Challenge A1 Data Description

**Weather data Brabant**(*weather\_data.csv*)

Brief description: This dataset contains information about weather conditions from two measurement stations in Brabant: Gilze-Rijen and Eindhoven. The measurements are from the 1st of October 2019 up until the 1st of October of 2020. The measurements are done daily, and the exact date is mentioned in the column *date*. The dataset has figures about the average day temperature, minimum temperature and maximum temperature. Furthermore, it contains daily sunshine duration, the daily precipitation that fell and evaporation levels through crops. This last number is a reference number put together by KNMI.

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| **Column name** | **Description** | **Unit** |
| *station* | Column with the name of the station. Either Gilze-Rijen or Eindhoven | - |
| *date* | Contains date of the belonging measurements. It ranges from 2019-10-01 to 2020-10-01 | yyyy-mm-dd |
| *average\_day\_temp* | Numerical value with average day temperature | Degrees Celsius |
| *min\_temp* | Numerical value with minimum temperature that day | Degrees Celsius |
| *max\_temp* | Numerical value with maximum temperature of that day | Degrees Celsius |
| *duration\_sunshine* | Numerical value with the duration of sunshine on that particular day. | Hours |
| *sum\_precipitation* | Numerical value with the amount of precipitation fallen that day | Millimeters |
| *crop\_evaporation* | Numerical value with the evaporation level through crops that day | Millimeters |

**Tree data**(*tree\_data.csv*)

Brief description: This dataset contains trees and their characteristics. All trees are registered in the UK with a similar climate to the Netherlands. The dataset contains information about the name of the tree, in what area the tree stands and more such as its height, spread and age. Also, it includes the amount of carbon the tree stores and the pollution it removes.

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| **Column name** | **Description** | **Unit** |
| *common\_name* | Column with the common name of the tree. | - |
| *contract\_area* | Contains where the trees are usually planted and can be found, what is its proper environment. Includes: highways, housing, parks, education and corporate landlord. | - |
| *height\_in\_metres* | Contains the height of the root node of each tree or how tall it is in meters | Meters |
| *spread\_in\_metres* | Numerical value with how wide the tree branches will become, its crown diameter, measured in meters | Meters |
| *maturity* | Column stating how close to their full height and crown size a tree is. Varies between: mature, juvenile, middle aged, over mature or veteran | - |
| *physiological\_condition* | Contains what is the physiological condition of the tree, its physical state. It takes the following values: fair, poor, good, dead, excellent or not applicable | - |
| *carbon\_storage\_in\_kilograms* | Numerical value with how much carbon each tree is capable of storing in kilograms | Kilograms |
| *pollution\_removal\_per\_year\_in\_grams* | Numerical value for how much pollution each of the trees remove a year | Grams |

**National costs management of landscape**(*landscape\_management.csv*)

Brief description: This dataset contains national cost figures for the maintenance and management of the landscape. The figures are national and are collected from 2011 and 2013 until 2017. The costs are divided into gross and net costs. Also, there are splits made between how much certain organizations paid. Please note: some superfluous organizations and payers have been left out.

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| **Column name** | **Description** | **Unit** |
| *year* | Column indicating the year | - |
| *total\_gross* | Numerical value with the total gross costs | Million euros |
| *total\_net* | Numerical value with the total net costs | Million euros |
| *total\_gross\_gov* | Each column contains the costs (*gross*, *net* or *costs*) of several sectors involved in landscape maintenance and management. The format is: *total*\_***gross/net/costs***\_sector.  For *total\_net* and *total\_costs\_net* the difference is that *total\_net* concerns costs of sectors that are directly involved with landscape management. *Total\_net\_costs* concerns costs of all sectors in the Netherlands. | All numbers are in million euros |
| *total\_net\_gov* |
| And so on.. |  |  |

**Sectors present:**

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| * *Gov* = government * Ministries * Provinces * Municipalities * *Private* = private forest owners/organizations * *Companies* = companies belonging to utilities, mining and industry * *Conservation* = nature conservation organizations * Agriculture |

**Land usage data Brabant**(*land\_usage.csv*)

Brief description: The dataset contains the land usage in cities across Brabant such as agriculture, asphalted land and water surface. It also includes the population of each city and amount of households. The data collected is from 2015.

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| **Column name** | **Description** | **Unit** |
| *municipalities\_Brabant* | Column with the name of the municipality | - |
| *total\_surface* | Numerical value with the total surface | ha (10.000 square meters) |
| *total\_asphalted* | Numerical value with the asphalted surface | ha (10.000 square meters) |
| *total\_builded* | Numerical value with the builded surface | ha (10.000 square meters) |
| *total\_semibuilded* | Numerical value with the semibuilded surface. This means terrain that has been hardened, but not used as builded terrain | ha (10.000 square meters) |
| *total\_recreation* | Numerical value with the recreational surface | ha (10.000 square meters) |
| *total\_agriculture* | Numerical value with the agriculture surface | ha (10.000 square meters) |
| *total\_forest\_nature* | Numerical value with the surface of forests and natural areas | ha (10.000 square meters) |
| *total\_land\_surface* | Numerical value with the land surface | ha (10.000 square meters) |
| *total\_water\_surface* | Numerical value with the water surface | ha (10.000 square meters) |
| *total\_households* | Numerical value with the amount of households | - |
| *total\_population* | Numerical value with the amount of inhabitants | - |
| *dry\_natural\_land* | Numerical value with the land surface which is dry | ha (10.000 square meters) |
| *wet\_natural\_land* | Numerical value with the land surface which is wet | ha (10.000 square meters) |