Pre-Workshop Setup

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Pre-tutorial Setup

You will need to complete the following steps *before* our live coding sessions. We suggest that you do so at least the night before (installing and updating can take a while, you don't want to miss out!) and come early if you need help getting anything setup on your personal computer.

Install R

Please check your version of R. To use the tools for this tutorial you will need R 3.4.0+

How to check your version in R or RStudio if you already have it:

```
> version
               _
platform       x86_64-apple-darwin15.6.0
arch           x86_64
os             darwin15.6.0
system         x86_64, darwin15.6.0
status
major          3
minor          5.1
year           2018
month          07
day            02
svn rev        74947
language       R
version.string R version 3.5.1 (2018-07-02)
nickname       Feather Spray
```

If you don't already have R or need to update it do so here.

Windows R/RStudio Setup

After you have downloaded R, run the .exe file that was just downloaded Go to the RStudio Download page. Under Installers select RStudio X.XX.XXX - e.g. Windows Vista/7/8/10 Double click the file to install it Once R and RStudio are installed, click to open RStudio. If you don't get any error messages you are set. If there is an error message, you will need to re-install the program.

Mac R/RStudio Setup

After you have downloaded R, double click on the file that was downloaded and R will install Go to the RStudio Download page Under Installers select RStudio 1.2.1135 - Mac OS X XX.X (64-bit) to download it. Once it's downloaded, double click the file to install it. Once R and RStudio are installed, click to open RStudio. If you don't get any error messages you are set. If there is an error message, you will need to re-install the program.

Linux R/RStudio Setup

R is available through most Linux package managers. You can download the binary files for your distribution from CRAN. Or you can use your package manager. e.g. for Debian/Ubuntu

    run sudo apt-get install r-base

and for Fedora

    run sudo yum install R

To install RStudio, go to the RStudio Download page Under Installers select the version for your distribution. Once it's downloaded, double click the file to install it Once R and RStudio are installed, click to open RStudio. If you don't get any error messages you are set. If there is an error message, you will need to re-install the program.

Install packages for this tutorial

You can run the following script to make sure all the required packages are properly installed on your laptop.

```r
# list of required packages
list.of.packages <- c(
  'data.table',
  'phenocamapi',
  'plotly',
  'dplyr',
  'phenocamr',
  'phenocamapi'
)

# identify new (not installed) packages
new.packages <- list.of.packages[!(list.of.packages %in% installed.packages()[,"Package"])]

# install new (not installed) packages
if(length(new.packages))
  install.packages(new.packages,
                   repos='http://cran.rstudio.com/')

# load all of the required libraries
sapply(list.of.packages, library, character.only = T)
```

You're good to go!