

# Package ‘bivariateLeaflet’

July 22, 2025

**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.

**License** MIT + file LICENSE

**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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**Repository** CRAN

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## Contents

|                                       |   |
|---------------------------------------|---|
| assign_colors . . . . .               | 2 |
| calculate_tertiles . . . . .          | 2 |
| calculate_tertile_breaks . . . . .    | 3 |
| create_bivariate_map . . . . .        | 3 |
| create_default_color_matrix . . . . . | 4 |
| dc_data . . . . .                     | 4 |
| generate_legend_html . . . . .        | 5 |

|              |          |
|--------------|----------|
| <b>Index</b> | <b>6</b> |
|--------------|----------|

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|               |                                        |
|---------------|----------------------------------------|
| assign_colors | <i>Assign Colors Based on Tertiles</i> |
|---------------|----------------------------------------|

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**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

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|                    |                                                   |
|--------------------|---------------------------------------------------|
| calculate_tertiles | <i>Calculate Tertiles for Bivariate Variables</i> |
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**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

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calculate\_tertile\_breaks  
*Calculate Tertile Breaks*

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**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

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create\_bivariate\_map    *Create Bivariate Choropleth Map*

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**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

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```
create_default_color_matrix
```

*Create Default Color Matrix for Bivariate Choropleth*

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**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

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```
dc_data
```

*Washington DC Census Tract Data*

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**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
  )
}
```

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|                      |                             |
|----------------------|-----------------------------|
| generate_legend_html | <i>Generate Legend HTML</i> |
|----------------------|-----------------------------|

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**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

# Index

## \* **datasets**

dc\_data, [4](#)

assign\_colors, [2](#)

calculate\_tertile\_breaks, [3](#)

calculate\_tertiles, [2](#)

create\_bivariate\_map, [3](#)

create\_default\_color\_matrix, [4](#)

dc\_data, [4](#)

generate\_legend\_html, [5](#)