

# Impact of Severe Weather Events: Fatalities, Injuries, and Economic Consequences

## Synopsis

that describes and summarizes the data analysis

## Data Processing

that describes how the data were loaded into R and processed for analysis. In particular, your analysis must start from the raw CSV file containing the data. You cannot do any preprocessing outside the document. If preprocessing is time-consuming you may consider using the `cache = TRUE` option for certain code chunks.

```
storms <- read.csv("repdata-data-StormData.csv.bz2", nrows = 200000)
storms2 <- storms[c("REFNUM", "EVTYPE")]
```

```
#classify EVTYPE into smaller EVGROUPS
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
##
## The following object is masked from 'package:stats':
##
##   filter
##
## The following objects are masked from 'package:base':
##
##   intersect, setdiff, setequal, union
```

```
storms3 <- mutate(storms2, EVGROUP = "Unclassified")
for(i in 1:nrow(storms3)) {

  EVENT_i <- tolower(storms3[i,2])

  #classify as MARINE
  if(grepl("hurricane", EVENT_i) | grepl("current", EVENT_i) | grepl("tide", EVENT_i)
  | grepl("sea", EVENT_i) | grepl("marine", EVENT_i) | grepl("surf", EVENT_i)
  | grepl("coast", EVENT_i)
  ){
```

```

        storms3[i,3] = "MARINE" #set the EVGROUP column
    }

#classify events as TERRESTRIAL
if(grepl("avalanche", EVENT_i) | grepl("fire", EVENT_i) | grepl("mud", EVENT_i)
    | grepl("pack", EVENT_i) | grepl("flood", EVENT_i)
){
    storms3[i,3] = "TERRESTRIAL" #set the EVGROUP column
}

#classify as WIND, if applicable
if(grepl("nado", EVENT_i) | grepl("wind", EVENT_i) | grepl("turbulance", EVENT_i)
    | grepl("funnel", EVENT_i) | grepl("storm", EVENT_i) |grepl("burst", EVENT_i)
    | grepl("dust", EVENT_i) | grepl("spout", EVENT_i) |grepl("cloud", EVENT_i)
){
    storms3[i,3] = "WIND" #set the EVGROUP column
}

#classify as PRECIPITATION, if applicable
if(grepl("hail", EVENT_i) | grepl("rain", EVENT_i) | grepl("snow", EVENT_i)
    | grepl("freez", EVENT_i) | grepl("flood", EVENT_i) |grepl("thunder", EVENT_i)
    | grepl("preci", EVENT_i) | grepl("wet", EVENT_i) |grepl("lightening", EVEN
T_i)
    | grepl("blizzard", EVENT_i) | grepl("sleet", EVENT_i) |grepl("urban", EVEN
T_i)
){
    storms3[i,3] = "PRECIPITATION" #set the EVGROUP column
}

#classify as TEMPERATURE, if applicable
if(grepl("cold", EVENT_i) | grepl("hot", EVENT_i) | grepl("cool", EVENT_i)
    | grepl("warm", EVENT_i) | grepl("heat", EVENT_i) | grepl("frost", EVENT_i)
    | grepl("chill", EVENT_i) | grepl("winter", EVENT_i) | grepl("ice", EVENT_i)
    | grepl("glaze", EVENT_i)){
    storms3[i,3] = "TEMPERATURE" #set the EVGROUP column
}

} #end of FOR loop

table(storms3$EVGROUP)

```

```

##
##      MARINE PRECIPITATION  TEMPERATURE  TERRESTRIAL  Unclassified
##          66          71140          168          27          758
##      WIND
##    127841

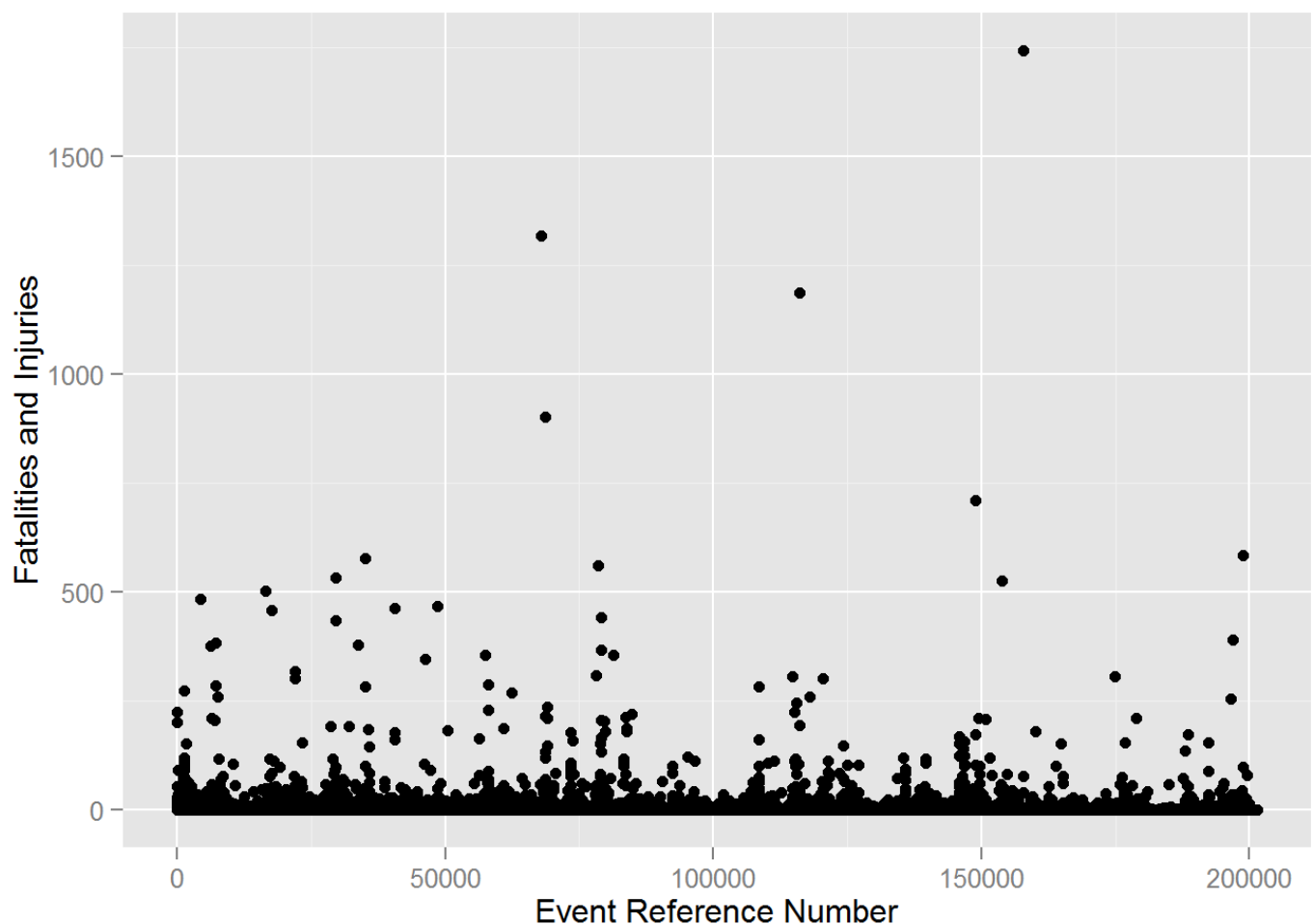
```

Q1. Across the United States, which types of events (as indicated in the EVTYPE variable) are most harmful with respect to population health?

```
require(ggplot2)
```

```
## Loading required package: ggplot2
```

```
g <- ggplot(data = storms)
g + geom_point(mapping = aes(x = REFNUM, y = (INJURIES + FATALITIES))) + xlab("Event Reference Number") + ylab("Fatalities and Injuries")
```



Q2 Across the United States, which types of events have the greatest economic consequences?

TO DO: Section called “Results” where the main results are presented?

TO DO: Ensure atMOST 3 figures: Figures may have multiple plots in them (i.e. panel plots), but there cannot be more than three figures total.