# GEOG 491/891: Special Topics - Spatial Analysis in R

## Week 04.03: Wildcard Friday

Dr. Bitterman

# Today's schedule

- Open discussion
- For next week
- Wildcard Friday

# Anything to discuss? Questions?

## For next week

- Chapters 5 & 6

# Wildcard FRIDAY!!!

# First, it's quiz time!

# The setup:

- Today's exercise builds on an example from earlier in the semester
- in the course GitHub repo, there are new files in: `./data/wildcard_friday`
- These include:
    - an 7-day composite of satellite images of a cyanobacteria bloom in Lake Champlain
    - various shapefiles, including a bounding box and in-lake monitoring stations
    - some other stuff (you'll need to look around)

# Your task(s):

1. Make a team (or 2, or 3)
2. Explore the data, understand what it is, its strucure
3. STEP AWAY FROM RSTUDIO (but not necessarily your computer)
4. Make a plan to address the following question(s):

**How large is the harmful algal bloom (HAB) in Missisquoi Bay?**

**Which monitoring station(s) could have detected the HAB?**

**How much area (in the entire lake) has a CICyano value greater than 0.10?**

... only once you have a plan should you start writing code

# Rules and caveats

- I know I haven't given you everything you'll need and that you don't know all of the steps. Deal with it :D
- Work AS A TEAM. If I see someone "going rogue", I'll call you out. In front of everyone.
- I MEAN IT, EVERYONE PARTICIPATES AND YOU DON'T LEAVE ANYONE OUT
- Do NOT START with code. It's ok for the exploratory data analysis, but not for the planning stage. Again, DON'T GO ROGUE

# Hints:

1. consider spatial operations before you figure out how to implement them in code
2. how good is your google-fu?
3. ugly, functional code > pretty, non-working code

```
library(tidyverse)
library(raster)
library(sp)
library(sf)

myras <- raster::raster("./data/path_to_raster/myraster.tif") # read a raster

mypoints <- as(myraster, "SpatialPoints") # could be useful, maybe not

?raster #is your friend
```