ggplot Customization with National Park Visitation Data (Solution)

2024-02-26

Solution

Download as R Script

Exercise Without Solutions

Load National Park Visitation data

```
np_data <- read.csv("https://raw.githubusercontent.com/melaniewalsh/Neat-Datasets/main/1979-1
 stringsAsFactors = FALSE)
```

View the np_data dataframe by clicking on the spreadsheet icon in the Global Environment

Load libraries

```
library("dplyr")
library("stringr")
library("ggplot2")
library("scales")
```

- How have visits to a particular National Park changed over time?
- What is the most interesting period of change?

Exercise 1

First, filter the dataframe for a park of your choice. Then, pick a National Park that you haven't worked with yet, and filter the data for only that park.

```
my_parks_df <- np_data %>%
  filter(ParkName == "Mount Rainier NP")

head(my_parks_df)
```

ParkName	Region	State	Year	RecreationVisits
Mount Rainier NP	Pacific West	WA	1979	1516703
Mount Rainier NP	Pacific West	WA	1980	1268256
Mount Rainier NP	Pacific West	WA	1981	1233671
Mount Rainier NP	Pacific West	WA	1982	1007300
Mount Rainier NP	Pacific West	WA	1983	1106306
Mount Rainier NP	Pacific West	WA	1984	1152411

Exercise 2

Now, make a line plot that shows the number of visits per year to that park from 1979 to 2022.

2a.

Choose a color for the line.

2b.

Give the plot a title that also functions as a kind of "headline" for the most interesting story of the plot.

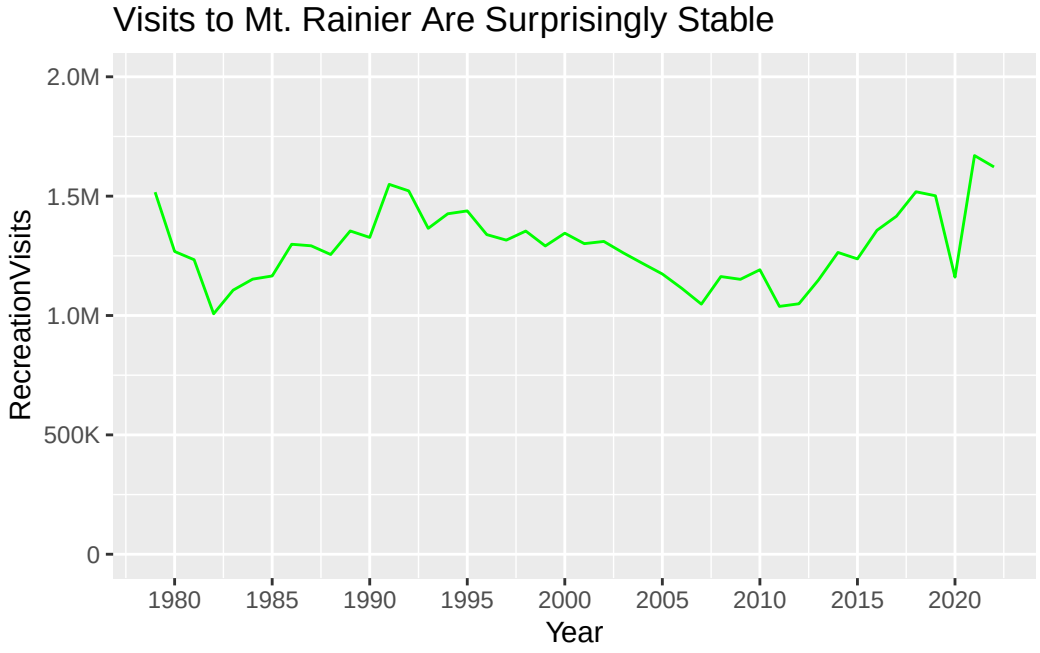
2c.

Change the x-axis ticks so that they increase 5 years at a time.

2d.

Change the y-axis tick labels so that they abbreviate millions to M and thousands to K.

```
ggplot(my_parks_df) +
  geom_line(aes(
    x = Year,
    y = RecreationVisits
  ),
  color = "green") +
  scale_x_continuous(
    breaks = seq(from = 1980, to = 2020, by = 5),
  ) +
  scale_y_continuous(labels = label_number(scale_cut = cut_short_scale()),
  limits = c(0, 2000000)) +
  labs(title = "Visits to Mt. Rainier Are Surprisingly Stable")
```



Exercise 3

Now, create a plot that zooms in on the most interesting time period for this particular National Park.

3a.

Change the x-axis limits so that it only shows the most interesting years.

3b.

Come up with a new title that describes this time period.

```
ggplot(my_parks_df) +
  geom_line(aes(
    x = Year,
    y = RecreationVisits
  ),
  color = "green") +
  scale_x_continuous(
    breaks = seq(from = 1980, to = 2020, by = 5),
    limits = c(2005, 2023),
  ) +
  scale_y_continuous(labels = label_number(scale_cut = cut_short_scale()),
   limits = c(0, 2000000)) +
  labs(title = "After a COVID Dip, Mt. Rainier Visits Are Higher Than Ever")
```