

MasteringSoftwareDevelopmentCapstone

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This package contains functions to clean and visualise earthquake data.

Load Library

```
library(readr)
library(dplyr)
library(stringr)
library(lubridate)
library(ggplot2)
library(leaflet)
```

Import Dataset

The raw dataset is obtained from National Geophysical Data Center / World Data Service (NGDC/WDS): Significant Earthquake Database. National Geophysical Data Center, NOAA. Click here

[doi:10.7289/V5TD9V7K](https://doi.org/10.7289/V5TD9V7K)

For convenience, the data has been preloaded into `./inst/extdata/dataset.txt`.

```
raw_data <- system.file("extdata", "dataset.txt",
                        package = "MasteringSoftwareDevelopmentCapstone")
```

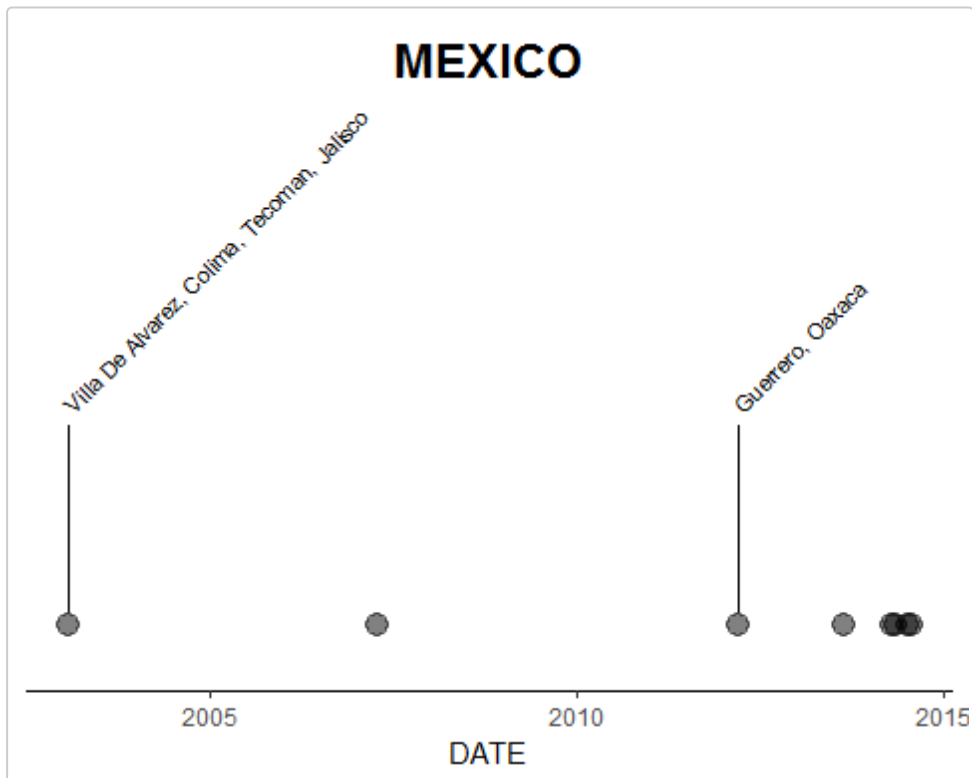
Clean Data

This create a cleaned data for earthquakes since 01 Jan 1900, excluding data points with missing magnitude or intensity.

```
cleaned_data <- eq_clean_data(raw_data)
cleaned_data <- eq_location_clean(cleaned_data)
head(cleaned_data, 5)
#> # A tibble: 5 x 8
#>   DATE          LATITUDE LONGITUDE COUNTRY LOCATION MAGNI~ INTEN~ DEATH~
#>   <date>          <dbl>    <dbl> <chr>    <chr>    <dbl> <dbl> <dbl>
#> 1 1900-07-12     40.3      43.1 TURKEY " Kars, Kar~ 5.90  8.00  0
#> 2 1900-10-09     57.1     -153  USA     Alaska: K~ 8.30  8.00  0
#> 3 1900-10-29     11.0      -66.0 VENEZUELA " Macuto" 8.40 10.0 25.0
#> 4 1900-12-25     43.0      146  RUSSIA  " Kuril Is~ 7.90  9.00  0
#> 5 1901-02-15     26.0      100  CHINA   " Yunnan P~ 6.00  8.00  0
```

Create Timeline Plot

```
ggplot(data = y, aes(x = DATE, country = COUNTRY, label = LOCATION, magnitude = MAGNITUDE)) +
  geom_timeline(ctry = "MEXICO", xmin = dmy("01/01/2000"), xmax = dmy("01/01/2018")) +
  geom_timeline_label(n_max = 2, ctry = "MEXICO",
    xmin = dmy("01/01/2000"), xmax = dmy("01/01/2018")) +
  theme_classic()
```



Create Map Plot

```
cleaned_data %>%
  filter(COUNTRY == "MEXICO" & year(DATE) >= 2000) %>%
  mutate(popup_text = eq_create_label(.)) %>%
  eq_map(annot_col = "popup_text")
```

