

Most harmful or destructive storms in the United States from 1950 to 2011

Synopsis

In this document we present analysis of the last 60 years storms that occurred in the United States. We highlight storm types that have the highest human and economic impact or loss.

```
datafile <- bzfile("~/repos/Reproducible-Research-Assignment-2/repdata-data-StormData.csv.bz2")

## Warning: cannot open bzip2-ed file
## '/Users/jmarhee/repos/Reproducible-Research-Assignment-2/repdata-data-StormData.csv.bz2'
## probable reason 'No such file or directory'

## Error: cannot open the connection

csv <- read.csv(datafile)

## Error: object 'datafile' not found

close(datafile)

## Error: object 'datafile' not found
```

Data Processing

Cleaning data: * using lower case event name to group them * compute ranking of events according to number of injured and killed people

```
csv$EVTYPE <- tolower(csv$EVTYPE)

## Error: object 'csv' not found

typeScores <- aggregate(cbind(csv$INJURIES, csv$FATALITIES) ~ csv$EVTYPE, csv, sum) # 10s

## Error: object 'csv' not found

fullZero <- typeScores[,2] == 0 & typeScores[,3] == 0
```

```
## Error: object 'typeScores' not found

cleanTypeScores <- typeScores[!fullZero,]

## Error: object 'typeScores' not found

names(cleanTypeScores) <- cbind("type", "injuries", "fatalities")

## Error: object 'cleanTypeScores' not found

rankInjuries <- order(cleanTypeScores[,2], decreasing=T)

## Error: object 'cleanTypeScores' not found

rankFatalities <- order(cleanTypeScores[,3], decreasing=T)

## Error: object 'cleanTypeScores' not found
```

Results

Across the United States, which types of events are most destructive/harmful?

```
toPlot <- cleanTypeScores[rankFatalities,]

## Error: object 'cleanTypeScores' not found

toPlot <- toPlot[1:20,]

## Error: object 'toPlot' not found

toPlot <- melt(toPlot, "type")

## Error: could not find function "melt"

ggplot(toPlot, aes(x=type, y=value, fill=variable)) +
  geom_bar(position="dodge")+
  #geom_histogram(position="dodge") +
  theme(axis.text.x = element_text(angle = 60, hjust = 1)) +
  labs(title="10 most destructive storms by type in the US - 1950 to 2011")

## Error: could not find function "ggplot"
```

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

We focus on event types implying **B**illion dollars of property and crop destructions.

The list of event type is given bellow:

```
eventsProp <- sort(unique(csv$EVTYPE[csv$PROPDMGEXP == "B"]))
```

```
## Error: object 'csv' not found
```

```
eventsCrop <- sort(unique(csv$EVTYPE[csv$PROPDMGEXP == "B"]))
```

```
## Error: object 'csv' not found
```

```
events      <- sort(unique(rbind(eventsProp, eventsCrop)))
```

```
## Error: object 'eventsProp' not found
```

```
print(events)
```

```
## Error: object 'events' not found
```

Reproducing the analysis

R source: <https://github.com/iampizza/Reproducible-Research-Assignment-2/>

Data: <https://d396qusza40orc.cloudfront.net/repdata%2Fdata%2FStormData.csv.bz2>