Instructor’s notes:

Introductory Statement: This lab helped teach real-world spatial patterns in the context of an advanced GIS class. Often, my students in this class get so focused on finishing up the GIS component, that they don’t think much about the real-world applications of what they’re doing. I feel like this lab reversed this pattern, and had the science content as the forefront, and the GIS methods as a tool to answer the question. Students were getting into the science and the patterns they were seeing, rather than just completing the lab.

## How did it go? (What went well and why? What adjustments did you need make in real time and why?) Part one and two went very well. Students were able to run the R code very easily, and were engaged in the patterns they were seeing. Part three was a little more challenging as some of the sites in the folder didn’t seem to have data, or it was difficult to see patterns in some of the locations. I think a bit more curation of the optional field sites would have probably been helpful.

## Student Outcomes (What did students take away? Where did students struggle the most?) I think my students were able to learn about some real-world applications of the terrain variables we’ve been learning about in class, and had a chance to think about how vegetation patterns may change in different places. Some of my students didn’t have great stats backgrounds or skills, so some of them were confused about the questions on correlation. We also didn’t get all the packages to work to run the final code to build the map of correlations.

## Future Use (Would you do this activity again? What suggestions do you have? What would you change?) We had some issues with the R platform in the classroom that I didn’t anticipate, since I had been using R problem free in a different class I was teaching. I would talk more on the front-end about correlation and statistical tools for analyzing patterns. I may also look at some of the other sites to see if I can find one that has a slightly more intuitive pattern of vegetation/topography. I may also pick a few sites for them to explore, versus just letting them pick. I also stretched out the lab to be almost two weeks, which was too long.