Package 'rCarto'

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Type Package

Title This package builds maps with a full cartographic layout.

Version 0.8

Date 2013-03-19

Author Timothee Giraud - UMS RIATE (CNRS)

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Description This package makes some maps using shapefiles and
dataframes. Five kinds of maps are available : proportionnal
circles, proportionnal circles colored by a discretized
quantitative variable, proportionnal circles colored by the
modalities of a qualitative variable, choropleth and typology.

Depends RColorBrewer,maptools,classInt

License GPL (>= 2.0)

NeedsCompilation no

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R topics documented:

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rCarto-package   *Maps with Full Cartographic Layout*

Description

This package makes some maps using shapefiles and dataframes. Five kinds of maps are available:

- proportionnal circles
- proportionnal circles colored by discretized quantitative data
- proportionnal circles colored by modalities of qualitative data
- choropleth
- typology

Details

Package:	rCarto
Type:	Package
Version:	0.8
Date:	2013-03-19
License:	GPL (>=2.0)

Note

Some part of the code (legend position, management of diverging color palettes) are inspired by some functions of the rgrs package.

Author(s)

Timothee Giraud - UMS RIATE (CNRS)
<timothee.giraud@ums-riate.fr>

References

RColorBrewer, maptools, classInt and rgrs packages

Bivand, Roger S., Pebesma, Edzer J., Gomez-Rubio, Virgilio, 2008, Applied Spatial Data Analysis with R, Springer.

Tanimura, S., Kuroiwa, C., and Mizota, T. (2006) Proportional symbol mapping in R. Journal of Statistical Software 15(5). http://www.jstatsoft.org/v15/i05/paper

See Also

rCarto-package	rCarto package
mapCircles	proportional circles

mapCirclesChoro	proportional circles colored by a discretized quantitative variable
mapCirclesTypo	proportional circles colored by the modalities of a qualitative variable
mapChoropleth	choropleth
mapChoroTypo	typology
mtq	data
commune	shapefile

| commune | *Shapefile of Communes of the Martinique Island* |

Description

Shapefile of communes of the Martinique island (France). This shapefile is a GEOFLA extract.

Format

A shapefile with 34 observations on 18 variables.

ID_GEOFLA identifier of the polygons

CODE_COMM other identifier of the polygons

INSEE_COM identifier of the polygons to be used in examples

NOM_COMM names of the communes

... not used

Source

http://professionnels.ign.fr/geofla#tab-3

Original data can be retreived here (page reached on 2012-11-19) :
http://professionnels.ign.fr/sites/default/files/GEOFLA_1-1_SHP_UTM20W84_MQ-ED111.tar.gz

See Also

rCarto-package	rCarto package
mapCircles	proportional circles
mapCirclesChoro	proportional circles colored by a discretized quantitative variable
mapCirclesTypo	proportional circles colored by the modalities of a qualitative variable
mapChoropleth	choropleth
mapChoroTypo	typology
mtq	data
commune	shapefile

Examples

```
## to read the shapefile in R
shpMtq<-readShapeSpatial(file.path(path.package("rCarto"), "shapes/COMMUNE"))
```

---

mapChoropleth   *Choropleth*

Description

This function represents a numeric variable through a choropleth map.

Usage

```
mapChoropleth(shpFile, shpId, df, dfId, var,
              nclass = 6, style = "quantile",
              fixBrks = FALSE, listBrks = NULL, diverg = FALSE, divergBrk = 0,
              lgdRnd = 2, posLeg = "bottomleft",
              palCol = "Greens", palColPos = "Reds", palColNeg = "Blues",
              NACol = "grey",
              title = var, legend = var, author = "author", sources = "sources",
              scalebar = FALSE, scalebarSize, scalebarText,
              northArrow = FALSE, northArrowSize,
              width = NULL, height = NULL, txtCex = NULL)
```

Arguments

shpFile	Path to a polygon shapefile.
shpId	Unique identifier of the shapefile. It must correspond to dfId.
df	Data frame that contains the variable to be mapped.
dfId	Unique identifier of the data frame. It must correspond to shpId.
var	Name of the numeric variable to be mapped.
nclass	Number of classes to be represented.
style	Method used to provide the class intervals. See [style](#) in the classIntervals function from the classInt package.
fixBrks	FALSE (default): the class intervals are computed through the style argument. TRUE : the class intervals are provided through the listBrks argument, nclass and style are not used.
listBrks	Vector of values used as breaks for the class intervals when fixBrks = TRUE.
diverg	FALSE (default): there is no color break in the color palette. TRUE : a break is introduced in the color palette. Palettes are defined through the palColPos and palColNeg arguments, respectively for values superior to the divergBrk value and inferior to the divergBrk value.

divergBrk	Value used to define the break in the color palette if diverg=TRUE.
lgdRnd	Rounding of the class intervals presented in the legend.
posLeg	Position of the legend (top, bottom, left, right, center, topleft, topright, bottomleft or bottomright).
palCol	Color palette, provided through RColorBrewer, to be used in the map. Use display.brewer.all() to see the available color ramps. For a more detailed overview : [RColorBrewer](#).
palColPos	Palette used for values superior to divergBrk if diverg=TRUE. See palCol for details.
palColNeg	Palette used for values inferior to divergBrk if diverg=TRUE. See palCol for details.
NACol	Color used to draw units with no data (NA).
title	Title of the map.
legend	Title of the legend.
author	Two lines (author and sources) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
sources	Two lines (author and sources) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
scalebar	FALSE (default): don't draw a scale bar. TRUE : draws a scale bar. The choice of the scale bar location is interactive.
scalebarSize	Size of the scale bar in map units.
scalebarText	Text of the scale bar.
northArrow	FALSE (default) : don't draw a North arrow. TRUE : draws a North arrow. The choice of the North arrow location is interactive.
northArrowSize	Size of the North arrow in map units.
width	Width of the map in cm.
height	Height of the map in cm.
txtCex	Size of the texts.

Details

Only the five first arguments are compulsory.

Value

A choropleth map is displayed in the graphic window.
You can export the map in raster or vector format (pdf).

Author(s)

Timothee Giraud - UMS RIATE (CNRS)

See Also

Examples

```
library(rCarto)
data(mtq)
# minimal example
mtq$POPVAR <- (mtq$P09_POP-mtq$P99_POP) / mtq$P99_POP
mapChoropleth(shpFile=file.path(path.package("rCarto"), "shapes/COMMUNE"),
              shpId="INSEE_COM",df=mtq,dfId="ID",var="POPVAR")
# detailed example
mtq$POPVAR[3] <- NA
mapChoropleth(shpFile=file.path(path.package("rCarto"), "shapes/COMMUNE"),
              shpId="INSEE_COM",df=mtq,dfId="ID",var="POPVAR",
              nclass=6,style="quantile",
              diverg=TRUE,divergBrk=0,
              lgdRnd=2,posLeg="bottomleft",
              palColPos="Greens",palColNeg="Blues",NACol="grey",
              title="Population growth in Martinique",
              legend="Population growth\nrate between\n1999 and 2009",
              author=Sys.getenv("USERNAME"),
              sources="data : INSEE,2009; basemap : IGN, 2012")
```

---

mapChoroTypo	*Typology*

Description

This function represents a qualitative variable through a map. Polygons are filled in relation to the variable modalities.

Usage

```
mapChoroTypo(shpFile, shpId, df, dfId, var,
             posLeg = "bottomleft", palCol = "Paired", NACol = "grey",
             title = var, legend = var, author = "author", sources = "sources",
             scalebar = FALSE, scalebarSize, scalebarText,
             northArrow = FALSE, northArrowSize,
             width = NULL, height = NULL, txtCex = NULL)
```

Arguments

`shpFile`	Path to a polygon shapefile.
`shpId`	Unique identifier of the shapefile. It must correspond to `dfId`.
`df`	Data frame that contains the variable to be mapped.
`dfId`	Unique identifier of the data frame. It must correspond to `shpId`.
`var`	Name of the qualitative variable to be mapped.
`posLeg`	Position of the legend (top, bottom, left, right, center, topleft, topright, bottomleft or bottomright).
`palCol`	Color palette, provided through `RColorBrewer`, to be used in the map. Use `display.brewer.all()` to see the available color ramps. For a more detailed overview : [RColorBrewer](#).
`NACol`	Color used to draw units with no data (NA).
`title`	Title of the map.
`legend`	Title of the legend.
`author`	Two lines (`author` and `sources`) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
`sources`	Two lines (`author` and `sources`) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
`scalebar`	FALSE (default): don't draw a scale bar. TRUE : draws a scale bar. The choice of the scale bar location is interactive.
`scalebarSize`	Size of the scale bar in map units.
`scalebarText`	Text of the scale bar.
`northArrow`	FALSE (default) : don't draw a North arrow. TRUE : draws a North arrow. The choice of the North arrow location is interactive.
`northArrowSize`	Size of the North arrow in map units.
`width`	Width of the map in cm.
`height`	Height of the map in cm.
`txtCex`	Size of the texts.

Details

Only the five first arguments are compulsory.

Value

A typology map is displayed in the graphic window.
You can export the map in raster or vector format (pdf).

Author(s)

Timothee Giraud - UMS RIATE (CNRS)

See Also

Examples

```
library(rCarto)
data(mtq)
# minimal example
mtq[c(1,12,18,23,33,8,24),"beach"] <- "No access to the beach"
mtq[c(2,4,5,6,9,13,17,20,21,25,26,29,31,34,11,27,7,19),"beach"] <- "Caribbean Sea"
mtq[c(14,15,16,22,28,30,32,10,3),"beach"] <- "Atlantic Ocean"
mapChoroTypo(shpFile=file.path(path.package("rCarto"), "shapes/COMMUNE"),
             shpId="INSEE_COM",df=mtq,dfId="ID",var="beach")
```

---

mapCircles	*Proportional Circles*

Description

This function represents a variable through a proportional circles map. The areas of the circles are proportional to values of a numeric variable.

Usage

```
mapCircles(shpFile, shpId, df, dfId, var,
         fixedNorm = FALSE, shareOfCircles = 0.02,
         radiusMax = 0.5, valueMax = max(df[, var], na.rm = TRUE),
         lgdRnd = 0, posLeg = "bottomleft",
         circleCol = "#FD8D3C", baseCol = "#FFEDA0",
         title = var, legend = var, author = "author", sources = "sources",
         scalebar = FALSE, scalebarSize, scalebarText,
         northArrow = FALSE, northArrowSize,
         width = NULL, height = NULL, txtCex = NULL)
```

Arguments

shpFile	Path to a polygon shapefile.
shpId	Unique identifier of the shapefile. It must correspond to dfId.
df	Data frame that contains the variable to be mapped.
dfId	Unique identifier of the data frame. It must correspond to shpId.
var	Name of the positive numeric variable to be mapped.
fixedNorm	FALSE (default) : the sum of the surfaces occupied by circles is proportional to the size of the map and is declared by the shareOfCircles argument, radiusMax and valueMax are not used. TRUE : the size of the largest circle is defined by a radius size (radiusMax) and a fixed variable value (valueMax), the shareOfCircles argument is not used.
shareOfCircles	Share of the surface of the map occupied by circles (0.02 is 2%).
radiusMax	Size (in cm) of the radius of the biggest circle.
valueMax	Value used to normalize the size of the largest circle (in variable units).
lgdRnd	Rounding of the values of the variable presented in the legend.
posLeg	Position of the legend (top, bottom, left, right, center, topleft, topright, bottomleft or bottomright).
circleCol	Color of the circles.
baseCol	Color of the base map.
title	Title of the map.
legend	Title of the legend.
author	Two lines (author and sources) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
sources	Two lines (author and sources) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
scalebar	FALSE (default): don't draw a scale bar. TRUE : draws a scale bar. The choice of the scale bar location is interactive.
scalebarSize	Size of the scale bar in map units.
scalebarText	Text of the scale bar.
northArrow	FALSE (default) : don't draw a North arrow. TRUE : draws a North arrow. The choice of the North arrow location is interactive.
northArrowSize	Size of the North arrow in map units.
width	Width of the map in cm.
height	Height of the map in cm.
txtCex	Size of the texts.

Details

The circles are centered on the centroids of the polygons.
Only the five first arguments are compulsory.

Value

A proportionnal circle map is displayed in the graphic window.
You can export the map in raster or vector format (pdf).

Author(s)

Timothee Giraud - UMS RIATE (CNRS)

See Also

rCarto-package	rCarto package
mapCircles	proportional circles
mapCirclesChoro	proportional circles colored by a discretized quantitative variable
mapCirclesTypo	proportional circles colored by the modalities of a qualitative variable
mapChoropleth	choropleth
mapChoroTypo	typology
mtq	data
commune	shapefile

Examples

```
library(rCarto)
data(mtq)
# minimal example
mapCircles(shpFile=file.path(path.package("rCarto"), "shapes/COMMUNE"),
          shpId="INSEE_COM",df=mtq,dfId="ID",var="P09_POP", )

# detailed example
mapCircles(shpFile=file.path(path.package("rCarto"), "shapes/COMMUNE"),
          shpId="INSEE_COM",df=mtq,dfId="ID",var="P09_POP",
          shareOfCircle=0.1,
          lgdRnd=0,circleCol="Red",
          title="Population distribution in Martinique",
          legend="Total resident\npopulation in 2009",
          author=Sys.getenv("USERNAME"),
          sources="data : INSEE,2009; basemap : IGN, 2012")
```

---

mapCirclesChoro   *Proportional Circles Colored by a Discretized Quantitative Variable*

Description

This function represents two variables through a proportional circles map. The areas of the circles are proportional to values of a quantitative variable and their colors reflect the discretization of an other numeric variable.

Usage

```
mapCirclesChoro(shpFile, shpId, df, dfId, var, var2,
                fixedNorm = FALSE, shareOfCircles = 0.02,
                radiusMax = 0.5, valueMax = max(df[, var], na.rm = TRUE),
                lgdRndCircles = 0, posLegCircles = "topright",
                circleCol = "grey", baseCol = "#FFEDA0",
              nclass = 6, style = "quantile", fixBrks = FALSE, listBrks = NULL,
                diverg = FALSE, divergBrk = 0,
                palCol = "Greens", palColPos = "Reds", palColNeg = "Blues",
                NACol = "grey",
                lgdRndDistr = 2, posLegDistr = "bottomleft",
                title = paste(var, var2, sep = " & "),
                legendCircles = var, legendDistr = var2,
                author = "author", sources = "sources",
                scalebar = FALSE, scalebarSize, scalebarText,
                northArrow = FALSE, northArrowSize,
                width = NULL, height = NULL, txtCex = NULL)
```

Arguments

shpFile	Path to a polygon shapefile.
shpId	Unique identifier of the shapefile. It must correspond to dfId.
df	Data frame that contains the variables to be mapped.
dfId	Unique identifier of the data frame. It must correspond to shpId.
var	Name of the positive numeric variable to be mapped through the sizes of the circles.
var2	Name of the positive numeric variable to be mapped through the colors of the circles.
fixedNorm	FALSE (default) : the sum of the surfaces occupied by circles is proportional to the size of the map and is declared by the shareOfCircles argument, radiusMax and valueMax are not used. TRUE : the size of the largest circle is defined by a radius size (radiusMax) and a fixed variable value (valueMax), the shareOfCircles argument is not used.
shareOfCircles	Share of the surface of the map occupied by circles (0.02 is 2%).
radiusMax	Size (in cm) of the radius of the biggest circle.

valueMax	Value used to normalize the size of the largest circle (in variable units).
lgdRndCircles	Rounding of the values of the variable presented in the legend of the circles.
posLegCircles	Position of the legend of the circles(top, bottom, left, right, center, topleft, topright, bottomleft or bottomright).
circleCol	Color of the circles in the legend
baseCol	Color of the base map.
nclass	Number of classes to be represented.
style	Method used to provide the class intervals. See [style](#) in the classIntervals function from the classInt package.
fixBrks	FALSE (default): the class intervals are computed through the style argument. TRUE : the class intervals are provided through the listBrks argument, nclass and style are not used.
listBrks	Vector of values used as breaks for the class intervals when fixBrks = TRUE.
diverg	FALSE (default): there is no color break in the color palette. TRUE : a break is introduced in the color palette. Palettes are defined through the palColPos and palColNeg arguments, respectively for values superior to the divergBrk value and inferior to the divergBrk value.
divergBrk	Value used to define the break in the color palette if diverg=TRUE.
palCol	Color palette, provided through RColorBrewer, to be used in the map. Use display.brewer.all() to see the available color ramps. For a more detailed overview : [RColorBrewer.](#)
palColPos	Palette used for values superior to divergBrk if diverg=TRUE. See palCol for details.
palColNeg	Palette used for values inferior to divergBrk if diverg=TRUE. See palCol for details.
NACol	Color used to draw units with no data (NA).
lgdRndDistr	Rounding of the class intervals presented in the legend.
posLegDistr	Position of the legend of the discretization (top, bottom, left, right, center, topleft, topright, bottomleft or bottomright).
title	Title of the map.
legendCircles	Title of the legend for the circles
legendDistr	Title of the legend for the discretization
author	Two lines (author and sources) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
sources	Two lines (author and sources) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
scalebar	FALSE (default): don't draw a scale bar. TRUE : draws a scale bar. The choice of the scale bar location is interactive.
scalebarSize	Size of the scale bar in map units.

scalebarText	Text of the scale bar.
northArrow	FALSE (default) : don't draw a North arrow. TRUE : draws a North arrow. The choice of the North arrow location is interactive.
northArrowSize	Size of the North arrow in map units.
width	Width of the map in cm.
height	Height of the map in cm.
txtCex	Size of the texts.

Details

The circles are centered on the centroids of the polygons.
Only the six first arguments are compulsory.

Value

A map is displayed in the graphic window.
You can export the map in raster or vector format (pdf).

Author(s)

Timothee Giraud - UMS RIATE (CNRS)

See Also

rCarto-package	rCarto package
mapCircles	proportional circles
mapCirclesChoro	proportional circles colored by a discretized quantitative variable
mapCirclesTypo	proportional circles colored by the modalities of a qualitative variable
mapChoropleth	choropleth
mapChoroTypo	typology
mtq	data
commune	shapefile

Examples

```
library(rCarto)
data(mtq)

# minimal example
mtq$POPVAR <- (mtq$P09_POP-mtq$P99_POP) / mtq$P99_POP
mapCirclesChoro(shpFile=file.path(path.package("rCarto"), "shapes/COMMUNE"),
                shpId="INSEE_COM",df=mtq,dfId="ID",var="P09_POP",var2="POPVAR")
```

---

mapCirclesTypo   *Proportionnal Circles Colored by the Modalities of a Qualitative Variable*

Description

This function represents two variables through a proportional circles map. The areas of the circles are proportional to values in a quantitative variable and their colors reflect a the modalities of a qualitative variable.

Usage

```
mapCirclesTypo(shpFile, shpId, df, dfId, var, var2,
               fixedNorm = FALSE, shareOfCircles = 0.02,
               radiusMax = 0.5, valueMax = max(df[, var], na.rm = TRUE),
               lgdRndCircles = 0, posLegCircles = "topright",
               circleCol = "grey", baseCol = "#FFEDA0",
               posLegTypo = "bottomleft", palCol = "Paired", NACol = "grey",
               title = paste(var, var2, sep = " & "),
               legendCircles = var, legendTypo = var2,
               author = "author", sources = "sources",
               scalebar = FALSE, scalebarSize, scalebarText,
               northArrow = FALSE, northArrowSize,
               width = NULL, height = NULL, txtCex = NULL)
```

Arguments

shpFile	Path to a polygon shapefile.
shpId	Unique identifier of the shapefile. It must correspond to dfId.
df	Data frame that contains the variables to be mapped.
dfId	Unique identifier of the data frame. It must correspond to shpId.
var	Name of the positive numeric variable to be mapped through the sizes of the circles.
var2	Name of the qualitative variable to be mapped.
fixedNorm	FALSE (default) : the sum of the surfaces occupied by circles is proportional to the size of the map and is declared by the shareOfCircles argument, radiusMax and valueMax are not used. TRUE : the size of the largest circle is defined by a radius size (radiusMax) and a fixed variable value (valueMax), the shareOfCircles argument is not used.
shareOfCircles	Share of the surface of the map occupied by circles (0.02 is 2%).
radiusMax	Size (in cm) of the radius of the biggest circle.
valueMax	Value used to normalize the size of the largest circle (in variable units).
lgdRndCircles	Rounding of the values of the variable presented in the legend of the circles.

posLegCircles	Position of the legend of the circles(top, bottom, left, right, center, topleft, topright, bottomleft or bottomright).
circleCol	Color of the circles in the legend
baseCol	Color of the base map.
posLegTypo	Position of the legend of the typology (top, bottom, left, right, center, topleft, topright, bottomleft or bottomright).
palCol	Color palette, provided through RColorBrewer, to be used in the map. Use `display.brewer.all()` to see the available color ramps. For a more detailed overview : RColorBrewer.
NACol	Color used to draw units with no data (NA).
title	Title of the map.
legendCircles	Title of the legend for the circles
legendTypo	Title of the legend for the typology
author	Two lines (`author` and `sources`) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
sources	Two lines (`author` and `sources`) at the bottom of the map are available to display additional information. It is recommended to display the name of the author and the sources of the data and the base map.
scalebar	FALSE (default): don't draw a scale bar. TRUE : draws a scale bar. The choice of the scale bar location is interactive.
scalebarSize	Size of the scale bar in map units.
scalebarText	Text of the scale bar.
northArrow	FALSE (default) : don't draw a North arrow. TRUE : draws a North arrow. The choice of the North arrow location is interactive.
northArrowSize	Size of the North arrow in map units.
width	Width of the map in cm.
height	Height of the map in cm.
txtCex	Size of the texts.

Details

The circles are centered on the centroids of the polygons.
Only the six first arguments are compulsory.

Value

A map is displayed in the graphic window.
You can export the map in raster or vector format (pdf).

Author(s)

Timothee Giraud - UMS RIATE (CNRS)

See Also

Examples

```
library(rCarto)
data(mtq)

# minimal example
mtq[c(1,12,18,23,33,8,24),"beach"] <- "No access to the beach"
mtq[c(2,4,5,6,9,13,17,20,21,25,26,29,31,34,11,27,7,19),"beach"] <- "Caribbean Sea"
mtq[c(14,15,16,22,28,30,32,10,3),"beach"] <- "Atlantic Ocean"
mapCirclesTypo(shpFile=file.path(path.package("rCarto"), "shapes/COMMUNE"),
               shpId="INSEE_COM",df=mtq,dfId="ID",var="P09_POP",var2="beach")
```

---

mtq   *Census Data on Communes of the Martinique Island*

Description

Some demographic variables from censuses (1999 and 2009).

Usage

```
data(mtq)
```

Format

A data frame with 34 observations on the following 16 variables.

ID a numeric vector, INSEE Ids of the communes

P09_POP total population in 2009

P99_POP total population in 1999

P09_POP0014 population of 00-14 years population in 2009

P09_POP1529 population of 15-29 years population in 2009

P09_POP3044 population of 30-44 years population in 2009

P09_POP4559 population of 45-59 years population in 2009

P09_POP6074 population of 60-74 years population in 2009

P09_POP75P population of 75 and more years population in 2009

P99_POP0014 population of 00-14 years population in 2009

P99_POP1529 population of 15-29 years population in 2009

P99_POP3044 population of 30-44 years population in 2009

P99_POP4559 population of 45-59 years population in 2009

P99_POP6074 population of 60-74 years population in 2009

P99_POP75P population of 75 and more years population in 2009

Source

Chiffres cles - Evolution et structure de la population

Decoupage geographique au 01/01/2011 - Mise en ligne le 28 juin 2012

Insee, Recensements de la population - Etat civil.

Original data can be retreived here (page reached on 2012-11-16):
http://www.recensement.insee.fr/telechargement/bases-chiffres-cles/BTX_CC_POP_2009.zip

See Also

rCarto-package	rCarto package
mapCircles	proportional circles
mapCirclesChoro	proportional circles colored by a discretized quantitative variable
mapCirclesTypo	proportional circles colored by the modalities of a qualitative variable
mapChoropleth	choropleth
mapChoroTypo	typology
mtq	data
commune	shapefile

Examples

```
data(mtq)
```

Index