

Table of Contents

An Introduction to R Graphics

R graphics examples

The organization of R graphics

TRADITIONAL GRAPHICS

Simple Usage of Traditional Graphics

The traditional graphics model

The plot() function

Plots of a single variable

Plots of two variables

Plots of many variables

Arguments to graphics functions

Specialized plots

Interactive graphics

Customizing Traditional Graphics

The traditional graphics model in more detail

Controlling the appearance of plots

Arranging multiple plots

Annotating plots

Creating new plots

GRID GRAPHICS

Trellis Graphics: the lattice Package

The lattice graphics model

Why another graphics system?

lattice plot types

The formula argument and multipanel conditioning

The group argument and legends

The layout argument and arranging plots

The scales argument and labelling axes

The panel argument and annotating plots

The par.settings argument and graphical parameters

Extending lattice plots

The Grammar of Graphics: the ggplot2 Package

Quick plots

The ggplot2 graphics model

Why another graphics system?

Data

Geoms and aesthetics

Scales

Statistical transformations

The group aesthetic

Position adjustments

Coordinate transformations

Facets

Themes

Annotating

Extending ggplot2

The grid Graphics Model

A brief overview of grid graphics

A simple example

Graphical primitives

Coordinate systems

Controlling the appearance of output

Viewports

Missing values and non-finite values

Interactive graphics

Customizing lattice plots

Customizing ggplot2 output

The grid Graphics Object Model

Working with graphical output

Grob lists, trees, and paths

Working with graphical objects off-screen

7. Capturing output

Placing and packing grobs in frames

Other details about grobs

Saving and loading grid graphics

Working with lattice grobs

Working with ggplot2 grobs

Developing New Graphics Functions and Objects

An example

Modularity

Simple graphics functions

Graphical objects

Debugging grid

THE GRAPHICS ENGINE

Graphics Formats

Graphics devices

Graphical output formats

Including R graphics in other documents

Device-specific features

Multiple pages of output

Display lists

Extension packages

Graphical Parameters

Colors

Line styles

Data symbols

Fonts

Mathematical formulae

GRAPHICS PACKAGES

Graphics Extensions

Tricks with text

Drawing formatted text on a plot

Avoiding text overlaps

Peculiar primitives

- Confidence bars
- Calculations on colors
- Custom coordinates
- Atypical axes

Plot Extensions

- Venn diagrams
- Chernoff faces
- Ternary plots
- Soil texture diagrams
- Polar plots
- Hexagonal binning

Graphics for Categorical Data

- The vcd package
- XMM-Newton
- Plots of Categorical Data
- Categorical data on the y-axis
- Visualizing contingency tables
- Categorical plot matrices
- Multipanel categorical plots
- Customizing categorical plots
- The vcdExtra package

Maps

- Map data
- Map annotation
- Complex polygons
- Map projections
- Raster maps
- Other packages

Node-and-edge Graphs

- Creating graphs
- Graph layout and rendering
- Other packages
- Diagrams

3-D Graphics

- 3-D graphics concepts
- The Canterbury earthquake
- Traditional graphics
- Lattice graphics
- The scatterplot3d package
- The rgl package
- The vrmIgen package

Dynamic and Interactive Graphics

- Dynamic Graphics
- Interactive Graphics
- Graphics GUIs
- Interactive graphics for the web

Importing Graphics

The moon and the tides

Importing raster graphics

Importing vector graphics

Combining Graphics Systems

The gridBase package