Leaflet Exercise from Team PM3

Team PM2

16/04/2019

Task 0

```
#setwd("DAVis/13A DAVIS/")
```

Task 1

```
data <- read.csv("~/Downloads/CAIT Country CO2 Emissions.csv")
data$X.1[1]
```

```
## [1] Total CO2 Emissions Excluding Land-Use Change and Forestry (MtCO2)
## 12146 Levels:  -0.0513 -0.0550 -0.0623 -0.0806 -0.0953 -0.1099 ... Total CO2 Emission
s Excluding Land-Use Change and Forestry (MtCO2)
```

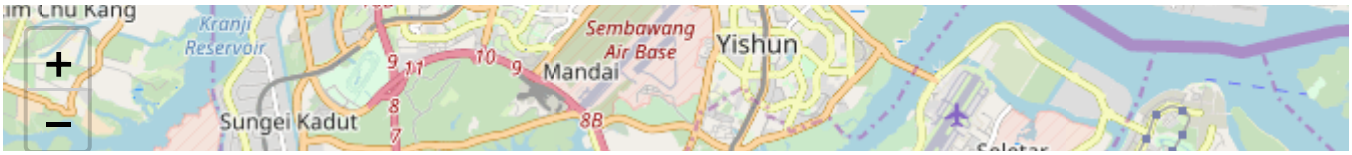
```
data2014 <- read.csv("~/Downloads/CAIT Country CO2 Emissions.csv",
                     skip = 1, stringsAsFactors = FALSE) %>%
  dplyr::rename(CO2 = 3) %>%
  filter(Year == 2014 & !(Country %in% c("European Union (28)", "World"))) %>%
  mutate(Country = gsub("Micronesia",
                        "Federated State of Micronesia", Country),
         Code = countrycode(Country, "country.name", "iso3c"))

spdf <- joinCountryData2Map(data2014, nameJoinColumn = "Code")
```

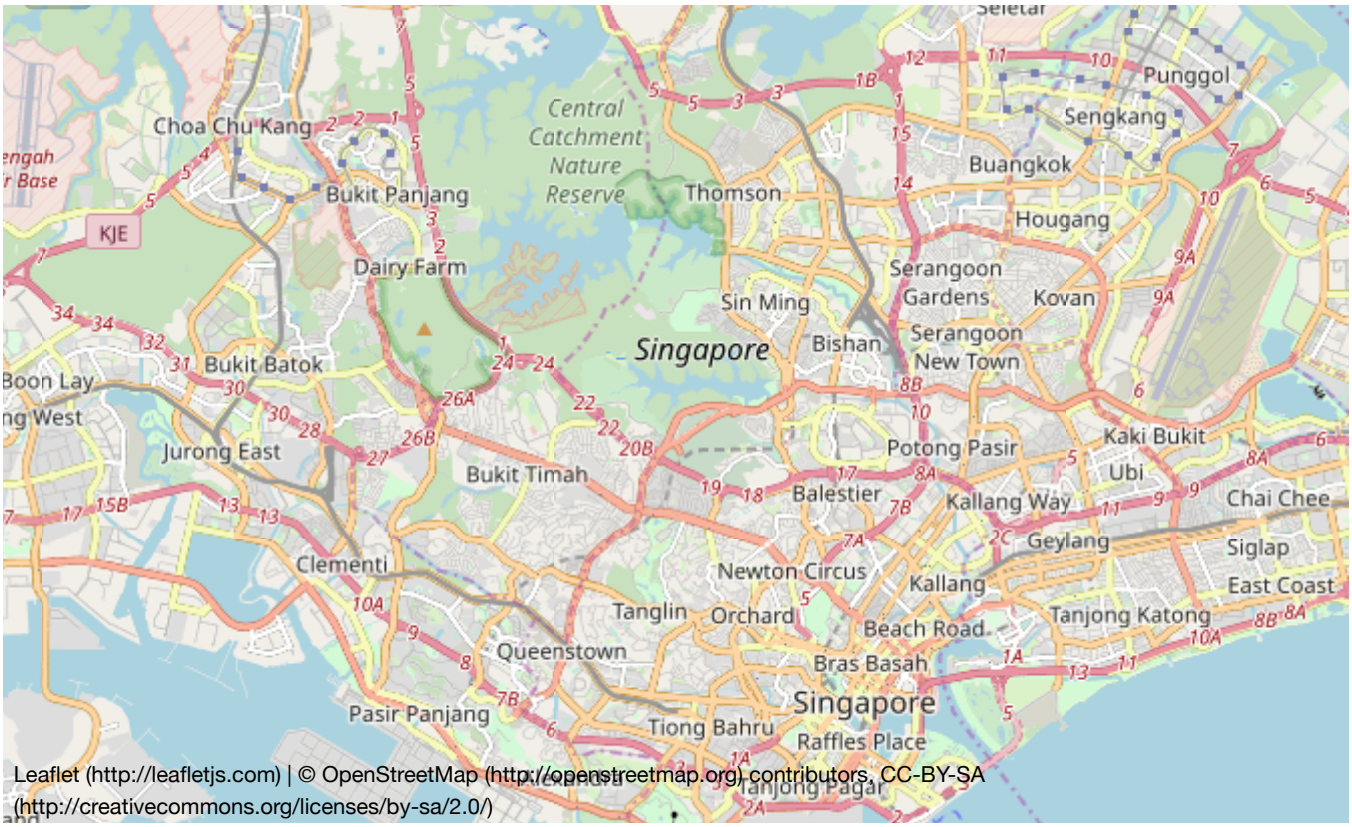
```
## 191 codes from your data successfully matched countries in the map
## 0 codes from your data failed to match with a country code in the map
## 52 codes from the map weren't represented in your data
```

```
spdf <- subset(spdf, continent != "Antarctica")
```

Task 2

```
leaflet(spdf) %>% addTiles() %>%
  setView(lng = 103.8198, lat = 1.3521, zoom = 12)# %>%
```

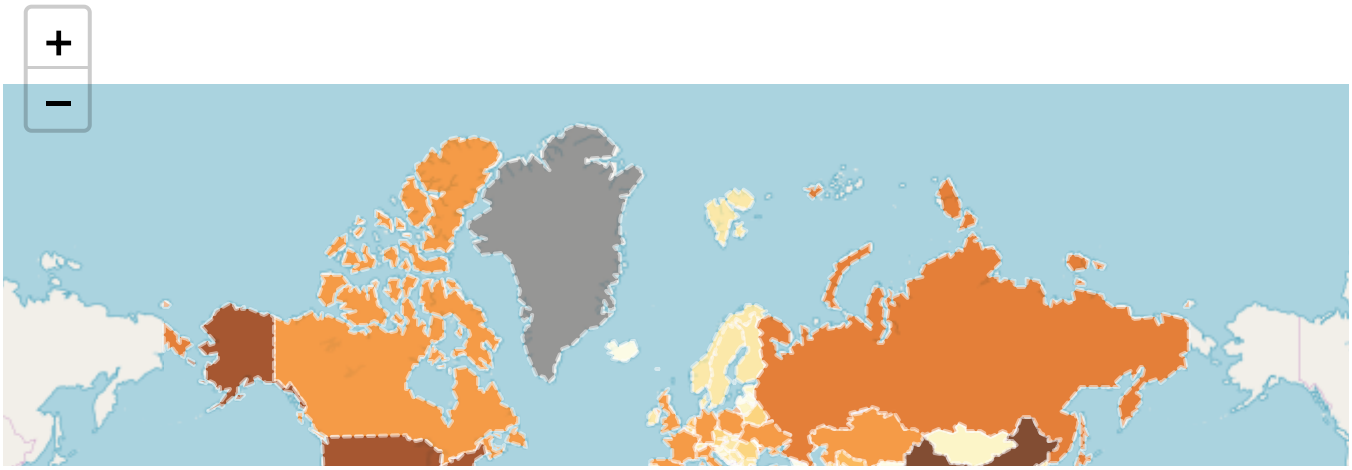


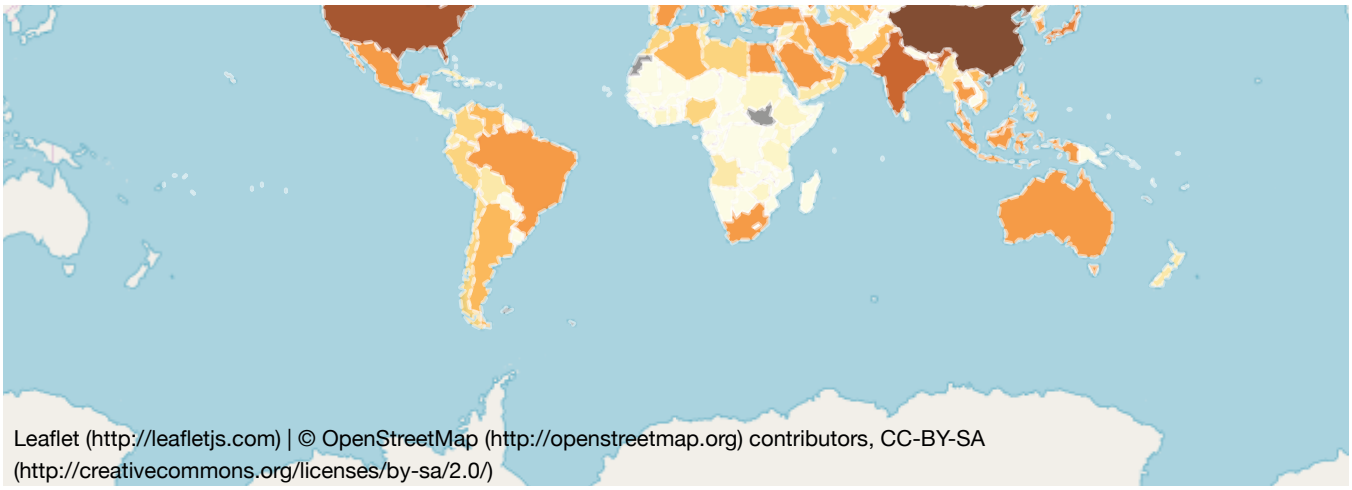



```
#addPolygons()
```

Task 3

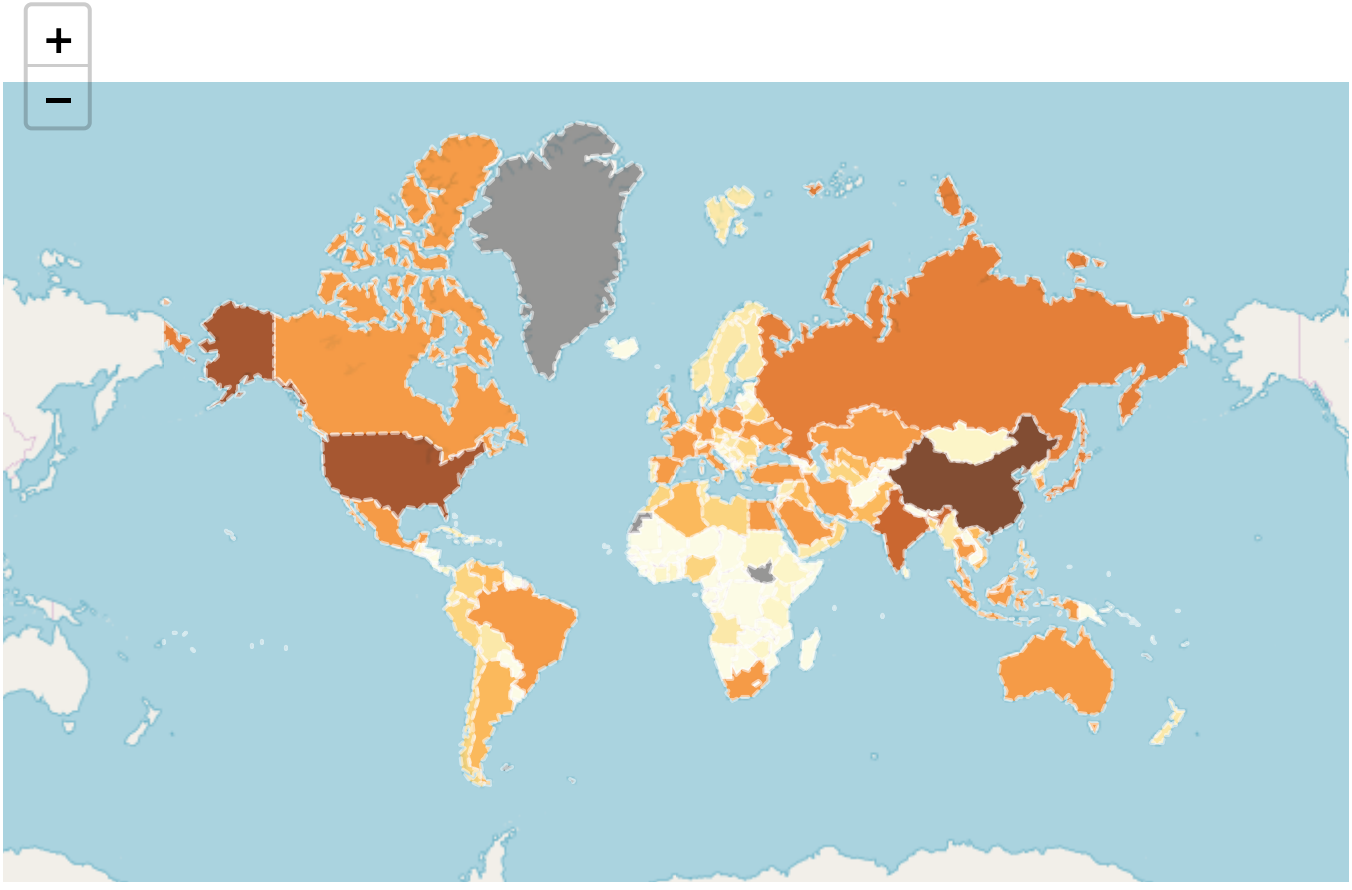
```
breaks <- c(0, 10, 20, 50, 100, 200, 1000, 2000, 5000, 10000, 20000)
crp <- colorRampPalette(brewer.pal(9, "YlOrBr"))
pal <- colorBin(crp(length(breaks) - 1), domain = spdf$CO2, bins = breaks)

leaflet(spdf) %>% addTiles() %>%
  addPolygons(fillColor = ~pal(CO2),
              color = "white",
              dashArray = "3",
              weight = 2, fillOpacity = 0.8)
```





Task 4

```
leaflet(spdf) %>% addTiles() %>%
  addPolygons(fillColor = ~pal(CO2),
              color = "white",
              dashArray = "3",
              weight = 2, fillOpacity = 0.8,
              highlight = highlightOptions(color = "black",
                                           weight = 3,
                                           opacity = 1,
                                           fillOpacity = 0.6,
                                           bringToFront = TRUE))
```

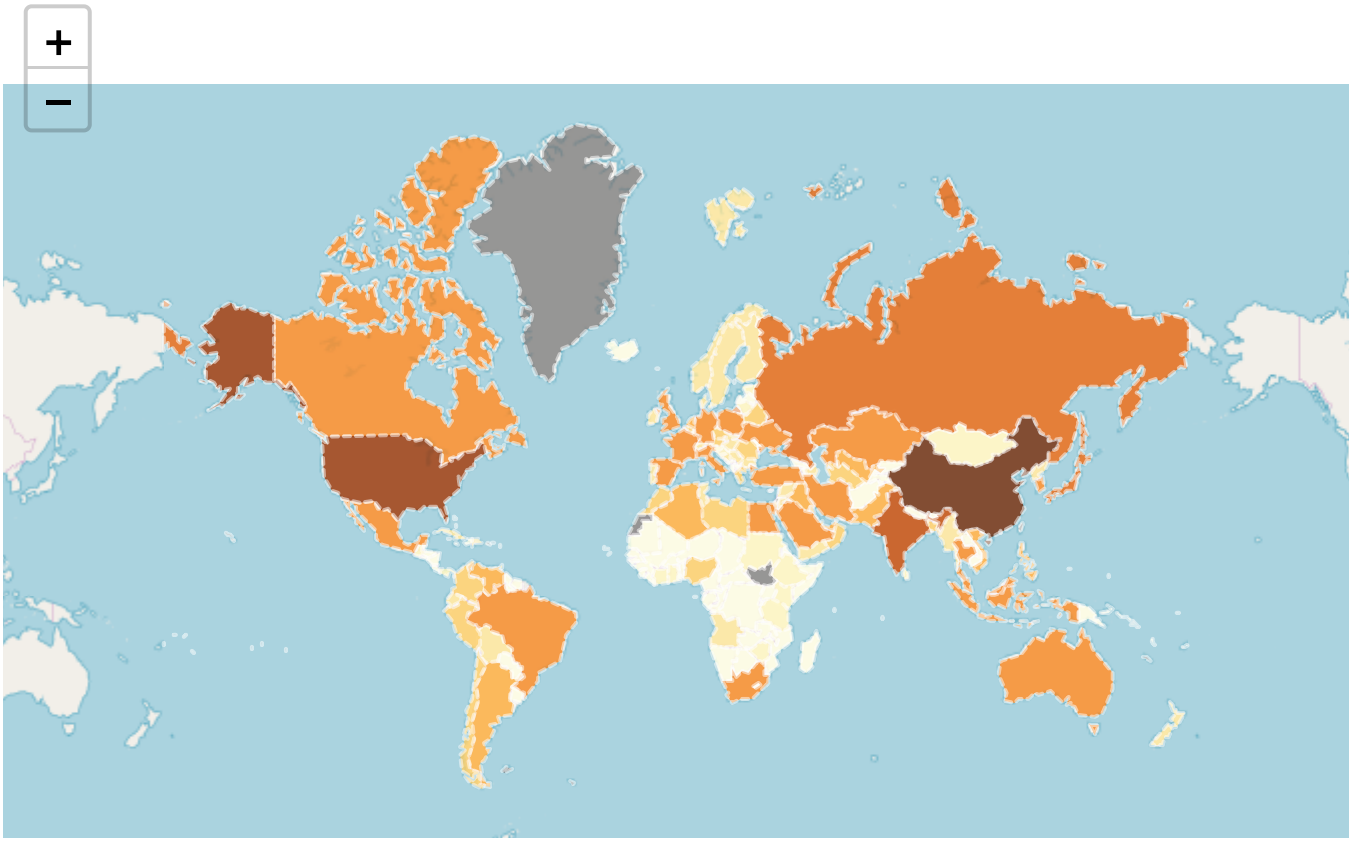


Task 5

```
label <- sprintf("<strong>%s</strong> <br/> CO<sub>2</sub> levels: %g",
                 spdf$Country, spdf$CO2) %>%
  lapply(htmltools::HTML)
```

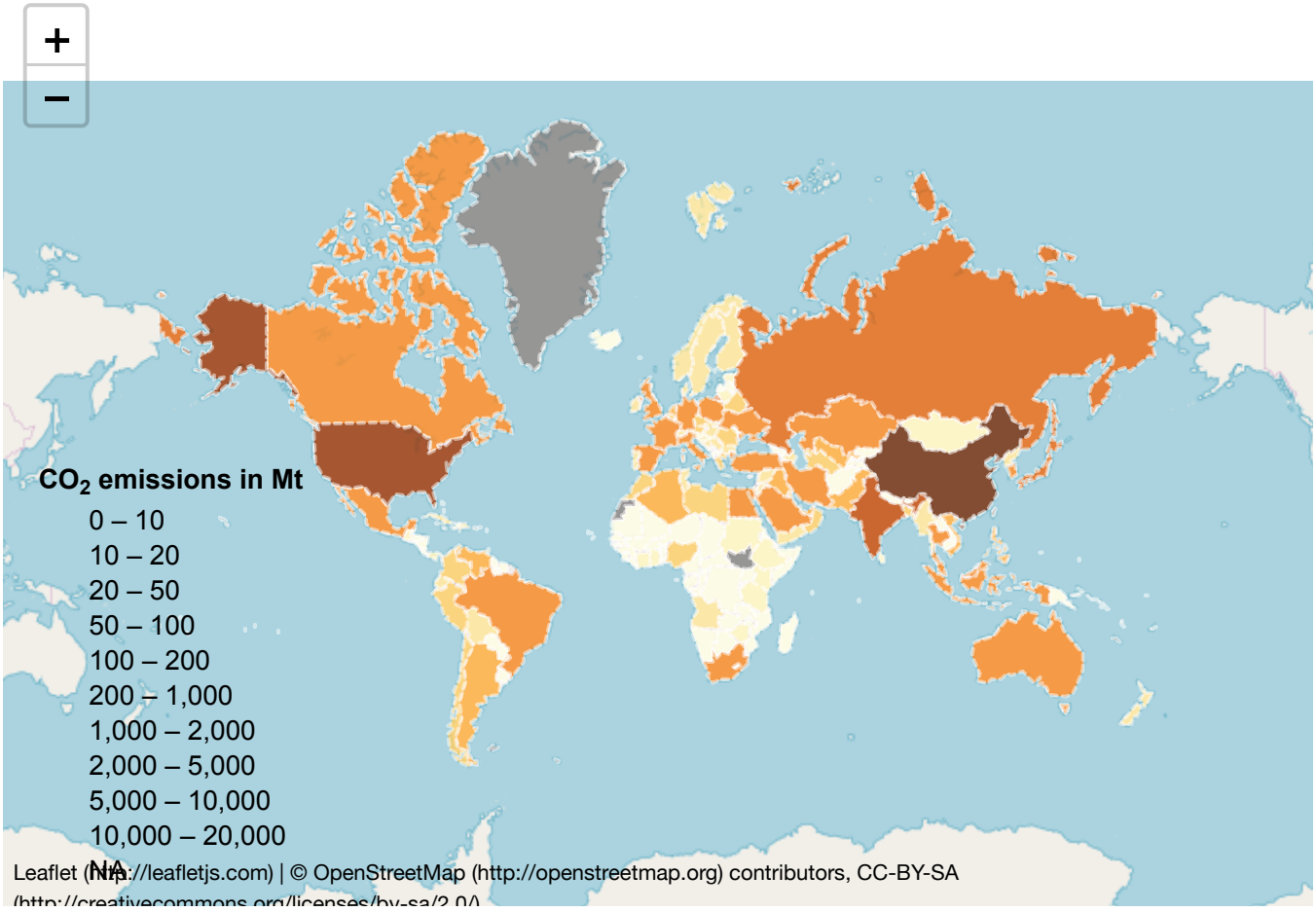
Task 6

```
leaflet(spdf) %>% addTiles() %>%
  addPolygons(fillColor = ~pal(CO2),
              color = "white",
              dashArray = "3",
              weight = 2, fillOpacity = 0.8,
              highlight = highlightOptions(color = "black",
                                           weight = 3,
                                           opacity = 1,
                                           fillOpacity = 0.6,
                                           bringToFront = TRUE),
              label = label,
              labelOptions = labelOptions(direction = "auto",
                                          style =
                                            list("font-wight" = "normal",
                                                 padding = "3px 8px")))
```



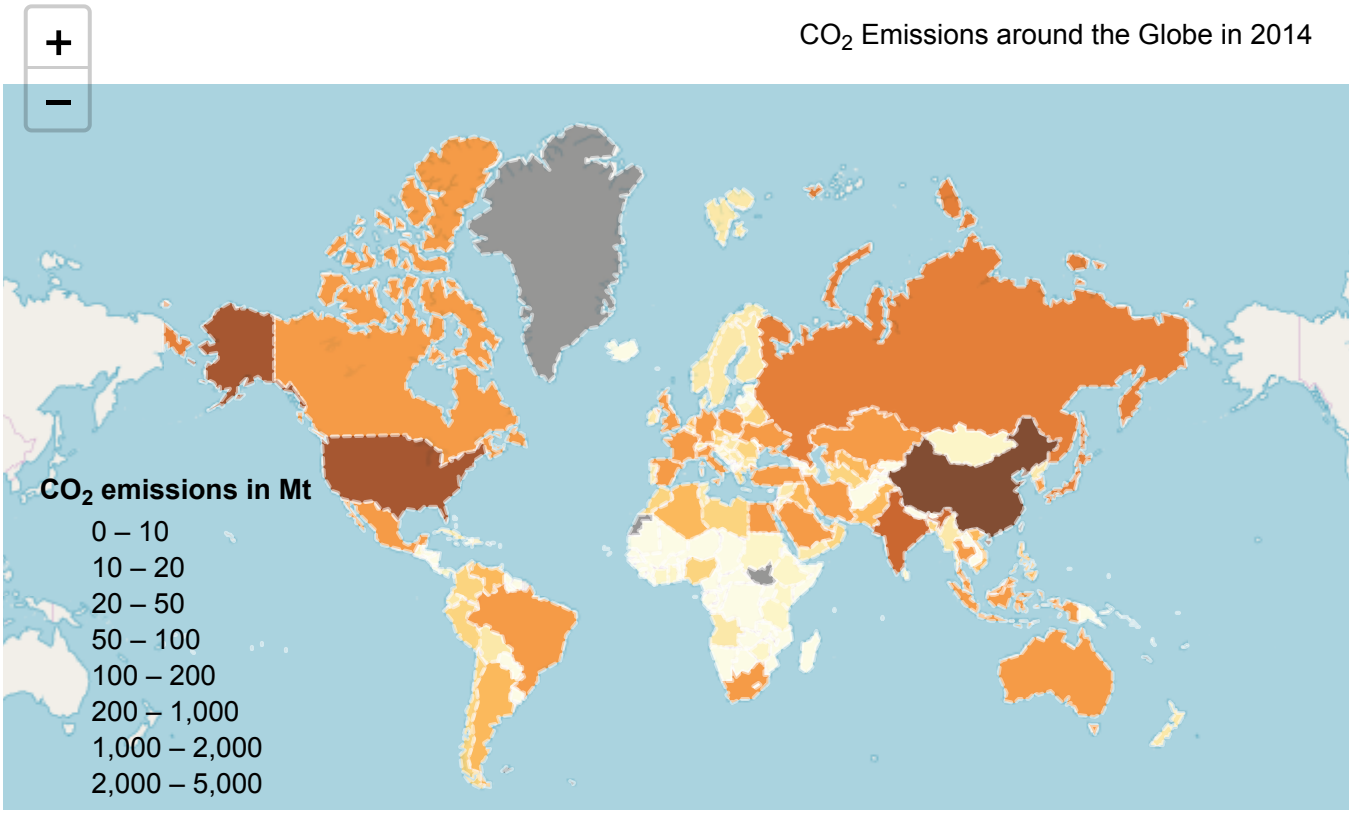
Task 7

```
leaflet(spdf) %>% addTiles() %>%
  addPolygons(fillColor = ~pal(CO2),
              color = "white",
              dashArray = "3",
              weight = 2, fillOpacity = 0.8,
              highlight = highlightOptions(color = "black",
                                           weight = 3,
                                           opacity = 1,
                                           fillOpacity = 0.6,
                                           bringToFront = TRUE),
              label = label,
              labelOptions = labelOptions(direction = "auto",
                                          style =
                                            list("font-wight" = "normal",
                                                 padding = "3px 8px"))) %>%
  addLegend(pal = pal, values = ~CO2,
            title = "CO<sub>2</sub> emissions in Mt",
            opacity = 0.8,
            position = "bottomleft")
```



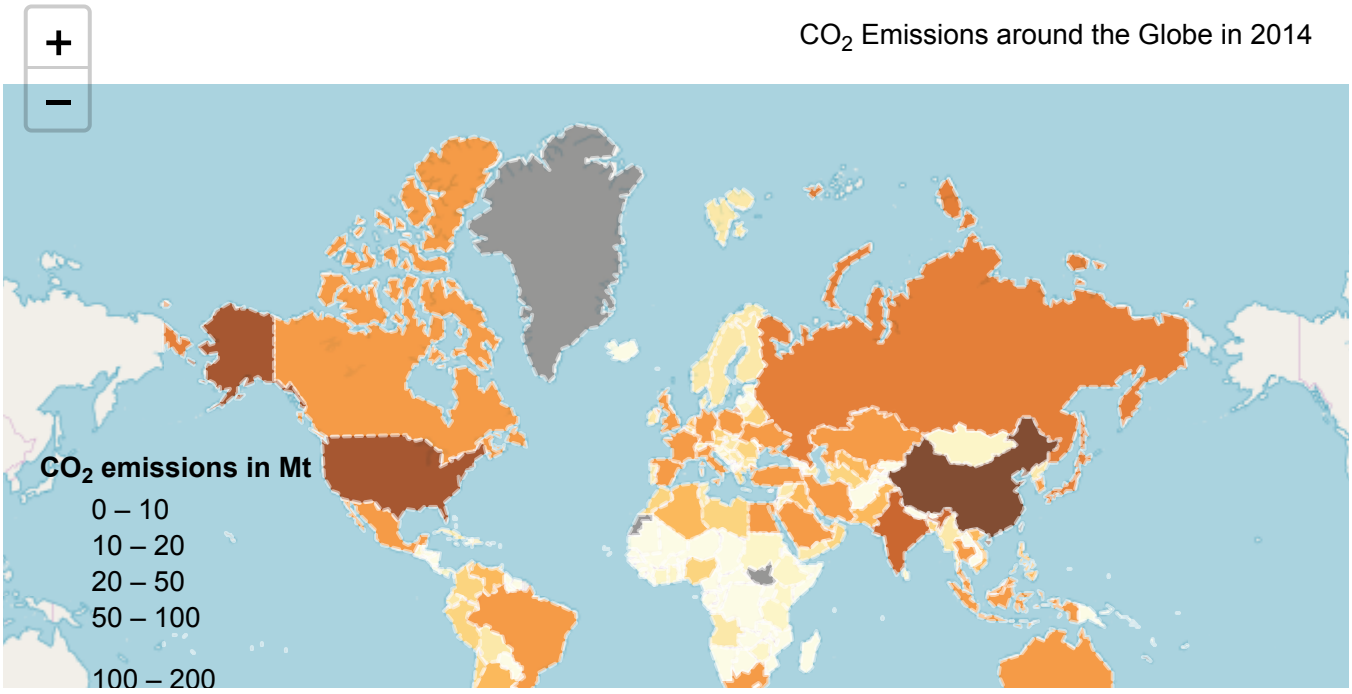
Task 8

```
library(htmltools)
library(htmlwidgets)

title <- tags$div(HTML("CO<sub>2</sub> Emissions around the Globe in 2014"))

leaflet(spdf) %>% addTiles() %>%
  addPolygons(fillColor = ~pal(CO2),
              color = "white",
              dashArray = "3",
              weight = 2, fillOpacity = 0.8,
              highlight = highlightOptions(color = "black",
                                           weight = 3,
                                           opacity = 1,
                                           fillOpacity = 0.6,
                                           bringToFront = TRUE),
              label = label,
              labelOptions = labelOptions(direction = "auto",
                                          style =
                                            list("font-wight" = "normal",
                                                 padding = "3px 8px"))) %>%
  addLegend(pal = pal, values = ~CO2,
            title = "CO<sub>2</sub> emissions in Mt",
            opacity = 0.8,
            position = "bottomleft") %>%
  addControl(title, "topright")
```



Task9

```
library(htmltools)
library(htmlwidgets)

title <- tags$div(HTML("CO<sub>2</sub> Emissions around the Globe in 2014"))

leaflet(spdf) %>% addTiles() %>%
  addPolygons(fillColor = ~pal(CO2),
              color = "white",
              dashArray = "3",
              weight = 2, fillOpacity = 0.8,
              highlight = highlightOptions(color = "black",
                                           weight = 3,
                                           opacity = 1,
                                           fillOpacity = 0.6,
                                           bringToFront = TRUE),
              label = label,
              labelOptions = labelOptions(direction = "auto",
                                          style =
                                            list("font-wight" = "normal",
                                                 padding = "3px 8px"))) %>%
  addLegend(pal = pal, values = ~CO2,
            title = "CO<sub>2</sub> emissions in Mt",
            opacity = 0.8,
            position = "bottomleft") %>%
  addControl(title, "topright")
```




200 – 1,000
1,000 – 2,000
2,000 – 5,000
5,000 – 10,000
10,000 – 20,000
NA
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