Protocol 2: Preparing to Use RStudio

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Exploring the Effects of Climate on Plant Phenology Using Herbarium Specimens course

# Part 1: Complete the Following Tutorials

* Setting up R and RStudio:

https://datacarpentry.org/R-ecology-lesson/index.html#Setup\_instructions

* Setting up and Working Directory:

https://datacarpentry.org/R-ecology-lesson/00-before-we-start.html#Getting\_set\_up

* RStudio Projects and Working Directories:

https://www.r-bloggers.com/rstudio-projects-and-working-directories-a-beginners-guide/

* More on RStudio Projects:

https://support.rstudio.com/hc/en-us/articles/200526207-Using-Projects

# Part 2: Install R and RStudio

First install the base program, R, by visiting the following website and selecting the appropriate version of R (Linux, Mac, or Windows) from the options available: <https://cran.rstudio.com/>

Next, install RStudio (a graphic user interface for R) by visiting the following website and selecting the appropriate version from the All Installers list. You will want to download **RStudio Desktop**, which is free. <https://rstudio.com/products/rstudio/download/>

# Part 3: Set Up Folders

On the desktop of your computer, create a folder named **PhenologyCourse**. Within this folder, create two folders, one named **Data** and one named **Scripts**. Within the **Data** folder, create two folders, one named **specimen\_data** and one named **prism\_data.** *Make sure that your names match the provided names exactly, including capitalization.* Otherwise, you will have trouble loading and running scripts in the future. You should keep this folder and its contents on your desktop for the remainder of the course.



# Part 4: Create a New Project

Open RStudio. Click **File** in the top left corner. Select **New Project...** from the dropdown list. Now you will want to decide where you will keep all the files associated with this course (or at least the first assignment). Select **Existing Directory** from the pop-up window. Click the **Browse** button and select the PhenologyCourse folder that you created in part 2. Click the **Open** button, then **Create Project**.

# Part 5: Install Packages

In one of the windows of RStudio (usually the bottom right), you will see a window that has multiple tabs: **Files**, **Plots**, **Packages**, **Help**, and **Viewer**. Click on the **Packages** tab. Click the Install button in the top left corner (circled below).



In the pop-up window, make sure the **Install from:** field is filled with Repository (CRAN) and that the **Install to Library** field is set to the default directory (it will say [default]). In the Packages field, enter each of the following package names, separated by a space. Make sure that you enter them exactly as shown below (without capitalization).

car, broom, leaflet, raster, sp, tidyverse, tidyselect, visreg

You may also cut and paste this list into the Packages field, as shown below:



Then, click the “Install” button.

Allow the packages to install (it might take a little while). You may see some error messages, but don’t be alarmed. Unless you see something like “failure to install”, you should be fine.