Package 'rTRIPLEXCWFlux'

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Type Package

Title Carbon-Water Coupled Model

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Description A carbon-water coupled model (TRIPLEX-CW-Flux) is based on two well-established models, TRIPLEX-Flux model and Penman–Monteith model, integrates soil water and water vapor pressure deficits into the stomata conductance submodule to estimate net ecosystem production and evapotranspiration in forest ecosystems.<https://github.com/ShulanSun/rTRIPLEX_CW_Flux>.

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Encoding UTF-8

LazyData true

RoxygenNote 7.2.1

Depends R (>= 2.10)

Suggests knitr, rmarkdown, testthat

VignetteBuilder knitr

URL https://github.com/ShulanSun/rTRIPLEX_CW_Flux

NeedsCompilation no

Repository CRAN

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R topics documented:

Inputpara	*Inputpara*

Description

Just test dataframe(Description)

Usage

```
Inputpara
```

Format

An object of class data.frame with 1 rows and 31 columns.

Examples

```
head(Inputpara)
```

Inputvariable	*Inputvariable*

Description

Just test dataframe(Description)

Usage

```
Inputvariable
```

Format

An object of class data.frame with 17520 rows and 18 columns.

Examples

```
head(Inputvariable)
```

onemonth_exam *onemonth_exam*

Description

Just test dataframe(Description)

Usage

```
onemonth_exam
```

Format

An object of class data.frame with 1488 rows and 18 columns.

Examples

```
head(onemonth_exam)
```

TRIPLEX_CW_Flux *Runs a TRIPLEX-CW-Flux model simulation*

Description

Runs the TRIPLEX-CW-Flux model. For more details on input variables and parameters and structure of input visit [data](#).

Usage

```
TRIPLEX_CW_Flux(Input_variable, Input_parameter, overyear = FALSE)
```

Arguments

Input_variable   A table as described in [Inputpara](#) containing the information about input variables.

Input_parameter

                A table as described in [Inputvariable](#) containing the information about input parameters.

overyear   If overyear is 'TRUE', this means that the input data is more than one year. The outputs of the TRIPLEX_CW_Flux function are a long format dataframe and charts of simulated result for net ecosystem productivity (NEP) and evapotranspiration (ET) at 30 min scale, and monthly variation of the input environmental factors.

Value

A list with class "result" containing the simulated results and charts for NEP and ET at 30 min scale, and monthly variation of the input environmental factors

References

Evaporation and Environment. Symposia of the Society for Experimental Biology, 19, 205-234. Available at the following web site: https://www.semanticscholar.org/paper/Evaporation-and-environment.-Monteith/428f880c29b7af69e305a2bf73e425dfb9d14ec8 Zhou, X.L., Peng, C.H., Dang, Q.L., Sun, J.F., Wu, H.B., &Hua, D. (2008). Simulating carbon exchange in Canadian Boreal forests: I. Model structure, validation, and sensitivity analysis. Ecological Modelling,219(3-4), 287-299. doi: 10.1016/j.ecolmodel.2008.07.011

Examples

```
library(rTRIPLEXCWFlux)
TRIPLEX_CW_Flux (Input_variable=onemonth_exam,Input_parameter=Inputpara,overyear=FALSE)
```

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