Package: NightDay (via r-universe)

June 29, 2024

Type Package

Title Night and Day Boundary Plot Function

Version 1.0.1.1

Date 2011-04-27

Author Max Hughes-Brandl

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Description Computes and plots the boundary between night and day.

License GPL

LazyLoad yes

Depends R(>= 2.9.9), maps

Repository CRAN

Date/Publication 2018-04-16 15:01:30 UTC

NeedsCompilation no

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`NightDay-package` *Night and Day Boundary Plot Funtion*

Description

Computes and plots the boundary between night and day.

Details

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Type:	Package
Version:	1.0
Date:	2011-01-27
License:	GPL
LazyLoad:	yes

Author(s)

Max Hughes-Brandl

Maintainer: <gordonmax@hotmail.de>

Examples

```
Time <- Sys.time()
timezone <- 1

plot(NightDay(Time, timezone), maps = 'world')
```

NightDay *Night and Day Boundary Computation Function*

Description

Calculates the declination of the sun, the greenwhich hour angle and the latitudes of the of the sun movements throughout one day.

Usage

```
NightDay(time, timezone)
```

Arguments

time	needs to be of following format: %Y-%m-%d (%Y Year with century, %m Month as decimal number (01-12), %d Day of the month as decimal number (01-31)), %H:%M:%S (%H Hours as decimal number (00-23), %M Minute as decimal number (00-59), %S Second as decimal number (00-61)
timezone	has to be an integer, e.g. a number between -11 and +11 (0 for GMT, +1 for CMT, etc.)

Value

Time	is an object of class 'POSIXlt' representing the input time.
tz	is an integer representing the input timezone
Latitude	is a vector fo doubles containing the Latitudes of the night and day boundary.
Declination	returns a double of the sun declination.
GHA	returns a double of the greenwhich hour angle.

Note

The function *NightDay* can be used in combination with your own maps and plot functions.

Author(s)

Max Hughes-Brandl

Examples

```
Time <- Sys.time()
timezone <- 1

NightDay(Time, timezone)
```

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plot.NighDay *Night and Day Boundary Plot Funtion*

Description

Plots the boundary between night and day.

Usage

```
## S3 method for class 'NightDay'
plot(x, maps = 'world', add = FALSE, ...)
```

Arguments

x	an object of class NightDay.
maps	only 'world' implemented.
add	logical indicating whether the plot is added to an existing device.
...	additional arguments, currently not implemented.

Note

The function plot depends on library('maps').

Author(s)

Max Hughes-Brandl

Examples

```
Time <- Sys.time()
timezone <- 1

plot(NightDay(Time, timezone))
```

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