Untitled

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library(ggmap)  
library(sp)  
library(rgeos)  
library(readr)  
library(lubridate)  
library(RColorBrewer)  
library(classInt)  
library(maptools)  
library(ggplot2)  
library(leaflet)  
library(dplyr)  
library(magrittr)  
library(rgdal)  
  
  
  
spatialanalysisfunction<-function(data,dsn,layer){  
   
 attach(data)  
 data<-filter(data, lon!="NA")  
 Coordinates<-SpatialPoints(data[, c("lon","lat")])#extracting coordinates  
 spatialData<-SpatialPointsDataFrame(Coordinates, data)#combining coordinates with data  
 #spatial\_sample<-spsample(spatialData,n=4000,type = "random")  
 #print(class(spatial\_sample))  
 proj4string(spatialData)<-CRS("+proj=longlat +ellps=WGS84")  
   
 saveRDS(spatialData, "spatialData.rds")  
   
   
 data\_shp<-readOGR(dsn = dsn,  
 layer = layer)  
  
 plot(data\_shp, col="grey", axes=TRUE)  
 plot(spatialData, pch=23,bg="red",cex=1,add=T)  
   
}  
  
#demonstation of the of the function  
#creating a function that extracts data and stores it in a new enviroment  
getData<-function(...){  
 e<-new.env()  
 name<-data(...,envir = e)[1]  
 e[[name]]  
}  
  
crimeData<-getData("crime")  
  
#incase of a zipped shapefile in the same folder as your project unzip it using the following function.  
unzipped<- function(zipped\_data){  
 unzip(zipped\_data,exdir = '.data')  
}  
unzipped('Texas\_State\_Boundary-shp.zip')  
  
visualisation<-spatialanalysisfunction(crimeData,'C:/Users/stephen/Desktop/rprojects/spatial/.data','State')  
visualisation