

# Reproducible Research project 2 week 4

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## Introduction

Storms and other severe weather events can cause both public health and economic problems for communities and municipalities. Many severe events can result in fatalities, injuries, and property damage, and preventing such outcomes to the extent possible is a key concern.

This project involves exploring the U.S. National Oceanic and Atmospheric Administration's (NOAA) storm database. This database tracks characteristics of major storms and weather events in the United States, including when and where they occur, as well as estimates of any fatalities, injuries, and property damage.

## Process:

### Loading data and reading:

```
Fileurl <-
```

```
"https://d396qusza40orc.cloudfront.net/repdata%2Fdata%2FStormData.csv.bz2"
```

```
download.file(fileurl,destfile = "./repdata_data_StormData (1).csv.bz2",method = "curl")
```

```
Stormdata <- read.csv("repdata_data_StormData (1).csv.bz2")
```

### Formatting the data:

```
Storm = subset(Stormdata, select = c("EVTTYPE",  
"INJURIES","FATALITIES","CROPDMG","PROPDMG"))
```

## Grouping data based on EVTYPE

```
Injured <- aggregate(INJURIES~EVTYPE, Storm,sum)
```

```
Fataldamages <- aggregate(FATALITIES~EVTYPE, Storm,sum)
```

```
Cropdamage <- aggregate(CROPDMG~EVTYPE, Storm,sum)
```

```
Propertydamage <- aggregate(PROPDMG~EVTYPE, Storm,sum)
```

## Sorting the data

```
Mostfatal <- Fataldamages[order(-Fataldamages$FATALITIES), ][1:5, ]
```

```
Mostinjuries <- Injured[order(-Injured$INJURIES), ][1:5, ]
```

```
MostCropdamage <- Cropdamage[order(-Cropdamage$CROPDMG), ][1:5, ]
```

```
MostPropertydamage <- Propertydamage[order(-Propertydamage$PROPDMG),  
][1:5, ]
```

# Plotting the barchart

```
par(mfrow = c(1,2))
```

```
barplot(Mostfatal$FATALITIES, las = 3, names.arg = Mostfatal$EVTYPE, main =  
"Events with Highest Fatalities",  
       ylab = "Number of fatalities", col = "red")
```

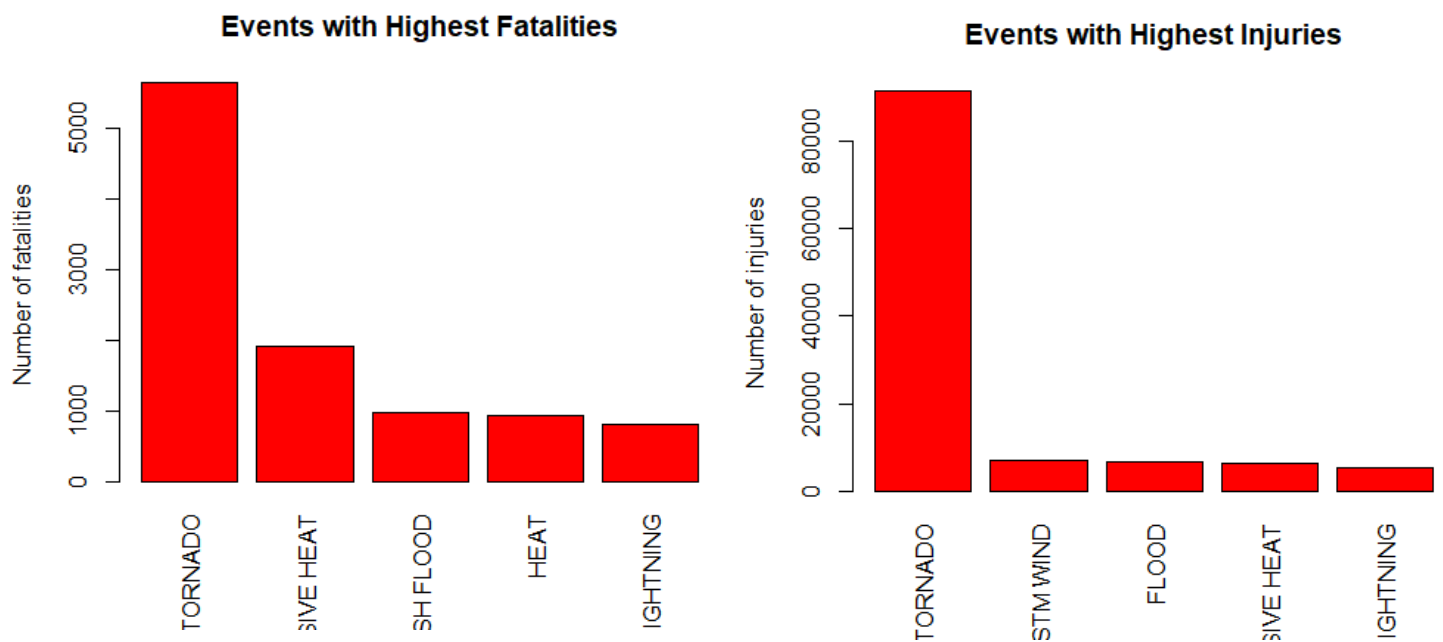
```
barplot(Mostinjuries$INJURIES, las = 3, names.arg = Mostinjuries$EVTYPE,  
main = "Events with Highest Injuries",  
       ylab = "Number of injuries", col = "red")
```

```
barplot(MostCropdamage$CROPDMG, las = 3, names.arg =  
MostCropdamage$EVTYPE, main = "Events with Highest crop damage",  
       ylab = "Number of fatalities", col = "red")
```

```
barplot(MostPropertydamage$PROPDMG, las = 3, names.arg =  
MostPropertydamage$EVTYPE, main = "Events with Highest property damage",  
       ylab = "Number of injuries", col = "red")
```

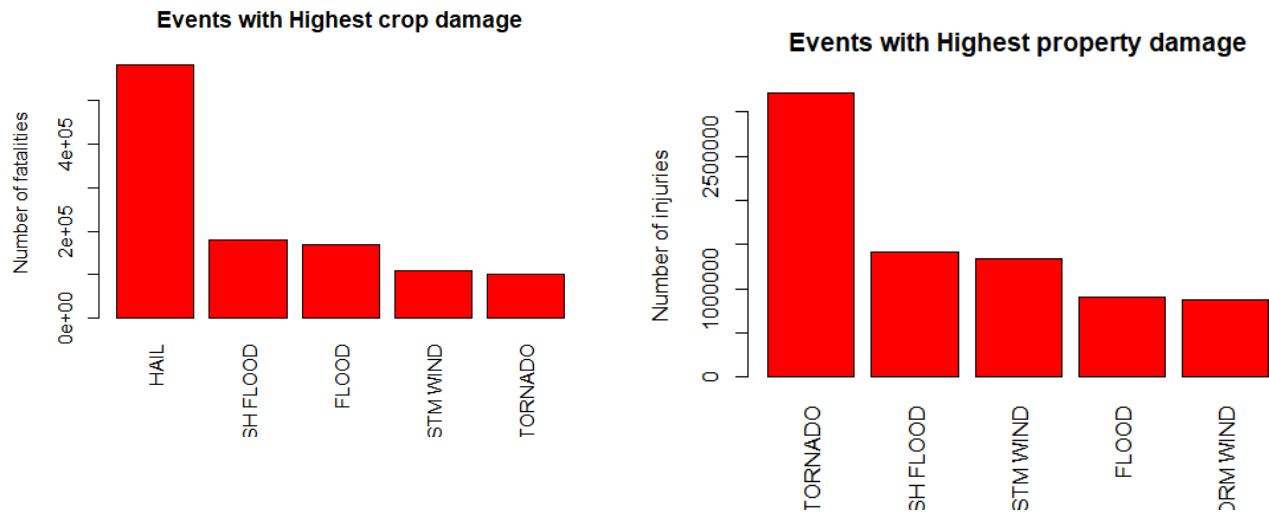
# Questions

1. Across the United States, which types of events (as indicated in the EVTYPE variable) are most harmful with respect to population health?



Answer: Tornado is the most harmful disaster with respect to human health

2. Across the United States, which types of events have the greatest economic consequences?



Answer: Tornado is the event that has the most economic damage in terms of property damage. Hail is the event that has the most economic damage in terms of crops.