Package ‘covidregionaldata’

July 24, 2020

Title Subnational Data for the Covid-19 Outbreak

Version 0.5.0

Description An interface to subnational and national level Covid-19 data.
For all countries supported, this includes a daily time-series of cases.
Wherever available we also provide data on deaths, hospitalisations, and tests.
National level data is also supported using a range of data sources as well as
linelist data and links to intervention data sets. Data sources included:
WHO <https://dashboards-dev.sprinklr.com/data/9043/global-covid19-who-gis.json>, <https://covid19.who.in>;
ACAPS interventions <https://data.humdata.org/dataset/acaps-covid19-government-measures-dataset>;
patient linelist: <https://github.com/beoutbreakprepared/nCoV2019>),
regional data (Afghanistan: <https://data.humdata.org/dataset/afghanistan-covid-19-statistics-per-province>;
Belgium: <https://epistat.wiv-isp.be/covid>; Brazil: <https://github.com/wcota/covid19br>;
Canada: <https://health-infobase.canada.ca/>; Colombia: <https://github.com/danielcs88/colombia_covid-19>;
Germany: <https://npgeo-corona-npgeo-de.hub.arcgis.com/datasets/dd4580c810204019a7b8eb3e0b329dd6_0>;
India: <https://api.covid19india.org/>; Italy: <https://github.com/pcm-dpc/COVID-19>;
Russia: <https://github.com/grwlf/COVID-19_plus_Russia>; UK: <https://coronavirus.data.gov.uk>,
<https://github.com/tomwhite/covid-19-uk-data>; USA: <https://github.com/nytimes/covid-19-data>),
and geocoding data (Colombia: <https://en.wikipedia.org/wiki/ISO_3166-2:CO>; Russia: <https://en.wikipedia.org/wiki/ISO_3166-2:RU>).

Language en-gb

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Depends R (>= 2.10)

Imports readr, dplyr, tibble, purrr, stringr, magrittr, memoise,
lubridate, tidyr, httr, yaml, readxl, xml2, rvest, jsonlite,
countrycode

Suggests data.table, pkgdown, testthat, spelling

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add_extra_na_cols *Add extra columns filled with NA values to a dataset.*

Description

Adds extra columns filled with NAs to a dataset. This ensures that all datasets from the covidregionaldata package return datasets of the same underlying structure (i.e. same columns).

Usage

```
add_extra_na_cols(data)
```

Arguments

`data`	a data table

Value

a tibble with relevant NA columns added

calculate_columns_from_existing_data *Cumulative counts from daily counts or daily counts from cumulative, dependent on which columns already exist*

Description

Checks which columns are missing (cumulative/daily counts) and if one is present and the other not then calculates the second from the first.

Usage

```
calculate_columns_from_existing_data(data)
```

Arguments

`data`	A data frame

Value

A data frame with extra columns if required

`complete_cumulative_columns`

Completes cumulative columns if rows were added with NAs.

Description

If a dataset had a row of NAs added to it (using fill_empty_dates_with_na) then cumulative data columns will have NAs which can cause issues later. This function fills these values with the previous non-NA value.

Usage

```
complete_cumulative_columns(data)
```

Arguments

`data`	a data table

Value

a tibble with NAs filled in for cumulative data columns.

`convert_to_covid19R_format`

Convert data to Covid19R package data standard

Description

Converts wide format (time series) data into long format to meet the Covid19R package standard

Usage

```
convert_to_covid19R_format(data)
```

Arguments

`data`	A data frame / tibble

Value

A data frame in the Covid19R standard

`csv_reader` *Custom CSV reading function*

Description

Checks for use of memoise and then uses whichever read_csv function is needed by user

Usage

```
csv_reader(file, ...)
```

Arguments

`file`	A URL or filepath to a CSV
`...`	extra parameters to be passed to readr::read_cs

Value

A data table

`fill_empty_dates_with_na` *Add rows of NAs for dates where a region does not have any data*

Description

There are points, particularly early during data collection, where data was not collected for all regions. This function finds dates which have data for some regions, but not all, and adds rows of NAs for the missing regions. This is mainly for reasons of completeness.

Usage

```
fill_empty_dates_with_na(data)
```

Arguments

`data`	a data table

Value

a tibble with rows of NAs added.

`get_afghan_regional_cases` *Afghan Regional Daily COVID-19 Count Data*

Description

Fetches daily COVID-19 data for Afghanistan by province. Data from HDX `https://data.humdata.org/dataset/afghanistan-covid-19-statistics-per-province`. The cumulative data is stored in a Google sheet (`https://docs.google.com/spreadsheets/d/1F-AMEDtqK78EA6LYME2oOsWQsgJi4CT3V_G4Uo-47Rg/export?format=csv`), which is read as a CSV and sanitised.

Usage

```
get_afghan_regional_cases()
```

Value

A data frame of daily Afghan provincial cases and deaths, stratified by state, to be further processed by `get_regional_data()`.

Author(s)

Flavio Finger @ffinger

`get_afghan_region_codes` *Afghan region codes*

Description

Afghan region codes

Usage

```
get_afghan_region_codes()
```

`get_authority_lookup_table` *Lookup table for local authority structure for the UK*

Description

Gets data from `https://opendata.arcgis.com/datasets/72e57d3ab1054e169c55afff3c9c1aa4_0.csv` and then uses this to create a table of authorities and their corresponding higher level regions

Usage

```
get_authority_lookup_table()
```

Value

A tibble of UK local authorities

`get_belgium_level_2_codes` *Belgian Provincial region codes*

Description

Belgian Provincial region codes

Usage

```
get_belgium_level_2_codes()
```

`get_belgium_regional_cases_only_level_1` *Belgian Regional Daily COVID-19 Count Data - Regions Only*

Description

Fetches daily COVID-19 data from Sciensano, the Belgian Institute for Health. Data is available at `https://epistat.wiv-isp.be/covid/`. It is loaded and then sanitised.

Usage

```
get_belgium_regional_cases_only_level_1()
```

Value

A data frame of COVID cases by Region in Belgium, stratified by region, ready to be used by `get_regional_data()`.

`get_belgium_regional_cases_with_level_2` *Belgian Provincial Daily COVID-19 Count Data - Regions and Provinces*

Description

Fetches daily COVID data from Sciensano, the Belgian Institute for Health. Data is available at `https://epistat.wiv-isp.be/covid/`. It is then loaded and sanitised.

Usage

```
get_belgium_regional_cases_with_level_2()
```

Value

A data frame of COVID cases by province in Belgium, stratified by province, ready to be used by get_regional_data().

`get_belgium_region_codes` *Belgian region codes*

Description

Belgian region codes

Usage

```
get_belgium_region_codes()
```

`get_brazil_level_2_codes` *Brazilian level 2 codes (not available currently)*

Description

Brazilian level 2 codes (not available currently)

Usage

```
get_brazil_level_2_codes()
```

get_brazil_regional_cases_only_level_1 *Brazilian Regional Daily COVID-19 Count Data - States*

Description

Extracts daily COVID-19 data for Brazil, stratified by state. Data available on Github, curated by Wesley Cota: DOI 10.1590/SciELOPreprints.362 https://github.com/wcota/covid19br. It is loaded and then sanitised.

Usage

```
get_brazil_regional_cases_only_level_1()
```

Value

A data frame of daily Brazilian Covid-19 data stratified by state, to be further processed by `get_regional_data()`.

get_brazil_regional_cases_with_level_2 *Brazilian Regional Daily COVID-19 Count Data - Cities*

Description

Extracts regional case and death counts for Brazil, stratified by city. Data available on Github, curated by Wesley Cota: DOI 10.1590/SciELOPreprints.362 https://github.com/wcota/covid19br. It is loaded and then sanitised.

Usage

```
get_brazil_regional_cases_with_level_2()
```

get_brazil_region_codes *Brazilian region codes*

Description

Brazilian region codes

Usage

```
get_brazil_region_codes()
```

`get_canada_regional_cases` *Canadian Regional Daily COVID-19 Count Data - Provinces*

Description

Extracts daily COVID-19 data for Canada, stratified by province. Data available at `https://health-infobase.canada.ca`. It is loaded and then sanitised.

Usage

```
get_canada_regional_cases()
```

Value

A data frame of COVID cases by province in Canada, ready to be used by `get_regional_data()`.

`get_canada_region_codes` *Canadian region codes*

Description

Canadian region codes

Usage

```
get_canada_region_codes()
```

`get_colombia_regional_cases` *Colombian Regional Daily COVID-19 Count Data - Department*

Description

Extracts daily COVID-19 data for Colombia, stratified by departamento. Data available at `https://github.com/danielcs88/colombia_covid-19`. It is loaded and then cleaned.

Usage

```
get_colombia_regional_cases()
```

Value

A data frame of COVID cases by department in Colombia, ready to be used by `get_regional_data()`.

`get_colombia_region_codes` *Colombia region codes*

Description

Colombia region codes

Usage

```
get_colombia_region_codes()
```

`get_cumulative_from_daily` *Cumulative counts from daily counts.*

Description

Gets cumulative cases/deaths etc. from data which is in daily forms. Similar to cumsum() but deals with NAs by treating them as 0.

Usage

```
get_cumulative_from_daily(column)
```

Arguments

`column`	A vector of numeric data (e.g. a data column) which corresponds to daily counts of a process. Can contain NA

Value

A vector of numeric data which corresponds to cumulative counts

get_daily_from_cumulative

Daily counts from data that is in cumulative form.

Description

Gets daily counts from data column that is in cumulative form.

Usage

```
get_daily_from_cumulative(column)
```

Arguments

`column`	A vector of numeric data (e.g. a data column) which corresponds to cumulative counts of a process

Value

A vector of numeric data which corresponds to daily counts

get_ecdc_cases

ECDC International Case Counts: works within get_national_data

Description

ECDC International Case Counts: works within get_national_data

Usage

```
get_ecdc_cases()
```

Value

A dataframe of International case counts published by ECDC.

Author(s)

Sam Abbott @seabbs

D. van Muijen @dmuijen

Kath Sherratt @kathsherratt

Haze Lee @hazealign

`get_germany_level_2_codes` *German level 2 codes (not available currently)*

Description

German level 2 codes (not available currently)

Usage

```
get_germany_level_2_codes()
```

`get_germany_regional_cases_only_level_1` *German Regional Daily COVID-19 Count Data - Bundesland*

Description

Extracts daily COVID-19 data for Germany, stratified by Bundesland. Data available at `https://npgeo-corona-npgeo-de.hub.arcgis.com/datasets/dd4580c810204019a7b8eb3e0b329dd6_0`. It is loaded and then sanitised.

Usage

```
get_germany_regional_cases_only_level_1()
```

Value

A data frame of COVID cases by Bundesland in Germany, ready to be used by `get_regional_data()`.

`get_germany_regional_cases_with_level_2` *German Regional Daily COVID-19 Count Data - Landkreis*

Description

Extracts daily COVID-19 data for Germany, stratified by Landkreis. Data available at `https://opendata.arcgis.com/datasets/dd4580c810204019a7b8eb3e0b329dd6_0.csv`. It is loaded and then sanitised.

Usage

```
get_germany_regional_cases_with_level_2()
```

Value

A data.frame of COVID cases by Landkreis in Germany, ready to be used by get_regional_data().

`get_germany_region_codes` *German region codes*

Description

German region codes

Usage

```
get_germany_region_codes()
```

`get_india_regional_cases` *Indian Regional Daily COVID-19 Count Data - State*

Description

Extracts daily COVID-19 data for India, stratified by State Data available at `https://api.covid19india.org/csv/latest/state_wise_daily.csv`. It is loaded and then sanitised.

Usage

```
get_india_regional_cases()
```

Value

A dataframe of daily India data to be further processed by `get_regional_data()`.

`get_india_region_codes` *Indian region codes*

Description

Indian region codes

Usage

```
get_india_region_codes()
```

get_info_covidregionaldata

Get meta information about the covidregionaldata refresh_* data getters.

Description

Find out function names, data returned, subregion level and raw data sources, alongside package info such as licence details.

Usage

```
get_info_covidregionaldata()
```

Value

A tibble of metadata about covidregionaldata

get_interventions_data

Import ACAPS Government Interventions dataset

Description

Data available here: https://data.humdata.org/dataset/acaps-covid19-government-measures-dataset#

Usage

```
get_interventions_data()
```

Value

a dataframe of government interventions compiled by ACAPS

Author(s)

Paul Campbell @paulcampbell91

Examples

```
## Code
get_interventions_data
```

`get_italy_regional_cases` *Regional Daily COVID-19 Count Data*

Description

Extracts daily COVID-19 data for Italy, stratified by Region. Data available at https://raw.githubusercontent.com/pcm-dpc/COVID-19/master/dati-regioni/dpc-covid19-ita-regioni.csv. It is loaded and then sanitised.

Usage

```
get_italy_regional_cases()
```

Value

A data frame of daily COVID cases for Italy by region, to be further processed by `get_regional_data()`.

`get_italy_region_codes` *Italian region codes*

Description

Italian region codes

Usage

```
get_italy_region_codes()
```

`get_level_2_region_codes` *Get a table of level 2 region codes (FIPS, ONS, region) for a specified country*

Description

Get a table of level 2 region codes (FIPS, ONS, region) for a specified country

Usage

```
get_level_2_region_codes(country)
```

Arguments

`country` a string with a country specified

Value

a tibble of regions and their corresponding level 2 region codes

---

`get_linelist` *Get Linelist Data*

Description

This function downloads the latest linelist. As this linelist is experiencing a high user demand it may not always be available.

Usage

```
get_linelist(clean_dates = TRUE, report_delay_only = FALSE)
```

Arguments

`clean_dates` Logical, defaults to `TRUE`. Should the data returned be cleaned for use.

`report_delay_only`
Logical, defaults to `FALSE`. Should only certain variables (id, country, onset date, days' delay), and observations (patients with a report delay) be returned

Value

A linelist of case data

Author(s)

Sam Abbott sam.abbott@lshtm.ac.uk

Examples

```
## Not run:
# Get the complete linelist
get_linelist()

# Return the report delay only
get_linelist(report_delay_only = TRUE)


## End(Not run)
```

get_national_data *Get national-level data for countries globally, sourced from the ECDC or WHO.*

Description

Gets raw data using the source-specific function. Includes ISO country codes. Then adds columns which were missing from the raw data (calculating cumulative counts from new dailies and vice versa), cleans and sanitises further. Adds rows and columns of NA values so that data is in a standard format.

Usage

```
get_national_data(country = NULL, totals = FALSE, source = "ecdc")
```

Arguments

country	Character A string specifying the country to get data from. Not case or language dependent. Defaults to all countries.
totals	Boolean. If TRUE, returns totalled data per country up to today's date. If FALSE, returns the full dataset stratified by date and country.
source	Character A string specifying the data source: "WHO", or "ECDC". Not case dependent. Defaults to ECDC.

Value

A tibble with data related to cases, deaths, hospitalisations, recoveries and testing.

Examples

```
## Not run:
 get_national_data(country = "canada", totals = TRUE, source = "WHO")

## End(Not run)
```

get_regional_data *The main calculation function for covidregionaldata. The majority of the work is done in this function.*

Description

Gets raw data using the country-specific function. Adds the region codes. Then adds columns which were missing from the raw data (calculating cumulative counts from new dailies and vice versa), cleans and sanitises further. Adds rows and columns of NA values so that data is in a standard format.

Usage

```
get_regional_data(country, totals = FALSE, include_level_2_regions = FALSE)
```

Arguments

`country` Character A string specifying the country to get data from. Not case dependent. Name should be the English name. For a list of options see the README.

`totals` Boolean. If TRUE, returns totalled data per region up to today's date. If FALSE, returns the full dataset stratified by date and region.

`include_level_2_regions` Boolean. If TRUE, returns data stratified by level 2 regions. If FALSE, stratified by Level 1. Note that Level 2 region data Sis not always available. In these cases the user will get a warning and the Level 1 data will be returned.

Value

A tibble with data related to cases, deaths, hospitalisations, recoveries and testing stratified by regions within the given country.

Examples

```
## Not run:
 get_regional_data(country = "canada", totals = TRUE, include_level_2_regions = FALSE)

## End(Not run)
```

`get_region_codes` *Get a table of region codes for a specified country*

Description

Get a table of region codes for a specified country

Usage

```
get_region_codes(country)
```

Arguments

`country` a string with a country specified

Value

a tibble of regions and their corresponding region codes

`get_russia_regional_cases` *Russian Regional Daily COVID-19 Count Data - Region*

Description

Extracts daily COVID-19 data for Russia, stratified by Region. Data available at https://raw.githubusercontent.com/grwlf/COVID-19_plus_Russia/master/csse_covid_19_data/csse_covid_19_time_series/time_series_covid19_confirmed_RU.csv. It is loaded and then sanitised.

Usage

```
get_russia_regional_cases()
```

Value

A data frame of daily COVID cases for Russia by region, to be further processed by `get_regional_data()`.

`get_russia_region_codes` *Russian region codes*

Description

Russian region codes

Usage

```
get_russia_region_codes()
```

`get_uk_level_2_codes` *UK level 2 codes (ONS) (Included in original function)*

Description

UK level 2 codes (ONS) (Included in original function)

Usage

```
get_uk_level_2_codes()
```

`get_uk_regional_cases_only_level_1` *UK Regional Daily COVID-19 Count Data - Region*

Description

Extracts daily COVID-19 data for the UK, stratified by region. Data for England available at https://coronavirus.data.gov.uk/downloads/csv/coronavirus-cases_latest.csv. Data for Wales, Scotland and Northern Ireland available at https://raw.githubusercontent.com/tomwhite/covid-19-uk-data/master/data/covid-19-cases-uk.csv. It is loaded and then sanitised.

Usage

```
get_uk_regional_cases_only_level_1()
```

Value

A data frame of daily COVID cases for the UK by region, to be further processed by `get_regional_data()`.

`get_uk_regional_cases_with_level_2` *UK Regional Daily COVID-19 Count Data - Authority*

Description

Extracts daily COVID-19 data for the UK, stratified by region. Data for England available at https://coronavirus.data.gov.uk/downloads/csv/coronavirus-cases_latest.csv. Data for Wales, Scotland and Northern Ireland available at https://raw.githubusercontent.com/tomwhite/covid-19-uk-data/master/data/covid-19-cases-uk.csv. It is loaded and then sanitised.

Usage

```
get_uk_regional_cases_with_level_2()
```

Value

A data frame of daily COVID cases for the UK by local authority, to be further processed by `get_regional_data()`.

`get_uk_region_codes` *UK region codes (NULL - they're in the raw data already)*

Description

UK region codes (NULL - they're in the raw data already)

Usage

```
get_uk_region_codes()
```

`get_us_level_2_codes` *US level 2 codes (FIPS) (Included in original function)*

Description

US level 2 codes (FIPS) (Included in original function)

Usage

```
get_us_level_2_codes()
```

`get_us_regional_cases_only_level_1` *US Regional Daily COVID-19 Count Data - States*

Description

Extracts daily COVID-19 data for the USA, stratified by state. Data available at `https://raw.githubusercontent.com/nytimes/covid-19-data/master/us-states.csv`. It is loaded and then sanitised.

Usage

```
get_us_regional_cases_only_level_1()
```

Value

A data frame of daily COVID cases for the US by state, to be further processed by `get_regional_data()`.

`get_us_regional_cases_with_level_2` *US Regional Daily COVID-19 Count Data - Counties*

Description

Extracts daily COVID-19 data for the USA, stratified by county. Data available at https://raw.githubusercontent.com/nytimes/covid-19-data/master/us-counties.csv. It is loaded and then sanitised.

Usage

```
get_us_regional_cases_with_level_2()
```

Value

A data frame of daily COVID cases for the US by county, to be further processed by `get_regional_data()`.

`get_us_region_codes` *US region codes*

Description

US region codes

Usage

```
get_us_region_codes()
```

`get_who_cases` *Download the most recent WHO case data*

Description

Downloads the latest WHO case data.

Usage

```
get_who_cases()
```

Value

A tibble of all WHO data by date

`left_join_region_codes` *Custom left_join function*

Description

Checks if table that is being added is NULL and then uses left_join

Usage

```
left_join_region_codes(data, region_codes_table, by = NULL, ...)
```

Arguments

`data`	a data table
`region_codes_table`	a table of region codes which will be left_join (optionally NULL)
`by`	see dplyr::left_join() description of by parameter
`...`	optional arguments passed into dplyr::left_join()

Value

A data table

`refresh_covidregionaldata_afghanistan` *Get daily Afghan COVID-19 count data by Province (Wilayat)*

Description

Fetches COVID-19 count data, stratified by date and province. Data sourced from https://docs.google.com/spreadsheets/d/1F-AMEDtqK78EA6LYME2oOsWQsgJi4CT3V_G4Uo-47Rg/export?format=csv.

Usage

```
refresh_covidregionaldata_afghanistan()
```

Value

A tibble of COVID cases by province in Afghanistan.

`refresh_covidregionaldata_belgium` *Get daily Belgian COVID-19 count data by Region*

Description

Fetches COVID-19 count data, stratified by date and region Data sourced from https://epistat.sciensano.be/Data (3 different datasets - MORT, AGE_SEX and HOSP used)

Usage

```
refresh_covidregionaldata_belgium()
```

Value

A tibble of COVID cases by province in Belgium.

`refresh_covidregionaldata_brazil` *Get daily Brazilian COVID-19 count data by State (Estado)*

Description

Fetches COVID-19 count data, stratified by date and state Data sourced from https://raw.githubusercontent.com/wcota/covid1 brazil-cities-time.csv.

Usage

```
refresh_covidregionaldata_brazil()
```

Value

A tibble of COVID cases by province in Brazil

refresh_covidregionaldata_canada

Get daily Canada COVID-19 count data by Province/Territory

Description

Fetches COVID-19 count data, stratified by date and province. Data sourced from https://health-infobase.canada.ca/src/data/covidLive/covid19.csv.

Usage

```
refresh_covidregionaldata_canada()
```

Value

A tibble of COVID cases by province in Canada.

refresh_covidregionaldata_colombia

Get daily Colombian COVID-19 count data by Department (Departamento).

Description

Fetches COVID-19 count data, stratified by date and region. Data sourced from https://raw.githubusercontent.com/ideascol/co

Usage

```
refresh_covidregionaldata_colombia()
```

Value

A tibble of COVID cases by province in Colombia.

refresh_covidregionaldata_germany

Get daily German COVID-19 count data by State (Bundesland)

Description

Fetches COVID-19 count data, stratified by date and state. Data sourced from https://opendata.arcgis.com/datasets/dd4580c81

Usage

```
refresh_covidregionaldata_germany()
```

Value

A tibble of COVID cases by province in Germany.

refresh_covidregionaldata_india

Get daily Indian COVID-19 count data by State/Unified Territory

Description

Fetches COVID-19 count data, stratified by date and state. Data sourced from https://api.covid19india.org/csv/latest/state_wis

Usage

```
refresh_covidregionaldata_india()
```

Value

A tibble of COVID cases by province in India

`refresh_covidregionaldata_italy` *Get daily Italian COVID-19 count data by Region (Regioni).*

Description

Fetches COVID-19 count data, stratified by date and region. Data sourced from https://raw.githubusercontent.com/pcm-dpc/COVID-19/master/dati-regioni/dpc-covid19-ita-regioni-**date**.csv.

Usage

```
refresh_covidregionaldata_italy()
```

Value

A tibble of COVID cases by province in Italy.

`refresh_covidregionaldata_russia` *Get daily Russian COVID-19 count data by Russian region.*

Description

Fetches COVID-19 count data, stratified by date and region. Data sourced from https://raw.githubusercontent.com/grwlf/COV
19_plus_Russia/master/csse_covid_19_data/csse_covid_19_time_series/time_series_covid19_confirmed_RU.csv.

Usage

```
refresh_covidregionaldata_russia()
```

Value

A tibble of COVID cases by province in Russia.

refresh_covidregionaldata_uk

Get daily UK COVID-19 count data by EU-defined region

Description

Fetches COVID-19 count data, stratified by date and region. Data sourced from https://coronavirus.data.gov.uk/downloads/csv cases_latest.csv and https://raw.githubusercontent.com/tomwhite/covid-19-uk-data/master/data/covid-19-cases-uk.csv.

Usage

```
refresh_covidregionaldata_uk()
```

Value

A tibble of COVID cases by EU region in UK.

refresh_covidregionaldata_usa

Get daily USA COVID-19 count data by state.

Description

Fetches COVID-19 count data, stratified by date and region. Data sourced from https://raw.githubusercontent.com/nytimes/co 19-data/master/us-states.csv.

Usage

```
refresh_covidregionaldata_usa()
```

Value

A tibble of COVID cases by state in USA

rename_region_code_column *Helper to rename the region code column in each dataset to the correct code type for each country (e.g. ISO-3166-2).*

Description

The package relies on column name 'region_level_1_code' etc. during processing but this often isn't the most sensible name for the column (e.g. iso-3166-2 makes more sense for US states). This simply renames the column as the final step in processing before returning data to the user.

Usage

```
rename_region_code_column(data, country)
```

Arguments

`data`	a data frame with a region_level_1_code column and optionally a region_level_2_code column
`country`	a string with the country of interest

Value

a tibble with the column(s) renamed to a sensible name

rename_region_column *Helper to rename the region column in each dataset to the correct name for each country.*

Description

The package relies on column name 'region' during processing but this often isn't the most sensible name for the column (e.g. state makes more sense for USA). This simply renames the column as the final step in processing before returning data to the user.

Usage

```
rename_region_column(data, country)
```

Arguments

`data`	a data frame with a region_level_1 column and optionally a region_level_2 column
`country`	a string with the country of interest

Value

a tibble with the column renamed to a sensible name

`reset_cache` *Reset Cache and Update all Local Data*

Description

Reset Cache and Update all Local Data

Usage

```
reset_cache()
```

Value

Null

`set_negative_values_to_zero` *Set negative data to 0*

Description

Set data values to 0 if they are negative in a dataset. Data in the datasets should always be > 0.

Usage

```
set_negative_values_to_zero(data)
```

Arguments

`data`	a data table

Value

a tibble with all relevant data > 0.

`start_using_memoise` *Add useMemoise to options*

Description

Adds useMemoise to options meaning memoise is used when reading data in

Usage

```
start_using_memoise()
```

`stop_using_memoise` *Stop using useMemoise*

Description

Sets useMemoise in options to NULL, meaning memoise isn't used when reading data in

Usage

```
stop_using_memoise()
```

`totalise_data` *Get totals data given the time series data.*

Description

Get totals data given the time series data.

Usage

```
totalise_data(data, include_level_2_regions)
```

Arguments

`data` a data table

`include_level_2_regions`
Boolean. Are level 2 regions included in the data

Value

A data table, totalled up

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