Sentiment Analysis II

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Read in Twitter Data

```
raw_tweets <- read.csv("https://raw.githubusercontent.com/MaRo406/EDS_231-text-sentiment/main/dat/IPCC_

dat <- raw_tweets[,c(5,7)] # Extract Date and Title fields

tweets <- tibble(text = dat$Title,
                 id = seq(1:length(dat$Title)),
                 date = as.Date(dat$Date,'%m/%d/%y'))
```

1. Clean up Data

```
tweets$text <- gsub("http[^[:space:]]*", "",tweets$text)
tweets$text <- str_to_lower(tweets$text)
tweets$text <- gsub("@*", "", tweets$text)
```

Tokenize Data and Join sentiment words

```
bing_sent <- get_sentiments('bing')
nrc_sent <- get_sentiments('nrc')

words <- tweets %>%
  select(id, date, text) %>%
  unnest_tokens(output = word, input = text, token = "words") %>%
  anti_join(stop_words, by = "word") %>%
  left_join(bing_sent, by = "word") %>%
  left_join(
    tribble(
      ~sentiment, ~sent_score,
      "positive", 1,
      "negative", -1),
    by = "sentiment")
```

2. Compare the ten most common terms in the tweets per day

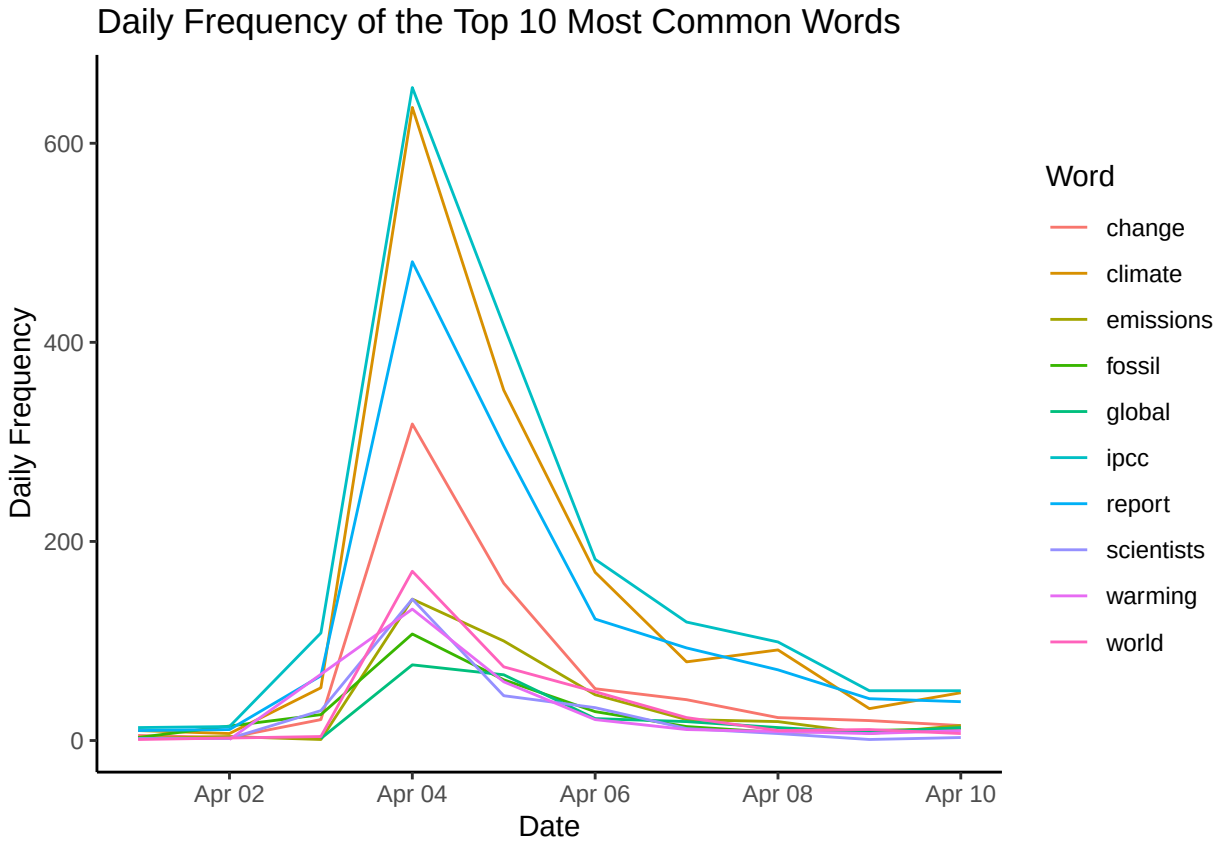
```
top_ten <- words %>%
  group_by(word) %>%
```

```
  summarize(count = n()) %>%
  ungroup() %>%
  slice_max(order_by = count, n = 10)

common <- words %>%
  filter(word %in% as.list(top_ten$word)) %>%
  select(date, word) %>%
  group_by(date, word) %>%
  summarize(count = n())
```

```
## `summarise()` has grouped output by 'date'. You can override using the `.groups` argument.
```

```
ggplot(common, aes(x = date, y = count, color = as.factor(word))) +
  geom_line() +
  theme_classic() +
  labs(x = "Date",
       y = "Daily Frequency",
       title = "Daily Frequency of the Top 10 Most Common Words",
       color = "Word")
```



I notices that both “IPCC” and “Climate” peaked on the day the IPCC released their report, which means that a lot of accounts were tweeting about it on April 4th and in hte days after, even though on a lesser intensity.

3. Adjust the wordcloud in the "wordcloud" chunk by coloring the positive and negative words so they are identifiable.

```
words %>%
  inner_join(get_sentiments("bing")) %>%
  count(word, sentiment, sort = TRUE) %>%
  acast(word ~ sentiment, value.var = "n", fill = 0) %>%
  comparison.cloud(colors = c("red", "#03AC13"),
                   max.words = 100,
                   title.colors = c("#990F02", "#028A0F"),
                   title.bg.colors = c("#E3242B", "lightgreen"))
```

```
## Joining, by = c("word", "sentiment")
```

4. Let's say we are interested in the most prominent entities in the Twitter discussion. Which are the top 10 most tagged accounts in the data set?

```
dat2 <- raw_tweets[,c(5,7)] # Extract Date and Title fields

corpus <- corpus(dat2$Title) #enter quanteda

tokens <- tokens(corpus) #tokenize the text so each page is a list of tokens
tokens <- tokens(tokens,
                 remove_punct = TRUE,
                 remove_numbers = TRUE)
```

```
tokens <- tokens_select(tokens,
                        stopwords('english'),
                        selection='remove')
tokens <- tokens_tolower(tokens)

mention_tweets <- tokens(corpus, remove_punct = TRUE) %>%
  tokens_keep(pattern = "@*")

dfm_mention <- dfm(mention_tweets)

tstat_freq <- textstat_frequency(dfm_mention, n = 10)

tstat_freq <- data.frame(tstat_freq) %>%
  select(feature, frequency)

tstat_freq %>%
  kable(col.names = c("Account", "Frequency of Mentions")) %>%
  row_spec(0, bold = T) %>%
  column_spec(1:2, border_left = T, border_right = T)
```

Account	Frequency of Mentions
@ipcc_ch	131
@logicalindians	38
@antonioguterres	16
@nytimes	14
@yahoo	14
@potus	13
@un	12
@youtube	11
@conversationedu	10
@ipcc	9