Package: areaplot (via r-universe)

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Title Plot Stacked Areas and Confidence Bands as Filled Polygons

Imports graphics, grDevices, stats

Suggests MASS

Description Plot stacked areas and confidence bands as filled polygons, or add polygons to existing plots. A variety of input formats are supported, including vectors, matrices, data frames, formulas, etc.

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URL https://github.com/arni-magnusson/areaplot

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Author Arni Magnusson [aut, cre]

Maintainer Arni Magnusson <thisisarni@gmail.com>

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Description

Plot stacked areas and confidence bands as filled polygons, or add polygons to existing plots. A variety of input formats are supported, including vectors, matrices, data frames, formulas, etc.

Details

Plot:

areaplot	stacked area
confplot	confidence band

Author(s)

Arni Magnusson.

See Also

Useful links:

- https://github.com/arni-magnusson/areaplot

areaplot *Area Plot*

Description

Produce a stacked area plot, or add polygons to an existing plot.

Usage

```
areaplot(x, ...)

## Default S3 method:
areaplot(x, y = NULL, prop = FALSE, rev = FALSE,
  add = FALSE, xlab = NULL, ylab = NULL, border = NULL, col = NULL,
  legend = FALSE, args.legend = NULL, ...)

## S3 method for class 'formula'
areaplot(formula, data, subset, na.action, xlab = NULL,
  ylab = NULL, ...)
```

Arguments

x	a numeric vector of x values, or if y=NULL a numeric vector of y values. Can also be a 1-dimensional table (x values in names, y values in array), matrix or 2-dimensional table (x values in row names and y values in columns), a data frame (x values in first column and y values in subsequent columns), or a time-series object of class ts/mts.
...	further arguments passed to areaplot.default, matplot, and polygon.
y	a numeric vector of y values, or a matrix containing y values in columns.
prop	whether data should be plotted as proportions, so stacked areas equal 1.
rev	whether to plot the stacked areas from bottom to top, instead of top to bottom.
add	whether polygons should be added to an existing plot.
xlab	a label for x axis.
ylab	a label for y axis.
border	border color of polygon(s). The default is to draw borders in the foreground color. Pass NA to omit borders.
col	fill color of polygon(s). The default is a vector of gray colors.
legend	a logical indicating whether a legend should be added, or a vector of strings for the legend. This only applies when more than one series is plotted.
args.legend	a list of additional arguments to pass to the legend function.
formula	a formula, such as y~x, cbind(y1,y2)~x, or y~x+group, specifying x and y values. A dot on the left-hand side, .~x, means all variables except the one specified on the right-hand side.
data	a data frame (or list) from which the variables in formula should be taken.
subset	an optional vector specifying a subset of observations to be used.
na.action	a function which indicates what should happen when the data contain NA values. The default is to ignore missing values in the given variables.

Value

Matrix of cumulative sums that was used for plotting.

See Also

polygon is the underlying function used to draw polygons.

confplot plots confidence bands as a filled area.

areaplot-package gives an overview of the package.

Examples

```
areaplot(rpois(10,40))
areaplot(rnorm(10))

# formula
areaplot(Armed.Forces~Year, data=longley)
```

```
areaplot(cbind(Unemployed,Armed.Forces)~Year, data=longley)
areaplot(.~Year, data=longley)
areaplot(circumference~age+Tree, Orange)

# add=TRUE
plot(1940:1970, 500*runif(31), ylim=c(0,500))
areaplot(Armed.Forces~Year, data=longley, add=TRUE)

# data frame
mydata <- longley[c("Year","GNP")]
areaplot(mydata)

# matrix
areaplot(WorldPhones)
areaplot(WorldPhones, prop=TRUE)

# table
require(MASS)
areaplot(table(Aids2$age))
areaplot(table(Aids2$age, Aids2$sex))

# ts/mts
areaplot(austres)
areaplot(Seatbelts[,c("drivers","front","rear")],
         ylab="Killed or seriously injured")
abline(v=1983+1/12, lty=3)

# POSIXt and Date
airquality$Time <- ISOdate(1973, airquality$Month, airquality$Day)
airquality$Date <- as.Date(airquality$Time)
areaplot(Wind~Time, airquality, col="skyblue")
areaplot(Wind~Date, airquality, col="linen")

# border=NA
areaplot(circumference~age+Tree, Orange)
areaplot(circumference~age+Tree, Orange, border=NA)

# legend
require(MASS)
areaplot(table(Aids2$age, Aids2$sex), legend=TRUE, col=c(2,4))
areaplot(table(Aids2$age, Aids2$sex), legend=TRUE, col=c(2,4), rev=TRUE)
wp <- WorldPhones[,order(colnames(WorldPhones))]
areaplot(wp, col=2:8, legend=TRUE, args.legend=list(x="topleft"))
areaplot(wp, col=2:8, legend=TRUE, args.legend=list(x="topleft"), rev=TRUE)
```

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confplot *Plot Confidence Band*

Description

Plot a confidence band of lower and upper y values as a filled area, or add polygon to an existing plot.

Usage

```
confplot(x, ...)

## Default S3 method:
confplot(x, y1 = NULL, y2 = NULL, add = FALSE,
  xlab = NULL, ylab = NULL, border = NA, col = "lightgray", ...)

## S3 method for class 'formula'
confplot(formula, data, subset, na.action = NULL, ...)
```

Arguments

x	a numeric vector of x values. Alternatively, x can be a matrix or data frame containing x values in the first column and lower and upper y values in the next two columns.
...	further arguments passed to confplot.default, matplot, and polygon.
y1	a numeric vector of lower y values. Alternatively, y1 can be a matrix or data frame containing lower and upper y values in two columns.
y2	a numeric vector of upper y values, if not already supplied in x or y1.
add	whether the confidence band should be added to an existing plot.
xlab	a label for x axis.
ylab	a label for y axis.
border	border color of polygon. The default NA is to omit borders.
col	fill color of polygon.
formula	a formula, such as cbind(y1,y2)~x, specifying x and y values.
data	a data frame (or list) from which the variables in formula should be taken.
subset	an optional vector specifying a subset of observations to be used.
na.action	a function which indicates what should happen when the data contain NA values. The default is to ignore missing values in the given variables.

Value

Data frame of coordinates that were used for plotting.

See Also

polygon is the underlying function used to draw polygons.

areaplot produces a stacked area plot.

areaplot-package gives an overview of the package.

The **gplots** and **plotrix** packages provide functions to plot error bars.

Examples

```
model <- lm(log(dist)~log(speed), cars)
ci95 <- predict(model, data.frame(speed=4:25), interval="confidence")
ci50 <- predict(model, data.frame(speed=4:25), interval="confidence", level=0.5)
x <- log(4:25)
y1 <- ci95[,"lwr"]
y2 <- ci95[,"upr"]
mydata <- data.frame(x, y1, y2)

# Input format
confplot(x, y1, y2)               # vectors
confplot(x, cbind(y1,y2))         # y values in 2 columns
confplot(mydata)                  # data in 3 columns
confplot(cbind(y1,y2)~x, mydata)  # formula

# Overlay
plot(log(dist)~log(speed), cars, type="n")
confplot(x, ci95[,2:3], add=TRUE)
confplot(x, ci50[,2:3], add=TRUE, col="darkgray")
lines(x, ci95[,1])
points(log(dist)~log(speed), cars)
```

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