

Package ‘plainview’

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Type Package

Title Plot Raster Images Interactively on a Plain HTML Canvas

Version 0.1.0

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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 gdalUtils, htmltools, htmlwidgets, lattice, png, raster, viridisLite

Suggests shiny

LazyData true

RoxygenNote 6.1.0

NeedsCompilation no

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plainview-package	<i>Plot Raster Images Interactively on a Plain HTML Canvas</i>
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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	<i>View raster objects interactively without background map but in any CRS</i>
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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

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

- RasterStackBrick: [stack / brick](#)
- SpatialPixelsDataFrame: [SpatialPixelsDataFrame](#)
- 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**

<code>outputId</code>	Output variable to read from
<code>width, height</code>	the width and height of the map (see shinyWidgetOutput)
<code>expr</code>	An expression that generates an HTML widget
<code>env</code>	The environment in which to evaluate <code>expr</code>
<code>quoted</code>	Is <code>expr</code> a quoted expression (with <code>quote()</code>)? 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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