Bude

Brianna Kincaid

March 21, 2018

Set up

First import necessary libraries.

```
library(ggmap)
```

```
## Warning: package 'ggmap' was built under R version 3.4.4
```

```
## Loading required package: ggplot2
```

```
library(tidyverse)
```

```
## -- Attaching packages ----------------------------------------------------------------- tidyverse 1.2
```

```
## 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()
```

Bude is a town in Western England, well-known as a beach resort. We find the coordinates using `geocode()`.

```
Bude_coord <- geocode("S W Coast Path, Bude EX23 8HN, UK")
```

```
## Information from URL : http://maps.googleapis.com/maps/api/geocode/json?address=S%20W%20Coast%20Path
```

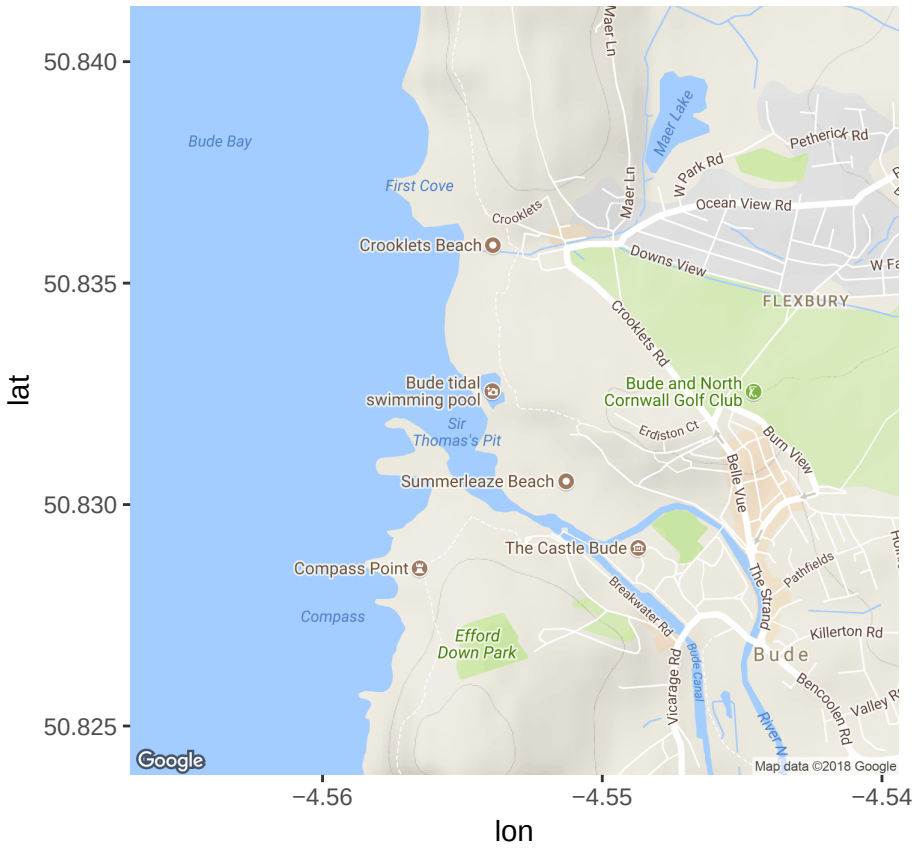
I chose the center of the map to be the Bude North Cornwall Cricket Club, as that is the central location of this assignment, and allows for better viewing of the surrounding area.

Road map

```
Bude_roadmap <- get_map(Bude_coord, zoom = 15)
```

```
## Map from URL : http://maps.googleapis.com/maps/api/staticmap?center=50.832584,-4.553165&zoom=15&size=
```

```
ggmap(Bude_roadmap)
```

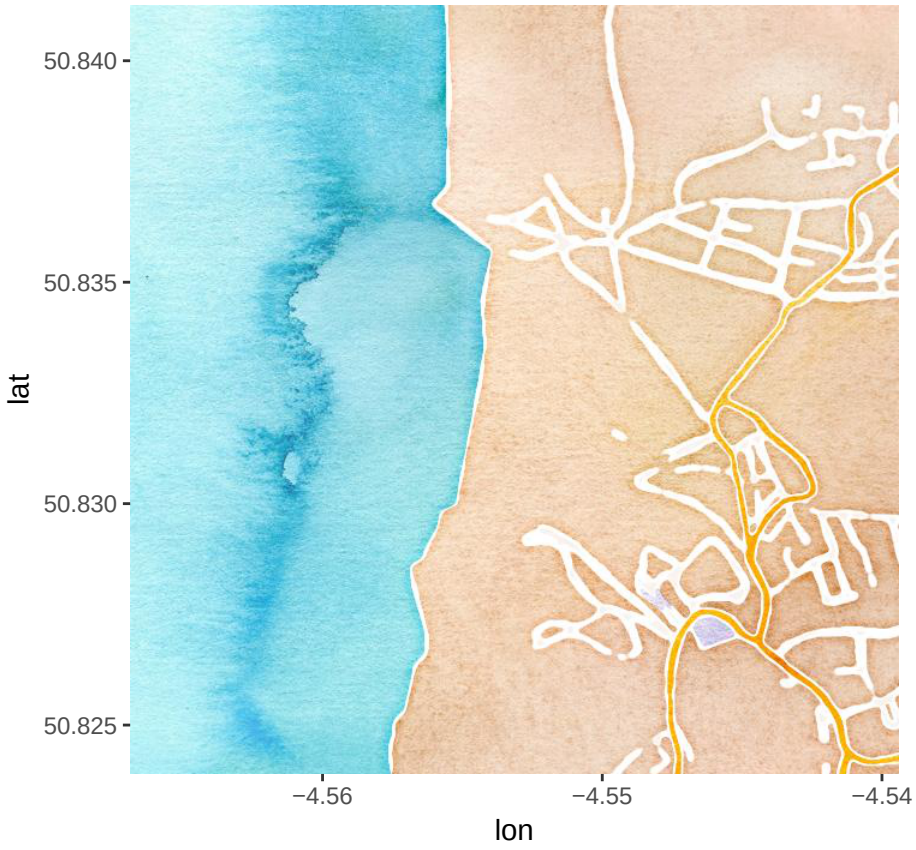


Watercolor map

```
Bude_watercolor <- get_map(Bude_coord, maptype = "watercolor", zoom = 15)
```

```
## maptype = "watercolor" is only available with source = "stamen".
## resetting to source = "stamen"...
## Map from URL : http://maps.googleapis.com/maps/api/staticmap?center=50.832584,-4.553165&zoom=15&size=
## Map from URL : http://tile.stamen.com/watercolor/15/15968/10992.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15969/10992.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15970/10992.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15968/10993.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15969/10993.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15970/10993.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15968/10994.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15969/10994.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15970/10994.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15968/10995.jpg
```

```
## Map from URL : http://tile.stamen.com/watercolor/15/15969/10995.jpg
## Map from URL : http://tile.stamen.com/watercolor/15/15970/10995.jpg
ggmap(Bude_watercolor)
```



Marking vacation spots

Two local beaches

Summerleaze Beach

```
summerleaze <- geocode("Summerleaze Beach, Summerleaze Cres, Bude EX23 8HN, UK")
```

```
## Information from URL : http://maps.googleapis.com/maps/api/geocode/json?address=Summerleaze%20Beach,%
```

Crooklets Beach

```
crooklets <- geocode("Crooklets Beach, S W Coast Path, Bude EX23 8NE, UK")
```

```
## Information from URL : http://maps.googleapis.com/maps/api/geocode/json?address=Crooklets%20Beach,%2
```

Figure 1: alt text

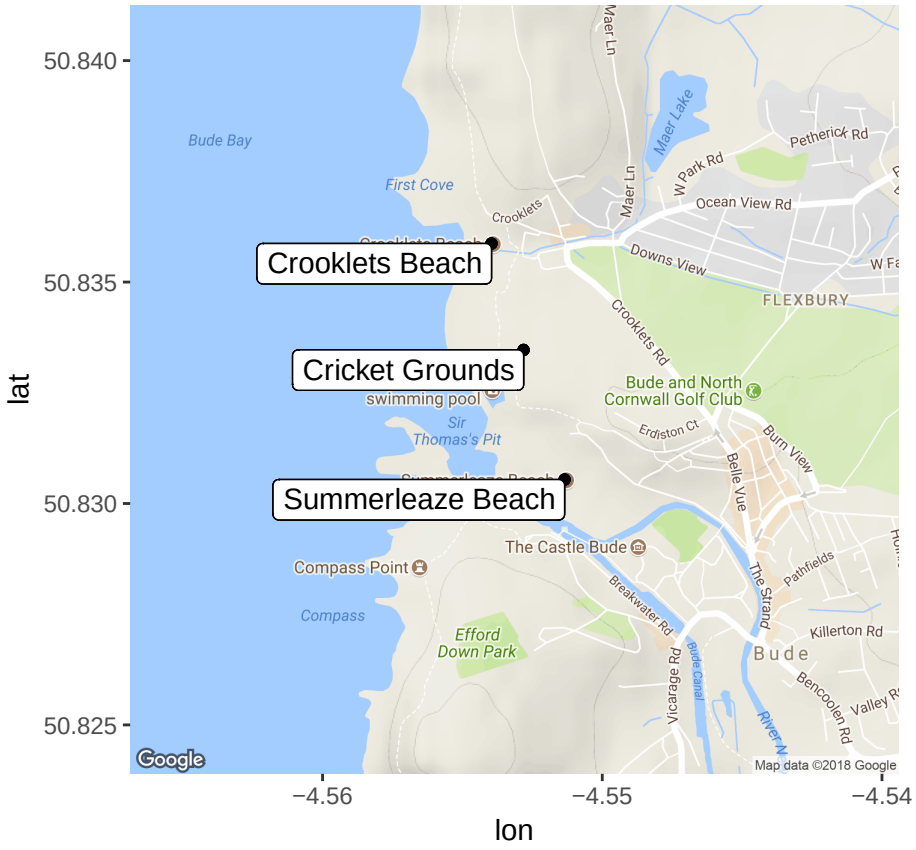
Cricket grounds (Bude North Cornwall Cricket Club)

```
cricket_grounds_coord <-geocode("Bude North Cornwall Cricket Club")
```

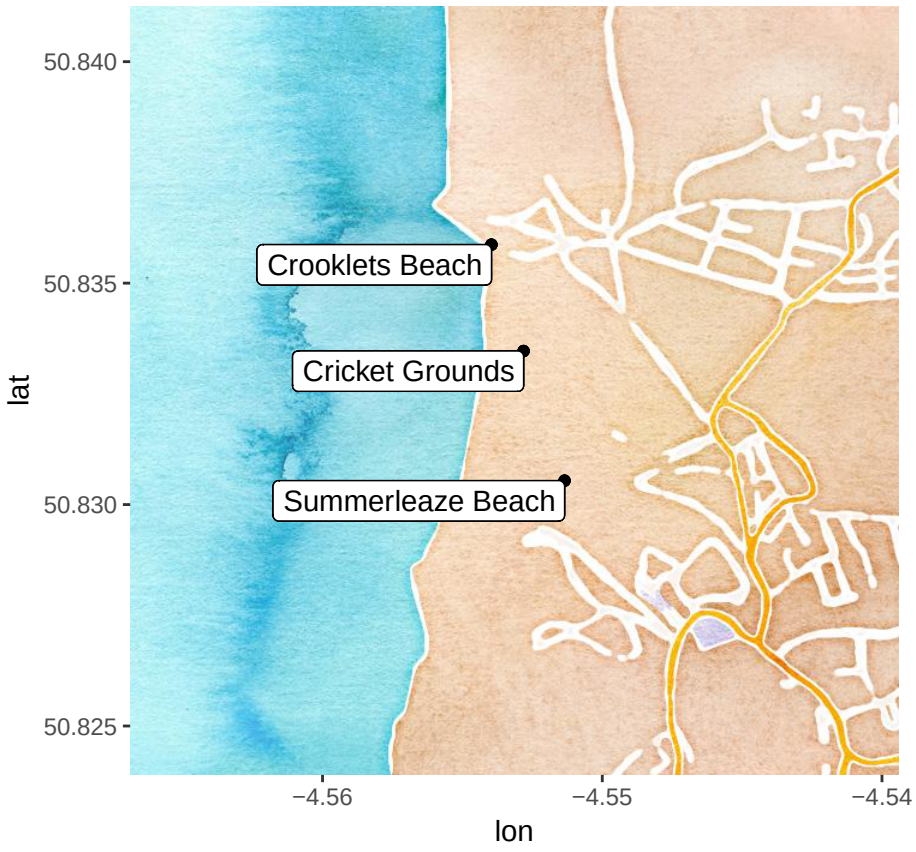
```
## Information from URL : http://maps.googleapis.com/maps/api/geocode/json?address=Bude%20North%20Cornwa
```

Putting them on the maps

```
ggmap(Bude_roadmap) +
  geom_point(mapping = aes(x = summerleaze$lon, y = summerleaze$lat)) +
  geom_label(x = summerleaze$lon, y = summerleaze$lat, label = "Summerleaze Beach", hjust = 1, vjust=1)
  geom_point(mapping = aes(x = crooklets$lon, y = crooklets$lat)) +
  geom_label(x = crooklets$lon, y = crooklets$lat, label = "Crooklets Beach", hjust = 1, vjust=1) +
  geom_point(mapping = aes(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat)) +
  geom_label(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat, label = "Cricket Grounds", h
```




```
ggmap(Bude_watercolor) +
  geom_point(mapping = aes(x = summerleaze$lon, y = summerleaze$lat)) +
  geom_label(x = summerleaze$lon, y = summerleaze$lat, label = "Summerleaze Beach", hjust = 1, vjust=1)
  geom_point(mapping = aes(x = crooklets$lon, y = crooklets$lat)) +
  geom_label(x = crooklets$lon, y = crooklets$lat, label = "Crooklets Beach", hjust = 1, vjust=1) +
  geom_point(mapping = aes(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat)) +
  geom_label(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat, label = "Cricket Grounds", h
```



Marking route from Bude North Cornwall Cricket Club to The Barrel at Bude

The Barrel at Bude:

```
barrel <- geocode("36 Lansdown Rd, Bude EX23 8BN, UK")
```

```
## Information from URL : http://maps.googleapis.com/maps/api/geocode/json?address=36%20Lansdown%20Rd,%
```

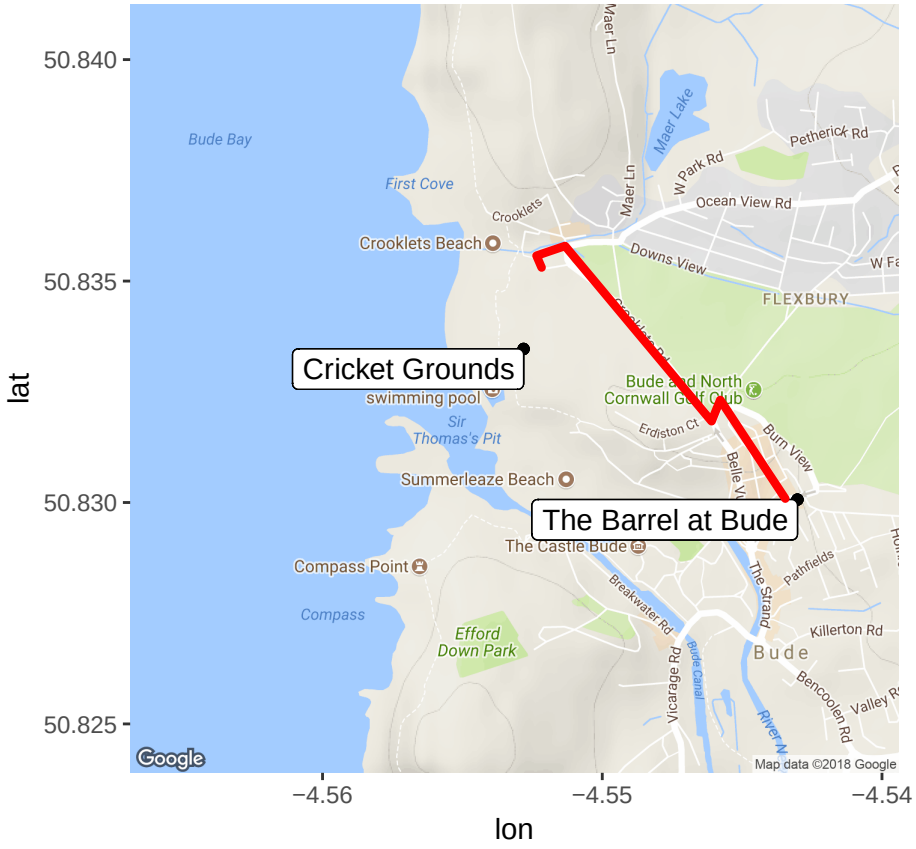
The route:

```
from <- "Bude North Cornwall Cricket Club"
to <- "36 Lansdown Rd, Bude EX23 8BN, UK"
route_df <- route(from, to, structure = "route")
```

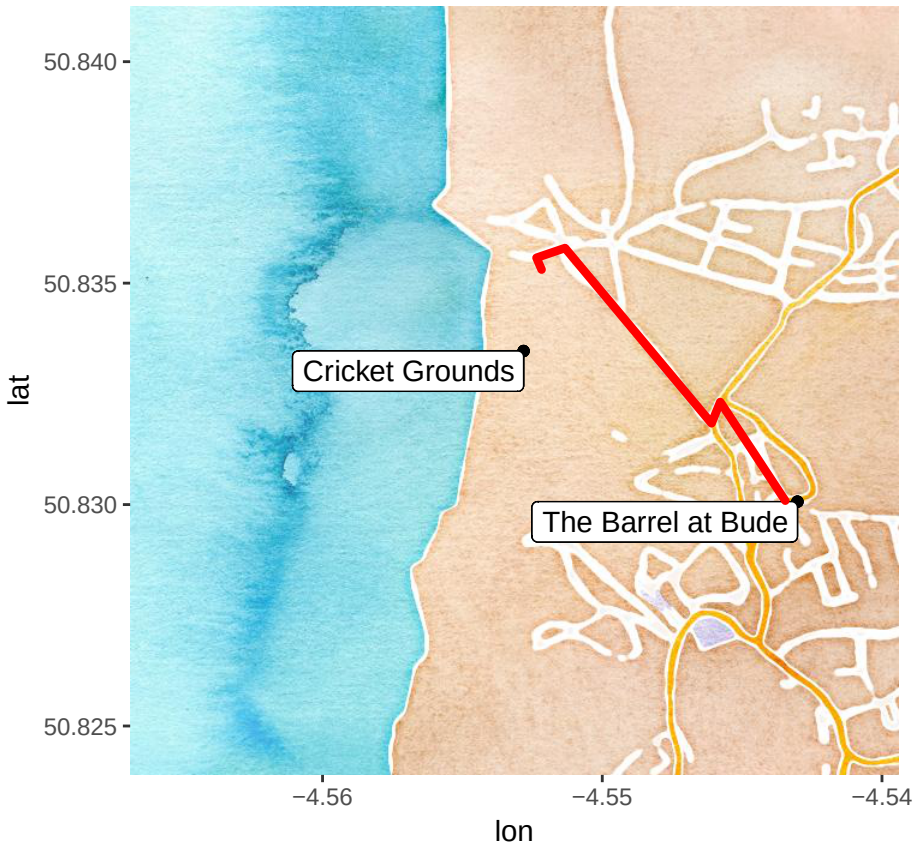
```
## Information from URL : http://maps.googleapis.com/maps/api/directions/json?origin=Bude+North+Cornwall
```

```
ggmap(Bude_roadmap) +
  geom_point(mapping = aes(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat)) +
  geom_label(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat, label = "Cricket Grounds", h
  geom_point(mapping = aes(x = barrel$lon, y = barrel$lat)) +
  geom_label(x = barrel$lon, y = barrel$lat, label = "The Barrel at Bude", hjust = 1, vjust = 1) +
```

```
  geom_path(aes(x = lon, y = lat), colour = "red", size = 1.5,
            data = route_df, lineend = "round")
```




```
ggmap(Bude_watercolor) +
  geom_point(mapping = aes(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat)) +
  geom_label(x = cricket_grounds_coord$lon, y = cricket_grounds_coord$lat, label = "Cricket Grounds", h
  geom_point(mapping = aes(x = barrel$lon, y = barrel$lat)) +
  geom_label(x = barrel$lon, y = barrel$lat, label = "The Barrel at Bude", hjust = 1, vjust = 1) +
  geom_path(aes(x = lon, y = lat), colour = "red", size = 1.5,
            data = route_df, lineend = "round")
```


50.840
50.835
50.830
50.825
lat
Cricket Grounds
The Barrel at Bude
−4.56
−4.55
−4.54
lon