RepData PeerAssessment2

by Fabio Bianchini 18/04/2017

Including Code

1) • Loading and Processing the Raw Data

```
bunzip2("Storm_Data.bz2", "Storm_data.csv", remove = FALSE, skip = TRUE)
## [1] "Storm data.csv"
## attr(,"temporary")
## [1] FALSE
Storm_Data <- read.csv("Storm_data.csv")</pre>
names(Storm_Data)
    [1] "STATE__"
                      "BGN_DATE"
                                    "BGN_TIME"
                                                  "TIME_ZONE"
                                                                "COUNTY"
##
    [6] "COUNTYNAME" "STATE"
                                    "EVTYPE"
                                                  "BGN_RANGE"
                                                               "BGN_AZI"
                                                  "COUNTY_END" "COUNTYENDN"
  [11] "BGN_LOCATI" "END_DATE"
                                    "END_TIME"
  [16] "END_RANGE"
                      "END_AZI"
                                    "END_LOCATI" "LENGTH"
                                                                "WIDTH"
  [21]
        "F"
                      "MAG"
                                    "FATALITIES" "INJURIES"
                                                                "PROPDMG"
  [26]
        "PROPDMGEXP" "CROPDMG"
                                    "CROPDMGEXP" "WFO"
                                                               "STATEOFFIC"
## [31] "ZONENAMES"
                      "LATITUDE"
                                    "LONGITUDE"
                                                 "LATITUDE_E" "LONGITUDE_"
## [36] "REMARKS"
                      "REFNUM"
head(Storm_Data)
     STATE__
##
                        BGN_DATE BGN_TIME TIME_ZONE COUNTY COUNTYNAME STATE
## 1
              4/18/1950 0:00:00
                                                  CST
                                                          97
           1
                                      0130
                                                                 MOBILE
                                                                            AL
           1 4/18/1950 0:00:00
                                      0145
                                                  CST
                                                           3
                                                                BALDWIN
                                                                            AL
                                                 CST
## 3
              2/20/1951 0:00:00
                                      1600
                                                          57
                                                                FAYETTE
                                                                            AL
           1
                                      0900
                                                 CST
                                                          89
## 4
           1
               6/8/1951 0:00:00
                                                                MADISON
                                                                            AL
                                                                CULLMAN
## 5
           1 11/15/1951 0:00:00
                                      1500
                                                 CST
                                                          43
                                                                            AL
           1 11/15/1951 0:00:00
                                      2000
                                                 CST
                                                          77 LAUDERDALE
##
      EVTYPE BGN_RANGE BGN_AZI BGN_LOCATI END_DATE END_TIME COUNTY_END
## 1 TORNADO
                      0
## 2 TORNADO
                      0
                                                                         0
## 3 TORNADO
                      0
                                                                         0
## 4 TORNADO
                      0
                                                                         0
## 5 TORNADO
                      0
                                                                         0
## 6 TORNADO
                      0
     COUNTYENDN END_RANGE END_AZI END_LOCATI LENGTH WIDTH F MAG FATALITIES
## 1
             NA
                         0
                                                  14.0
                                                         100 3
                                                                             0
                         0
                                                   2.0
                                                                             0
## 2
             NA
                                                         150 2
                                                                 0
                                                   0.1
                                                         123 2
                                                                             0
## 4
             NA
                         0
                                                   0.0
                                                         100 2
                                                                  0
                                                                             0
## 5
                                                         150 2
                                                                             0
             NA
                                                   0.0
                                                   1.5
                                                         177 2
     INJURIES PROPDMG PROPDMGEXP CROPDMG CROPDMGEXP WFO STATEOFFIC ZONENAMES
## 1
           15
                  25.0
                                K
                                         0
## 2
                   2.5
```

```
25.0
## 3
                                K
## 4
            2
                   2.5
                                K
                                         0
            2
## 5
                   2.5
                                K
                                         0
                                K
                                         0
## 6
            6
                   2.5
##
     LATITUDE LONGITUDE LATITUDE E LONGITUDE REMARKS REFNUM
## 1
         3040
                   8812
                               3051
                                           8806
## 2
         3042
                   8755
                                  0
                                              0
                                                              2
         3340
                                                              3
## 3
                   8742
                                  0
                                              0
## 4
         3458
                   8626
                                   0
                                              0
                                                              4
## 5
                   8642
                                   0
                                              0
                                                              5
         3412
## 6
         3450
                    8748
                                   0
                                              0
tail(Storm_Data)
                             BGN_DATE
                                          BGN_TIME TIME_ZONE COUNTY
##
          STATE__
## 902292
               47 11/28/2011 0:00:00 03:00:00 PM
                                                          CST
                                                                  21
## 902293
               56 11/30/2011 0:00:00 10:30:00 PM
                                                          MST
                                                                   7
## 902294
               30 11/10/2011 0:00:00 02:48:00 PM
                                                          MST
                                                                   9
## 902295
                2 11/8/2011 0:00:00 02:58:00 PM
                                                          AKS
                                                                  213
## 902296
                2 11/9/2011 0:00:00 10:21:00 AM
                                                          AKS
                                                                 202
## 902297
                                                          CST
                1 11/28/2011 0:00:00 08:00:00 PM
                                                                   6
##
                                      COUNTYNAME STATE
                                                                EVTYPE BGN_RANGE
## 902292 TNZ001>004 - 019>021 - 048>055 - 088
                                                     TN WINTER WEATHER
## 902293
                                    WYZ007 - 017
                                                     WY
                                                             HIGH WIND
                                                                                0
## 902294
                                    MTZ009 - 010
                                                     MT
                                                                                0
                                                             HIGH WIND
## 902295
                                                                                0
                                          AKZ213
                                                     AK
                                                             HIGH WIND
## 902296
                                          AKZ202
                                                                                0
                                                     AK
                                                              BLIZZARD
## 902297
                                          ALZ006
                                                     AL
                                                            HEAVY SNOW
                                                                                0
          BGN AZI BGN LOCATI
                                         END DATE
                                                     END TIME COUNTY END
                              11/29/2011 0:00:00 12:00:00 PM
## 902292
## 902293
                              11/30/2011 0:00:00 10:30:00 PM
## 902294
                              11/10/2011 0:00:00 02:48:00 PM
## 902295
                               11/9/2011 0:00:00 01:15:00 PM
                                                                         0
## 902296
                               11/9/2011 0:00:00 05:00:00 PM
                                                                         0
## 902297
                              11/29/2011 0:00:00 04:00:00 AM
          COUNTYENDN END_RANGE END_AZI END_LOCATI LENGTH WIDTH
## 902292
                              0
                                                                O NA
                  NΑ
                                                          0
                                                                        0
## 902293
                                                                O NA
                   NA
                              0
                                                          0
                                                                       66
## 902294
                  NA
                              0
                                                                O NA
                                                                       52
                                                          0
## 902295
                   NA
                              0
                                                          0
                                                                O NA
                                                                       81
                              0
## 902296
                                                          0
                                                                O NA
                                                                        0
                   NΑ
## 902297
                              0
                                                          0
                                                                O NA
                                                                        0
                   NA
          FATALITIES INJURIES PROPDMG PROPDMGEXP CROPDMG CROPDMGEXP WFO
##
## 902292
                    0
                             0
                                      0
                                                 K
                                                          0
## 902293
                    0
                             0
                                      0
                                                 K
                                                          0
                                                                     K RIW
## 902294
                    0
                             0
                                      0
                                                 K
                                                          0
                                                                     K TFX
## 902295
                    0
                             0
                                      0
                                                 K
                                                          0
                                                                     K AFG
## 902296
                    0
                             0
                                      0
                                                 K
                                                          0
                                                                     K AFG
## 902297
                    0
                                      0
                                                 K
                                                          0
                                                                     K HUN
                             0
##
                          STATEOFFIC
## 902292
                     TENNESSEE. West
## 902293 WYOMING, Central and West
## 902294
                   MONTANA, Central
```

ALASKA, Northern

ALASKA, Northern

902295

902296

```
## 902297
                      ALABAMA, North
##
## 902292 LAKE - LAKE - OBION - WEAKLEY - HENRY - DYER - GIBSON - CARROLL - LAUDERDALE - TIPTON - HAYWOOD - CRO
                                                                 OWL CREEK & BRIDGER MOUNTAINS - OWL CREEK & BR
## 902293
## 902294
                                                                      NORTH ROCKY MOUNTAIN FRONT - NORTH ROCKY
## 902295
                                                                               ST LAWRENCE IS. BERING STRAIT -
## 902296
                                                                                          NORTHERN ARCTIC COAS
## 902297
          LATITUDE LONGITUDE LATITUDE_E LONGITUDE_
##
## 902292
                  0
                             0
                                         0
                                                     0
## 902293
                  0
                             0
                                         0
                                                    0
## 902294
                  0
                             0
                                         0
                                                     0
## 902295
                  0
                             0
                                         0
                                                     0
## 902296
                  0
                             0
                                         0
                                                     0
## 902297
                                                     0
##
## 902292
## 902293
## 902294
## 902295 EPISODE NARRATIVE: A 960 mb low over the southern Aleutians at 0300AKST on the 8th intensified to 94
## 902296 EPISODE NARRATIVE: A 960 mb low over the southern Aleutians at 0300AKST on the 8th intensified to 94
                            EPISODE NARRATIVE: An intense upper level low developed on the 28th at the base o
##
          REFNUM
## 902292 902292
## 902293 902293
## 902294 902294
## 902295 902295
## 902296 902296
## 902297 902297
```

You can include R code in the document as follows:

2) • Process/transform the data (if necessary) into a format suitable for your analysis

Including Plots

You can also embed plots, for example:

Note that the echo = FALSE parameter was added to the code chunk to prevent printing of the R code that generated the plot.