**Introduction**

A super simple post that summarizes R-based methods for visual summary & collage-building using image attachments on Twitter. In the process, a bit of a photo homage to Congresswoman Xochitl Torres Small in her first year representing New Mexico’s 2nd district.

if (!require("pacman")) install.packages("pacman")

pacman::p\_load(tidyverse, rtweet, tigris)

options(tigris\_use\_cache = TRUE, tigris\_class = "sf")

**New Mexico’s 2nd District**

The 2nd congressional district of New Mexico is a super fun district. It is not my district, but I have a few stomping grounds that way. Faywood is home to natural hot springs and a STAR-GAZING CHAIR!!!. Weed has an absolutely lovely frisbee golf course. Ruidoso has all things: including two disc golf courses and a horse track.

Folks in the district supported Trump in 2016 by a fair margin (+10.2%) and subsequently sent a freshman Democrat to the House in 2018. Only the second time the district has sent a Democrat to the House in the last 30 years. Also, it is one of only five districts that supported Trump by more than ten points, supported McCain in 2008 & Romney in 2012, and sent a Democrat to Congress in 2018. I have written some previously about Torres Small’s win in 2018 and the demographics of the district.

The district is also geographically vast – and super-rural. Per the table below, NM-02 is the fifth largest district in the country – only the big rural states with at-large representation are bigger. So, lots of ground to cover.

cds <- tigris::congressional\_districts(cb = TRUE)

cds %>%

data.frame() %>%

arrange(desc(ALAND)) %>%

slice(1:5) %>%

mutate(ALAND = round(ALAND/ 2.59e+6,0), # SQUARE MILES

ALAND = format(ALAND,

big.mark=",",

scientific=FALSE),

geo = c('Alaska', 'Montana',

'Wyoming', 'South Dakota',

'New Mexico - 02')) %>%

select(geo, GEOID, ALAND)%>%

knitr::kable()

| **geo** | **GEOID** | **ALAND** |
| --- | --- | --- |
| Alaska | 0200 | 570,883 |
| Montana | 3000 | 145,545 |
| Wyoming | 5600 | 97,091 |
| South Dakota | 4600 | 75,809 |
| New Mexico – 02 | 3502 | 71,745 |

**One hundred days** into her term in the 116th Congress, Congresswoman Torres Small tweeted:

In #100Days, I’ve over 43,000 miles & met w/ constituents in

Bernalillo  
Catron  
Chaves  
Cibola  
De Baca  
Dona Ana  
Eddy  
Grant  
Guadalupe  
Hidalgo  
Lea  
Lincoln  
Luna  
McKinley  
Otero  
Roosevelt  
Sierra  
Socorro  
Valencia

And I’m just getting started

**So, she is on the move**. The map below highlights the district in geographical context. Lots of big districts in the Southwest. NM-02 is roughly bounded by Mexico, West Texas, ABQ/Santa Fe metros, and the Navajo Nation. A bit of cultural crossroads, as it were.

world <- rnaturalearth::ne\_countries(scale = "medium", returnclass = "sf") %>%

filter(gu\_a3 %in% c('USA', 'MEX'))

states <- tigris::states(cb = TRUE)

cds %>%

mutate(color = ifelse(GEOID == '3502', 'blue', 'gray')) %>%

ggplot() +

geom\_sf(data = world, color = 'darkgray', alpha = .75,

fill = '#dae2ba', size = 1.1) +

geom\_sf(aes(fill = color), color = 'darkgray') +

scale\_fill\_manual(values = c('lightblue', 'gray')) +

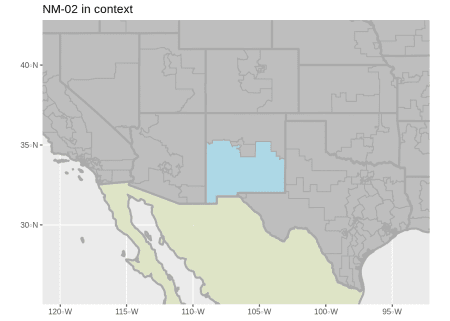
ggsflabel::lims\_bbox(cds %>%

filter(STATEFP %in% c('04', '48', '35', '32'))) +

geom\_sf(data = states, color = 'darkgray', alpha = 0, size = 1.1) +

theme(legend.position = 'none') +

ggtitle('NM-02 in context')



**Collaging the year’s happenings**

So, the goal here is to provide a visual summary (ie, collage) of Congresswoman Torres Small’s year representing NM-02 using images from Twitter. Via the rtweet package, we collect all of @RepTorresSmall tweets since she took office at the beginning of 2019.

xochitl\_tweets <- rtweet::get\_timeline(

"RepTorresSmall",

n = 1500,

check=FALSE) %>%

mutate(created\_at = as.Date(gsub(' .\*$', '', created\_at))) %>%

filter(is\_quote == 'FALSE' &

is\_retweet == 'FALSE' &

created\_at > '2019-01-02' &

display\_text\_width > 0)

Next, we identify tweets containing photo attachments. And then download these photos locally. For a more detailed walk through of methods, I would recommend having a look.

pics <- xochitl\_tweets %>%

filter(![is.na](http://is.na)(media\_url)) %>%

select(media\_url, created\_at)

setwd(local\_pics)

lapply(pics$media\_url, function (y) {

magick::image\_read(y) %>%

magick::image\_scale("1000") %>%

magick::image\_border('white', '10x10') %>%

magick::image\_write(gsub('^.\*/', '', y)) #%>%

#magick::image\_annotate(pics$created\_at[y], font = 'Times', size = 50)

})

Next, we shuffle the photos some, and then stack photos as a collection of single column collages. Again, these intermediary files are stored locally.

files <- dir(local\_pics, full.names = TRUE)

set.seed(11)

files <- sample(files, length(files))

files1 <- files[1:49]

no\_rows <- 7

no\_cols <- 7

make\_column <- function(i, files, no\_rows){

magick::image\_read(files[(i\*no\_rows+1):((i+1)\*no\_rows)]) %>%

magick::image\_append(stack = TRUE) %>%

magick::image\_write(paste0("cols", i, ".jpg"))}

setwd(local\_cols)

walk(0:(no\_cols-1),

make\_column,

files = files1,

no\_rows = no\_rows)

Lastly, we piece together the column collages as a single collage. For good measure, I created three collages comprised of 7 x 7 = 49 photos. **A busy year for the Congresswoman**.

magick::image\_read(dir(local\_cols, full.names = TRUE)) %>%

magick::image\_scale("500x1000") %>%

magick::image\_append(stack = FALSE)

