Package 'cmhc'

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Type Package

Title Access, Retrieve, and Work with CMHC Data

Version 0.2.12

Description
Wrapper around the Canadian Mortgage and Housing Corporation (CMHC) web interface. It enables programmatic and reproducible access to a wide variety of housing data from CMHC.

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Encoding UTF-8

LazyData true

ByteCompile yes

NeedsCompilation no

Depends R (>= 4.1)

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Suggests knitr, scales, cancensus, ggplot2, tidyr, rmarkdown, sf, testthat (>= 3.0.0)

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VignetteBuilder knitr

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BugReports https://github.com/mountainMath/cmhc/issues

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Contents

cmhc_quality_labels . . . 2
get_cmhc . . . 2
get_cmhc_geography . . . 4
list_cmhc_breakdowns . . . 5
list_cmhc_dimensions . . . 5
list_cmhc_filters . . . 6
list_cmhc_periods . . . 7
list_cmhc_series . . . 8
list_cmhc_surveys . . . 8
list_cmhc_tables . . . 9
select_cmhc_table . . . 9
set_cmhc_cache_path . . . 10
show_cmhc_cache_path . . . 10

Index **12**

`cmhc_quality_labels` *A list of CMHC quality indicators*

Description

Data obtained via this package will automatically translate internal CMHC quality labels using this translation vector, this named vector is useful when working with CMHC data obtained from other sources like sporadic excel sheets or data scraped from PDF reports.

Usage

```
cmhc_quality_labels
```

Format

A named vector to translate internal CMHC quality indicators to plain text.

`get_cmhc` *Access CMHC data via the HMIP.*

Description

The data access needs to specify the survey, series, dimension (if any), and breakdown to specify the CMHC table to pull the data from. The ‘list_cmhc_tables()‘ function can be used to list all the tables available via this package. Snapshot data needs to specify the year, or if it is monthly data the month. Time series data, i.e. when ‘breakdown="Historical Time Series‘ is specified, does not need year or month parameters, but may have the frequency parameter set. Filters provide additional ways to filter the tables by sub-categories.

Usage

```
get_cmhc(
  survey,
  series,
  dimension,
  breakdown,
  geoFilter = "Default",
  geo_uid,
  year = NULL,
  quarter = NULL,
  month = NULL,
  frequency = NULL,
  filters = list(),
  refresh = FALSE
)
```

Arguments

survey	The CMHC survey, one of "Scss", "Rms", "Srms", and "Seniors", consult 'list_cmhc_surveys()' for possible values. (Other surveys and more data series may be supported in future versions.)
series	The CMHC data series of the survey, consult 'list_cmhc_series()' for possible values.
dimension	The dimension to show in the results, consult 'list_cmhc_dimensions()' for possible values.
breakdown	The geographic breakdown, one of "Survey Zones", "Census Subdivision", "Neighbourhoods", "Census Tracts", if querying data for a snapshot in time or "Historical Time Periods" if querying time series data. Not all geographic breakdowns are available for all series. returns data frame with CMHC data, tile and subtitle are set as attributes. Consult 'list_cmhc_breakdowns()' for possible values.
geoFilter	optional geographic type, only relevaent for provincial and Canada-wide tables. Options are "Default" (the default) which considers accesses the default tables which should be used for data at the metro area or finer geographies. The other designaters are only useful when used in conjunction with 'geo_uid's for provinces or all of Canada. Specifying "All" will give data for all sub-regions, "Metro", which only considers data in metro areas, "50k" and "10k", which only considers data from metro areas and agglomerations with at least 50k or 10k people, respectively.
geo_uid	Census geographic identifier for which to query the data. Can be a census tract, census subdivision, or census metropolitan area.
year	optional, only needed when querying data for a snapshot in time.
quarter	optional, only needed when querying data for a snapshot in time querying quarterly data.
month	optional, only needed when querying data for a snapshot in time.
frequency	optional, only needed when querying time series data, one of "Monthly", "Quarterly" or "Annual".

filters	optional list of filters, consult 'list_cmhc_filters()' for possible values.
refresh	optional, re-download the data from CMHC instead of using the copy cached in the R session's temporary directory. Defaults to 'FALSE'.

Value

A tibble with the data in long form.

Examples

```
## Not run:
data <- get_cmhc("Rms","Vacancy Rate","Bedroom Type","Historical Time Periods","5915022")

## End(Not run)
```

---

get_cmhc_geography *Get CMHC geographies for CMHC Survey Zones and Neighbourhoods*

Description

The data can be queried for Census Tracts, Survey Zones, Neighbourhoods, Census Subdivisions and Metropolitan Areas, but it's most useful for Survey Zones, Neighbourhoods which are particular to CMHC and not available from other sources. The geographic data corresponds to an extract from 2017, and won't necessarily match regions from other years. The Survey Zones and Neighbourhoods have been quite stable, but census geographies change over time and can be matched with geographic data obtained by using the 'cancensus' package.

The geographic data is quite large and a local cache directory needs to be provided. By default the "CMHC_CACHE_PATH" environment variable is used to determine the cache directory, it can be set via the 'set_cache_path' function. The geographic data will take up about 55Mb of disk space.

Usage

```
get_cmhc_geography(
  level = c("CT", "ZONE", "NBHD", "CSD", "MET"),
  base_directory = Sys.getenv("CMHC_CACHE_PATH")
)
```

Arguments

level	aggregation level for geographic data, one of "CT","ZONE","NBHD","CSD","MET"
base_directory	local directory to hold CMHC geography data, by default this is inferred from the CMHC_CACHE_PATH environment variable. To use this function a local data directory has to be set.

Value

A spatial data frame with the geographies for the specified geographic level.

Examples

```
## Not run:
get_cmhc_geography("ZONE")

## End(Not run)
```

---

list_cmhc_breakdowns *List available CMHC breakdowns*

Description

List available CMHC breakdowns

Usage

```
list_cmhc_breakdowns(survey = NULL, series = NULL, dimension = NULL)
```

Arguments

survey	Optional survey to filter by
series	Optional series to filter by
dimension	Optional dimension to filter by

Value

A data frame with survey names, series names, dimension names and available series breakdowns.

Examples

```
list_cmhc_breakdowns("Rms","Vacancy Rate","Bedroom Type")
```

---

list_cmhc_dimensions *List available CMHC dimensions*

Description

List available CMHC dimensions

Usage

```
list_cmhc_dimensions(survey = NULL, series = NULL)
```

Arguments

survey	Optional survey to filter by
series	Optional series to filter by

Value

A data frame with survey names, series names, and available dimension names.

Examples

```
list_cmhc_dimensions("Rms","Vacancy Rate")
```

---

list_cmhc_filters *List available CMHC filters*

Description

List available CMHC filters

Usage

```
list_cmhc_filters(
  survey = NULL,
  series = NULL,
  dimension = NULL,
  breakdown = NULL
)
```

Arguments

survey	Optional survey to filter by
series	Optional series to filter by
dimension	Optional dimension to filter by
breakdown	Optional breakdown to filter by

Value

A data frame with available filters

Examples

```
list_cmhc_filters("Rms","Vacancy Rate","Bedroom Type","Historical Time Periods")
```

`list_cmhc_periods` *List available time periods for a CMHC table*

Description

Queries the CMHC web interface to determine which time periods are available for a given table. This reveals periods that may not appear in the "Historical Time Periods" breakdown (e.g., April Rms surveys 2007-2015).

Usage

```
list_cmhc_periods(survey, series, dimension, breakdown, geo_uid = NULL)
```

Arguments

`survey`	The CMHC survey, consult 'list_cmhc_surveys()' for possible values.
`series`	The CMHC data series, consult 'list_cmhc_series()' for possible values.
`dimension`	The dimension, consult 'list_cmhc_dimensions()' for possible values.
`breakdown`	The geographic breakdown, consult 'list_cmhc_breakdowns()' for possible values.
`geo_uid`	Optional Census geographic identifier (e.g., CSD "5907047"). If NULL (default), uses a default probe geography (Vancouver CMA for CMA-level breakdowns, Canada for national-level). Available periods can vary by geography — smaller or newer CSDs may have fewer periods.

Value

A tibble listing available time periods with Year, Month, Quarter, Season, and Caption columns.

Examples

```
## Not run:
# Primary Rental Market
list_cmhc_periods("Rms", "Vacancy Rate", "Bedroom Type", "Census Subdivision")
list_cmhc_periods("Rms", "Average Rent", "Bedroom Type", "Provinces")

# Starts and Completions Survey
list_cmhc_periods("Scss", "Starts", "Dwelling Type", "Centres")
list_cmhc_periods("Scss", "Completions", "Intended Market", "Provinces")

# Seniors Housing Survey
list_cmhc_periods("Seniors", "Rental Housing Vacancy Rates", "Unit Type", "Snapshot")

# Census-based tables
list_cmhc_periods("Census", "Income", "Average and Median", "Survey Zones")

# Periods for a specific geography (may differ from the default)
```

```
list_cmhc_periods("Rms", "Vacancy Rate", "Bedroom Type", "Census Subdivision",
                  geo_uid = "5907047")

## End(Not run)
```

`list_cmhc_series` *List available CMHC series*

Description

List available CMHC series

Usage

```
list_cmhc_series(survey = NULL)
```

Arguments

`survey`	Optional survey to filter by

Value

A data frame with survey names, and available series names.

Examples

```
list_cmhc_series("Rms")
```

`list_cmhc_surveys` *List available CMHC surveys*

Description

List available CMHC surveys

Usage

```
list_cmhc_surveys()
```

Value

A data frame with available survey names.

Examples

```
list_cmhc_surveys()
```

list_cmhc_tables *List available CMHC tables*

Description

List available CMHC tables

Usage

```
list_cmhc_tables(short = TRUE)
```

Arguments

short	Logical, determines how much detail is returned. Default is 'TRUE'.

Value

A tibble listing all available CMHC data tables

Examples

```
list_cmhc_tables()
```

select_cmhc_table *Interactive table selector*

Description

Interactive table selector

Usage

```
select_cmhc_table()
```

Value

A string containing the function call to access the selected table

Examples

```
## Not run:
select_cmhc_table()

## End(Not run)
```

set_cmhc_cache_path *Set persistent cmhc cache location for geographic data*

Description

The cmhc package provides access to custom cmhc geographies, these are large files and should be stored in a permanent location. This function sets the CMHC_CACHE_PATH environment variable and optionally installs it in the .Renviron file for future use. This is only needed when using the 'get_cmhc_geography()' function.

Usage

```
set_cmhc_cache_path(cache_path, overwrite = FALSE, install = FALSE)
```

Arguments

cache_path	a local directory to use for saving cached data
overwrite	Option to overwrite any existing cache path already stored locally.
install	Option to install permanently for use across sessions.

Value

a character string with the CMHC cache path

Examples

```
## Not run:
# This sets the cache path for the duration of the current session
set_cmhc_cache_path("~/cmhc_cache")

# This will set the cache path permanently until overwritten again
set_cmhc_cache_path("~/cmhc_cache", install = TRUE)

## End(Not run)
```

show_cmhc_cache_path *View saved cache directory path*

Description

View saved cache path

Usage

```
show_cmhc_cache_path()
```

Value

a character string with the CMHC cache path

Examples

```
show_cmhc_cache_path()
```

Index

∗ **API**
get_cmhc, 2
∗ **CMHC**
get_cmhc, 2
∗ **Canada**
get_cmhc, 2
∗ **data**
get_cmhc, 2

cmhc_quality_labels, 2

get_cmhc, 2
get_cmhc_geography, 4

list_cmhc_breakdowns, 5
list_cmhc_dimensions, 5
list_cmhc_filters, 6
list_cmhc_periods, 7
list_cmhc_series, 8
list_cmhc_surveys, 8
list_cmhc_tables, 9

select_cmhc_table, 9
set_cmhc_cache_path, 10
show_cmhc_cache_path, 10