JOE

Anika Kaur, Noah Leibowitz

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R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com (http://rmarkdown.rstudio.com).

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
zion <- read.csv("C:/Users/anika/Downloads/Copy of III. Finding Your Data - Zion.csv")
capitol_reef <- read.csv("C:/Users/anika/Downloads/Copy of III. Finding Your Data - Capitol Reef.c
sv")
canyonlands <- read.csv("C:/Users/anika/Downloads/Copy of III. Finding Your Data - Canyonlands.cs
v")
bryce <- read.csv("C:/Users/anika/Downloads/Copy of III. Finding Your Data - Bryce.csv")
arches <- read.csv("C:/Users/anika/Downloads/Copy of III. Finding Your Data - Arches.csv")
```

Including Plots

park

```
library(dplyr)
```

```
## Warning: package 'dplyr' was built under R version 4.4.3
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
allparks <- bind_rows(capitol_reef, canyonlands, bryce, arches, zion)
```

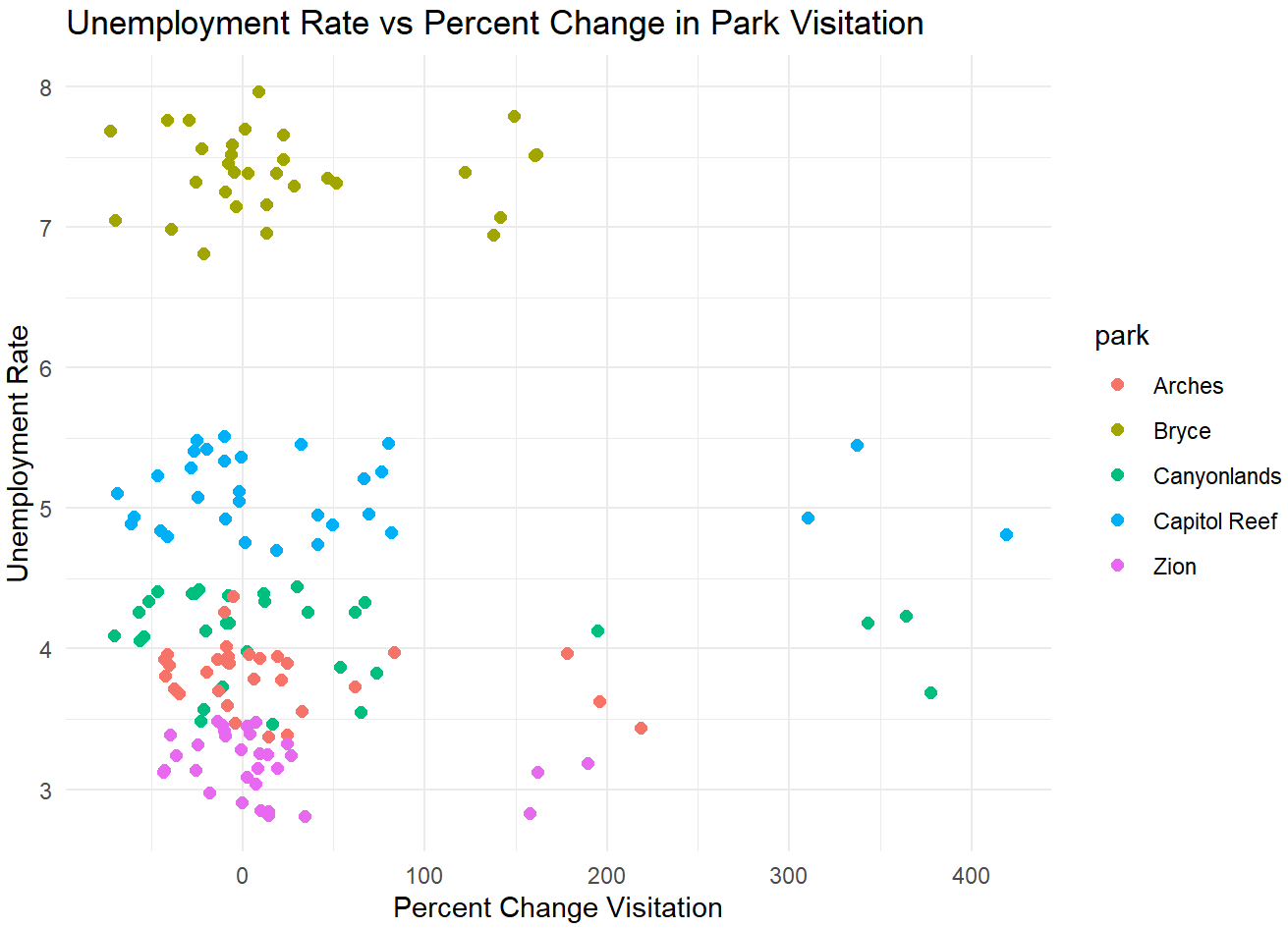
plot

```
 library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.4.3
```

```
 ggplot(allparks, aes(x = X..change.visitation, y = unemployment.rate
                      , color = park)) + geom_point(size = 2) + labs(title = "Unemployment Rate vs
Percent Change in Park Visitation", x = "Percent Change Visitation", y = "Unemployment Rate") + th
eme_minimal()
```

```
## Warning: Removed 5 rows containing missing values or values outside the scale range
## (`geom_point()`).
```




```
library(lubridate)
```

```
## Warning: package 'lubridate' was built under R version 4.4.3
```

```
##
## Attaching package: 'lubridate'
```

```
## The following objects are masked from 'package:base':
##
##     date, intersect, setdiff, union
```

time graph

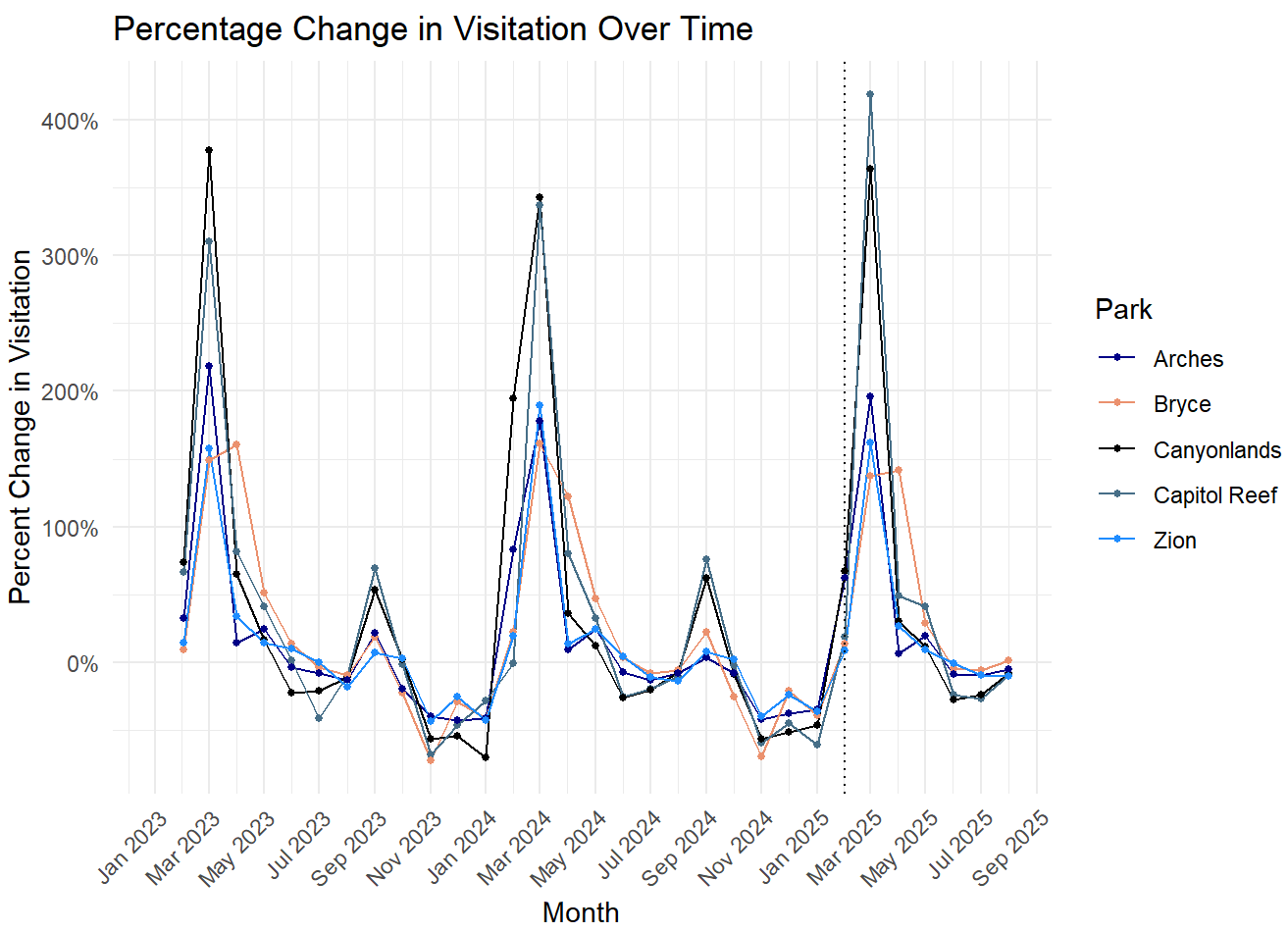
```
allparks <- allparks %>%
  mutate(date = parse_date_time(month..year, orders = "b , Y"))
```

```
vline_date <- ymd("2025-02-01")

ggplot(allparks, aes(x = date, y = X..change.visitation, color = park, group = park)) +
  geom_line(linewidth = .5) +
  geom_point(size = 1) +
  geom_vline(xintercept = vline_date, linetype = "dotted", color = "black", linewidth = .5) +
  scale_y_continuous(labels = scales::percent_format(scale = 1)) +
  scale_x_date(date_labels = "%b %Y", date_breaks = "2 months") +
  scale_color_manual(
    values = c(
      "darkblue",
      "lightsalmon2",
      "black",
      "skyblue4",
      "dodgerblue"
    )
  ) +
  labs(
    title = "Percentage Change in Visitation Over Time",
    x = "Month",
    y = "Percent Change in Visitation",
    color = "Park"
  ) +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```

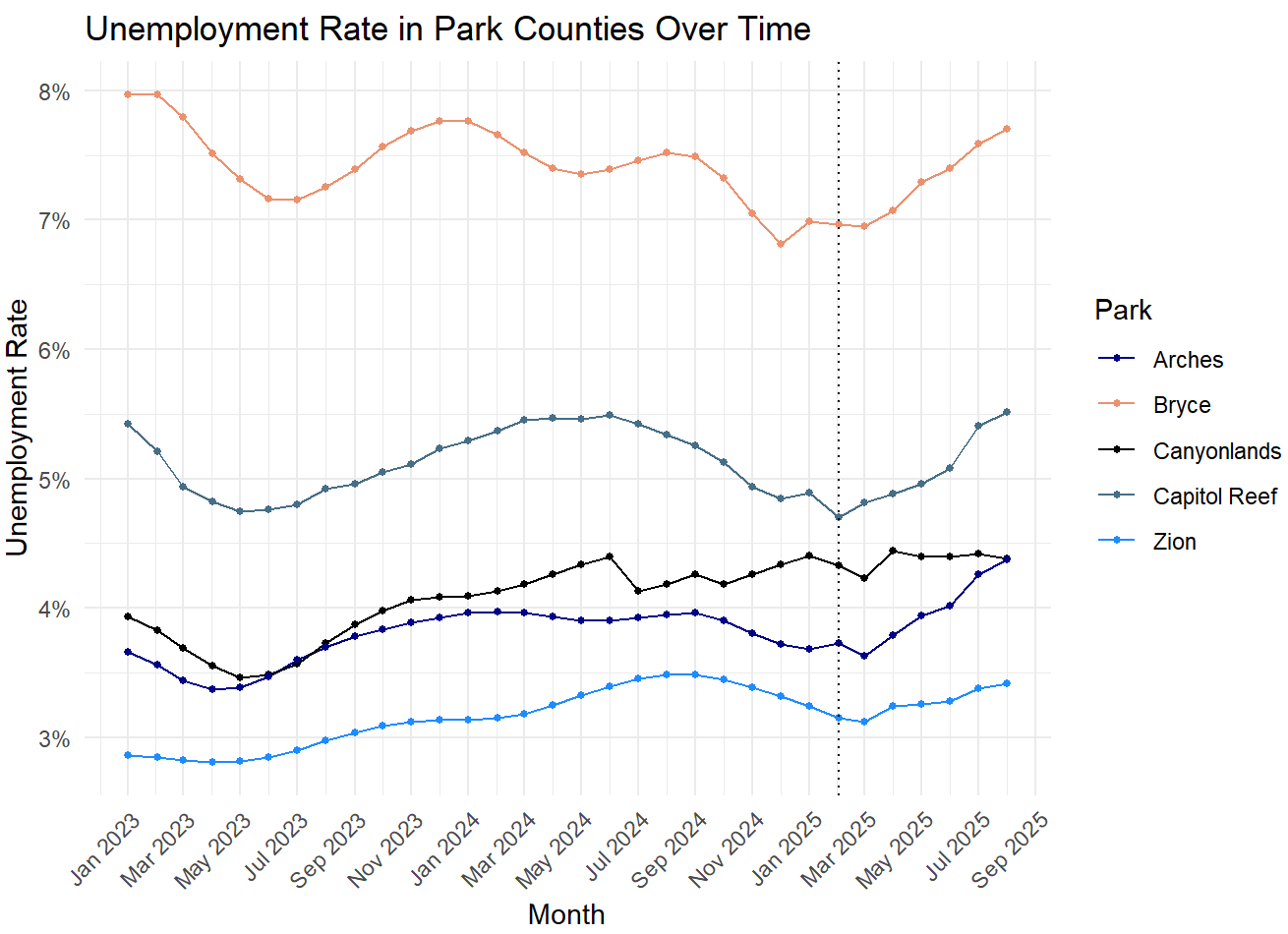
```
## Warning: Removed 5 rows containing missing values or values outside the scale range
## (`geom_line()`).
```

```
## Warning: Removed 5 rows containing missing values or values outside the scale range
## (`geom_point()`).
```




```
vline_date <- ymd("2025-02-01")

ggplot(allparks, aes(x = date, y = unemployment.rate, color = park, group = park)) +
  geom_line(linewidth = .5) +
  geom_point(size = 1) +
  geom_vline(xintercept = vline_date, linetype = "dotted", color = "black", linewidth = .5) +
  scale_y_continuous(labels = scales::percent_format(scale = 1)) +
  scale_x_date(date_labels = "%b %Y", date_breaks = "2 months") +
  # 🎨 five custom colors for your parks
  scale_color_manual(
    values = c(
      "darkblue",
      "lightsalmon2",
      "black",
      "skyblue4",
      "dodgerblue"
    )
  ) +
  labs(
    title = "Unemployment Rate in Park Counties Over Time",
    x = "Month",
    y = "Unemployment Rate",
    color = "Park"
  ) +
  theme_minimal() +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```


Unemployment Rate in Park Counties Over Time
8%
7%
6%
5%
4%
3%
Unemployment Rate
Jan 2023
Mar 2023
May 2023
Jul 2023
Sep 2023
Nov 2023
Jan 2024
Mar 2024
May 2024
Jul 2024
Sep 2024
Nov 2024
Jan 2025
Mar 2025
May 2025
Jul 2025
Sep 2025
Month
Park
Arches
Bryce
Canyonlands
Capitol Reef
Zion