Trablaho Final

Código da função

```
ClustDistSpat <-function(pts, X, Y, lon, lat)
{

    require("maptools")
    require("ggmap")
    require("ggplot2")
    require("plyr")
    require("fossil")
  pts1_a<-readShapePoints("pts")
  pts1<-as.data.frame(pts1_a)
  #Obtain the layers from Google Maps
  map <- get_map(location = c(lon=lon, lat=lat),zoom = "auto")
  # map zoom, an integer from 3 (continent) to 21 (building)
  ggmap(map)
  mapPoints <- ggmap(map) + geom_point(aes(X =X, Y =Y), data=pts1, alpha =
.5)
  ##Cluster analysis
  dist.g <- earth.dist(pts1)
  kmean <- kmeans(dist.g,centers=5)
  #centers is the number of clusters k
  hcluster <- hclust(dist.g,method="complete")
  clust <- cutree(hcluster, k=5 )
  set.seed(123)
  pts1a$clust <- cutree(hcluster,k=5)
  results<- ggmap(map)+geom_point(data=pts1, aes(x=X, y=Y,
color=factor(clust)), size=4)+
    scale_color_discrete("Cluster") + coord_fixed()
  return (results)
}
```

funcaoclustdistspatfinal.r

scripthelpclustdistspat.r