Package: slideview (via r-universe)

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Title Compare Raster Images Side by Side with a Slider

Version 0.2.0

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Description Create a side-by-side view of raster(image)s with an interactive slider to switch between regions of the images. This can be especially useful for image comparison of the same region at different time stamps.

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Encoding UTF-8

Depends R (>= 2.10), methods

Imports htmltools, htmlwidgets, lattice, raster, viridisLite

Suggests jpeg

RoxygenNote 7.1.2

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

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

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

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

RemoteRef HEAD

RemoteSha 3fc1d7a1504385b5a97614bcc69b7bc121e115d7

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Description

Two images are overlaid and a slider is provided to interactively compare the two images in a before-after like fashion. `img1` and `img2` can either be two RasterLayers, two RasterBricks/Stacks or two character strings. In the latter case it is assumed that these point to .png images on the disk.

NOTE: In case you want to include multiple slideviews in one page in a Rmd or flexdashboard we highly recommend using package widgetframe. Also, make sure to use different image names and/or labels for each of the RasterLayers/Bricks/Stacks. Otherwise things will likely not work properly.

This is a modified implementation of http://bl.ocks.org/rfriberg/8327361

Usage

```
## S4 method for signature 'RasterStackBrick,RasterStackBrick'
slideView(
  img1,
  img2,
  label1 = deparse(substitute(img1, env = parent.frame())),
  label2 = deparse(substitute(img2, env = parent.frame())),
  r = 3,
  g = 2,
  b = 1,
  na.color = "#BEBEBE",
  maxpixels = 1e+07,
  ...
)

## S4 method for signature 'RasterLayer,RasterLayer'
slideView(
  img1,
  img2,
  label1 = deparse(substitute(img1, env = parent.frame())),
  label2 = deparse(substitute(img2, env = parent.frame())),
  legend = TRUE,
  col.regions = viridisLite::inferno(256),
  na.color = "#BEBEBE",
  maxpixels = 1e+07
)

## S4 method for signature 'RasterStackBrick,RasterLayer'
slideView(
  img1,
  img2,
```

```
  label1 = deparse(substitute(img1, env = parent.frame())),
  label2 = deparse(substitute(img2, env = parent.frame())),
  legend = TRUE,
  r = 3,
  g = 2,
  b = 1,
  col.regions = viridisLite::inferno(256),
  na.color = "#BEBEBE",
  maxpixels = 1e+07,
  ...
)

## S4 method for signature 'RasterLayer,RasterStackBrick'
slideView(
  img1,
  img2,
  label1 = deparse(substitute(img1, env = parent.frame())),
  label2 = deparse(substitute(img2, env = parent.frame())),
  legend = TRUE,
  r = 3,
  g = 2,
  b = 1,
  col.regions = viridisLite::inferno(256),
  na.color = "#BEBEBE",
  maxpixels = 1e+07,
  ...
)

## S4 method for signature 'character,character'
slideView(
  img1,
  img2,
  label1 = deparse(substitute(img1, env = parent.frame())),
  label2 = deparse(substitute(img2, env = parent.frame()))
)

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

Arguments

img1	a RasterStack/Brick, RasterLayer or path to a .png file
img2	a RasterStack/Brick, RasterLayer or path to a .png file
label1	slider label for img1 (defaults to object name)
label2	slider label for img2 (defaults to object name)
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)
na.color	the color to be used for NA pixels
maxpixels	integer > 0. Maximum number of cells to use for the plot. If maxpixels < ncell(x), sampleRegular is used before plotting.
...	additional arguments passed on to repective functions.
legend	whether to plot legends for the two images (ignored for RatserStacks/*Bricks).
col.regions	color (palette).See levelplot for details.
color	the color palette to be used for visualising RasterLayers

Details

Compare two images trough interactive swiping overlay

For slideView there are a few keyboard shortcuts defined:

- space - toggle antialiasing
- esc - zoom to layer extent
- enter - set zoom to 1
- ctrl - increase panning speed by 10

Methods (by class)

- img1 = RasterLayer, img2 = RasterLayer: for RasterLayers
- img1 = RasterStackBrick, img2 = RasterLayer: for RasterStackBrick, RasterLayer
- img1 = RasterLayer, img2 = RasterStackBrick: for RasterLayer, RasterStackBrick
- img1 = character, img2 = character: for png files
- ANY: alias for ease of typing

Author(s)

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Examples

```
if (interactive()) {
### example taken from
### http://www.news.com.au/technology/environment/nasa-images-reveal-
### aral-sea-is-shrinking-before-our-eyes/story-e6frflp0-1227074133835

library(jpeg)
library(raster)

web_img2000 <- "http://cdn.newsapi.com.au/image/v1/68565a36c0fccb1bc43c09d96e8fb029"

jpg2000 <- readJPEG(readBin(web_img2000, "raw", 1e6))
```

```
# Convert imagedata to raster
rst_blue2000 <- raster(jpg2000[, , 1])
rst_green2000 <- raster(jpg2000[, , 2])
rst_red2000 <- raster(jpg2000[, , 3])

img2000 <- brick(rst_red2000, rst_green2000, rst_blue2000)

web_img2013 <- "http://cdn.newsapi.com.au/image/v1/5707499d769db4b8ec76e8df61933f2a"

jpg2013 <- readJPEG(readBin(web_img2013, "raw", 1e6))

# Convert imagedata to raster
rst_blue2013 <- raster(jpg2013[, , 1])
rst_green2013 <- raster(jpg2013[, , 2])
rst_red2013 <- raster(jpg2013[, , 3])

img2013 <- brick(rst_red2013, rst_green2013, rst_blue2013)

slideView(img2000, img2013, label1 = "before", label2 = "after")
}
```

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