this image, it's easy to make a quick visual assessment of the changes.