Package 'weatherStats'

April 28, 2026

Title Airport Weather Station Statistics

Version 0.1

Description Download daily weather data recorded at airport weather stations using the National Centers for Environmental Information (NCEI) API <https://www.ncei.noaa.gov/support/access-search-service-api-user-documentation>.

Depends R (>= 3.5.0)

License GPL (>= 3)

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LazyData true

NeedsCompilation no

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Contents

`c2f` *C to F temperature conversion*

Description

Celsius to Fahrenheit temperature coversion

Usage

```
c2f(x)
```

Arguments

`x`	temperature in Celsius

Value

temperature in Fahrenheit

Author(s)

Peter Hoff

`f2c` *F to C temperature conversion*

Description

Fahrenheit to Celsius temperature coversion

Usage

```
f2c(y)
```

Arguments

`y`	temperature in Fahrenheit

Value

temperature in Celsius

Author(s)

Peter Hoff

isMonth *Month-specific date extraction*

Description

Extract indices of a particular month from ISO 8601 format

Usage

```
isMonth(dates, month)
```

Arguments

dates	a vector of character dates in IS(8601 format
month	an integer from 1 to 12

Value

a vector of matching indices

Author(s)

Peter Hoff

RDU *RDU weather dataset*

Description

Two years of weather data at RDU.

Usage

```
RDU
```

Format

A data frame with dates along the rows, variables along the columns.

Source

Derived from original data at https://example.org

SEA *SEA weather dataset*

Description

One year of weather data at SEA.

Usage

```
SEA
```

Format

A data frame with dates along the rows, variables along the columns.

Source

Downloaded via the NCEI API <https://www.ncei.noaa.gov/support/access-search-service-api-user-documentation>.

tpdata *Temperature and precipitation data*

Description

Extract and combine temperature and precipitation data

Usage

```
tpdata(...)
```

Arguments

...	either a list or sequence of data matrices obtained from ‘weatherStats‘

Value

a data frame

Author(s)

Peter Hoff

Examples

```
W<-tpdata(RDU,SEA)

colnames(W)
dim(W)

tpplot(W)
```

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tpplot *Temperature and precipitation plot*

Description

Plot temperature and precipitation data

Usage

```
tpplot(TPDATA, units = "F", rc = "col")
```

Arguments

TPDATA	A data frame with temperature and precipitation data
units	"F" or "C"
rc	make multiple plots along columns ("col") or rows ("row")

Value

Invisibly returns NULL.

Author(s)

Peter Hoff

Examples

```
W<-tpdata(RDU,SEA)

colnames(W)
dim(W)

tpplot(W)
```

`weatherStats` *Weather Station Statistics*

Description

Download weather data from the National Centers for Environmental Information (NCEI) using their API.

Usage

```
weatherStats(
  FAAID,
  year = NULL,
  startDate = NULL,
  endDate = NULL,
  trimNA = TRUE,
  maxTries = 5,
  tpause = 3,
  verbose = TRUE
)
```

Arguments

`FAAID`	Federal Aviation Administration (FAA) station ID
`year`	year for which data are to be downloaded
`startDate`	start date in YY-MM-DD format
`endDate`	end date in YY-MM-DD format
`trimNA`	remove days with no data
`maxTries`	maximum number of query attempts to the NCEI server
`tpause`	time in seconds to pause between API requests
`verbose`	a logical value indicating whether to report download progress

Value

a data frame with daily weather data

Author(s)

Peter Hoff

Examples

```
RDU<-weatherStats("RDU",startDate="2024-01-01",endDate="2025-12-31")
SEA<-weatherStats("SEA",year=2025)


dim(RDU)
dim(SEA)
colnames(SEA)
```

Index