Spatial

The ggmap package provides facilities to interact with the google maps api and get the coordinates (latitude and longitude) of places you want to plot. The below example shows satellite, road and hybrid maps of the city of Chennai, encircling some of the places. I used the geocode() function to get the coordinates of these places and qmap() to get the maps. The type of map to fetch is determined by the value you set to the maptype.

You can also zoom into the map by setting the zoom argument. The default is 10 (suitable for large cities). Reduce this number (up to 3) if you want to zoom out. It can be zoomed in till 21, suitable for buildings.

*# Better install the dev versions ----------*

*# devtools::install\_github("dkahle/ggmap")*

*# devtools::install\_github("hrbrmstr/ggalt")*

*# load packages*

**library**(ggplot2)

**library**(ggmap)

**library**(ggalt)

*# Get Chennai's Coordinates --------------------------------*

chennai <- **geocode**("Chennai") *# get longitude and latitude*

*# Get the Map ----------------------------------------------*

*# Google Satellite Map*

chennai\_ggl\_sat\_map <- **qmap**("chennai", zoom=12, source = "google", maptype="satellite")

*# Google Road Map*

chennai\_ggl\_road\_map <- **qmap**("chennai", zoom=12, source = "google", maptype="roadmap")

*# Google Hybrid Map*

chennai\_ggl\_hybrid\_map <- **qmap**("chennai", zoom=12, source = "google", maptype="hybrid")

*# Open Street Map*

chennai\_osm\_map <- **qmap**("chennai", zoom=12, source = "osm")

*# Get Coordinates for Chennai's Places ---------------------*

chennai\_places <- **c**("Kolathur",

"Washermanpet",

"Royapettah",

"Adyar",

"Guindy")

places\_loc <- **geocode**(chennai\_places) *# get longitudes and latitudes*

*# Plot Open Street Map -------------------------------------*

chennai\_osm\_map + **geom\_point**(**aes**(x=lon, y=lat),

data = places\_loc,

alpha = 0.7,

size = 7,

color = "tomato") +

**geom\_encircle**(**aes**(x=lon, y=lat),

data = places\_loc, size = 2, color = "blue")

*# Plot Google Road Map -------------------------------------*

chennai\_ggl\_road\_map + **geom\_point**(**aes**(x=lon, y=lat),

data = places\_loc,

alpha = 0.7,

size = 7,

color = "tomato") +

**geom\_encircle**(**aes**(x=lon, y=lat),

data = places\_loc, size = 2, color = "blue")

*# Google Hybrid Map ----------------------------------------*

chennai\_ggl\_hybrid\_map + **geom\_point**(**aes**(x=lon, y=lat),

data = places\_loc,

alpha = 0.7,

size = 7,

color = "tomato") +

**geom\_encircle**(**aes**(x=lon, y=lat),

data = places\_loc, size = 2, color = "blue")





