Package 'ipeaplot'

May 20, 2026

Type Package

Title Add Ipea Editorial Standards to 'ggplot2' Graphics

Version 0.5.2

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Description Convenient functions to create 'ggplot2' graphics following the editorial guidelines of the Institute for Applied Economic Research (Ipea).

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URL https://github.com/ipeadata-lab/ipeaplot

BugReports https://github.com/ipeadata-lab/ipeaplot/issues

Depends R (>= 3.3.2)

Imports checkmate, ggplot2, grDevices, paletteer, scales, rlang, ggthemes, svglite, ragg

Suggests abjData, data.table, dplyr, forcats, geobr, knitr, patchwork, purrr, reshape, rmarkdown, sf, sysfonts, testthat, tidyr

VignetteBuilder knitr

Encoding UTF-8

RoxygenNote 7.3.3

NeedsCompilation no

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Repository CRAN

Date/Publication 2026-05-20 13:10:02 UTC

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`ipeaplot` *ipeaplot: ggplot Graphics in Ipea Standard*

Description

Convenient functions to create ggplot graphics following the editorial guidelines of the Institute for Applied Economic Research - Ipea.

Usage

Please check the vignettes and data documentation on the website.

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See Also

Useful links:

- https://github.com/ipeadata-lab/ipeaplot
- Report bugs at https://github.com/ipeadata-lab/ipeaplot/issues

ipea_pal *Ipea palette*

Description

Ipea palette

Usage

```
ipea_pal(
  palette = c("Blue", "Green", "Orange", "Pink", "Pink-Deep", "Green-Blue",
   "Green-Blue-White", "Red-Blue", "Red-Blue-White", "Orange-Blue", "Orange-Blue-White",
    "Viridis", "Inferno", "Magma", "Plasma", "Cividis"),
  alpha = 1,
  begin = 0,
  end = 1,
  palette_direction = 1
)
```

Arguments

palette	A character string indicating the color map option to use. These options are available: 'Blue', 'Green', 'Orange', 'Pink', 'Pink-Deep', 'Red-Blue' 'Orange-Blue', 'Green-Blue', 'Viridis', 'Inferno', 'Magma', 'Plasma' 'Cividis'.
alpha	The alpha transparency in a number between 0 and 1.
begin	The (corrected) hue in a number between 0 and 1 at which the color map begins.
end	The (corrected) hue in a number between 0 and 1 at which the color map ends.
palette_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.

Value

ipea_palette produces a character vector, cv, containing color hex codes. This vector can be utilized to establish a custom color scheme for future graphics using palette(cv), or it can be applied directly as a col = parameter in graphic functions or within par.

References

'Blue','Green','Orange','Pink','Pink-Deep','Green-Blue','Green-Blue-White','Red-Blue','Red-Blue-White', 'Orange-Blue','Orange-Blue-White', 'Viridis','Inferno', 'Magma','Plasma' and 'Cividis': https://pmassicotte.github.io/paletteer_gallery/

Examples

```
scales::show_col(ipea_pal()(10))
scales::show_col(ipea_pal(palette_direction = -1)(6))
scales::show_col(ipea_pal(begin = 0.2, end = 0.8)(4))
scales::show_col(ipea_pal(palette = "Green")(6))
```

---

ipea_palette *Ipea Color Palette and Scales*

Description

This function creates a vector of n equally spaced colors along the selected color map.

Usage

```
ipea_palette(
  palette = c("Blue", "Green", "Orange", "Pink", "Pink-Deep", "Green-Blue",
   "Green-Blue-White", "Red-Blue", "Red-Blue-White", "Orange-Blue", "Orange-Blue-White",
    "Viridis", "Inferno", "Magma", "Plasma", "Cividis"),
  n,
  alpha = 1,
  begin = 0,
  end = 1,
  palette_direction = 1
)
```

Arguments

palette	A character string indicating the color map option to use. These options are available:'Blue', 'Green', 'Orange', 'Pink', 'Pink-Deep', 'Red-Blue' 'Orange-Blue', 'Green-Blue', 'Red-Blue-White', 'Orange-Blue-White', 'Green-Blue-White', 'Viridis', 'Inferno', 'Magma', 'Plasma', 'Cividis'.
n	The number of colors (≥ 1) used in the palette.
alpha	The alpha transparency in a number between `0` and `1`.
begin	The (corrected) hue in a number between `0` and `1` at which the color map begins.
end	The (corrected) hue in a number between `0` and `1` at which the color map ends.
palette_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.

Details

A 9-color Ipea palette.

Value

ipea_palette produces a character vector, cv, containing color hex codes. This vector can be utilized to establish a custom color scheme for future graphics using palette(cv), or it can be applied directly as a col = parameter in graphic functions or within par.

References

'Blue','Green','Orange','Pink','Pink-Deep','Green-Blue','Green-Blue-White','Red-Blue','Red-Blue-White', 'Orange-Blue','Orange-Blue-White', 'Viridis','Inferno', 'Magma','Plasma' and 'Cividis': https://pmassicotte.github.io/paletteer_gallery/

---

save_ipeaplot *Save ggplot in multiple formats*

Description

Unified function to save ggplot objects in one or more formats.

Usage

```
save_ipeaplot(
  gplot = ggplot2::last_plot(),
  file.name,
  format = NULL,
  width = 6.3,
  height = 3.94,
  units = c("in", "mm", "cm", "px"),
  dpi = 300,
  background = "white",
  quality = 95,
  path = ".",
  scale = 1,
  overwrite = TRUE,
  include_date = FALSE,
  date_format = "%Y%m%d",
  use_cairo = TRUE,
  use_ragg = TRUE,
  quiet = TRUE,
  ...
)
```

Arguments

gplot	ggplot object. Default: ggplot2::last_plot().
file.name	Base name of the file (without extension). E.g., "results/figs/my_plot".
format	Vector with one or more of: "eps", "jpg", "pdf", "png", "svg". If NULL, uses getOption("ipea.plot.default_format", "eps").

width, height	Plot dimensions (default 160 x 100).
units	Units: "mm", "cm", "in", "px" (default "in").
dpi	DPI for raster formats (default 300).
background	Background color; use NA for transparent PNGs. For JPEG (no transparency), NA becomes "white".
quality	JPEG quality (0 to 100) (default 95).
path	Output directory (default ".").
scale	Scale factor passed to ggsave (default 1).
overwrite	If FALSE, does not overwrite existing files: creates suffixes _1, _2, ... (default TRUE).
include_date	If TRUE, appends the date to the file name: _YYYYMMDD (default FALSE).
date_format	Date format (default "%Y%m%d").
use_cairo	Prefer using Cairo for PDF/EPS (default TRUE).
use_ragg	Prefer using ragg for PNG/JPG when available (default TRUE).
quiet	Suppress messages from ggsave when supported (default TRUE).
...	Passed to ggplot2::ggsave() (and therefore to the underlying graphics devices when applicable).

Value

Named (invisible) vector with the paths of the saved files.

---

scale_color_ipea *Scale color IPEA*

Description

Generate a color palette (continuous or discrete) following the editorial guidelines used by the Institute for Applied Economic Research - Ipea.

Usage

```
scale_color_ipea(
  palette = c("Blue", "Green", "Orange", "Pink", "Pink-Deep", "Green-Blue",
   "Green-Blue-White", "Red-Blue", "Red-Blue-White", "Orange-Blue", "Orange-Blue-White",
    "Viridis", "Inferno", "Magma", "Plasma", "Cividis"),
  palette_direction = 1,
  decimal.mark = ",",
  barheight = NULL,
  barwidth = NULL,
  title.hjust = NULL,
  label.hjust = NULL,
  ...
)
```

Arguments

palette	A character vector specifying the available palette for the color palette. The default palette are "Blue", but we can also change to 'Green', 'Orange', 'Pink', 'Pink-Deep', 'Red-Blue', 'Orange-Blue', 'Green-Blue', 'Red-Blue-White', 'Orange-Blue-White', 'Green-Blue-White', 'Viridis', 'Inferno', 'Magma', 'Plasma', 'Cividis'.
palette_direction	A logical argument specifying if the ordering of the colors will follow the default of the palette (when the argument is 1) or if it will have an inverted ordering (for cases where it is -1).
decimal.mark	The character to be used to indicate the numeric decimal point and Character used between every 3 digits to separate thousands. By default, the function uses a comma ",", following the format used in Brazilian Portuguese.
barheight	The height of the color gradient bar. This parameter is used when the direction is set to "horizontal".
barwidth	The width of the color gradient bar. This parameter is used when the direction is set to "horizontal".
title.hjust	A number specifying horizontal justification of the title text.
label.hjust	A number specifying vertical justification of the title text.
...	Additional arguments to be passed to the scale_fill_gradientn, scale_color_gradientn, scale_fill_distiller or scale_color_distiller function from the ggplot2 package.

Value

A list object be added to a ggplot object to change color pallete.

See Also

Other ggplot2 theme functions: scale_fill_ipea(), theme_ipea()

Examples

```
# Creating scale for ggplot2 graph using default arguments
library(ggplot2)
fig_raw <- ggplot() +
  geom_point(data = mtcars, aes(x = hp , y = mpg, color = cyl)) +
  scale_color_ipea()

# Creating scale for ggplot2 graph using green sequential palette
fig_raw <- ggplot() +
  geom_point(data = mtcars, aes(x = hp , y = mpg, color = cyl)) +
  scale_color_ipea(palette = "Green")
```

scale_fill_ipea *Scale fill IPEA*

Description

Generate a fill palette (continuous or discrete) in the formatting of texts published by the Institute for Applied Economic Research (IPEA)

Usage

```
scale_fill_ipea(
  palette = c("Blue", "Green", "Orange", "Pink", "Pink-Deep", "Green-Blue",
   "Green-Blue-White", "Red-Blue", "Red-Blue-White", "Orange-Blue", "Orange-Blue-White",
    "Viridis", "Inferno", "Magma", "Plasma", "Cividis"),
  palette_direction = 1,
  decimal.mark = ",",
  barheight = NULL,
  barwidth = NULL,
  title.hjust = NULL,
  label.hjust = NULL,
  ...
)
```

Arguments

palette	A character vector specifying the available palette for the color palette. The default palette are "Blue", but we can also change to 'Green', 'Orange', 'Pink', 'Pink-Deep', 'Red-Blue', 'Orange-Blue', 'Green-Blue', 'Red-Blue-White', 'Orange-Blue-White', 'Green-Blue-White', 'Viridis', 'Inferno', 'Magma', 'Plasma', 'Cividis'.
palette_direction	A logical argument specifying if the ordering of the colors will follow the default of the palette (when the argument is 1) or if it will have an inverted ordering (for cases where it is 0).
decimal.mark	The character to be used to indicate the numeric decimal point and Character used between every 3 digits to separate thousands. By default, the function uses a comma "," , following the format used in Brazilian Portuguese.
barheight	The height of the color gradient bar. This parameter is used when the direction is set to "horizontal".
barwidth	The width of the color gradient bar. This parameter is used when the direction is set to "horizontal".
title.hjust	A number specifying horizontal justification of the title text.
label.hjust	A number specifying vertical justification of the title text.
...	Additional arguments to be passed to the scale_fill_gradientn, scale_color_gradientn, scale_fill_distiller or scale_color_distiller function from the ggplot2 package

Value

A list object be added to a ggplot object to change color pallete.

See Also

Other ggplot2 theme functions: `scale_color_ipea()`, `theme_ipea()`

Examples

```
# Creating scale for ggplot2 graph using default arguments
library(ggplot2)
fig_raw <- ggplot() +
  geom_col(data = mtcars, aes(x = hp , y = mpg, fill = cyl)) +
  scale_fill_ipea()

# Creating scale for ggplot2 graph using green sequential palette
fig_raw <- ggplot() +
  geom_col(data = mtcars, aes(x = hp , y = mpg, fill = cyl)) +
  scale_fill_ipea(palette = "Green")
```

---

theme_ipea *Ggplot theme for Ipea charts and figures*

Description

Applies a custom theme for ggplot figures following the editorial guidelines used by the Institute for Applied Economic Research - Ipea. The function includes standardized formatting of options for axis lines, text,

Usage

```
theme_ipea(
  axis_lines = "full",
  axis_values = TRUE,
  legend.position = "right",
  grid.adjust = "horizontal",
  x_breaks = NULL,
  y_breaks = NULL,
  expand_x_limit = TRUE,
  expand_y_limit = TRUE,
  x_text_angle = 0,
  include_x_text_title = TRUE,
  include_y_text_title = TRUE,
  include_ticks = TRUE,
  ...
)
```

Arguments

axis_lines	A character vector specifying the axis style. Valid options are "none" (no axis lines), "full" (full-length axis lines), and "half" (half-length axis lines), the default.
axis_values	Logical value indicating whether to show text elements. If TRUE, axis text will be displayed in black; otherwise, they will be hidden.
legend.position	A character vector specifying the position of the legend. Valid options are "right" (default), "left", "top", and "bottom".
grid.adjust	Defines whether the grid lines should be "horizontal" (default) or "vertical".
x_breaks	Numeric. The number of breaks on the x-axis
y_breaks	Numeric. The number of breaks on the y-axis
expand_x_limit	Logical value that indicates whether the x-axis boundary should be expanded. If TRUE, the x-axis limits will be expanded; otherwise there will be no change
expand_y_limit	Logical value that indicates whether the y-axis boundary should be expanded. If TRUE, the x-axis limits will be expanded; otherwise there will be no change
x_text_angle	Numeric. Angle in degrees of the text in the x-axis.
include_x_text_title	Logical. Whether to include x text title Defaults to TRUE.
include_y_text_title	Logical. Whether to include x text title. Defaults to TRUE.
include_ticks	Logical. Whether to include ticks. Defaults to TRUE.
...	Additional arguments to be passed to the theme function from the ggplot2 package.

Value

A custom theme for IPEA graphics.

See Also

Other ggplot2 theme functions: scale_color_ipea(), scale_fill_ipea()

Examples

```
# Creating theme for ggplot2 graph using default arguments
library(ggplot2)
fig_raw <- ggplot() +
  geom_col(data = mtcars, aes(x = hp , y = mpg, fill = cyl)) +
  theme_ipea()
```

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