

Movie Script Keynes

Marie Rivers

2022-05-12

```
library(tidyr) #text analysis in R
```

```
## Warning: package 'tidyr' was built under R version 4.1.2
```

```
library(pdftools)
```

```
## Warning: package 'pdftools' was built under R version 4.1.2
```

```
## Using poppler version 22.02.0
```

```
library(lubridate) #working with date data
```

```
##
```

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

```
## The following objects are masked from 'package:base':
```

```
##
```

```
##      date, intersect, setdiff, union
```

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.3.1 --
```

```
## v ggplot2 3.3.6      v dplyr   1.0.9
```

```
## v tibble  3.1.7      v stringr 1.4.0
```

```
## v readr   2.1.2      v forcats 0.5.1
```

```
## v purrr   0.3.4
```

```
## Warning: package 'ggplot2' was built under R version 4.1.2
```

```
## Warning: package 'tibble' was built under R version 4.1.2
```

```
## Warning: package 'readr' was built under R version 4.1.2
```

```
## Warning: package 'dplyr' was built under R version 4.1.2
```

```
## -- Conflicts ----- tidyverse_conflicts() --
## x lubridate::as.difftime() masks base::as.difftime()
## x lubridate::date() masks base::date()
## x dplyr::filter() masks stats::filter()
## x lubridate::intersect() masks base::intersect()
## x dplyr::lag() masks stats::lag()
## x lubridate::setdiff() masks base::setdiff()
## x lubridate::union() masks base::union()
```

```
library(tidytext)
library(readr)
library(quanteda)
```

```
## Warning: package 'quanteda' was built under R version 4.1.2
```

```
## Package version: 3.2.1
## Unicode version: 13.0
## ICU version: 69.1
```

```
## Parallel computing: 8 of 8 threads used.
```

```
## See https://quanteda.io for tutorials and examples.
```

```
library(readtext) #quanteda subpackage for reading pdf
library(quanteda.textstats)
library(quanteda.textplots)
```

```
## Warning: package 'quanteda.textplots' was built under R version 4.1.2
```

```
library(ggplot2)
library(forcats)
library(stringr)
library(quanteda.textplots)
library(widyr) # pairwise correlations
library(igraph) #network plots
```

```
## Warning: package 'igraph' was built under R version 4.1.2
```

```
##
## Attaching package: 'igraph'
```

```
## The following object is masked from 'package:quanteda.textplots':
##
## as.igraph
```

```
## The following objects are masked from 'package:dplyr':
##
## as_data_frame, groups, union
```

```
## The following objects are masked from 'package:purrr':
##
##   compose, simplify

## The following object is masked from 'package:tibble':
##
##   as_data_frame

## The following objects are masked from 'package:lubridate':
##
##   %--%, union

## The following object is masked from 'package:tidyr':
##
##   crossing

## The following objects are masked from 'package:stats':
##
##   decompose, spectrum

## The following object is masked from 'package:base':
##
##   union
```

```
library(ggraph)
library(here)
```

```
## here() starts at /Users/marierivers/Documents/UCSB_Environmental_Data_Science/EDS_231_Text_and_Sentiment
```

```
library(patchwork)
```

```
files <- list.files(path = here("data"),
                   pattern = "pdf$", full.names = TRUE)

scripts <- lapply(files, pdf_text)

scripts_pdf <- readtext(file = here("data", "*.pdf"),
                       docvarsfrom = "filenames",
                       docvarnames = c("title1", "title2", "title3"),
                       sep = NULL) # this isn't doing what I want it to do
#creating an initial corpus containing our data
scripts_corp <- corpus(x = scripts_pdf, text_field = "text" )
summary(scripts_corp) %>%
  knitr::kable(caption = "Summary of Scripts Corpus")
```

Table 1: Summary of Scripts Corpus

Text	Types	Tokens	Sentences	title1	title2	title3
an_inconvenient_truth.pdf	2245	10936	685	an	inconvenient	truth

Text	Types	Tokens	Sentences	title1	title2	title3
before_the_flood.pdf	2540	13634	863	before	the	flood
dont_look_up.pdf	4620	28016	2825	dont	look	up

```
# Add some additional, context-specific stop words to stop word lexicon
more_stops <-c("randall", "kate", "dr", "president", "int", "oglethorpe", "jason", "brie", "orlean", "p
add_stops <- tibble(word = c(stop_words$word, more_stops))
stop_vec <- as_vector(add_stops)
```

Create different data objects that will be used for the subsequent analyses

```
#convert to tidy format and apply my stop words
raw_text <- tidy(scripts_corp)
```

```
#Distribution of most frequent words across documents
raw_words <- raw_text %>%
  mutate(title = as.factor(title1)) %>%
  mutate(title = case_when(title == "dont" ~ "dont_look_up",
                           title == "an" ~ "an_inconvenient_truth",
                           title == "before" ~ "before_the_flood")) %>%
  unnest_tokens(word, text) %>%
  anti_join(add_stops, by = 'word') %>%
  count(title, word, sort = TRUE)
```

```
#number of total words by document
total_words <- raw_words %>%
  group_by(title) %>%
  summarize(total = sum(n))
```

```
script_words <- left_join(raw_words, total_words)
```

```
## Joining, by = "title"
```

```
par_tokens <- unnest_tokens(raw_text, output = paragraphs, input = text, token = "paragraphs")
```

```
par_tokens <- par_tokens %>%
  mutate(par_id = 1:n())
```

```
par_words <- unnest_tokens(par_tokens, output = word, input = paragraphs, token = "words") %>%
  mutate(title = case_when(title1 == "dont" ~ "dont_look_up",
                           title1 == "an" ~ "an_inconvenient_truth",
                           title1 == "before" ~ "before_the_flood")) %>%
  anti_join(add_stops, by = 'word')
```

```
tokens <- tokens(scripts_corp, remove_punct = TRUE)
toks1<- tokens_select(tokens, min_nchar = 3)
toks1 <- tokens_tolower(toks1)
toks1 <- tokens_remove(toks1, pattern = (stop_vec))
dfm <- dfm(toks1)
```

```
dfm$full_title <- c("an_inconvenient_truth", "before_the_flood", "dont_look_up")
docvars(dfm)
```

```
## title1 title2 title3 full_title
## 1 an inconvenient truth an_inconvenient_truth
## 2 before the flood before_the_flood
## 3 dont look up dont_look_up
```

```
dfm
```

```
## Document-feature matrix of: 3 documents, 5,030 features (56.59% sparse) and 4 docvars.
```

```
## features
## docs inconvenient truth transcript
## an_inconvenient_truth.pdf 2 4 1
## before_the_flood.pdf 0 2 0
## dont_look_up.pdf 0 7 0
```

```
## features
## docs http://forumpolitics.com/blogs/2007/03/17/an-inconvient-truth-transcript
## an_inconvenient_truth.pdf 1
## before_the_flood.pdf 0
## dont_look_up.pdf 0
```

```
## features
## docs march 2007 introduction river gently flowing
## an_inconvenient_truth.pdf 1 1 1 3 1 1
## before_the_flood.pdf 1 0 0 1 0 0
## dont_look_up.pdf 0 0 0 0 0 0
## [ reached max_nfeat ... 5,020 more features ]
```

```
par_words_inconvenient_truth <- par_words %>%
  filter(title == "an_inconvenient_truth")

par_words_before_the_flood <- par_words %>%
  filter(title == "before_the_flood")

par_words_dont_look_up <- par_words %>%
  filter(title == "dont_look_up")
```

```
word_cors_all <- par_words %>%
  add_count(par_id) %>%
  filter(n >= 25) %>%
  select(-n) %>%
  pairwise_cor(word, par_id, sort = TRUE)

word_cors_inconvenient_truth <- par_words_inconvenient_truth %>%
  add_count(par_id) %>%
  filter(n >= 25) %>%
  select(-n) %>%
  pairwise_cor(word, par_id, sort = TRUE)

word_cors_before_the_flood <- par_words_before_the_flood %>%
  add_count(par_id) %>%
  filter(n >= 25) %>%
  select(-n) %>%
  pairwise_cor(word, par_id, sort = TRUE)

word_cors_dont_look_up <- par_words_dont_look_up %>%
```

```
add_count(par_id) %>%
filter(n >= 25) %>%
select(-n) %>%
pairwise_cor(word, par_id, sort = TRUE)
```

```
#first the basic frequency stat
tstat_freq <- textstat_frequency(dfm, n = 5, groups = title1)
head(tstat_freq, 15) %>%
  knitr::kable(caption = "Subset of Top 5 Words")
```

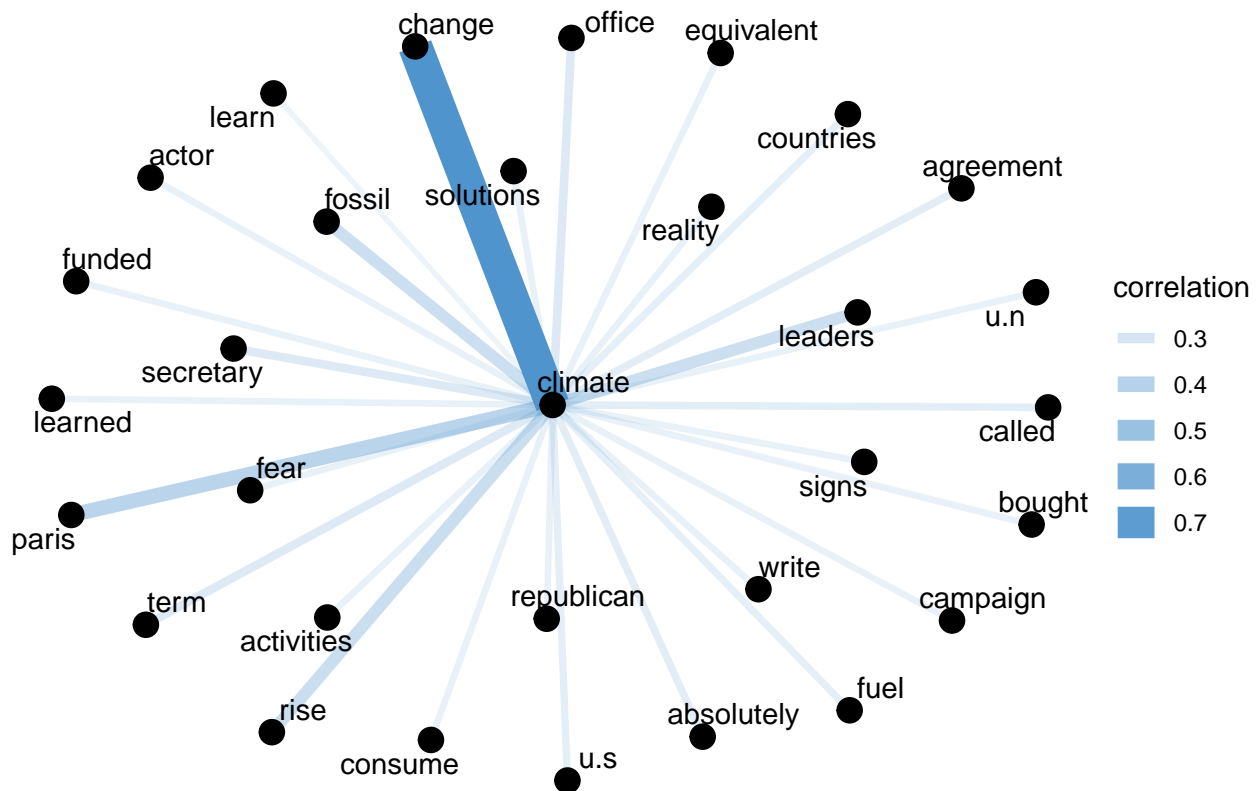
Table 2: Subset of Top 5 Words

feature	frequency	rank	docfreq	group
ice	54	1	1	an
earth	32	2	1	an
time	32	2	1	an
warming	28	4	1	an
world	27	5	1	an
climate	69	1	1	before
change	52	2	1	before
people	48	3	1	before
world	38	4	1	before
time	27	5	1	before
comet	82	1	1	dont
time	78	2	1	dont
ext	70	3	1	dont
evantee	59	4	1	dont
jack	54	5	1	dont

```
#let's zoom in on just one of our key terms
all_script_cors <- word_cors_all %>%
  filter(item1 == "climate") %>%
  mutate(n = 1:n())

all_script_cors_plot <- all_script_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "steelblue3") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("Both Documentaries - climate")
all_script_cors_plot
```

Both Documentaries – climate



you can compare the use of “climate” in the 2 documentations to see how this word is used differently, but don’t look up never mentions the word climate or climate change

```
#let's zoom in on just one of our key terms
inconvenient_truth_earth_cors <- word_cors_inconvenient_truth %>%
  filter(item1 == "earth") %>%
  mutate(n = 1:n())

inconvenient_truth_earth_cors_plot <- inconvenient_truth_earth_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "seagreen") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("An Inconvenient Truth - earth")
inconvenient_truth_earth_cors_plot
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbscsToSbcs': dot substituted for <e2>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbscsToSbcs': dot substituted for <80>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbscsToSbcs': dot substituted for <99>
```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

```



```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

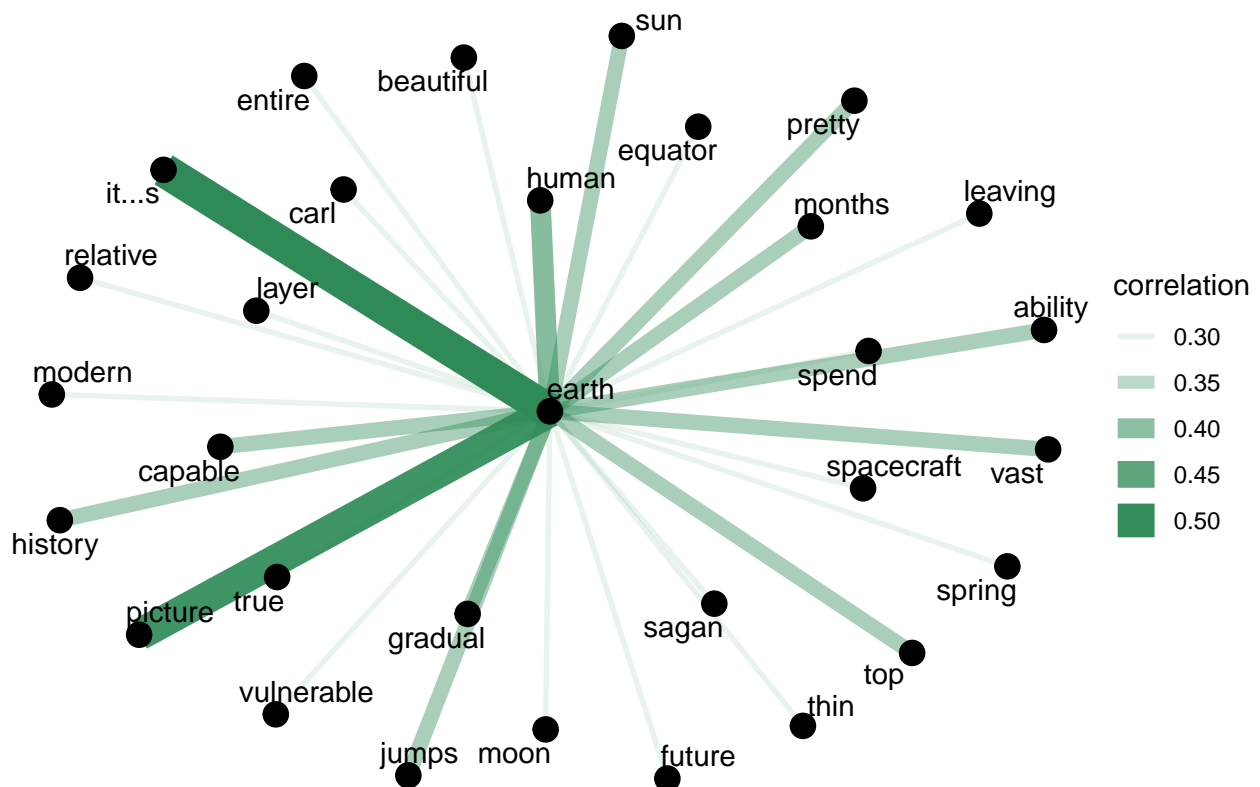
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>
```

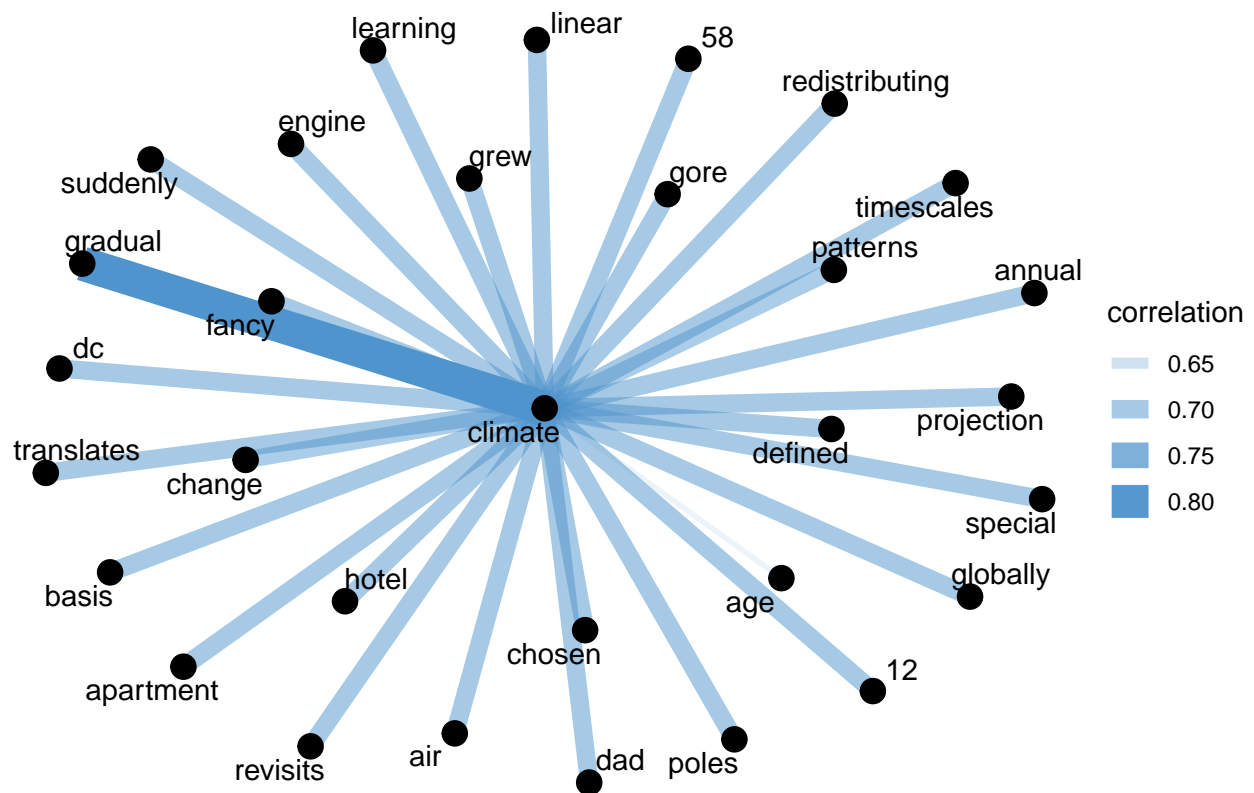
An Inconvenient Truth – earth



```
#let's zoom in on just one of our key terms
inconvenient_truth_climate_cors <- word_cors_inconvenient_truth %>%
  filter(item1 == "climate") %>%
  mutate(n = 1:n())

inconvenient_truth_climate_cors_plot <- inconvenient_truth_climate_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "steelblue3") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("An Inconvenient Truth - climate")
inconvenient_truth_climate_cors_plot
```

An Inconvenient Truth – climate



```
#let's zoom in on just one of our key terms
inconvenient_truth_time_cors <- word_cors_inconvenient_truth %>%
  filter(item1 == "time") %>%
  mutate(n = 1:n())

inconvenient_truth_time_cors_plot <- inconvenient_truth_time_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "firebrick") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("An Inconvenient Truth - climate")
inconvenient_truth_time_cors_plot
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbsToSbcs': dot substituted for <e2>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbsToSbcs': dot substituted for <80>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbsToSbcs': dot substituted for <99>
```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

```



```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

```



```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

```

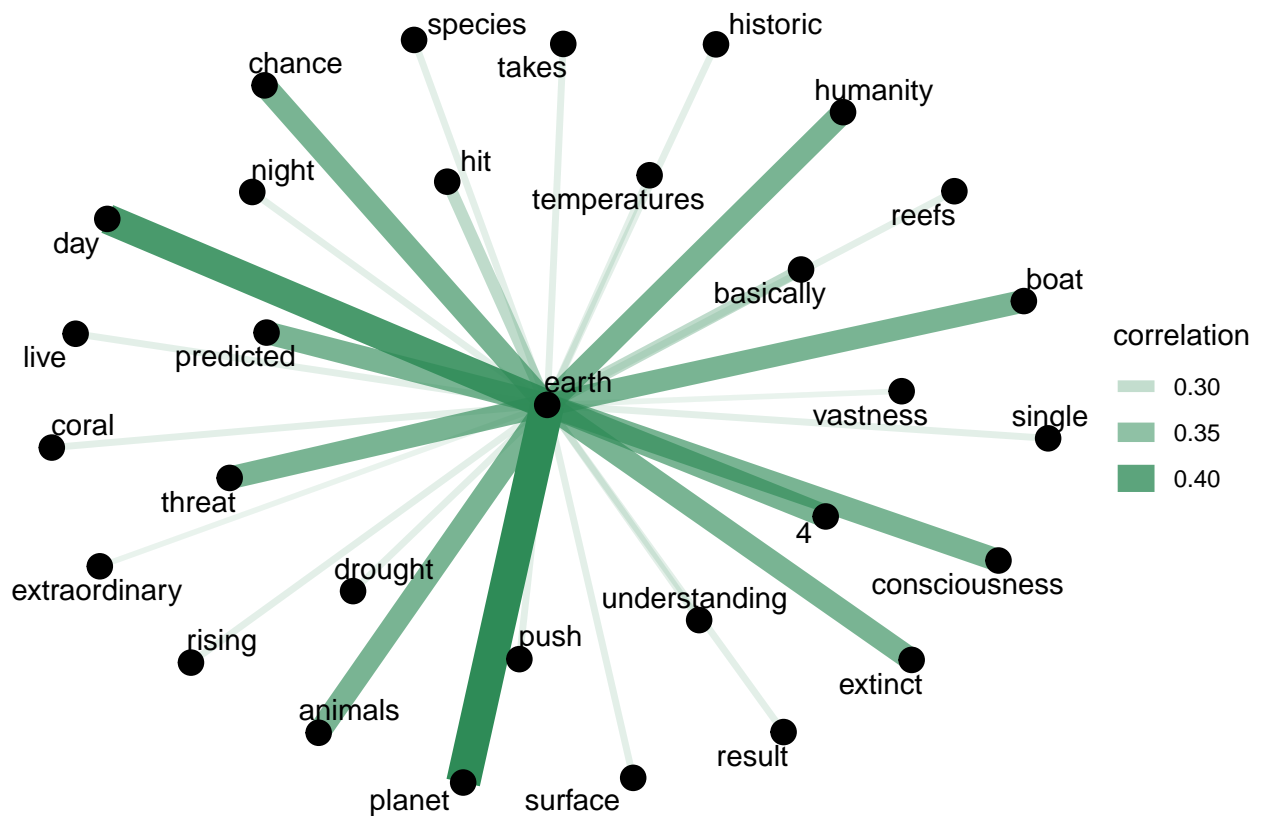
An Inconvenient Truth – climate



```
#let's zoom in on just one of our key terms
before_the_flood_earth_cors <- word_cors_before_the_flood %>%
  filter(item1 == "earth") %>%
  mutate(n = 1:n())

before_the_flood_earth_cors_plot <- before_the_flood_earth_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "seagreen") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("Before the Flood - earth")
before_the_flood_earth_cors_plot
```

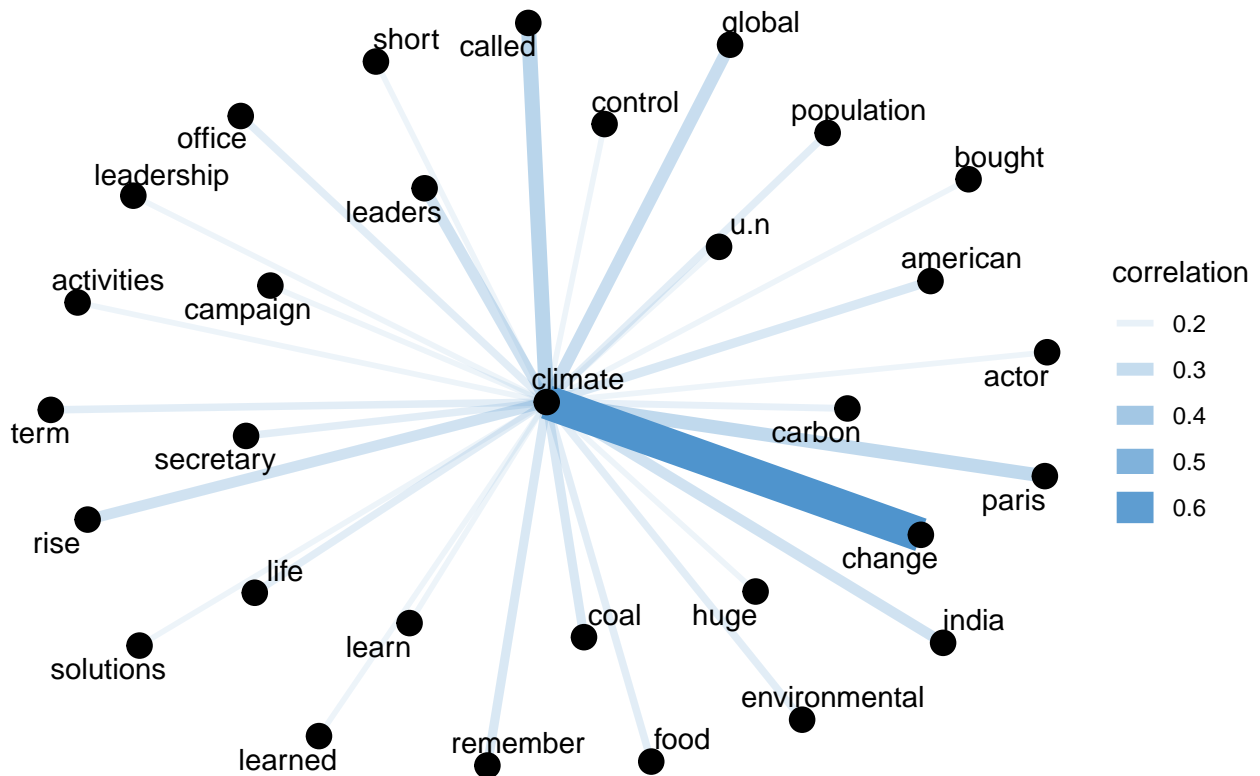
Before the Flood – earth



```
#let's zoom in on just one of our key terms
before_the_flood_climate_cors <- word_cors_before_the_flood %>%
  filter(item1 == "climate") %>%
  mutate(n = 1:n())

before_the_flood_climate_cors_plot <- before_the_flood_climate_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "steelblue3") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("Before the Flood - climate")
before_the_flood_climate_cors_plot
```

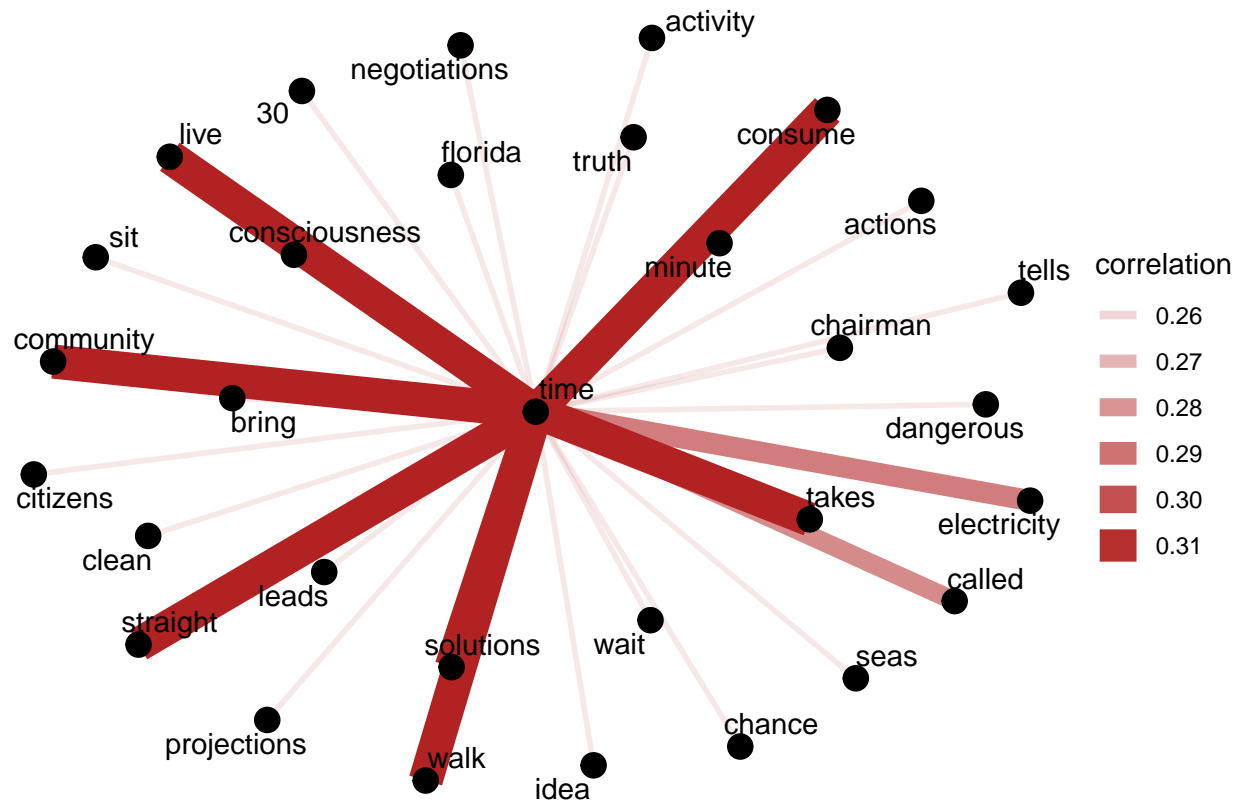
Before the Flood – climate



```
#let's zoom in on just one of our key terms
before_the_flood_time_cors <- word_cors_before_the_flood %>%
  filter(item1 == "time") %>%
  mutate(n = 1:n())

before_the_flood_time_cors_plot <- before_the_flood_time_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "firebrick") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("Before the Flood - time")
before_the_flood_time_cors_plot
```

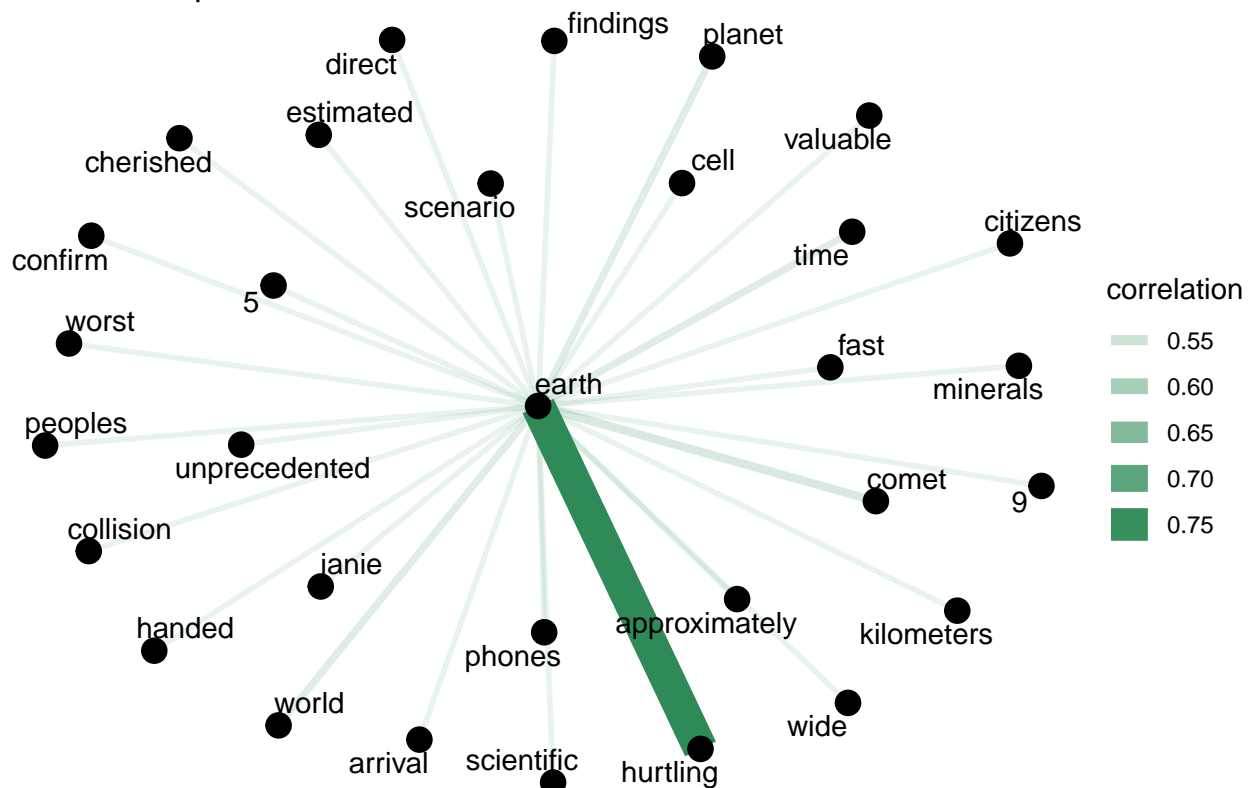
Before the Flood – time



```
# don't look up never mentions climate or climate change
#let's zoom in on just one of our key terms
dont_look_up_earth_cors <- word_cors_dont_look_up %>%
  filter(item1 == "earth") %>%
  mutate(n = 1:n())

dont_look_up_earth_cors_plot <- dont_look_up_earth_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "seagreen") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("Don't Look Up - earth")
dont_look_up_earth_cors_plot
```

Don't Look Up – earth



```
# don't look up never mentions climate or climate change
#let's zoom in on just one of our key terms
dont_look_up_time_cors <- word_cors_dont_look_up %>%
  filter(item1 == "time") %>%
  mutate(n = 1:n())

dont_look_up_time_cors_plot <- dont_look_up_time_cors %>%
  filter(n <= 30) %>%
  graph_from_data_frame() %>%
  ggraph(layout = "fr") +
  geom_edge_link(aes(edge_alpha = correlation, edge_width = correlation), edge_colour = "firebrick") +
  geom_node_point(size = 4) +
  geom_node_text(aes(label = name), repel = TRUE,
    point.padding = unit(0.2, "lines")) +
  theme_void() +
  ggtitle("Don't Look Up - time")
dont_look_up_time_cors_plot
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>
```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>

```



```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

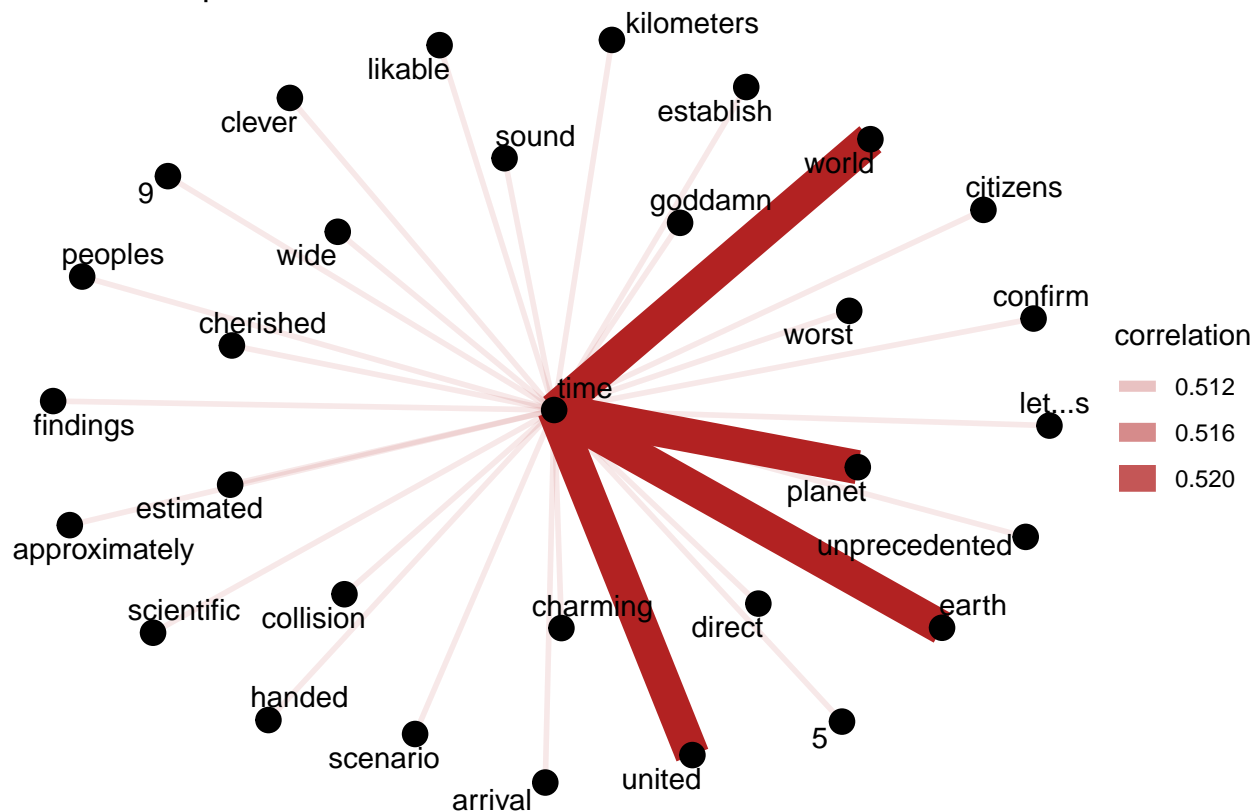
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

```

Don't Look Up – time



```
earth_cors_plots <- (inconvenient_truth_earth_cors_plot + before_the_flood_earth_cors_plot + dont_look_up_earth_cors_plots)
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbsToSbcs': dot substituted for <e2>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbsToSbcs': dot substituted for <80>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbsToSbcs': dot substituted for <99>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbsToSbcs': dot substituted for <e2>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbsToSbcs': dot substituted for <80>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbsToSbcs': dot substituted for <99>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'it's' in 'mbsToSbcs': dot substituted for <e2>
```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'it's' in 'mbcsToSbcs': dot substituted for <80>

```

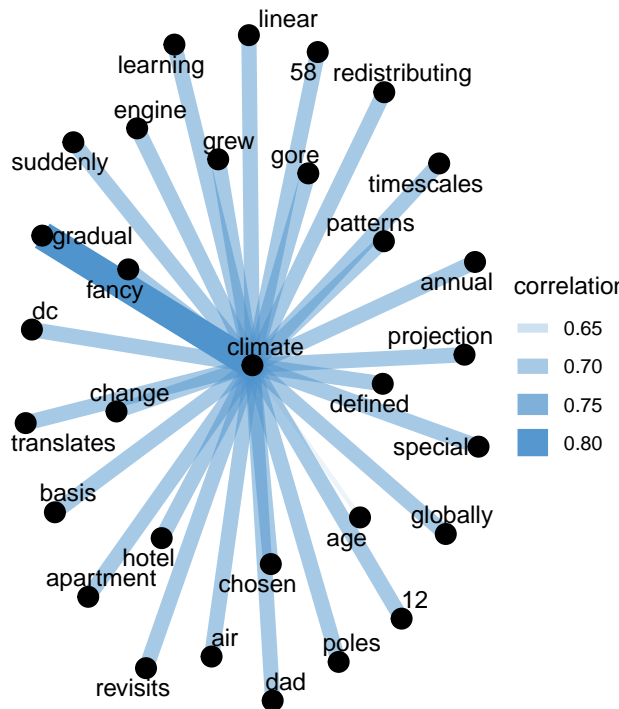


```
ggsave(here("figs", "earth_cors_plots.png"), plot = earth_cors_plots)
```

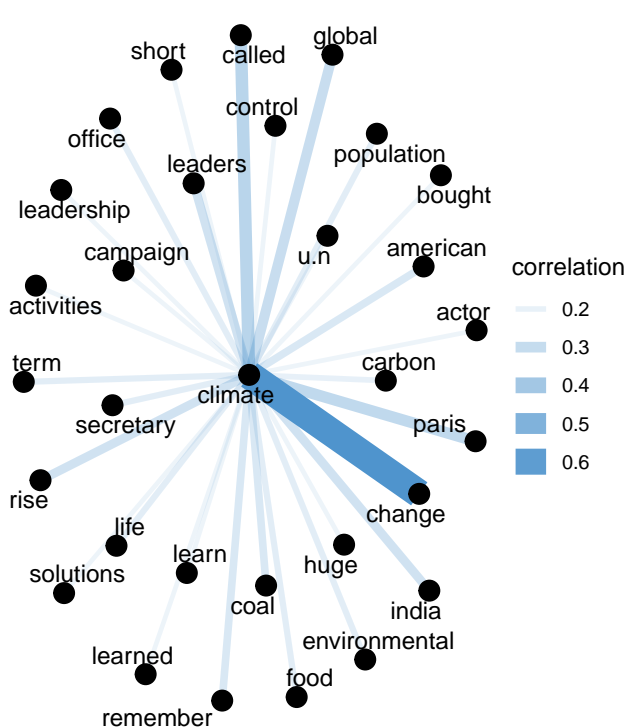
```
## Saving 8 x 5 in image
```

```
climate_cors_plots <- (inconvenient_truth_climate_cors_plot + before_the_flood_climate_cors_plot)
climate_cors_plots
```

An Inconvenient Truth – climate



Before the Flood – climate



```
ggsave(here("figs", "climate_cors_plots.png"), plot = climate_cors_plots)
```

```
## Saving 8 x 5 in image
```

```
time_cors_plots <- (inconvenient_truth_time_cors_plot + before_the_flood_time_cors_plot + dont_look_up_
time_cors_plots
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>
```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

```



```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

```



```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'didn't' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call.graphics(C_text, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'i'm' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

```

```

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <99>

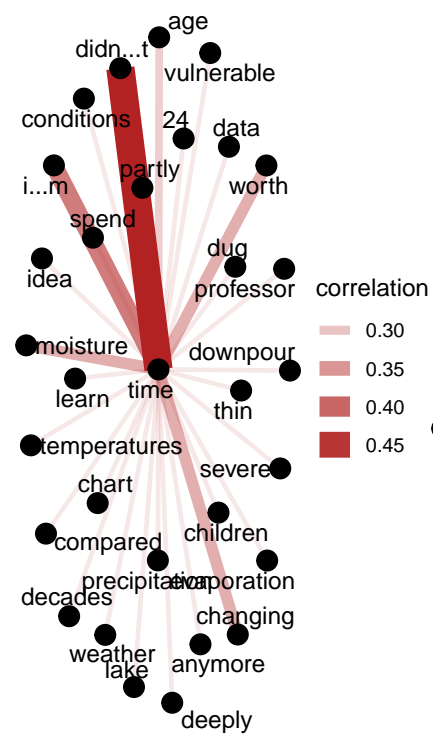
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <e2>

## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :
## conversion failure on 'let's' in 'mbcsToSbcs': dot substituted for <80>

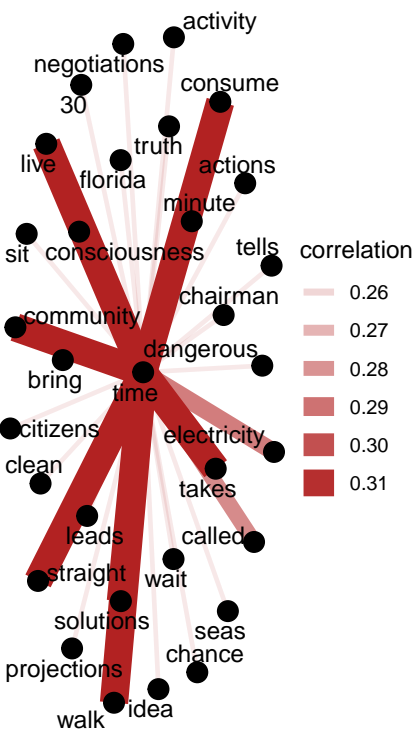
```

```
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <e2>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <80>  
  
## Warning in grid.Call(C_textBounds, as.graphicsAnnot(x$label), x$x, x$y, :  
## conversion failure on 'let's' in 'mbsToSbcs': dot substituted for <99>
```

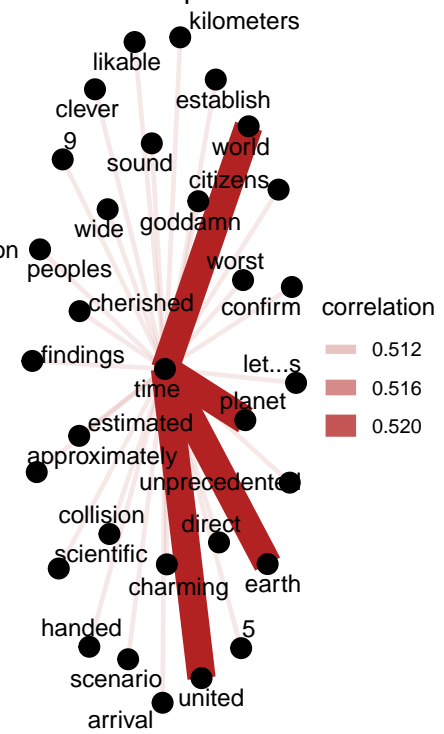

An Inconvenient Truth – climate Before the Flood – time



Before the Flood – time



Don't Look Up – time



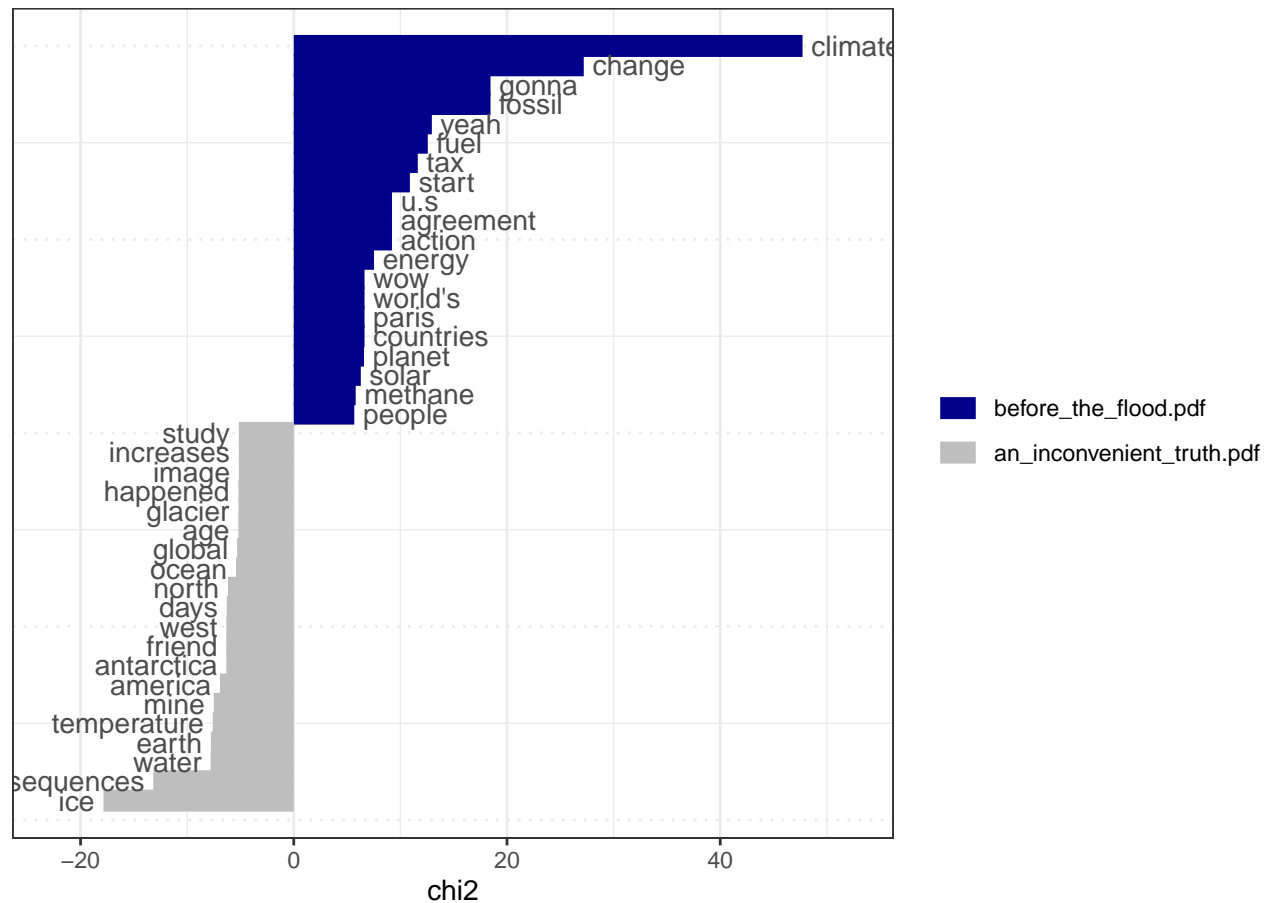
```
ggsave(here("figs", "time_cors_plots.png"), plot = time_cors_plots)
```

```
## Saving 8 x 5 in image
```

```
keyness_function <- function(reference_report_title, target_report_title) {
  files <- list.files(path = here("data"),
    pattern = "pdf$", full.names = TRUE)
  scripts <- lapply(files, pdf_text)
  scripts_pdf <- readtext(file = here("data", "*.pdf"),
    docvarsfrom = "filenames",
    docvarnames = c("title1", "title2", "title3"),
    sep = "_")
  scripts_corp <- corpus(x = scripts_pdf, text_field = "text" )
  tokens <- tokens(scripts_corp, remove_punct = TRUE)
  toks1 <- tokens_select(tokens, min_nchar = 3)
  toks1 <- tokens_tolower(toks1)
  toks1 <- tokens_remove(toks1, pattern = (stop_vec))
  dfm <- dfm(toks1)
  dfm$full_title <- c("an_inconvenient_truth", "before_the_flood", "dont_look_up")

  keyness_function_plot <- dfm %>%
    dfm_subset(full_title %in% c(reference_report_title, target_report_title)) %>%
    textstat_keyness(target = paste0(target_report_title, ".pdf")) %>%
    textplot_keyness()
  keyness_function_plot
}
```

```
# an_inconvenient_truth vs. before_the_flood
keyness_inconveniet_vs_before <- keyness_function(reference_report_title = "an_inconvenient_truth", target_report_title = "before_the_flood")
keyness_inconveniet_vs_before
```

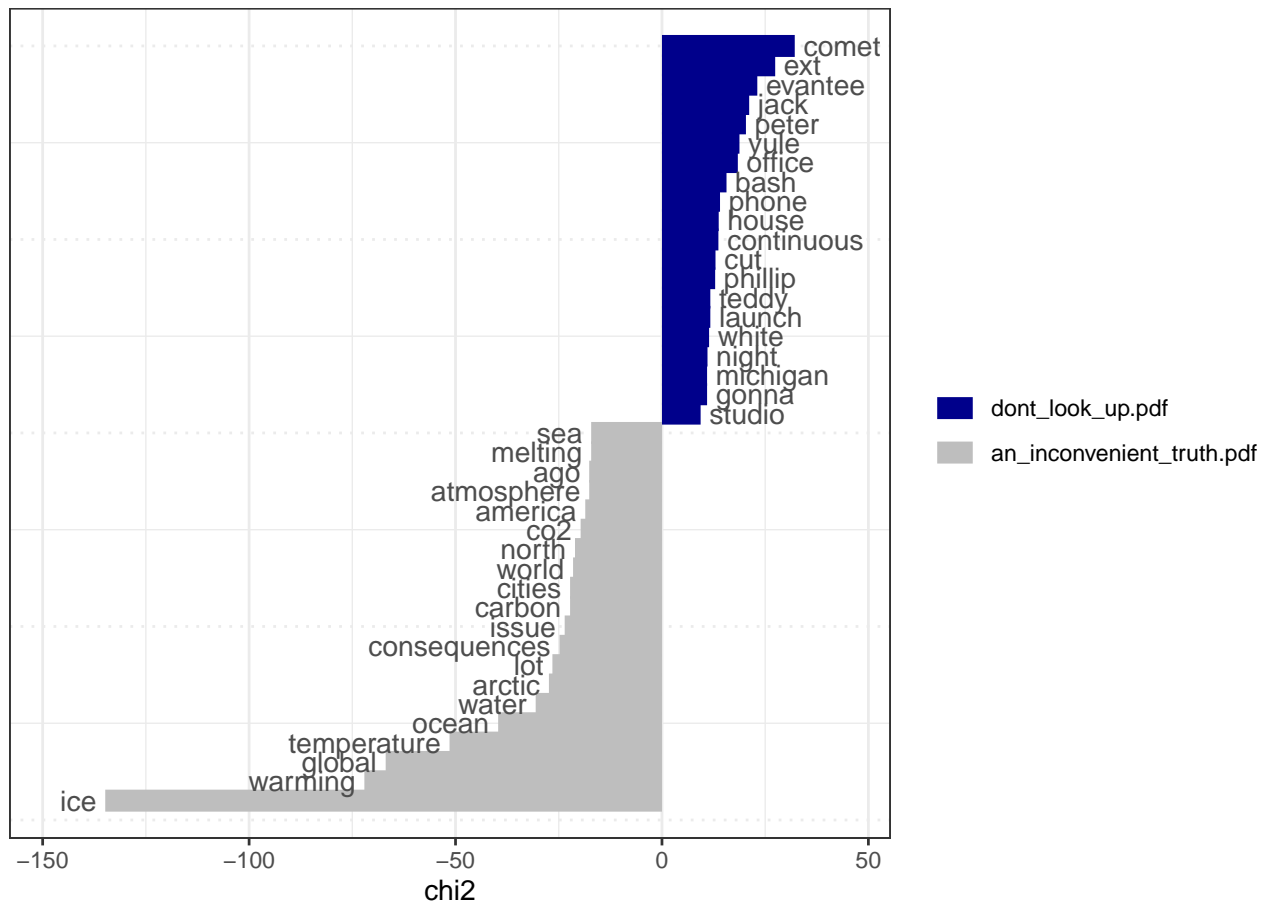


```
ggsave(here("figs", "keyness_inconveniet_vs_before.png"), plot = keyness_inconveniet_vs_before)
```

```
## Saving 7 x 5 in image
```

```
# before_the_flood vs. an_inconvenient_truth
#keyness_function(reference_report_title = "before_the_flood", target_report_title = "an_inconvenient_truth")

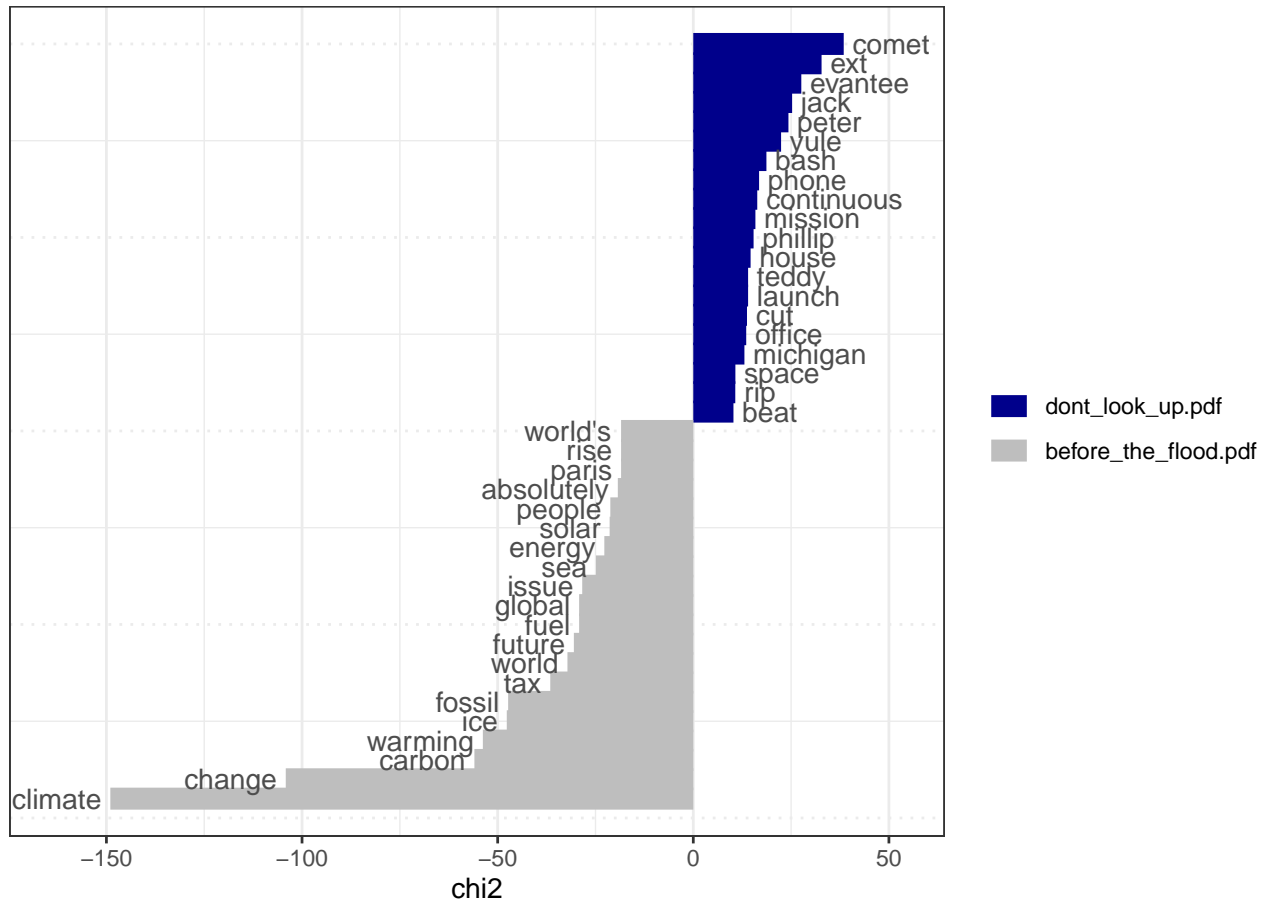
# an_inconvenient_truth vs. don't look up
keyness_inconvenient_vs_dont <- keyness_function(reference_report_title = "an_inconvenient_truth", target_report_title = "don't look up")
keyness_inconvenient_vs_dont
```



```
ggsave(here("figs", "keyness_inconvenient_vs_dont.png"), plot = keyness_inconvenient_vs_dont)
```

```
## Saving 7 x 5 in image
```

```
# an_inconvenient_truth vs. don't look up
keyness_before_vs_dont <- keyness_function(reference_report_title = "before_the_flood", target_report_t.
keyness_before_vs_dont
```



```
ggsave(here("figs", "keyness_before_vs_dont.png"), plot = keyness_before_vs_dont)
```

```
## Saving 7 x 5 in image
```

```
# wordcloud with stop words removed
wordcloud_no_stop_words <- textplot_wordcloud(
  dfm,
  comparison = T,
  max_words = 300,
  color = c("dodgerblue", "darkgreen", "red"),
  labeloffset = .1
)
```

```
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :
## 650,000 could not be fit on page. It will not be plotted.
```

```
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :
## caused could not be fit on page. It will not be plotted.
```

```
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :
## factors could not be fit on page. It will not be plotted.
```

```
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :
## formed could not be fit on page. It will not be plotted.
```

```
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## diseases could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## tobacco could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## friend could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## teacher could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## broke could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## patterns could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## trees could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## technology could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## orleans could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## thickness could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## form could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## rivers could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## ability could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## measured could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## hurricanes could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## japan could not be fit on page. It will not be plotted.  
  
## Warning in wordcloud_comparison(x, min_size, max_size, min_count, max_words, :  
## atlantic could not be fit on page. It will not be plotted.
```



```

## $ann
## [1] TRUE
##
## $ask
## [1] FALSE
##
## $bg
## [1] "transparent"
##
## $bty
## [1] "o"
##
## $cex
## [1] 1
##
## $cex.axis
## [1] 1
##
## $cex.lab
## [1] 1
##
## $cex.main
## [1] 1.2
##
## $cex.sub
## [1] 1
##
## $col
## [1] "black"
##
## $col.axis
## [1] "black"
##
## $col.lab
## [1] "black"
##
## $col.main
## [1] "black"
##
## $col.sub
## [1] "black"
##
## $crt
## [1] 0
##
## $err
## [1] 0
##
## $family
## [1] ""
##
## $fg
## [1] "black"
##

```

```

## $fig
## [1] 0 1 0 1
##
## $fin
## [1] 15 10
##
## $font
## [1] 1
##
## $font.axis
## [1] 1
##
## $font.lab
## [1] 1
##
## $font.main
## [1] 2
##
## $font.sub
## [1] 1
##
## $lab
## [1] 5 5 7
##
## $las
## [1] 0
##
## $lend
## [1] "round"
##
## $lheight
## [1] 1
##
## $ljoin
## [1] "round"
##
## $lmitre
## [1] 10
##
## $lty
## [1] "solid"
##
## $lwd
## [1] 1
##
## $mai
## [1] 0 0 0 0
##
## $mar
## [1] 5.1 4.1 4.1 2.1
##
## $mex
## [1] 1
##

```



```

## $mfcoll
## [1] 1 1
##
## $mfg
## [1] 1 1 1 1
##
## $mfrow
## [1] 1 1
##
## $mgp
## [1] 3 1 0
##
## $mkh
## [1] 0.001
##
## $new
## [1] TRUE
##
## $oma
## [1] 0 0 0 0
##
## $omd
## [1] 0 1 0 1
##
## $omi
## [1] 0 0 0 0
##
## $pch
## [1] 1
##
## $pin
## [1] 13.76 8.16
##
## $plt
## [1] 0.04133333 0.95866667 0.09200000 0.90800000
##
## $ps
## [1] 12
##
## $pty
## [1] "m"
##
## $smo
## [1] 1
##
## $srt
## [1] 0
##
## $tck
## [1] NA
##
## $tcl
## [1] -0.5
##

```

```
## $usr
## [1] -0.472  1.472 -0.148  1.148
##
## $xaxp
## [1] 0 1 5
##
## $xaxs
## [1] "r"
##
## $xaxt
## [1] "s"
##
## $xpd
## [1] FALSE
##
## $yaxp
## [1] 0 1 5
##
## $yaxs
## [1] "r"
##
## $yaxt
## [1] "s"
##
## $ylbias
## [1] 0.2
```