Package 'WorldMapR'

March 21, 2025

Type Package

Title Worldwide or Coordinates-Based Heat Maps

Version 1.2.0

Description Easily plot heat maps of the world, based on continuous or categorical data. Country labels can also be added to the map.

License GPL-3

URL https://github.com/Luigi-Annic/WorldMapR/

BugReports https://github.com/Luigi-Annic/WorldMapR/issues

Encoding UTF-8

Depends R (>= 4.3.0)

Imports ggplot2 (>= 3.4.4), dplyr (>= 1.1.4), sf (>= 1.0-14), countrycode (>= 1.5.0), utils (>= 4.3.0), ggfx (>= 1.0.1)

LazyData true

RoxygenNote 7.3.2

Suggests knitr, rmarkdown, testthat (>= 3.0.0),

VignetteBuilder knitr

Config/testthat/edition 3

NeedsCompilation no

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Contents

`countrycoord_data` *countrycoord_data*

Description

This function generates a data frame with information about the coordinates of the central point for each country of interest. You can choose whether to keep all the countries or only a subset.

Usage

```
countrycoord_data(
  countries.list = NULL,
  crs = 4326,
  UK_as_GB = TRUE,
  exclude.iso.na = TRUE
)
```

Arguments

`countries.list`	List of the ISO 3166-1 alpha-2 codes of countries that are to be included. By default it is set to `NULL` and all countries are included.
`crs`	Coordinate reference system (EPSG). By default the value is 4326, which corresponds to EPSG::4326 (WGS84)
`UK_as_GB`	Which do you prefer between UK and GB as the code for the United Kingdom? If FALSE, GB is returned in the output data.frame. If TRUE (default), UK is returned.
`exclude.iso.na`	if `TRUE` (default), countries that do not have a ISO 3166 code are excluded from the table.

Value

an object of class `data.frame`

Examples

```
countrycoord_data(countries.list = c("IT", "FR", "SE"), crs = 3035)
countrycoord_data(countries.list = c("IT", "FR", "SE"), crs = 3035)
countrycoord_data(countries.list = c("IT", "FR", "SE", "GB"), crs = 3035, UK_as_GB = TRUE)
countrycoord_data(countries.list = c("IT", "FR", "SE", "GB"), crs = 3035, UK_as_GB = FALSE)
```

geometries_data *geometries_data*

Description

This function generates a data frame with information about geometries and centroid coordinates of countries. You can choose whether to keep all the countries or only a subset.

Usage

```
geometries_data(exclude.iso.na = TRUE, countries.list = NULL)
```

Arguments

exclude.iso.na	if TRUE (default), countries that do not have a ISO 3166 code are excluded from the table.
countries.list	List of the ISO 3166-1 alpha-2 codes of countries that are to be included. By default it is set to NULL and all countries are included.

Value

an object of class data.frame and sf.

Examples

```
geometries_data(countries.list = c("IT", "FR", "US"))
```

map_df0 *Initial dataset with geometries for each country*

Description

This data set contains information about name, iso_a2 code and geometry for 242 countries.

Usage

```
data(map_df0)
```

Format

An object of class data.frame

Examples

```
data(map_df0)
head(map_df0)
```

testdata1 *Simulated data set 1*

Description

Data from a random simulation with continuous data.

Usage

```
data(testdata1)
```

Format

An object of class `data.frame`

Examples

```
data(testdata1)
head(testdata1)
```

testdata1b *Simulated data set 1b*

Description

Data from a random simulation with continuous and categorical data.

Usage

```
data(testdata1b)
```

Format

An object of class `data.frame`

Examples

```
data(testdata1b)
head(testdata1b)
```

testdata1c *Simulated data set 1c*

Description

Data from a random simulation with continuous and categorical data. This data set contains information about 237 countries (countries without unique ISO 3166 code are excluded).

Usage

```
data(testdata1c)
```

Format

An object of class `data.frame`

Examples

```
data(testdata1c)
head(testdata1c)
```

worldplot *worldplot*

Description

Plot a world heat map based on a continuous variable.

Usage

```
worldplot(
  data,
  ColName,
  CountryName,
  CountryNameType = "isoa2",
  rangeVal,
  longitude = c(-180, 180),
  latitude = c(-90, 90),
  crs = 4326,
  title = "",
  legendTitle = as.character(ColName),
  legend.position = "right",
  annote = FALSE,
  div = 1,
  palette_option = "D",
  label.color = "white",
```

```
  label.size = 2,
  na_colour = "grey80",
  transform_limits = TRUE,
  shadows = TRUE,
  UK_as_GB = TRUE
)
```

Arguments

data	Data set containing the list of nations and the variable that we want to plot.
ColName	Character variable with the name of the variable of interest.
CountryName	Character variable with the name of the country names column.
CountryNameType	Character variable with the coding for CountryName. One of isoa2 (default, standing for ISO 3166-1 alpha-2 code), isoa3, or name.
rangeVal	Limit values (minimum and maximum) that are to be defined for the map. If not specified, the minimum and maximum are taken, and a message is displayed.
longitude	Longitude limits. Default is c(-180, 180) (whole world with crs as EPSG::4326).
latitude	Latitude limits. Default is c(-90, 90) (whole world with crs as EPSG::4326).
crs	Coordinate reference system (EPSG). By default the value is 4326, which corresponds to EPSG::4326 (WGS84)
title	Title of the plot. Default is no title.
legendTitle	Title of the legend. Default is the name of the filling variable.
legend.position	Position of the legend. If set to "none", no legend is displayed
annote	Do you want to plot country labels (ISO 3166-1 alpha-2 code) on the map? Default is set to FALSE.
div	Parameter for modifying the elements dimensions in the map. Usually, it does not need to be modified. Default value is 1.
palette_option	Character string indicating the palette to be used. Available options range between "A" and "H".
label.color	Color of the labels if annote = TRUE. Default is white
label.size	Size of the labels if annote = TRUE
na_colour	The colour to be used for countries with missing information. Default is grey80
transform_limits	Only if crs is specified and different from 4326. If TRUE (the default) the program expects to receive values of longitude and latitude as in EPSG 4326, (i.e., within -180, +180 for longitude and within -90, +90 for latitude) and automatically updates to the new crs. Set to FALSE if you want to define longitude and latitude limits based on the new crs
shadows	If TRUE, add shadows to the country labels (only if annote = TRUE)
UK_as_GB	Argument passed to countrycoord_data if annote is set to TRUE. Do you want to translate the GB isoa2 code to UK? If FALSE, GB is returned in the output data.frame. If TRUE (default), UK is returned.

Value

a map

Examples

```
data(testdata1b)
worldplot(data = testdata1b,
          div = 1,
          ColName = "VNum",
          CountryName = "Cshort",
          CountryNameType = "isoa2",
          rangeVal = c(0,50),
          annote = FALSE)
```

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worldplotCat *worldplotCat*

Description

Plot a world heat map based on a categorical variable.

Usage

```
worldplotCat(
  data,
  ColName,
  CountryName,
  CountryNameType = "isoa2",
  longitude = c(-180, 180),
  latitude = c(-90, 90),
  crs = 4326,
  title = "",
  legendTitle = as.character(ColName),
  legend.position = "right",
  Categories = levels(factor(map_df$MapFiller)),
  na.as.category = TRUE,
  label.color = "white",
  label.size = 2,
  annote = FALSE,
  div = 1,
  palette_option = "D",
  na_colour = "grey80",
  transform_limits = TRUE,
  shadows = TRUE,
  UK_as_GB = TRUE
)
```

Arguments

data	Data set containing the list of nations and the variable that we want to plot.
ColName	Character variable with the name of the variable of interest.
CountryName	Character variable with the name of the country names column.
CountryNameType	Character variable with the coding for CountryName. One of isoa2 (default, standing for ISO 3166-1 alpha-2 code), isoa3, or name.
longitude	Longitude limits. Default is c(-180, 180) (whole world with crs as EPSG::4326).
latitude	Latitude limits. Default is c(-90, 90) (whole world with crs as EPSG::4326).
crs	Coordinate reference system (EPSG). By default the value is 4326, which corresponds to EPSG::4326 (WGS84)
title	Title of the plot. Default is no title.
legendTitle	Title of the legend. Default is the name of the filling variable.
legend.position	Position of the legend. If set to "none", no legend is displayed
Categories	categories labels to be plotted in the legend.
na.as.category	Treat NA as a separate category? If 'TRUE, NA will also appear in the legend as one of the categories.
label.color	Color of the labels if annote = TRUE. Default is white
label.size	Size of the labels if annote = TRUE
annote	Do you want to plot country labels (ISO 3166-1 alpha-2 code) on the map? Default is set to FALSE.
div	Parameter for modifying the elements dimensions in the map. Usually, it does not need to be modified. Default value is 1.
palette_option	Character string indicating the palette to be used. Available options range between "A" and "H". You can also enter a string with a colour for each category
na_colour	The colour to be used for countries with missing information. Default is grey80
transform_limits	Only if crs is specified and different from 4326. If TRUE (the default) the program expects to receive values of longitude and latitude as in EPSG 4326, (i.e., within -180, +180 for longitude and within -90, +90 for latitude) and automatically updates to the new crs. Set to FALSE if you want to define longitude and latitude limits based on the new crs
shadows	If TRUE, add shadows to the country labels (only if annote = TRUE)
UK_as_GB	Argument passed to countrycoord_data if annote is set to TRUE. Do you want to translate the GB isoa2 code to UK? If FALSE, GB is returned in the output data.frame. If TRUE (default), UK is returned.

Value

a map

Examples

```
data(testdata1b)
worldplotCat(data = testdata1b,
             div = 1,
             ColName = "VCat",
             CountryName = "Cshort",
             CountryNameType = "isoa2",
             annote = FALSE)
```

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