

ggplot map test

agrogan

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# Demo of making maps with R

# Call the libraries

library(ggplot2) # beautiful graphs

library(sf) # simple (spatial) features

## Warning: package 'sf' was built under R version 4.1.1
## Linking to GEOS 3.9.1, GDAL 3.2.1, PROJ 7.2.1
library(here) # where am I?

## Warning: package 'here' was built under R version 4.1.1
## here() starts at C:/Users/agrogan/Desktop/GitHub/dataviz
# Set working directory

setwd(here()) # set working directory so pathnames below work correctly

# here() only works with R projects
# if you are not using an R project you can just use setwd("...")

# use read_sf to open shapefiles
# getting the directory and filename right is important

buildings <- read_sf("./mapping/shapefiles/AA_Building_Footprints/AA_Building_Footprints.shp")

trees <- read_sf("./mapping/shapefiles/a2trees/AA_Trees.shp")

parks <- read_sf("./mapping/shapefiles/AA_Parks/AA_Parks.shp")

watersheds <- read_sf("./mapping/shapefiles/watersheds/Watersheds.shp")

# use ggplot to make the map

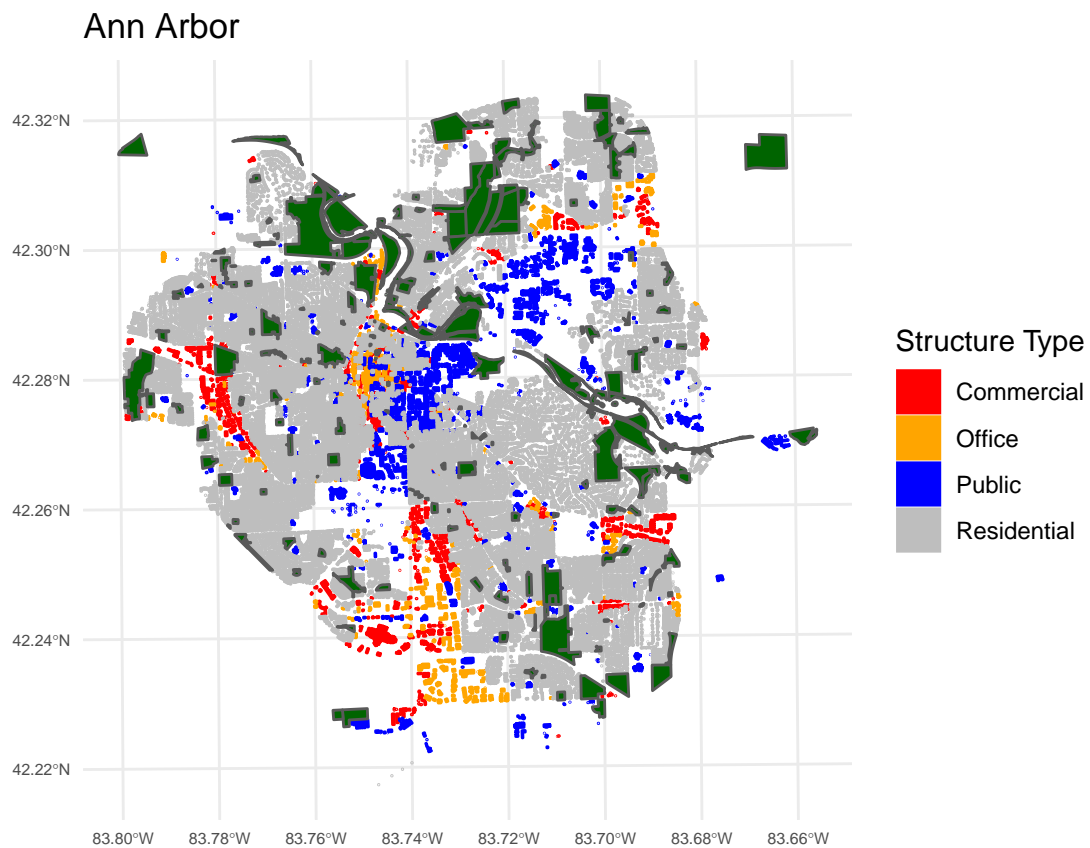
# NB RE Macs: the plotting device on Macs is actually pretty slow
# we notice this with all the detail that is involved in maps
# maps can be REALLY slow on Macs
# so--inconveniently--we write directly to PDF on a Mac
# and don't see the graph in our RStudio window
# we have to manually open the PDF to see the created map
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# pdf("./mapping/mymap.pdf") # open PDF device (uncomment on Mac)

ggplot(buildings) +
  geom_sf(aes(color = Struc_Type, # color helps to see shapes on map
              fill = Struc_Type)) + # fill helps to see legend
  # geom_sf(data = trees,
  #         size = .1,
  #         color = "darkgreen") +
  geom_sf(data = parks, fill = "darkgreen") +
  scale_color_manual(name = "Structure Type",
                    values = c("red",
                              "orange",
                              "blue",
                              "grey")) +
  scale_fill_manual(name = "Structure Type",
                   values = c("red",
                              "orange",
                              "blue",
                              "grey")) +
  labs(title = "Ann Arbor") +
  theme_minimal() +
  theme(axis.text = element_text(size = rel(.5)))

```



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# dev.off() # turn off PDF device (uncomment on Mac)

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