

Package: WorldMapR (via r-universe)

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Type Package

Title Worldwide or Coordinates-Based Heat Maps

Version 1.3.0

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), 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

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Repository <https://luigi-annic.r-universe.dev>

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countrycoord_data	<i>countrycoord_data</i>
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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)
```

empty_editable_map	<i>empty_editable_map</i>
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Description

Plot a world map which can be edited in powerpoint.

Usage

```
empty_editable_map(lon, lat, crs = 4326, sf_use_s2 = FALSE)
```

Arguments

lon	Longitude limits.
lat	Latitude limits.
crs	Coordinate reference system (EPSG). By default the value is 4326, which corresponds to EPSG::4326 (WGS84)
sf_use_s2	sf_use_s2 option, default is FALSE

Value

a map

Examples

```
## Not run: empty_editable_map(lon = c(2600000, 9300000), lat = c(5450000, 1000000), crs = 3035)
export::graph2ppt(file = "editable_map.pptx", width = 7, height = 4)
## End(Not run)
## Not run: empty_editable_map(lon = c(-15, 40), lat = c(20, 65), crs = 4326)
```

geometries_data	<i>geometries_data</i>
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Description

This function is deprecated and not exported. It has been substituted with `worldMapR::countrycoord_data`. 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`.

map_df0	<i>Initial dataset with geometries for each country</i>
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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)
```

`regions_ITBIH`*Some potentially useful regions for more granular maps*

Description

This data set contains information about name, iso_a2 code and geometry for Italian and BIH regions.

Usage

```
data(regions_ITBIH)
```

Format

An object of class `data.frame`

Examples

```
data(regions_ITBIH)
head(regions_ITBIH)
```

`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",  
  annotate = 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

<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>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>legend.position</code>	Position of the legend. If set to "none", no legend is displayed
<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>label.color</code>	Color of the labels if <code>annotate = TRUE</code> . Default is white
<code>label.size</code>	Size of the labels if <code>annotate = TRUE</code>
<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
<code>shadows</code>	If TRUE, add shadows to the country labels (only if <code>annotate = TRUE</code>)
<code>UK_as_GB</code>	Argument passed to <code>countrycoord_data</code> if <code>annotate</code> 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),
           annotate = FALSE)
```

worldplotCat	<i>worldplotCat</i>
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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

<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 isoa2 (default, standing for ISO 3166-1 alpha-2 code), isoa3, or name.
<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>legend.position</code>	Position of the legend. If set to "none", no legend is displayed
<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>label.color</code>	Color of the labels if <code>annotate = TRUE</code> . Default is white
<code>label.size</code>	Size of the labels if <code>annotate = TRUE</code>
<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 <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
<code>shadows</code>	If TRUE, add shadows to the country labels (only if <code>annotate = TRUE</code>)
<code>UK_as_GB</code>	Argument passed to <code>countrycoord_data</code> if <code>annotate</code> 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",
              annotate = FALSE)
```

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