

Package ‘ggsn’

October 13, 2022

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 statue miles, to maps in geographic or metric coordinates created with 'ggplot2' or 'ggmap'.

License GPL (>= 2)

LazyLoad yes

URL <https://github.com/oswaldosantos/ggsn>

Version 0.5.0

Date 2019-02-18

NeedsCompilation no

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Encoding UTF-8

RoxygenNote 6.1.1

Repository CRAN

Date/Publication 2019-02-18 22:30:19 UTC

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ggsn-package

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*Blank theme*

Description

ggplot blank theme.

Usage

```
blank()
```

Examples

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

```

    blank() +
    scale_fill_continuous(low = "#fff7ec", high = "#7F0000")

## End(Not run)

```

domestic_violence	<i>Human and animal violence reports in São Paulo, Brazil</i>
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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

Baquero, O. S., Ferreira, F., Robis, M., Neto, J. S. F., & Onell, J. A. (2018). Bayesian spatial models of the association between interpersonal violence, animal abuse and social vulnerability in São Paulo, Brazil. *Preventive veterinary medicine*, 152, 48-55.

north	<i>North symbol</i>
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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 <code>data.frame</code> passed to <code>ggplot</code> 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 <code>northSymbols</code>).
x.min	if data is not defined, number with the minimum x coordinate. Useful for <code>ggmap</code> .
x.max	if data is not defined, number with the maximum x coordinate. Useful for <code>ggmap</code> .
y.min	if data is not defined, number with the minimum y coordinate. Useful for <code>ggmap</code> .
y.max	if data is not defined, number with the maximum y coordinate. Useful for <code>ggmap</code> .
anchor	named <code>vector</code> with coordinates to control the symbol position. For <code>location = "topright"</code> , 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

```
## 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)
```

north2

North symbol 2

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	ggplot2 object.
x	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.
y	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.
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)
```

northSymbols

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

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 <code>data.frame</code> passed to <code>ggplot</code> 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.

<code>st.size</code>	number to indicate the scale bar's size. It is passed to <code>size</code> in <code>annotate</code> function.
<code>st.color</code>	color of the scale bar's text. Default is black.
<code>box.fill</code>	fill color of the box. If vector of two colors, the two boxes are filled with a different color. Defaults to black and white.
<code>box.color</code>	color of the box's border. If vector of two colors, the borders of the two boxes are colored differently. Defaults to black.
<code>border.size</code>	number to define the border size.
<code>x.min</code>	if data is not defined, number with the minimum x coordinate. Useful for <code>ggmap</code> .
<code>x.max</code>	if data is not defined, number with the maximum x coordinate. Useful for <code>ggmap</code> .
<code>y.min</code>	if data is not defined, number with the minimum y coordinate. Useful for <code>ggmap</code> .
<code>y.max</code>	if data is not defined, number with the maximum y coordinate. Useful for <code>ggmap</code> .
<code>anchor</code>	named <code>vector</code> with coordinates to control the symbol's position. For <code>location = "topright"</code> , <code>anchor</code> defines the coordinates of the symbol's topright corner and so forth. The x coordinate must be named as <code>x</code> and the y coordinate as <code>y</code> .
<code>facet.var</code>	if faceting, character vector of variable names used for faceting. This is useful for placing the scalebar in only one facet and must be used together with <code>facet.lev</code> .
<code>facet.lev</code>	character vector with the name of one level for each variable in <code>facet.var</code> . The scale bar will be drawn only in the <code>facet.lev</code> facet.
<code>...</code>	further arguments passed to <code>geom_text</code> .

Examples

```
## 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 = "#7F0000")

# 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 = "#fff7ec", high = "#7F0000")  
## End(Not run)
```


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