

Exercise 13: Make a Map in *Leaflet*

ECON 256

Data Analysis and Visualization

Objective

Try out Leaflet as an alternative to mapping in ggplot.

1 Set up Your R Workspace

Set up your R script with a preface. You will need to initialize TidyVerse like normal as well as the sf package. In this exercise we will also use the package *Leaflet*. You will need to install *Leaflet* (`install.packages("leaflet")`) and initialize the package.

2 Download/Load the Data

We will reuse two data sets from Exercise 8: `listings_2018.csv` and the Oahu Shapefile. You can redownload them or find them on your computer. Recall that `listings_2018.csv` contains information on all the Airbnb listings on Oahu in 2018.

Save these files as objects.

```
oahu<-read_sf(dsn = "oahu", layer = "oahu")
```

```
l2018<-read_csv("listings_2018.csv")
```

3 Generate a Map with ggplot

Produce a map of Airbnb locations on Oahu, as you did in Exercise 8.

4 Generate a Map with Leaflet

Now let's generate a similar map using Leaflet.

Leaflet specializes in spatial data, so it is best to convert our data into “simple features.” We need to convert the Airbnb data object (`l2018`) into a simple feature. We can use the function `st_as_sf()` to do this. The important arguments will be (1) the input data set and (2) to variables that represent the location coordinates. The code should look like this:

```
l2018sf<-st_as_sf(x = l2018, coords = c("longitude", "latitude"))
```

Now let's plot this using Leaflet. The primary function is `leaflet()`, which takes the simple feature as it's input. Let's also add a “base map” using the `addProviderTiles()`. There are lots of base maps available (here is a [list](#)), though some of them require you to register with the data provider. The one below (Esri.WorldGrayCanvas) should work right away. Finally, the `addCircles()` function tells leaflet to add a circle at each location.

```
leaflet(l2018sf) %>%  
  addProviderTiles("Esri.WorldGrayCanvas") %>%  
  addCircles()
```

Try zooming in and out on your map.

FYI: There are a ton of other features that you can add in Leaflet. For example, you could add hover overs to show more information on each point. The map can also be saved as an html file and added to websites.

5 Send me Your Code

Save your R code.

Name the R code with your last name, followed by the exercise number.

Submit it on Laulima.