Biostatistics
Fall 2024

Final Capstone Project Feedback – 35 Points

Student: August Kotula Score: 31.75 /35 = 90.7 %

Part 1: Clean up your Repo – 5 pts Score: 4.75

Using Git/GitHub effectively and organizing a project well

Feedback: All on github correctly. Project well organized overall. Some "lost files" like "preliminary-analysis-1.qmd" just hanging in root folder. Feedback goes in draft folder.

Part 2: Finalize statistical analyses- 20 pts Score: 18

Remove unneeded code; Follow correct workflow; Reflects feedback; overall challenge

Feedback: Q1 - Moon illumination and # amphibs: I'd like a more specific alternative hypothesis about moon phase - under what moon phase(s) should #s go up? Down? Why? You explain it later but should be more specific right at alt hyp. Line 56 - your vars are NOT both integers. Line 116 - zero inflation would be more evident from histogram (line 127). Line 165 - your autoplot is AFTER you do the glm, still not a great fit. Due to zero inflation. But should observe that fit is still not great. Fix axis labels on final plot. Explain data - WHY do amphib #'s go up with increasing illumination? Circle back. Q2 - mean # amphibs differ b/w moon phases. Good final plot - nice tweaks to add letters to display. Your data are likely temporally autocorrelated so it would have been nice to do some time series here as well. Q2 is sort of a reanalysis of Q1 - don't really need both. Which is a better fit to the data? Q3 - Land class and species richness - Overall good flow. Thanks for including final plot even though you had non-significant result.

Part 3: Final report – 10 pts Score: 9

Intro, Analysis with biological insight , Challenges; Well-written; Strong use of markdown

Feedback: Reasonable use of markdown, no bells or whistles. Need stronger biological insight on results of Analysis 1 - you suggested to me that there might be species-specific diffs, but didn't speculate about that here when interpreting analysis.

All things considered, you did a really nice job, especially considering everything you have going on right now. I would have liked to see you think about (i.e. write a bit) more about the biology and also the problems with this data set - since you never were able to account for survey effort, I think any differences you do find may be spurious.