Lab_2

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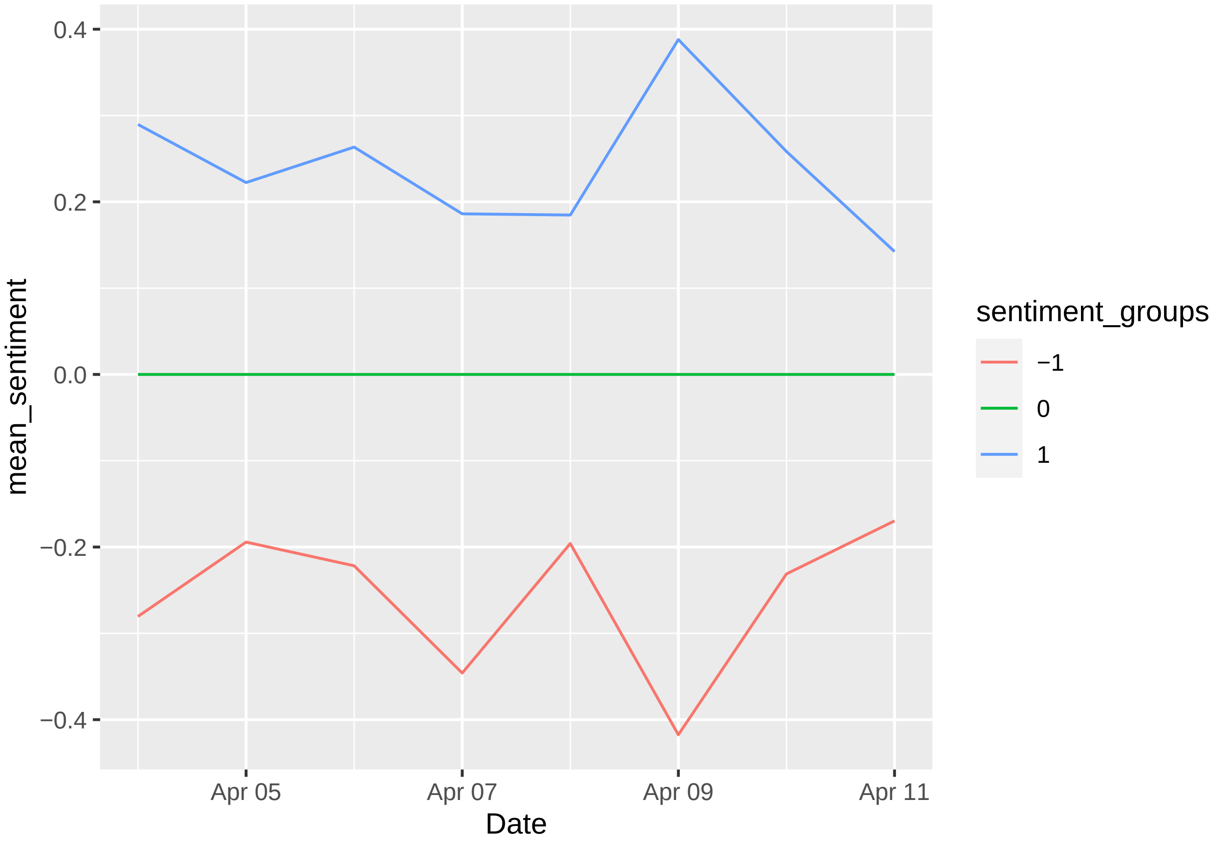
This is the graph from the end of class

```
sent_df %>%
  mutate(sentiment_groups = case_when(sentiment > 0 ~ "1",
                                      sentiment == 0 ~ "0",
                                      sentiment < 0 ~ "-1"),
         factor(sentiment_groups, levels = c(1, 0, -1))) %>%
  group_by(Date, sentiment_groups) %>%
  summarise(mean_sentiment = mean(sentiment)) %>%
  ggplot(aes(x = Date,
             y = mean_sentiment,
             color = sentiment_groups)) +
  geom_line(position = "dodge")
```

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

```
## Warning: Width not defined. Set with `position_dodge(width = ?)`
```



#Now we load in Marine Ecology Data and finish the homework

```
my_files <- list.files(pattern = ".docx", path = here("Lab_2", "data"),
                       full.names = TRUE, recursive = TRUE, ignore.case = TRUE)
dat <- lnt_read(my_files) #Object of class 'LNT output'
```

```
## Warning in lnt_asDate(date.v, ...): More than one language was detected. The
## most likely one was chosen (English 98%)
```

```
meta_df <- dat@meta

articles_df <- dat@articles

paragraphs_df <- dat@paragraphs

dat2<- data_frame(element_id = seq(1:length(meta_df$Headline)),
                  Date = meta_df$Date,
                  Headline = meta_df$Headline)

#May be of use for assignment: using the full text from the articles
paragraphs_dat <- data_frame(element_id = paragraphs_df$Art_ID, Text  = paragraphs_df$Paragraph)

dat3 <- inner_join(dat2, paragraphs_dat, by = "element_id")
#this is get rid of any links and anything that contains less than 20 words
cleanpars <- dat3 %>%
  mutate(link = str_detect(dat3$Text, "http", negate = TRUE)) %>%
  filter(link == TRUE & nchar(dat3$Text) > 20)
```

```
mytext <- get_sentences(cleanpars$Text)
sent <- sentiment(mytext)
```

```
sent_df <- inner_join(cleanpars, sent, by = "element_id")
sentiment <- sentiment_by(sent_df$Text)
```

```
## Warning: Each time `sentiment_by` is run it has to do sentence boundary disambiguation when a
## raw `character` vector is passed to `text.var`. This may be costly of time and
## memory.  It is highly recommended that the user first runs the raw `character`
## vector through the `get_sentences` function.
```

```
sent_df %>%
  arrange(sentiment)
```

```
## # A tibble: 2,001 x 8
##    element_id Date       Headline  Text   link  sentence_id word_count sentiment
##         <int> <date>     <chr>     <chr>  <lgl>       <int>      <int>     <dbl>
##  1         79 2022-04-05 Nature C~ "(TNS~ TRUE            2         28    -0.378
##  2         79 2022-04-05 Nature C~ "The ~ TRUE            2         28    -0.378
##  3         79 2022-04-05 Nature C~ "The ~ TRUE            2         28    -0.378
##  4         79 2022-04-05 Nature C~ "\"Ke~ TRUE            2         28    -0.378
##  5         79 2022-04-05 Nature C~ "Prio~ TRUE            2         28    -0.378
##  6         79 2022-04-05 Nature C~ "\"Ke~ TRUE            2         28    -0.378
##  7         79 2022-04-05 Nature C~ "The ~ TRUE            2         28    -0.378
##  8         79 2022-04-05 Nature C~ "\"We~ TRUE            2         28    -0.378
##  9         79 2022-04-05 Nature C~ "Drs.~ TRUE            2         28    -0.378
## 10         79 2022-04-05 Nature C~ "\"Th~ TRUE            2         28    -0.378
## # ... with 1,991 more rows
```

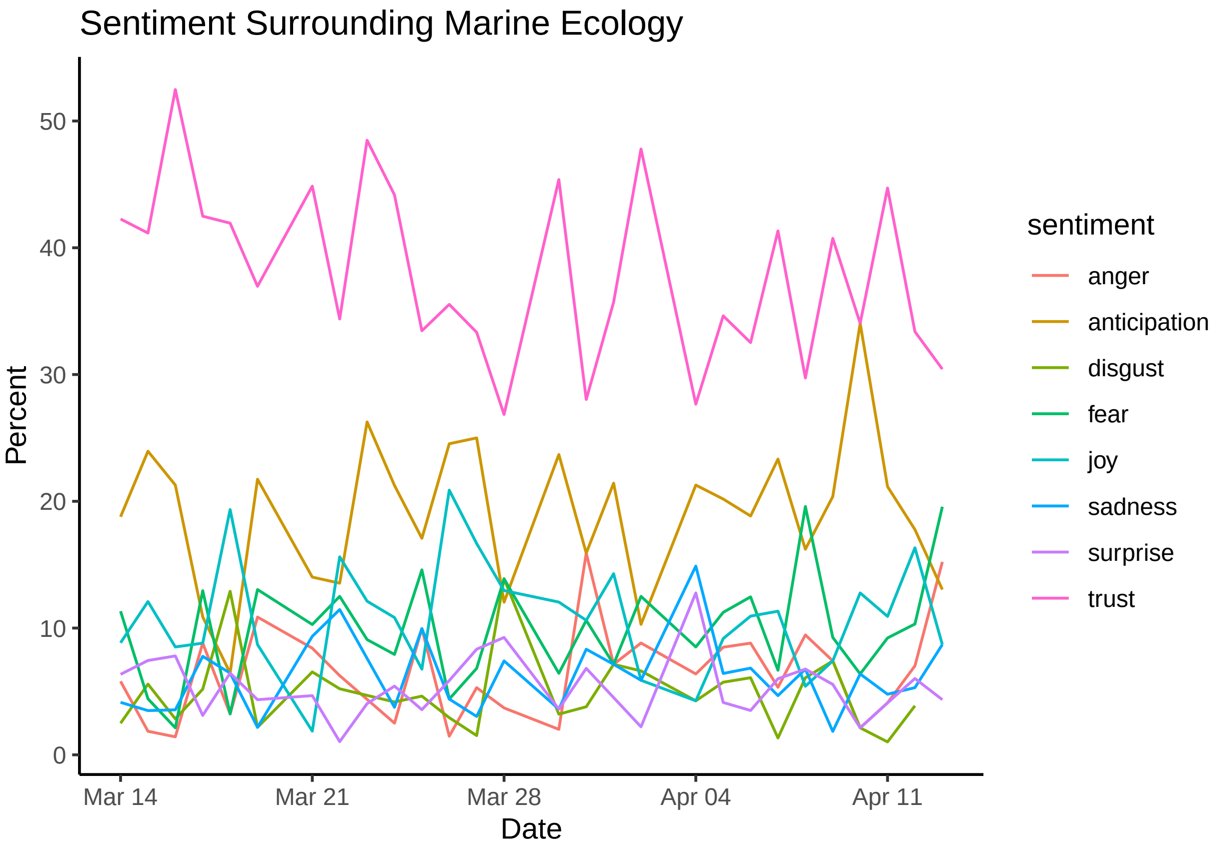
```
nrc_sent <- get_sentiments('nrc')
text_words <- dat3  %>%
  unnest_tokens(output = word, input = Text, token = 'words')

sent_words <- text_words %>% #break text into individual words
  anti_join(stop_words, by = 'word') %>%
  inner_join(nrc_sent, by = 'word') %>%
  filter(!sentiment %in% c("positive", "negative")) %>%
  mutate(Date = as_date(Date))

sent_word_count <- sent_words %>%
  group_by(Date, sentiment) %>%
  count(sentiment) %>%
  ungroup() %>%
  group_by(Date) %>%
  mutate(n_max = sum(n),
         percent = round((n / n_max) * 100, 2))
```

```
ggplot(data = sent_word_count) +
  geom_line(aes(x = Date, y = percent, color = sentiment, group = sentiment)) +
  theme_classic() +
  labs(title = "Sentiment Surrounding Marine Ecology",
       y = "Percent",
       x = "Date")
```

```
## Warning: Removed 6 row(s) containing missing values (geom_path).
```

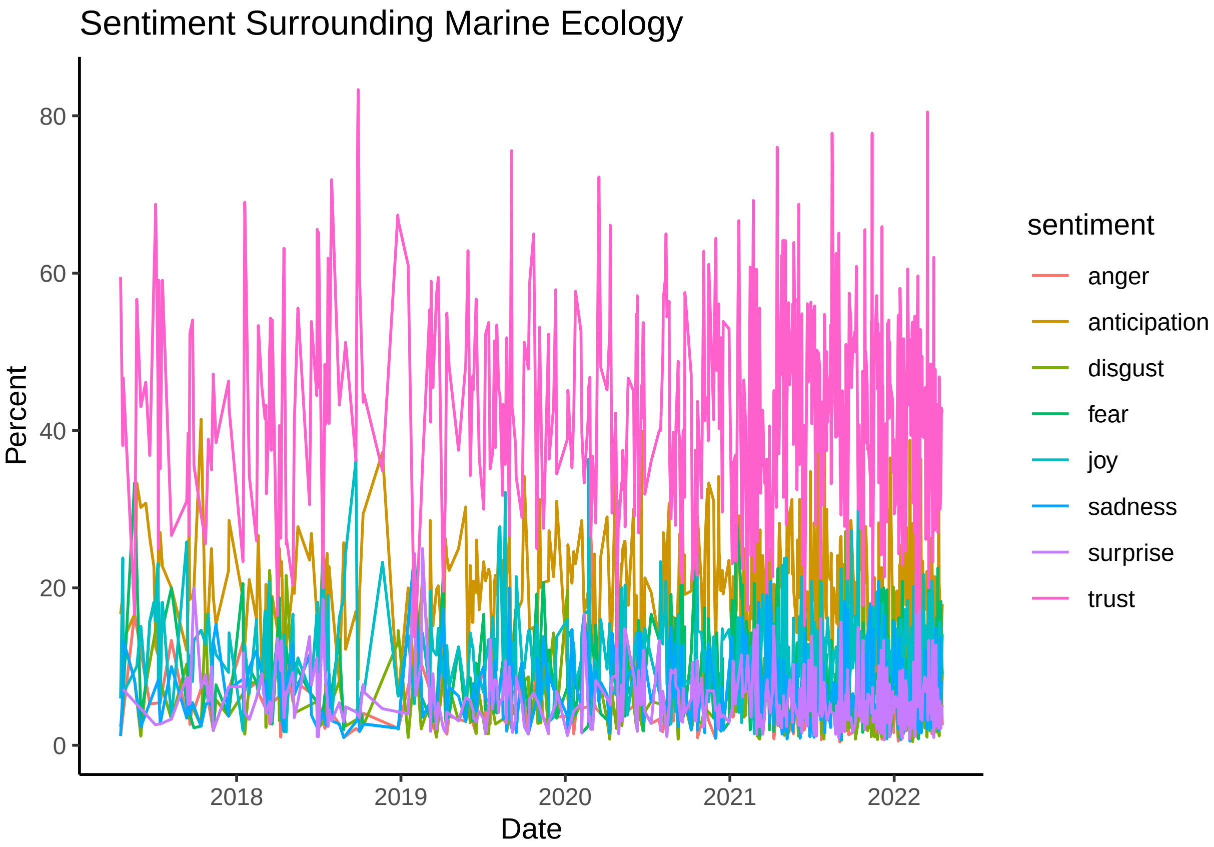


The majority of the words used are words that relate to trust, which, as a marine ecologist myself, I think is really great. There also seems to be a lot of anticipation, that is probably surrounding climate change, rising ocean temperatures, and rising sea levels. I am very interested to see if this changes at all when you increase the time frame that this is over. So I plotted this for a few years of data, and the patterns stays the same over the past 5 years. However I am very interested to know why exactly trust is the most highly ranked word, when there are so many people who now a days don't trust scientists. I wonder if this has to do with where the Nexis library is getting all of these papers from, and anything to do with the nrc groupings.

```
ggplot(data = sent_word_count) +
  geom_line(aes(x = Date, y = percent, fill = sentiment, color = sentiment)) +
  theme_classic() +
  labs(title = "Sentiment Surrounding Marine Ecology",
       y = "Percent",
       x = "Date")
```

```
## Warning: Ignoring unknown aesthetics: fill
```

```
## Warning: Removed 8 row(s) containing missing values (geom_path).
```


Sentiment Surrounding Marine Ecology
Percent
80
60
40
20
0
2018
2019
2020
2021
2022
Date
sentiment
anger
anticipation
disgust
fear
joy
sadness
surprise
trust