

Package ‘viridis’

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Type Package

Title Colorblind-Friendly Color Maps for R

Version 0.6.1

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Description Color maps designed to improve graph readability for readers with common forms of color blindness and/or color vision deficiency. The color maps are also perceptually-uniform, both in regular form and also when converted to black-and-white for printing. This package also contains ‘ggplot2’ bindings for discrete and continuous color and fill scales. A lean version of the package called ‘viridisLite’ that does not include the ‘ggplot2’ bindings can be found at <<https://cran.r-project.org/package=viridisLite>>.

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Encoding UTF-8

Depends R (>= 2.10), viridisLite (>= 0.4.0)

Imports stats, ggplot2 (>= 1.0.1), gridExtra

Suggests hexbin (>= 1.27.0), scales, MASS, knitr, dichromat, colorspace, rasterVis, httr, mapproj, vdiff, svglite (>= 1.2.0), testthat, covr, rmarkdown, rgdal

LazyData true

VignetteBuilder knitr

URL <https://sjmgarnier.github.io/viridis/>,
<https://github.com/sjmgarnier/viridis/>

BugReports <https://github.com/sjmgarnier/viridis/issues>

RoxygenNote 7.1.1

NeedsCompilation no

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R topics documented:

scale_fill_viridis	2
unemp	4
viridis_pal	5

Index	7
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scale_fill_viridis	<i>Viridis Color Scales for ggplot2</i>
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Description

Scale functions (fill and colour/color) for [ggplot2](#).

For discrete == FALSE (the default) all other arguments are as to [scale_fill_gradientn](#) or [scale_color_gradientn](#). Otherwise the function will return a [discrete_scale](#) with the plot-computed number of colors.

See [viridis](#) and [viridis.map](#) for more information on the color palettes.

Usage

```
scale_fill_viridis(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  discrete = FALSE,
  option = "D"
)
```

```
scale_color_viridis(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  discrete = FALSE,
  option = "D"
)
```

```

scale_colour_viridis(
  ...,
  alpha = 1,
  begin = 0,
  end = 1,
  direction = 1,
  discrete = FALSE,
  option = "D"
)

```

Arguments

...	Parameters to discrete_scale if <code>discrete == TRUE</code> , or scale_fill_gradientn/scale_color_gradientn if <code>discrete == FALSE</code> .
alpha	The alpha transparency, a number in [0,1], see argument alpha in hsv .
begin	The (corrected) hue in [0,1] at which the color map begins.
end	The (corrected) hue in [0,1] at which the color map ends.
direction	Sets the order of colors in the scale. If 1, the default, colors are as output by viridis_pal . If -1, the order of colors is reversed.
discrete	Generate a discrete palette? (default: FALSE - generate continuous palette).
option	A character string indicating the color map option to use. Eight options are available: <ul style="list-style-type: none"> • "magma" (or "A") • "inferno" (or "B") • "plasma" (or "C") • "viridis" (or "D") • "cividis" (or "E") • "rocket" (or "F") • "mako" (or "G") • "turbo" (or "H")

Author(s)

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Examples

```

library(ggplot2)

# Ripped from the pages of ggplot2
p <- ggplot(mtcars, aes(wt, mpg))
p + geom_point(size = 4, aes(colour = factor(cyl))) +
  scale_color_viridis(discrete = TRUE) +
  theme_bw()

```

```

# Ripped from the pages of ggplot2
dsub <- subset(diamonds, x > 5 & x < 6 & y > 5 & y < 6)
dsub$diff <- with(dsub, sqrt(abs(x - y)) * sign(x - y))
d <- ggplot(dsub, aes(x, y, colour = diff)) + geom_point()
d + scale_color_viridis() + theme_bw()

# From the main viridis example
dat <- data.frame(x = rnorm(10000), y = rnorm(10000))

ggplot(dat, aes(x = x, y = y)) +
  geom_hex() + coord_fixed() +
  scale_fill_viridis() + theme_bw()

library(ggplot2)
library(MASS)
library(gridExtra)

data("geyser", package="MASS")

ggplot(geyser, aes(x = duration, y = waiting)) +
  xlim(0.5, 6) + ylim(40, 110) +
  stat_density2d(aes(fill = ..level..), geom = "polygon") +
  theme_bw() +
  theme(panel.grid = element_blank()) -> gg

grid.arrange(
  gg + scale_fill_viridis(option = "A") + labs(x = "Viridis A", y = NULL),
  gg + scale_fill_viridis(option = "B") + labs(x = "Viridis B", y = NULL),
  gg + scale_fill_viridis(option = "C") + labs(x = "Viridis C", y = NULL),
  gg + scale_fill_viridis(option = "D") + labs(x = "Viridis D", y = NULL),
  gg + scale_fill_viridis(option = "E") + labs(x = "Viridis E", y = NULL),
  gg + scale_fill_viridis(option = "F") + labs(x = "Viridis F", y = NULL),
  gg + scale_fill_viridis(option = "G") + labs(x = "Viridis G", y = NULL),
  gg + scale_fill_viridis(option = "H") + labs(x = "Viridis H", y = NULL),
  ncol = 4, nrow = 2
)

```

unemp

USA Unemployment in 2009

Description

A data set containing the 2009 unemployment data in the USA by county.

Usage

```
unemp
```

Format

A data frame with 3218 rows and 8 variables:

id the county ID number
state_fips the state FIPS number
county_fips the county FIPS number
name the county name
year the year
rate the unemployment rate
county the county abbreviated name
state the state acronym

Source

<http://datasets.flowingdata.com/unemployment09.csv>

viridis_pal	<i>Viridis Color Palettes</i>
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Description

A wrapper function around [viridis](#) to turn it into a palette function compatible with [discrete_scale](#).

Usage

```
viridis_pal(alpha = 1, begin = 0, end = 1, direction = 1, option = "D")
```

Arguments

alpha	The alpha transparency, a number in [0,1], see argument alpha in hsv .
begin	The (corrected) hue in [0,1] at which the color map begins.
end	The (corrected) hue in [0,1] at which the color map ends.
direction	Sets the order of colors in the scale. If 1, the default, colors are ordered from darkest to lightest. If -1, the order of colors is reversed.
option	A character string indicating the color map option to use. Eight options are available: <ul style="list-style-type: none">• "magma" (or "A")• "inferno" (or "B")• "plasma" (or "C")• "viridis" (or "D")• "cividis" (or "E")• "rocket" (or "F")• "mako" (or "G")• "turbo" (or "H")

Details

See [viridis](#) and [viridis.map](#) for more information on the color palettes.

Author(s)

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Examples

```
library(scales)
show_col(viridis_pal()(12))
```

Index

* datasets

unemp, 4

discrete_scale, 2, 3, 5

ggplot2, 2

hsv, 3, 5

scale_color_gradientn, 2, 3

scale_color_viridis
(scale_fill_viridis), 2

scale_colour_viridis
(scale_fill_viridis), 2

scale_fill_gradientn, 2, 3

scale_fill_viridis, 2

unemp, 4

viridis, 2, 5, 6

viridis.map, 2, 6

viridis_pal, 3, 5