Package 'scico'

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Title Colour Palettes Based on the Scientific Colour-Maps

Version 1.3.0

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Description Colour choice in information visualisation is important in order to avoid being mislead by inherent bias in the used colour palette. The 'scico' package provides access to the perceptually uniform and colour-blindness friendly palettes developed by Fabio Crameri and released under the ``Scientific Colour-Maps'' moniker. The package contains 24 different palettes and includes both diverging and sequential types.

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Encoding UTF-8

Depends R (>= 3.5.0)

Imports scales, grDevices

Suggests ggplot2, testthat, dplyr, covr

URL https://github.com/thomasp85/scico

BugReports https://github.com/thomasp85/scico/issues

RoxygenNote 7.1.2

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scico-package *scico: Colour Palettes Based on the Scientific Colour-Maps*

Description

Colour choice in information visualisation is important in order to avoid being mislead by inherent bias in the used colour palette. The 'scico' package provides access to the perceptually uniform and colour-blindness friendly palettes developed by Fabio Crameri and released under the "Scientific Colour-Maps" moniker. The package contains 24 different palettes and includes both diverging and sequential types.

Author(s)

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Authors:

- Fabio Crameri

See Also

Useful links:

- https://github.com/thomasp85/scico
- Report bugs at https://github.com/thomasp85/scico/issues

ggplot2-scales *Scales to use for ggplot2*

Description

These functions provide the option to use the scico palettes along with the ggplot2 package. It goes without saying that it requires ggplot2 to work.

Usage

```
scale_colour_scico(
  ...,
  alpha = NULL,
  begin = 0,
  end = 1,
  direction = 1,
  palette = "bilbao",
  midpoint = NA
)
```

```
scale_color_scico(
  ...,
  alpha = NULL,
  begin = 0,
  end = 1,
  direction = 1,
  palette = "bilbao",
  midpoint = NA
)

scale_fill_scico(
  ...,
  alpha = NULL,
  begin = 0,
  end = 1,
  direction = 1,
  palette = "bilbao",
  midpoint = NA
)

scale_colour_scico_d(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  palette = "batlow",
  aesthetics = "colour"
)

scale_color_scico_d(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  palette = "batlow",
  aesthetics = "colour"
)

scale_fill_scico_d(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  palette = "batlow",
  aesthetics = "fill"
```

)

Arguments

...	Arguments to pass on to ggplot2::scale_colour_gradientn(), ggplot2::scale_fill_gradientn() ggplot2::ggplot2::discrete_scale()
alpha	The opacity of the generated colours. If specified rgba values will be generated. The default (NULL) will generate rgb values which corresponds to alpha = 1
begin	The interval within the palette to sample colours from. Defaults to 0 and 1 respectively
end	The interval within the palette to sample colours from. Defaults to 0 and 1 respectively
direction	Either 1 or -1. If -1 the palette will be reversed
palette	The name of the palette to sample from. See scico_palette_names() for a list of possible names
midpoint	A midpoint to center the scale on, used primarily for diverging and multisequential scales
aesthetics	Character string or vector of character strings listing the name(s) of the aesthetic(s) that this scale works with. This can be useful, for example, to apply colour settings to the colour and fill aesthetics at the same time, via aesthetics = c("colour", "fill").

Value

A ScaleContinuous or ScaleDiscrete object that can be added to a ggplot object

Examples

```
if (require('ggplot2')) {
  volcano <- data.frame(
    x = rep(seq_len(ncol(volcano)), each = nrow(volcano)),
    y = rep(seq_len(nrow(volcano)), ncol(volcano)),
    height = as.vector(volcano)
  )

  ggplot(volcano, aes(x = x, y = y, fill = height)) +
    geom_raster() +
    scale_fill_scico(palette = 'tokyo')

  ggplot(iris, aes(x=Petal.Width, y=Petal.Length)) +
    geom_point(aes(color=Species), size=10) +
    scale_colour_scico_d()
}
```

scico *Scientific colour map palettes*

Description

This function constructs palettes of the specified size based on the colour maps developed by Fabio Crameri. It follows the same API style as `viridis()` from the `viridisLite` package so anyone familiar with this package can easily adapt to that.

Usage

```
scico(n, alpha = NULL, begin = 0, end = 1, direction = 1, palette = "bilbao")
```

Arguments

`n`	The number of colours to generate for the palette
`alpha`	The opacity of the generated colours. If specified rgba values will be generated. The default (`NULL`) will generate rgb values which corresponds to `alpha = 1`
`begin, end`	The interval within the palette to sample colours from. Defaults to `0` and `1` respectively
`direction`	Either `1` or `-1`. If `-1` the palette will be reversed
`palette`	The name of the palette to sample from. See `scico_palette_names()` for a list of possible names

Value

A character vector of length `n` with hexencoded rgb(a) colour values

References

http://www.fabiocrameri.ch/colourmaps.php

Crameri, Fabio. (2018, May 8). *Scientific colour maps (Version 3.0.1)*. Zenodo. doi: 10.5281/zenodo.1243909 Crameri, Fabio. (2018). *Geodynamic diagnostics, scientific visualisation and StagLab 3.0*. Geosci. Model Dev. Discuss. doi: 10.5194/gmd2017328

Examples

```
# Use the default palette
scico(15)

# Flip the direction
scico(15, direction = -1)

# Take a subset of a palette
scico(15, begin = 0.3, end = 0.6, palette = 'berlin')
```

`scico_palette_show` *Show the different scico palettes*

Description

This is a simple function to show a gradient of the different palettes available in the `scico` package

Usage

```
scico_palette_show(palettes = scico_palette_names())
```

Arguments

`palettes`	One or more palette names to show

Examples

```
scico_palette_show()
```

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