

# Assignment\_06

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```
# Libraries
```

```
library(ggplot2)
```

```
library(ggmap)
```

```
## Google Maps API Terms of Service: http://developers.google.com/maps/terms.
```

```
## Please cite ggmap if you use it: see citation("ggmap") for details.
```

```
library(tidyverse)
```

```
## -- Attaching packages ----- tidyverse 1.2.1 --
```

```
## v tibble 1.4.2      v purrr 0.2.4
```

```
## v tidyr 0.8.0       v dplyr 0.7.4
```

```
## v readr 1.1.1       v stringr 1.2.0
```

```
## v tibble 1.4.2      v forcats 0.2.0
```

```
## -- Conflicts ----- tidyverse_conflicts() --
```

```
## x dplyr::filter() masks stats::filter()
```

```
## x dplyr::lag()     masks stats::lag()
```

```
# First Basic Map of Bude
```

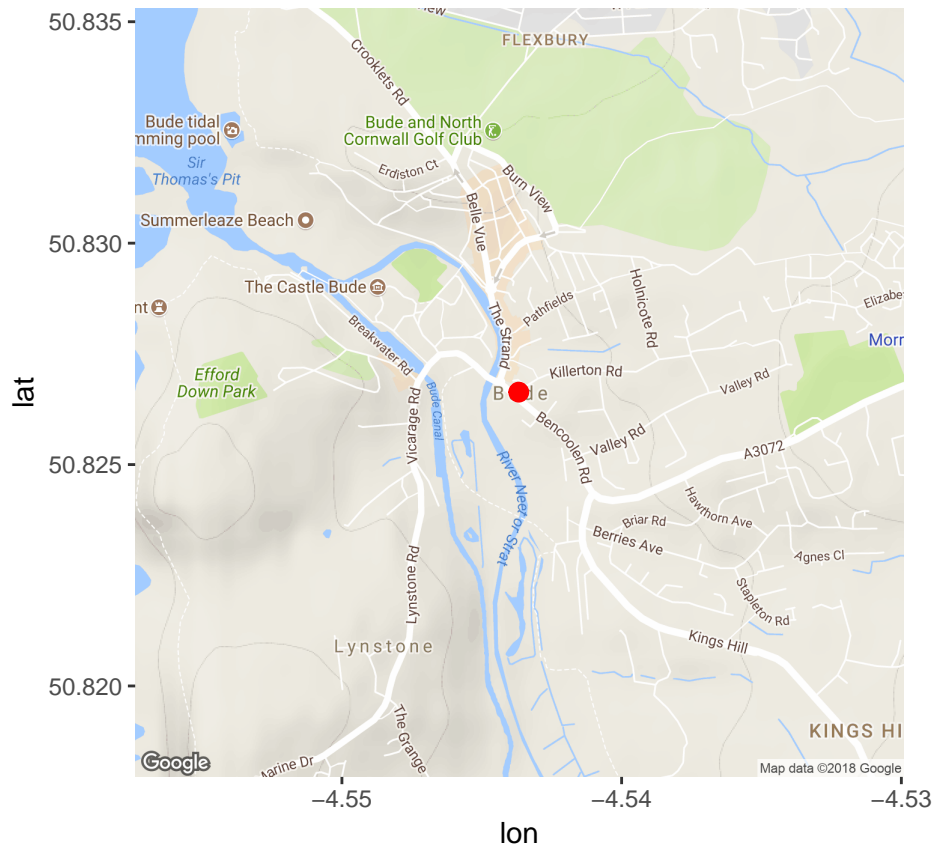
```
gc1 <- geocode("bude, western england")
```

```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=bude%2C%20western%20england
```

```
map <- get_map(gc1, zoom = 15)
```

```
## Source : https://maps.googleapis.com/maps/api/staticmap?center=50.826636,-4.543678&zoom=15&size=640x640
```

```
ggmap(map) +  
  geom_point(  
    aes(x = lon, y = lat),  
    data = gc1, color = "red", size = 3  
  )
```



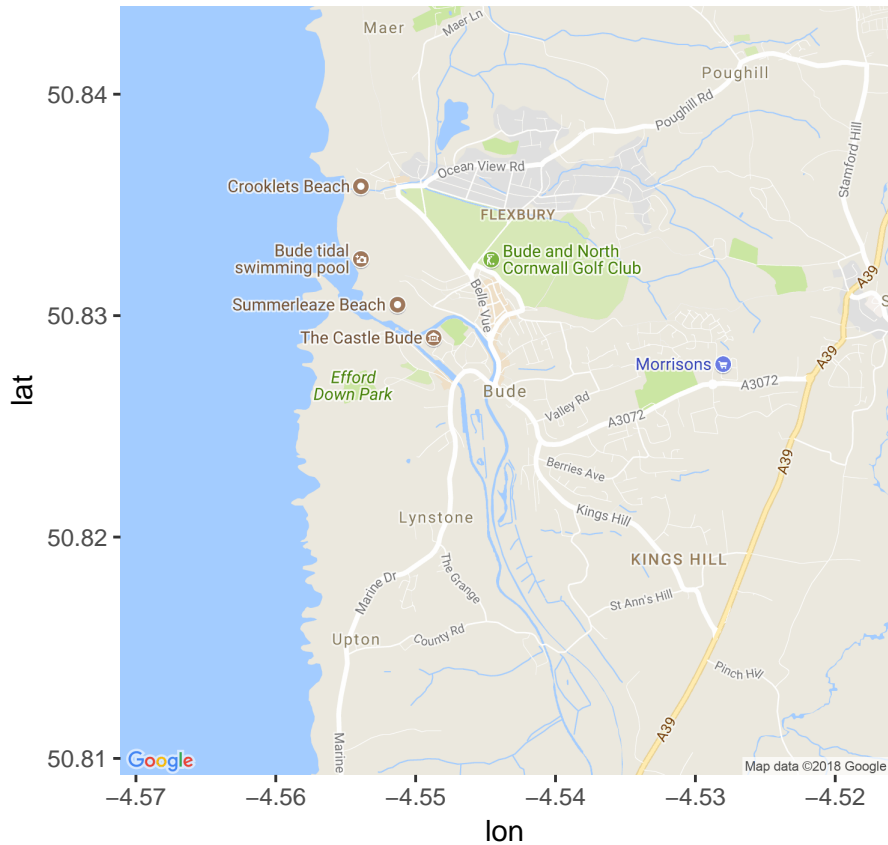
```
# Road Map of Bude
```

```
map.r <- get_map("Bude", maptype = "road", zoom = 14)
```

```
## Source : https://maps.googleapis.com/maps/api/staticmap?center=Bude&zoom=14&size=640x640&scale=2&map
```

```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=Bude
```

```
ggmap(map.r)
```



```
# Water Map of Bude
```

```
map.w <- get_map("Bude", maptype = "watercolor", zoom = 14)
```

```
## maptype = "watercolor" is only available with source = "stamen".
```

```
## resetting to source = "stamen"...
```

```
## Source : https://maps.googleapis.com/maps/api/staticmap?center=Bude&zoom=14&size=640x640&scale=2&map
```

```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=Bude
```

```
## Source : http://tile.stamen.com/watercolor/14/7983/5496.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7984/5496.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7985/5496.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7986/5496.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7983/5497.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7984/5497.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7985/5497.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7986/5497.jpg
```

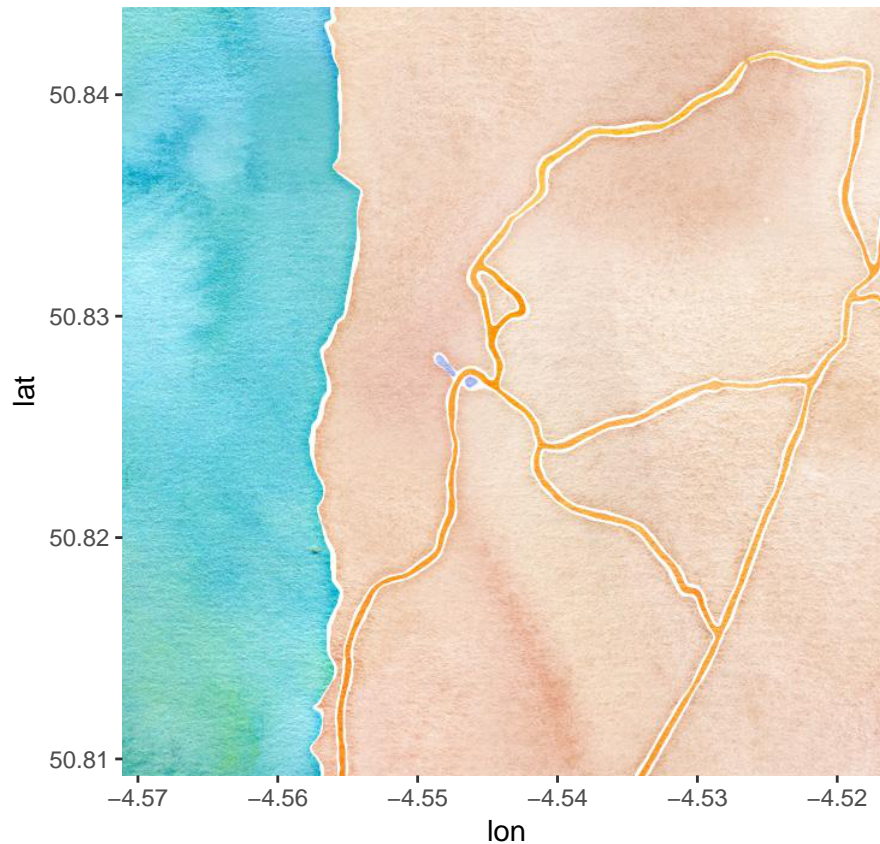
```
## Source : http://tile.stamen.com/watercolor/14/7983/5498.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7984/5498.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7985/5498.jpg
```

```
## Source : http://tile.stamen.com/watercolor/14/7986/5498.jpg
```

```
ggmap(map.w)
```



```
# Map with Beaches
```

```
gc2 <- geocode("crooklets beach")
```

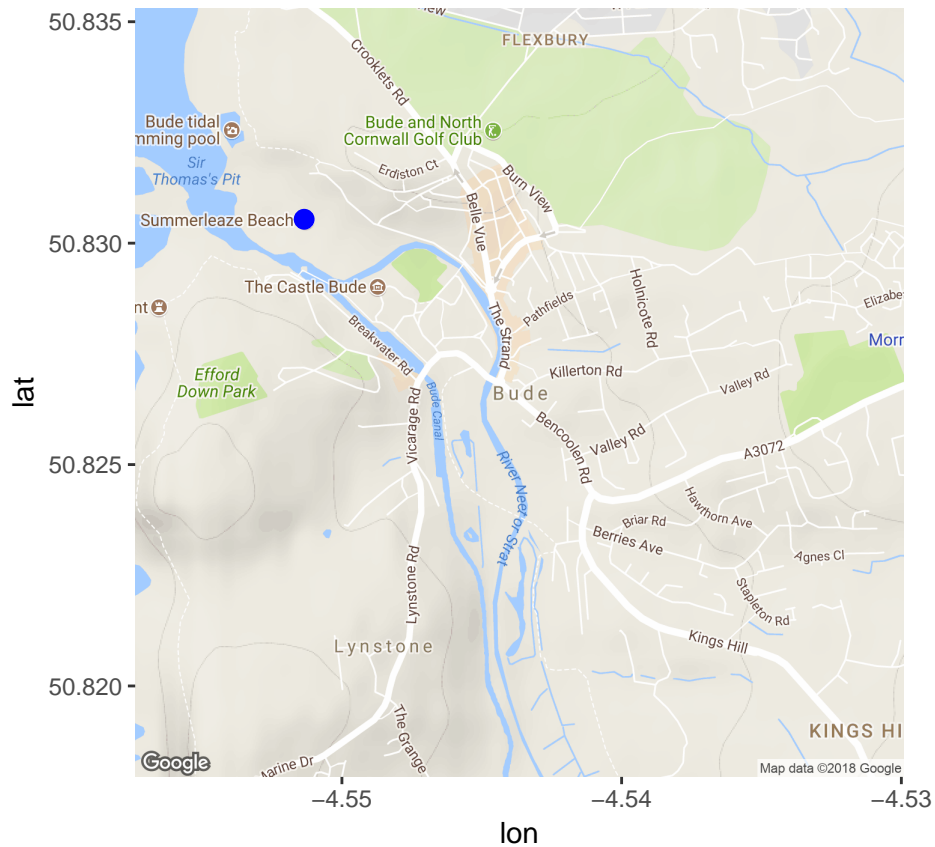
```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=crooklets%20beach
```

```
gc3 <- geocode("summerleaze beach")
```

```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=summerleaze%20beach
```

```
ggmap(map) +  
  geom_point(  
    aes(x = lon, y = lat),  
    data = gc2, color = "blue", size = 3  
  ) +  
  geom_point(aes(x = lon, y = lat),  
    data = gc3, color = "blue", size = 3  
  )
```

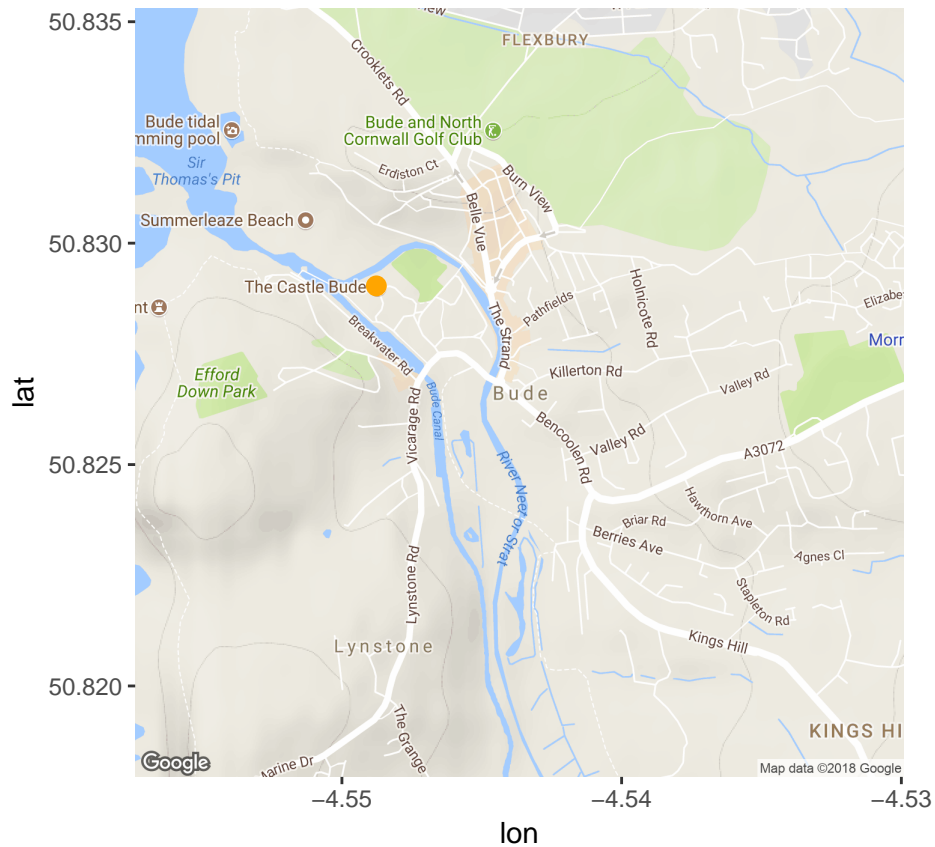
```
## Warning: Removed 1 rows containing missing values (geom_point).
```



```
# Map with Castle Bude
gc4 <- geocode("castle bude")

## Source : https://maps.googleapis.com/maps/api/geocode/json?address=castle%20bude

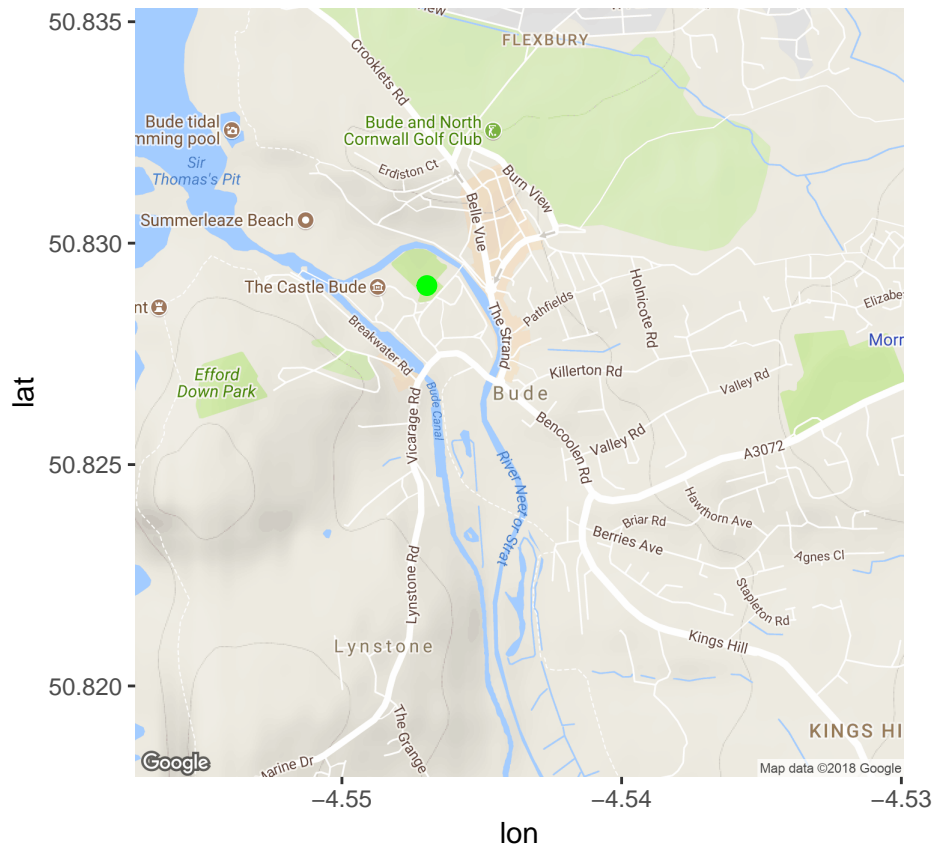
ggmap(map) +
  geom_point(
    aes(x = lon, y = lat),
    data = gc4, color = "orange", size = 3
  )
```



```
# Map with Bude Tennis Club
gc5 <- geocode("bude tennis club")

## Source : https://maps.googleapis.com/maps/api/geocode/json?address=bude%20tennis%20club

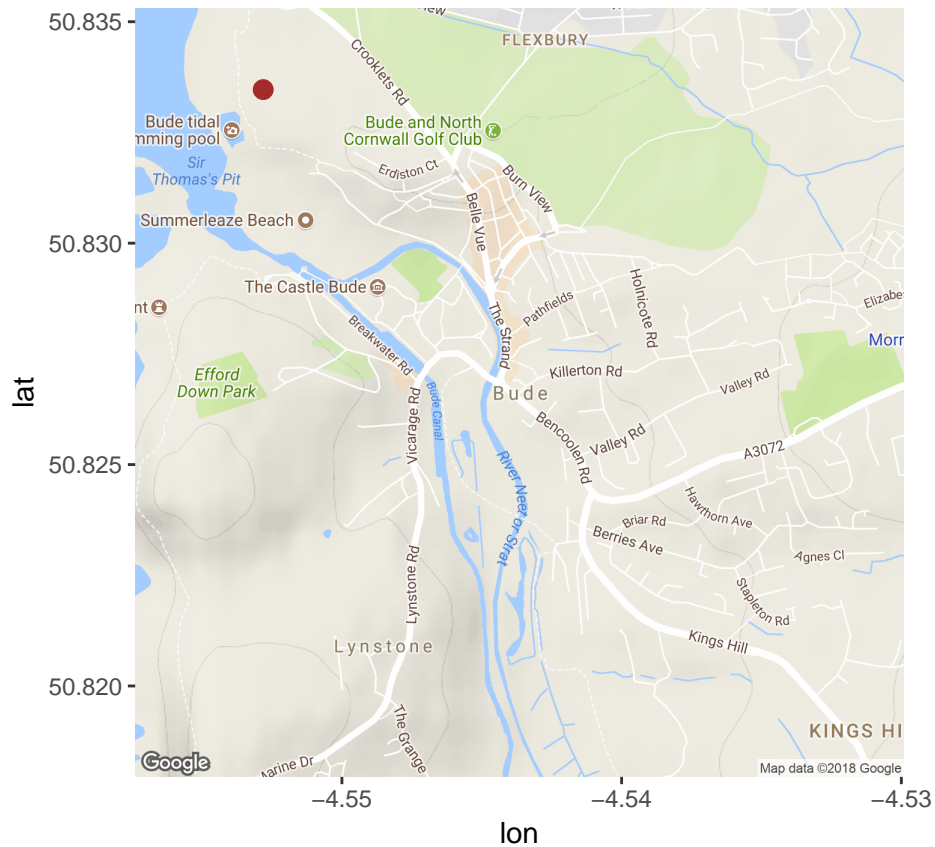
ggmap(map) +
  geom_point(
    aes(x = lon, y = lat),
    data = gc5, color = "green", size = 3
  )
```



```
# Map with the Bude North Cornwall Cricket Grounds
gc6 <- geocode("bude north cornwall cricket grounds")
```

```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=bude%20north%20cornwall%20cricket
```

```
ggmap(map) +
  geom_point(
    aes(x = lon, y = lat),
    data = gc6, color = "brown", size = 3
  )
```



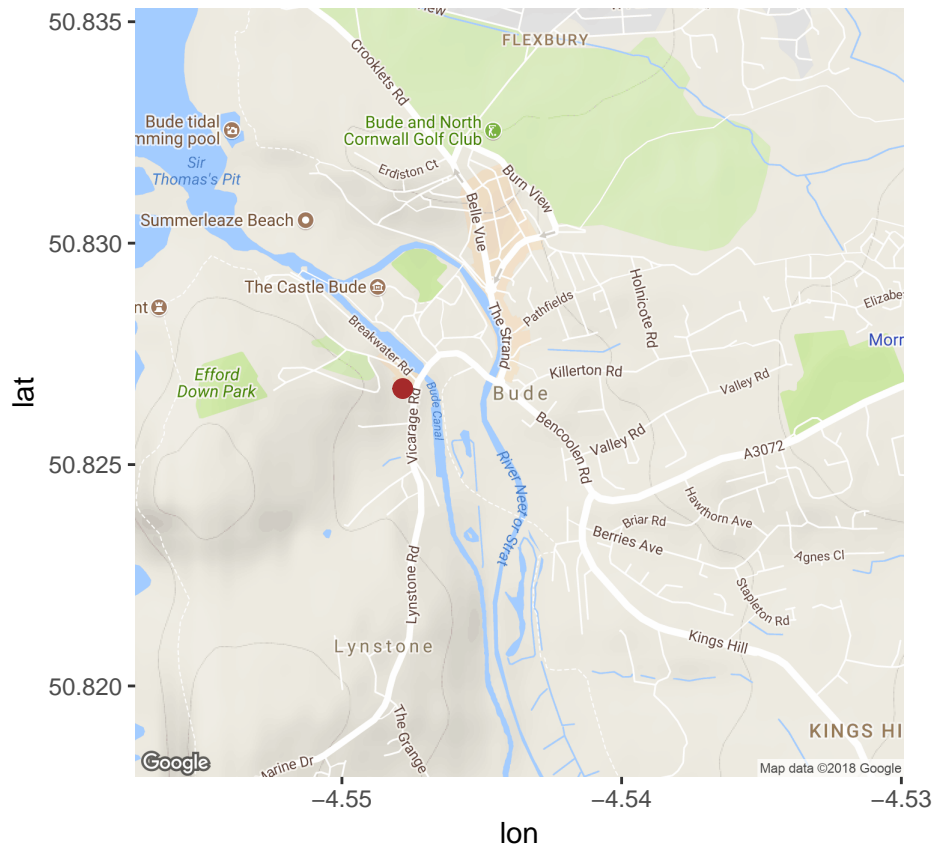
```
# Map with The Brendon Arms
```

```
gc7 <- geocode("the brendon arms")
```

```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=the%20brendon%20arms
```

```
ggmap(map) +  
  geom_point(  
    aes(x = lon, y = lat),  
    data = gc7, color = "brown", size = 3  
  )
```





```
# Map with Route from Cricket Grounds to The Brendon Arms
```

```
r <- route(from = "bude north cornwall cricket grounds", to = "the brendon arms", mode = c("walking"),
```

```
## Source : https://maps.googleapis.com/maps/api/directions/json?origin=bude%20north%20cornwall%20cricket
```

```
ggmap(map) +
  geom_path(
    aes(x = lon, y = lat),
    data = r, color = "red", size = 2
  ) +
  geom_point(
    aes(x = lon, y = lat),
    data = gc6, color = "brown", size = 3
  ) +
  geom_point(
    aes(x = lon, y = lat),
    data = geocode("bude north cornwall cricket grounds"), color = "black", size = 3
  )
```

```
## Source : https://maps.googleapis.com/maps/api/geocode/json?address=bude%20north%20cornwall%20cricket
```

