

# Package ‘snotelr’

November 20, 2024

**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	<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,
  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)
```

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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()
```

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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(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)
```

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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
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**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

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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, 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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