Package 'necountries'

July 22, 2025

Version 0.1-1

Date 2024-11-14

Title Countries of the World

Depends R (>= 4.0.0)

Imports Rdpack, tibble, ggplot2, sf, dplyr, ggrepel, rlang, classInt, stringr, magrittr, stringi

Description
Based on Natural Earth <https://www.naturalearthdata.com/>, a subset of countries can easily be selected with their administrative boundaries, joined with an external data frame and plotted as a thematic map.

License GPL (>= 2)

Encoding UTF-8

URL https://www.R-project.org

RoxygenNote 7.3.1

Author Yves Croissant [aut, cre] (ORCID: <https://orcid.org/0000-0002-4857-7736>)

Maintainer Yves Croissant <yves.croissant@univ-reunion.fr>

LazyData true

NeedsCompilation no

Suggests knitr, tidyr, purrr, quarto

VignetteBuilder quarto

RdMacros Rdpack

Repository CRAN

Date/Publication 2024-11-15 09:00:10 UTC

Contents

`countries` *Countries from naturalearth*

Description

Select a set of countries; talking about countries, we mean either sovereign countries, parts of countries and dependencies, each of these cathegories being on each own row. A single or a set of countries can be obtained by indicating a set of names of, either countries, regions or subregions

Usage

```
countries(
  name = NA,
  part = FALSE,
  dependency = FALSE,
  indeterminate = FALSE,
  exclude = NULL,
  include = NULL,
  utm = FALSE,
  crs = NULL,
  towns = FALSE,
  capital = FALSE,
  lang = NULL,
  extend = 1,
  shift = FALSE,
  coastlines = TRUE
)
```

Arguments

`name`	a character vector that contains one or several countries, regions or subregions (mixing the two of the three cathegories will result as an error),
`part`	should the parts of the countries be included (eg Azsores for Portugal or Alaska for the United States of America),
`dependency`	should the dependencies of the countries be included (eg Greenland and the Faroe Islands for Denmark),

indeterminate	should the indeterminate territories be included,
exclude	an optional set of countries that should be excluded from the request,
include	an optional set of countries that should be included
utm	if TRUE, the geometry is transformed using the relevant utm projection, if an integer, the geometry is transformed using the utm projection for the zone indicated,
crs	a CRS
towns	if TRUE, a tibble containing the cities of the countries selected is returned as a "towns" attribute,
capital	if TRUE the tibble containing the cities of the countries selected will contain the capitals, whatever their size,
lang	the language for countries and towns, one of "en", "fr", "es", ‘"it"
extend	a number >= 1, extend the bounding box so that the background is larger than the initial bounding box and can be transformed correctly if utm transformation is required
shift	a boolean, if TRUE, st_shift_longitude is used
coastlines	a boolean, TRUE to get the background coastines

Value

an object of class countries which inherits from sf with the following columns:

- id the two letters identifier of the country,
- type either "main" (the main part of a sovereign country, the whole country for most of them) - country the name of the entity,
- sovereign the sovereign country the entity belongs to,
- capital the name of the capital of the country (NA for parts and dependencies) - subregion the name of the subregion (United Nations' definition)
- pop the population of the entity,
- gdp currently undocumented
- wbreg the name of the region (World Bank's definition)
- region the name of the region (United Nations' definition) Two attributes "type" and "towns"

Examples

```
countries("Western Europe")
```

dplyr.methods *Methods for* dplyr*'s verbs*

Description

countries' objects inherits from sf, when a verb of dlpyr is used, the returned object is of class sf; these methods return a countries object.

Usage

```
check_join(x, y, by = NULL, side = c("right", "both", "left"))

## S3 method for class 'countries'
select(.data, ...)

## S3 method for class 'countries'
left_join(
  x,
  y,
  by = NULL,
  copy = FALSE,
  suffix = c(".x", ".y"),
  ...,
  keep = NULL
)
```

Arguments

x, y, by, copy, suffix, keep	see dplyr::left_join
side	for the check_join function
.data	see dplyr::select
...	further arguments

Value

for the select and the left_join method, a data frame

labels.countries *Compute a unique* sf *to optimize the position of labels*

Description

Displaying labels on a map is complicated because of serious overlapping problems. Labels for different kinds of entities can be put in a unique sf

Usage

```
## S3 method for class 'countries'
labels(object, ..., var)
```

Arguments

object	a countries object‘,
...	further arguments (currently unused),
var	a character vector indicating the entities that should be labeleld, it can be country, capital and towns

Value

a sf containing:

- name the names of the entities,
- type the type of the entity (either country, capitalandtowns‘)
- point the coordinate of the points (obtained using st_point_on_surface for countries)

ne_countries *Countries of naturalearth*

Description

A sf containing 299 countries (in a large sense), either the main parts of sovereign countries, parts or dependencies

Format

a sf containing

- iso2: two letters identifier of the country,
- iso3: two letters identifier of the country,
- type: either "main" (the main part of a sovereign country, the whole country for most of them), "part", "dependency" or "indeterminate"

- country: the name of the entity,
- sovereign: the sovereign country the entity belongs to,
- capital: the name of the capital of the country (NA for parts and dependencies)
- status: United Nations' status
- en, fr, de, es, it: the name of the country in different languages
- region: the name of the region (United Nations' definition)
- subregion: the name of the subregion (United Nations' definition)
- wbregion: the name of the region (World Bank's definition)
- pop: the population of the entity,
- gdp: currently undocumented
- economy: economic group
- income: income groupe
- polygon a geometry column containing the administrative borders
- point a geometry column containing the point coordinate of the capital

---

ne_towns *Populated places of naturalearth*

Description

A sf containing 7342 cities

Format

a sf containing

- id: the id of the country,
- name: the name of the city,
- capital: a boolean, TRUE for a capital
- pop: the population of the city,
- point: a point sfc containing the coordinates of the city

plot.countries *Basic plot function for* countries *objects*

Description

As the plot method of sf, this function is intended to obtain quickly a map for a set of countries. Countries' boundaries are represented and filling can be used, some cities can also be represented and labels can be added. ggplot is used and should be used directly when more enhanced maps are required

Usage

```
## S3 method for class 'countries'
plot(
  x,
  ...,
  labels = NULL,
  fill = NULL,
  capital = NULL,
  centroid = NULL,
  bks = NULL,
  n = 6,
  style = NULL,
  palette = NULL,
  bw = FALSE
)
```

Arguments

x	a countries object,
...	further arguments (currently unused)
labels	a character vector containing the variables that should be labeled: country, capital and/or towns
fill	a variable use to fill countries' polygons
capital, centroid	a variable associated with the shape or the size of points
bks	an optional vector of breaks in order to use a continuous variable for fill
n	the number of class (passed to classIntervals)
style	the style (passed to classIntervals)
palette	the palette (selected in scale_fill_brewer)
bw	a boolean, if TRUE, a black and white map is produced

Value

a gg object.

Examples

```
we <- countries("Western Europe")
plot(we)
```

`slave_trade` *Slave trade and economic development*

Description

a cross-section of 52 countries from 2000

Format

a tibble containing:

- country: the country name
- region: one of 'north', 'east', 'central', 'south', 'west'
- disteq: distance from equator
- longitude: longitude
- area: area in thousands of km squared
- pop: average population during the slave trade period
- coastline: log coastlines divided by the country area
- island: island indicator
- islam: percent islamic
- colony: previous colonizator, one of 'none', 'uk', 'france', 'portugal', 'belgium', 'spain', 'germany', 'italy'
- legor: legal origin, one of 'french' and 'british'
- gdp: log real gdp per capita in 2000
- slaves: number of slaves
- slavesarea: number of slaves divided by the country area
- humidmax: average maximum humidity
- rainmin: lowest month rainfall
- lowtemp: average minimum temperature
- gold: log gold production per inhabitant
- oil: log oil production per inhabitant
- diamond: log diamonds production per inhabitant
- atlantic: distance to the atlantic ocean
- indian: distance to the indian ocean
- redsea: distance to the red sea
- sahara: distance to sahara

Source

Nathan Nunn's website https://nathannunn.arts.ubc.ca/

References

Nunn N (2008). "The Long-Term Effects of Africa's Slave Trades." *The Quarterly Journal of Economics*, **123**(1), 139–176. ISSN 00335533, 15314650, https://www.jstor.org/stable/25098896.

`sp_solow` *Solow's growth model with spatial correlation*

Description

a cross-section of 91 countries from 1995

Format

a tibble containing:

- name: the name of the country
- code: the id of the country
- gdp60: per capita gdp in 1960
- gdp95: per capita gdp in 1995
- saving: saving rate
- labgwth: growth rate of the labor force

Source

JAE data archive

References

Ertur C, Koch W (2007). "Growth, technological interdependence and spatial externalities: theory and evidence." *Journal of Applied Econometrics*, **22**(6), 1033-1062. doi:10.1002/jae.963, https://onlinelibrary.wiley.com/doi/pdf/10.1002/jae.963, https://onlinelibrary.wiley.com/doi/abs/10.1002/jae.963.

towns *Populated places from naturalearth*

Description

Select a set of cities; the set can be defined using the id of the country, the fact that it is a capital and the size

Usage

```
towns(x, size = NULL, capital = FALSE, crs = NULL, shift = FALSE)
```

Arguments

x	a sf (typically computed using the countries function), or a character that is passed to countries,
size	the minimum size of the cities that have to be retrieved (the default value is NULL and all the cities are retrieved)
capital	if TRUE always retrieve the capitals, even if their size is below the one specified using the size argument
crs	an optional **crs** which is passed to st_transform
shift	a boolean, if TRUE, st_shift_longitude is used

Value

a sf containing five columns:

- iso2: the id of the country,
- iso3: the id of the country,
- name: the name of the city,
- capital: a boolean, TRUE for a capital
- pop: the population of the city,
- point: a point sfc containing the coordinates of the city

Examples

```
we <- countries("Western Europe")
towns(we, size = 1E06, capital = TRUE)
```

utm *Universal Transverse Mercator projection*

Description

utm returns the relevant UTM crs (in the 'proj4string' form)

Usage

```
utm(x)
```

Arguments

x	either an integer (from 1L to 60L) or a 'sf

Details

There is one utm projections for each of the 60 zones that divide the world. The zone can be indicated as an integer (ie 12L, and not 12) or can be computed from a sf object

Value

a character string

a character (a crs i, the 'proj4string' format)

Examples

```
we <- countries("Western Europe")
utm(we)
utm(32L)
```

Index