Package 'tempcyclesdata'

January 3, 2016

Title Climate Data from Wang and Dillon

Version 1.0.1

Description This is the data companion package to the package tempcycles. This package includes the metadata, linear, and cycling parameters from ``Recent geographic convergence in diurnal and annual temperature cycling flattens global thermal profiles", Wang & Dillon, Nature Climate Change, 4, 988-992 (2014). doi:10.1038/nclimate2378.

Depends R (>= 3.2.2)

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LazyData true

Suggests dplyr

RoxygenNote 5.0.1

NeedsCompilation no

Author George Wang [aut, cre]

Maintainer George Wang <biogeek@gmail.com>

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R topics documented:

`tempcyclesdata` *Temperature cycling dataset from Wang & Dillon NCC 2014. doi:10.1038/nclimate2378*

Description

tempcyclesdata is dataset containing metadata, linear, and cycling data, to be used with the **tempcycles** package. Only data passing all checks in included.

Usage

```
tempcyclesdata
```

Format

A data frame with 77181 rows and 27 variables:

id station id, USAF-WBAN

name station name

lat latitude, negative values indicate South

lon longitude, negative values indicate West

el elevation, in meters

period time period. "all": all data for the station, "stdr": standard reference period, or middle of five year window.

region geographical zone

shore_dist_km Distance to shoreline (GSHHG 2)

start_date start of data window

end_date end of data window

num_samp number of observations

Ta_mean mean temperature, C

Ta_min minimum temperature, C

Ta_max maximum temperature, C

Ta_var temperature variance

Ta_slope linear slope of record

Ta_int intercept of linear model, for detrending

DTC Daily temperature cycling range, (2 * amplitude), C

ATC Annual temperature cycling range, (2 * amplitude), C

DTC_red Redfit AR1 corrected DTC, C

ATC_red Redfit AR1 corrected ATC, C

day_tau tau lag for day signal

year_tau tau lag for year signal

day_phase DTC phase

year_phase ATC phase

lnDA *ln*DTC / ATC

lnDA_red *ln* DTC_red / ATC_red

mean_resid mean per-sample residual, C

mean_resid_red mean per-sample residual using redfit corrected values, C

Source

Wang & Dillon NCC 2014. doi:10.1038/nclimate2378

Examples

```
summary(tempcyclesdata)
if (require("dplyr")) {
tempcyclesdata %>%
  filter(period == "stdr") %>%
  group_by(region) %>%
  summarise(mean_DTC = mean(DTC))
}
```

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