Package ‘ggsn’

February 18, 2019

Type Package
Title North Symbols and Scale Bars for Maps Created with ‘ggplot2’ or ‘ggmap’
Depends R (>= 3.4), ggplot2, grid
Imports sf, png, maptools, ggmap, graphics, utils
Description Adds north symbols (18 options) and scale bars in kilometers, meters, nautical miles, or statute miles, to maps in geographic or metric coordinates created with ‘ggplot2’ or ‘ggmap’.
License GPL (>= 2)
LazyLoad yes
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The ggsn Package

Description

North symbols and scale bars for maps created with 'ggplot' or 'ggmap'. Adds north symbols (18 options) and scale bars in kilometers to maps in geographic or metric coordinates created with 'ggplot' or 'ggmap'.

Details

Package: ggsn
Type: Package
Version: 0.5.0
Date: 2016-11-12
Depends: R (>= 3.4), ggplot2
Imports: grid, ggmap, sf, png, maptools
Suggests: rgdal, broom
License: GPL (>= 2)
LazyLoad: yes
URL: https://github.com/oswaldosantos/ggsn
Author: Oswaldo Santos Baquero <baquero@usp.br>
Maintainer: Oswaldo Santos Baquero <baquero@usp.br>

Blank theme

Description

ggplot blank theme.

Usage

blank()

Examples

## Not run:
library(sf)
data(domestic_violence)
ggplot(domestic_violence, aes(fill = Scaled)) +
geom_sf() +
**domestic_violence**

```
blank() +
scale_fill_continuous(low = "#fff7ec", high = "#F00000")

## End(Not run)
```

---

**domestic_violence**  
**Human and animal violence reports in São Paulo, Brazil**

**Description**

A dataset containing observed and expected scaled values of human and animal violence reports.

**Usage**

```
domestic_violence
```

**Format**

A data frame of class "sf" with 768 rows and 4 variables:

- **Type**: Animal or Human
- **Value**: Observed or Expected
- **Scaled**: Scaled value
- **geometry**: sfc_POLYGON

**References**


---

**north**  
**North symbol**

**Description**

Adds a north symbol to maps created with ggplot or ggmap.

**Usage**

```
north(data = NULL, location = "topright", scale = 0.1, symbol = 1, 
      x.min, x.max, y.min, y.max, anchor = NULL)
```
Arguments

- **data**
  - the same `data.frame` passed to `ggplot` to plot the map.

- **location**
  - string indicating the symbol’s location in the plot. Possible options: "topright" (default), "bottomright", "bottomleft" and "topleft".

- **scale**
  - number between 0 and 1 to indicate the symbol size as a proportion of the map size (bounding box).

- **symbol**
  - number between 1 and 18 to choose a symbol (see `northSymbols`).

- **x.min**
  - if data is not defined, number with the minimum x coordinate. Useful for ggmap.

- **x.max**
  - if data is not defined, number with the maximum x coordinate. Useful for ggmap.

- **y.min**
  - if data is not defined, number with the minimum y coordinate. Useful for ggmap.

- **y.max**
  - if data is not defined, number with the maximum y coordinate. Useful for ggmap.

- **anchor**
  - named vector with coordinates to control the symbol position. For location = "topright", anchor defines the coordinates of the symbol’s topright corner and so forth. The x coordinate must be named as x and the y coordinate as y.

Details

North symbols are included in the plot with the `annotation_custom` function, which do not works when used together with an empty call to ggplot (see last example). When it is convenient to use an empty call to ggplot, use `north2` instead.

Examples

```r
## not run:
library(sf)
data(domestic_violence)
ggplot(domestic_violence, aes(fill = scaled)) +
  geom_sf() +
  north(domestic_violence, location = "bottomright", symbol = 15) +
  scale_fill_continuous(low = "#fff7ec", high = "#7f0000")
## end(not run)
```

Description

Alternative implementation to add a north symbol to maps created with ggplot or map.
Usage

north2(ggp, x = 0.65, y = 0.9, scale = 0.1, symbol = 1)

Arguments

ggp
number between 0 and 1 to indicate the x axis position of the symbol’s bottom
left corner. 0 is the left side and 1 the right side.

x
number between 0 and 1 to indicate the y axis position of the symbol’s bottom
left corner. 0 is the bottom and 1 the top.

y
scale
number between 0 and 1 to indicate the symbol size as a proportion of the plot
area (not the map size).

symbol
number between 1 and 18 to choose a symbol (see northSymbols).

Details

North symbols are included in the plot with the annotation_custom function, which do not works
when used together with an empty call to ggplot (see last example). When it is convenient to use an
empty call to ggplot, use north2 instead.

Examples

## not run:
library(sf)
data(domestic_violence)
map <- ggplot(domestic_violence, aes(fill = Scaled)) +
  geom_sf() +
  scale_fill_continuous(low = "#fff7ec", high = "#7f0000") +
  blank()
north2(map, .5, .5, symbol = 10)

## End(Not run)

describe(northSymbols, usage = "Available north symbols."

Description

Displays available north symbols.

Usage

northSymbols()

Note

The symbols were obtained from QGIS 2.8.1 - Wien.
References

http://www.qgis.org/en/site

Examples

northSymbols()

scalebar

Description

Adds a scale bar to maps created with ggplot or ggmap.

Usage

scalebar(data = NULL, location = "bottomright", dist = NULL, dist_unit = NULL, transform = NULL, dd2km = NULL, model = NULL, height = 0.02, st.dist = 0.02, st.bottom = TRUE, st.size = 5, st.color = "black", box.fill = c("black", "white"), box.color = "black", border.size = 1, x.min = NULL, x.max = NULL, y.min = NULL, y.max = NULL, anchor = NULL, facet.var = NULL, facet.lev = NULL, ...)  

Arguments

data the same data.frame passed to ggplot to plot the map.
location string indicating the scale bar's location in the plot. Possible options: "topright" (default), "bottomright", "bottomleft" and "topleft".
dist distance to represent with each segment of the scale bar.
dist_unit unit of measurement for dist. Possible values: "km" (kilometers) and "m" (meters), "nm" (nautical miles) and "mi" (statue miles).
transform If TRUE, it is assumed that coordinates are in decimal degrees. If FALSE, it assumed that they are in meters.
 dd2km deprecated. Use transform instead.
model choice of ellipsoid model ("WGS84", "GRS80", "Airy", "International", "Clarke", or "GRS67") Used when transform is TRUE.
height number between 0 and 1 to indicate the scale bar's height, as a proportion of the y axis.
st.dist number between 0 and 1 to indicate the distance between the scale bar and the scale bar's text, as a proportion of the y axis.
st.bottom logical. If TRUE (default) the scale bar's text is displayed at the bottom of the scale bar, if FALSE, it is displayed at the top.
st.size number to indicate the scale bar’s size. It is passed to size in annotate function.

st.color color of the scale bar’s text. Default is black.

box.fill fill color of the box. If vector of two colors, the two boxes are filled with a different color. Defaults to black and white.

box.color color of the box’s border. If vector of two colors, the borders of the two boxes are colored differently. Defaults to black.

border.size number to define the border size.

x.min if data is not defined, number with the minimum x coordinate. Useful for ggmap.

x.max if data is not defined, number with the maximum x coordinate. Useful for ggmap.

y.min if data is not defined, number with the minimum y coordinate. Useful for ggmap.

y.max if data is not defined, number with the maximum y coordinate. Useful for ggmap.

anchor named vector with coordinates to control the symbol’s position. For location = "topright", anchor defines the coordinates of the symbol’s topright corner and so forth. The x coordinate must be named as x and the y coordinate as y.

facet.var if faceting, character vector of variable names used for faceting. This is useful for placing the scale bar in only one facet and must be used together with facet.lev.

facet.lev character vector with the name of one level for each variable in facet.var. The scale bar will be drawn only in the facet.lev facet.

... further arguments passed to geom_text.

Examples

```r
## Not run:
library(sf)
data(domestic_violence)

# Map in geographic coordinates
ggplot(domestic_violence, aes(fill = scaled)) +
  geom_sf() +
  scalebar(domestic_violence, dist = 4, dist_unit = "km",
           transform = TRUE, model = "WGS84") +
  blank() +
  scale_fill_continuous(low = "#fff7ec", high = "#F00000")

# Map in projected coordinates
domestic_violence2 <- st_transform(domestic_violence, 31983)
ggplot(domestic_violence2, aes(fill = scaled)) +
  geom_sf() +
  scalebar(domestic_violence2, dist = 4, dist_unit = "km",
           transform = FALSE, model = "WGS84") +
  blank() +
```

scale_fill_continuous(low = 
"#ffe7ec", high = 
"#7f0000")

## End(not run)
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