#30DMC_8Nov_HDX

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8 November. Data: HDX.

"Use data from HDX to map humanitarian topics. Explore the datasets from the Humanitarian Data Exchange, covering disaster response, health, population, and development. Map for social good."

1. Package Installation and Loading

```
# Define the packages to be used
packages <- c("tidyverse", "sf", "geojsonR",
              "lubridate", "magick", "magrittr",
              "grid", "extrafont","readxl")

# Function to check if packages are installed and load them
load_packages <- function(pkgs) {
  # Check for missing packages
  missing_pkgs <- pkgs[!(pkgs %in% installed.packages()[, "Package"])]

  # Install missing packages
  if (length(missing_pkgs)) {
    install.packages(missing_pkgs)
  }

  # Load all packages
  lapply(pkgs, library, character.only = TRUE)
}

# Load the packages
load_packages(packages)
```

```r
loadfonts(device = "postscript")

# Developer's version of ggsflabel
if("ggsflabel" %in% rownames(installed.packages())){
  library(ggsflabel)
}else{
  devtools::install_github("yutannihilation/ggsflabel")
  library(ggsflabel)
  }
```

2. Import HDX data, backgrounds & Rbanism logo

```r
# HDX data
# https://data.humdata.org/dataset/palestine-acled-conflict-data
demonstrations <- read_excel("palestine_hrp_demonstration_events_by_month-year_as-of-28oct
                             sheet = "Data") %>%
  mutate(shapeISO = ifelse(Admin2 == "North Gaza", "PS-NGZ",
                    ifelse(Admin2 == "Jericho", "PS-JRH",
                    ifelse(Admin2 == "Tubas", "PS-TBS",
                    ifelse(Admin2 == "Deir El Balah", "PS-DEB",
                    ifelse(Admin2 == "Rafah", "PS-RFH",
                    ifelse(Admin2 == "Qalqilya", "PS-QQA",
                    ifelse(Admin2 == "Al Quds", "PS-NGZ",
                    ifelse(Admin2 == "Tulkarm", "PS-TKM",
                    ifelse(Admin2 == "Nablus", "PS-NBS",
                    ifelse(Admin2 == "Ramallah and Al Bireh", "PS-RBH*",
                    ifelse(Admin2 == "Nablus", "PS-NBS",
                    ifelse(Admin2 == "Bethlehem", "PS-BTH",
                    ifelse(Admin2 == "Gaza City", "PS-GZA*",
                    ifelse(Admin2 == "Hebron", "PS-HBN",
                    ifelse(Admin2 == "Salfit", "PS-SLT",
                    ifelse(Admin2 == "Khan Yunis", "PS-KYS",
                    ifelse(Admin2 == "Jenin", "PS_JEN", NA
                           ))))))))))))))))),
         date = my(paste(Month, Year, sep=" "))
  )

# administrative boundaries
# https://data.humdata.org/dataset/geoboundaries-admin-boundaries-for-state-of-palestine
Palestine <- st_read("geoBoundaries-PSE-ADM2.geojson")
```

```
Reading layer `geoBoundaries-PSE-ADM2' from data source
  `/Users/ccottineau/GitHub/30DayMapChallenge2024/8Nov_HDX/geoBoundaries-PSE-ADM2.geojson'
  using driver `GeoJSON'
Simple feature collection with 16 features and 5 fields
Geometry type: MULTIPOLYGON
Dimension:     XY
Bounding box:  xmin: 34.21867 ymin: 31.22438 xmax: 35.57349 ymax: 32.55215
Geodetic CRS:  WGS 84
```

```r
# https://data.humdata.org/dataset/whosonfirst-data-admin-isr
Israel <- st_read("whosonfirst-data-admin-il-country-polygon.shp")
```

```
Reading layer `whosonfirst-data-admin-il-country-polygon' from data source
  `/Users/ccottineau/GitHub/30DayMapChallenge2024/8Nov_HDX/whosonfirst-data-admin-il-country
  using driver `ESRI Shapefile'
Simple feature collection with 1 feature and 55 fields
Geometry type: POLYGON
Dimension:     XY
Bounding box:  xmin: 34.26726 ymin: 29.49066 xmax: 35.89539 ymax: 33.33388
Geodetic CRS:  WGS 84
```

```r
# Download Rbanism logo
rbanism_logo <- image_read('https://rbanism.org/assets/imgs/about/vi_l.jpg')
```

3. Sum number of demonstrations in each province since October 2023

```r
demo <- demonstrations %>%
  filter(date >= ymd(20231001)) %>%
  group_by(shapeISO) %>%
  summarise(Demonstrations = sum(Events, na.rm = T))
```

4. Join and map data

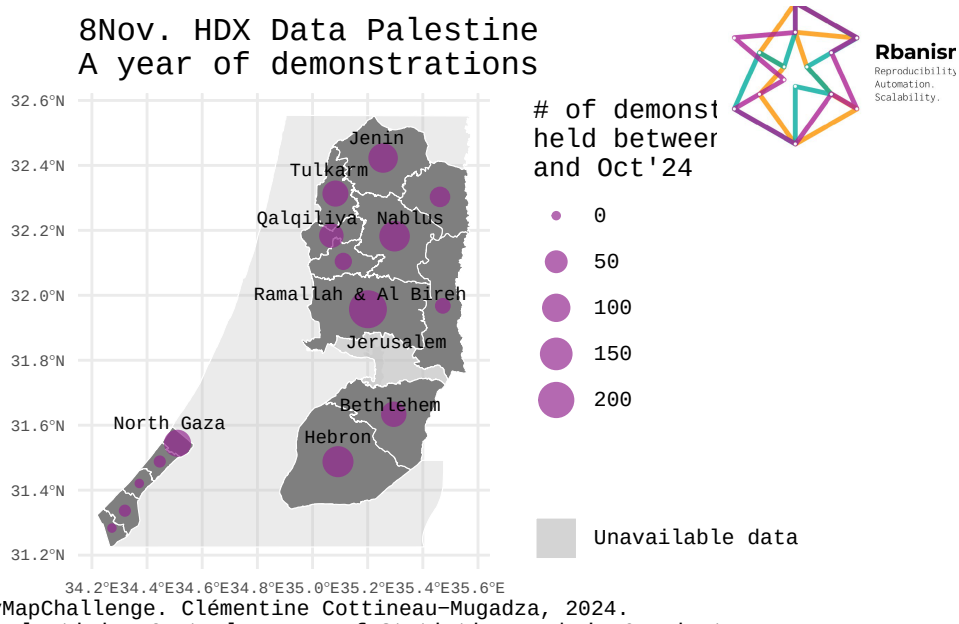
```r
geodemo <- left_join(Palestine, demo, by="shapeISO") %>%
  mutate(data_avail = ifelse(is.na(Demonstrations), "Unavailable data", ""))
centroids <- st_centroid(geodemo)

# Crop Israel map to bounding box of Palestine
```

```
if(st_crs(Palestine) == st_crs(Israel)){
cropped_Israel <- st_crop(Israel,
                          sf::st_bbox(geodemo))
}

## Map the result
ggplot() +
  geom_sf(data = cropped_Israel, fill = alpha("grey", 0.3), colour = "white") +
   geom_sf(data = geodemo, aes(fill=data_avail), colour = "white") +
  geom_sf(data = centroids, colour=alpha("#93278F",0.7),
          aes(size=Demonstrations)) +
  guides(size=guide_legend(title="# of demonstrations\nheld between Oct'23 \nand Oct'24"))
  ggsflabel::geom_sf_text_repel(data = geodemo %>% filter(Demonstrations > 50),
                                aes(label = shapeName),  fill = alpha("white", 0.5),
                                size = 2.5, family="Courier",
                        nudge_x = -0.02, nudge_y = 0.05, seed = 25) +
   ggsflabel::geom_sf_text_repel(data = geodemo %>%
                                   filter(data_avail == 'Unavailable data'),
                                aes(label = shapeName),  fill = alpha("white", 0.5),
                                size = 2.5, family="Courier",
                        nudge_x = 0, nudge_y = 0.015, seed = 25) +
  coord_sf(datum = st_crs(geodemo)) +
  scale_fill_manual(values = c(alpha("grey", 0.65), alpha("grey", 0.2)),
                    name="", limits = c('Unavailable data')) +
  ggtitle(paste0("8Nov. HDX Data Palestine \n",
                 "A year of demonstrations")) +
  ylab("")+
  xlab(paste0("#30DayMapChallenge. Clémentine Cottineau-Mugadza, 2024.
  HDX data: Palestinian Central Bureau of Statistics.   Who's On First.
  Open Data WatchgeoBoundaries, Open Data Watchraster2polygon.")) +
  theme_minimal() +
  theme(axis.text=element_text(size=6, family="Courier"),
        plot.title=element_text(size=12, family="Courier"),
         axis.title=element_text(size=8, family="Courier"),
        legend.text=element_text(size=8, family="Courier"),
        legend.title=element_text(size=10, family="Courier"),
        )

grid.raster(rbanism_logo,
            x = 0.9, y=0.9,
            width = unit(100, "points"))
```



#30DayMapChallenge. Clémentine Cottineau–Mugadza, 2024.
(data: Palestinian Central Bureau of Statistics. Who's On First.
Open Data WatchgeoBoundaries, Open Data Watchraster2polygon.

```
ggsave(filename = "HDX.png",
       width = 8, height = 8, dpi = 300)
```