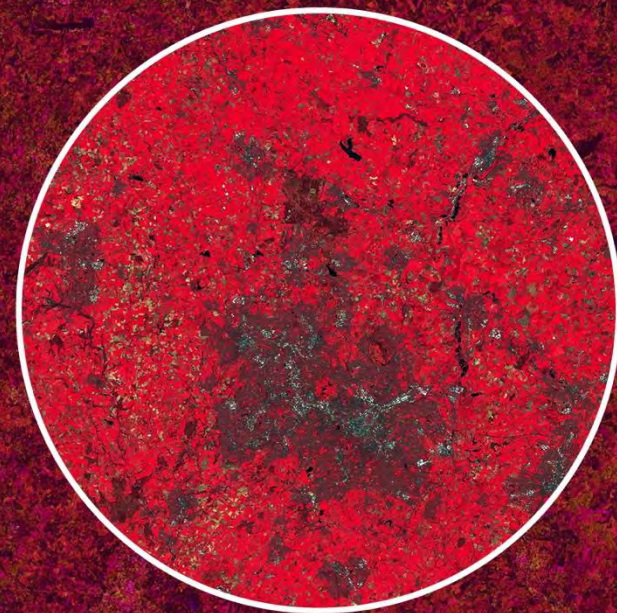


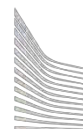
## → 8th ADVANCED TRAINING COURSE ON LAND REMOTE SENSING

10–14 September 2018  
University of Leicester | United Kingdom  
Monitoring Vegetation  
in a Changing Climate



Gregory Duveiller

14/09/2018



European  
Commission

*Joint Research  
Centre (JRC)*



# This practical session



Objective:

Provide one version of how to approach data analysis (focused on RS/Vgt/climate)

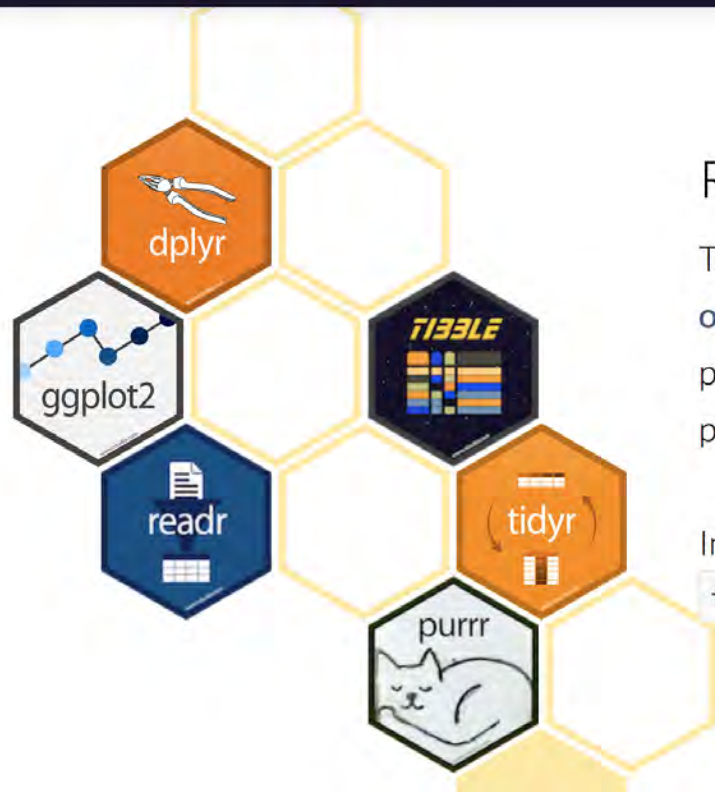
Format:

Live Demo. Which you can follow at your own pace on your computer.

Tools:



- R is massively used in data analysis nowadays
- It is free and open, with plenty of useful tool



## R packages for data science

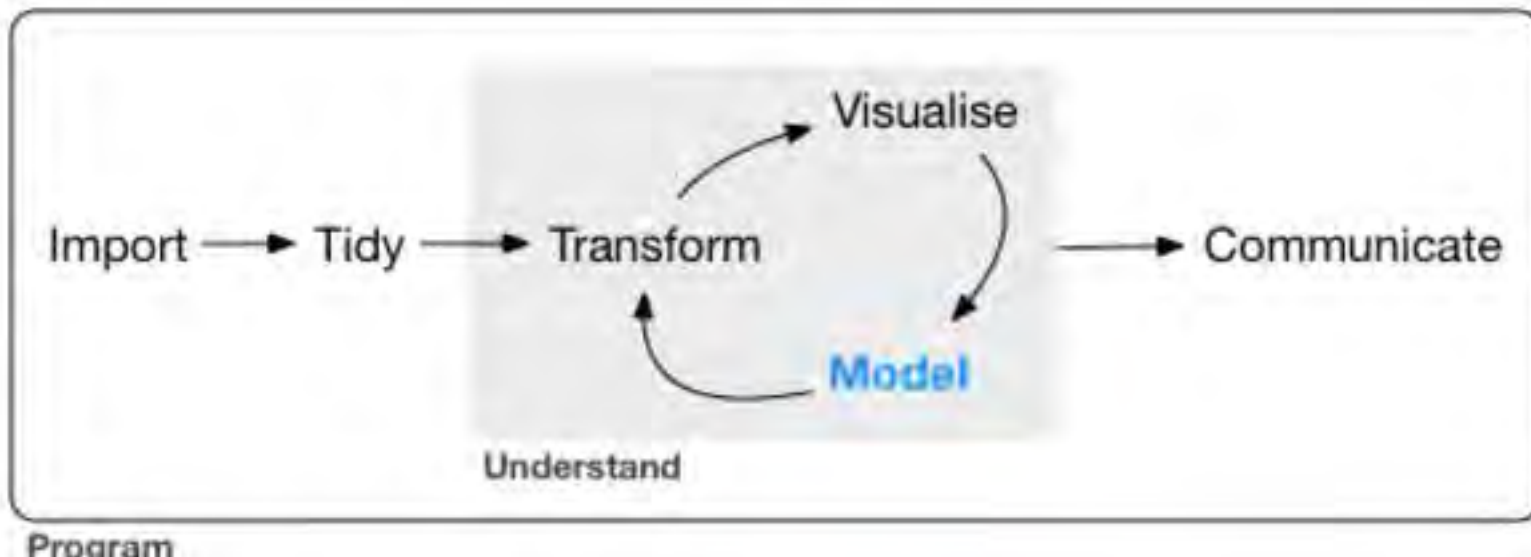
The tidyverse is an opinionated **collection of R packages** designed for data science. All packages share an underlying design philosophy, grammar, and data structures.

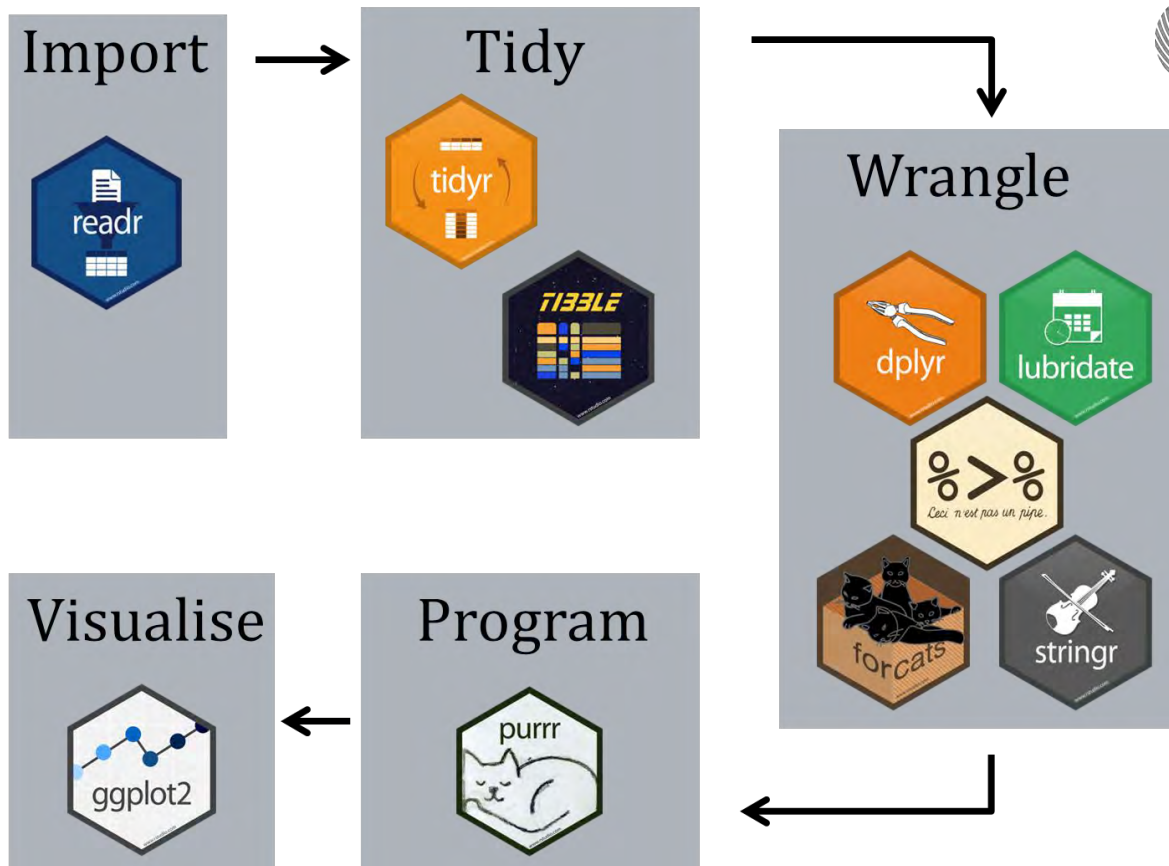
Install the complete tidyverse with:

```
install.packages("tidyverse")
```

Tidyverse: a dialect of R?

## Tidyverse diagram/logic







ggplot2 and the grammar of graphics

tidyr and tibble to getting data tidy for your plots

dplyr for data wrangling and piping

sf and stars to extend all to geo-spatial data