

# Package ‘RGraphics’

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**Title** Data and Functions from the book R Graphics

**Version** 1.0-8

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**Description** Data and Functions from the book R Graphics. There is a function to produce each figure in the book, plus several functions, classes, and methods defined in Chapter 7.

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**Depends** R (>= 2.0.0), grDevices, graphics, grid, lattice

**Suggests** CircStats, cluster, gridBase, ipred, maps, mapproj, oz, party, pixmap, vcd

**License** GPL

**LazyData** yes

**URL** <http://www.stat.auckland.ac.nz/~paul/RGraphics/rgraphics.html>

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face	<i>Draw a face</i>
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### Description

Draws a face, consisting of a rectangle for the border, circles for eyes, and a line for the mouth.

### Usage

```
faceA(x, y, width, height)
```

### Arguments

`x`, `y`, `width`, `height`  
 Numeric values or unit objects specifying the location and size of the face.

### Details

The functions `faceA` and `faceB` are graphics functions to be used for their side-effect of producing graphical output. The functions `faceC`, `faceD`, and `faceE` return a grob representing a face (and produce no output).

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fluoro.predict	<i>Predicted Surface of Fluorescence</i>
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### Description

These data give a prediction surface for fluorescence at the thermocline over a region off the coast of South Australia.

### Usage

```
fluoro.predict
```

### Format

A list with elements: `x` containing longitude at 50 locations; `y` containing latitude at 50 locations; and `z` containing a 50 by 50 matrix of surface predictions.

## References

S. McClatchie and T.M. Ward. (in press), *Alongshore variation in upwelling intensity in the eastern Great Australian Bight*, Journal of Geophysical Research.

---

grid.imageFun      *Draw an Image*

---

## Description

Draws an array of `nrow` by `ncol` rectangles.

## Usage

```
grid.imageFun(nrow, ncol, cols, byrow=TRUE)
```

## Arguments

<code>nrow</code> , <code>ncol</code>	Number of rows/columns in the image.
<code>cols</code>	Colors for the cells of the image (will be recycled).
<code>byrow</code>	Logical value indicating whether colors should be allocated to cells across rows or down columns.

---

grid.imageGrob      *Draw an Image*

---

## Description

Creates an `imageGrob` and then draws it.

## Usage

```
grid.imageGrob(...)
```

## Arguments

...      Arguments to be passed to `imageGrob`.

---

grid.ozFun	<i>Draw a Map of Australia</i>
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**Description**

Draws a map of Australia (or part thereof).

**Usage**

```
grid.ozFun(ozRegion)
```

**Arguments**

ozRegion	An object created using the ozRegion function from the <b>oz</b> package.
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imageGrob	<i>Create an Image</i>
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**Description**

Creates an array of nrow by ncol rectangles.

**Usage**

```
imageGrob(nrow, ncol, cols, byrow=TRUE,
           name=NULL, gp=NULL, vp=NULL)
```

**Arguments**

nrow, ncol	Number of rows/columns in the image.
cols	Colors for the cells of the image (will be recycled).
byrow	Logical value indicating whether colors should be allocated to cells across rows or down columns.
name	A character name for the grob.
gp	A gpar object containing graphical parameter settings or NULL.
vp	A viewport or NULL.

---

ozGrob                      *Create a Map of Australia*

---

**Description**

Creates a map of Australia (or part thereof). `grid.ozGrob` also draws the map.

**Usage**

```
ozGrob(ozRegion, name=NULL, gp=NULL, vp=NULL)
grid.ozGrob(...)
```

**Arguments**

<code>ozRegion</code>	An object created using the <code>ozRegion</code> function from the <b>oz</b> package.
<code>name</code>	A character name for the grob.
<code>gp</code>	A <code>gpar</code> object containing graphical parameter settings or <code>NULL</code> .
<code>vp</code>	A viewport or <code>NULL</code> .
<code>...</code>	Arguments to be passed to <code>ozGrob</code> .

---

ozImage                      *Create an Image on a Map of Australia*

---

**Description**

Creates a map of Australia (or part thereof), plus an `imageGrob` positioned relative to the map.

**Usage**

```
ozImage(mapLong, mapLat, imageLong, imageLat, cols)
```

**Arguments**

<code>mapLong, mapLat</code>	Longitude and latitude ranges describing the area of Australia to create.
<code>imageLong, imageLat</code>	Longitude and latitude ranges describing the area that the image should occupy.
<code>cols</code>	Colors for the image cells.

ozKey

*Create a Key for an ozImage*

---

**Description**

Creates a map of Australia with a rectangle bounding a specified region; designed to provide a key for an ozImage.

**Usage**

```
ozKey(x, y, width, height, just, mapLong, mapLat)
```

**Arguments**

```
x, y, width, height, just
```

The location and size of the key within the current viewport.

```
mapLong, mapLat
```

Longitude and latitude ranges giving the area around which to draw a rectangle.

---

ozTemp

*Temperatures for Australian Cities*

---

**Description**

These data give average minimum and maximum monthly temperatures for several major cities in Australia. The longitude and latitude for each city is also given.

**Usage**

```
data(ozTemp)
```

**Format**

A data frame with elements: `city` names of cities; `min` and `max` average minimum and maximum monthly temperatures; `long` and `lat` longitudes and latitudes of cities.

**Source**

<http://www.auinfo.com/sydney-climate.html>

---

plot.newclass	<i>A Traditional Graphics Function Template</i>
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**Description**

A template that provides a starting point for writing a new traditional graphics function.

**Arguments**

`x, y, main, sub, xlim, ylim, axes, ann, col, ...`  
 See `plot.default`

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ribbonLegend	<i>Create a Ribbon Legend</i>
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**Description**

Creates a ribbon legend; a vertical bar broken into several colored cells, with an axis on the right-hand side.

**Usage**

```
ribbonLegend(nlevels=NULL, breaks=NULL, cols,
             scale=range(breaks),
             margin=unit(0.5, "lines"),
             gp=NULL, vp=NULL, name=NULL)
```

**Arguments**

<code>nlevels, breaks</code>	Number of levels to be represented in the legend, specified either as a number of (equal-sized) levels, or the break points between levels.
<code>cols</code>	The colors to be used for each level.
<code>scale</code>	The range of the scale on the legend.
<code>margin</code>	Space around the edges of the legend.
<code>name</code>	A character name for the grob.
<code>gp</code>	A <code>gpar</code> object containing graphical parameter settings or <code>NULL</code> .
<code>vp</code>	A viewport or <code>NULL</code> .

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roundRect	<i>Draw a rectangle with rounded corners</i>
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---

**Description**

Draw a rectangle with rounded corners.

**Usage**

```
roundRect <- function(x=unit(0.5, "npc"),
                      y=unit(0.5, "npc"),
                      width=unit(1, "npc"),
                      height=unit(1, "npc"),
                      r=unit(0.1, "snpc"),
                      just="centre",
                      name=NULL, gp=NULL, vp=NULL)
grid.roundRect(...)
```

**Arguments**

x, y, width, height	The location and size of the rectangle.
r	The radius of the rounded corners.
just	The justification of the rectangle relative to its location.
name	A name to identify the grob.
gp	Graphical parameters to apply to the grob.
vp	A viewport object or NULL.
...	Arguments to be passed to roundRect.

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splitString	<i>Split text into multiple lines</i>
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**Description**

Splits a single string into multiple lines (by inserting line breaks) so that the output will fit within the current viewport.

**Usage**

```
splitString(text)
```

**Arguments**

text	The string to split.
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splitTextGrob      *Split text into multiple lines*

---

**Description**

Splits a single string into multiple lines (by inserting line breaks) so that the output will fit within the current viewport.

**Usage**

```
splitTextGrob(text, ...)
```

**Arguments**

text	The string to split.
...	Arguments passed to the <code>grob()</code> function.

---

volcano.accessRoad      *Roads on Auckland's Maunga Whau Volcano*

---

**Description**

These data give a prediction surface for fluorescence at the thermocline over a region off the coast of South Australia.

**Usage**

```
volcano.accessRoad
```

**Format**

A data frame with three variables, `ax`, `ay`, and `az`, that describe the (three dimensional) path of the access road to Maunga Whau volcano in Auckland, New Zealand.

**Source**

Digitised from same map as the original `volcano` data set.

**References**

E. J. Searle (1981), *City of Volcanoes*.

**See Also**

[volcano.upDownRoad](#), [volcano.summitRoad](#), [volcano](#)

volcano.summitRoad *Roads on Auckland's Maunga Whau Volcano*

---

**Description**

These data give a prediction surface for fluorescence at the thermocline over a region off the coast of South Australia.

**Usage**

```
volcano.summitRoad
```

**Format**

A data frame with three variables, `ax`, `ay`, and `az`, that describe the (three dimensional) path of the road that provides access to the summit of the Maunga Whau volcano in Auckland, New Zealand.

**Source**

Digitised from same map as the original `volcano` data set.

**References**

E. J. Searle (1981), *City of Volcanoes*.

**See Also**

[volcano.upDownRoad](#), [volcano.accessRoad](#), [volcano](#)

---

volcano.upDownRoad *Roads on Auckland's Maunga Whau Volcano*

---

**Description**

These data give a prediction surface for fluorescence at the thermocline over a region off the coast of South Australia.

**Usage**

```
volcano.upDownRoad
```

**Format**

A data frame with three variables, `ax`, `ay`, and `az`, that describe the (three dimensional) path of the road that winds up and down the Maunga Whau volcano in Auckland, New Zealand.

**Source**

Digitised from same map as the original `volcano` data set.

**References**

E. J. Searle (1981), *City of Volcanoes*.

**See Also**

[volcano.accessRoad](#), [volcano.summitRoad](#), [volcano](#)

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