Package ‘WorldMapR’

November 25, 2024

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), rnaturalearth (>= 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), rnaturalearthdata (>= 1.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

NeedsCompilation no

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Repository CRAN

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Contents

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"))
```

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

`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.

`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".

`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

Value

a map

Examples

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

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

`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.

`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

Value

a map

Examples

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

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