

Series Temporales

Armando Ocampo

Series Temporales

```
library(readr)
library(dplyr)
library(ggplot2)
library(ggpubr)

covid_mexico <- readRDS('../data/covid_mexico.RDS')

min(covid_mexico$date)

## [1] "2020-01-01"
max(covid_mexico$date)

## [1] "2023-08-02"
summary(covid_mexico$date)

##           Min.          1st Qu.          Median          Mean          3rd Qu.          Max.
## "2020-01-01" "2020-11-23" "2021-10-16" "2021-10-16" "2022-09-08" "2023-08-02"
length(covid_mexico$date)

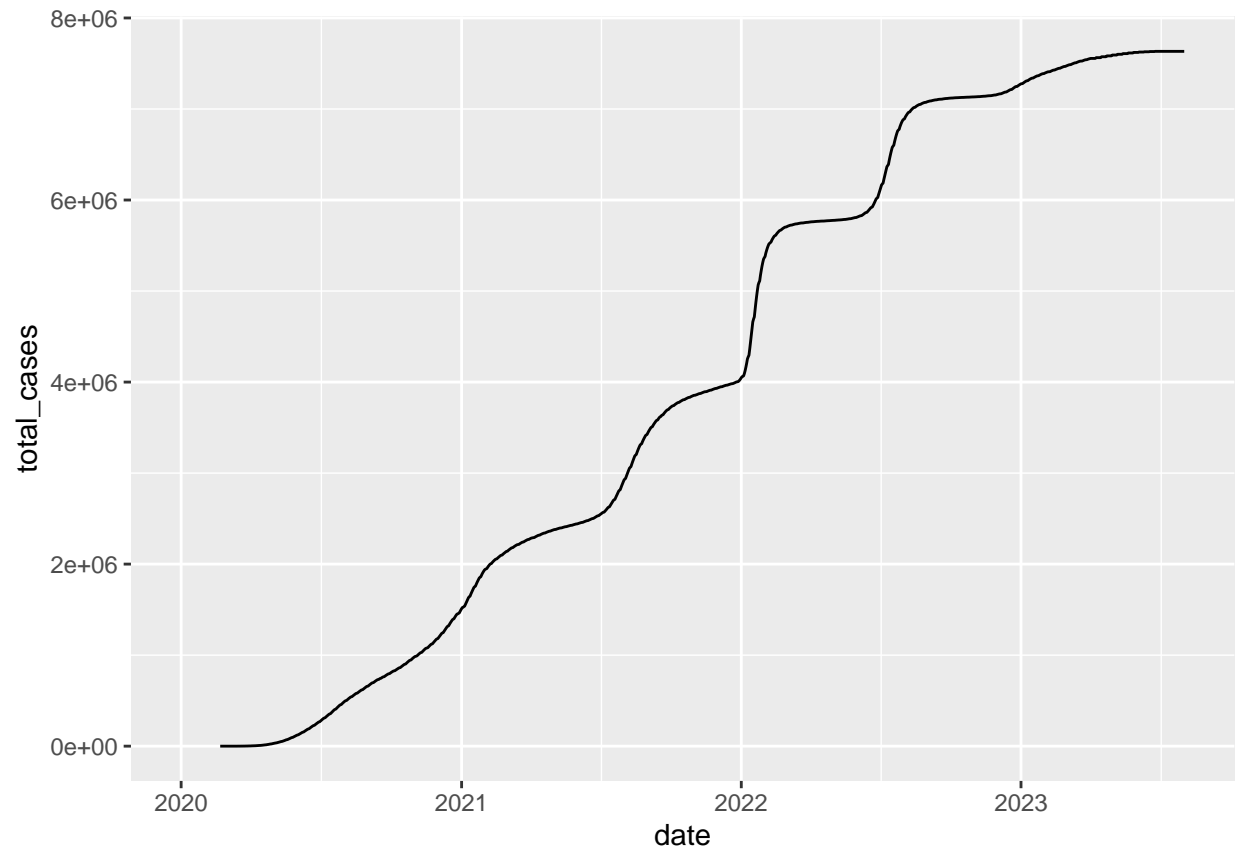
## [1] 1310
1310/365 #3.5 años

## [1] 3.589041
deltat(covid_mexico$date) # intervalo de fechas

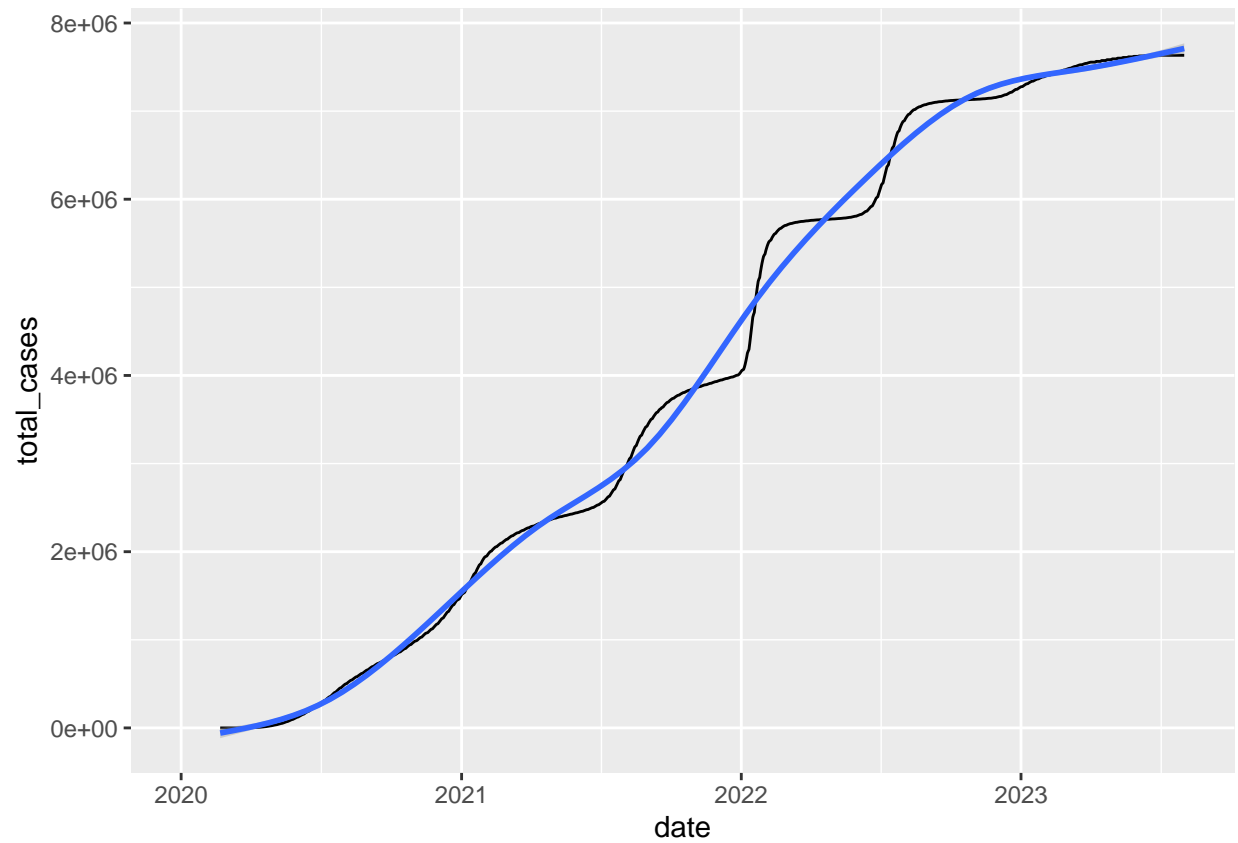
## [1] 1
diferencia_casos <- diff(covid_mexico$total_cases) %>%
  na.omit()

head(diferencia_casos,20)

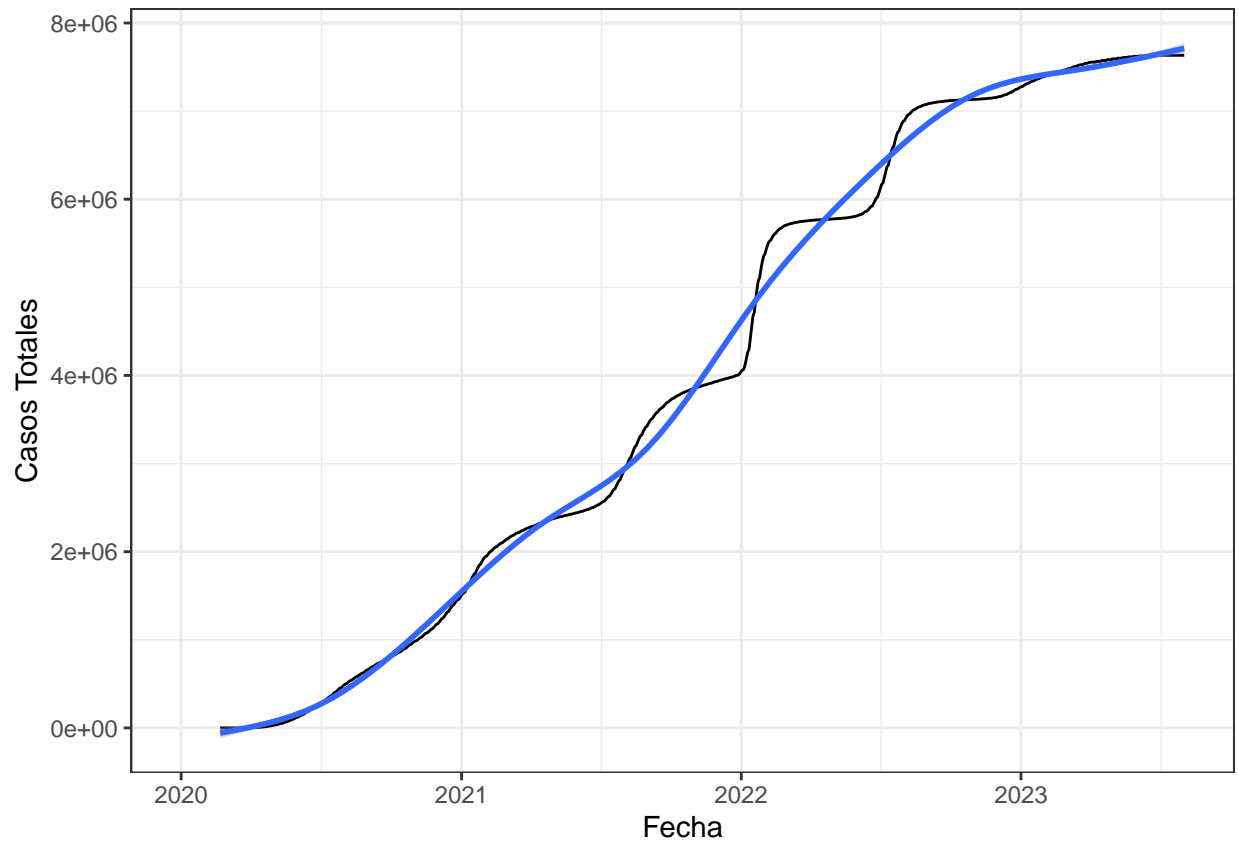
## [1] 0 0 0 0 0 0 0 0 3 2 2 2 5 9 10 11 6 7 8 5 17
ggplot(covid_mexico, aes(x = date, y = total_cases)) +
  geom_line()
```



```
ggplot(covid_mexico, aes(x = date, y = total_cases)) +  
  geom_line() +  
  geom_smooth()
```



```
ggplot(covid_mexico, aes(x = date, y = total_cases)) +  
  geom_line() +  
  geom_smooth() +  
  xlab('Fecha') +  
  ylab('Casos Totales') +  
  theme_bw()
```



`scale_x_date()` para darle formato a la fecha

`%d`: Day as a number between 0 and 31

`%a`: Abbreviated weekday (e.g. "Tue")

`%A`: Unabbreviated weekday (e.g. "Tuesday")

`%m`: Month between 0 and 12

`%b`: Abbreviated month (e.g. "Jan")

`%B`: Unabbreviated month (e.g. "January")

`%y`: 2-digit year (e.g. "21")

`%Y`: 4-digit year (e.g. "2021")

`%W`: Week of the year between 0 and 52