Package 'snotelr'

July 23, 2025

Title Calculate and Visualize 'SNOTEL' Snow Data and Seasonality

Version 1.5.2

Description Programmatic interface to the 'SNOTEL' snow data (<https://www.nrcs.usda.gov/programs-initiatives/sswsf-snow-survey-and-water-supply-forecasting-program>). Provides easy downloads of snow data into your R work space or a local directory. Additional post-processing routines to extract snow season indexes are provided.

URL https://github.com/bluegreen-labs/snotelr, https://bluegreen-labs.github.io/snotelr/

BugReports https://github.com/bluegreen-labs/snotelr/issues

Depends R (>= 4.2)

Imports shiny, httr, utils, stats, rvest, dplyr, memoise

Suggests knitr, rmarkdown, covr, testthat, shinydashboard, leaflet, plotly, DT

VignetteBuilder knitr

License AGPL-3

ByteCompile true

RoxygenNote 7.3.1

Encoding UTF-8

NeedsCompilation no

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Repository CRAN

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`snotel_download` *Dowloads snotel data based upon a subset of the sno-tel info as provided by snotel_info()*

Description

Dowloads snotel data based upon a subset of the sno-tel info as provided by snotel_info()

Usage

```
snotel_download(
  site_id,
  network = "sntl",
  path = tempdir(),
  metric = TRUE,
  internal = FALSE
)
```

Arguments

`site_id`	subset of the sites listed by snotel_info()
`network`	network list to query (default = sntl, for SNOTEL)
`path`	where to save downloaded files (default = tempdir())
`metric`	return metric values, `TRUE` or `FALSE` (default = `TRUE`), when false returns the raw data files
`internal`	return data to workspace, `TRUE` or `FALSE` (default = `FALSE`)

Examples

```
## Not run:
# download data for SNOTEL site 429 and 1287, returning data to
# the R workspace
df <- snotel_download(site_id = c(429,1287), internal = TRUE)

# list a few first rows
head(df)

## End(Not run)
```

snotel_explorer *Start the SNOTEL shiny interface*

Description

Start the SNOTEL shiny interface

Usage

```
snotel_explorer()
```

Examples

```
# snotel_explorer()
```

snotel_info *Downloads a SNOTEL site listing for further processing*

Description

Downloads a SNOTEL site listing for further processing

Usage

```
snotel_info(network = "sntl", path)
```

Arguments

network	network list to query (default = sntl, for SNOTEL)
path	path where to save the snotel information (site list)

Examples

```
## Not run:
# download the meta-data from the SNOTEL server
meta_data <- snotel_info()

# show a couple of lines
head(meta_data)

## End(Not run)
```

snotel_metric *Convert snotel data to metric from imperial units*

Description

Data is read from either a snotel data frame and returned as such.

Usage

```
snotel_metric(df)
```

Arguments

df	snotel data frame

Details

By default the conversion is done upon download. This function might serve some a purpose in processing of data grabbed straight from the server rather than through the package.

This is an internal function only. Hence, no examples are given.

Value

a data frame with imperial values converted to metric ones

snotel_phenology *Calculates snow phenology from the snow water equivalent data*

Description

First snow melt, first continuous snow melt, first snow accumulation and continous snow accumulation are reported.

Usage

```
snotel_phenology(df, threshold = 0, offset = 180)
```

Arguments

df	a snotel data file or data frame
threshold	threshold for mapping continuous snow cover
offset	offset of the year relative to January first (DOY 1)

Details

Be sure to execute this code on individual sites when loading a combined tidy data frame containing data for multiple sites.

Examples

```
## Not run:
# download one of the longer time series
df <- snotel_download(site_id = 670, internal = TRUE)

# calculate the snow phenology
phenology <- snotel_phenology(df)

# show a couple of lines
head(phenology)


## End(Not run)
```

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