

Package ‘snotelr’

May 9, 2020

Title Calculate and Visualize 'SNOTEL' Snow Data and Seasonality

Version 1.0.4

Description Programmatic interface to the 'SNOTEL' snow data (<<https://www.wcc.nrcs.usda.gov/snow/>>). 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/khufkens/snotelr>

BugReports <https://github.com/khufkens/snotelr/issues>

Depends R (>= 3.6)

Imports shiny, xml2, httr, utils, stats, rvest, magrittr, wdman, RSelenium, memoise

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

VignetteBuilder knitr

License AGPL-3

LazyData true

ByteCompile true

RoxygenNote 7.0.2

NeedsCompilation no

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Repository CRAN

Date/Publication 2020-05-08 23:00:02 UTC

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snotel_download	<i>Downloads snotel data based upon a subset of the sno-tel info as provided by snotel_info()</i>
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Description

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

Usage

```
snotel_download(site_id, path = tempdir(), internal = FALSE)
```

Arguments

site_id	subset of the sites listed by snotel_info()
path	where to save downloaded files (default = tempdir())
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	<i>Start the SNOTEL shiny interface</i>
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Description

Start the SNOTEL shiny interface

Usage

```
snotel_explorer()
```

Examples

```
# snotel_explorer()
```

snotel_info	<i>Downloads a SNOTEL site listing for further processing</i>
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Description

Downloads a SNOTEL site listing for further processing

Usage

```
snotel_info(path)
```

Arguments

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	<i>Convert snotel data to metric from imperial units</i>
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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	<i>Calculates snow phenology from the snow water equivalent data</i>
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Description

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

Usage

```
snotel_phenology(df)
```

Arguments

df a snotel data file or data frame

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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