Fluoroproj: Title to be decided later

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This is our abstract. Just seeing how it looks.

## Introduction

Possible Journals: Lake and Reservoir Management, PLOS One, PLOS Water, Ecosphere, F1000Research,

The goal of this paper is to compare accuracy and precision of a variety of fluorometers with respect to chlorophyll and phycocyanin across a variety of waterbodies as well as with lab grown cultures of green algae and cyanobacteria.

This worked well until the fluorometer gave us problems.

## Methods

When you click the **Render** button a document will be generated that includes both content and the output of embedded code. You can embed code like this:

1 + 1

[1] 2

library(dplyr)

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':  
  
 filter, lag

The following objects are masked from 'package:base':  
  
 intersect, setdiff, setequal, union

library(readr)  
read\_csv("../data/cleaned\_fluoroproj\_data.csv")

Rows: 5271 Columns: 9

── Column specification ────────────────────────────────────────────────────────  
Delimiter: ","  
chr (5): waterbody, instrument, method, variable, units  
dbl (3): field\_dups, lab\_reps, value  
date (1): date  
  
ℹ Use `spec()` to retrieve the full column specification for this data.  
ℹ Specify the column types or set `show\_col\_types = FALSE` to quiet this message.

# A tibble: 5,271 × 9  
 date waterbody field\_dups lab\_reps instr…¹ method varia…² units value  
 <date> <chr> <dbl> <dbl> <chr> <chr> <chr> <chr> <dbl>  
 1 2021-10-06 yawgoo 1 1 cyanof… fresh pc:chl ratio 0.341  
 2 2021-10-06 yawgoo 1 2 cyanof… fresh pc:chl ratio 0.644  
 3 2021-10-06 yawgoo 1 3 cyanof… fresh pc:chl ratio 0.698  
 4 2021-10-06 yawgoo 2 1 cyanof… fresh pc:chl ratio 0.299  
 5 2021-10-06 yawgoo 2 2 cyanof… fresh pc:chl ratio 0.318  
 6 2021-10-06 yawgoo 2 3 cyanof… fresh pc:chl ratio 0.436  
 7 2021-10-06 yawgoo 3 1 cyanof… fresh pc:chl ratio 0.383  
 8 2021-10-06 yawgoo 3 2 cyanof… fresh pc:chl ratio 0.470  
 9 2021-10-06 yawgoo 3 3 cyanof… fresh pc:chl ratio 0.539  
10 2021-10-06 yawgoo 1 1 cyanof… fresh phyco rfu 119.   
# … with 5,261 more rows, and abbreviated variable names ¹​instrument, ²​variable

You can add options to executable code like this

[1] 4

The echo: false option disables the printing of code (only output is displayed).

## Results

Here are our results. Fear us.

Figure ideas:

scatterplots: ext chl/phyco on y, chl/phyco from each insturment on x, colors/shapes for each waterbody/culture

boxplots (need to be same units): first boxplot is extracted, compare to all others.

## Discussion

Discuss amongst yourselves.

## References