Package 'DeductiveR'

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Type Package

Title Deductive Rational Method

Version 2.0.0

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Description Apply the Deductive Rational Method to a monthly series of flow or precipitation data to fill in missing data. The method is as described in: Campos, D.F., (1984, ISBN:9686194444).

License GPL-3

LazyData true

Encoding UTF-8

Imports dplyr, tidyr, ggplot2, moments, ggpubr, lmomco

Suggests rmarkdown, knitr

VignetteBuilder knitr

Depends R (>= 2.10)

Config/roxygen2/version 8.0.0

NeedsCompilation no

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Repository CRAN

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Contents

data *Monthly flow data from Estero Culebron DGA station*

Description

A dataset containing dates and monthly flow values.

Usage

```
data
```

Format

A data frame with 480 rows and 5 variables:

date dates

year years

month months

day days

4400001 flows, in cubic meters per second

Source

https://camels.cr2.cl/

DR *Apply the Deductive Rational Method to a monthly series of flow or precipitation data to fill in missing data.*

Description

Apply the Deductive Rational Method to a monthly series of flow or precipitation data to fill in missing data.

Usage

```
DR(data, negative = FALSE)
```

Arguments

data	data frame with columns: date - year - month - day - station (Type date and numeric the rest)
negative	logical, if TRUE, negative values will be set to zero in the final result. Default is FALSE.

DR_boxplot — *BoxPlot from the result from the application of the Deductive Rational Method*

Description

BoxPlot from the result from the application of the Deductive Rational Method

Usage

```
DR_boxplot(dr)
```

Arguments

dr	data frame from DR function

DR_plot — *Plot the result from the application of the Deductive Rational Method*

Description

Plot the result from the application of the Deductive Rational Method

Usage

```
DR_plot(dr, facet = FALSE)
```

Arguments

dr	data frame from DR function
facet	logical, if TRUE, the plot will be faceted by year

DR_stats — *Statistics for the result from the application of the Deductive Rational Method*

Description

Statistics for the result from the application of the Deductive Rational Method

Usage

```
DR_stats(dr)
```

Arguments

dr	data frame from DR function

DR_SVC *Seasonal Variation Curves considering results from the application of the Deductive Rational Method*

Description

Seasonal Variation Curves considering results from the application of the Deductive Rational Method

Usage

```
DR_SVC(dr)
```

Arguments

dr	data frame from DR function

DR_timeseries_plot *Plot raw and infilled monthly time series*

Description

Plot raw and infilled monthly time series

Usage

```
DR_timeseries_plot(raw_data, infilled_data)
```

Arguments

raw_data	data frame with columns: date - year - month - day - station (Type date and numeric the rest). Assumes station data is in the 5th column.
infilled_data	data frame from DR function (wide format: year, month1, month2, ...).

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