

Package ‘RivRetrieve’

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Title Retrieve Global River Gauge Data

Version 0.1.9

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>

Encoding UTF-8

RoxygenNote 7.3.3

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

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Author Ryan Riggs [aut, cre] (ORCID: <<https://orcid.org/0000-0001-6834-9469>>),
Simon Moulds [aut] (ORCID: <<https://orcid.org/0000-0002-7297-482X>>),
Michel Wortmann [aut] (ORCID: <<https://orcid.org/0000-0002-1879-7674>>),
Louise Slater [aut] (ORCID: <<https://orcid.org/0000-0001-9416-488X>>),
George Allen [aut] (ORCID: <<https://orcid.org/0000-0001-8301-5301>>)

Maintainer Ryan Riggs <ryanriggs7@gmail.com>

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

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.

Author(s)

Maintainer: Ryan Riggs <ryanriggs7@gmail.com> ([ORCID](#))

Authors:

- Simon Moulds <sim.moulds@gmail.com> ([ORCID](#))
- Michel Wortmann <michel.wortmann@ouce.ox.ac.uk> ([ORCID](#))
- Louise Slater <louise.slater@ouce.ox.ac.uk> ([ORCID](#))
- George Allen <geoallen@vt.edu> ([ORCID](#))

See Also

Useful links:

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

Examples

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

## End(Not run)
```

australia	<i>australia</i>
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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	<i>brazil</i>
--------	---------------

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	<i>canada</i>
--------	---------------

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:  
#Note this no longer relies on tidyhydat but rather retrieves data from an API.  
df = canada("01AD003")  
plot(df$Date, df$Q, type='l')  
  
## End(Not run)
```

chile	<i>chile</i>
-------	--------------

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	<i>france</i>
--------	---------------

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)
```

<code>get_timeseries_id</code>	<i>Retrieve the timeseries ID</i>
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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

<code>parameter_type</code>	The parameter of interest (e.g. Water Course Discharge).
<code>station_number</code>	The AWRC station number.
<code>ts_name</code>	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`, `parameter_type_id`, `parametertype_name`.

<code>ireland</code>	<i>ireland</i>
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Description

Retrieve Ireland gauge data

Usage

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

Arguments

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

Value

data frame of discharge time-series

Examples

```
## Not run:
df <- ireland('25014',"discharge")
plot(df$Date, df$Q)

## End(Not run)
```

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("1968-01-01")
end_date <- as.Date("1970-12-31")
df <- japan("301011281104090", "discharge", start_date, end_date)
plot(df$Date, df$Q, type='l')

## End(Not run)
```

make_bom_request	<i>Query the BoM WISKI API</i>
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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	<i>Get original data</i>
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Description

Get original data

Usage

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

Arguments

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

Value

list

plot.rr_tbl	<i>Plot values</i>
-------------	--------------------

Description

Plot values

Usage

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

Arguments

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

Value

ggplot2

quebec	<i>quebec</i>
--------	---------------

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')
```

scotland

scotland

Description

Retrieve Scotland gauge data

Usage

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

Arguments

site	Scotland 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 <- scotland("14969", "discharge")
plot(df$Date, df$Q, type='l')

## End(Not run)
```

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)
```

sweden	<i>sweden</i>
--------	---------------

Description

Retrieve Swedish gauge data

Usage

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

Arguments

site	sweden 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

```
df = sweden(site='2000', variable='discharge')
plot(df$Date, df$Q, type='l')
```

uk	<i>uk</i>
----	-----------

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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