Package ‘NatParksPalettes’

September 2, 2022

Type    Package
Title   Color Palettes Inspired by National Parks
Version 0.1.4
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Description Color palettes for data visualization inspired by National Parks. Currently contains 15 color schemes and checks for colorblind-friendliness of palettes.
Imports ggplot2
License MIT + file LICENSE
Encoding UTF-8
RoxygenNote 7.2.0
URL https://github.com/kevinsblake/NatParksPalettes
NeedsCompilation no
Repository CRAN
Date/Publication 2022-09-02 07:50:08 UTC

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**colorblind.friendly**  \hspace{1cm} **Colorblind-Friendly Palette Check**

**Description**

Checks whether a palette is colorblind-friendly. Colorblind-friendliness tested using the 'colorblindcheck' package. To be colorblind-friendly, all colors in the palettes must be distinguishable with deuteranopia, protanopia, and tritanopia.

**Usage**

```
colorblind.friendly(palette_name)
```

**Arguments**

- `palette_name` Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.

**Value**

TRUE/FALSE value whether palette is colorblind-friendly

**Examples**

```
colorblind.friendly("DeathValley")
```

---

**colorblind_palettes**  \hspace{1cm} **Names of colorblind-friendly palettes**

**Description**

Lists all palettes that are colorblind-friendly in the package. To be colorblind-friendly, all colors in the palettes must be distinguishable with deuteranopia, protanopia, and tritanopia. Use `natparks.pals` to construct palettes or `colorblind.friendly` to test for colorblind-friendliness.

**Usage**

```
colorblind_palettes
```

**Format**

An object of class character of length 6.
**Description**

Function for viewing all palettes available in NatParksPalettes.

**Usage**

```r
display_all(
  n,
  sequential = FALSE,
  colorblind_only = FALSE,
  direction = 1,
  override.order = FALSE
)
```

**Arguments**

- `n`: Number of requested colors. If `n` is left blank, default palette is returned.
- `sequential`: Should palettes displayed all at once, or one at a time. Default is all at once (FALSE).
- `colorblind_only`: Should only colorblind friendly palettes be returned? Default is set to FALSE.
- `direction`: Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed
- `override.order`: Colors are picked from palette to maximize readability and aesthetics. This means that colors are not always selected in sequential order from the full palette. If override.order is set to TRUE, colors are selected in sequential order from the full palette instead. Default is FALSE.

**Value**

Plot of all color palettes available

**Examples**

```r
# All Palettes
display_all(sequential = FALSE, colorblind_only = FALSE)

# All Colorblind Palettes
display_all(sequential = FALSE, colorblind_only = TRUE)

# 5 Colors of all Palettes
display_all(5, sequential = FALSE, colorblind_only = FALSE)
```
Description

Color palettes inspired by National Parks. Complete list of palette colors and the parks that inspired them can be found on Github. Use colorblind.friendly to check whether palettes are colorblind-friendly.

Usage

```r
natparks.pals(
  name,
  n,
  type = c("discrete", "continuous"),
  direction = c(1, -1),
  override.order = FALSE
)
```

Arguments

- **name**: Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.
- **n**: Number of desired colors. If number of requested colors is beyond the scope of the palette, colors are automatically interpolated. If n is not provided, the length of the palette is used.
- **type**: Either "continuous" or "discrete". Use continuous if you want to automatically interpolate between colors.
- **direction**: Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed
- **override.order**: Colors are picked from palette to maximize readability and aesthetics. This means that colors are not always selected in sequential order from the full palette. If override.order is set to TRUE, colors are selected in sequential order from the full palette instead. Default is FALSE.

Value

A vector of colors.

Examples

```r
natparks.pals("Yellowstone")

natparks.pals("Glacier", direction=-1)
```
natparks.pals("DeathValley", 4, override.order=TRUE)

library(ggplot2)
ggplot(data=iris, aes(x=Species, y=Petal.Length, fill=Species)) + geom_violin() + scale_fill_manual(values=natparks.pals("Yellowstone", 3))

ggplot(data=iris, aes(x=Sepal.Length, y=Sepal.Width, color=Species)) + geom_point(size=2) + scale_color_manual(values=natparks.pals("Banff", 3))

ggplot(data=iris, aes(x=Species, y=Sepal.Width, color=Sepal.Width)) + geom_point(size=3) + scale_color_gradientn(colors=natparks.pals("Arches2"))

---

**NatParksPalettes**

Complete list of palettes.

---

**Description**

Use names(NatParksPalettes) to return all possible palette names. Current choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite. Use natparks.pals to construct palettes.

**Usage**

NatParksPalettes

**Format**

An object of class list of length 15.

---

**scale_color_natparks_c**

NatParksPalettes for plotting with ggplot2

---

**Description**

Function for using NatParksPalettes colors schemes in ggplot2. Use scale_color_natparks_d and scale_fill_natparks_d for discrete scales and scale_color_natparks_c and scale_fill_natparks_c for continuous scales.

**Usage**

scale_color_natparks_c(name, direction = 1, ...)

---
Arguments

name

Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.

direction

Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed

... Other arguments passed on to discrete_scale

Value

A function that returns a continuous color scale.

Examples

library(ggplot2)

ggplot(data=iris, aes(x=Sepal.Length, y=Sepal.Width, color=Sepal.Length)) + geom_point() + scale_color_natparks_c("Arches2", direction=-1)

scale_color_natparks_d

NatParksPalettes for plotting with ggplot2

Description

Function for using NatParksPalettes colors schemes in ggplot2. Use scale_color_natparks_d and scale_fill_natparks_d for discrete scales and scale_color_natparks_c and scale_fill_natparks_c for continuous scales.

Usage

scale_color_natparks_d(name, direction = 1, override.order = FALSE, ...)

Arguments

name

Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.

direction

Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed

override.order

Colors are picked from palette to maximize readability and aesthetics. This means that colors are not always selected in sequential order from the full palette. If override.order is set to TRUE, colors are selected in sequential order from the full palette instead. Default is FALSE.

... Other arguments passed on to discrete_scale
scaleColourNatParksC

Value

A function that returns a discrete color scale.

Examples

```r
library(ggplot2)
ggplot(data=iris, aes(x=Sepal.Length, y=Sepal.Width, color=Species)) +
  geom_point() +
  scale_color_natparks_d("SmokyMtns")
```

scaleColourNatParksC

NatParksPalettes for plotting with ggplot2

Description

Function for using NatParksPalettes colors schemes in ggplot2. Use `scale_color_natparks_d` and `scale_fill_natparks_d` for discrete scales and `scale_color_natparks_c` and `scale_fill_natparks_c` for continuous scales.

Usage

```r
scale_colour_natparks_c(name, direction = 1, ...)
```

Arguments

- `name` Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.
- `direction` Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed
- `...` Other arguments passed on to `scale_color_gradientn`

Value

A function that returns a continuous colour scale.

Examples

```r
library(ggplot2)
ggplot(data=iris, aes(x=Sepal.Length, y=Sepal.Width, color=Sepal.Length)) +
  geom_point() +
  scale_colour_natparks_c("Arches2", direction=-1)
```
scale_colour_natparks_d

NatParksPalettes for plotting with ggplot2

Description

Function for using NatParksPalettes colors schemes in ggplot2. Use scale_color_natparks_d and scale_fill_natparks_d for discrete scales and scale_color_natparks_c and scale_fill_natparks_c for continuous scales.

Usage

scale_colour_natparks_d(name, direction = 1, override.order = FALSE, ...)

Arguments

name
Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.

direction
Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed.

override.order
Colors are picked from palette to maximize readability and aesthetics. This means that colors are not always selected in sequential order from the full palette. If override.order is set to TRUE, colors are selected in sequential order from the full palette instead. Default is FALSE.

...
Other arguments passed on to discrete_scale

Value

A function that returns a discrete colour scale.

Examples

library(ggplot2)
ggplot(data=iris, aes(x=Sepal.Length, y=Sepal.Width, color=Species)) +
  geom_point() +
  scale_colour_natparks_d("Yellowstone")
scale_fill_natparks_c  NatParksPalettes for plotting with ggplot2

Description

Function for using NatParksPalettes colors schemes in ggplot2. Use `scale_color_natparks_d` and `scale_fill_natparks_d` for discrete scales and `scale_color_natparks_c` and `scale_fill_natparks_c` for continuous scales.

Usage

```
scale_fill_natparks_c(name, direction = 1, ...)  
```

Arguments

- **name**  
  Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.

- **direction**  
  Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed

- **...**  
  Other arguments passed on to `scale_color_gradientn`

Value

A function that returns a continuous color scale.

scale_fill_natparks_d  NatParksPalettes for plotting with ggplot2

Description

Function for using NatParksPalettes colors schemes in ggplot2. Use `scale_color_natparks_d` and `scale_fill_natparks_d` for discrete scales and `scale_color_natparks_c` and `scale_fill_natparks_c` for continuous scales.

Usage

```
scale_fill_natparks_d(name, direction = 1, override.order = FALSE, ...)  
```
Arguments

name
Name of Palette. Choices are: Acadia, Arches, Arches2, Banff, Bryce Canyon, DeathValley, Everglades, Glacier, GrandCanyon, KingsCanyon, Olympic, Redwood, SmokyMtns, Yellowstone, and Yosemite.

direction
Sets order of colors. Default palette is 1. If direction is -1, palette color order is reversed.

override.order
Colors are picked from palette to maximize readability and aesthetics. This means that colors are not always selected in sequential order from the full palette. If override.order is set to TRUE, colors are selected in sequential order from the full palette instead. Default is FALSE.

Value
A function that returns a discrete color scale.

Examples

library(ggplot2)
ggplot(data=iris, aes(x=Species, y=Sepal.Length, fill=Species)) + geom_violin() + scale_fill_natparks_d("KingsCanyon")
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