

STAT585_Lab2

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2/20/2019

```
library(sf)
```

```
## Linking to GEOS 3.6.1, GDAL 2.1.3, PROJ 4.9.3
```

```
library(ggspatial)
```

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

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.2.1 --
```

```
## v tibble 1.4.2      v purrr 0.2.5
```

```
## v tidyr 0.8.2      v dplyr 0.7.6
```

```
## v readr 1.3.1     v stringr 1.3.1
```

```
## v tibble 1.4.2     v forcats 0.3.0
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
```

```
## x dplyr::lag()     masks stats::lag()
```

plot the original plot

```
# p <- ggplot() +  
#   geom_sf(data = read_sf("data/ME-GIS/Coastline2.shp"),  
#             colour="grey10", fill="grey90") +  
#   geom_sf(data = read_sf("data/ME-GIS/Rivers19.shp"),  
#             colour="steelblue", size=0.3) +  
#   geom_sf(data = read_sf("data/ME-GIS/PrimaryRoads.shp"),  
#             size = 0.7, colour="grey30") +  
#   geom_sf(data = read_sf("data/ME-GIS/Cities.shp")) +  
#   theme_bw()
```

add city label

```
#p + geom_sf_text(data = read_sf("data/ME-GIS/Cities.shp"), aes(label=Name)) + annotation_scale() + ann
```

Australia shapefile

```
ozbig <- read_sf("data/gadm36_AUS_shp/gadm36_AUS_1.shp")
```

```
oz_st <- maptools::thinnedSpatialPoly(  
  as(ozbig, "Spatial"), tolerance = 0.1,  
  minarea = 0.001, topologyPreserve = TRUE)
```

```
oz <- st_as_sf(oz_st)
```

```
helper <- function(d){  
  d <- unlist(d,recursive = FALSE)  
  d <- add_layer(d)  
  return(d)  
}
```

```
add_layer <- function(d){  
  ll <- unlist(lapply(d,nrow))
```

```

d <- do.call(rbind,d)
d <- cbind(d,rep(c(1:length(11)),time=11))
return(d)
}

library(plyr)

## -----
## You have loaded plyr after dplyr - this is likely to cause problems.
## If you need functions from both plyr and dplyr, please load plyr first, then dplyr:
## library(plyr); library(dplyr)
## -----
##
## Attaching package: 'plyr'
##
## The following objects are masked from 'package:dplyr':
##
##   arrange, count, desc, failwith, id, mutate, rename, summarise,
##   summarize
##
## The following object is masked from 'package:purrr':
##
##   compact
library(ggplot2)
purrr::map(oz$geometry, .f=helper) -> res

res <- add_layer(res)
colnames(res) <- c('long','lat','group','geo')
res <- as.data.frame(res)

ggplot(data=res)+geom_path(aes(x=long,y=lat,group=paste(res$geo,res$group,sep='.')))

```

