

Package ‘weatherStats’

May 8, 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

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c2f

C to F temperature conversion

Description

Celsius to Fahrenheit temperature conversion

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 conversion

Usage

f2c(y)

Arguments

y temperature in Fahrenheit

Value

temperature in Celsius

Author(s)

Peter Hoff

isMonth	<i>Month-specific date extraction</i>
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Description

Extract indices of a particular month from ISO 8601 format

Usage

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

Arguments

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

Value

a vector of matching indices

Author(s)

Peter Hoff

RDU	<i>RDU weather dataset</i>
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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)

tplot(W)
```

tplot	<i>Temperature and precipitation plot</i>
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Description

Plot temperature and precipitation data

Usage

```
tplot(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)

tplot(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

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

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