U.S. National Oceanic and Atmospheric Administration’s (NOAA) Storms and Trends

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2/3/2021

# Setting the data

setwd("C:/Users/Famil/OneDrive/COURSERA COURSES/Reproducible Research/Peer-graded Assignment Course Projects")  
library(data.table)  
library(ggplot2)

#Data Processing

download.file("https://d396qusza40orc.cloudfront.net/repdata%2Fdata%2FStormData.csv.bz2", "stormdata.csv.bz2")  
stormdata <- read.csv(bzfile("stormdata.csv.bz2"))  
storm <- stormdata[c("EVTYPE", "FATALITIES", "INJURIES", "PROPDMG", "PROPDMGEXP", "CROPDMG", "CROPDMGEXP")]

# Results

## Adding up injuries, fatalities, property damagea and crop damage according to event types

aggregatedInjur <- aggregate(INJURIES~EVTYPE, storm, sum)  
aggregatedFatal <- aggregate(FATALITIES~EVTYPE, storm, sum)  
aggregatedPropDmg <- aggregate(PROPDMG~EVTYPE, storm, sum)  
aggregatedCropDmg <- aggregate(CROPDMG~EVTYPE, storm, sum)

## Sorting aggregated data sets

sortedInjur <- aggregatedInjur[order(aggregatedInjur$INJURIES , aggregatedInjur$EVTYPE, decreasing = TRUE), ]  
sortedFatal <- aggregatedFatal[order(aggregatedFatal$FATALITIES , aggregatedFatal$EVTYPE, decreasing = TRUE), ]  
sortedPropDmg <- aggregatedPropDmg[order(aggregatedPropDmg$PROPDMG , aggregatedPropDmg$EVTYPE, decreasing = TRUE), ]  
sortedCropDmg <- aggregatedCropDmg[order(aggregatedCropDmg$CROPDMG , aggregatedCropDmg$EVTYPE, decreasing = TRUE), ]

## Grabbing most harmful events, i decided to just take the top 10

mostHarmfulInjurEvents <- head(sortedInjur, n = 10)  
mostHarmfulFatalEvents <- head(sortedFatal, n = 10)  
mostHarmfulPropDmgEvents <- head(sortedPropDmg, n = 10)  
mostHarmfulCropDmgEvents <- head(sortedCropDmg, n = 10)

# Plots

## Plotting injuries, fatalities, property damage and crop damage related events on a graph

plot1 <- qplot(INJURIES, EVTYPE, data = mostHarmfulInjurEvents , xlab="Number of Injuries", ylab="Event Type")  
plot2 <- qplot(FATALITIES, EVTYPE, data = mostHarmfulFatalEvents , xlab="Number of Fatalities", ylab="Event Type")  
plot3 <- qplot(PROPDMG, EVTYPE, data = mostHarmfulPropDmgEvents, xlab="Property Damage", ylab="Event Type")  
plot4 <- qplot(CROPDMG, EVTYPE, data = mostHarmfulCropDmgEvents, xlab="crop Damage", ylab="Event Type")