

# Final

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## R Markdown

```
ufo_raw <- read.csv("ufo_sightings_scrubbed.csv")
#convert date time to ymd_hms format
ufo_raw$datetime <- ymd_hms(ufo_raw$datetime)

#cleaning data
ufo<- ufo_raw|>
  mutate(seconds = duration..seconds.,
         year = year(datetime), #create year column
         month = month.name[month(datetime)])|> #create month column and convert to name
  select(datetime, city, state, country, seconds,latitude,longitude, year, month)

ufo$latitude <- as.numeric(ufo$latitude) #chaning lat to numeric

## Warning: NAs introduced by coercion
```

## Including Plots

Longitude and latitude histogram

```
long_hist <- ggplot(
  data = ufo,
  mapping = aes( x= longitude
  )
)+ 
  geom_histogram(fill = "olivedrab",
                 color = "black",
                 bins = 40)+ 
  labs(
    x = "Longitude",
    y = "Number of Sightings"
  )+
  scale_y_continuous(expand = c(0, 0, 0.05, 0))

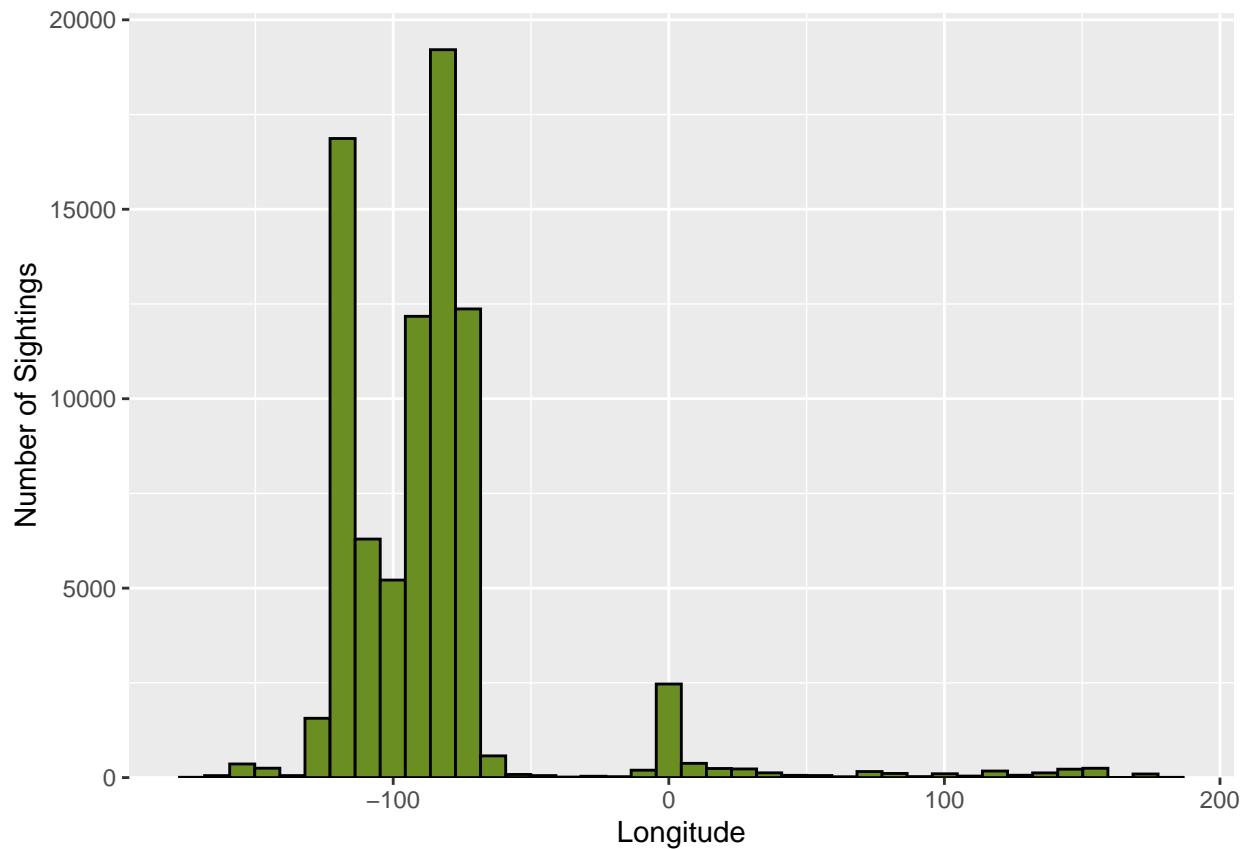
lat_hist <- ggplot(
```

```

data = ufo,
mapping = aes( x= latitude
)
)++
geom_histogram(fill = "olivedrab",
               color = "black",
               bins = 40)++
labs(
  x = "Latitude",
  y = "Number of Sightings"
)++
scale_y_continuous(expand = c(0, 0, 0.05, 0))

long_hist

```

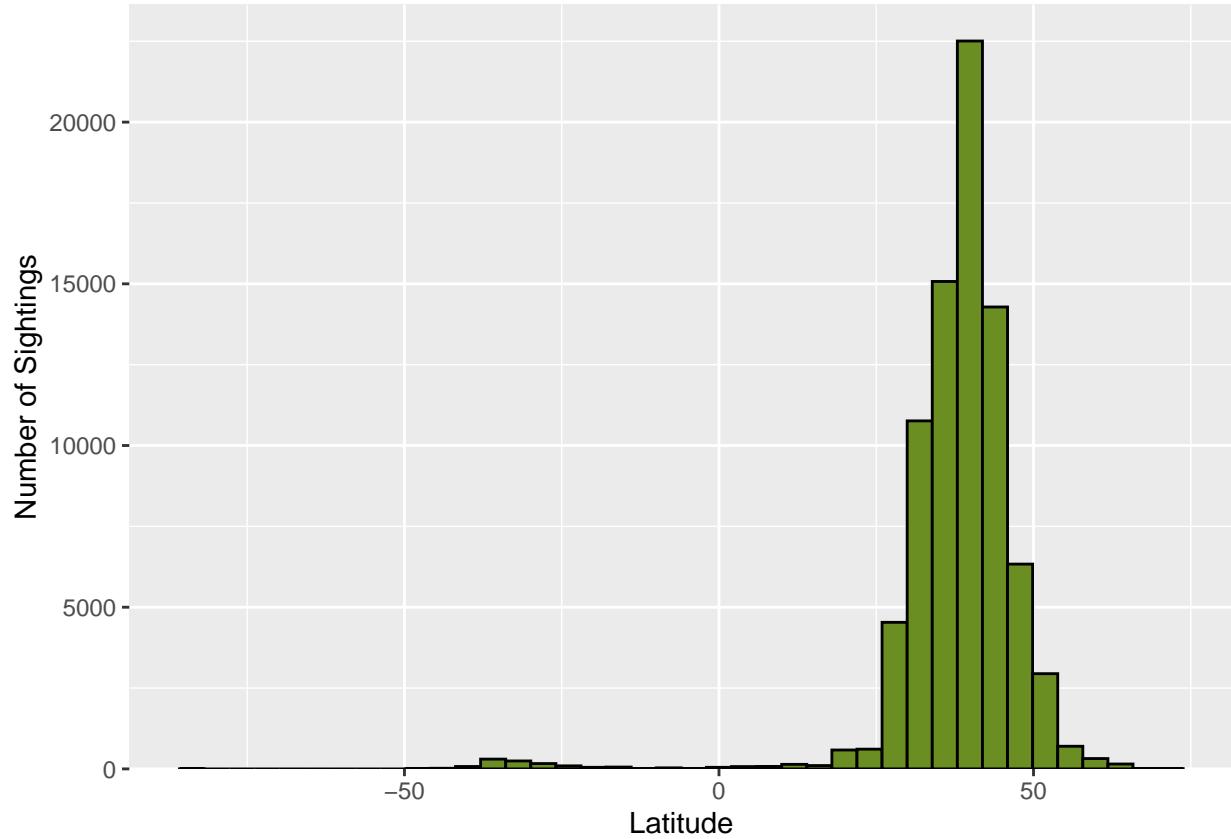


```
lat_hist
```

```

## Warning: Removed 1 row containing non-finite outside the scale range
## ('stat_bin()').

```



Scatter plot of sighting locations

```

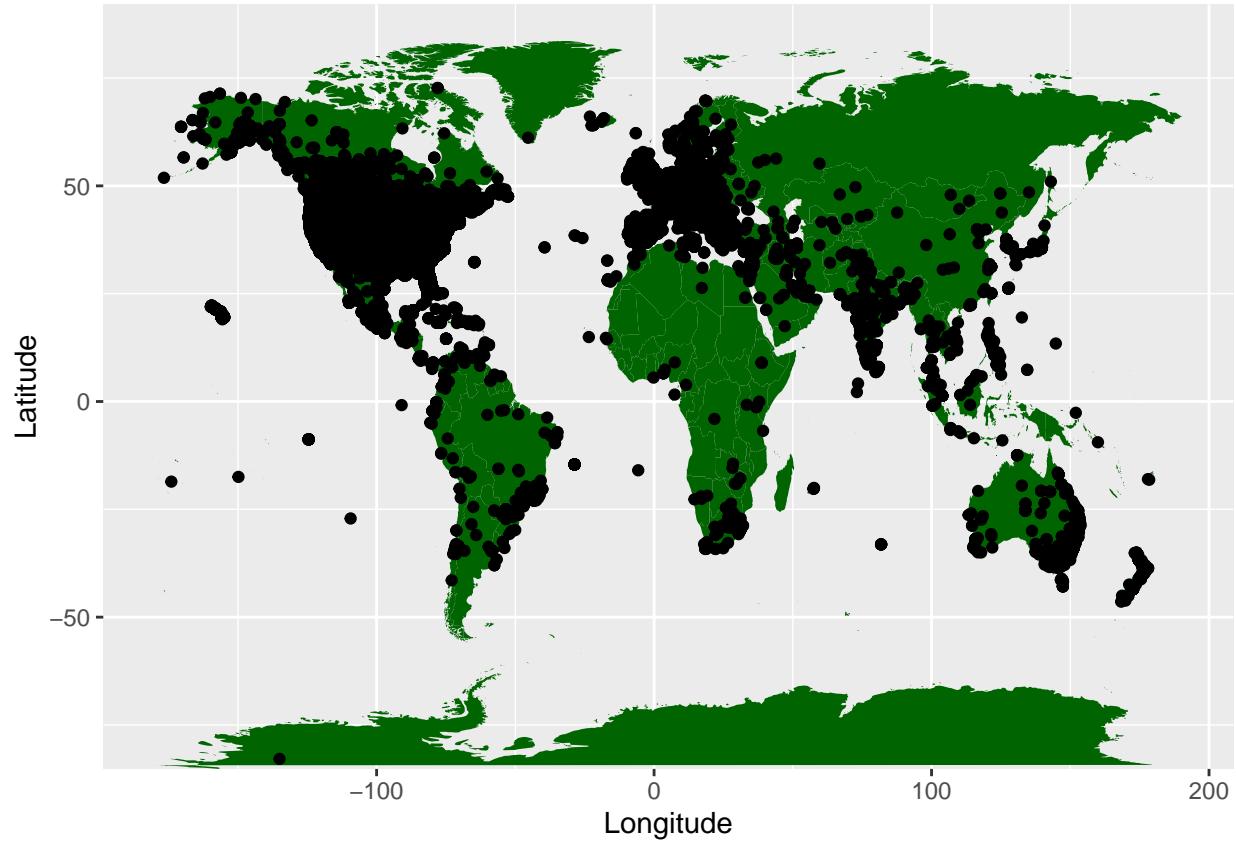
map <- map_data("world")

map_plot <- ggplot()+
  geom_polygon(data = map,
               mapping = aes(x= long,
                             y = lat,
                             group = group),
               fill = "darkgreen")+
  geom_point(data = ufo,
             mapping = aes(x = longitude,
                           y = latitude))+
  labs(
    x = "Longitude",
    y = "Latitude"
  )+
  scale_y_continuous(expand = c(0, 0, 0.05, 0))

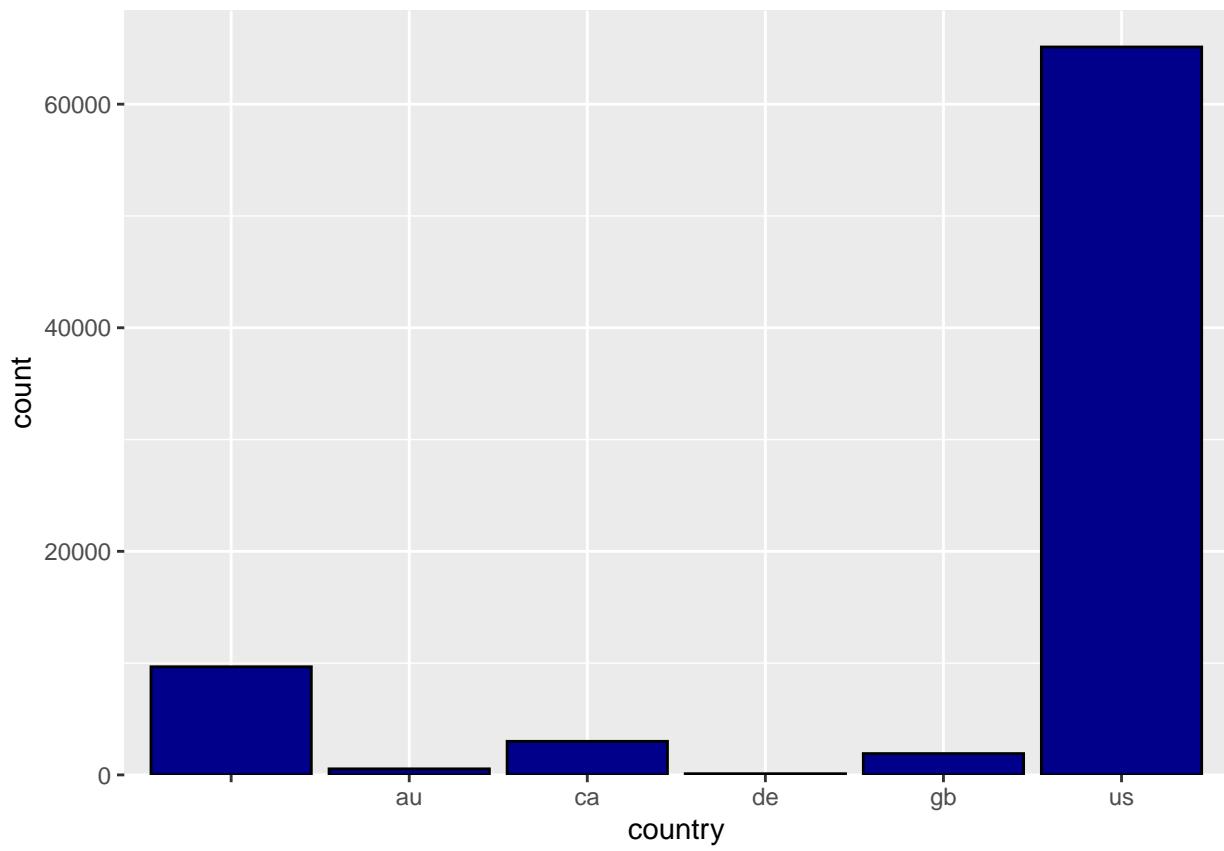
map_plot

## Warning: Removed 1 row containing missing values or values outside the scale range
## ('geom_point()').

```

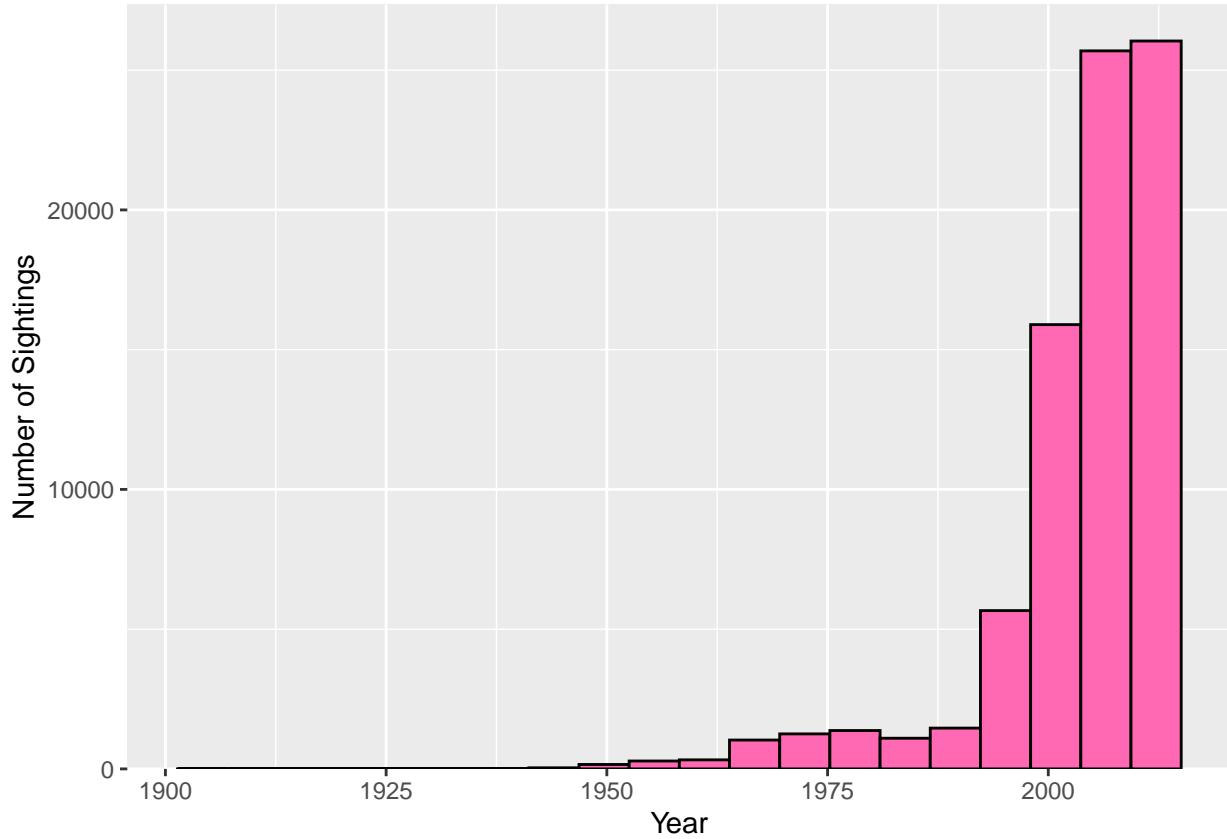


```
ggplot(data = ufo,
       mapping = aes(x = country))+
  geom_bar(fill = "blue4",
           color = "black",
           na.rm = T) +
  scale_y_continuous(expand = c(0, 0, 0.05, 0))
```



Bar graph of sightings per year

```
ggplot( data = ufo,
        mapping = aes(x = year))+
  geom_histogram(fill = "hotpink",
                 color = "black",
                 bins = 20) +
  labs(
    x = "Year",
    y = "Number of Sightings"
  ) +
  scale_y_continuous(expand = c(0, 0, 0.05, 0))
```



```
by_month <- ggplot( data = ufo,
                     mapping = aes(x = month))+
  geom_bar(fill = "purple",
            color = "black")+
  labs(
    x = "Month",
    y = "Number of Sightings"
  )+
  scale_y_continuous(expand = c(0, 0, 0.05, 0))+
  theme(
    axis.text = element_text( angle = 90
      )
  )
)
```

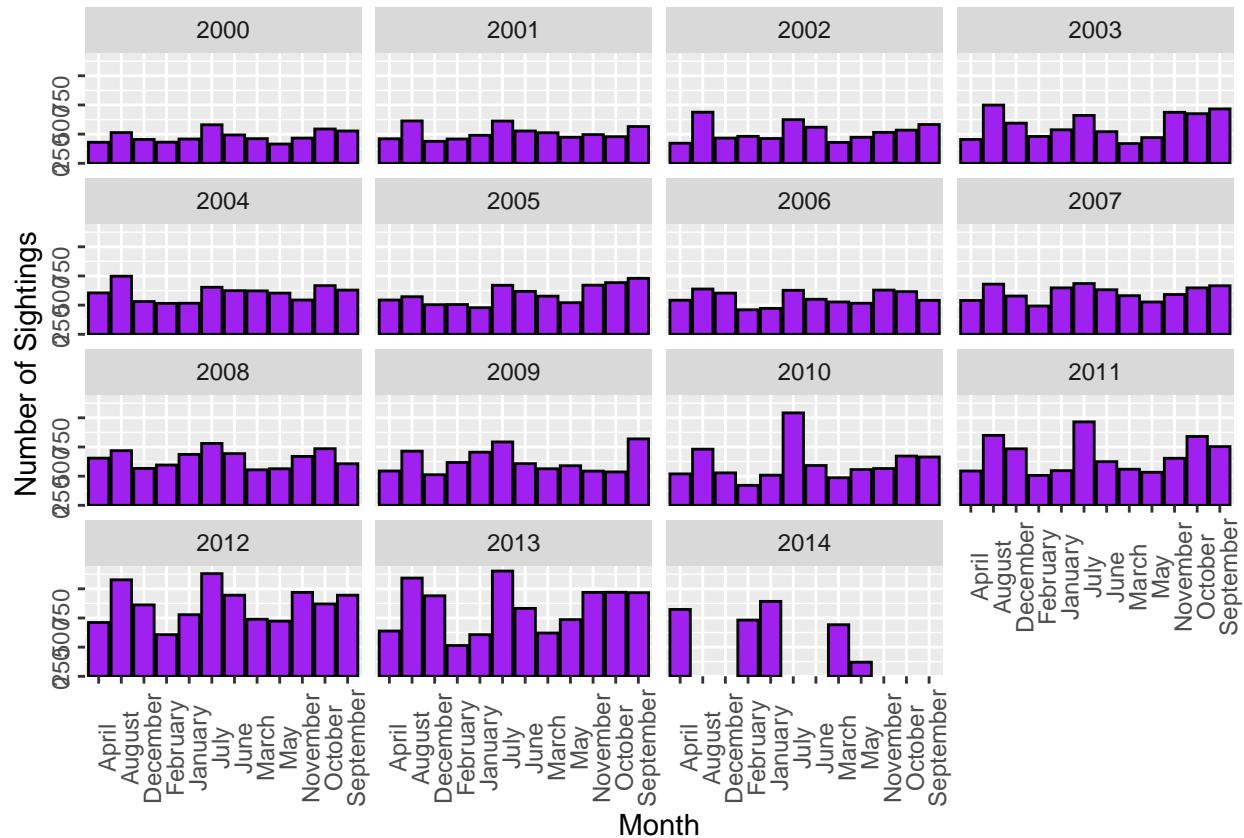
```
ufo_2000<- ufo|>
  filter(year >= 2000)

ggplot( data = ufo_2000,
        mapping = aes(x = month))+
  geom_bar(fill = "purple",
            color = "black")+
  labs(
    x = "Month",
    y = "Number of Sightings"
  )+
  scale_y_continuous(expand = c(0, 0, 0.05, 0))+
```

```

theme(
  axis.text = element_text( angle = 90
    )
) +
  facet_wrap(~ year)

```



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.