



# Twenty Years of R

Celebrating the 20<sup>th</sup> anniversary  
of R 1.0.0

David Smith  
@revodavid



Photo credit: [twitter.com/HannahOish](https://twitter.com/HannahOish)

# About me

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"Bit" art by @ashleymcnamara

# 1976: First, there was S

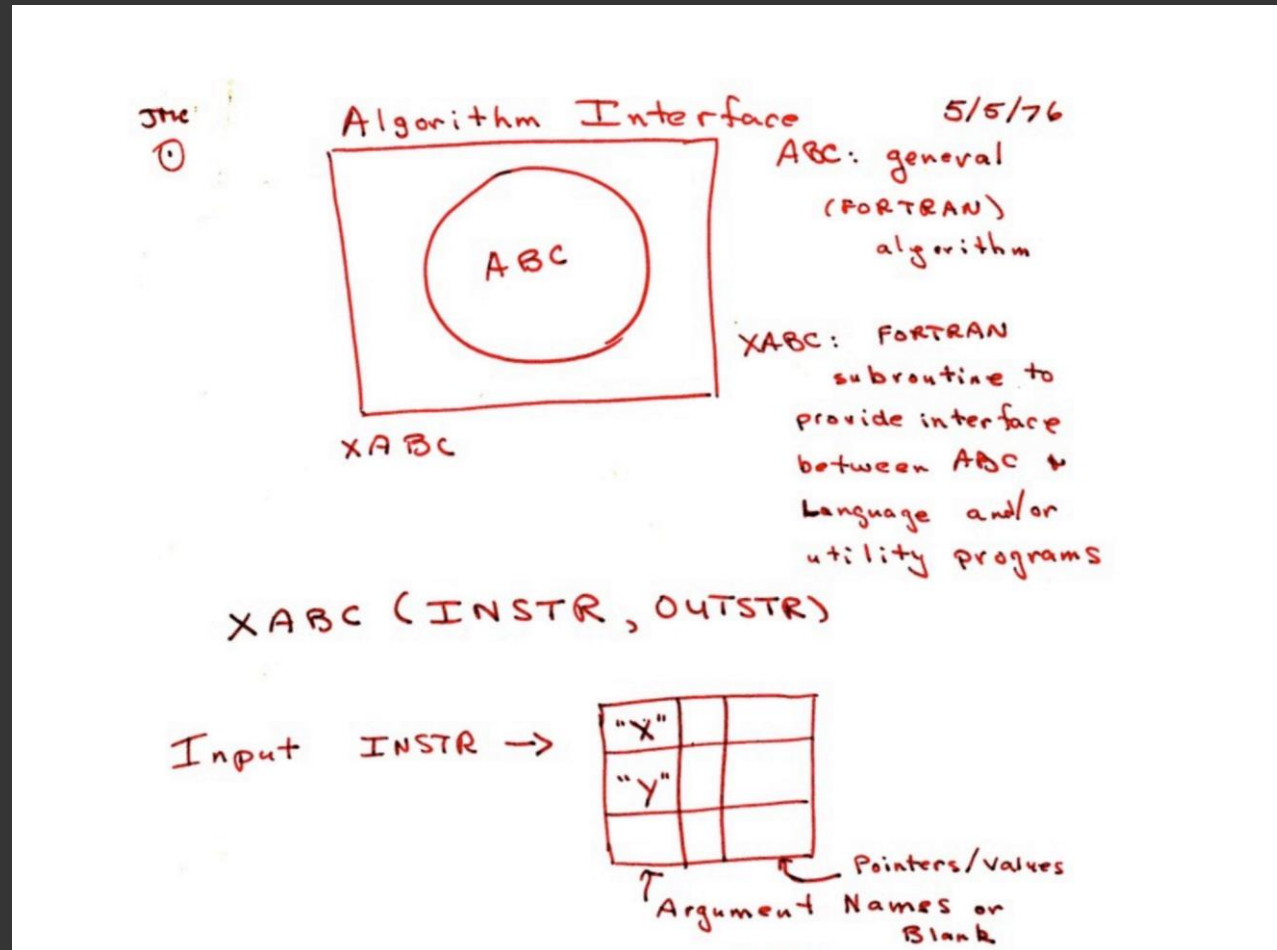


Photo credit: John Chambers

# 1992: R is born



Photo credit: Robert Gentleman

# 1993-08-04: The First Announcement

Date: Wed, 4 Aug 93 14:01:31 NZS  
From: Ross Ihaka  
To: S-news@utstat.toronto.edu  
Subject: Re: Is S available for a Macintosh personal computer?

Joseph B Kruskal writes:

If anyone knows of an S available for a Macintosh computer, I would be pleased to hear about it.

About a year ago Robert Gentleman and I considered the problem of obtaining decent statistical software for our undergraduate Macintosh lab. After considering the options, we decided that the most satisfactory alternative was to write our own. We started by writing a small lisp interpreter. Next we expanded its data structures with atomic vector types and altered its evaluation semantics to include lazy evaluation of closure arguments and argument binding by tag as well as order. Finally we added some syntactic sugar to make it look somewhat like S. We call the result "R".

R Installation on the Macintosh (Pre-alpha Version)

Warning: This is VERY preliminary.

Pre-requisites:

A Macintosh computer (floating point is preferable)  
At least 2.5 megabytes of memory free (after the OS loads)

# 1995-06: R released under GPL




## **R : Past and Future History**

*A Draft of a Paper for Interface '98*

Ross Ihaka  
Statistics Department  
The University of Auckland  
Auckland, New Zealand



# 1997: CRAN founded



**These webpages are currently under re-construction!**

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## The Comprehensive R Archive Network

### Frequently used pages

Unix & Linux	Windows
<ul style="list-style-type: none"><li>Download the source code of the latest release: <a href="#">R-1.1.1.tgz</a></li><li>Sources of <a href="#">contributed packages</a></li><li>Precompiled binaries for <a href="#">Linux</a> and <a href="#">OSF</a></li></ul>	<ul style="list-style-type: none"><li>Download <a href="#">R for Windows</a> 95, 98, NT4.0 and 2000 on Intel/clone chips</li><li>Precompiled ZIP files of <a href="#">contributed packages</a></li></ul>

### What are R and CRAN?

R is 'GNU S', a freely available language and environment for statistical computing and graphics which provides a wide variety of statistical and graphical techniques: linear and nonlinear modelling, statistical tests, time series analysis, classification, clustering, etc. Please consult the [R project homepage](#) for further information.

CRAN is a network of ftp and web servers around the world that store identical, up-to-date, versions of code and documentation for the R statistical package. Please use the CRAN [mirror](#) nearest to you to minimize network load.

### Recent changes

[CRAN](#) (<http://cran.R-project.org>) and the [R homepage](#) (<http://www.R-project.org>) have been split into two separate web sites. CRAN now only serves the purpose of providing R related software, documentation etc., it is the "download area" of the R project and mirrored on a number of sites worldwide. The R homepage provides more detailed info and material that need not (or for technical reasons cannot) be mirrored on every CRAN node. This split also means the the HTML pages of CRAN only serve as a frontend for the download area. Many pages (e.g., on mailing lists, books, ...) have moved from CRAN to the R homepage.

### Submitting to CRAN


To "submit" to CRAN, simply upload to <ftp://cran.r-project.org/incoming> and send email to [wwwadmin@cran.r-project.org](mailto:wwwadmin@cran.r-project.org). Please indicate the copyright situation (GPL, ...) in your submission.

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Last modified: November 9, 2000 by Friedrich Leisch

CRAN on Nov 9, 2000

# 1997: CRAN founded



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## The Comprehensive R Archive Network

### Download and Install R

Precompiled binary distributions of the base system and contributed packages, **Windows and Mac** users most likely want one of these versions of R:

- [Download R for Linux](#)
- [Download R for \(Mac\) OS X](#)
- [Download R for Windows](#)

R is part of many Linux distributions, you should check with your Linux package management system in addition to the link above.

### Source Code for all Platforms

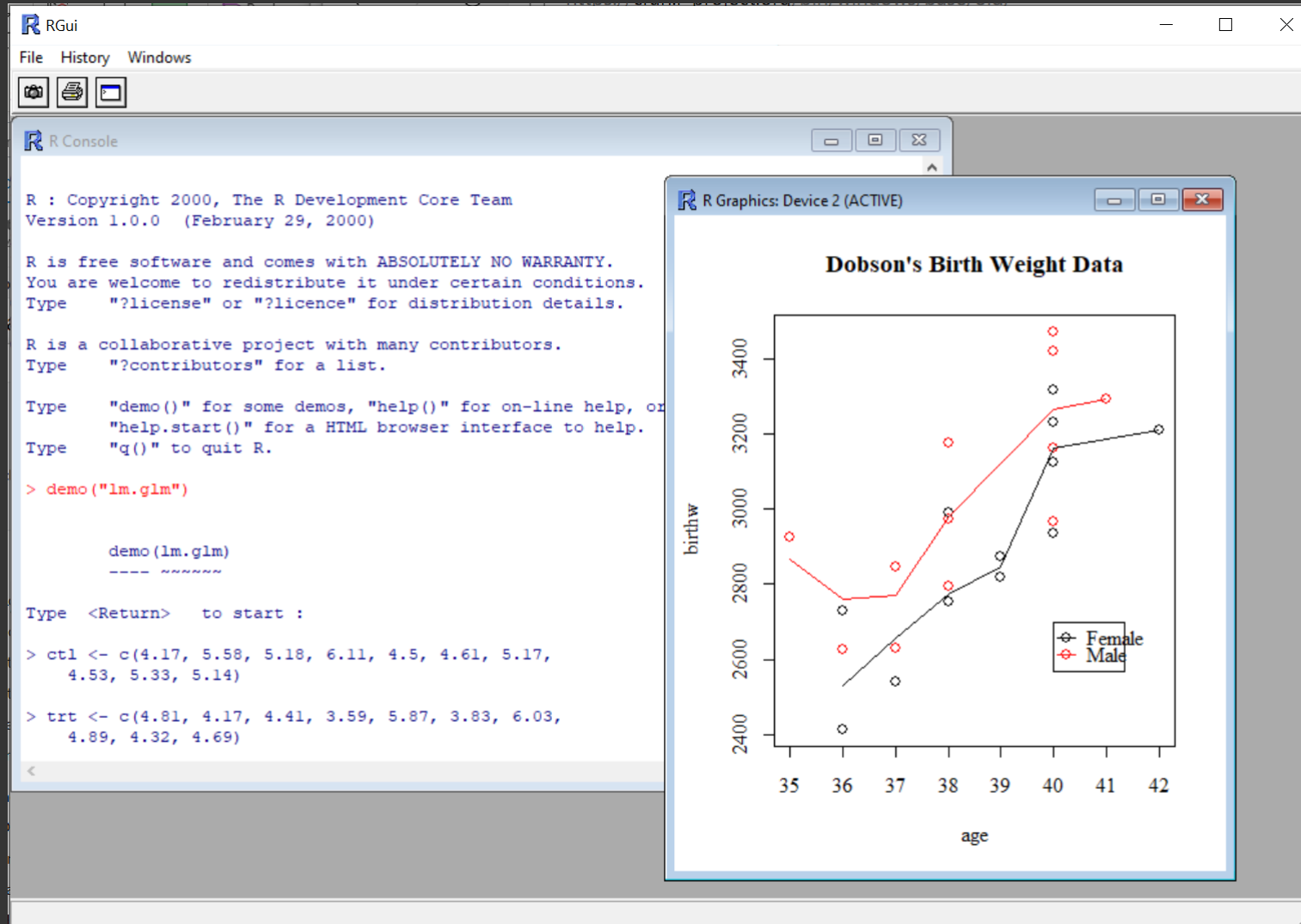
Windows and Mac users most likely want to download the precompiled binaries listed in the upper box, not the source code. The sources have to be compiled before you can use them. If you do not know what this means, you probably do not want to do it!

- The latest release (2020-02-29, Holding the Windsock) [R-3.6.3.tar.gz](#), read [what's new](#) in the latest version.
- Sources of [R alpha and beta releases](#) (daily snapshots, created only in time periods before a planned release).
- Daily snapshots of current patched and development versions are [available here](#). Please read about [new features and bug fixes](#) before filing corresponding feature requests or bug reports.
- Source code of older versions of R is [available here](#).
- Contributed extension [packages](#)

CRAN on Mar 26, 2020



# 2000-02-29: R 1.0.0 released



2.8Mb source code


- cf 32Mb today

8.6Mb Windows installer

- cf 84Mb today
- Still runs on Windows 10!

Features a Y2K compliance statement

# 2000-04-03: Incorporation of the R Foundation



The R Foundation for Statistical Computing

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[R GUIs](#)

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The R Foundation is a not for profit organization working in the public interest. It has been founded by the members of the R Development Core Team in order to

- Provide support for the R project and other innovations in statistical computing. We believe that R has become a mature and valuable tool and we would like to ensure its continued development and the development of future innovations in software for statistical and computational research.
- Provide a reference point for individuals, institutions or commercial enterprises that want to support or interact with the R development community.
- Hold and administer the copyright of R software and documentation.

R is an official part of the [Free Software Foundation](#)'s GNU project, and the R Foundation has similar goals to other open source software foundations like the [Apache Foundation](#) or the [GNOME Foundation](#).

Among the goals of the R Foundation are the support of continued development of R, the exploration of new methodology, teaching and training of statistical computing and the organization of meetings and conferences with a statistical computing orientation. We hope to attract sufficient funding to make these goals realities.

The **R Foundation Statutes** can be downloaded as PDF file in [English](#) or [German](#).

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[cran@R-project.org](mailto:cran@R-project.org)  
Last modified: March 6, 2003 by Friedrich Leisch

Founded in Vienna, Austria

Presidents (2002): Robert Gentleman, Ross Ihaka

Holds R copyright

Funds servers, R Journal, and useR! conference

Now accepts [online donations](#)

# 2009-01-06: R hits the Front Page\*

**The New York Times**

## Business Computing

WORLD U.S. N.Y. / REGION BUSINESS TECHNOLOGY SCIENCE HEALTH SPORTS OPINION

### Data Analysts Captivated by R's Power



Left, Stuart Isett for The New York Times; right, Kieran Scott for The New York Times

R first appeared in 1996, when the statistics professors Robert Gentleman, left, and Ross Ihaka released the code as a free software package.

By [ASHLEE VANCE](#)  
Published: January 6, 2009

\*of the technology section of the NYT

# 2011-02-28: RStudio initial public release

## [R] A new IDE for R: RStudio

johannes rara [johannesrara@gmail.com](mailto:johannesrara@gmail.com)

Mon Feb 28 19:29:57 CET 2011

- Previous message: [\[R\].plot data frame](#)
- Next message: [\[R\].power of the comparison of two ROC curves](#)
- Messages sorted by: [\[date\]](#) [\[thread\]](#) [\[subject\]](#) [\[author\]](#)

Hi,

This is not an official announcement, I just discovered that a new IDE for R named RStudio was released today. Looks very very promising to me!

<http://www.rstudio.org>

-J

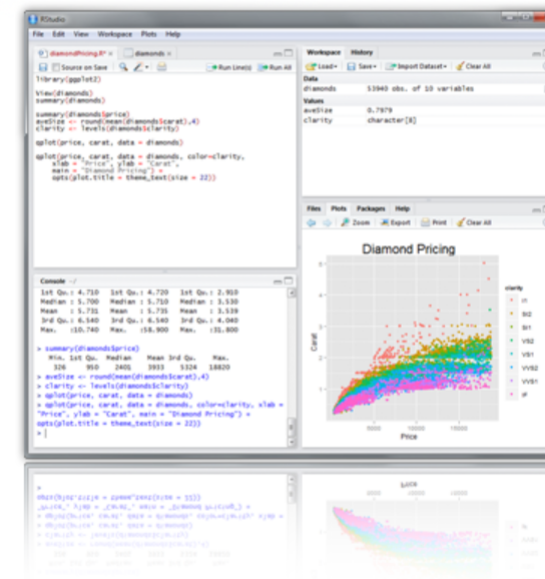
- Previous message: [\[R\].plot data frame](#)
- Next message: [\[R\].power of the comparison of two ROC curves](#)
- Messages sorted by: [\[date\]](#) [\[thread\]](#) [\[subject\]](#) [\[author\]](#)

[More information about the R-help mailing list](#)

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## Introducing RStudio

RStudio™ is a new integrated development environment (IDE) for R. RStudio combines an intuitive user interface with powerful coding tools to help you get the most out of R.



### Productive

RStudio brings together everything you need to be productive with R in a single, customizable environment. Its intuitive interface and [powerful coding tools](#) help you get work done faster.

### Runs Everywhere

RStudio is available for [all major platforms](#) including Windows, Mac OS X, and Linux. It can even run alongside R on a server, enabling multiple users to access the RStudio IDE using a web browser.

### Free & Open

Like R, RStudio is available under an [open source license](#) that guarantees the freedom to share and change the software, and to make sure it remains free software for all its users.



### News

#### RStudio Beta Available (2/28/2011)

We are pleased to announce availability of the beta version of RStudio! RStudio is a new open-source IDE for R that runs either on your desktop or on a server (where it is accessed using a browser). We invite everyone to check out the [screenshots](#) for more details; [download](#) the product to try it out, and follow its ongoing [development](#) on github.

# 2015-04-06: Microsoft supports R

 Microsoft | Official Microsoft Blog

## Microsoft to acquire Revolution Analytics to help customers find big data value with advanced statistical analysis

Jan 23, 2015 | [Joseph Sirosh - Corporate Vice President, Data Group, Microsoft](#)



**Update: April 6, 2015:** Microsoft has closed the acquisition of Revolution Analytics. For more details, please read the blog post by Joseph Sirosh [here](#).

I'm very pleased to announce that Microsoft has reached an agreement to acquire [Revolution Analytics](#). Revolution Analytics is the leading commercial provider of software and services for R, the world's most widely used programming language for statistical computing and predictive analytics. We are making this acquisition to help more companies use the power of R and data science to unlock big data insights with advanced analytics.

As their volumes of data continually grow, organizations of all kinds around the world – financial, manufacturing, health care, retail, research – need powerful analytical models to make data-driven decisions. This requires high performance computation that is “close” to the data, and scales with the business’ needs over time. At the same time, companies need to reduce the data science and analytics skills gap inside their organizations, so more employees can use and benefit from R. This acquisition is part of our effort to address these customer needs.

[MRAN](#) (daily CRAN archives)

[Microsoft ML Server](#)

[SQL Server](#)

[Power BI](#)

[Azure DataBricks](#)

[Azure HDInsight](#)

[Azure Data Science VM](#)

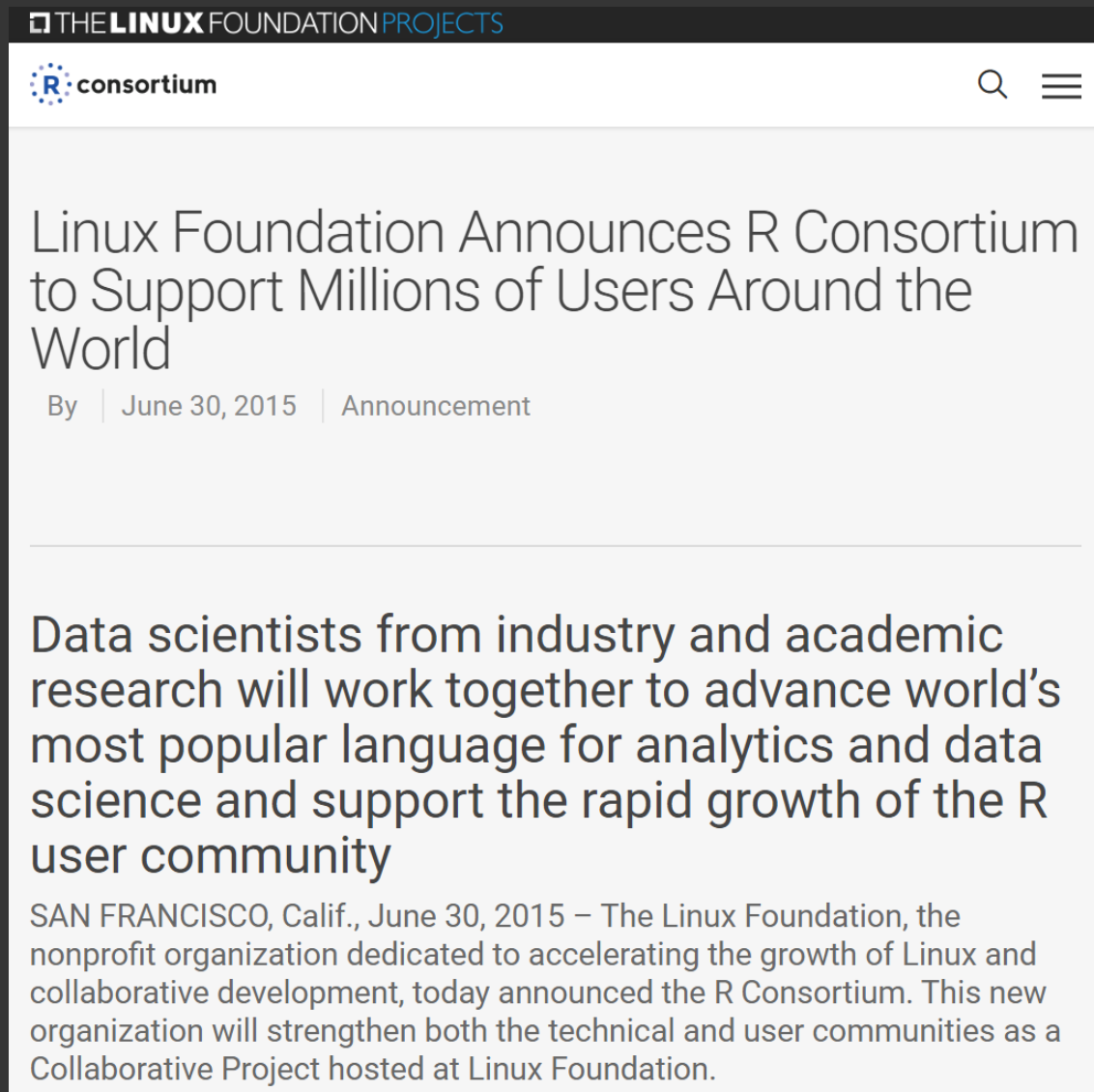
[Azure ML Service](#)

[AzureR](#)

[R Community](#)



# 2015-06-30: R Consortium founded



Provides funding for:

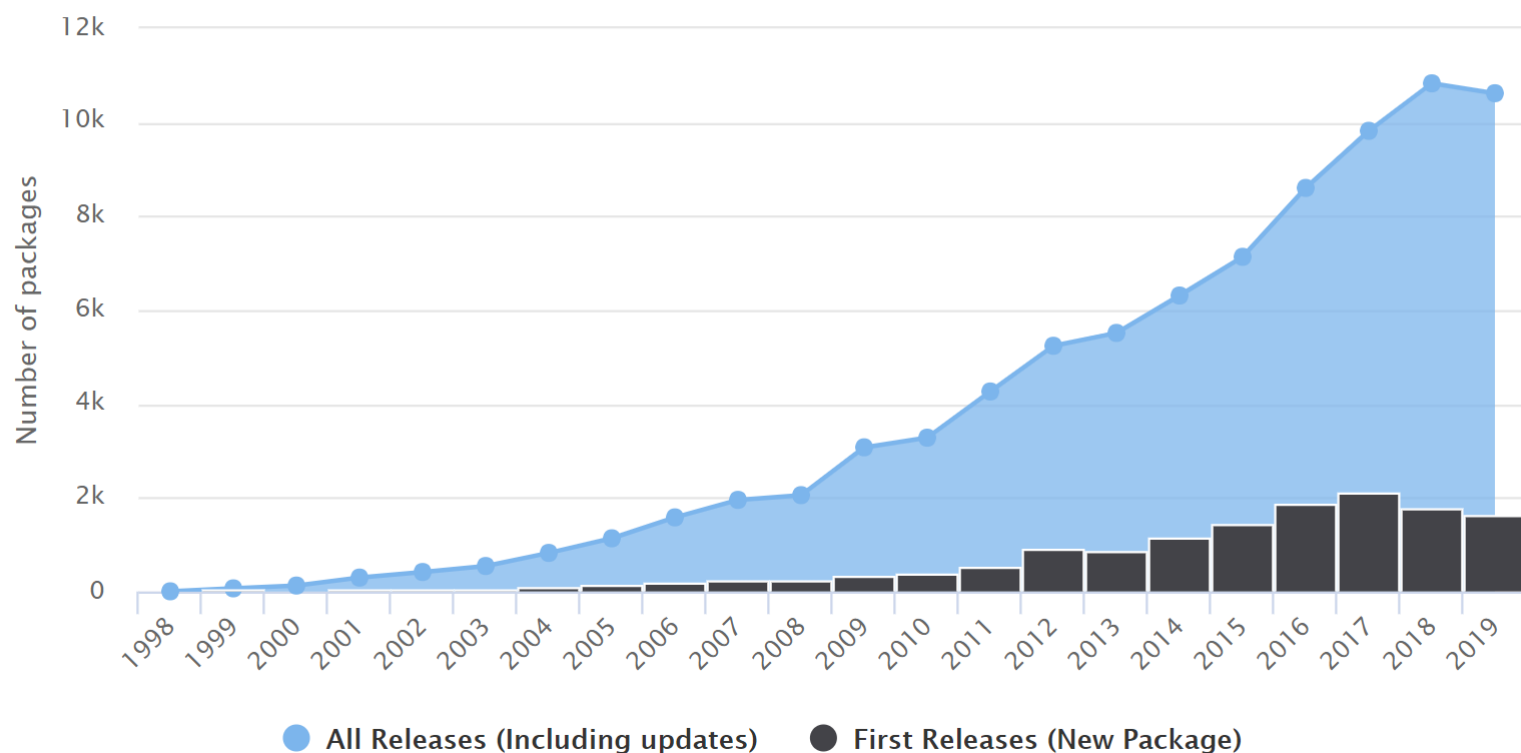
- R user groups
- R-Ladies
- R-hub
- useR! video streaming
- Community projects, events, and working groups



# 2019-12-31: CRAN Package Growth

## Results


Package releases to CRAN over the years





CRAN packages in 2019:  
15368 available  
10620 released / updated  
1656 new


Chart: Jozef Hajnala

# 2020-02-29: R 3.6.3 released at CelebRation



## Peter Dalgaard: A Brief History of R and some Thoughts about Its Future @ CeleBration 2020

Watch later Share



If a package's C/C++ calls to BLAS/LAPACK allow for the "hidden" arguments used by most Fortran compilers to pass the lengths of Fortran character arguments, define USE\_FC\_LEN\_T and include Rconfig.h (possibly via R.h) before including R\_ext/BLAS.h or R\_ext/Lapack.h.

\* A package with Fortran source code and perhaps C (but not C++) sources can request for its shared object/DLL Fortran compiler by including a line USE\_FC\_src/Makevars(.win) and using \$(SHLIB\_OPENMP\_PKG\_LIBS).

The known reason for doing so is a package w (only) OpenMP on a platform where the Fortran incompatible with the C one (e.g. gfortran 9

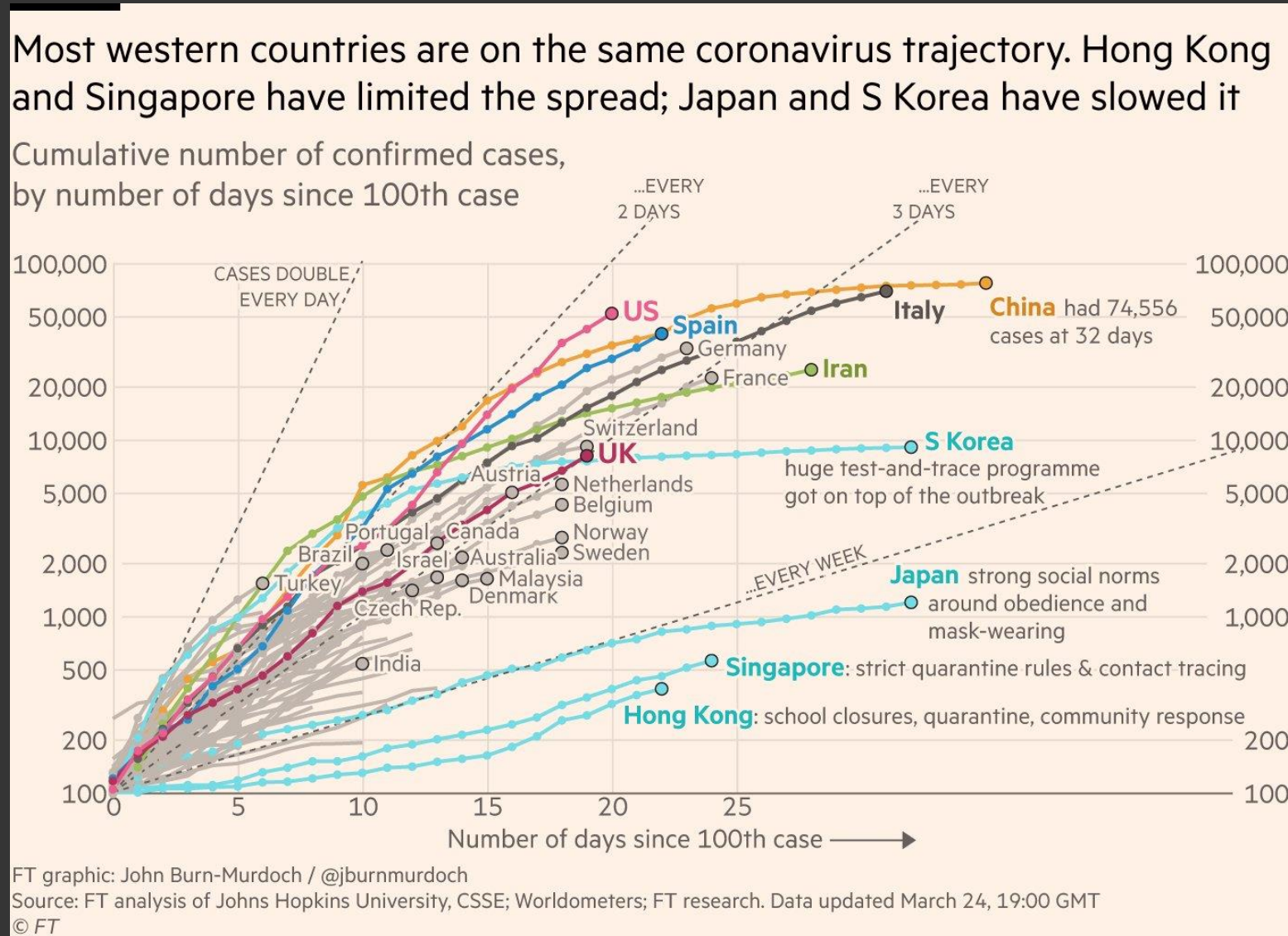
UTILITIES:

```
Peters-IMac:R-release pd$ logout
Connection to cbs closed.
Peters-MacBook-Air:~ pd$ ssh cbs
Last login: Sat Feb 29 00:05:02 2020 from 172.26.1

rscript ~/scripts/ReleaseBlurbs.R
Peters-IMac:~ pd$
Peters-IMac:~ pd$ rscript ~/scripts/ReleaseBlurbs.R
Version 3.6.3 ("Holding the Windsock") was release
<p>
The wrap-up release of the R-3.5.x series was 3.5.
<p>
The date for the next release is not yet set.
<p>
- [[R version 3.6.3 (Holding the Windsock)]] (h
ase/R-3)
has been released on 2020-02-29.
Peters-IMac:~ pd$ []
```

```
U***: "scratch" At (8,0) (Text Spc Word Wrt)
[4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25] [26] [27] [28] [29] [30] [31] [32] [33] [34] [35] [36] [37] [38] [39] [40] [41] [42] [43] [44] [45] [46] [47] [48] [49] [50] [51] [52] [53] [54] [55] [56] [57] [58] [59] [60] [61] [62] [63] [64] [65] [66] [67] [68] [69] [70] [71] [72] [73] [74] [75] [76] [77] [78] [79] [80] [81] [82] [83] [84] [85] [86] [87] [88] [89] [90] [91] [92] [93] [94] [95] [96] [97] [98] [99] [100] [101] [102] [103] [104] [105] [106] [107] [108] [109] [110] [111] [112] [113] [114] [115] [116] [117] [118] [119] [120] [121] [122] [123] [124] [125] [126] [127] [128] [129] [130] [131] [132] [133] [134] [135] [136] [137] [138] [139] [140] [141] [142] [143] [144] [145] [146] [147] [148] [149] [150] [151] [152] [153] [154] [155] [156] [157] [158] [159] [160] [161] [162] [163] [164] [165] [166] [167] [168] [169] [170] [171] [172] [173] [174] [175] [176] [177] [178] [179] [180] [181] [182] [183] [184] [185] [186] 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[519] [520] [521] [522] [523] [524] [525] [526] [527] [528] [529] [530] [531] [532] [533] [534] [535] [536] [537] [538] [539] [540] [541] [542] [543] [544] [545] [546] [547] [548] [549] [550] [551] [552] [553] [554] [555] [556] [557] [558] [559] [560] [561] [562] [563] [564] [565] [566] [567] [568] [569] [570] [571] [572] [573] [574] [575] [576] [577] [578] [579] [580] [581] [582] [583] [584] [585] [586] [587] [588] [589] [590] [591] [592] [593] [594] [595] [596] [597] [598] [599] [600] [601] [602] [603] [604] [605] [606] [607] [608] [609] [610] [611] [612] [613] [614] [615] [616] [617] [618] [619] [620] [621] [622] [623] [624] [625] [626] [627] [628] [629] [630] [631] [632] [633] [634] [635] [636] [637] [638] [639] [640] [641] [642] [643] [644] [645] [646] [647] [648] [649] [650] [651] [652] [653] [654] [655] [656] [657] [658] [659] [660] [661] [662] [663] [664] [665] [666] [667] [668] [669] [670] [671] [672] [673] [674] [675] [676] [677] [678] [679] [680] [681] [682] [683] [684] 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