Assignment1

ESM 262

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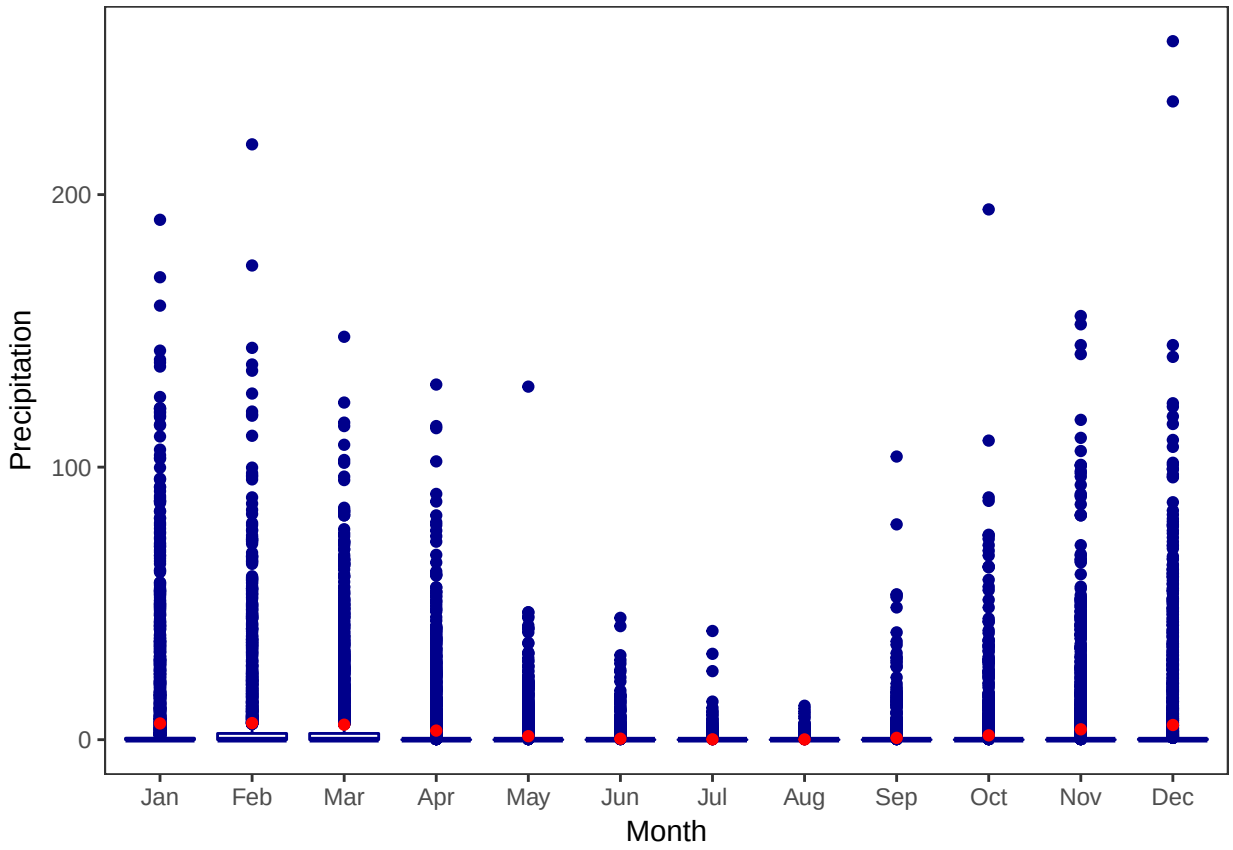
```
suppressPackageStartupMessages({
  library(tidyverse)
  library(ggExtra)

})
```

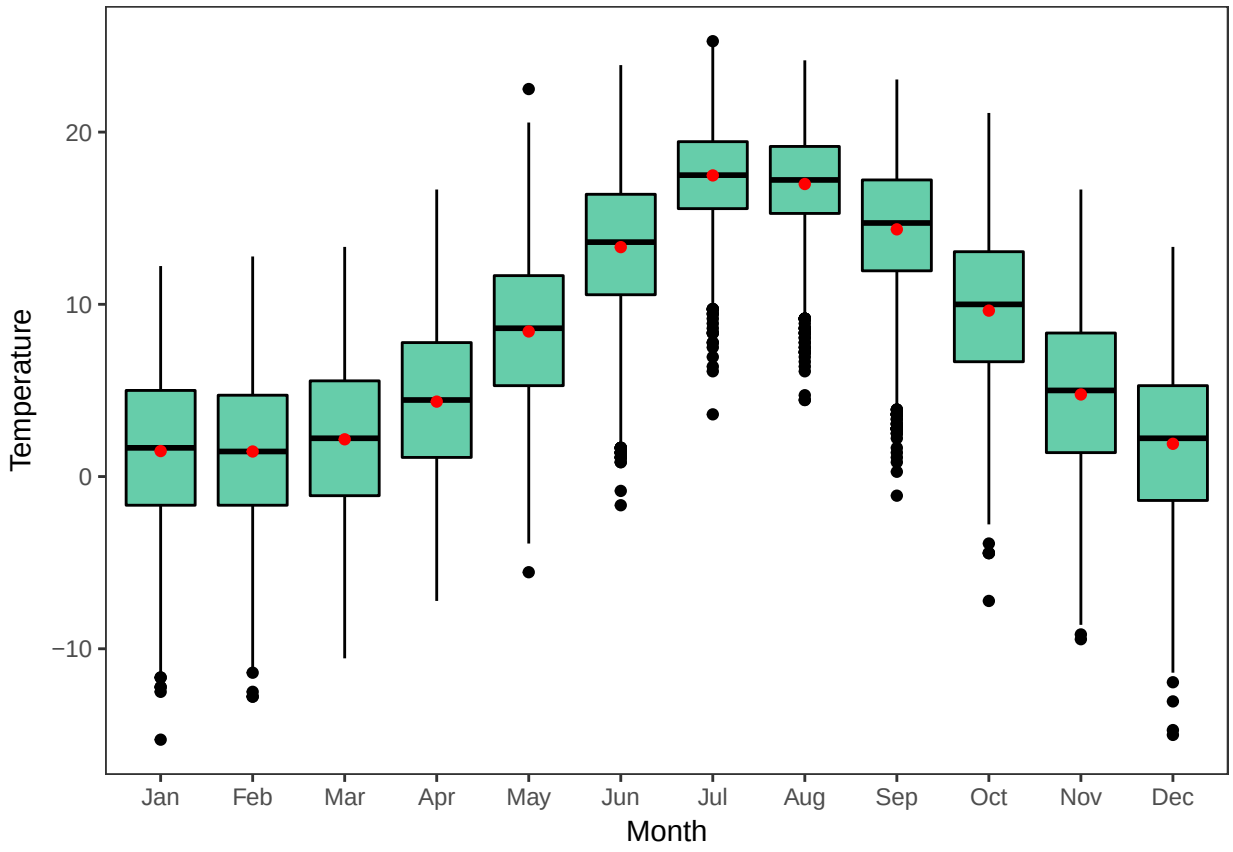
```
monthnames=data.frame(month=seq(1,12),
                      month_names=month.abb)

climate=read.table("clim.txt", header=T) %>%
  left_join(monthnames) %>%
  mutate(temp = (tmin+tmax)/2)
```

```
ggplot(data=climate, aes(x=as.factor(month), y=rain)) +
  geom_boxplot(color="darkblue") +
  stat_summary(geom="point", fun.y = "mean", color="red") +
  xlab("Month") +
  ylab("Precipitation") +
  theme_bw() +
  removeGrid(x=TRUE, y=TRUE) +
  scale_x_discrete(labels=month.abb)
```

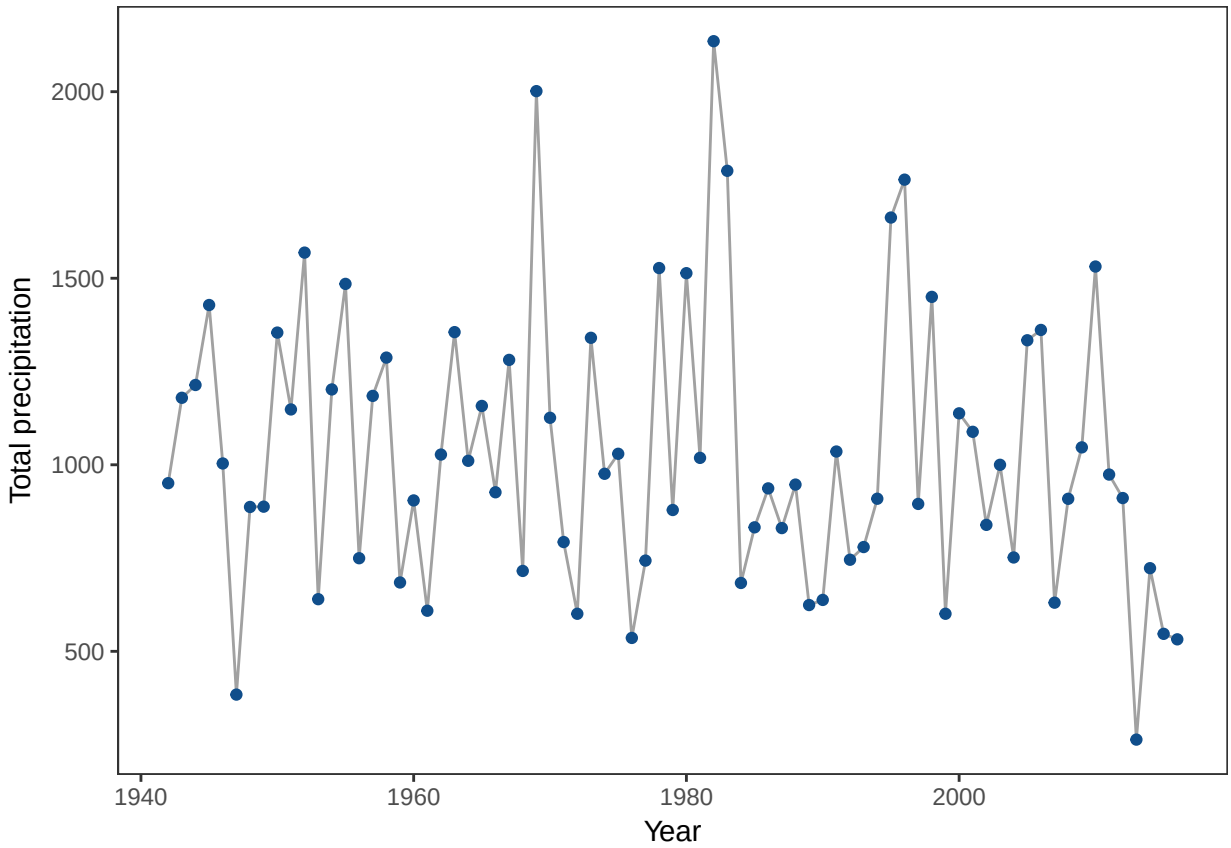



```
ggplot(data=climate, aes(x = as.factor(month), y = temp)) +
  geom_boxplot(fill= "aquamarine3", color = "black") +
  stat_summary(geom="point", fun.y = "mean", color="red") +
  xlab("Month") +
  ylab("Temperature") +
  theme_bw() +
  removeGrid(x=TRUE, y=TRUE) +
  scale_x_discrete(labels=month.abb)
```




```
rain_year <- climate %>%
  group_by(year) %>%
  summarise(total_rain = sum(rain))

ggplot(data = rain_year, aes(x = year, y = total_rain)) +
  geom_line(color = "gray63") +
  geom_point(color = "dodgerblue4") +
  xlab("Year") +
  ylab("Total precipitation") +
  theme_bw() +
  removeGrid(x=TRUE, y=TRUE)
```



The driest year was 2013 with a total precipitation of 263.398. The wettest was 1982 with a total precipitation of 2135.378.

A wet day in the tropics

```
knitr::include_graphics("./rainforest.jpg", dpi = 2000)
```

Figure 1: lina