Package 'RivRetrieve'

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Title Retrieve Global River Gauge Data

Version 0.1.7

Description
Provides access to global river gauge data from a variety of national-level river agencies. The package interfaces with the national-level agency websites to provide access to river gauge locations, river discharge, and river stage. Currently, the package is available for the following countries: Australia, Brazil, Canada, Chile, France, Japan, South Africa, the United Kingdom, and the United States.

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URL https://github.com/Ryan-Riggs/RivRetrieve

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Depends R (>= 4.1)

Imports BBmisc, dataRetrieval, data.table, devtools, dplyr, httr, jsonlite, lubridate, readr, rlang, rlist, RSelenium, rvest, stringr, tibble, tidyhydat, tidyr

Suggests knitr, rmarkdown, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

NeedsCompilation no

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`RivRetrieve-package` *RivRetrieve: Retrieve global river and stage data*

Description

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See Also

Useful links:

- https://github.com/Ryan-Riggs/RivRetrieve

Examples

```
## Not run:
print("TODO")

## End(Not run)
```

`australia` *australia*

Description

Retrieve Australian gauge data

Usage

```
australia(
  site,
  variable = "discharge",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

`site`	Australian gauge number
`variable`	Character. Either `stage` or `discharge`.
`start_date`	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
`end_date`	Character. End date with format YYYY-MM-DD. Default is the current date.
`sites`	Logical. If TRUE, returns a list of measurement sites.
`...`	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
sites <- australia(sites = TRUE)
df <- australia(sites$site[1], "stage")
plot(df$Date, df$H, type='l')

## End(Not run)
```

brazil *brazil*

Description

Retrieve Brazilian gauge data

Usage

```
brazil(
  site,
  variable = "discharge",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

site	Brazilian gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
df <- brazil('12650000')
plot(df$Date, df$Q, type='l')

## End(Not run)
```

canada *canada*

Description

Retrieve Canadian gauge data

Usage

```
canada(
  site,
  variable = "discharge",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

site	Canadian gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
#For the first time, you must run:
tidyhydat::download_hydat()
df = canada("01AD003")
plot(df$Date, df$Q, type='l')

## End(Not run)
```

chile *chile*

Description

Retrieve Chilean gauge data

Usage

```
chile(
  site,
  variable = "discharge",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

site	Chilean gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
df <- chile('01201005')
plot(df$Date, df$Q, type='l')

## End(Not run)
```

`france` *france*

Description

Retrieve French gauge data

Usage

```
france(
  site,
  variable = "discharge",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

`site`	French gauge number
`variable`	Character. Either `stage` or `discharge`.
`start_date`	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
`end_date`	Character. End date with format YYYY-MM-DD. Default is the current date.
`sites`	Logical. If TRUE, returns a list of measurement sites.
`...`	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
df <- france('K027401001')
plot(df$Date, df$Q, type='l')

## End(Not run)
```

get_timeseries_id *Retrieve the timeseries ID*

Description

get_timeseries_id retrieves the timeseries ID that can be used to obtain values for a parameter type, station and timeseries combination.

Usage

```
get_timeseries_id(parameter_type, station_number, ts_name)
```

Arguments

parameter_type	The parameter of interest (e.g. Water Course Discharge).
station_number	The AWRC station number.
ts_name	The BoM time series name (e.g. DMQaQc.Merged.DailyMean.24HR).

Value

Returns a tibble with columns station_name, station_no, station_id, ts_id, ts_name, parametertype_id, parametertype_name.

japan *japan*

Description

Retrieve Japanese gauge data

Usage

```
japan(
  site,
  variable = "discharge",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

site	Japanese gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
start_date <- as.Date("2019-01-01")
end_date <- as.Date("2022-12-31")
df <- japan("301011281104010", "discharge", start_date, end_date)
plot(df$Date, df$Q, type='l')

## End(Not run)
```

---

make_bom_request *Query the BoM WISKI API*

Description

This function queries the Bureau of Meteorology Water Data KISTERS API. A parameter list is passed to make request and the JSON return is parsed depending on what is requested. This function can be used if you want to build your own JSON queries.

Usage

```
make_bom_request(params)
```

Arguments

params	A named list of parameters.

Value

A tibble is returned with the columns depending on the request. For get_timeseries requests, a tibble with zero rows is returned if there is no data available for that query.

original *Get original data*

Description

Get original data

Usage

```
original(x, ...)
```

Arguments

x	Tibble.
...	Additional arguments. None implemented.

Value

list

plot.rr_tbl *Plot values*

Description

Plot values

Usage

```
## S3 method for class 'rr_tbl'
plot(x, ...)
```

Arguments

x	Tibble.
...	Additional arguments. None implemented.

Value

ggplot2

quebec *quebec*

Description

Retrieve Quebec gauge data

Usage

```
quebec(site, variable, start_date = NULL, end_date = NULL, sites = FALSE, ...)
```

Arguments

site	quebec gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
site <- "074903"
x <- quebec(site, variable = "stage")
plot(x$Date, x$H, type='l')
```

southAfrica *southAfrica*

Description

Retrieve South African gauge data

Usage

```
southAfrica(
  site,
  variable = "stage",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

site	South African gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
site <- "X3H023"
start_date <- as.Date("2000-01-01")
end_date <- as.Date("2010-01-01")
x <- southAfrica(site, "stage", start_date, end_date)

## End(Not run)
```

---

uk *uk*

Description

Retrieve UK gauge data

Usage

```
uk(site, variable, start_date = NULL, end_date = NULL, sites = FALSE, ...)
```

Arguments

site	UK gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
site <- "http://environment.data.gov.uk/hydrology/id/stations/3c5cba29-2321-4289-a1fd-c355e135f4cb"
x <- uk(site, variable = "discharge")
plot(x$Date, x$Q, type='l')
```

---

usa *usa*

Description

Retrieve USA gauge data

Usage

```
usa(
  site,
  variable = "stage",
  start_date = NULL,
  end_date = NULL,
  sites = FALSE,
  ...
)
```

Arguments

site	USA gauge number
variable	Character. Either stage or discharge.
start_date	Character. Optional start date with format YYYY-MM-DD. Default is 1900-01-01.
end_date	Character. End date with format YYYY-MM-DD. Default is the current date.
sites	Logical. If TRUE, returns a list of measurement sites.
...	Additional arguments. None implemented.

Value

data frame of discharge time-series

Examples

```
## Not run:
df <- usa("02471078", variable="discharge")
plot(df$Date, df$Q, type='l')

## End(Not run)
```

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