

# Package ‘RivRetrieve’

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**Title** Retrieve Global River Gauge Data

**Version** 0.1.6

## **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** 7.2.3

**Depends** R (>= 4.1)

**Imports** BBmisc, dataRetrieval, 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*

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## 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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## See Also

Useful links:

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

**Examples**

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

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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)
```

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brazil	<i>brazil</i>
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### 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>
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---

## 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)
```

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

## 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)
```

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<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

`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`, `parameter_type_id`, `parameter_type_name`.

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japan	<i>japan</i>
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### 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)
```

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make\_bom\_request      *Query the BoM WISKI API*

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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.

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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

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plot.rr_tbl	<i>Plot values</i>
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**Description**

Plot values

**Usage**

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

**Arguments**

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

**Value**

ggplot2

---

southAfrica	<i>southAfrica</i>
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---

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

**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	<i>usa</i>
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**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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