

Package: bcgwlreports (via r-universe)

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Title Create BC Groundwater Level Reports

Version 0.0.0.9000

Description Fetch data, calculate historical percentiles and create reports of BC groundwater levels for set dates.

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bcgwlreports-package	<i>BC Gouvernement Groundwater Level Reports</i>
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Description

Create reproducible reports of current groundwater statuses.

clean_cache	<i>Clean cache</i>
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Description

Removes data cache

Usage

clean_cache()

Examples

clean_cache()

get_obs_in_area	<i>Get a list of all wells from a natural resource region or area.</i>
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Description

Get a list of all wells from a natural resource region or area.

Usage

```
get_obs_in_area(  
  nr_area = c("North Natural Resource Area", "South Coast Region",  
    "South Natural Resource Area", "West Coast Region"),  
  rm_well = NA  
)
```

Arguments

nr_area	List one or multiple of c("North Natural Resource Area", "South Coast Region", "South Natural Resource Area", "West Coast Region")
rm_well	Exclude specific wells.

gw_both_plots	<i>Create both percentiles and historical plot with selected observation wells</i>
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Description

Create both percentiles and historical plot with selected observation wells

Usage

```
gw_both_plots(data, ows = NA, water_year_start = 10)
```

Arguments

data	Data object created from gw_data_prep() function.
ows	List a specific well to plot from original listed wells (exports just this well)

 gw_conditions

 Create a percentiles map with selected observation wells

Description

Create a percentiles map with selected observation wells

Usage

```
gw_conditions(
  ows = NA,
  report_dates = Sys.Date(),
  n_days = 14,
  years_min = 5,
  cache_age = 7
)
```

Arguments

ows	Character vector. Observation well numbers (e.g, "OW000"). Set to NA for all wells (default).
report_dates	Character vector. Only one date for this function. Default Sys.Date().
n_days	Numeric. If there is no data on the report date chosen, this is the range of days over which to look for alternative dates with data. Defaults to 2 weeks, meaning 2 weeks before and 2 weeks after a given report date, for a total window of 4 weeks.
years_min	Numeric. Minimum number of years required to to calculate a percentiles
cache_age	Logical. Maximum age in days of cached datasets (not obs well data, but meta-data related to regional maps, aquifer and wells).

 gw_conditions_save

 Create a percentiles map with selected observation wells

Description

Create a percentiles map with selected observation wells

Usage

```
gw_conditions_save(
  ows = NA,
  report_dates = Sys.Date(),
  n_days = 14,
  years_min = 5,
```

```

    cache_age = 7,
    save_plots = FALSE,
    csv_dir = "",
    plots_dir = ""
  )

```

Arguments

ows	Character vector. Observation well numbers (e.g, "OW000"). Set to NA for all wells (default).
report_dates	Character vector. Only one date for this function. Default Sys.Date().
n_days	Numeric. If there is no data on the report date chosen, this is the range of days over which to look for alternative dates with data. Defaults to 2 weeks, meaning 2 weeks before and 2 weeks after a given report date, for a total window of 4 weeks.
years_min	Numeric. Minimum number of years required to calculate a percentiles
cache_age	Logical. Maximum age in days of cached datasets (not obs well data, but meta-data related to regional maps, aquifer and wells).

gw_data_prep

Prepare well data for creating table and plots

Description

Prepare well data for creating table and plots

Usage

```

gw_data_prep(
  ows,
  report_dates = Sys.Date(),
  remarks = NULL,
  n_days = 14,
  years_min = 5,
  cache_age = 7,
  water_year_start = 10
)

```

Arguments

ows	Character vector. Observation well numbers (e.g, "OW000")
report_dates	Character vector. Two current dates to explore. By default a date 2 week ago and 4 weeks before that are used.
remarks	Character / data frame. Path to file OR data frame containing remarks on specific observation wells to be included in the main summary table (see Details).

n_days	Numeric. If there is no data on the report date chosen, this is the range of days over which to look for alternative dates with data. Defaults to 2 weeks, meaning 2 weeks before and 2 weeks after a given report date, for a total window of 4 weeks.
years_min	Numeric. Minimum number of years required to calculate a percentiles
cache_age	Logical. Maximum age in days of cached datasets (not obs well data, but meta-data related to regional maps, aquifer and wells).

Details

remarks can be a file path to a TSV (tab-separated) text file or Excel file contain columns 'ow' and 'remarks', or it can be a `data.frame()/tibble()` (see examples) containing the same. Note that CSV is not permitted as ',' is used for separating variables which can make it difficult to write out complete, complex remarks.

Examples

```
## Not run:

wells <- c('OW400')

gw_data <- gw_data_prep(ows = wells)

## End(Not run)
```

gw_historic_data_plot *Create historical data plot with selected observation wells*

Description

Create historical data plot with selected observation wells

Usage

```
gw_historic_data_plot(data, ows = NA)
```

Arguments

data	Data object created from <code>gw_data_prep()</code> function.
ows	List a specific well to plot from original listed wells (exports just this well)

`gw_percentile_class_table`*Create a percentiles class table with selected observation wells*

Description

Create a percentiles class table with selected observation wells

Usage

```
gw_percentile_class_table(data, gt = TRUE)
```

Arguments

<code>data</code>	Data object created from <code>gw_data_prep()</code> function.
<code>gt</code>	Make the table gt format (TRUE) or a regular data.frame (FALSE)

`gw_percentile_map`*Create a percentiles map with selected observation wells*

Description

Create a percentiles map with selected observation wells

Usage

```
gw_percentile_map(data)
```

Arguments

<code>data</code>	Data object created from <code>gw_data_prep()</code> function.
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gw_percentiles_details_table

Create a wells percentiles details with selected observation wells

Description

Create a wells percentiles details with selected observation wells

Usage

```
gw_percentiles_details_table(data, gt = TRUE)
```

Arguments

data	Data object created from gw_data_prep() function.
gt	Make the table gt format (TRUE) or a regular data.frame (FALSE)

gw_percentiles_plot

Create an annual hydrograph with percentiles plot with selected observation wells

Description

Create an annual hydrograph with percentiles plot with selected observation wells

Usage

```
gw_percentiles_plot(data, ows = NA)
```

Arguments

data	Data object created from gw_data_prep() function.
ows	List a specific well to plot from original listed wells (exports just this well)

`gw_wells_below_normal_table`*Create a wells below normal table with selected observation wells*

Description

Create a wells below normal table with selected observation wells

Usage

```
gw_wells_below_normal_table(  
  data,  
  which = c("totals", "hydraulic_connectivity", "type")[1],  
  gt = TRUE  
)
```

Arguments

<code>data</code>	Data object created from <code>gw_data_prep()</code> function.
<code>which</code>	Which group to filter by: "totals" for all, 'hydraulic_connectivity' or 'type' for aquifer type.
<code>gt</code>	Make the table gt format (TRUE) or a regular data.frame (FALSE)

`run_shiny`*Launch the shiny app*

Description

Launch shiny app

Usage

```
run_shiny()
```

well_report

Compile report

Description

Compile report

Usage

```
well_report(
  ows,
  name = "report",
  report_dates = c(Sys.Date() - lubridate::weeks(2), Sys.Date() - lubridate::weeks(4)),
  title = NULL,
  description = NULL,
  remarks = NULL,
  n_days = 13,
  years_min = 5,
  out_dir = ".",
  cache_age = 7,
  water_year_start = 10
)
```

Arguments

ows	Character vector. Observation well numbers (e.g. "OW000")
name	Character string. Short text to name the file. Will become name_YYYY_MM_DD.html
report_dates	Character vector. Two current dates to explore. By default a date 2 week ago and 4 weeks before that are used.
title	Character. Title of the report.
description	Character. Descriptive paragraph to place at the start.
remarks	Character / data frame. Path to file OR data frame containing remarks on specific observation wells to be included in the main summary table (see Details).
n_days	Numeric. If there is no data on the report date chosen, this is the range of days over which to look for alternative dates with data. Defaults to 2 weeks, meaning 2 weeks before and 2 weeks after a given report date, for a total window of 4 weeks.
years_min	Numeric. Minimum number of years required to calculate a percentiles
out_dir	Character. Location of output report. Defaults to working directory.
cache_age	Logical. Maximum age in days of cached datasets (not obs well data, but meta-data related to regional maps, aquifer and wells).

Details

remarks can be a file path to a TSV (tab-separated) text file or Excel file contain columns 'ow' and 'remarks', or it can be a `data.frame()/tibble()` (see examples) containing the same. Note that CSV is not permitted as ',' is used for separating variables which can make it difficult to write out complete, complex remarks.

Examples

```
## Not run:

well_report(ows = c("OW008", "OW217", "OW377", "OW197"))

# If short, easiest to add remarks in script:

library(dplyr)

remarks <- tribble(~ow,      ~remarks,
                  "OW377", "Construction in the area disrupting measurements",
                  "OW008", "No problems")

well_report(ows = c("OW008", "OW217", "OW377", "OW197"),
            remarks = remarks)

# Or load from a file
library(readr)
write_tsv(remarks, "remarks.txt")
check_remarks(remarks = "remarks.txt")

## End(Not run)
```

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