06 Map

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Contents

Load data

```
mali <- sf::st_read(paste0(here::here(), "/data/map/gadm36_MLI_shp/gadm36_MLI_0.shp"))
```

```
## Reading layer `gadm36_MLI_0' from data source `C:\Users\tbrai\Dropbox\github_private\SeniorThesis\da
## Simple feature collection with 1 feature and 2 fields
## geometry type:  POLYGON
## dimension:      XY
## bbox:           xmin: -12.23891 ymin: 10.15951 xmax: 4.244968 ymax: 25
## epsg (SRID):    4326
## proj4string:    +proj=longlat +datum=WGS84 +no_defs
```

```
niger <- sf::st_read(paste0(here::here(), "/data/map/gadm36_NER_shp/gadm36_NER_0.shp"))
```

```
## Reading layer `gadm36_NER_0' from data source `C:\Users\tbrai\Dropbox\github_private\SeniorThesis\da
## Simple feature collection with 1 feature and 2 fields
## geometry type:  POLYGON
## dimension:      XY
## bbox:           xmin: 0.16625 ymin: 11.69697 xmax: 15.99564 ymax: 23.52503
## epsg (SRID):    4326
## proj4string:    +proj=longlat +datum=WGS84 +no_defs
```

```
tuareg <- sf::st_read(paste0(here::here(), "/data/map/GeoEPR-2019/GeoEPR.shp")) %>%
  dplyr::filter(group == "Tuareg" &
                  statename %in% c("Mali", "Niger") &
                  from == 1960)
```

```
## Reading layer `GeoEPR' from data source `C:\Users\tbrai\Dropbox\github_private\SeniorThesis\data\map'
## replacing null geometries with empty geometries
## Simple feature collection with 1470 features and 10 fields (with 134 geometries empty)
## geometry type:  GEOMETRY
## dimension:      XY
## bbox:           xmin: -180 ymin: -55.31195 xmax: 180 ymax: 76.99887
## epsg (SRID):    4326
## proj4string:    +proj=longlat +ellps=WGS84 +no_defs
```

```
africa <- sf::st_read(paste0(here::here(), "/data/map/Africa_SHP/Africa.shp"))
```

```
## Reading layer `Africa' from data source `C:\Users\tbrai\Dropbox\github_private\SeniorThesis\data\map
## Simple feature collection with 762 features and 3 fields
## geometry type:  POLYGON
## dimension:      XY
## bbox:           xmin: -25.35875 ymin: -46.97893 xmax: 51.41303 ymax: 37.34962
## epsg (SRID):    NA
## proj4string:    NA
```

```
sf::st_crs(africa) <- 4326
```

Plot

```
map <- ggplot() +
  geom_sf(data = tuareg, fill = "#e6d073", aes(color = "Tuareg Region"), alpha = .7) +
  geom_sf(data = africa, color = "gray", fill = "hollow") +
  geom_sf(data = mali, color = "black", fill = "hollow") +
  geom_sf(data = niger, color = "black", fill = "hollow") +
  geom_sf_label(data = mali, aes(label = NAME_0), fill = "hollow") +
  geom_sf_label(data = niger, aes(label = NAME_0), fill = "hollow") +
  scale_color_manual(values = "#e6d073") +
  labs(color = "") +
  coord_sf(xlim = c(-16, 20), ylim = c(8, 26)) +
  theme(axis.line=element_blank(),
          axis.text.x=element_blank(),
          axis.text.y=element_blank(),
          axis.ticks=element_blank(),
          axis.title.x=element_blank(),
          axis.title.y=element_blank(),
          panel.border = element_rect(colour = "black", fill=NA, size=1),
          panel.background=element_blank(),
          panel.grid.major=element_blank(),
          panel.grid.minor=element_blank(),
          plot.background=element_blank())
map
```

```
## Warning in st_point_on_surface.sfc(sf::st_zm(x)): st_point_on_surface may not
## give correct results for longitude/latitude data
```

```
## Warning in st_point_on_surface.sfc(sf::st_zm(x)): st_point_on_surface may not
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```

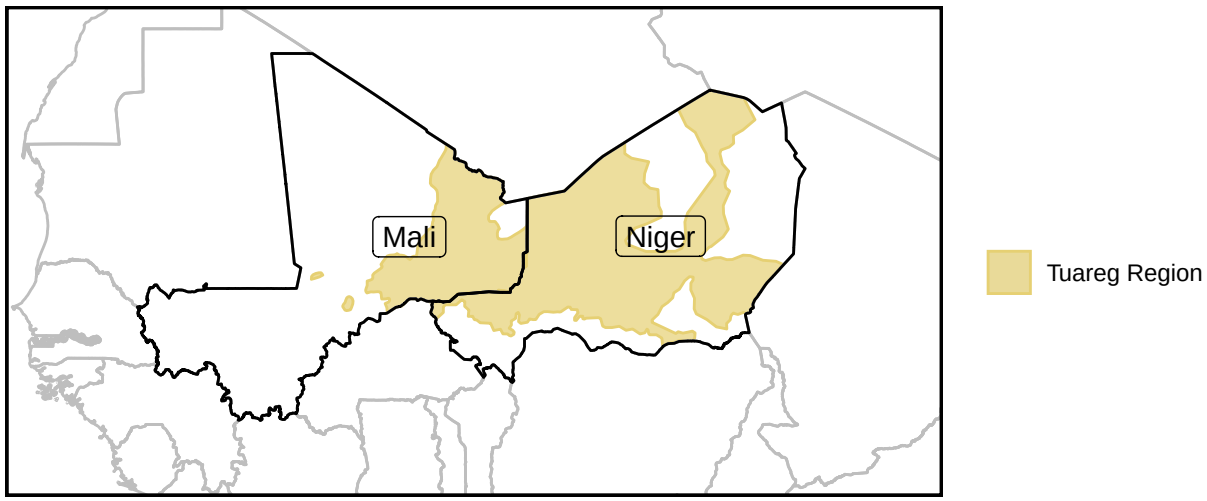

Save data

```
ggsave(plot = map, filename = paste0(here::here(), "/paper/tuareg_map.jpeg"), width = 10, height = 10)
```

```
## Warning in st_point_on_surface.sfc(sf::st_zm(x)): st_point_on_surface may not
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## give correct results for longitude/latitude data
```