

Package ‘nesRdata’

September 10, 2018

Title National Eutrophication Survey Data

Version 0.2.0

URL <https://github.com/jsta/nesRdata>

BugReports <https://github.com/jsta/nesRdata/issues>

Description Serves data from the United States Environmental Protection Agency (USEPA) National Eutrophication Survey <<https://www.epa.gov/national-aquatic-resource-surveys>>.

Depends R (>= 3.4.0)

Imports rappdirs, dplyr, purrr, readr, dataone

License GPL

Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

NeedsCompilation no

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Repository CRAN

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R topics documented:

| | |
|------------------------|---|
| cache_path | 2 |
| nes | 2 |
| nes_compile | 3 |
| nes_get | 4 |
| nes_ingest | 5 |
| nes_load | 5 |
| nes_ls | 6 |
| nes_versions | 6 |

| | |
|--------------|----------|
| Index | 7 |
|--------------|----------|

| | |
|------------|-------------------|
| cache_path | <i>cache_path</i> |
|------------|-------------------|

Description

Return path to OS agnostic cache location specified by the rappdirs package

Usage

cache_path()

| | |
|-----|--|
| nes | <i>National Eutrophication Survey Data</i> |
|-----|--|

Description

A dataset containing hydrologic and water quality data for approximately 800 lakes in the continental United States.

Usage

nes

Format

An object of class `data.frame` with 775 rows and 39 columns.

Details

| variable name | description |
|----------------------|--|
| pdf | pdf identifier (474 - 477) |
| pagenum | page number of the pdf (not the report page number) |
| storet_code | identifier which links measurement to coordinate location |
| state | state where the water body resides |
| name | name of the water body |
| county | county where the water body resides |
| lake_type | natural or impoundment |
| drainage_area | the total drainage area |
| surface_area | the area of the water surface |
| mean_depth | the volume of the water body divided by the surface area in square meters |
| total_inflow | the mean of the inflows of all tributaries and the immediate catchment |
| retention_time | a mean value determined by dividing the lake volume, in cubic meters, by the mean annual outflow |
| retention_time_units | the units of time for each retention entry |
| alkalinity | alkalinity |
| conductivity | conductivity |

| | |
|-------------------------|--|
| secchi | secchi |
| tp | total phosphorus |
| po4 | orthophosphate |
| tin | total inorganic nitrogen |
| tn | total nitrogen |
| p_pnt_source_muni | municipal point source phosphorus loading |
| p_pnt_source_industrial | industrial point source phosphorus loading |
| p_pnt_source_septic | septic point source phosphorus loading |
| p_nonpnt_source | nonpoint source phosphorus loading |
| p_total | total phosphorus loading |
| n_pnt_source_muni | municipal point source nitrogen loading |
| n_pnt_source_industrial | industrial point source nitrogen loading |
| n_pnt_source_septic | septic point source nitrogen loading |
| n_nonpnt_source | nonpoint source nitrogen loading |
| n_total | total nitrogen loading |
| p_total_out | total phosphorus outlet load |
| p_percent_retention | percent phosphorus retention |
| p_surface_area_loading | phosphorus surface area loading |
| n_total_out | total nitrogen outlet load |
| n_percent_retention | percent nitrogen retention |
| n_surface_area_loading | nitrogen surface area loading |
| lat | latitude |
| long | longitude |

Examples

```
data(nes)
head(nes)
```

| | |
|-------------|--|
| nes_compile | <i>Compile data to R data (rds) object</i> |
|-------------|--|

Description

Compile data from component flat files

Usage

```
nes_compile(version_id, format = "rds", folder = tempdir(), skip = NA)
```

Arguments

| | |
|------------|--|
| version_id | character nes version string |
| format | character choice of "rds" or "sqlite" |
| folder | file.path to data folder; set to cache_path() to have data persist between sessions. |
| skip | numeric vector of lines to skip on file read. optional. |

Examples

```
## Not run:
nes_get("1")
nes_compile("1", format = "rds")

nes_get("1", dest_folder = cache_path(), compile = FALSE)
nes_compile("1", folder = cache_path())

## End(Not run)
```

nes_get

nes_get

Description

Retrieves external files and store in file cache.

Usage

```
nes_get(version_id, dest_folder = tempdir(), skip = NA, compile = TRUE)
```

Arguments

| | |
|-------------|---|
| version_id | character version id |
| dest_folder | file.path optional will default to the location returned by user_data_dir . |
| skip | numeric vector of lines to skip on file read. optional. |
| compile | logical perform on-the-fly compilation to rds? |

Examples

```
## Not run:
nes_get(version_id = "1") # save to temp folder

nes_get(version_id = "1", dest_folder = cache_path() # save to cache folder)

## End(Not run)
```

| | |
|------------|--------------------------|
| nes_ingest | <i>Ingest flat files</i> |
|------------|--------------------------|

Description

Ingest data from component flat files

Usage

```
nes_ingest(version_id, folder = NA, skip = NA)
```

Arguments

| | |
|------------|---|
| version_id | character nes version string |
| folder | file.path to data folder. optional. |
| skip | numeric vector of lines to skip on file read. optional. |

Examples

```
## Not run:  
nes_ingest("1")  
  
## End(Not run)
```

| | |
|----------|-----------------|
| nes_load | <i>nes_load</i> |
|----------|-----------------|

Description

Load files from local file system

Usage

```
nes_load(version_id, folder = tempdir(), format = "rds", fpath = NA)
```

Arguments

| | |
|------------|---|
| version_id | character database version string |
| folder | file.path to data folder; use <code>cache_path()</code> to load cached (non-temporary) data |
| format | character choice of rds or sqlite |
| fpath | file.path optionally specify custom location of rds file |

Examples

```
## Not run:

# load from tempdir
nes_get("1")
dt <- nes_load("1")

# load from cached
nes_get("1", dest_folder = cache_path())
dt <- nes_load("1", folder = cache_path())

## End(Not run)
```

| | |
|--------|---------------|
| nes_ls | <i>nes_ls</i> |
|--------|---------------|

Description

nes_ls

Usage

```
nes_ls(version_id, folder = temp_path(), ...)
```

Arguments

| | |
|------------|---|
| version_id | character version id |
| folder | file.path to NES data; pass cache_path() to use OS agnostic cache location specified by the rappdirs package. |
| ... | extra arguments passed to list.files |

Examples

```
nes_ls("1")
```

| | |
|--------------|---------------------|
| nes_versions | <i>nes_versions</i> |
|--------------|---------------------|

Description

nes_versions

Usage

```
nes_versions()
```

Examples

```
nes_versions()
```

Index

*Topic **datasets**

nes, [2](#)

cache_path, [2](#)

nes, [2](#)

nes_compile, [3](#)

nes_get, [4](#)

nes_ingest, [5](#)

nes_load, [5](#)

nes_ls, [6](#)

nes_versions, [6](#)

user_data_dir, [4](#)