

Package ‘brazilmaps’

September 21, 2017

Type Package

Title Brazilian Maps from Different Geographic Levels

Version 0.1.0

Description Obtain Brazilian map spatial objects of varying region types (e.g. cities, states, microregions, mesoregions). Convenience functions for plotting choropleths and working with the geographic codes are also provided.

Depends R (>= 3.2.0)

LazyData true

License GPL-3

Encoding UTF-8

URL <http://github.com/rpradosiqueira/brazilmaps>

BugReports <http://github.com/rpradosiqueira/brazilmaps/issues>

Imports dplyr, ggplot2, magrittr, methods, sf, sp,

RoxygenNote 6.0.1

Suggests knitr

NeedsCompilation no

Author Renato Prado Siqueira [aut, cre]

Maintainer Renato Prado Siqueira <rpradosiqueira@gmail.com>

Repository CRAN

Date/Publication 2017-09-21 17:02:52 UTC

R topics documented:

deaths	2
get_brmap	2
gini2015	3
join_data	4
plot_brmap	5
pop2017	6

Index**8**

deaths	<i>Number of deaths (2015), microregion level</i>
--------	---

Description

DATASUS' registry of deaths from IBGE's brazilian microregions for 2015.

The data is formatted for easy merging with output from [get_brmmap](#).

Usage

```
data(deaths)
```

Format

A data frame with 580 rows and 3 variables.

Details

- cod The 5-digit code corresponding to the microregion.
- micro The microregion name.
- ndeaths The 2015 absolut number of deaths

References

- <http://datasus.saude.gov.br/informacoes-de-saude/tabnet>

get_brmmap	<i>Get Brazilian maps from different geographic levels</i>
------------	--

Description

Turn available to manipulation brazilian maps in various type of geographic levels. The maps are from IBGE (Instituto Brasileiro de Geografia e Estatística) and refers to the administrative configurations of 2016.

Usage

```
get_brmmap(geo = c("Brazil", "Region", "State", "MesoRegion", "MicroRegion", "City"),
           geo.filter = NULL,
           class = c("sf", "SpatialPolygonsDataFrame", "data.frame"))
```

Arguments

<code>geo</code>	A string value with geographic levels of interest
<code>geo.filter</code>	A named list object with the specific item of the geographic level or all itens of a determined higher geografic level
<code>class</code>	The class of the object to be returned

Details

The `geo` argument can be one of "Brazil", "Region", "State", "MesoRegion", "MicroRegion" and "City". `'geo.filter'` lists must be named with the same characters.

Value

The function returns a `'sf'`, `'SpatialPolygonsDataFrame'` or `'data.frame'` object depending of the `'class'` argument informed

Author(s)

Renato Prado Siqueira <<rpradosiqueira@gmail.com>>

See Also

[join_data](#)

Examples

```
## Retrieving the map from the State of Rio de Janeiro
rio_map <- get_brmmap(geo = "State",
                    geo.filter = list(State = 33),
                    class = "sf")
plot_brmmap(rio_map)

## Obtaining the municipalities maps from Midwest Region
cities_map <- get_brmmap(geo = "City",
                      geo.filter = list(Region = 5),
                      class = "sf")
plot_brmmap(cities_map)
```

gini2015

Gini index (2015), state level

Description

IBGE's Gini index of the monthly income distribution of persons 15 years of age or over, with income for 2015.

The data is formatted for easy merging with output from [get_brmmap](#).

Usage

```
data(gini2015)
```

Format

A data frame with 27 rows and 3 variables.

Details

- cod The 2-digit code corresponding to the state.
- uf The state name.
- gini The 2015 Gini Index

References

- http://www.ibge.gov.br/home/estatistica/pesquisas/pesquisa_resultados.php?id_pesquisa=40

join_data

Join external data

Description

A wrapper around dplyr's join in order to facilitate the analysis on the maps from this package

Usage

```
join_data(map, data, by = NULL)
```

Arguments

map	An object of class 'sf', 'SpatialPolygonsDataFrame' or 'data.frame'
data	A data.frame object with the data to join
by	A character vector of variables to join by. If NULL, the default, will do a natural join, using all variables with common names across the two tables. See dplyr's join to more information.

Value

The function returns a 'sf', 'SpatialPolygonsDataFrame' or 'data.frame' object depending of the class of the map argument informed

Author(s)

Renato Prado Siqueira <<rpradosiqueira@gmail.com>>

See Also[get_brmmap](#)**Examples**

```
# Joining population estimates data to the year of 2017
data("pop2017")
municipios <- get_brmmap(geo = "City", geo.filter = list(Region = 5),
                       class = "SpatialPolygonsDataFrame")

municipios <- join_data(municipios, pop2017, by = c("City" = "mun"))
```

plot_brmmap

Facilitated plot of brazilian maps

Description

A wrapper in order to facilitate the plot of the maps from this package. The function returns a `ggplot` object so it can be edited easily.

Usage

```
plot_brmmap(map, data_to_join = data.frame(), join_by = NULL,
            var = "values", theme = theme_map())
```

Arguments

<code>map</code>	An object of class 'sf', 'SpatialPolygonsDataFrame' or 'data.frame'
<code>data_to_join</code>	A data frame containing values to plot on the map.
<code>join_by</code>	A character vector of variables to join by.
<code>var</code>	The name of the column that contains the values of the field to be plotted. The default is "value".
<code>theme</code>	The theme that should be used for plotting the map. The default is theme_map .

Value

A `ggplot` object that contains a basic brazilian map with the described parameters. Since the result is a `ggplot` object, it can be extended with more geom layers, scales, labels, themes, etc.

See Also[get_brmmap](#), [theme](#)

Examples

```
## Plotting population estimates (2017) of the South Region
data("pop2017")
map_sul <- get_brmmap(geo = "City", geo.filter = list(Region = 4))
mapa1 <- plot_brmmap(map_sul,
                    data_to_join = pop2017,
                    join_by = c("City" = "mun"),
                    var = "pop2017")

mapa1

# Output is ggplot object so it can be extended
# with any number of ggplot layers
library(ggplot2)
mapa1 +
  labs(title = "População Municipal 2017 - Região Sul")

# Only displaying the microregions of the state of Sao Paulo
map_sp_micro <- get_brmmap(geo = "MicroRegion",
                        geo.filter = list(State = 35),
                        class = "SpatialPolygonsDataFrame")
plot_brmmap(map_sp_micro)
```

pop2017

Population estimates (2017), city level

Description

IBGE's population estimates by municipality for 2017.

The data is formatted for easy merging with output from [get_brmmap](#).

Usage

```
data(pop2017)
```

Format

A data frame with 5570 rows and 3 variables.

Details

- mun The 7-digit code corresponding to the city.
- nome_mun The city name.
- pop2017 The 2017 population estimate (in number of people) for the corresponding city

References

- <http://www.ibge.gov.br/home/estatistica/populacao/estimativa2017/default.shtm>
- http://www.ibge.gov.br/home/estatistica/populacao/estimativa2017/estimativa_dou.shtm

Index

*Topic **IBGE**

get_brmap, 2

join_data, 4

*Topic **data**

deaths, 2

gini2015, 3

pop2017, 6

*Topic **geographic**

get_brmap, 2

join_data, 4

*Topic **levels**

get_brmap, 2

join_data, 4

*Topic **shapefile**

get_brmap, 2

join_data, 4

*Topic **spatial**

get_brmap, 2

join_data, 4

deaths, 2

get_brmap, 2, 2, 3, 5, 6

ggplot, 5

gini2015, 3

join_data, 3, 4

plot_brmap, 5

pop2017, 6

theme, 5

theme_map, 5