

Package ‘ggsn’

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Type Package

Title North Symbols and Scale Bars for Maps Created with 'ggplot2' or 'ggmap'

Depends R (>= 3.3.1), ggplot2

Imports png, grid, maptools, graphics

Suggests rgdal, ggmap, broom

Description Adds north symbols (18 options) and scale bars in kilometers to maps in geographic or metric coordinates created with 'ggplot2' or 'ggmap'.

License GPL (>= 2)

LazyLoad yes

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

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Author Oswaldo Santos Baquero [aut, cre]

Maintainer Oswaldo Santos Baquero <baquero@usp.br>

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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: 0.4.0
Date: 2016-03-20
Depends: R (>= 3.3.1), ggplot2
Imports: png, grid, maptools
Suggests: rgdal, ggmap, 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

```
library(rgdal)
library(broom)
dsn <- system.file('extdata', package = 'ggsn')
map <- readOGR(dsn, 'sp')
map@data$id <- 0:(nrow(map@data) - 1)
```

```
map.df <- merge(tidy(map), map, by = 'id')

ggplot(map.df, aes(long, lat, group = group, fill = nots)) +
  geom_polygon() +
  coord_equal() +
  geom_path() +
  north(map.df) +
  blank()

ggplot(map.df, aes(long, lat, group = group, fill = nots)) +
  geom_polygon() +
  coord_equal() +
  geom_path() +
  north(map.df)
```

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 data.frame 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 northSymbols).
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 vector with coordinates to control the symbol 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> .

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

```
library(rgdal); library(broom)
dsn <- system.file('extdata', package = 'ggsn')
map <- readOGR(dsn, 'sp')
map@data$id <- 1:nrow(map@data)
map.df <- merge(tidy(map), map, by = 'id')

ggplot(map.df, aes(long, lat, group = group, fill = nots)) +
  geom_polygon() +
  coord_equal() +
  geom_path() +
  north(map.df) +
  scale_fill_brewer(name = 'Animal abuse\nnotifications', palette = 8)

ggplot(data = map.df, aes(long, lat, group = group, fill = nots)) +
  geom_polygon() +
  coord_equal() +
  geom_path() +
  north(map.df, location = 'bottomleft', symbol = 8) +
  scale_fill_brewer(name = 'Animal abuse\nnotifications', palette = 8)

ggplot(map.df, aes(long, lat, group = group, fill = nots)) +
  geom_polygon() +
  coord_equal() +
  geom_path() +
  north(data = map.df, location = 'bottomright', scale = 0.2, symbol = 14,
        anchor = c(x = -46.4, y = -23.9)) +
  scale_fill_brewer(name = 'Animal abuse\nnotifications', palette = 8)

## Not run:
ggplot() +
  geom_polygon(data = map.df, aes(long, lat, group = group, fill = nots)) +
  coord_equal() +
  geom_path() +
  north(map.df)

## 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

```
library(rgdal); library(broom)
dsn <- system.file('extdata', package = 'ggsn')
map <- readOGR(dsn, 'sp')
map@data$id <- 0:(nrow(map@data) - 1)
map.df <- merge(tidy(map), map, by = 'id')

map2 <- ggplot(data = map.df, aes(long, lat, group = group, fill = nots)) +
  geom_polygon() +
  coord_equal() +
  geom_path() +
  scale_fill_brewer(name = 'Animal abuse\nnotifications', palette = 8)

north2(map2, .5, .5)
```

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

Scale bar

Description

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

Usage

```
scalebar(data = NULL, location = "bottomright", dist, height = 0.02,
  st.dist = 0.02, st.bottom = TRUE, st.size = 5, dd2km = NULL, model,
  x.min, x.max, y.min, y.max, 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 symbol's location in the plot. Possible options: "topright" (default), "bottomright", "bottomleft" and "topleft".
dist	distance in km to represent with each segment of the scale bar.
height	number between 0 and 1 to indicate the height of the scale bar, 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 text, as a proportion of the y axis.
st.bottom	logical. If TRUE (default) the scale bar 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 text size. It is passed to the size argument of annotate function.
dd2km	logical. If TRUE dist it is assumed that map coordinates are in decimal degrees, if FALSE, it assumed they are in meters.
model	choice of ellipsoid model ("WGS84", "GRS80", "Airy", "International", "Clarke", "GRS67") Used when dd2km is TRUE.
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.
facet.var	if faceting, character vector of variable names used for faceting. This is useful for placing the scalebar only in 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.

Examples

```
library(rgdal); library(broom)
dsn <- system.file('extdata', package = 'ggsn')

## Map in geographic coordinates.
map <- readOGR(dsn, 'sp')
map@data$id <- 1:nrow(map@data)
map.df <- merge(tidy(map), map, by = 'id')

ggplot(data = map.df, aes(long, lat, group = group, fill = notes)) +
  geom_polygon() +
  coord_equal() +
  geom_path() +
  scale_fill_brewer(name = 'Animal abuse\nnotifications', palette = 8) +
  scalebar(map.df, dist = 5, dd2km = TRUE, model = 'WGS84')
```

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