

stmHurricanes

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```
set.seed(1000)
sI = sessionInfo()
sI
```

```
## R version 4.3.0 (2023-04-21 ucrt)
## Platform: x86_64-w64-mingw32/x64 (64-bit)
## Running under: Windows 10 x64 (build 19045)
##
## Matrix products: default
##
## locale:
## [1] LC_COLLATE=English_United States.utf8
## [2] LC_CTYPE=English_United States.utf8
## [3] LC_MONETARY=English_United States.utf8
## [4] LC_NUMERIC=C
## [5] LC_TIME=English_United States.utf8
##
## time zone: America/New_York
## tzcode source: internal
##
## attached base packages:
## [1] stats      graphics  grDevices  utils      datasets  methods   base
##
## loaded via a namespace (and not attached):
## [1] compiler_4.3.0 fastmap_1.1.1 cli_3.6.1      tools_4.3.0
## [5] htmltools_0.5.5 yaml_2.3.7     rmarkdown_2.22 knitr_1.43
## [9] xfun_0.39      digest_0.6.31 rlang_1.1.1    evaluate_0.21
```

```
library("stm")
```

```
## stm v1.3.6 successfully loaded. See ?stm for help.
## Papers, resources, and other materials at structuraltopicmodel.com
```

```
data <- read.csv("D:\\Princeton\\BSPL\\df_combined.csv")
processed <- textProcessor(data$text_field, metadata = data)
```

```
## Building corpus...
## Converting to Lower Case...
## Removing punctuation...
```

```
## Removing stopwords...
## Removing numbers...
## Stemming...
## Creating Output...
```

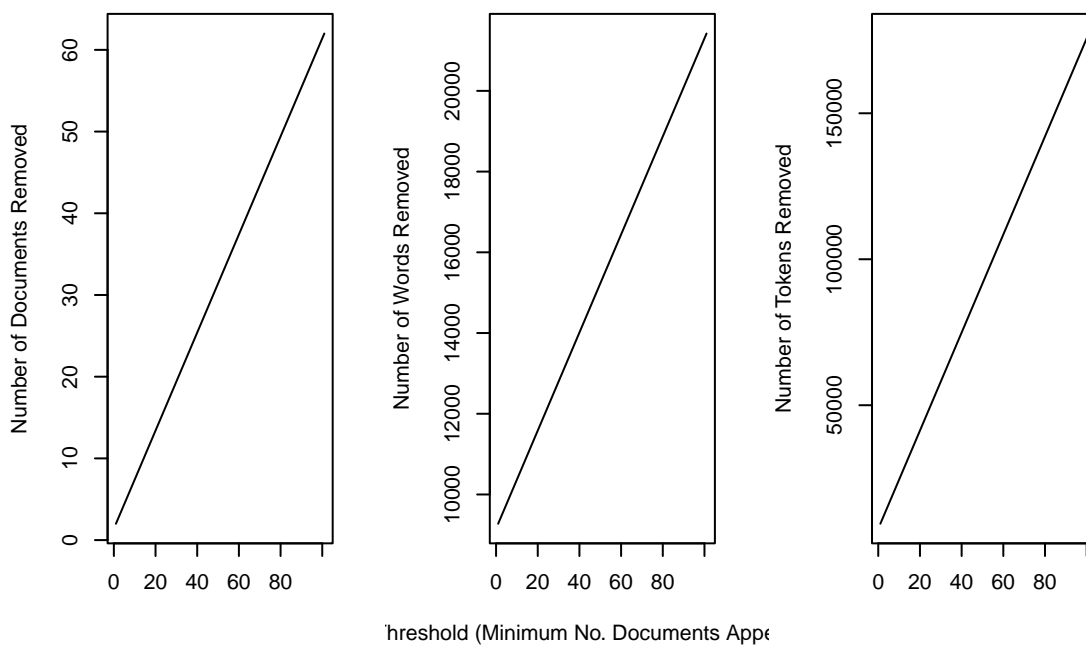
```
out <- prepDocuments(processed$documents, processed$vocab, processed$meta)
```

```
## Removing 9275 of 23158 terms (9275 of 1549861 tokens) due to frequency
## Removing 2 Documents with No Words
## Your corpus now has 47298 documents, 13883 terms and 1540586 tokens.
```

```
docs <- out$documents
vocab <- out$vocab
meta <- out$meta
```

```
plotRemoved(processed$documents, lower.thresh = seq(1, 200, by = 100))
```

Documents Removed by Thres Words Removed by Thresho Tokens Removed by Threshc



```
out <- prepDocuments(processed$documents, processed$vocab, processed$meta,
                      lower.thresh = 30)
```

```
## Removing 19872 of 23158 terms (80766 of 1549861 tokens) due to frequency
## Removing 36 Documents with No Words
## Your corpus now has 47264 documents, 3286 terms and 1469095 tokens.
```

```
hurricaneModel <- stm(documents = out$documents, vocab = out$vocab, K = 30,
  prevalence =~ FOX + MSNBC + ARTHUR + BARRY + DELTA +
  DORIAN + ETA + FLORENCE + HANNA + HARVEY + HERMINE +
  IRMA + LAURA + MICHAEL + SALLY, content =~ Y.N.Score,
  seed = 1000,
  max.em.its = 75, data = out$meta, init.type = "Spectral")
```

```
## Beginning Spectral Initialization
##   Calculating the gram matrix...
##   Finding anchor words...
##   .....
##   Recovering initialization...
##   .....
## Initialization complete.
## .....
## Completed E-Step (27 seconds).
## .....
## Completed M-Step (23 seconds).
## Completing Iteration 1 (approx. per word bound = -6.809)
## .....
## Completed E-Step (29 seconds).
## .....
## Completed M-Step (20 seconds).
## Completing Iteration 2 (approx. per word bound = -6.698, relative change = 1.640e-02)
## .....
## Completed E-Step (27 seconds).
## .....
## Completed M-Step (23 seconds).
## Completing Iteration 3 (approx. per word bound = -6.636, relative change = 9.157e-03)
## .....
## Completed E-Step (31 seconds).
## .....
## Completed M-Step (22 seconds).
## Completing Iteration 4 (approx. per word bound = -6.609, relative change = 4.214e-03)
## .....
## Completed E-Step (21 seconds).
## .....
## Completed M-Step (18 seconds).
## Completing Iteration 5 (approx. per word bound = -6.592, relative change = 2.496e-03)
## Topic 1: harri, keat, outnumb, duke, began
## Topic 2: medicar, columnist, badda, alleg, kavanaugh
## Topic 3: dana, jess, alert, fox, reichmuth
## Topic 4: chemic, crosbi, beaumont, corpus, galveston
## Topic 5: debt, ceil, fund, default, packag
## Topic 6: chinchar, drift, sater, inlet, outward
## Topic 7: rico, puerto, rican, wright, kelli
## Topic 8: impass, waiv, road, cap, moder
## Topic 9: healthier, brain, terrorist, prevagen, short-term
## Topic 10: voluntari, light, sun, shine, pole
## Topic 11: sea, canal, level, exercis, geico
## Topic 12: cod, lumberton, scotia, nova, virginia
## Topic 13: newest, nasa, pictur, aerial, drone
## Topic 14: kilomet, oppmann, patrick, freeport, forev
```

```

## Topic 15: shall, titl, strategist, constitut, tourism
## Topic 16: climat, acr, burn, suburb, scienc
## Topic 17: iowa, impeach, hampshir, bahama, paula
## Topic 18: limb, bryan, llena, plywood, lauderdal
## Topic 19: mount, nuclear, launch, plant, missil
## Topic 20: baldwin, mika, appreci, ingraham, ruhl
## Topic 21: dominican, republ, caico, turk, caribbean
## Topic 22: delta, teddi, season, tenth, zeta
## Topic 23: birmingham, ross, alter, contradict, fals
## Topic 24: storm-forc, southward, pink, narrow, hurricane-forc
## Topic 25: cavuto, judg, world, auto, neil
## Topic 26: brush, chew, prevent, deep, gum
## Topic 27: nois, afterward, spike, didnt, explain
## Topic 28: croix, forgotten, thoma, andrew, curfew
## Topic 29: harlow, brigg, roman, witt, jans
## Topic 30: cool, get, right, back, hour
## Aspect 1: find, busi, live, took, access
## Aspect 2: weather, sunris, qualiti, gather, -year
## .....
## Completed E-Step (21 seconds).
## .....
## Completed M-Step (22 seconds).
## Completing Iteration 6 (approx. per word bound = -6.580, relative change = 1.883e-03)
## .....
## Completed E-Step (26 seconds).
## .....
## Completed M-Step (20 seconds).
## Completing Iteration 7 (approx. per word bound = -6.570, relative change = 1.470e-03)
## .....
## Completed E-Step (23 seconds).
## .....
## Completed M-Step (20 seconds).
## Completing Iteration 8 (approx. per word bound = -6.562, relative change = 1.178e-03)
## .....
## Completed E-Step (22 seconds).
## .....
## Completed M-Step (19 seconds).
## Completing Iteration 9 (approx. per word bound = -6.556, relative change = 9.074e-04)
## .....
## Completed E-Step (22 seconds).
## .....
## Completed M-Step (20 seconds).
## Completing Iteration 10 (approx. per word bound = -6.552, relative change = 7.026e-04)
## Topic 1: jon, phil, keat, sandra, monro
## Topic 2: apalachicola, badda, death, choicehotelscom, toll
## Topic 3: reichmuth, bream, channel, harrigan, alert
## Topic 4: chemic, crosbi, beaumont, galveston, corpus
## Topic 5: ceil, debt, fund, program, budget
## Topic 6: outward, sater, javaheri, chinchar, graham
## Topic 7: wright, juan, rico, puerto, app
## Topic 8: pile, impass, lavandera, subsid, traffic
## Topic 9: healthier, social, narrat, better, brain
## Topic 10: voluntari, sun, light, evacu, mandatori
## Topic 11: level, sea, concret, gorda, canal

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```

## Topic 12: lumberton, virginia, cod, florenc, arthur
## Topic 13: space, nasa, high-ris, snap, pictur
## Topic 14: cocoa, freeport, northwestern, dorian, bahama
## Topic 15: shall, titl, biden, op-, writer
## Topic 16: climat, chang, scienc, drought, midwest
## Topic 17: iowa, offens, impeach, struggl, paula
## Topic 18: lauderdal, plywood, shutter, withstand, bullet
## Topic 19: plant, mount, nuclear, site, launch
## Topic 20: grossman, michell, baldwin, karin, mika
## Topic 21: dominican, republ, turk, katia, caico
## Topic 22: mississippi, laura, delta, unsurviv, biloxi
## Topic 23: birmingham, ross, contradict, alter, noaa
## Topic 24: hurricane-forc, gust, pelt, cedar, southward
## Topic 25: cavuto, judg, neil, amaz, auto
## Topic 26: brush, chew, prevent, deep, diseas
## Topic 27: nois, afterward, knew, didnt, ive
## Topic 28: croix, shelv, antigua, paradis, thoma
## Topic 29: harlow, brigg, roman, jans, hermin
## Topic 30: cool, day, get, right, back
## Aspect 1: busi, circumst, thrown, mode, mouth
## Aspect 2: sunris, record-break, pocket, surfac, youd
## .....
## Completed E-Step (19 seconds).
## .....
## Completed M-Step (18 seconds).
## Completing Iteration 11 (approx. per word bound = -6.548, relative change = 5.388e-04)
## .....
## Completed E-Step (19 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 12 (approx. per word bound = -6.545, relative change = 3.996e-04)
## .....
## Completed E-Step (18 seconds).
## .....
## Completed M-Step (18 seconds).
## Completing Iteration 13 (approx. per word bound = -6.544, relative change = 2.953e-04)
## .....
## Completed E-Step (18 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 14 (approx. per word bound = -6.542, relative change = 2.230e-04)
## .....
## Completed E-Step (18 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 15 (approx. per word bound = -6.541, relative change = 1.549e-04)
## Topic 1: sandra, molli, adam, phil, jon
## Topic 2: apalachicola, badda, death, fee, panhandl
## Topic 3: reichmuth, bream, dean, janic, harrigan
## Topic 4: chemic, crosbi, beaumont, galveston, corpus
## Topic 5: ceil, debt, tie, program, spend
## Topic 6: sater, javaheri, chinchar, advisori, west-northwest
## Topic 7: maria, puerto, rico, juan, wright
## Topic 8: impass, roadway, lavandera, car, subsid

```

```

## Topic 9: healthier, narrat, food, social, better
## Topic 10: voluntari, evacu, brevard, light, luci
## Topic 11: level, sea, gorda, punta, canal
## Topic 12: lumbernton, cod, virginia, scotia, arthur
## Topic 13: space, radar, nasa, intern, satellit
## Topic 14: cocoa, northwestern, freeport, melbourn, patrick
## Topic 15: berni, op-, biden, titl, shall
## Topic 16: climat, scienc, chang, wildfir, midwest
## Topic 17: iowa, struggl, offens, impeach, among
## Topic 18: plywood, lauderdal, shutter, bullet, high-ris
## Topic 19: plant, site, mount, shut, nuclear
## Topic 20: karin, grossman, michell, atencio, baldwin
## Topic 21: dominican, jose, republ, leeward, katia
## Topic 22: mississippi, salli, laura, delta, unsurviv
## Topic 23: contradict, ross, birmingham, alabama, alter
## Topic 24: hurricane-forc, cedar, yellow, gust, shade
## Topic 25: cavuto, neil, judg, two-hour, amaz
## Topic 26: chew, deep, blood, brush, diseas
## Topic 27: nois, afterward, ive, knew, never
## Topic 28: croix, wilma, prepar, shelv, groceri
## Topic 29: harlow, hermin, roman, brigg, erica
## Topic 30: cool, day, back, will, now
## Aspect 1: circumst, thrown, mouth, lock, own
## Aspect 2: record-break, sunris, pocket, youd, surfac
## .....
## Completed E-Step (19 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 16 (approx. per word bound = -6.540, relative change = 1.081e-04)
## .....
## Completed E-Step (19 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 17 (approx. per word bound = -6.540, relative change = 7.873e-05)
## .....
## Completed E-Step (19 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 18 (approx. per word bound = -6.539, relative change = 6.879e-05)
## .....
## Completed E-Step (19 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 19 (approx. per word bound = -6.539, relative change = 5.856e-05)
## .....
## Completed E-Step (19 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 20 (approx. per word bound = -6.539, relative change = 4.227e-05)
## Topic 1: klotz, adam, molli, sandra, phil
## Topic 2: apalachicola, badda, death, panhandl, fee
## Topic 3: reichmuth, bream, janic, dean, harrigan
## Topic 4: chemic, crosbi, beaumont, galveston, corpus
## Topic 5: tie, ceil, debt, spend, fund

```

```

## Topic 6: javaheri, chinchar, sater, advisori, west-northwest
## Topic 7: wright, maria, rico, puerto, juan
## Topic 8: impass, roadway, reced, lavandera, car
## Topic 9: healthier, cloth, social, narrat, food
## Topic 10: voluntari, evacu, mandatori, brevard, light
## Topic 11: level, sea, drain, gorda, stream
## Topic 12: lumbernton, cod, virginia, arthur, scotia
## Topic 13: space, radar, eye, nasa, imageri
## Topic 14: cocoa, northwestern, dorian, melbourn, daytona
## Topic 15: berni, op-, warren, biden, evid
## Topic 16: climat, scienc, chang, wildfir, midwest
## Topic 17: iowa, mani, among, impeach, struggl
## Topic 18: buse, plywood, lauderdal, shutter, bullet
## Topic 19: plant, site, nuclear, mount, shut
## Topic 20: karin, grossman, michell, baldwin, velshi
## Topic 21: dominican, jose, republ, katia, key
## Topic 22: salli, mississippi, shreveport, delta, laura
## Topic 23: contradict, ross, birmingham, alabama, alter
## Topic 24: hurricane-forc, inlet, cedar, storm-forc, gust
## Topic 25: cavuto, neil, judg, two-hour, justic
## Topic 26: chew, blood, diseas, prevent, walk
## Topic 27: ive, afterward, differ, mental, never
## Topic 28: croix, prepar, generat, wilma, stock
## Topic 29: harlow, hermin, brigg, roman, witt
## Topic 30: cool, day, will, now, hurrican
## Aspect 1: circumst, thrown, mouth, lock, own
## Aspect 2: record-break, sunris, pocket, youd, surfac
## .....
## Completed E-Step (20 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 21 (approx. per word bound = -6.539, relative change = 2.836e-05)
## .....
## Completed E-Step (20 seconds).
## .....
## Completed M-Step (17 seconds).
## Completing Iteration 22 (approx. per word bound = -6.538, relative change = 1.133e-05)
## .....
## Completed E-Step (20 seconds).
## .....
## Completed M-Step (16 seconds).
## Model Converged

```

```
labelTopics(hurricaneModel, c(10, 15, 16))
```

```

## Topic Words:
## Topic 10: voluntari, evacu, mandatori, brevard, light, order, zone
## Topic 15: berni, op-, biden, warren, evid, plea, segment
## Topic 16: climat, scienc, chang, wildfir, midwest, acr, denial
##
## Covariate Words:
## Group 0: circumst, thrown, mouth, lock, own, weight, roll
## Group 1: record-break, sunris, pocket, youd, grade, surfac, -year
##

```

```
## Topic-Covariate Interactions:
## Topic 10, Group 0: weapon, tension, stake, invit, threat, reaction, plus
## Topic 10, Group 1: back, will, get, last, coast, right, cool
##
## Topic 15, Group 0: sam, shrimp, roker, constitu, admir, ken, nelson
## Topic 15, Group 1: outag, duke, custom, power, downgrad, knock, lost
##
## Topic 16, Group 0: cuomo, burnett, lemon, tapper, bolduan, melvin, fredricka
## Topic 16, Group 1: click, antill, visit, jillian, magic, loss, review
##
```

```
thoughts10 <- findThoughts(hurricaneModel, texts = out$meta$text_field, n = 2,
                           topics = 10)$docs[[1]]
thoughts15 <- findThoughts(hurricaneModel, texts = out$meta$text_field, n = 2,
                           topics = 15)$docs[[1]]
thoughts16 <- findThoughts(hurricaneModel, texts = out$meta$text_field, n = 2,
                           topics = 16)$docs[[1]]
```

```
par(mfrow = c(1, 2), mar = c(.5, .5, 1, .5))
plotQuote(thoughts10, width = 30, main = "Topic 10")
plotQuote(thoughts15, width = 30, main = "Topic 15")
```

Topic 10

AT LEAST 22 COUNTIES WITH NEARLY 2.5 MILLION RESIDENT UNDER EVACUATION ORDERS THIS HOUR. MANDATORY EVACUATIONS ORDERED IN 13 OF THOSE COUNTIES. VOLUNTARY IN ANOTHER NINE. THE LOWEST PRICES. JON: MANDATORY EVACUATION ORDERS IN EFFECT FOR THE FLORIDA KEYS AS HURRICANE IRMA CLOSES IN. MANY PEOPLE ARE TAKING THE THREAT SERIOUSLY. RICK SCOTT WARNING MORE EVACUATIONS MAY BE ORDERED AS FAR NORTH AS THE PANHANDLE. WE CAN EXPECT ADDITIONAL DO NOT IGNORE EVACUATION ORDERS. WE CAN REBUILD YOUR HOME, WE CANNOT REBUILD YOUR LIFE. HEATHER: HE KEEPS SAYING THAT.

Topic 15

DELAWARE FOR AN OFFICIAL ANNOUNCEMENT THIS AFTERNOON. ANTONY BLINKEN WILL SERVE AS SECRETARY OF STATE. HE PREVIOUSLY SERVED AS DEPUTY SECRETARY OF STATE AND DEPUTY NATIONAL SECURITY ADVISOR. WOULD BE THE FIRST WOMAN TO BE THE TREASURY CHAIR AS WELL AS THE FIRST LATINO AND THE FIRST IMMIGRANT TO BECOME HOMELAND SECURITY SECRETARY. HE SERVED AS DEPUTY HOMELAND SECURITY AND DIRECTOR OF DIRECTOR OF CITIZENSHIP AND IMMIGRATION SERVICES. HE PREVIOUSLY SERVED AS DEPUTY SECRETARY OF STATE. ALEJANDRO MAYORKAS WILL BE HOMELAND SECURITY DIRECTOR. AVRIL HAINES WILL BE THE FIRST WOMAN TO HOLD THE ROLE OF DIRECTOR OF NATIONAL INTELLIGENCE SHE

```
plotQuote(thoughts16, width = 30, main = "Topic 16")
```


Topic 16

HURRICANES DON'T SWERVE TO
AVOID RED STATES OR BLUE
STATES. WILDFIRES DON'T SKIP
TOWNS THAT VOTED A CERTAIN
WAY. THE M PACTS OF CLIMATE
CHANGE DON'T PICK AND CHOOSE.
THAT'S BECAUSE IT'S NOT A
PARTISAN PHENOMENON. HIM.

SIMPLE. EASY. AWESOME. CLICK
OR VISIT A RETAIL STORE TODAY.

```
prep <- estimateEffect(1:30 ~ FOX + MSNBC + ARTHUR + BARRY + DELTA +  
                        DORIAN + ETA + FLORENCE + HANNA + HARVEY + HERMINE +  
                        IRMA + LAURA + MICHAEL + SALLY,  
                        hurricaneModel, meta = out$meta, uncertainty = "Global")  
summary(prepare, topics=1:30)
```

```
##  
## Call:  
## estimateEffect(formula = 1:30 ~ FOX + MSNBC + ARTHUR + BARRY +  
##      DELTA + DORIAN + ETA + FLORENCE + HANNA + HARVEY + HERMINE +  
##      IRMA + LAURA + MICHAEL + SALLY, stmobj = hurricaneModel,  
##      metadata = out$meta, uncertainty = "Global")  
##  
##  
## Topic 1:  
##  
## Coefficients:  
##      Estimate Std. Error t value Pr(>|t|)  
## (Intercept) 7.689e-03 4.352e-03  1.767  0.0773 .  
## FOX         2.033e-02 5.792e-04 35.102 <2e-16 ***  
## MSNBC      5.695e-04 4.993e-04  1.141  0.2540  
## ARTHUR      9.238e-05 4.662e-03  0.020  0.9842  
## BARRY       5.582e-03 5.266e-03  1.060  0.2891  
## DELTA       1.827e-03 4.748e-03  0.385  0.7004  
## DORIAN      1.050e-03 4.286e-03  0.245  0.8065
```

```

## ETA          -1.935e-03  5.786e-03  -0.334  0.7381
## FLORENCE      4.292e-04  4.431e-03   0.097  0.9228
## HANNA         1.054e-02  4.743e-03   2.223  0.0262 *
## HARVEY        1.901e-03  4.385e-03   0.434  0.6646
## HERMINE       8.971e-03  5.043e-03   1.779  0.0752 .
## IRMA          4.276e-03  4.382e-03   0.976  0.3292
## LAURA        1.908e-03  4.355e-03   0.438  0.6613
## MICHAEL       7.397e-03  4.494e-03   1.646  0.0998 .
## SALLY        -8.657e-04  4.705e-03  -0.184  0.8540
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 2:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0207941  0.0063049   3.298 0.000974 ***
## FOX          -0.0043153  0.0009812  -4.398 1.09e-05 ***
## MSNBC        -0.0042113  0.0009639  -4.369 1.25e-05 ***
## ARTHUR       -0.0068723  0.0067811  -1.013 0.310851
## BARRY        -0.0086623  0.0071742  -1.207 0.227277
## DELTA         0.0016023  0.0067181   0.239 0.811491
## DORIAN        0.0040276  0.0064175   0.628 0.530273
## ETA          0.0081474  0.0091710   0.888 0.374341
## FLORENCE      0.0091212  0.0064543   1.413 0.157609
## HANNA        -0.0065253  0.0070117  -0.931 0.352049
## HARVEY       -0.0057722  0.0064289  -0.898 0.369266
## HERMINE       0.0071520  0.0072866   0.982 0.326340
## IRMA         -0.0044472  0.0064045  -0.694 0.487443
## LAURA        0.0033605  0.0065308   0.515 0.606861
## MICHAEL       0.1306795  0.0069159  18.895 < 2e-16 ***
## SALLY         0.0074350  0.0067855   1.096 0.273206
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 3:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) -0.0031473  0.0059563  -0.528  0.5972
## FOX          0.0590767  0.0008522  69.319 <2e-16 ***
## MSNBC        0.0015336  0.0007118   2.155  0.0312 *
## ARTHUR       0.0086890  0.0066891   1.299  0.1940
## BARRY        0.0115095  0.0071463   1.611  0.1073
## DELTA        0.0098558  0.0065789   1.498  0.1341
## DORIAN       0.0089229  0.0060414   1.477  0.1397
## ETA         -0.0074990  0.0078213  -0.959  0.3377
## FLORENCE     0.0093509  0.0060092   1.556  0.1197
## HANNA        0.0069846  0.0066861   1.045  0.2962
## HARVEY       0.0062072  0.0060214   1.031  0.3026
## HERMINE      0.0107355  0.0070833   1.516  0.1296
## IRMA         0.0051510  0.0059414   0.867  0.3860

```

```

## LAURA      0.0028944  0.0061068  0.474  0.6355
## MICHAEL     0.0062685  0.0060556  1.035  0.3006
## SALLY       0.0058727  0.0063728  0.922  0.3568
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 4:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0127111  0.0062589   2.031 0.042271 *
## FOX          0.0026581  0.0009824   2.706 0.006822 **
## MSNBC       -0.0063340  0.0009955  -6.363  2e-10 ***
## ARTHUR       -0.0074258  0.0065720  -1.130 0.258522
## BARRY        0.0048974  0.0073878   0.663 0.507397
## DELTA        0.0058208  0.0069846   0.833 0.404638
## DORIAN       -0.0066268  0.0062994  -1.052 0.292817
## ETA         -0.0084150  0.0082567  -1.019 0.308130
## FLORENCE     -0.0045192  0.0063143  -0.716 0.474177
## HANNA        0.0644964  0.0076343   8.448 < 2e-16 ***
## HARVEY       0.0902550  0.0063620  14.187 < 2e-16 ***
## HERMINE      -0.0081878  0.0070561  -1.160 0.245898
## IRMA         0.0079231  0.0062861   1.260 0.207522
## LAURA       0.0227306  0.0064866   3.504 0.000458 ***
## MICHAEL     -0.0072726  0.0063660  -1.142 0.253291
## SALLY       -0.0017377  0.0066135  -0.263 0.792739
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 5:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  1.195e-02  8.094e-03   1.477 0.13976
## FOX          8.581e-03  1.093e-03   7.851 4.22e-15 ***
## MSNBC       1.203e-02  1.148e-03  10.474 < 2e-16 ***
## ARTHUR      -8.880e-03  8.458e-03  -1.050 0.29376
## BARRY       -4.827e-03  9.252e-03  -0.522 0.60190
## DELTA       3.304e-03  8.960e-03   0.369 0.71229
## DORIAN      4.275e-05  8.146e-03   0.005 0.99581
## ETA         2.359e-02  1.178e-02   2.002 0.04527 *
## FLORENCE    -3.275e-04  8.113e-03  -0.040 0.96780
## HANNA       -3.288e-03  8.914e-03  -0.369 0.71220
## HARVEY      4.909e-02  8.207e-03   5.981 2.23e-09 ***
## HERMINE     -5.598e-03  9.068e-03  -0.617 0.53698
## IRMA        2.347e-02  8.133e-03   2.885 0.00391 **
## LAURA     -3.540e-03  8.258e-03  -0.429 0.66819
## MICHAEL     1.428e-03  8.243e-03   0.173 0.86247
## SALLY      -2.643e-03  8.537e-03  -0.310 0.75689
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##

```

```

##
## Topic 6:
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0720208  0.0115842   6.217 5.10e-10 ***
## FOX          -0.0102321  0.0015740  -6.501 8.06e-11 ***
## MSNBC       -0.0007493  0.0015620  -0.480 0.631438
## ARTHUR        0.0441505  0.0123409   3.578 0.000347 ***
## BARRY         0.0055793  0.0132060   0.422 0.672673
## DELTA         0.0106347  0.0125476   0.848 0.396696
## DORIAN        0.0418749  0.0114293   3.664 0.000249 ***
## ETA           0.0051407  0.0154498   0.333 0.739334
## FLORENCE      0.0085988  0.0116849   0.736 0.461798
## HANNA         0.0264718  0.0131120   2.019 0.043504 *
## HARVEY       -0.0005207  0.0116859  -0.045 0.964461
## HERMINE       0.0344171  0.0128668   2.675 0.007478 **
## IRMA          0.0145004  0.0113795   1.274 0.202579
## LAURA        0.0097191  0.0119223   0.815 0.414963
## MICHAEL       0.0185524  0.0115727   1.603 0.108916
## SALLY         0.0186676  0.0123015   1.518 0.129147
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 7:
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  1.047e-02  6.098e-03   1.716  0.0861 .
## FOX          -6.188e-03  9.025e-04  -6.856 7.17e-12 ***
## MSNBC       -2.287e-03  1.011e-03  -2.262  0.0237 *
## ARTHUR        9.096e-05  6.430e-03   0.014  0.9887
## BARRY         2.746e-03  7.268e-03   0.378  0.7056
## DELTA        -1.153e-03  6.578e-03  -0.175  0.8608
## DORIAN        1.337e-02  6.111e-03   2.187  0.0287 *
## ETA          -1.150e-03  7.884e-03  -0.146  0.8840
## FLORENCE      4.225e-02  6.233e-03   6.779 1.22e-11 ***
## HANNA         6.115e-03  6.924e-03   0.883  0.3772
## HARVEY        1.163e-02  6.163e-03   1.887  0.0591 .
## HERMINE      -1.096e-03  6.839e-03  -0.160  0.8727
## IRMA          2.804e-02  6.144e-03   4.564 5.02e-06 ***
## LAURA        3.530e-03  6.247e-03   0.565  0.5720
## MICHAEL       5.606e-03  6.192e-03   0.905  0.3652
## SALLY         6.557e-03  6.504e-03   1.008  0.3134
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 8:
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0281475  0.0051332   5.483 4.19e-08 ***

```

```

## FOX          -0.0044185  0.0005506  -8.025  1.04e-15 ***
## MSNBC       -0.0041590  0.0006627  -6.276  3.51e-10 ***
## ARTHUR        0.0035392  0.0053320   0.664   0.507
## BARRY         0.0008531  0.0062240   0.137   0.891
## DELTA         0.0027026  0.0056283   0.480   0.631
## DORIAN       -0.0051387  0.0052001  -0.988   0.323
## ETA          -0.0054495  0.0063870  -0.853   0.394
## FLORENCE      0.0015271  0.0051637   0.296   0.767
## HANNA        -0.0086030  0.0054110  -1.590   0.112
## HARVEY       -0.0027743  0.0052108  -0.532   0.594
## HERMINE       0.0011931  0.0055013   0.217   0.828
## IRMA          0.0019654  0.0051855   0.379   0.705
## LAURA        0.0006725  0.0053973   0.125   0.901
## MICHAEL       0.0073758  0.0051446   1.434   0.152
## SALLY         0.0079080  0.0053590   1.476   0.140
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 9:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0184857  0.0042401   4.360  1.3e-05 ***
## FOX          0.0058238  0.0006029   9.660 < 2e-16 ***
## MSNBC       0.0008622  0.0005840   1.476  0.13987
## ARTHUR       0.0060530  0.0044490   1.361  0.17367
## BARRY       -0.0022251  0.0049977  -0.445  0.65615
## DELTA       -0.0007137  0.0046060  -0.155  0.87686
## DORIAN      -0.0001651  0.0042227  -0.039  0.96880
## ETA         0.0164664  0.0057710   2.853  0.00433 **
## FLORENCE    0.0024619  0.0042740   0.576  0.56460
## HANNA      -0.0048967  0.0046647  -1.050  0.29384
## HARVEY      0.0043315  0.0042446   1.020  0.30750
## HERMINE     0.0007599  0.0047450   0.160  0.87276
## IRMA        0.0024121  0.0041817   0.577  0.56406
## LAURA      0.0020985  0.0043853   0.479  0.63227
## MICHAEL     0.0044611  0.0042119   1.059  0.28954
## SALLY      -0.0025222  0.0045875  -0.550  0.58246
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 10:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0397675  0.0056100   7.089  1.37e-12 ***
## FOX         -0.0005301  0.0005177  -1.024  0.305817
## MSNBC      -0.0017430  0.0005807  -3.001  0.002688 **
## ARTHUR     -0.0143359  0.0060136  -2.384  0.017134 *
## BARRY      -0.0157969  0.0062437  -2.530  0.011407 *
## DELTA      -0.0080629  0.0060257  -1.338  0.180869
## DORIAN     -0.0206430  0.0056120  -3.678  0.000235 ***

```

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## ETA      -0.0204131  0.0065238  -3.129  0.001755 **
## FLORENCE -0.0169985  0.0057046  -2.980  0.002886 **
## HANNA    -0.0282403  0.0058930  -4.792  1.65e-06 ***
## HARVEY   -0.0192033  0.0057004  -3.369  0.000756 ***
## HERMINE  -0.0069011  0.0060640  -1.138  0.255114
## IRMA     -0.0132426  0.0056291  -2.353  0.018652 *
## LAURA   -0.0116328  0.0057998  -2.006  0.044892 *
## MICHAEL  -0.0159924  0.0056178  -2.847  0.004419 **
## SALLY    -0.0225759  0.0058757  -3.842  0.000122 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 11:
##
## Coefficients:
##      Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0157919  0.0042919   3.679  0.000234 ***
## FOX          -0.0016458  0.0005625  -2.926  0.003439 **
## MSNBC        -0.0027592  0.0006091  -4.530  5.92e-06 ***
## ARTHUR        0.0044933  0.0045064   0.997  0.318728
## BARRY         0.0098018  0.0049372   1.985  0.047120 *
## DELTA        -0.0006951  0.0047313  -0.147  0.883208
## DORIAN        0.0067088  0.0043032   1.559  0.118996
## ETA           0.0001896  0.0055193   0.034  0.972591
## FLORENCE      0.0113181  0.0043949   2.575  0.010019 *
## HANNA        -0.0061295  0.0046704  -1.312  0.189389
## HARVEY        0.0113821  0.0043112   2.640  0.008290 **
## HERMINE      -0.0050147  0.0047925  -1.046  0.295400
## IRMA          0.0108540  0.0043371   2.503  0.012332 *
## LAURA        0.0052140  0.0044729   1.166  0.243740
## MICHAEL       0.0036240  0.0043376   0.835  0.403451
## SALLY         0.0021791  0.0044855   0.486  0.627099
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 12:
##
## Coefficients:
##      Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0070303  0.0060512   1.162   0.245
## FOX          0.0049768  0.0009461   5.261  1.44e-07 ***
## MSNBC        0.0054523  0.0009587   5.687  1.30e-08 ***
## ARTHUR       0.2088242  0.0081271  25.695 < 2e-16 ***
## BARRY        -0.0002731  0.0070463  -0.039   0.969
## DELTA        -0.0044466  0.0065541  -0.678   0.497
## DORIAN        0.0292170  0.0060890   4.798  1.61e-06 ***
## ETA          -0.0044626  0.0079342  -0.562   0.574
## FLORENCE      0.1222650  0.0062276  19.633 < 2e-16 ***
## HANNA         0.0105102  0.0068478   1.535   0.125
## HARVEY       -0.0046738  0.0060816  -0.769   0.442
## HERMINE       0.0537259  0.0075059   7.158  8.32e-13 ***
## IRMA         -0.0015572  0.0060754  -0.256   0.798

```

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## LAURA      -0.0068769  0.0062322  -1.103    0.270
## MICHAEL     0.0055289  0.0061785   0.895    0.371
## SALLY       0.0029123  0.0064067   0.455    0.649
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 13:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0333706  0.0052567   6.348 2.20e-10 ***
## FOX         -0.0050665  0.0007358  -6.885 5.83e-12 ***
## MSNBC       0.0008786  0.0007177   1.224  0.2209
## ARTHUR      0.0229504  0.0055380   4.144 3.42e-05 ***
## BARRY      -0.0040602  0.0061574  -0.659  0.5096
## DELTA       0.0028838  0.0056037   0.515  0.6068
## DORIAN      0.0075901  0.0053080   1.430  0.1527
## ETA        0.0014330  0.0074685   0.192  0.8478
## FLORENCE    0.0069257  0.0053877   1.285  0.1986
## HANNA       0.0062789  0.0060012   1.046  0.2954
## HARVEY      0.0043594  0.0053011   0.822  0.4109
## HERMINE     0.0056240  0.0059759   0.941  0.3467
## IRMA        0.0100704  0.0052507   1.918  0.0551 .
## LAURA      0.0021718  0.0054876   0.396  0.6923
## MICHAEL     0.0121124  0.0053180   2.278  0.0228 *
## SALLY      -0.0022426  0.0056108  -0.400  0.6894
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 14:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  7.201e-03  4.246e-03   1.696  0.0899 .
## FOX         -6.700e-03  6.755e-04  -9.919 < 2e-16 ***
## MSNBC      -5.560e-03  7.453e-04  -7.460 8.82e-14 ***
## ARTHUR     -1.244e-03  4.487e-03  -0.277  0.7816
## BARRY       6.865e-05  4.879e-03   0.014  0.9888
## DELTA      -8.961e-04  4.601e-03  -0.195  0.8456
## DORIAN      8.780e-02  4.291e-03  20.463 < 2e-16 ***
## ETA        1.731e-03  5.647e-03   0.306  0.7592
## FLORENCE   -1.146e-03  4.282e-03  -0.268  0.7890
## HANNA       6.923e-03  4.749e-03   1.458  0.1449
## HARVEY     4.148e-04  4.255e-03   0.097  0.9224
## HERMINE    1.333e-03  4.793e-03   0.278  0.7809
## IRMA       1.842e-03  4.247e-03   0.434  0.6645
## LAURA     -9.338e-04  4.350e-03  -0.215  0.8300
## MICHAEL    -1.416e-03  4.310e-03  -0.329  0.7425
## SALLY     -9.992e-04  4.474e-03  -0.223  0.8233
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##

```

```

##
## Topic 15:
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0495960  0.0087613   5.661 1.52e-08 ***
## FOX          0.0059372  0.0009045   6.564 5.30e-11 ***
## MSNBC       0.0147094  0.0009404  15.642 < 2e-16 ***
## ARTHUR      -0.0353470  0.0092517  -3.821 0.000133 ***
## BARRY       -0.0298743  0.0096844  -3.085 0.002038 **
## DELTA       -0.0139496  0.0095808  -1.456 0.145401
## DORIAN      -0.0304510  0.0087294  -3.488 0.000486 ***
## ETA         0.1629402  0.0133711  12.186 < 2e-16 ***
## FLORENCE    -0.0210903  0.0088105  -2.394 0.016680 *
## HANNA       -0.0365728  0.0089032  -4.108 4.00e-05 ***
## HARVEY      -0.0234618  0.0087292  -2.688 0.007196 **
## HERMINE     -0.0229885  0.0097444  -2.359 0.018321 *
## IRMA        -0.0255493  0.0087681  -2.914 0.003571 **
## LAURA      -0.0099483  0.0088170  -1.128 0.259194
## MICHAEL     -0.0121761  0.0088677  -1.373 0.169735
## SALLY       -0.0157088  0.0094049  -1.670 0.094871 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 16:
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0191191  0.0043977   4.348 1.38e-05 ***
## FOX          -0.0049637  0.0005513  -9.003 < 2e-16 ***
## MSNBC       -0.0007773  0.0006346  -1.225  0.221
## ARTHUR      -0.0058539  0.0046566  -1.257  0.209
## BARRY        0.0039646  0.0050104   0.791  0.429
## DELTA       -0.0022038  0.0048332  -0.456  0.648
## DORIAN       0.0032634  0.0044841   0.728  0.467
## ETA         0.0052377  0.0062663   0.836  0.403
## FLORENCE    -0.0025044  0.0044882  -0.558  0.577
## HANNA       -0.0052477  0.0047377  -1.108  0.268
## HARVEY      -0.0024574  0.0043979  -0.559  0.576
## HERMINE     -0.0051097  0.0048623  -1.051  0.293
## IRMA        -0.0022359  0.0044040  -0.508  0.612
## LAURA       0.0041237  0.0045487   0.907  0.365
## MICHAEL     -0.0001368  0.0045140  -0.030  0.976
## SALLY       0.0262793  0.0052278   5.027 5.00e-07 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 17:
##
## Coefficients:
##           Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0148324  0.0047800   3.103 0.001917 **

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```

## FOX          -0.0012816  0.0006056  -2.116  0.034324  *
## MSNBC       -0.0021785  0.0005842  -3.729  0.000192  ***
## ARTHUR       0.0019199  0.0050841   0.378  0.705703
## BARRY        -0.0037478  0.0052748  -0.711  0.477384
## DELTA        -0.0010641  0.0050146  -0.212  0.831944
## DORIAN       0.0042064  0.0048089   0.875  0.381738
## ETA          0.0044435  0.0065120   0.682  0.495015
## FLORENCE     0.0008779  0.0048912   0.179  0.857550
## HANNA        0.0052809  0.0058397   0.904  0.365830
## HARVEY       0.0011822  0.0048085   0.246  0.805797
## HERMINE      -0.0039748  0.0054143  -0.734  0.462867
## IRMA         0.0009552  0.0048479   0.197  0.843803
## LAURA       0.0015854  0.0048863   0.324  0.745583
## MICHAEL      0.0016863  0.0047931   0.352  0.724984
## SALLY        0.0009217  0.0049393   0.187  0.851967
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 18:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0397861  0.0066681   5.967 2.44e-09 ***
## FOX          -0.0055951  0.0008169  -6.850 7.49e-12 ***
## MSNBC       -0.0035699  0.0009614  -3.713 0.000205 ***
## ARTHUR       0.0042847  0.0068914   0.622 0.534111
## BARRY        0.0059689  0.0077128   0.774 0.438991
## DELTA        0.0007534  0.0074073   0.102 0.918987
## DORIAN       0.0088608  0.0066895   1.325 0.185315
## ETA         -0.0140425  0.0084418  -1.663 0.096230 .
## FLORENCE     0.0067176  0.0066002   1.018 0.308791
## HANNA       -0.0014800  0.0073932  -0.200 0.841338
## HARVEY       0.0070573  0.0065902   1.071 0.284231
## HERMINE     -0.0042377  0.0072545  -0.584 0.559124
## IRMA         0.0163807  0.0065712   2.493 0.012677 *
## LAURA       0.0088554  0.0066788   1.326 0.184881
## MICHAEL     0.0003657  0.0067007   0.055 0.956480
## SALLY       -0.0009543  0.0070845  -0.135 0.892846
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 19:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0147152  0.0039781   3.699 0.000217 ***
## FOX          -0.0005429  0.0004601  -1.180 0.237976
## MSNBC       -0.0010729  0.0004638  -2.313 0.020710 *
## ARTHUR      -0.0083400  0.0041881  -1.991 0.046451 *
## BARRY       -0.0054400  0.0042209  -1.289 0.197459
## DELTA       -0.0059300  0.0042772  -1.386 0.165631
## DORIAN      -0.0055225  0.0039559  -1.396 0.162723

```

```

## ETA          0.0010293  0.0055322   0.186 0.852407
## FLORENCE     -0.0041807  0.0040173  -1.041 0.298039
## HANNA        0.0023309  0.0044025   0.529 0.596497
## HARVEY       -0.0002167  0.0039991  -0.054 0.956791
## HERMINE      -0.0024456  0.0047822  -0.511 0.609078
## IRMA         -0.0006041  0.0039020  -0.155 0.876967
## LAURA       -0.0052885  0.0038886  -1.360 0.173832
## MICHAEL      -0.0067467  0.0039497  -1.708 0.087616 .
## SALLY        -0.0080290  0.0039929  -2.011 0.044349 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 20:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0608778  0.0077366   7.869 3.65e-15 ***
## FOX          -0.0128425  0.0008488 -15.129 < 2e-16 ***
## MSNBC        0.0053166  0.0009518   5.586 2.34e-08 ***
## ARTHUR       -0.0083426  0.0078917  -1.057  0.2905
## BARRY        0.0053376  0.0092749   0.575  0.5650
## DELTA        0.0050058  0.0090100   0.556  0.5785
## DORIAN       -0.0034219  0.0077989  -0.439  0.6608
## ETA          -0.0211429  0.0091732  -2.305  0.0212 *
## FLORENCE     -0.0025554  0.0078377  -0.326  0.7444
## HANNA        -0.0077478  0.0081960  -0.945  0.3445
## HARVEY       -0.0069467  0.0077479  -0.897  0.3699
## HERMINE      -0.0054770  0.0086286  -0.635  0.5256
## IRMA         -0.0083131  0.0077206  -1.077  0.2816
## LAURA       -0.0015142  0.0079070  -0.192  0.8481
## MICHAEL      -0.0096488  0.0078416  -1.230  0.2185
## SALLY        -0.0041403  0.0080203  -0.516  0.6057
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 21:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0160214  0.0061829   2.591  0.00957 **
## FOX          -0.0039094  0.0009710  -4.026 5.68e-05 ***
## MSNBC       -0.0024628  0.0009864  -2.497  0.01254 *
## ARTHUR       -0.0107952  0.0064975  -1.661  0.09663 .
## BARRY        -0.0111939  0.0070727  -1.583  0.11350
## DELTA        -0.0073588  0.0067010  -1.098  0.27214
## DORIAN        0.0087870  0.0062442   1.407  0.15937
## ETA          -0.0033095  0.0082796  -0.400  0.68936
## FLORENCE     -0.0077815  0.0062284  -1.249  0.21154
## HANNA        -0.0021839  0.0068356  -0.319  0.74936
## HARVEY       0.0334759  0.0062581   5.349 8.87e-08 ***
## HERMINE      0.0280778  0.0071106   3.949 7.87e-05 ***
## IRMA         0.0868226  0.0063214  13.735 < 2e-16 ***

```

```

## LAURA      -0.0048426  0.0063798  -0.759  0.44782
## MICHAEL     0.0068081  0.0062946   1.082  0.27945
## SALLY      -0.0048930  0.0065228  -0.750  0.45317
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 22:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  2.384e-01  1.846e-02  12.919 < 2e-16 ***
## FOX          3.813e-03  8.472e-04   4.500 6.81e-06 ***
## MSNBC       9.578e-05  9.377e-04   0.102 0.918641
## ARTHUR      -2.212e-01  1.879e-02 -11.774 < 2e-16 ***
## BARRY       -7.176e-02  2.230e-02  -3.218 0.001293 **
## DELTA       -1.522e-02  1.984e-02  -0.767 0.443025
## DORIAN      -2.322e-01  1.853e-02 -12.534 < 2e-16 ***
## ETA         -1.760e-01  1.786e-02  -9.854 < 2e-16 ***
## FLORENCE    -2.301e-01  1.859e-02 -12.381 < 2e-16 ***
## HANNA       -7.707e-02  2.005e-02  -3.844 0.000121 ***
## HARVEY      -2.209e-01  1.851e-02 -11.936 < 2e-16 ***
## HERMINE     -1.974e-01  1.846e-02 -10.689 < 2e-16 ***
## IRMA        -2.292e-01  1.848e-02 -12.404 < 2e-16 ***
## LAURA      -7.481e-02  1.901e-02  -3.936 8.28e-05 ***
## MICHAEL     -2.178e-01  1.856e-02 -11.734 < 2e-16 ***
## SALLY       -7.343e-02  2.020e-02  -3.635 0.000278 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 23:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  2.822e-02  7.548e-03   3.738 0.000186 ***
## FOX         -8.186e-06  1.003e-03  -0.008 0.993486
## MSNBC       8.433e-03  1.129e-03   7.469 8.19e-14 ***
## ARTHUR      -1.574e-02  7.829e-03  -2.010 0.044447 *
## BARRY       -1.086e-02  8.691e-03  -1.249 0.211639
## DELTA       7.338e-04  8.457e-03   0.087 0.930854
## DORIAN      1.938e-02  7.577e-03   2.558 0.010521 *
## ETA         3.041e-02  1.174e-02   2.590 0.009588 **
## FLORENCE    6.443e-03  7.632e-03   0.844 0.398553
## HANNA       -1.661e-02  8.318e-03  -1.997 0.045813 *
## HARVEY      1.117e-02  7.557e-03   1.478 0.139373
## HERMINE     -9.164e-03  8.609e-03  -1.065 0.287081
## IRMA        -4.914e-03  7.557e-03  -0.650 0.515586
## LAURA      8.519e-03  7.921e-03   1.076 0.282154
## MICHAEL     6.791e-03  7.794e-03   0.871 0.383547
## SALLY       1.180e-03  7.981e-03   0.148 0.882460
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##

```

```

##
## Topic 24:
##
## Coefficients:
##      Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.057881   0.011004   5.260 1.45e-07 ***
## FOX          -0.001022   0.001365  -0.749   0.4537
## MSNBC        0.002198   0.001454   1.512   0.1306
## ARTHUR        0.002599   0.011669   0.223   0.8238
## BARRY         0.056012   0.013586   4.123 3.75e-05 ***
## DELTA         0.005910   0.012111   0.488   0.6255
## DORIAN        0.007839   0.011000   0.713   0.4761
## ETA          -0.034175   0.013661  -2.502   0.0124 *
## FLORENCE      0.014069   0.011107   1.267   0.2053
## HANNA         0.021953   0.012059   1.820   0.0687 .
## HARVEY        0.001721   0.011147   0.154   0.8773
## HERMINE       0.055229   0.012545   4.403 1.07e-05 ***
## IRMA          0.018010   0.011018   1.635   0.1021
## LAURA        0.004757   0.011127   0.428   0.6690
## MICHAEL       0.008524   0.011098   0.768   0.4424
## SALLY         0.024297   0.011538   2.106   0.0352 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 25:
##
## Coefficients:
##      Estimate Std. Error t value Pr(>|t|)
## (Intercept)  1.419e-02  3.123e-03   4.543 5.56e-06 ***
## FOX          3.864e-03  3.944e-04   9.796 < 2e-16 ***
## MSNBC       -3.028e-03  4.038e-04  -7.499 6.56e-14 ***
## ARTHUR       -5.151e-03  3.270e-03  -1.575   0.115
## BARRY        -4.323e-04  3.605e-03  -0.120   0.905
## DELTA        -3.751e-03  3.379e-03  -1.110   0.267
## DORIAN        7.949e-05  3.164e-03   0.025   0.980
## ETA          2.044e-02  5.174e-03   3.950 7.83e-05 ***
## FLORENCE     -1.727e-03  3.157e-03  -0.547   0.584
## HANNA         5.693e-03  3.494e-03   1.629   0.103
## HARVEY       -2.320e-04  3.123e-03  -0.074   0.941
## HERMINE      -7.898e-04  3.534e-03  -0.223   0.823
## IRMA          5.434e-04  3.134e-03   0.173   0.862
## LAURA       -5.101e-04  3.152e-03  -0.162   0.871
## MICHAEL       2.174e-04  3.186e-03   0.068   0.946
## SALLY        1.789e-03  3.203e-03   0.558   0.577
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 26:
##
## Coefficients:
##      Estimate Std. Error t value Pr(>|t|)
## (Intercept)  1.174e-02  3.807e-03   3.083 0.00205 **

```

```

## FOX          2.666e-04  5.546e-04  0.481  0.63077
## MSNBC       -1.403e-03  5.399e-04 -2.598  0.00937 **
## ARTHUR       4.123e-03  3.983e-03  1.035  0.30066
## BARRY        8.925e-03  4.764e-03  1.873  0.06102 .
## DELTA        1.383e-03  4.177e-03  0.331  0.74058
## DORIAN       6.704e-03  3.776e-03  1.775  0.07585 .
## ETA          2.717e-03  4.837e-03  0.562  0.57427
## FLORENCE     6.537e-03  3.831e-03  1.707  0.08792 .
## HANNA        1.634e-03  4.395e-03  0.372  0.71001
## HARVEY       1.023e-02  3.837e-03  2.665  0.00770 **
## HERMINE      9.767e-05  4.186e-03  0.023  0.98139
## IRMA         7.490e-03  3.769e-03  1.987  0.04689 *
## LAURA       5.747e-03  3.941e-03  1.458  0.14472
## MICHAEL      3.622e-03  3.818e-03  0.949  0.34273
## SALLY        4.545e-03  3.820e-03  1.190  0.23420
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 27:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.041239   0.008092   5.096 3.47e-07 ***
## FOX          -0.010636   0.001100  -9.665 < 2e-16 ***
## MSNBC        0.009941   0.001122   8.859 < 2e-16 ***
## ARTHUR       0.029492   0.008625   3.420 0.000628 ***
## BARRY        0.046111   0.009761   4.724 2.32e-06 ***
## DELTA        0.026975   0.008619   3.130 0.001751 **
## DORIAN       0.045145   0.008144   5.543 2.98e-08 ***
## ETA          0.039145   0.011056   3.541 0.000400 ***
## FLORENCE     0.049377   0.008233   5.998 2.02e-09 ***
## HANNA        0.021807   0.009209   2.368 0.017889 *
## HARVEY       0.047084   0.008125   5.795 6.87e-09 ***
## HERMINE      0.016683   0.009060   1.841 0.065579 .
## IRMA         0.049175   0.008190   6.004 1.94e-09 ***
## LAURA       0.035756   0.008616   4.150 3.33e-05 ***
## MICHAEL      0.050607   0.008225   6.153 7.68e-10 ***
## SALLY        0.037109   0.008805   4.214 2.51e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 28:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0102626  0.0043091   2.382 0.017241 *
## FOX          0.0004087  0.0006172   0.662 0.507825
## MSNBC       -0.0008142  0.0006262  -1.300 0.193529
## ARTHUR       0.0060042  0.0045219   1.328 0.184251
## BARRY        0.0111690  0.0053060   2.105 0.035298 *
## DELTA       -0.0001669  0.0046272  -0.036 0.971232
## DORIAN       0.0162740  0.0043074   3.778 0.000158 ***

```

```

## ETA          -0.0032761  0.0056645  -0.578  0.563024
## FLORENCE     0.0099911  0.0044074   2.267  0.023402 *
## HANNA        0.0282541  0.0049289   5.732  9.97e-09 ***
## HARVEY       0.0153751  0.0043171   3.561  0.000369 ***
## HERMINE      0.0065815  0.0049421   1.332  0.182962
## IRMA         0.0239259  0.0043193   5.539  3.05e-08 ***
## LAURA       0.0058692  0.0043851   1.338  0.180763
## MICHAEL      0.0059486  0.0043802   1.358  0.174449
## SALLY        0.0039061  0.0046234   0.845  0.398195
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 29:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0899834  0.0090238   9.972 < 2e-16 ***
## FOX          -0.0371951  0.0012345 -30.129 < 2e-16 ***
## MSNBC        -0.0181198  0.0011747 -15.424 < 2e-16 ***
## ARTHUR        0.0002269  0.0087682   0.026  0.9794
## BARRY        -0.0074871  0.0101032  -0.741  0.4587
## DELTA        -0.0145891  0.0095343  -1.530  0.1260
## DORIAN       -0.0184061  0.0089913  -2.047  0.0407 *
## ETA          -0.0190622  0.0121437  -1.570  0.1165
## FLORENCE     -0.0176566  0.0090836  -1.944  0.0519 .
## HANNA        -0.0239233  0.0095784  -2.498  0.0125 *
## HARVEY       -0.0227052  0.0090913  -2.497  0.0125 *
## HERMINE      0.0463175  0.0108948   4.251 2.13e-05 ***
## IRMA         -0.0268958  0.0089654  -3.000  0.0027 **
## LAURA       -0.0089765  0.0095849  -0.937  0.3490
## MICHAEL      -0.0193557  0.0089379  -2.166  0.0303 *
## SALLY        -0.0089456  0.0093894  -0.953  0.3407
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
##
## Topic 30:
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  0.0107317  0.0016830   6.377 1.83e-10 ***
## FOX          0.0013477  0.0002166   6.221 4.97e-10 ***
## MSNBC       -0.0007593  0.0002392  -3.175  0.0015 **
## ARTHUR       0.0021235  0.0017734   1.197  0.2312
## BARRY       -0.0016934  0.0018850  -0.898  0.3690
## DELTA       0.0009761  0.0019087   0.511  0.6091
## DORIAN      0.0015967  0.0016835   0.948  0.3429
## ETA        -0.0024004  0.0020498  -1.171  0.2416
## FLORENCE    0.0024279  0.0017361   1.399  0.1620
## HANNA       0.0033337  0.0017996   1.852  0.0640 .
## HARVEY     0.0031330  0.0016830   1.862  0.0627 .
## HERMINE    0.0017483  0.0019329   0.905  0.3657
## IRMA       0.0033002  0.0016893   1.954  0.0507 .

```

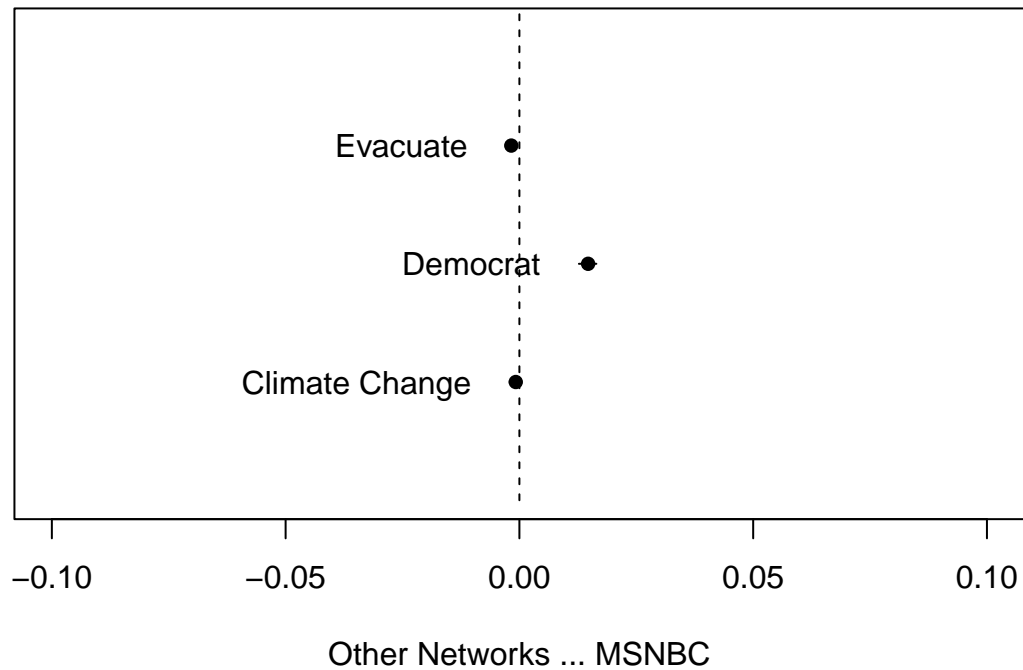
```
## LAURA      -0.0003726  0.0017158  -0.217   0.8281
## MICHAEL     0.0031445  0.0017166   1.832   0.0670 .
## SALLY      -0.0016505  0.0018025  -0.916   0.3599
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
par(fig = c(0, 1, 0, 1)) # Set the figure region (left, right, bottom, top)
par(plt = c(0, 1, 0, 1)) # Set the plot region (left, right, bottom, top)
plot(hurricaneModel, type = "summary", xlim = c(0, .2))
```

Topic 27: differ, ive, afterward
 Topic 6: restrengthen, javaheri, chinchar
 Topic 24: hurricane-forc, inlet, cedar
 Topic 20: baldwin, grossman, karin
 Topic 29: harlow, hermin, brigg
 Topic 18: buse, plywood, shutter
 Topic 21: dominican, jose, republ
 Topic 13: space, radar, eye
 Topic 12: lumberton, cod, virginia
 Topic 23: birmingham, contradict, ross
 Topic 4: chemic, crosbi, beaumont
 Topic 5: tie, ceil, debt
 Topic 15: berni, op-, biden
 Topic 22: salli, mississippi, shreveport
 Topic 28: croix, generat, prepar
 Topic 8: reced, impass, neighborhood
 Topic 3: reichmuth, bream, janic
 Topic 2: apalachicola, badda, death
 Topic 9: cloth, healthier, social
 Topic 11: level, drain, sea
 Topic 10: voluntari, evacu, mandatori
 Topic 7: maria, rico, puerto
 Topic 14: cocoa, northwestern, dorian
 Topic 26: chew, blood, diseases
 Topic 1: klotz, adam, sandra
 Topic 30: cool, day, will
 Topic 16: climat, scienc, chang
 Topic 25: cavuto, neil, judg
 Topic 17: iowa, mani, among
 Topic 19: plant, site, nuclear

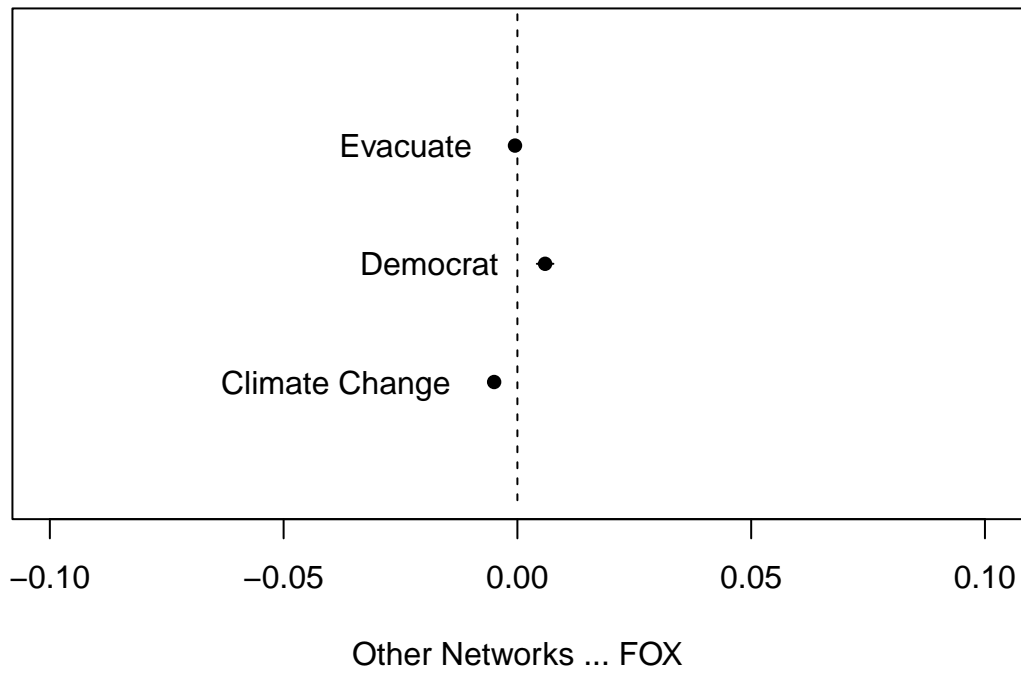
```
plot(prepare, covariate = "MSNBC", topics = c(10, 15, 16),
model = hurricaneModel, method = "difference",
cov.value1 = 1, cov.value2 = 0,
xlab = "Other Networks ... MSNBC",
main = "Effect of MSNBC",
xlim = c(-.1, .1), labeltype = "custom",
custom.labels = c('Evacuate', 'Democrat', 'Climate Change'))
```

Effect of MSNBC



```
plot(prepare, covariate = "FOX", topics = c(10, 15, 16),  
model = hurricaneModel, method = "difference",  
cov.value1 = 1, cov.value2 = 0,  
xlab = "Other Networks ... FOX",  
main = "Effect of FOX",  
xlim = c(-.1, .1), labeltype = "custom",  
custom.labels = c('Evacuate', 'Democrat', 'Climate Change'))
```


Effect of FOX



```
plot(hurricaneModel, type = "perspectives", topics = 15)
```

