Package: plainview (via r-universe)

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Title Plot Raster Images Interactively on a Plain HTML Canvas

Version 0.2.1

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Description Provides methods for plotting potentially large (raster) images interactively on a plain HTML canvas. In contrast to package 'mapview' data are plotted without background map, but data can be projected to any spatial coordinate reference system. Supports plotting of classes 'RasterLayer', 'RasterStack', 'RasterBrick' (from package 'raster') as well as 'png' files located on disk. Interactivity includes zooming, panning, and mouse location information. In case of multi-layer 'RasterStacks' or 'RasterBricks', RGB image plots are created (similar to 'raster::plotRGB' - but interactive).

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Encoding UTF-8

Depends R (>= 2.10), methods

Imports htmltools, htmlwidgets, lattice, png, raster, viridisLite

Suggests shiny, sf, sp

LazyData true

RoxygenNote 7.2.3

URL https://r-spatial.github.io/plainview/, https://github.com/r-spatial/plainview

BugReports https://github.com/r-spatial/plainview/issues

Repository https://r-spatial.r-universe.dev

RemoteUrl https://github.com/r-spatial/plainview

RemoteRef HEAD

RemoteSha e7d8a620702b6aabfe2d01f9804056f94bb982db

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Description

Plot Raster Images Interactively on a Plain HTML Canvas

Details

Provides methods for plotting potentially large (raster) images interactively on a plain HTML canvas. Supports plotting of RasterLayer, RasterStack, RasterBrick (from package raster) as well as png files located on disk. Interactivity includes zooming, panning, and mouse location information. In case of multi-layer RasterStacks or RasterBricks, RBG image plots are created (similar to raster::plotRGB - but interactive).

Author(s)

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`plainView` *View raster objects interactively without background map but in any CRS*

Description

this function produces an interactive view of the specified raster object(s) on a plain grey background but for any CRS.

Usage

```
## S4 method for signature 'RasterLayer'
plainView(
  x,
  maxpixels = 1e+08,
  col.regions = viridisLite::inferno,
  at,
  na.color = "#BEBEBE",
  legend = TRUE,
```

```
  verbose = FALSE,
  layer.name = deparse(substitute(x, env = parent.frame())),
  gdal = TRUE,
  ...
)

## S4 method for signature 'RasterStackBrick'
plainView(
  x,
  r = 3,
  g = 2,
  b = 1,
  na.color = "#BEBEBE",
  maxpixels = 1e+08,
  layer.name = deparse(substitute(x, env = parent.frame())),
  ...
)

## S4 method for signature 'SpatialPixelsDataFrame'
plainView(x, zcol = 1, ...)

## S4 method for signature 'ANY'
plainview(...)
```

Arguments

x	a raster* object
maxpixels	integer > 0. Maximum number of cells to use for the plot. If maxpixels < ncell(x), sampleRegular is used before plotting.
col.regions	color (palette).See levelplot for details.
at	the breakpoints used for the visualisation. See levelplot for details.
na.color	color for missing values.
legend	either logical or a list specifying any of the components decribed in the colorkey section of levelplot.
verbose	should some details be printed during the process
layer.name	the name of the layer to be shown on the map
gdal	logical. If TRUE (default) gdal_translate is used to create the png file for display when possible. See details for further information.
...	arguments passed on to respective methods
r	integer. Index of the Red channel, between 1 and nlayers(x)
g	integer. Index of the Green channel, between 1 and nlayers(x)
b	integer. Index of the Blue channel, between 1 and nlayers(x)
zcol	attribute name or column number in attribute table of the column to be rendered

Details

If the raster object is not in memory (i.e. if `raster::inMemory` is `FLASE`) and argument `gdal` is set to TRUE (default) gdal_translate is used to translate the rsater object to a png file to be rendered in the viewer/browser. This is fast for large rasters. In this case, argument `maxpixels` is not used, instead the image is rendered in original resolution. However, this means that RasterLayers will be shown in greyscale. If you want to set a color palette manually, use `gdal = FALSE` and (optionally provide) `col.regions`.

For plainView there are a few keyboard shortcuts defined:

- plus/minus - zoom in/out
- space - toggle antialiasing
- esc - zoom to layer extent
- enter - set zoom to 1
- ctrl - increase panning speed by 10

Methods (by class)

- `plainView(RasterStackBrick)`: `stack` / `brick`
- `plainView(SpatialPixelsDataFrame)`: `SpatialPixelsDataFrame`
- `plainview(ANY)`: alias for ease of typing

Author(s)

Stephan Woellauer

Tim Appelhans

Examples

```
if (interactive()) {

  # RasterLayer
  plainView(poppendorf[[4]])

  # RasterStack
  plainview(poppendorf, r = 4, g = 3, b = 2) # true color
  plainview(poppendorf, r = 5, g = 4, b = 3) # false color

}
```

plainViewOutput *Widget output/render function for use in Shiny*

Description

Widget output/render function for use in Shiny

Usage

```
plainViewOutput(outputId, width = "100%", height = "400px")

renderPlainView(expr, env = parent.frame(), quoted = FALSE)
```

Arguments

outputId	Output variable to read from
width, height	the width and height of the map (see shinyWidgetOutput)
expr	An expression that generates an HTML widget
env	The environment in which to evaluate expr
quoted	Is expr a quoted expression (with quote())? This is useful if you want to save an expression in a variable

Examples

```
if (interactive()) {
  library(shiny)

  plt = plainView(poppendorf[[4]])

  ui = fluidPage(
    plainViewOutput("plot")
  )

  server = function(input, output, session) {
    output$plot <- renderPlainView(plt)
  }

  shinyApp(ui, server)

}
```

poppendorf *Landsat 8 detail of Franconian Switzerland centered on Poppendorf*

Description

Landsat 8 detail of Franconian Switzerland centered on Poppendorf

Format

"RasterBrick-class" with 5 bands (bands 1 to 5).

Details

Use of this data requires your agreement to the USGS regulations on using Landsat data.

Source

https://earthexplorer.usgs.gov

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