

## R Statistical Package

<b>Model Uses</b>	The R Statistical Package can be used for statistical analysis, simulation modeling and advanced data analysis.	
<b>Major Categories</b>	Decision Support	<u>Subject Knowledge Level</u> Advanced
<b>Minor Categories</b>	Statistical Package	<u>Technical Difficulty Level</u> Advanced
<b>Model Type</b>	Data Analysis Package	<u>Geographic in Nature?</u> Semi

### Abstract

R is a language and environment for statistical computing and graphics. R provides a wide variety of statistical (linear and nonlinear modelling, classical statistical tests, time-series analysis, classification, clustering, ...) and graphical techniques, and is highly extensible. The S language is often the vehicle of choice for research in statistical methodology, and R provides an Open Source route to participation in that activity.

One of R's strengths is the ease with which well-designed publication-quality plots can be produced, including mathematical symbols and formulae where needed. Great care has been taken over the defaults for the minor design choices in graphics, but the user retains full control.

It is a GNU project which is similar to the S language and environment which was developed at Bell Laboratories (formerly AT&T, now Lucent Technologies) by John Chambers and colleagues. R can be considered as a different implementation of S. There are some important differences, but much code written for S runs unaltered under R.

### Future Developments

Many custom libraries and packages available via the web.

### Model Limitations

Requires computer programming skills

### Model Features

R is an integrated suite of software facilities for data manipulation, calculation and graphical display. It includes:

- An effective data handling and storage facility,
- A suite of operators for calculations on arrays, in particular matrices,
- A large, coherent, integrated collection of intermediate tools for data analysis,
- Graphical facilities for data analysis and display either on-screen or on hardcopy, and
- A well-developed, simple and effective programming language which includes conditionals, loops, user-defined recursive functions and input and output facilities.

### Required Data Types

Tabular data

### Model Outputs

Graphs and Tables

### Source

R is the result of a collaborative effort with contributions from all over the world.

### Source (URL)

<http://www.r-project.org/>

### Hardware Requirements

None noted.

### Supported Platforms

DOS  UNIX

### Software Requirements

None noted.

Windows  Macintosh

### Cost, Licensing and Availability

R is available as Free Software under the terms of the Free Software Foundation's GNU General Public License in source code form.