

# Points

Dani Arribas-Bel

2016-04-15

This session<sup>1</sup> is based on the following references, which are great follow-up's on the topic:

- Lovelace and Cheshire (2014) is a great introduction.
- Chapter 6 of Brunsdon and Comber (2015), in particular subsections 6.3 and 6.7.
- Bivand, Pebesma, and Gómez-Rubio (2013) provides an in-depth treatment of spatial data in R.

This tutorial is hosted as a GitHub repository and you can access it in a few ways:

- As a download of a .zip file that contains all the materials.
- As an html website.
- As a pdf document
- As a GitHub repository.

## Dependencies

This tutorial relies on the following libraries that you will need to have installed on your machine to be able to interactively follow along<sup>2</sup>. Once installed, load them up with the following commands:

```
# Layout
library(tufte)
# For pretty table
library(knitr)
# Spatial Data management
library(rgdal)
# Pretty graphics
library(ggplot2)
# Pretty maps
library(ggmap)
# Various GIS utilities
library(GISTools)
# For all your interpolation needs
library(gstat)
# For data manipulation
library(plyr)
```

Before we start any analysis, let us set the path to the directory where we are working. We can easily do that with `setwd()`. Please

<sup>1</sup> Points – Kernel Density Estimation and Spatial interpolation by Dani Arribas-Bel is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

<sup>2</sup> You can install package mypackage by running the command `install.packages("mypackage")` on the R prompt or through the Tools --> Install Packages... menu in RStudio.

replace in the following line the path to the folder where you have placed this file -and where the house\_transactions folder with the data lives.

```
#setwd('/media/dani/baul/AAA/Documents/teaching/u-lvl/2016/envs453/code')  
setwd('.')
```

## Data

## References

Bivand, Roger S, Edzer Pebesma, and Virgilio Gómez-Rubio. 2013. *Applied Spatial Data Analysis with R*. Springer New York.

Brunsdon, Chris, and Lex Comber. 2015. *An Introduction to R for Spatial Analysis & Mapping*. Sage.

Lovelace, Robin, and James Cheshire. 2014. "Introduction to visualising spatial data in R." *National Centre for Research Methods Working Papers* 14 (03). <https://github.com/Robinlovelace/Creating-maps-in-R>.