Package ‘viridis’

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Type Package

Title Colorblind-Friendly Color Maps for R

Version 0.6.2

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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, raster, rasterVis, htr, mapproj, vdiffr, svglite (>= 1.2.0), testthat, covr, rmarkdown, rgdal, maps

LazyData true

VignetteBuilder knitr


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

RoxygenNote 7.1.2

NeedsCompilation no

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**R topics documented:**

scale_fill_viridis .................................................. 2
unemp ................................................................. 4
viridis_pal ........................................................... 5

Index 7

```
scale_fill_viridis  Viridis Color Scales for ggplot2
```

**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**

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

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

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

Arguments

... Parameters to discrete_scale if discrete == TRUE, or scale_fill_gradientn/scale_color_gradientn if discrete == FALSE.

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:

• "magma" (or "A")
• "inferno" (or "B")
• "plasma" (or "C")
• "viridis" (or "D")
• "cividis" (or "E")
• "rocket" (or "F")
• "mako" (or "G")
• "turbo" (or "H")

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Examples

library(ggplot2)

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

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
)

---

### 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**


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**viridis_pal**

**Viridis Color Palettes**

**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:
  - "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

```r
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