Package 'AquaBEHER'

October 19, 2022

Type Package

Title What the Package Does (Title Case)

Version 0.1.0

Author Who wrote it

Maintainer The package maintainer <yourself@somewhere.net>

Description More about what it does (maybe more than one line)
Use four spaces when indenting paragraphs within the Description.

License MIT + file LICENSE

Encoding UTF-8

LazyData true

RoxygenNote 7.2.1

Roxygen list(markdown = TRUE)

Suggests knitr,
rmarkdown

VignetteBuilder knitr

Depends R (>= 2.10)

R topics documented:

calcEto *Potential Evapotranspiration*

Description

This function calculates Penman-Monteith, Priestley Taylor and Hargreaves-Samani Potential Evapotranspiration using the method described by Allen et al, (1998)

Usage

```
calcEto(data)
```

Arguments

data	= a dataframe containing the required climate variables: Columns must contain the following parameters:

```
Station_Name: weather station name
Lat: latitude of the site in decimal degrees [°]
Lon: longitude of the site in decimal degrees [°]
Elev: elevation above sea level [m]
Year: year in YYYY format
Month: month in MM format
Day: day of record
Tmax: daily maximum temperature at 2m height [°C]
Tmin: daily minimum temperature at 2m height [°C]
```

Value

The function generates a list containing the following components:

`ET.Daily`: Daily estimations of reference crop evapotranspiration (mm/day)

`Ra.Daily`: Daily estimations of extraterristrial radiation (MJ/m2/day)

`Slope.Daily`: Daily estimations of slope of vapour pressure curve (kPa/°C)

`ET.type`: Type of the estimation obtained

References

Allen, R.G., L.S. Pereira, D. Raes, and M. Smith. 1998. 'Crop evapotranspiration-Guidelines for Computing Crop Water requirements

Examples

```
calcEto(climateData)
```

climateData *Raw Climate Data Required for Calculating Evapotranspiration*

Description

A example data set contains the raw climate data including the variables required for calculating evapotranspiration in function calcEto over the period between 1/1/1980 and 12/31/1984 at Nampula station in Mozambique.

Usage

```
data(climateData)
```

Format

A data frame with 1827 rows and 10 variables:

`Station_ID` weather station ID

`Station_Name` weather station name

`Lat` latitude of the site in decimal degrees

`Lon` longitude of the site in decimal degrees

`Elev` elevation above sea level in (m)

`Year` year of record "yyyy"

`Month` month of record "mm"

`Day` day of record "dd"

`Tmax` aily maximum temperature at 2m height in (°C)

`Tmin` daily minimum temperature at 2m height in (°C)

Source

INAM - Instituto Nacional de Meteorologia, Mozambique

Examples

```
data(climateData)

head(climateData)
```

Index