Package 'bivariateLeaflet'

December 19, 2024

Title Create Bivariate Choropleth Maps with 'Leaflet'

Version 0.1.0

Description Creates bivariate choropleth maps using 'Leaflet'. This package provides tools for visualizing the relationship between two variables through a color matrix representation on an interactive map.

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Encoding UTF-8

RoxygenNote 7.3.2

Imports leaflet, dplyr, htmltools, rlang, sf

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

Config/testthat/edition 3

VignetteBuilder knitr

Depends R (>= 3.50)

NeedsCompilation no

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Contents

assign_colors *Assign Colors Based on Tertiles*

Description

Assign Colors Based on Tertiles

Usage

```
assign_colors(data, color_matrix)
```

Arguments

data	A data frame containing tertile columns
color_matrix	A 3x3 matrix of colors

Value

A data frame with added color column

calculate_tertiles *Calculate Tertiles for Bivariate Variables*

Description

Calculate Tertiles for Bivariate Variables

Usage

```
calculate_tertiles(data, var_1, var_2)
```

Arguments

data	A data frame containing the variables to analyze
var_1	Character string naming the first variable
var_2	Character string naming the second variable

Value

A data frame with added tertile columns

calculate_tertile_breaks *Calculate Tertile Breaks*

Description

Calculate Tertile Breaks

Usage

```
calculate_tertile_breaks(data, variable)
```

Arguments

data	A data frame
variable	Character string naming the variable

Value

A numeric vector of break points

create_bivariate_map *Create Bivariate Choropleth Map*

Description

Create Bivariate Choropleth Map

Usage

```
create_bivariate_map(
  data,
  var_1,
  var_2,
  color_matrix = NULL,
  custom_labels = NULL
)
```

Arguments

data	A spatial data frame
var_1	Character string naming first variable
var_2	Character string naming second variable
color_matrix	Optional custom color matrix
custom_labels	Optional vector of custom HTML labels for tooltips

Value

A leaflet map object

`create_default_color_matrix` *Create Default Color Matrix for Bivariate Choropleth*

Description

Creates a 3x3 color matrix with default colors for bivariate choropleth maps

Usage

```
create_default_color_matrix()
```

Value

A matrix of color hex codes

`dc_data` *Washington DC Census Tract Data*

Description

A dataset containing population and median household income for DC census tracts from ACS 2020. This dataset includes spatial information for creating choropleth maps.

Usage

```
dc_data()
```

Format

An sf object with the following variables:

GEOID Census tract identifier

NAME Census tract name

B01003_001 Total population estimate from ACS

B19013_001 Median household income estimate from ACS

geometry sf geometry column containing tract boundaries

Source

U.S. Census Bureau, 2016-2020 American Community Survey 5-Year Estimates, retrieved using tidycensus package

Examples

```
data(dc_data)
# View the first few rows of non-geometric columns
print(dc_data[1:5, c("GEOID", "B01003_001", "B19013_001")])

# Create a basic map
if (interactive()) {
  map <- create_bivariate_map(
    data = dc_data,
    var_1 = "B01003_001",    # Total population
    var_2 = "B19013_001"     # Median household income
  )
}
```

`generate_legend_html` *Generate Legend HTML*

Description

Generate Legend HTML

Usage

```
generate_legend_html(var_1, var_2, var_1_breaks, var_2_breaks, color_matrix)
```

Arguments

`var_1`	Character string naming first variable
`var_2`	Character string naming second variable
`var_1_breaks`	Numeric vector of breaks for first variable
`var_2_breaks`	Numeric vector of breaks for second variable
`color_matrix`	Matrix of colors

Value

HTML string for legend

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