Package 'tanaka'

March 8, 2019

Type Package

Title Design Shaded Contour Lines (or Tanaka) Maps

Version 0.1.0

Description
The Tanaka method enhances the representation of topography on a map using shaded contour lines. In this simplified implementation of the method, north-west white contours represent illuminated topography and south-east black contours represent shaded topography.

License GPL-3

Imports raster, sf, isoband, methods, lwgeom, grDevices, graphics

Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

Suggests testthat, sp, covr

NeedsCompilation no

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Repository CRAN

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R topics documented:

tanaka *tanaka*

Description

Tanaka pkg

This function plots a tanaka map.

Usage

```
tanaka(x, nclass = 8, breaks, col, mask, light = "#ffffff70",
  dark = "#00000090", shift, legend.pos = "left",
  legend.title = "Elevation")
```

Arguments

x	a raster or an sf contour layer (e.g. the result of tanaka_contour()).
nclass	a number of class.
breaks	a list of breaks.
col	a color palette (a vector of colors).
mask	a mask layer, a POLYGON or MULTIPOLYGON sf object.
light	light shadow (NW color).
dark	dark shadow (SE color).
shift	size of the shadow (in map units).
legend.pos	position of the legend, one of "topleft", "top", "topright", "right", "bottomright", "bottom", "bottomleft", "left" or a vector of two coordinates in map units (c(x, y)). If legend.pos="n" then the legend is not plotted.
legend.title	title of the legend.

Value

A Tanaka contour map is plotted.

References

Tanaka, K. (1950). The relief contour method of representing topography on maps. *Geographical Review, 40*(3), 444-456.

Examples

```
library(tanaka)
library(raster)
library(sf)
com <- st_read(system.file("gpkg/com.gpkg", package = "tanaka"), quiet = TRUE)
ras <- raster(system.file("grd/elev.grd", package = "tanaka"))
tanaka(ras)
tanaka(ras, mask = com)
tanaka(ras, breaks = seq(80,400,20),
       legend.pos = "topright",
       legend.title = "Elevation\n(meters)")
```

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tanaka_contour *Create a Contour Layer*

Description

Create a contour layer.

Usage

```
tanaka_contour(x, nclass = 8, breaks, mask)
```

Arguments

x	a raster object.
nclass	a number of class.
breaks	a list of breaks.
mask	a mask layer, a POLYGON or MULTIPOLYGON sf object.

Value

A MULTIPOLYGON sf object is return. The data.frame contains 3 fields: id, min (minimum value of the raster in the MULTIPOLYGON) and max (maximum value of the raster in the MULTIPOLYGON).

Examples

```
library(tanaka)
library(raster)
library(sf)
ras <- raster(system.file("grd/elev.grd", package = "tanaka"))
iso <- tanaka_contour(x = ras)
plot(st_geometry(iso), col = c("#FBDEE1", "#F0BFC3", "#E7A1A6",
                               "#DD8287", "#D05A60", "#C03239",
                               "#721B20", "#1D0809"))
```

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