Dados ONS da carga total no sistema

Obs: Sudeste = Sudeste + centro-oeste

### Carregar os pacotes que serão utilizados:

*library(dplyr)  
library(skimr)  
library(base)  
library(utils)  
library(readr)*

### Carregar todos os arquivos de cada ano separado e concatena-los em um único Data Frame:

*carga\_media\_diaria <- list.files(path = "C:\\Users\\Sanderson\\Documents\\RStudio\\Projeto\\carga",pattern = "\*.csv", full.names = TRUE ) %>%   
 lapply(read.csv2) %>%   
 bind\_rows()*

### Analisar o tipo dos dados de cada coluna:

*str(carga\_media\_diaria)*

## 'data.frame': 32677 obs. of 4 variables:  
## $ id\_subsistema : chr "N" "NE" "S" "SE" ...  
## $ nom\_subsistema : chr "NORTE" "NORDESTE" "SUL" "SUDESTE" ...  
## $ din\_instante : chr "2000-01-01" "2000-01-01" "2000-01-01" "2000-01-01" ...  
## $ val\_cargaenergiamwmed: chr "2243.5125" "4646.37083333" "4800.65" "19045.99583333" ...

### Alterar o tipo das colunas (*din\_instante* para data e *val\_cargaenergiamwmed* para número):

*carga\_media\_diaria$val\_cargaenergiamwmed <- as.numeric(carga\_media\_diaria$val\_cargaenergiamwmed)  
carga\_media\_diaria$din\_instante <- as.Date(carga\_media\_diaria$din\_instante)*

### Analisar o comportamento dos dados das colunas do data frame criado:

*skim\_without\_charts(carga\_media\_diaria)*

Data summary

|  |  |
| --- | --- |
| Name | carga\_media\_diaria |
| Number of rows | 32677 |
| Number of columns | 4 |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Column type frequency: |  |
| character | 2 |
| Date | 1 |
| numeric | 1 |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Group variables | None |

**Variable type: character**

| skim\_variable | n\_missing | complete\_rate | min | max | empty | n\_unique | whitespace |
| --- | --- | --- | --- | --- | --- | --- | --- |
| id\_subsistema | 0 | 1 | 1 | 2 | 0 | 4 | 0 |
| nom\_subsistema | 0 | 1 | 3 | 8 | 0 | 4 | 0 |

**Variable type: Date**

| skim\_variable | n\_missing | complete\_rate | min | max | median | n\_unique |
| --- | --- | --- | --- | --- | --- | --- |
| din\_instante | 0 | 1 | 2000-01-01 | 2022-05-13 | 2011-03-08 | 8169 |

**Variable type: numeric**

| skim\_variable | n\_missing | complete\_rate | mean | sd | p0 | p25 | p50 | p75 | p100 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| val\_cargaenergiamwmed | 53 | 1 | 13506.71 | 11529.75 | 1852.02 | 5648.06 | 8645.78 | 16216.02 | 47636.05 |

# Eliminar linhas sem dados:

*carga\_media\_diaria <- na.omit(carga\_media\_diaria)*

### Exportar CSV:

*write\_csv2(carga\_media\_diaria, file = "carga\_media.csv")*