NDVI Trace in Hayman Fire

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Hayman Fire

In 2002 there was a large fire in central Colorado. This analysis is meant to highlight how the fire altered vegetation in the area.

Data read

First we have to read in the NDVI data which is structured to compare unburned vs burned sites in the Hayaman region.

```
#Reading in the data and removing na
ndvi <- read_csv('data/hayman_ndvi.csv') %>%
  rename(burned=2,unburned=3) %>%
  filter(!is.na(burned),
         !is.na(unburned))
```

```
## Parsed with column specification:
## cols(
##   DateTime = col_date(format = ""),
##   `NDVI (Landsat 4/5/7/8 SR) at Polygon 1, 1984-01-01 to 2019-08-15` = col_double(),
##   `NDVI (Landsat 4/5/7/8 SR) at Polygon 2, 1984-01-01 to 2019-08-15` = col_double()
## )
```

```
## Warning: 1 parsing failure.
## row col  expected    actual                   file
## 533  -- 3 columns 2 columns 'data/hayman_ndvi.csv'
```

Tidying

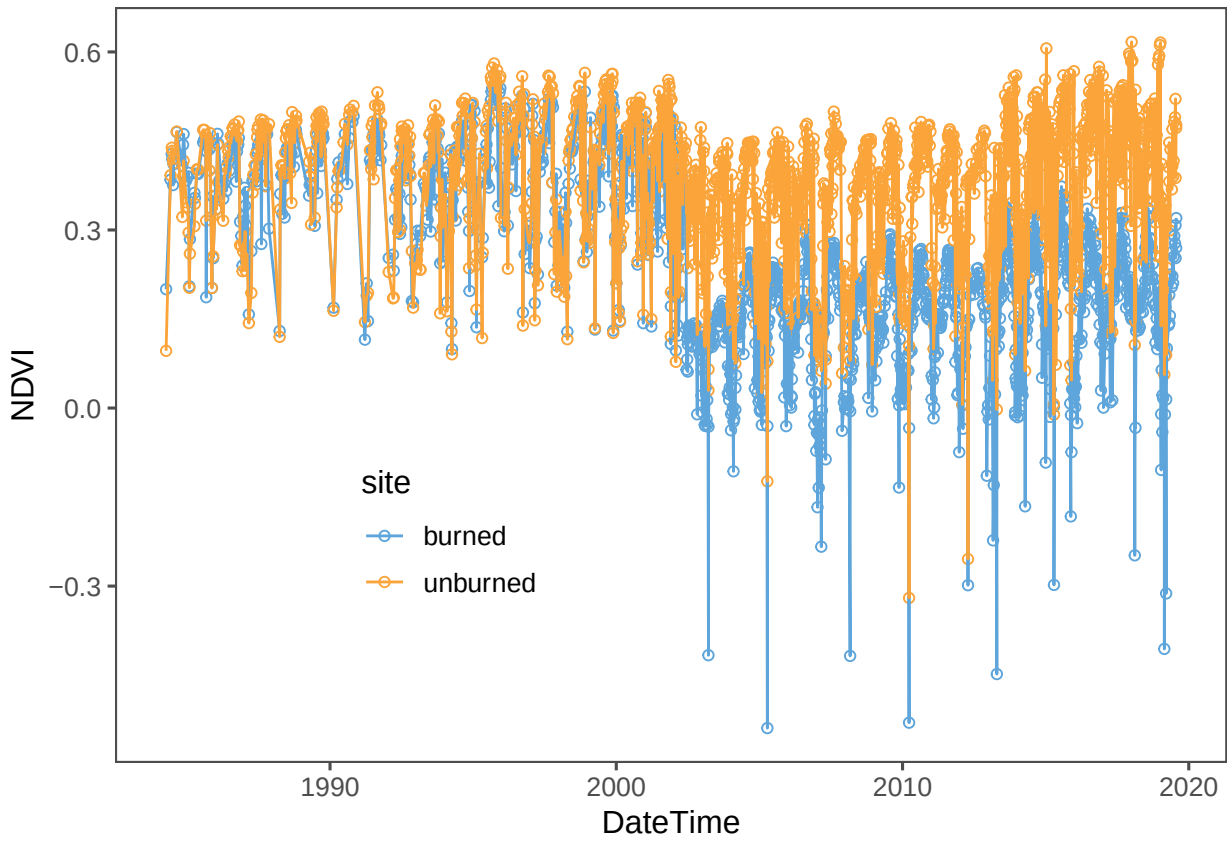
Next we clean the data a litle.

```
# Converting from wide to long data
ndvi_long <- gather(ndvi,
                    key='site',
                    value='NDVI',
                    -DateTime)
```

Plot of NDVI over time

NDVI (greenness) after the fire dramatically decreased and stayed low for at least 17 years.

```
# Plotting all the data
ggplot(ndvi_long,aes(x=DateTime,y=NDVI,color=site)) +
  geom_point(shape=1) +
  geom_line() +
  theme_few() +
  scale_color_few() +
  theme(legend.position=c(0.3,0.3))
```


0.6
0.3
0.0
−0.3
NDVI
site
burned
unburned
1990
2000
2010
2020
DateTime