# Advanced Topics in R

# Objective

1. How to use R to access data from SQL database
2. How to use R for effective data manipulation, mapping, and modeling
3. Experience the full data science workflow within the exercise, from data import to modeling and communicating results

# Exercise(s)

1. Case Study: Investigate Indonesia forest fire data set. Visualize fires and explore factors associated with higher fire brightness.

# Competencies

* Participants will be able to write program in R using the correct syntax
* Participants will be able to make use of R packages for SQL, mapping, and modeling
* Participants will be able to complete the full data science workflow in R

# Tools – R Studio

# Data source(s) and fields

1. Indonesia fire history data set (Source: Global Forest Watch)

# Step by step guide

1. Download and install R and R Studio
2. Open “RWorkflow.R” script in R Studio
3. Execute each code in order snippet by highlighting the lines and hitting the ‘Run’ button in the R Script Editor, or hitting the CTRL+ENTER buttons (Windows keyboard shortcut). The comments for each snippet contain a description/ instruction about the code. View results of the code in the Console and Plots windows.
4. Most of the code has been provided for you. Each numbered step (STEP 1, STEP 2, etc.) indicates where you must input information to complete the script. Answer key is available in the “RWorkflow\_answer\_key” script.