

Package ‘ggsn’

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Type Package

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

Depends R (>= 3.2.1), ggplot2

Imports png, grid, maptools, graphics

Suggests rgdal, ggmap, rgeos

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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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: 0.3.0
Date: 2016-01-14
Depends: R (>= 3.2.1), ggplot2
Imports: png, grid, mapproj
Suggests: ggmap, rgeos
License: GPL (>= 2)
LazyLoad: yes
URL: <https://github.com/oswaldosantos/ggsn>
Author: Oswaldo Santos Baquero <oswaldosant@gmail.com>
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blank*Blank theme*

Description

ggplot blank theme.

Usage

```
blank()
```

Examples

```
library(mapproj)
dsn <- system.file('extdata', package = 'ggsn')
shp.path <- paste0(dsn, '/sp')
map <- readShapePoly(shp.path)
map@data$id <- 1:nrow(map@data)
```

```
map.ff <- fortify(map, region = 'id')
map.df <- merge(map.ff, map@data, 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

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

<code>data</code>	the same data.frame passed to <code>ggplot</code> to plot the map.
<code>location</code>	string indicating the symbol's location in the plot. Possible options: "topright" (default), "bottomright", "bottomleft" and "topleft".
<code>scale</code>	number between 0 and 1 to indicate the symbol size as a proportion of the map size (bounding box).
<code>symbol</code>	number between 1 and 18 to choose a symbol (see northSymbols).
<code>x.min</code>	if <code>data</code> is not defined, number with the minimum x coordinate. Useful for <code>ggmap</code> .
<code>x.max</code>	if <code>data</code> is not defined, number with the maximum x coordinate. Useful for <code>ggmap</code> .
<code>y.min</code>	if <code>data</code> is not defined, number with the minimum y coordinate. Useful for <code>ggmap</code> .
<code>y.max</code>	if <code>data</code> is not defined, number with the maximum y coordinate. Useful for <code>ggmap</code> .
<code>anchor</code>	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(mapttools)
dsn <- system.file('extdata', package = 'ggsn')
shp.path <- paste0(dsn, '/sp')
map <- readShapePoly(shp.path)
map@data$id <- 1:nrow(map@data)
map.ff <- fortify(map, region = 'id')
map.df <- merge(map.ff, map@data, 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)
```

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

<code>ggp</code>	ggplot2 object.
<code>x</code>	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.
<code>y</code>	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.
<code>scale</code>	number between 0 and 1 to indicate the symbol size as a proportion of the plot area (not the map size).
<code>symbol</code>	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(maptools)
dsn <- system.file('extdata', package = 'ggsn')
shp.path <- paste0(dsn, '/sp')
map <- readShapePoly(shp.path)
map@data$id <- 1:nrow(map@data)
map.ff <- fortify(map, region = 'id')
map.df <- merge(map.ff, map@data, 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	<i>Available north symbols.</i>
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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	<i>North symbol</i>
----------	---------------------

Description

Adds a north symbol 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)
```

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.

<code>st.dist</code>	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.
<code>st.bottom</code>	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.
<code>st.size</code>	number to indicate the scale bar text size. It is passed to the size argument of annotate function.
<code>dd2km</code>	logical. If TRUE <code>dist</code> it is assumed that map coordinates are in decimal degrees, if FALSE, it assumed they are in meters.
<code>model</code>	choice of ellipsoid model ("WGS84", "GRS80", "Airy", "International", "Clarke", "GRS67") Used when <code>dd2km</code> is TRUE.
<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 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 x and the y coordinate as y.

Examples

```
library(maptools)
dsn <- system.file('extdata', package = 'ggsn')
shp.path <- paste0(dsn, '/sp')

## Map in geographic coordinates.
map <- readShapePoly(shp.path)
map@data$id <- 1:nrow(map@data)
map.ff <- fortify(map, region = 'id')
map.df <- merge(map.ff, map@data, by = 'id')

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) +
  scalebar(map.df, dist = 5, dd2km = TRUE, model = 'WGS84')
```

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