

```
library(maps)
```

```
library(maptools)
```

```
library(mapproj)
```

```
setwd('D:/Documents/IST719/final_project/data')
```

```
eq <- read.csv('last_50y.csv', header=TRUE)
```

```
catalog <- read.csv("last_50y.csv", stringsAsFactors = FALSE)
```

```
(catalog$time), FUN = function(x) {return(as.integer(strsplit(x, "-")[1][1]))}}
```

```
world.map <- map_data("world")
```

```
catalog <- catalog[order(catalog$mag),]
```

```
EQ_min_year <- 1966
```

```
mycatalog <- catalog[which(catalog$year > EQ_min_year),]
```

```
ggplot()+
```

```
  geom_polygon(data = world.map, aes(x = long, y = lat, group = group), fill = "white", alpha=0.2)+
```

```
  theme_classic()+
```

```
  #sets the theme. Background color is black so the world map now appears (white on the black background).
```

```
  theme(axis.line = element_blank(), axis.text = element_blank(), axis.ticks =  
  element_blank(), plot.margin = unit(c(3, 0, 0, 0), "mm"), legend.text = element_text(size = 6), legend.title =  
  element_text(size = 8, face = "plain"), panel.background = element_rect(fill = 'black'))+
```

#Adds the earthquake points, with the size and color according to "mag" variable (magnitude).

```
geom_point(aes(x=longitude,y=latitude,size=mag, color=mag),data=mycatalog)+  
coord_fixed(ylim = c(-82.5, 87.5), xlim = c(-185, 185))+
```

#size gradient for points

```
scale_size_continuous(range = c(0.25, 2))+
```

#color gradient for points

```
scale_color_continuous(low="yellow",high="red")+
```

```
theme(legend.position="none",axis.title.y=element_blank(),axis.title.x=element_blank()+
```

```
geom_text(aes(x=35,y=-75),label=paste("Earthquakes recorded since  
",EQ_min_year),color="white",hjust=0,size=3.5)
```