

Package ‘WorldMapR’

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Type Package

Title Worldwide or Coordinates-Based Heat Maps

Version 1.0.1

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), rnatualearth (>= 1.0.1), sf (>= 1.0-14), countrycode (>= 1.5.0), utils (>= 4.3.0), ggfx (>= 1.0.1)

LazyData true

RoxygenNote 7.2.3

Suggests knitr, rmarkdown, testthat (>= 3.0.0), rnatualearthdata (>= 1.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

NeedsCompilation no

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|-----------------|------------------------|
| geometries_data | <i>geometries_data</i> |
|-----------------|------------------------|

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"))
```

`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),
  annote = FALSE,
  div = 1,
  palette_option = "D",
  na_colour = "grey80",
  transform_limits = TRUE
)
```

Arguments

| | |
|-------------------------------|--|
| <code>data</code> | Data set containing the list of nations and the variable that we want to plot. |
| <code>ColName</code> | Character variable with the name of the variable of interest. |
| <code>CountryName</code> | Character variable with the name of the country names column. |
| <code>CountryNameType</code> | Character variable with the coding for <code>CountryName</code> . One of <code>isoa2</code> (default, standing for ISO 3166-1 alpha-2 code), <code>isoa3</code> , or <code>name</code> . |
| <code>rangeVal</code> | 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. |
| <code>longitude</code> | Longitude limits. Default is <code>c(-180, 180)</code> (whole world with crs as EPSG::4326). |
| <code>latitude</code> | Latitude limits. Default is <code>c(-90, 90)</code> (whole world with crs as EPSG::4326). |
| <code>crs</code> | Coordinate reference system (EPSG). By default the value is 4326, which corresponds to EPSG::4326 (WGS84) |
| <code>title</code> | Title of the plot. Default is no title. |
| <code>legendTitle</code> | Title of the legend. Default is the name of the filling variable. |
| <code>annotate</code> | Do you want to plot country labels (ISO 3166-1 alpha-2 code) on the map? Default is set to FALSE. |
| <code>div</code> | Parameter for modifying the elements dimensions in the map. Usually, it does not need to be modified. Default value is 1. |
| <code>palette_option</code> | Character string indicating the palette to be used. Available options range between "A" and "H". |
| <code>na_colour</code> | The colour to be used for countries with missing information. Default is grey80 |
| <code>transform_limits</code> | Only if <code>crs</code> 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 |

Value

a map

Examples

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

| | |
|--------------|---------------------|
| worldplotCat | <i>worldplotCat</i> |
|--------------|---------------------|

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),
  Categories = levels(factor(map_df$MapFiller)),
  na.as.category = TRUE,
  annotate = FALSE,
  div = 1,
  palette_option = "D",
  na_colour = "grey80",
  transform_limits = TRUE
)
```

Arguments

| | |
|------------------------------|--|
| <code>data</code> | Data set containing the list of nations and the variable that we want to plot. |
| <code>ColName</code> | Character variable with the name of the variable of interest. |
| <code>CountryName</code> | Character variable with the name of the country names column. |
| <code>CountryNameType</code> | Character variable with the coding for CountryName. One of <code>isoa2</code> (default, standing for ISO 3166-1 alpha-2 code), <code>isoa3</code> , or <code>name</code> . |
| <code>longitude</code> | Longitude limits. Default is <code>c(-180, 180)</code> (whole world with crs as EPSG::4326). |
| <code>latitude</code> | Latitude limits. Default is <code>c(-90, 90)</code> (whole world with crs as EPSG::4326). |
| <code>crs</code> | Coordinate reference system (EPSG). By default the value is 4326, which corresponds to EPSG::4326 (WGS84) |
| <code>title</code> | Title of the plot. Default is no title. |
| <code>legendTitle</code> | Title of the legend. Default is the name of the filling variable. |
| <code>Categories</code> | categories labels to be plotted in the legend. |

| | |
|-------------------------------|---|
| <code>na.as.category</code> | Treat NA as a separate category? If 'TRUE, NA will also appear in the legend as one of the categories. |
| <code>annotate</code> | Do you want to plot country labels (ISO 3166-1 alpha-2 code) on the map? Default is set to FALSE. |
| <code>div</code> | Parameter for modifying the elements dimensions in the map. Usually, it does not need to be modified. Default value is 1. |
| <code>palette_option</code> | 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 |
| <code>na_colour</code> | The colour to be used for countries with missing information. Default is grey80 |
| <code>transform_limits</code> | 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 |

Value

a map

Examples

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

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