

Package ‘linemap’

September 15, 2017

Type Package

Title Line Maps

Version 0.1.0

Description Create maps made of lines. The package contains two functions: `linemap()` and `getgrid()`. `linemap()` displays a map made of lines using a data frame of gridded data. `getgrid()` transforms a set of polygons (sf objects) into a suitable data frame for `linemap()`.

Depends R (>= 2.10)

Imports graphics, sf, stats

License GPL-3

Encoding UTF-8

LazyData true

RoxygenNote 6.0.1

NeedsCompilation no

Author Timothée Giraud [cre, aut]

Maintainer Timothée Giraud <timothee.giraud@cnrs.fr>

Repository CRAN

Date/Publication 2017-09-15 15:14:12 UTC

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linemap-package	<i>Line Map Package</i>
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Description

Create maps made of lines. The package contains two functions: `linemap` and `getgrid`.

`linemap` displays a map made of lines using a data frame of gridded data.

`getgrid` transforms a set of polygons (`sf` objects) into a suitable data frame for `linemap`.

Note

These three mains sources gave me the inspiration to create `linemap`:

- Joy Division's 'Unknown Pleasures' Cover (https://en.wikipedia.org/wiki/Unknown_Pleasures)
- the work of James Cheshire (Population Lines: How and Why I Created It - <http://spatial.ly/2017/04/population-lines-how-and-why-i-created-it/>)
- the work of Ryan Bideau (GeospatialLineGraphs - <https://github.com/Brideau/GeospatialLineGraphs>)

bretagne	<i>Communes of Bretagne</i>
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Description

Delineations of the Bretagne Communes.

Format

`sf`

Source

Extract from GEOFLA® 2016 v2.2 Communes France Métropolitaine - <http://professionnels.ign.fr/geofla>

france	<i>France</i>
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Description

Delineations of france.

Format

sf

Source

Extract from GEOFLA® 2016 v2.2 Communes France Métropolitaine - <http://professionnels.ign.fr/geofla>

getgrid	<i>Transform a Polygon Layer to a Grid</i>
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Description

Transform a polygon layer to a regular grid data.frame.

Usage

```
getgrid(x, cellsize, var)
```

Arguments

x	an sf polygon layer.
cellsize	size of the side of a grid cell.
var	name of the variable to transform to the grid. It can be a vector of names.

Value

A data frame is returned.

Examples

```

library(linemap)
library(sf)
data("bretagne")
data("france")
# example on an extract of dataset
cotedarmor <- bretagne[bretagne$CODE_DEPT == 22, ]
cota <- getgrid(x = cotedarmor, cellsize = 1750, var = "POPULATION")
opar <- par(mar = c(0,0,0,0))
plot(st_geometry(france), col="lightblue3", border = NA, bg = "lightblue2",
      xlim = c(min(cota$X), max(cota$X)), ylim= c(min(cota$Y), max(cota$Y)))
linemap(x = cota, var = "POPULATION", k = 5, threshold = 1,
        col = "lightblue3", border = "white", lwd = 0.8,
        add = TRUE)
par(opar)

# example on the full dataset
bret <- getgrid(x = bretagne, cellsize = 1750, var = "POPULATION")
opar <- par(mar = c(0,0,0,0))
plot(st_geometry(france), col="lightblue3", border = NA, bg = "lightblue2",
      xlim = c(min(bret$X), max(bret$X)), ylim= c(min(bret$Y), max(bret$Y)))
linemap(x = bret, var = "POPULATION", k = 5, threshold = 1,
        col = "lightblue3", border = "white", lwd = 0.8,
        add = TRUE)
par(opar)

```

linemap

Line Map

Description

Plot a line map.

Usage

```

linemap(x, var, k = 2, threshold = 1, col = "white", border = "black",
        lwd = 0.5, add = FALSE)

```

Arguments

x	a data.frame, two first column must be longitudes and latitudes of gridded data.
var	name of the variable to plot.
k	expansion factor.
threshold	threshold of the data to plot.
col	color for the lines areas.

`border` color for the lines borders.
`lwd` thickness of the lines.
`add` if TRUE add the lines to the current plot.

Examples

```
library(linemap)
data("pop0cc")
# example on an extract of the gridded data
popToulouse <- pop0cc[findInterval(pop0cc$X, c(3600234,3659444)) == 1 &
                      findInterval(pop0cc$Y, c(2290913,2348192)) == 1, ]
opar <- par(mar=c(0,0,0,0), bg = "ivory1")
linemap(x = popToulouse, var = "pop", k = 2.5, threshold = 50,
        col = "ivory1", border = "ivory4", lwd = 0.6, add = FALSE)
par(opar)

# example on the full dataset
library(sf)
data("occitanie")
opar <- par(mar=c(0,0,0,0), bg = "ivory2")
plot(st_geometry(occitanie), col="ivory1", border = NA)
linemap(x = pop0cc, var = "pop", k = 2.5, threshold = 50,
        col = "ivory1", border = "ivory4", lwd = 0.6, add = TRUE)
par(opar)
```

occitanie

Occitanie Region

Description

Delineations of the Occitanie Region.

Format

sf

Source

Extract from GEOFLA® 2016 v2.2 Communes France Métropolitaine - <http://professionnels.ign.fr/geofla>

popOcc

Population Data for Occitanie

Description

Gridded population of Occitanie

Format

data.frame

Fields

X longitude

Y latitude

pop population

Source

Extract from INSEE's gridded population data, Population 2009(?) - <https://www.insee.fr/fr/statistiques/1405815>

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