library(ggplot2) library(dplyr) require(maps) require(viridis) theme_set(theme_void())

Create a simple map World map

world_map <- map_data("world") world_map <- map_data("usa") world_map <- map_data("nz") world_map <- map_data("county") world_map <- map_data("italy") world_map <- map_data("state") head(world_map)

ggplot(world_map, aes(x = long, y = lat, group = group)) + geom_polygon(fill="lightgray", colour = "white")

Map for specific regions Some EU Contries

some.eu.countries <- c("Portugal", "Spain", "France", "Switzerland", "Germany", "Austria", "Belgium", "UK", "Netherlands", "Denmark", "Poland", "Italy", "Croatia", "Slovenia", "Hungary", "Slovakia", "Czech republic")

Retrieve the map data

some.eu.maps <- map_data("world", region = some.eu.countries)

Compute the centroid as the mean longitude and lattitude

Used as label coordinate for country's names

region.lab.data <- some.eu.maps %>% group_by(region) %>% summarise(long = mean(long), lat = mean(lat))

map-plot

ggplot(some.eu.maps, aes(x = long, y = lat)) + geom_polygon(aes(group = group, fill = region))+ geom_text(aes(label = region), data = region.lab.data, size = 3, hjust = 0.5)+ scale_fill_viridis_d()+ theme_void()+ theme(legend.position = "none")

Example-2 Prepare the USArrests data

library(dplyr) arrests <- USArrests USArrests arrests$region <- tolower(rownames(USArrests)) head(arrests)

Retrieve the states map data and merge with crime data

states_map <- map_data("state") arrests_map <- left_join(states_map, arrests, by = "region")

Create the map

ggplot(arrests_map, aes(long, lat, group = group))+ geom_polygon(aes(fill = Assault), color = "white")+ scale_fill_viridis_c(option = "C")

Create the map

choro <- merge(states_map, arrests_map, sort = FALSE, by = "region") choro <- choro[order(choro$order),] ggplot(choro, aes(long, lat)) + geom_polygon(aes(group = group, fill = assault)) + coord_map("albers", at0 = 45.5, lat1 = 29.5)

Example-3 World map colored by life expectancy

library(ggplot2) install.packages("WHO") library("WHO") library("dplyr") life.exp <- get_data("WHOSIS_000001") # Retrieve the data life.exp <- life.exp %>% filter(year == 2015 & sex == "Both sexes") %>% # Keep data for 2015 and for both sex select(country, value) %>% # Select the two columns of interest rename(region = country, lifeExp = value) %>% # Rename columns # Replace "United States of America" by USA in the region column mutate(region = ifelse(region == "United States of America", "USA", region))

Merge map and life expectancy data:

world_map <- map_data("world") life.exp.map <- left_join(life.exp, world_map, by = "region")

geom_polygon

ggplot(life.exp.map, aes(long, lat, group = group))+ geom_polygon(aes(fill = lifeExp), color = "white")+ scale_fill_viridis_c(option = "C")

geom_map

ggplot(life.exp.map, aes(map_id = region, fill = lifeExp))+ geom_map(map = life.exp.map, color = "white")+ expand_limits(x = life.exp.map$long, y = life.exp.map$lat)+ scale_fill_viridis_c(option = "C")