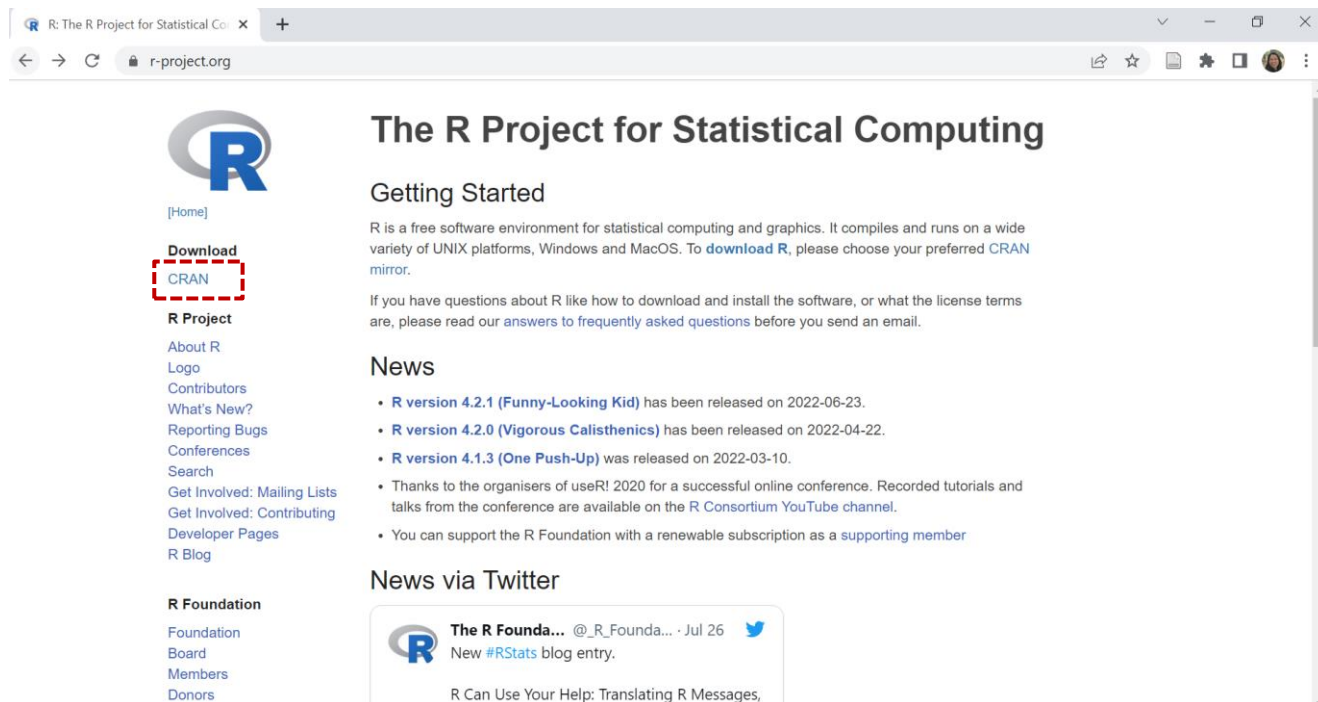


# R, RTools and RStudio Installation Guide

## • Download and Install R

- Open the [www.r-project.org](http://www.r-project.org) to download R and RTools.
- Go to [CRAN and download](#) the R installer for Windows. Make sure to choose the latest stable version and must be compatible with your devices.



## CRAN Mirrors

The Comprehensive R Archive Network is available at the following URLs, please choose a location close to you. Some statistics on the status of the mirrors can be found here: [main page](#), [windows release](#), [windows old release](#).

If you want to host a new mirror at your institution, please have a look at the [CRAN Mirror HOWTO](#).

0-Cloud

<https://cloud.r-project.org/> Automatic redirection to servers worldwide, currently sponsored by Rstudio

Argentina

<http://mirror.fcaglp.unlp.edu.ar/CRAN/>

Universidad Nacional de La Plata

Australia

<https://cran.csiro.au/>

CSIRO

<https://mirror.aarnet.edu.au/pub/CRAN/>

AARNET

<https://cran.ms.unimelb.edu.au/>

School of Mathematics and Statistics, University of Melbourne

<https://cran.curtin.edu.au/>

Curtin University

Austria

<https://cran.wu.ac.at/>

Wirtschaftsuniversität Wien

Belgium

<https://www.freeststatistics.org/cran/>

Patrick Wessa

<https://ftp.belnet.be/mirror/CRAN/>

Belnet, the Belgian research and education network

Brazil

<https://cran-r.c3sl.ufpr.br/>

Universidade Federal do Parana

<https://cran.fiocruz.br/>

Oswaldo Cruz Foundation, Rio de Janeiro

<https://vps.fmvz.usp.br/CRAN/>

University of Sao Paulo, Sao Paulo

<https://brieger.esalq.usp.br/CRAN/>

University of Sao Paulo, Piracicaba

Bulgaria

<https://ftp.uni-sofia.bg/CRAN/>

Sofia University



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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 \(Debian, Fedora/Redhat, Ubuntu\)](#)
- [Download R for macOS](#)
- [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 (2022-06-23, Funny-Looking Kid) [R-4.2.1.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](#)

- c. You need to download the base and the Rtools. The R should be in the same version as with your Rtools.



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## R for Windows

Subdirectories:

<a href="#">base</a>	Binaries for base distribution. This is what you want to <b>install R for the first time</b> .
<a href="#">contrib</a>	Binaries of contributed CRAN packages (for R >= 3.4.x).
<a href="#">old contrib</a>	Binaries of contributed CRAN packages for outdated versions of R (for R < 3.4.x).
<a href="#">Rtools</a>	Tools to build R and R packages. This is what you want to build your own packages on Windows, or to build R itself.

Please do not submit binaries to CRAN. Package developers might want to contact Uwe Ligges directly in case of questions / suggestions related to Windows binaries.

You may also want to read the [R FAQ](#) and [R for Windows FAQ](#).

Note: CRAN does some checks on these binaries for viruses, but cannot give guarantees. Use the normal precautions with downloaded executables.

- d. Check the version of your OS if it is compatible with the version of R. If ever you have 32 bit processor, you can try to download the previous versions



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## R-4.2.1 for Windows

- [Download R-4.2.1 for Windows](#) (79 megabytes, 64 bit)
- [README on the Windows binary distribution](#)
- [New features in this version](#)

This build requires UCRT, which is part of Windows since Windows 10 and Windows Server 2016. On older systems, UCRT has to be installed manually from [here](#).

If you want to double-check that the package you have downloaded matches the package distributed by CRAN, you can compare the [md5sum](#) of the .exe to the [fingerprint](#) on the master server.

### Frequently asked questions

- [Does R run under my version of Windows?](#)
- [How do I update packages in my previous version of R?](#)

Please see the [R FAQ](#) for general information about R and the [R Windows FAQ](#) for Windows-specific information.

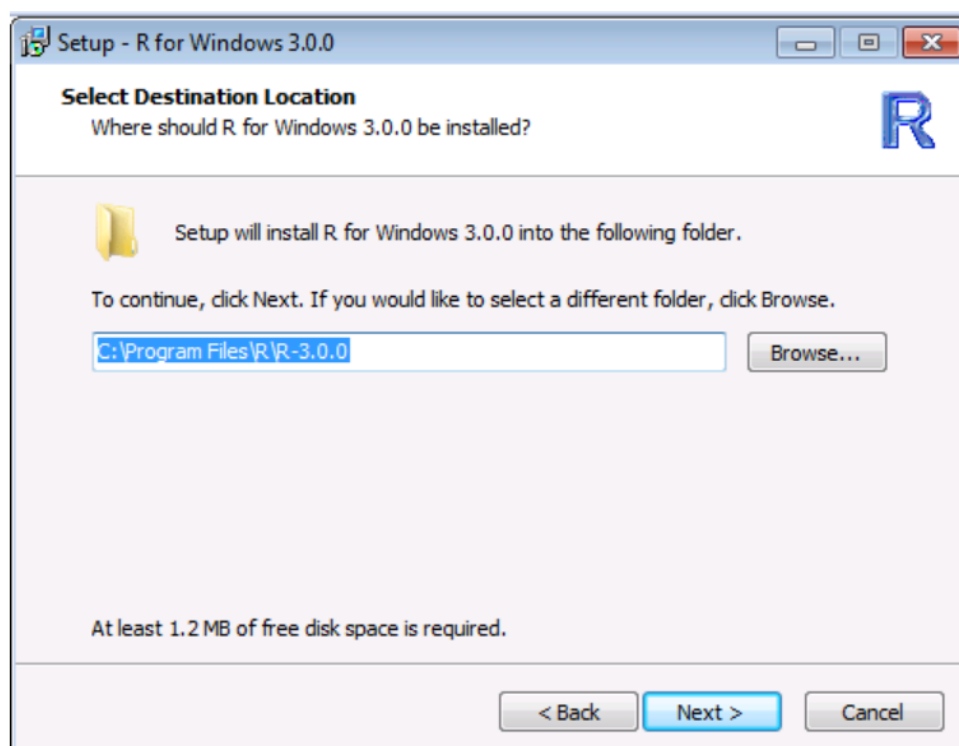
### Other builds

- Patches to this release are incorporated in the [r-patched snapshot build](#).
- A build of the development version (which will eventually become the next major release of R) is available in the [r-devel snapshot build](#).
- [Previous releases](#)

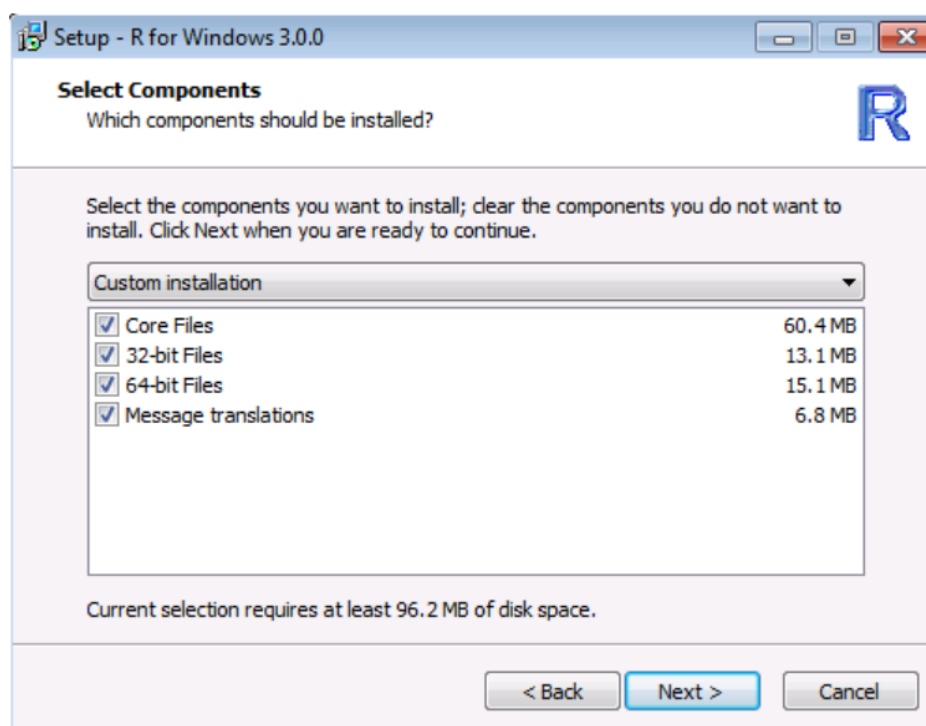
Note to webmasters: A stable link which will redirect to the current Windows binary release is [<CRAN MIRROR>/bin/windows/base/release.html](#).

Once the installer downloads, Right-click on it and select “Run as administrator”.

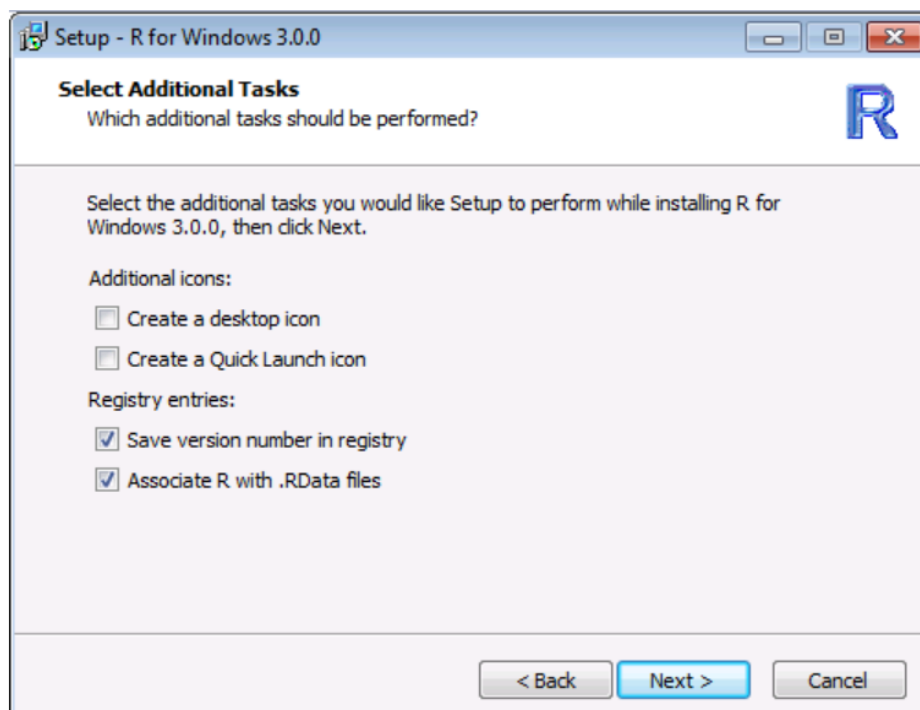
- 1) You can click next through the standard dialogs and accept most defaults. But at the destination screen, please verify that it is installing it to C:Files(version number may vary)



- 2) At the “Select Components” screen, you can accept the default and install both 32-bit and 64-bit versions.



- 3) At this screen, you can check or uncheck ‘Create a desktop icon’.



- **Download and Rtools**

- a. Download



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Note: CRAN does some checks on these binaries for viruses, but cannot give guarantees. Use the normal precautions with downloaded executables.

### b. Check the version of Rtools with the R



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## RTools: Toolchains for building R and R packages from source on Windows

Choose your version of Rtools:

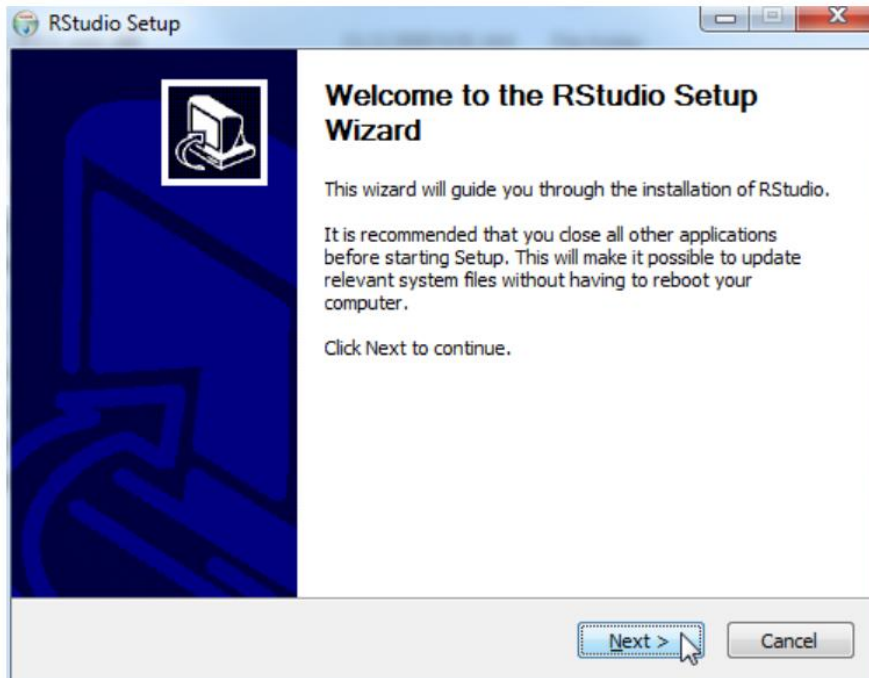
<a href="#">RTools 4.2</a>	for R $\geq$ 4.2.0
<a href="#">RTools 4.0</a>	for R from version 4.0.0 to 4.1.3
<a href="#">old versions of RTools</a>	for R versions prior to 4.0.0

- **Download and Install RStudio**

<https://rstudio.com/products/rstudio/download/>

You can choose a version you want but make sure that the R and the Rtools are compatible with RStudio.

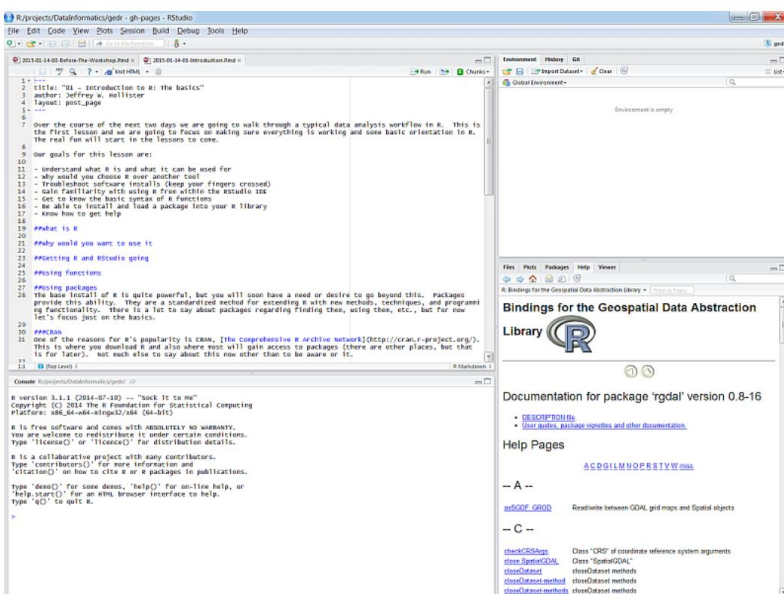
- 1) Double-click the installer. Accept all the default options for the RStudio install.



## **Checking Installation**

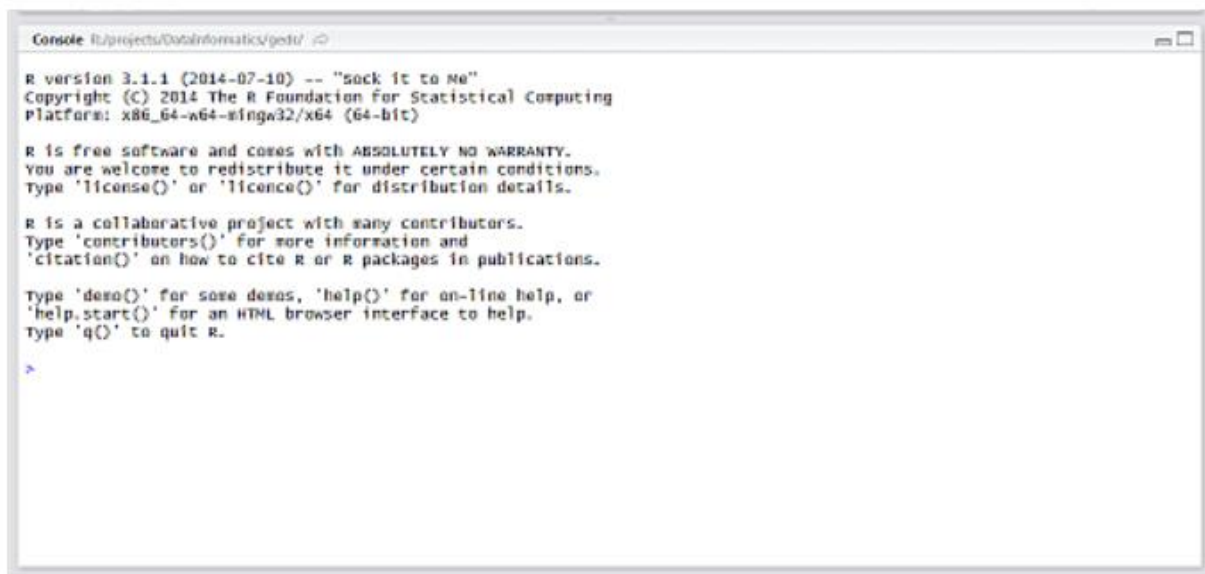
### **Open the RStudio**

- 1) Once installed, RStudio should be accessible from the start menu. Start-up RStudio. Once running it should look something like:



### Find the “Console Pane”

By default the console window will be on the left side of RStudio. Find that window. It will look something like:



### Verify the installed R version

Ideally you should be running the latest stable release. If you have an older version, please install the newest version using the instructions above.

Click in the “Console” window and paste in the code from below to see what version of R you have:

```
> version$version.string
```

### Verify the installed version of RStudio

You should be running the at least RStudio 1.0.0. The more recent the version of RStudio, the more features you will have.

Click in the “Console” window and paste in the code from below to see what version of RStudio you have:

```
> RStudio.Version()$version
```



## Add Packages and CRAN

### Installing general packages

Install packages available for all R users from [CRAN](https://cran.r-project.org/) by pasting the following code and hitting **ENTER**.

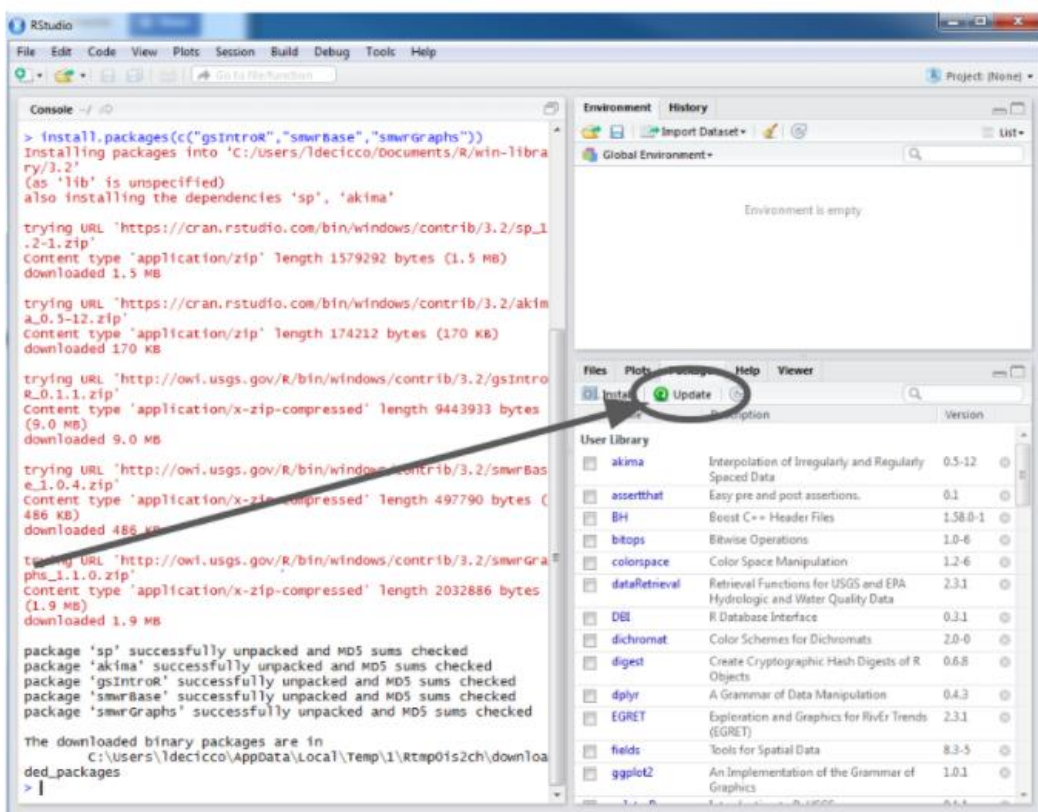
➤ `install.packages("package name")`

### Multiple package installation

➤ `install.packages("package name1", "package name2", "package name3")`

Note: If there are warning message during the installation, that is OK.

Now that you have installed R and some basic packages, you should get in a good habit of updating them regularly in case the authors fix bugs or add new features. It's best to do this on a weekly basis so that your code is never outdated. To update, click the icon in your packages tab. You can update them all at once or individually.



- <https://owi.usgs.gov/R/training-curriculum/installr/>
- <https://a-little-book-of-r-for-bioinformatics.readthedocs.io/en/latest/src/installr.html>
- <https://socialsciences.mcmaster.ca/jfox/Courses/R/ICPSR/R-install-instructions.html>