

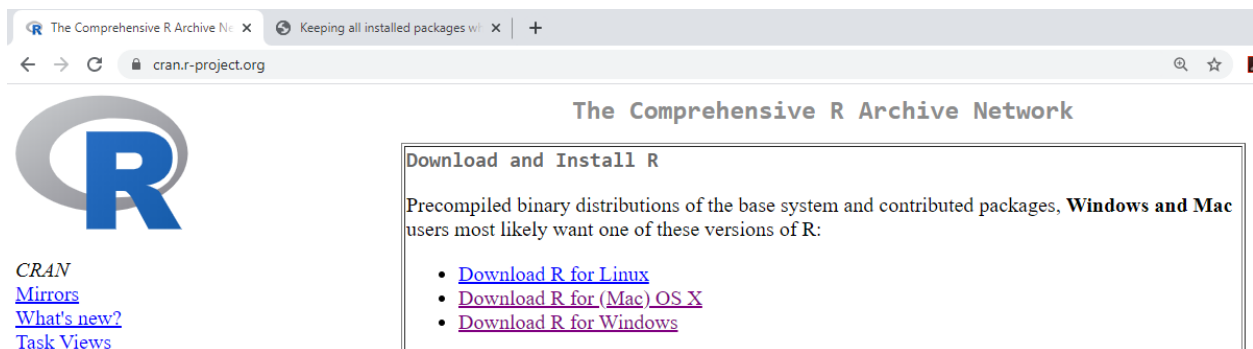
# Instructions for Installing or Updating R and R Studio

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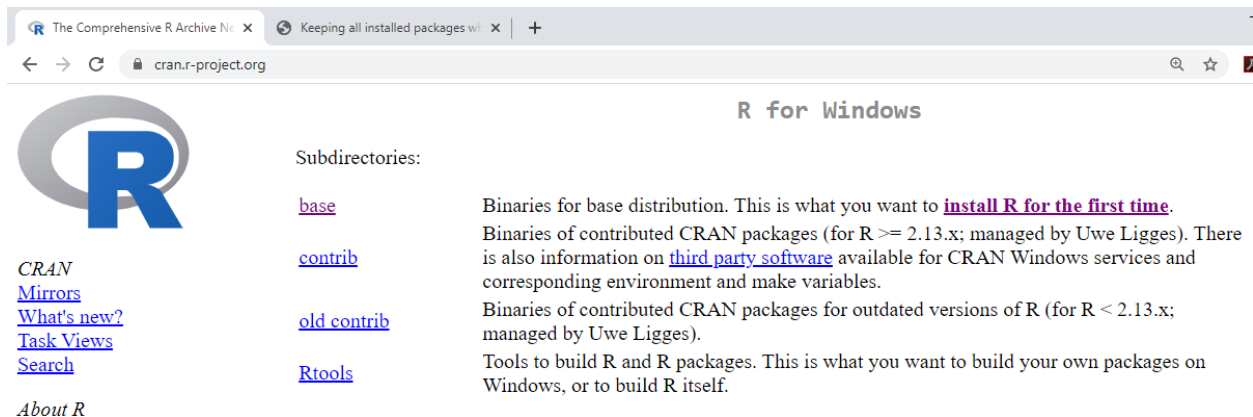
We will be using the latest versions of the R software and R Studio software (an Integrated Development Environment that provides a user-friendly interface for R) for the R Training Sessions offered to SJRWMD on September 10 and September 24. These software programs are available for free. Please follow the instructions below to either install or upgrade the versions you have on your laptop or desktop computer in advance of the class.

## Installing R and R Studio for the first time

Go to <https://cran.r-project.org/> (The Comprehensive R Archive Network) and select the appropriate compiled binary download for your operating system (for most people that will be the “Download R for Windows” link).



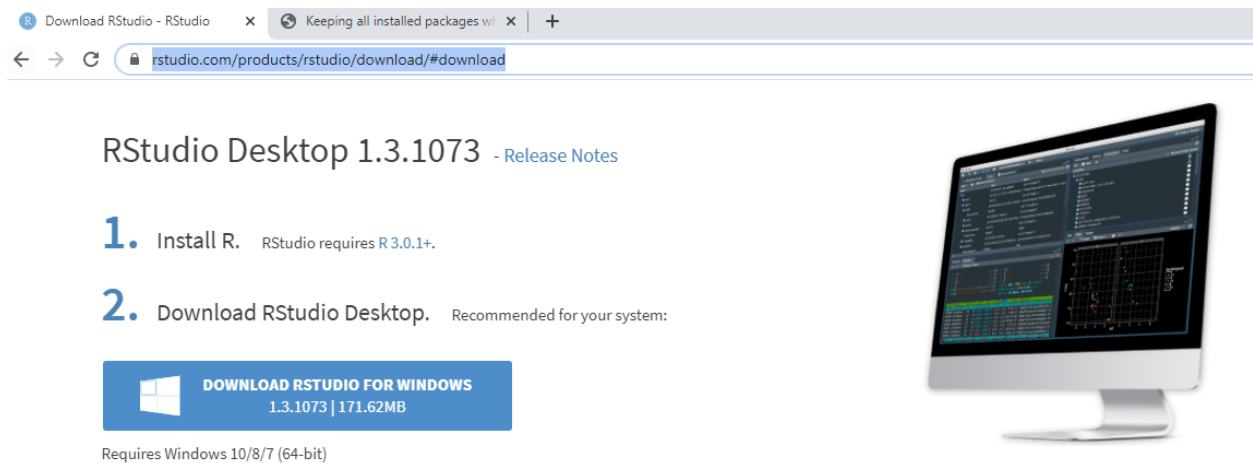
Then click on the link “install R for the first time.”



After the .exe file has downloaded, open it and follow the instructions to install R on your computer. Just accept all of the default locations and settings. If this is a computer owned by your employer and you are blocked from installing, you may have to contact your IT administrative staff to receive permission to allow you to install the software.

Now that R is installed, it is time to install R Studio.

Go to <https://rstudio.com/products/rstudio/download/#download>, and click to download the appropriate version of the software for your operating system. For most people it will be the large blue button shown below, but there are other options for Mac or Linux users.



## All Installers

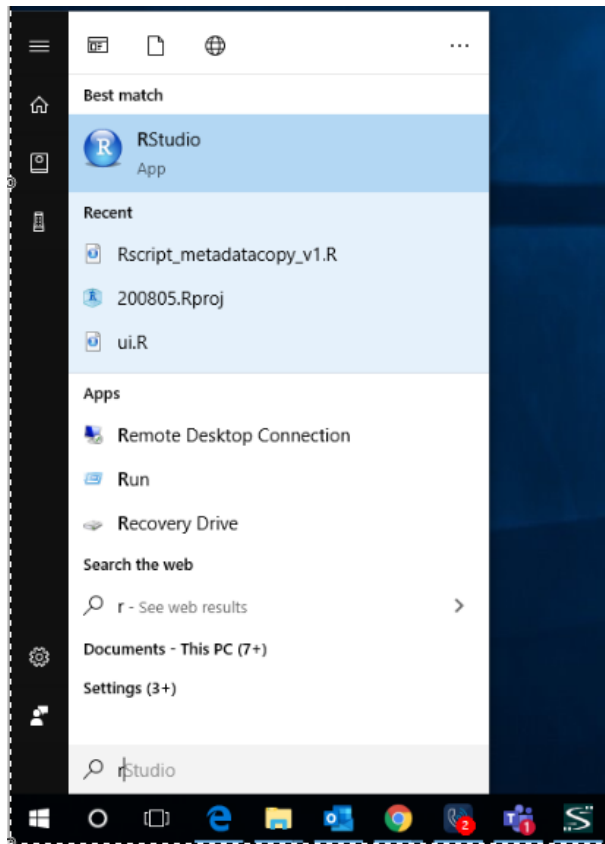
Linux users may need to [import RStudio's public code-signing key](#) prior to installation, depending on the operating system's security policy.

RStudio requires a 64-bit operating system. If you are on a 32 bit system, you can use an [older version of RStudio](#).

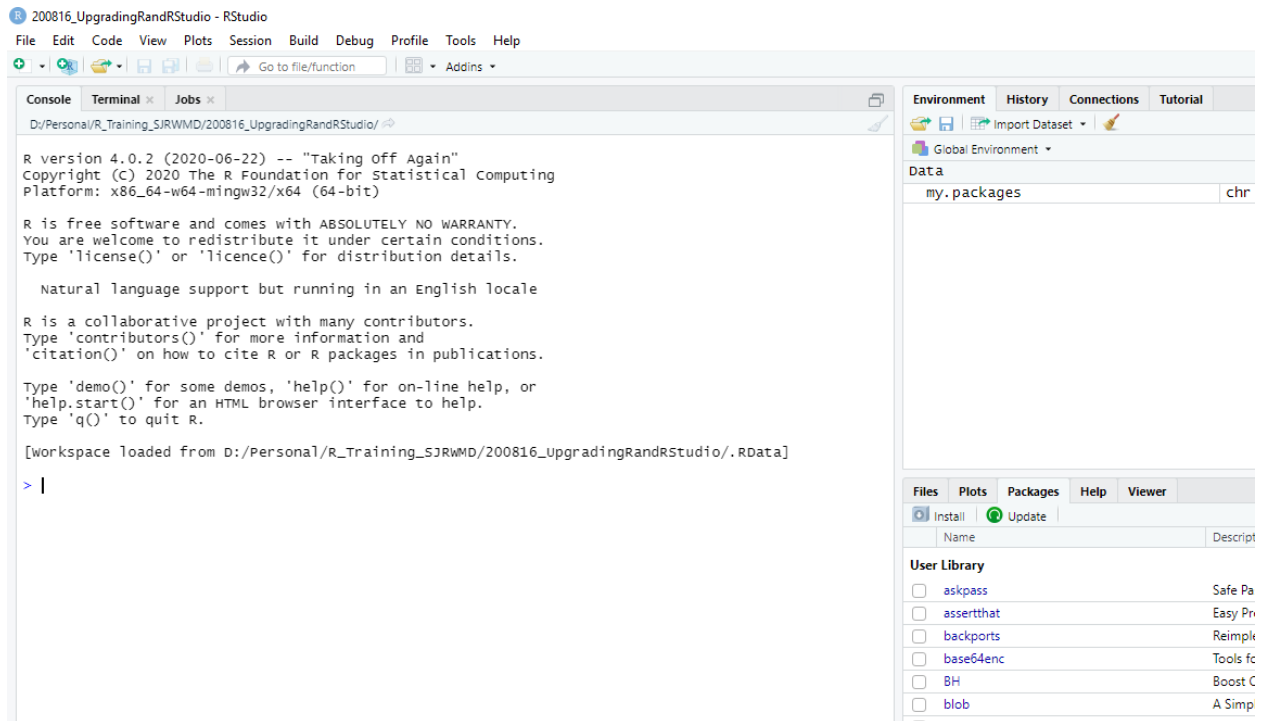
| OS             | Download                             | Size      | SHA-256                  |
|----------------|--------------------------------------|-----------|--------------------------|
| Windows 10/8/7 | <a href="#">RStudio-1.3.1073.exe</a> | 171.62 MB | <a href="#">2fea472a</a> |
| macOS 10.13+   | <a href="#">RStudio-1.3.1073.dmg</a> | 148.66 MB | <a href="#">0878b305</a> |

After downloading the installation file, run it and follow any prompts. Any, accept all default recommendations for where to install, etc.

After the installation is complete, go ahead and run R Studio (not R). Windows users can find RStudio as an installed App by beginning to type the name in the Windows search as shown below.



After running RStudio your screen should look something like this (portion of screen shown):



Try typing in the console at the prompt the following

```
> 2 + 2
```

If you get back the answer:

```
[1] 4
```

Then you have succeeded in installing R and R studio. Congratulations! Stop here.

## Upgrading the version of R and R Studio

If you already have a version of R and R Studio on your computer and they don't match the current versions, it is a good idea to upgrade them in case an incompatibility arises during the workshop exercises. The current versions of these programs are:

R version is 4.0.2 (2020-06-22) – also known as "Taking Off Again"

R Studio version is 1.3.1073

To check R version:

Go to R studio and execute `> version` command.

To find the R Studio version: Go to **Help** menu / **About R Studio**

Just as with the original installation, the order of updates is to first update R then update R Studio which will automatically find the most recent R install.

For Windows users, the package `installr` can be used to facilitate this process.

It is recommended to run `installr` not from within R studio but from `Rgui.exe` which for me was located in this path: `C:\Program Files\R\R-4.0.2\bin\x64`.

Within `Rgui`, install and load `installr` by using commands:

```
>install.packages("installr")
```

```
>library(installr)
```

Call the `updateR()` function. This will start the updating process of your R installation by: "finding the latest R version, downloading it, running the installer, deleting the installation file, copying and updating old packages to the new R installation." Prior to doing this, you may want to save a list of your old packages using the following code (in case there is a problem copying or updating packages):

```
>my.packages <- installed.packages()
```

```
>save(my.packages, file = "listOfInstalledPackages.RData") # note this will save in your current working directory
```

After updating R,

from within `RStudio`, go to **Help** / **Check for Updates** to find out whether there is a newer version of `RStudio` (if available, optional). You will then need to download it and install it.