installed.packages()

getwd()

library(tidyverse)

#Read and save the csv as data frame "wrs" for Weather Related Storms

wrs <- read\_csv("C:\\Users\\Veere\\Desktop\\StormEvents\_details-ftp\_v1.0\_d1989\_c20220425.csv\\StormEvents\_details-ftp\_v1.0\_d1989\_c20220425.csv")

view(wrs)

head(wrs, 10)

colnames(wrs)

#Limiting wrs by creating a subset data frame "wrs\_n" to the following columns:

# "BEGIN\_DATE\_TIME"

# "END\_DATE\_TIME"

# "EPISODE\_ID"

# "EVENT\_ID"

# "STATE"

# "STATE\_FIPS"

# "CZ\_NAME"

# "CZ\_TYPE"

# "CZ\_FIPS"

# "EVENT\_TYPE"

# "SOURCE"

# "BEGIN\_LAT"

# "BEGIN\_LON"

# "END\_LAT"

# "END\_LON"

wrs\_n <- wrs[c(7,8,9,10,13,14,15,16,18,20,27,45,46,47,48)]

view(wrs\_n)

head(wrs\_n, 10)

#Arrange the data by state name

library(dplyr)

SortByState <- arrange(wrs\_n,(STATE))

head(SortByState, 10)

#Change state and county names to title case

install.packages("stringr")

library(stringr)

StateTitleCase <- str\_to\_title(wrs\_n$STATE)

CountyTitleCase <- str\_to\_title(wrs\_n$CZ\_NAME)

#Limit the events listed by county FIPS (CZ\_TYPE of "C")

CFilter <- filter(wrs\_n, CZ\_TYPE=="C")

#Remove CZ\_TYPE column

RemoveColumn <- select(wrs\_n, -CZ\_TYPE)

#Padding the state and county FIPS with a "0" at the beginning

StatePadding <- str\_pad(wrs\_n$STATE\_FIPS, width=3, side="left", pad="0")

CountyPadding <- str\_pad(wrs\_n$CZ\_FIPS, width=3, side="left", pad="0")

#Unite the two columns to make one FIPS column with the 5-digit county FIPS code.

library(tidyr)

NewCol <- unite(wrs\_n,"FIPS", c("STATE\_FIPS","CZ\_FIPS"))

#Changing all the column names to lower case

Lower <- rename\_all(wrs\_n,tolower)

#Creating a data frame with these three columns: state name, area, and region with base R state data

data("state")

State\_Info <- data.frame(state = state.name, region = state.region, area = state.area)

#Create a data frame with the number of events per state in the year of my birth

table(wrs\_n$STATE)

StateFreq <- data.frame(table(wrs\_n$STATE))

head(StateFreq)

#Merge the state information data frame with state freq data frame

StateFreqN <- rename(StateFreq, c("state"="Var1"))

head(StateFreqN)

StateInfoFreq <- merge(x=State\_Info, y=StateFreqN, by.x="state",.y="state")

head(StateInfoFreq)

#Match the letter cases of state info and state freq

StateInfoN <- (mutate\_all(State\_Info, toupper))

head(StateInfoN)

StateInfoFreq <- merge(x=StateInfoN, y=StateFreqN, by.x="state",.y="state")

head(StateInfoFreq)

#Convert the values for "area" from character to numeric

AreaNew <- as.numeric(StateInfoFreq$area)

#Load a custom font from my local machine

windowsFonts(CorpoS=windowsFont("CorpoS"))

#Plot generation

StormPlot <- ggplot(StateInfoFreq, aes(x = AreaNew, y = Freq)) + geom\_point(aes(color=region)) + labs(x="Land Area (Square Miles)", y="Storm Events in 1989") + theme(text=element\_text(family="CorpoS", size=15))

StormPlot