Assignment 1

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## A look into greenhouse gas emissions concentrations

As Solomon2018

In this document, I explore the concentrations of greenhouse gas emissions using data from the Data Science Lab (dslab). The data measures the concentrations of the three main greenhouse gases carbon dioxide, methane and nitrous oxide. The data was collected from the Law Dome Ice Core in Antarctica. Selected measurements are provided every 20 years from 1 to 2000 CE (MacFarling Meure et al. 2006)

```
##       year           gas            concentration
##  Min.   :  20   Length:100         Min.   :272.3
##  1st Qu.: 515   Class :character   1st Qu.:277.6
##  Median :1010   Mode  :character   Median :279.2
##  Mean   :1010                      Mean   :282.1
##  3rd Qu.:1505                      3rd Qu.:282.2
##  Max.   :2000                      Max.   :366.8
```

Concentration of CO2 emissions in time

In figure 1 (refered this) we can observe the increase of the concentrations of CO2 emissions in the last 2000 years.

Concentration of CO2
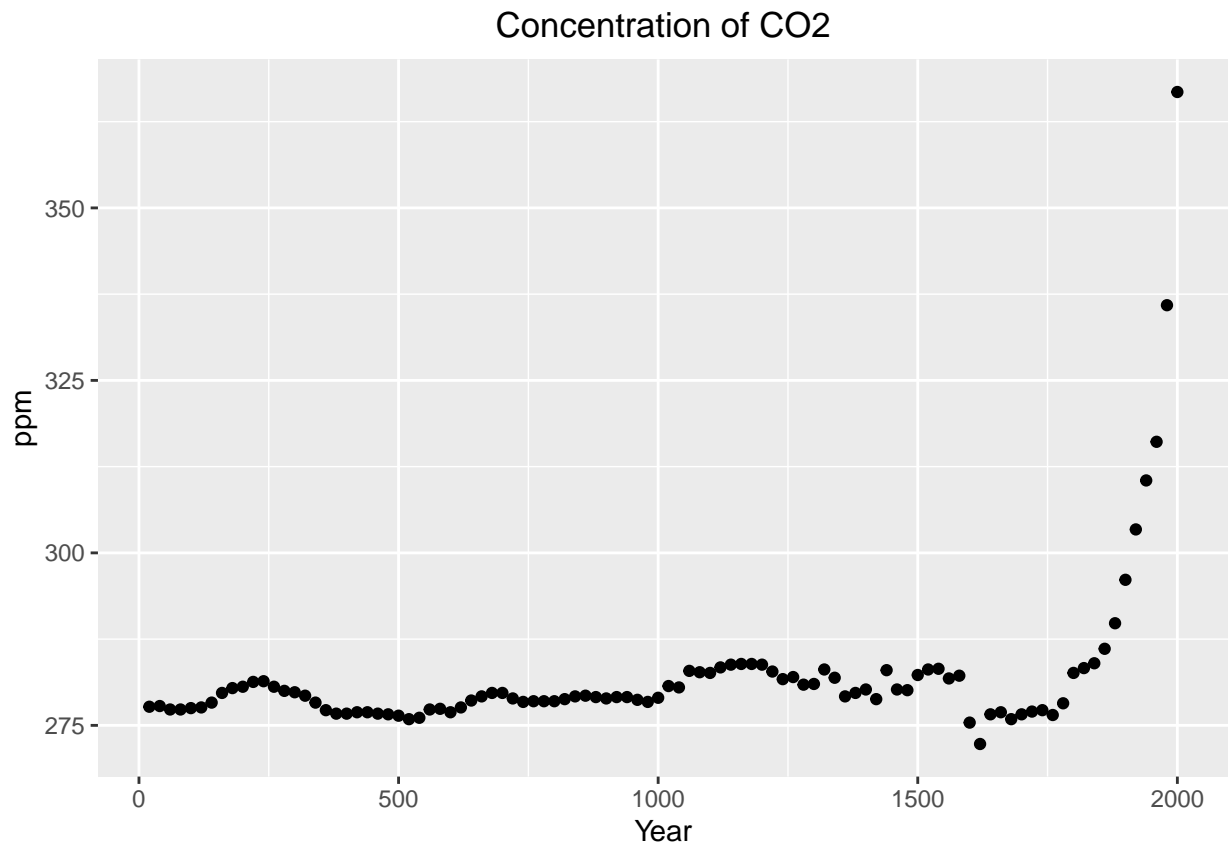
If we look closer into the last 200 years where human activity have increase after the industrial revolution, the increase is striking.

Concentration of CO2
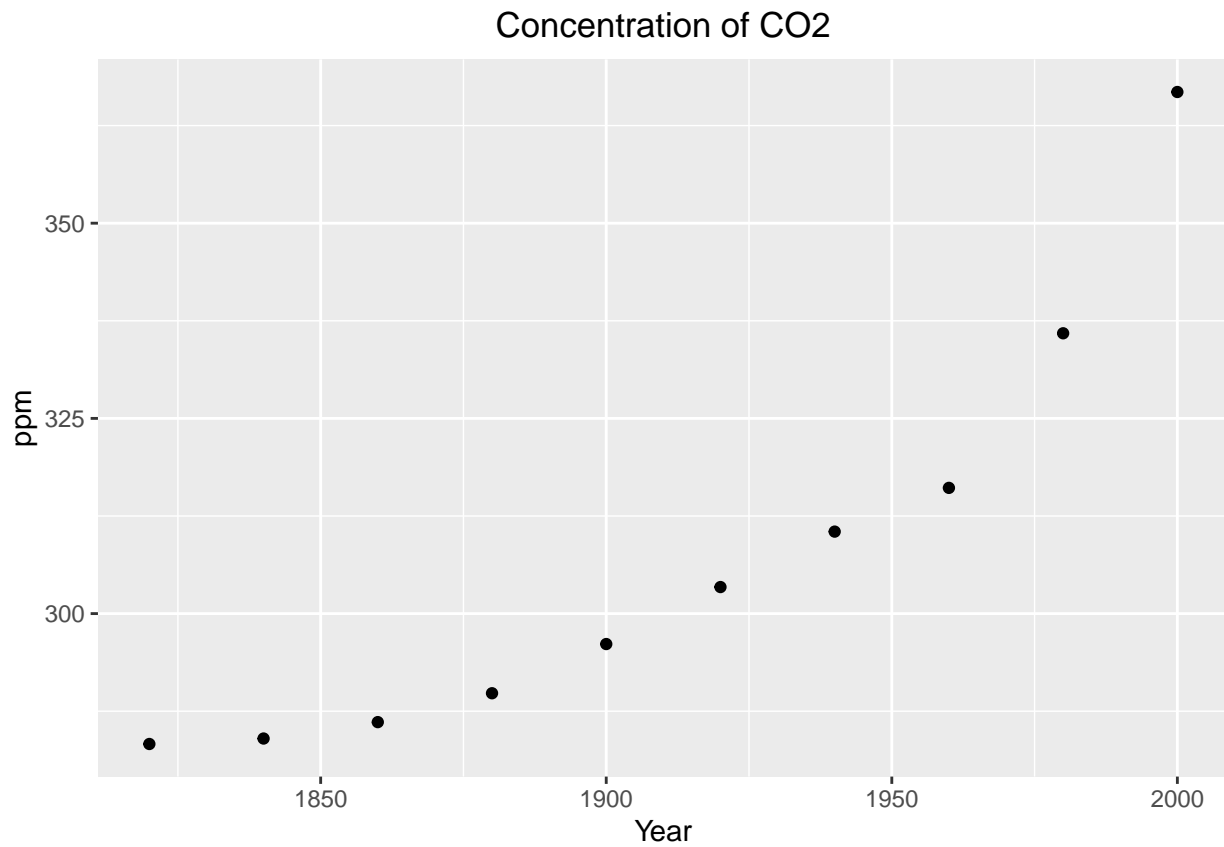
References:

MacFarling Meure, C., D. Etheridge, C. Trudinger, P. Steele, R. Langenfelds, T. van Ommen, A. Smith, and J. Elkins. 2006. "Law Dome Co2, Ch4 and N2o Ice Core Records Extended to 2000 Years Bp." *Geophysical Research Letters* 33 (14). https://doi.org/10.1029/2006GL026152.