alberto_maps.R

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```r
library(raster)
```

```
## Loading required package: sp
```

```r
library(ggplot2)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:raster':
##
##     intersect, select, union
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```r
library(maptools)
```

```
## Checking rgeos availability: TRUE
```

```r
library(rgdal)
```

```
## rgdal: version: 1.1-10, (SVN revision 622)
##  Geospatial Data Abstraction Library extensions to R successfully loaded
##  Loaded GDAL runtime: GDAL 1.11.3, released 2015/09/16
##  Path to GDAL shared files: /usr/share/gdal/1.11
##  Loaded PROJ.4 runtime: Rel. 4.9.2, 08 September 2015, [PJ_VERSION: 492]
##  Path to PROJ.4 shared files: (autodetected)
##  Linking to sp version: 1.2-3
```

```r
#### MOZAMBIQUE
# Get a shapefile for Mozambique
moz <- raster::getData("GADM", country = "MOZ", level = 3)
moz_fortified <-
  fortify(moz, region = 'NAME_3')


#### MAPUTO
maputo <- moz[moz@data$NAME_1 %in% c('Maputo', 'Maputo City'),]
# Fortify maputo (format for ggplot2)
maputo_fortified <-
  fortify(maputo, region = 'NAME_1')


#### MANHICA
manhica <- moz[moz@data$NAME_2 == "Manhiça",]
# Fortify manhica (format for ggplot2)
```

```
manhica_fortified <-
  fortify(manhica, region = 'NAME_3')
# Get lng and lat in manhica@data
manhica@data$lng <- coordinates(manhica)[,1]
manhica@data$lat <- coordinates(manhica)[,2]

#### magude
magude <- moz[moz@data$NAME_2 == "Magude",]
# Fortify magude (format for ggplot2)
magude_fortified <-
  fortify(magude, region = 'NAME_3')
# Get lng and lat in magude@data
magude@data$lng <- coordinates(magude)[,1]
magude@data$lat <- coordinates(magude)[,2]

# Combine manhica and magude
combined_map <-
  rbind(magude, manhica)

# Combined fortified
combined_fortified <- rbind(magude_fortified %>% mutate(District = 'Magude'),
                manhica_fortified %>% mutate(District = 'Manhiça'))
combined_fortified$District <- factor(combined_fortified$District,
                        levels = c('Magude',
                                   'Manhiça'))

# Get africa shapefile
africa <- readOGR('africa_shapefile', 'africa_shapefile')
```

```
## OGR data source with driver: ESRI Shapefile
## Source: "africa_shapefile", layer: "africa_shapefile"
## with 150 features
## It has 9 fields
```

```
 # Plot 1
plot(africa, col = 'grey', border = 'white', lwd = 0.1)
plot(moz, add = TRUE, col = adjustcolor('darkorange', alpha.f = 0.7), border = NA)
```

```
# Plot 2
plot(moz, col = 'grey', border = 'white', lwd = 0.1)
plot(maputo, add = TRUE, col = adjustcolor('darkorange', alpha.f = 0.7), border = NA)
```



```
# Plot 3
plot(maputo, col = 'grey', border = 'white', lwd = 0.1)
plot(manhica, add = TRUE, col = adjustcolor('darkgreen', alpha.f = 0.7), border = NA)
plot(magude, add = TRUE, col = adjustcolor('darkred', alpha.f = 0.7), border = NA)
```