Adjust plot extent in R.

Learning Objectives

After completing this tutorial, you will be able to:

-

What you need

You will need a computer with internet access to complete this lesson and the data for week 6 of the course.

Download Week 6 Data (~500 MB){:data-proofer-ignore=" .btn }

Review: What is an extent?

```
<a href="~/Documents/Github/earthlab.github.io/images/course-materials/earth-analytics/week-5/spatial_e
<img src="~/Documents/Github/earthlab.github.io/images/course-materials/earth-analytics/week-5/spatial_
</a>
<figcaption>Spatial extent.
</figcaption>
```

```
all_landsat_bands <- list.files("data/week6/Landsat/LC80340322016189-SC20170128091153/crop",
           pattern=glob2rx("*band*.tif$"),
           full.names = T) # use the dollar sign at the end to get all files that END WITH

all_landsat_bands_st <- stack(all_landsat_bands)

# turn the axis color to white and turn off ticks
par(col.axis="white", col.lab="white", tck=0)
# plot the data - be sure to turn AXES to T (we just color them white)
plotRGB(all_landsat_bands_st,
        r=4, g=3, b=2,
        stretch="hist",
        main="Pre-fire RGB image with cloud\n Cold Springs Fire",
        axes=T)
# turn the box to white so there is no border on our plot
box(col="white")
```

Adjust plot extent

We can adjust the extent of a plot using `ext` argument. We can give the argument the spatial extent of the fire boundary layer that we want to plot.

If our object is called fire_boundary_utm, then we'd code: `ext=extent(fire_boundary_utm)`

```
# import fire overlay boundary
fire_boundary <- readOGR("data/week6/vector_layers/fire-boundary-geomac/co_cold_springs_20160711_2200_d
## OGR data source with driver: ESRI Shapefile
## Source: "data/week6/vector_layers/fire-boundary-geomac/co_cold_springs_20160711_2200_dd83.shp", layer
## with 1 features
## It has 21 fields
```

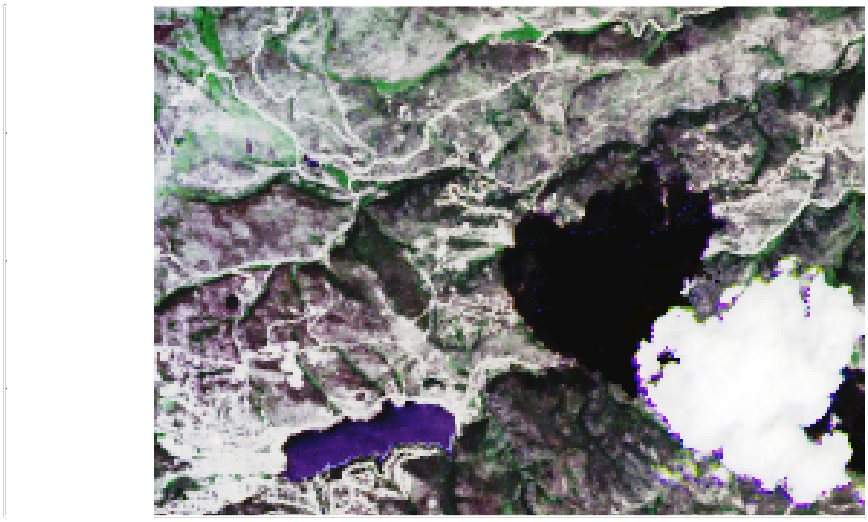

Figure 1:

```
# reproject the data
fire_boundary_utm <- spTransform(fire_boundary, CRS=crs(all_landsat_bands_st))

# turn the axis color to white and turn off ticks
par(col.axis="white", col.lab="white", tck=0)
# plot the data - be sure to turn AXES to T (we just color them white)
plotRGB(all_landsat_bands_st,
        r=4, g=3, b=2,
        stretch="hist",
        main="Pre-fire RGB image with cloud\n Cold Springs Fire\n Fire boundary extent",
        axes=T,
        ext=extent(fire_boundary_utm))
# turn the box to white so there is no border on our plot
box(col="white")
plot(fire_boundary_utm, add=T)
```

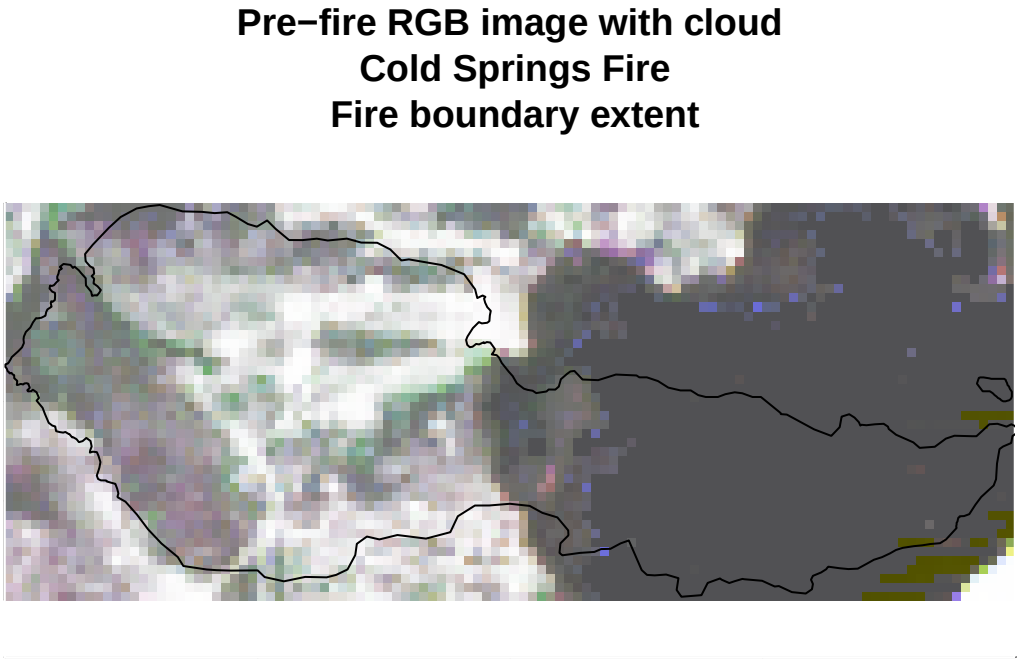

Figure 2: Plot with the fire boundary