# 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](http://github.com/rpradosiqueira/brazilmaps)  
**BugReports**  [http://github.com/rpradosiqueira/brazilmaps/issues](http://github.com/rpradosiqueira/brazilmaps/issues)  
**Imports**  dplyr, ggplot2, magrittr, methods, sf, sp,  
**RoxygenNote**  6.0.1  
**Suggests**  knitr  
**NeedsCompilation**  no  
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**Repository**  CRAN  
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| deaths | Number of deaths (2015), microregion level |

Description

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

The data is formatted for easy merging with output from `get_brmap`.

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](http://datasus.saude.gov.br/informacoes-de-saude/tabnet)

get_brmap

Get Brazilian maps from different geographic levels

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_brmap(geo = c("Brazil","Region","State","MesoRegion","MesoRegion","City"),
geo.filter = NULL,
class = c("sf", "SpatialPolygonsDataFrame", "data.frame"))
gini2015

Arguments

geo        A string value with geographic levels of interest
geo.filter A named list object with the specific item of the geographic level or all items of
determined higher geographic level
class      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 on 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_brmap(geo = "State",
                      geo.filter = list(State = 33),
                      class = "sf")
plot_brmap(rio_map)

## Obtaining the municipalities maps from Midwest Region
cities_map <- get_brmap(geo = "City",
                        geo.filter = list(Region = 5),
                        class = "sf")
plot_brmap(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 in-
come for 2015.

The data is formatted for easy merging with output from get_brmap.
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


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>>
plot_brmap

See Also

get_brmap

Examples

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

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

plot_brmap

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

Arguments

map An object of class 'sf', 'SpatialPolygonsDataFrame' or 'data.frame'

data_to_join A data frame containing values to plot on the map.

join_by A character vector of variables to join by.

var The name of the column that contains the values of the field to be plotted. The default is "value".

theme 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_brmap, theme
Examples

```r
## Plotting population estimates (2017) of the South Region
data("pop2017")
map_sul <- get_brmap(geo = "City", geo.filter = list(Region = 4))
mapa1 <- plot_brmap(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_brmap(geo = "MicroRegion",
  geo.filter = list(State = 35),
class = "SpatialPolygonsDataFrame")
plot_brmap(map_sp_micro)
```

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**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_brmap`.

**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.
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