FEMA_Data_Mapping

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```
#Load data
disaster <- read.csv("DisasterSummariesCleaned.csv",header = TRUE)

#View data
#head(disaster)
#disaster$year %>% unique
#2009 2010 2011 2012 2016 2017 2018 2013
```

```
#Get name by county.fips
county_fips <- county.fips

#Get state name + county name
disaster <- disaster %>%
              mutate(fips = fipsStateCode * 1000 + fipsCountyCode)
disaster <- left_join(disaster,county_fips, by = "fips")
disaster <- disaster %>%
              select(c(26,24,2,11)) %>%
              mutate(ID = polyname) %>%
              separate(polyname,c("state","county"),sep = ",")

#Get subdata by condition
disaster_sub <- disaster %>%
                  filter(year=="2009",
                         state=="alabama",
                         disasterNumber==1866,
                         paProgramDeclared==1) %>%
                  select(c(5,6))

#select states
StatesInt <- c("alabama","alaska","arizona","arkansas","california","colorado","connecticut","delaware"

#Combine county map with our subdata
county <- st_as_sf(map("county",StatesInt,plot=F,fill=T))

##Choose by condition
county_sub <- subset(county,grepl("alabama",county$ID))

##Combine
county_sub <- left_join(county_sub,disaster_sub,by = "ID")

##Deal with PA
county_sub[is.na(county_sub)] <- 0
```

```
county_sub$`Designated Counties` <- ifelse(county_sub$paProgramDeclared==1,"Public Assistance","No Desig

#Get x,y coordinates
county_sub <- cbind(county_sub, st_coordinates(st_centroid(county_sub)))
```

```
## Warning in st_centroid.sf(county_sub): st_centroid assumes attributes are
## constant over geometries of x
```

```
## Warning in st_centroid.sfc(st_geometry(x), of_largest_polygon =
## of_largest_polygon): st_centroid does not give correct centroids for longitude/
## latitude data
```

```
#Get county name
county_sub <- county_sub %>%
               separate(ID,c("state","county"),sep = ",")

#Plot
  ggplot() +
  geom_sf(data = county_sub,aes(fill = Designated.Counties)) +
  scale_fill_manual(values=c("white","lightgoldenrod1")) +
  geom_text(data = county_sub, aes(X, Y, label = county), size = 1.2, fontface = "bold") +
  theme(axis.title.x = element_blank(),
        axis.title.y = element_blank(),
        axis.text.x=element_blank(),
        axis.text.y=element_blank())
```