Package 'statebins'

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Type Package

Title U.S. State Cartogram Heatmaps in R; an Alternative to Choropleth
Maps for USA States

Version 1.2.2

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Description Cartogram heatmaps are an alternative to choropleth maps for USA States
and are based on work by the Washington Post graphics department in their report
on ``The states most threatened by trade''. ``State bins'' preserve as much of the
geographic placement of the states as possible but has the look and feel of a
traditional heatmap. Functions are provided that allow for use of a binned,
discrete scale, a continuous scale or manually specified colors depending on
what is needed for the underlying data.

URL http://github.com/hrbrmstr/statebins

BugReports https://github.com/hrbrmstr/statebins/issues

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Suggests testthat

Depends R (>= 3.0.0),

Imports ggplot2, grid, gridExtra, scales, RColorBrewer

RoxygenNote 5.0.1

NeedsCompilation no

Repository CRAN

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R topics documented:

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Description

statebins is an alternative to choropleth maps for US States

Author(s)

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statebins   *Create a new ggplot-based "statebin" chart for USA states (discrete scale)*

Description

statebins() creates "statebin" charts in the style of <http://bit.ly/statebins>

Usage

```
statebins(state_data, state_col = "state", value_col = "value",
  text_color = "black", font_size = 3, state_border_col = "white",
  breaks = 5, labels = 1:5, legend_title = "Legend",
  legend_position = "top", brewer_pal = "PuBu", plot_title = "",
  title_position = "bottom")
```

Arguments

state_data	data frame of states and values to plot
state_col	column name in state_data that has the states. no duplicates and can be names (e.g. "Maine") or abbreviatons (e.g. "ME")
value_col	column name in state_data that holds the values to be plotted
text_color	default "black"
font_size	font size (default = 3)
state_border_col	default "white" - this creates the "spaces" between boxes
breaks	a single number (greater than or equal to 2) giving the number of intervals into which data values are to be cut.
labels	labels for the levels breaks
legend_title	title for the legend

legend_position

> "none", "top", "left", "right" or "bottom" (defaults to "top")

brewer_pal   which named RColorBrewer palette to use (defaults to "PuBu")

plot_title   title for the plot

title_position where to put the title ("bottom" or "top" or "" for none); if "bottom", you get
                back a grob vs a ggplot object

Details

This version uses discrete RColorBrewer scales, binned by the "breaks" parameter.

The function minimally expects the caller to pass in a data frame that:

- has one column of all state abbreviationis (all caps, including DC & PR or a column of state
  names (standard capitalization) named state
- has another column of values named value

Doing so will create a "statebin" chart with 5 breaks and return a ggplot2 object.

You can use a different column for the state names and values by changing state_col and value_col
accordingly.

To add a title, change plot_title to anything but an empty atomic string vector (i.e. "") and
set title_position to "top" or "bottom". Choosing "bottom" will cause statebins to use
arrangeGrob to position the title via sub and return a frame grob instead of a ggplot2 object.

Value

ggplot2 object or grob

Examples

```
## Not run:
data(USArrests)
USArrests$state <- rownames(USArrests)
statebins(USArrests, value_col="Assault", text_color="black", font_size=3,
          legend_title = "Assault", legend_position="bottom")

## End(Not run)
```

---

statebins_continuous   *Create a new ggplot-based "statebin" chart for USA states (continuous scale)*

Description

statebins() creates "statebin" charts in the style of <http://bit.ly/statebins>

Usage

```
statebins_continuous(state_data, state_col = "state", value_col = "value",
  text_color = "black", font_size = 3, state_border_col = "white",
  legend_title = "Legend", legend_position = "top", brewer_pal = "PuBu",
  plot_title = "", title_position = "bottom")
```

Arguments

state_data	data frame of states and values to plot
state_col	column name in state_data that has the states. no duplicates and can be names (e.g. "Maine") or abbreviatons (e.g. "ME")
value_col	column name in state_data that holds the values to be plotted
text_color	default "black"
font_size	font size (default = 3)
state_border_col	
	default "white" - this creates the "spaces" between boxes
legend_title	title for the legend
legend_position	
	"none", "top", "left", "right" or "bottom" (defaults to "top")
brewer_pal	which named RColorBrewer palette to use (defaults to "PuBu")
plot_title	title for the plot
title_position	where to put the title ("bottom" or "top" or "" for none); if "bottom", you get back a grob vs a ggplot object

Details

This version uses a continuous scale based on RColorBrewer scales (passing in a 6 element RColorBrewer palette to scale_fill_gradientn).

The function minimally expects the caller to pass in a data frame that:

- has one column of all state abbreviationis (all caps, including DC & PR) or a column of state names (standard capitalization) named state
- has another column of values named value

Doing so will create a "statebin" chart with 5 breaks and return a ggplot2 object.

You can use a different column for the state names and values by changing state_col and value_col accordingly.

To add a title, change plot_title to anything but an empty atomic string vector (i.e. "") and set title_position to "top" or "bottom". Choosing "bottom" will cause statebins to use arrangeGrob to position the title via sub and return a frame grob instead of a ggplot2 object.

Value

ggplot2 object or grob

Examples

```
## Not run:
data(USArrests)
USArrests$state <- rownames(USArrests)
statebins_continuous(USArrests, value_col="Murder", text_color="black", font_size=3,
                     legend_title = "Murder", legend_position="bottom")

## End(Not run)
```

---

statebins_manual	*Create a new ggplot-based "statebin" chart for USA states (manually colored)*

Description

statebins() creates "statebin" charts in the style of <http://bit.ly/statebins>

Usage

```
statebins_manual(state_data, state_col = "state", color_col = "color",
  text_color = "black", font_size = 3, state_border_col = "white",
  labels = NULL, legend_title = "Legend", legend_position = "top",
  plot_title = "", title_position = "bottom")
```

Arguments

state_data	data frame of states and values to plot
state_col	column name in state_data that has the states. no duplicates and can be names (e.g. "Maine") or abbreviatons (e.g. "ME")
color_col	column name in state_data that holds the colors to be used
text_color	default "black"
font_size	font size (default = 3)
state_border_col	default "white" - this creates the "spaces" between boxes
labels	labels for the legend (should be the same number as distinct colors in color_col); NULL == no labels/legend
legend_title	title for the legend
legend_position	"none", "top", "left", "right" or "bottom" (defaults to "top")
plot_title	title for the plot
title_position	where to put the title ("bottom" or "top" or "" for none); if "bottom", you get back a grob vs a ggplot object

Details

This version uses manual colors (i.e. pass in a column that defines the color per-state)

The function minimally expects the caller to pass in a data frame that:

- has one column of all state abbreviationis (all caps, including DC & PR or a column of state names (standard capitalization) named state

- has another column of colors named color

Doing so will create a "statebin" chart with the colors specified as a ggplot2 object.

You can use a different column for the state names and colors by changing state_col and color_col accordingly.

To add a title, change plot_title to anything but an empty atomic string vector (i.e. "") and set title_position to "top" or "bottom". Choosing "bottom" will cause statebins to use arrangeGrob to position the title via sub and return a frame grob instead of a ggplot2 object.

Value

ggplot2 object or grob

Examples

```
## Not run:
library(httr)
library(dplyr)
election_2012 <-
  GET("https://raw.githubusercontent.com/hrbrmstr/statebins/master/tmp/election2012.csv")
results <- read.csv(textConnection(content(election_2012, as="text")),
                    header=TRUE, stringsAsFactors=FALSE)
results <- results %>%
  mutate(color=ifelse(is.na(Obama), "#2166ac", "#b2182b")) %>%
  select(state, color)
results %>%
  statebins_manual(font_size=4,
      text_color = "white", labels=c("Romney", "Obama"),
      legend_position="right", legend_title="Winner")

## End(Not run)
```

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