

MAST 467/667: Introduction to Polar Oceanography (Fall 2021)
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Workshop/Homework-4: Installing and Testing RStudio

Data: Ocean Melts Greenland (OMG) at <https://omg.jpl.nasa.gov/portal/>

Introduction. For our fourth workshop we will install the RStudio software on our individual Windows or Apple computers.

Goal. Install and configure complex community software packages.

Assignment. Install and configure RStudio and start a project that follows commands (and results) posted at

<http://muenchow.cms.udel.edu/classes/Arctic/Test.html>

The following steps may aid to accomplish this, but it probably is a nonlinear process, because different elements may require new internet downloads of additional packages, configurations, and tools not found on your computer:

1_Visit the site

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

to select a free installation for your computer. The Windows installation is about 160 MB while the Apple installation is about 200 MB.

2_Start the RStudio application which will open a fully integrated windowing system; lets discuss the different options.

3_Start a new R Markdown project OMG00 and hit the “Knit” button which will create an .html or .pdf file of your R-code. On my Apple there are three “chunks” that all start and end with ``` Code snippets that can be executed individually

```
```${r setup, include=FALSE}
 knitr::opts_chunk$set(echo = TRUE)
```
```

4_Remove all additional “chunks” that for me are labeled `{r cars}` and `{r pressure}`

5_Start a new “chunk” that includes the following libraries and loads them

```
```{r}
library(dplyr)
library(tidyr)
library(ggplot2)
library(leaflet)
```
```

6_Analyze the error messages that you get and add for missing packages (say “leaflet” by adding before you load

```
install.packages(“leaflet”)
```

7_Run your command line script nasa0.cmd (Windows) or nasa.csh (Apple) which may require elements of trial and error, but here is what worked for me on my Windows machine; note the VERY explicit directory path on my machine

```
```{r}
shell("c:/Users/Andreas/class/NASA/nasa0.cmd", translate=TRUE)
```
```

or on my Apple machine

```
```{csh}
explicit_path_to_files/nasa0.csh
```
```

8_Load the data file previously created by the nasa0.cmd or nasa0.csh code

```
```{r}
Omg <- read.csv("c:/Users/Andreas/class/NASA/output.dat", sep=",")
```
```

9_If you reach this far, then you are ready to now plot and play with your data that is referenced as “omg” in all subsequent R code chunks.