Deforestation vs Precipitation in the Amazon

2022-12-17

```
install.packages("tidyverse")
```

```
## Installing package into '/cloud/lib/x86_64-pc-linux-gnu-library/4.2'
## (as 'lib' is unspecified)
```

```
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.2 --
## v ggplot2 3.4.0      v purrr   0.3.5
## v tibble  3.1.8      v dplyr   1.0.10
## v tidyr   1.2.1      v stringr 1.5.0
## v readr   2.1.3      v forcats 0.5.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
precipitation_data <- read.csv("precipitation.csv")
deforestation_data <- read.csv("deforestation_amazon.csv")


precipitation_amazon <- filter(precipitation_data, state == "AP"| state == "AM"|state == "MA"|state == 

precipitation_amazon <- separate(precipitation_amazon, col = date, into=c("day", "month", "year"), sep =
colnames(deforestation_data)[1] = "Year"
deforestation_amazon_range <- filter(deforestation_data, Year == "2004"| Year=="2005"|Year=="2006"|Year=
precipitation_amazon <- precipitation_amazon[,c(1, 4, 5)]
deforestation_amazon <- deforestation_amazon_range[,c(1, 11)]

precipitation_amazon <- filter(precipitation_amazon, year == "2004"| year=="2005"|year=="2006"|year=="20
precipitation_2004 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2004"])
precipitation_2005 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2005"])
precipitation_2006 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2006"])
precipitation_2007 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2007"])
precipitation_2008 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2008"])
precipitation_2009 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2009"])
precipitation_2010 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2010"])
precipitation_2011 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2011"])
precipitation_2012 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2012"])
precipitation_2013 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2013"])
precipitation_2014 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2014"])
precipitation_2015 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2015"])
precipitation_2016 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2016"])
precipitation_2017 <- sum(precipitation_amazon$precipitation[precipitation_amazon$year=="2017"])
total_yearly_precipiation <- c(precipitation_2004, precipitation_2005, precipitation_2006, precipitatio
total_amazon_data <- data.frame(deforestation_amazon$Year, total_yearly_precipiation, deforestation_amaz
colnames(total_amazon_data)[1] = "Year"
```

```
colnames(total_amazon_data)[2] = "Precipitation"
colnames(total_amazon_data)[3] = "Amazon_Area"
amazon_plot <- ggplot(data=total_amazon_data, mapping=aes(x=Year)) + geom_line(mapping=aes(x=Year, y=Ama
```

After all this lovely coding, we have an easy to read plot!

```
plot(amazon_plot)
```