**The finale of the semester – Final Team paper**

We have made it! The oddest semester in my 27 years at UVM is drawing to a close and you all have done really well under very trying circumstances. Excited to wrap it up and hope that you all can stay well as COVID surges.

Now that you have had the Geomorphology basics, it’s time to apply your knowledge to the problem we have been considering off-and-on all fall, the Winooski River Landslides. The goal here is to pull together your knowledge and as a group move forward the science and public policy discussion.

Who knows, it might just end up published as have several other projects like this that got their start in one of my classes over the years. Bella will be doing the heavy lifting of pulling this work together with help from me and Chris. Here are a few papers that began in GEOL151 or other class of which I’ve been part. It’s really pretty cool to work as a team toward a bigger goal and make a difference. I encourage you to take a look at a few as inspiration!

*Reusser, L. J., Corbett, L. B. and Bierman, P. R. (2012) Incorporating concept sketching into teaching undergraduate geomorphology. Journal of Geoscience Education. v. 60, p. 3-9.*[*doi:10.5408/10-201.1*](http://dx.doi.org/10.5408/10-201.1)

*Pearce, A. R., Bierman, P. R., Druschel, G. K., Massey, C., Rizzo, D. M., Watzin, M. C. and Wemple, B. C. (2010) Pitfalls and successes of developing an interdisciplinary watershed field camp: Journal of Geoscience Education. v. 58(3), p. 213-220.*[*doi:10.5408/1.3544295*](http://dx.doi.org/10.5408/1.3544295)

*Bierman, P. R., Howe, J., Stanley-Mann, E., Peabody, M., Hilke, J. and Massey, C. A. (2005) Old images record landscape change through time. GSA Today. v. 15, p. 4-10.*[*doi:10.1130/1052-5173(2005)015<4:OIRLCT>2.0.CO;2*](http://dx.doi.org/10.1130/1052-5173%282005%29015%3C4%3AOIRLCT%3E2.0.CO;2)

*Nichols, K. K., Bierman, P. R., Persico, L., Bosley, A., Melillo, P. and Kurfis, J. (2003) Quantifying land use and urban runoff changes through service learning hydrology projects. Journal of Geoscience Education. v. 51(4), p. 365-372.*[*doi:10.5408/1089-9995-51.4.365*](http://dx.doi.org/10.5408/1089-9995-51.4.365)

 *Gran, S., Nichols, K. and Bierman, P. R. (1999) Teaching winter geohydrology using frozen lakes and snowy mountains. Journal of Geoscience Education. v. 47(5), p. 420-447.*[*doi:10.5408/1089-9995-47.5.420*](http://dx.doi.org/10.5408/1089-9995-47.5.420)

*Loso, M., Schwartz, H., Wright, S. and Bierman, P. R. (1998) Composition, morphology, and genesis of a moraine-like feature in the Miller Brook valley, Vermont. Northeastern Geology and Environmental Sciences. v. 20, p. 1-10. (*[*download pdf*](http://www.uvm.edu/cosmolab/papers/Loso_1998_1169.pdf)*)*

*Clapp, E., Bierman, P. R., Church, A. B., Larsen, P. L., Schuck, R. A. and Hanzas, J. P. (1996) Teaching geohydrology through analysis of groundwater resources and glacial geology, Northwestern Vermont. Journal of Geoscience Education. v. 44, p. 45-51.*[*doi:10.5408/1089-9995-44.1.45*](http://dx.doi.org/10.5408/1089-9995-44.1.45)

**The Assignment**

Working seven groups (we have 26 people so groups should be 3 or 4 to keep your reviewing load reasonable since everyone is reading every other groups’ paper) you will craft a paper that is 1000-1200 words long and which includes between four and six figures and/or tables. Figures can be multi-panel. Your figures should be easy to read and of publication quality (see the papers above for examples). They can be in color or black and white. The paper should have a title, list of authors. a short abstract (between 150 and 200 words) and references cited in the text and in a list of references cited at the back. You can and should draw on the work you have already done in prior labs for this class.

Your paper should build on everything we have learned this semester to try and explain the landslides along Riverside Avenue to the best of your collective ability. Your paper should address the questions below explicitly but in any order that works for you; the questions and will form the basis of our rubric along with writing and illustration quality and clarity.

What controls landslide spatial distribution along Riverside Avenue?

Why are there landslides along Riverside Avenue?

What triggers them?

Are they natural?

Are they human-induced?

What is the role of surface and ground water hydrology?

What is the role of glacial history on landslide location and frequency?

What should be done to reduce risk from future slides and how can science help inform these management decisions.

**Wednesday, Nov 17 - Team work on paper (groups of 4).** 1200-100 (Teams),

Please come with ideas about your team and who you will work with as a team. We will review the assignment and go over any questions people have about it.

**Friday, Nov 19 - Team work on paper (groups of 4)**. 1200-1230 (Teams), strongly suggest your attendance! We will answer questions that have come up as your write.

**Monday, Nov 23 - Publish Draft paper.** Submit your paper as a single PDF to Paul by midnight using email or uvm.edu/filetransfer. I will post each to the lab web page so people can download, review, and critique your work. Please include a word count for the abstract and the main text in your PDF. Author names, references, tables, and figure captions should not be included in the word count.

**Between Tuesday Nov 24 and noon on Monday Nov 30**. Each member of the class should post on their web site a 200-250 word summary review (constructive criticism) of everyone else’s papers; in addition, you should also post a marked up PDF of each paper you read and edited (6 papers). You will be reading and reviewing six other papers. Make sure to leave time for that over the week and weekend. The goal is to learn from your peers and improve everyone’s work! The better and more thorough your reviews, the better everyone’s papers will be.

**Monday, Nov 30** - **Peer review of papers due to authors and reviews from faculty.** We will meet and talk about the process of revision between 1200-1230 on Teams, strongly suggest all of you attend.

**Wednesday, Dec 2 - Paper revision.** Work with your team to incorporate reviews and produce a revised draft for submission on Friday and prepare your five-minute presentation for Friday; review session, 1200-1230 (Teams), strongly suggest your attendance!

**Friday, Dec 4 - Presentations of papers;** synchronous. This is our last class. Presentations by each group, maximum 5 minutes each. MANDATORY attendance by all, 1200-1:15 (Teams). Final paper, as a PDF, should be submitted to Paul by midnight Friday Dec 4th. Late papers will lose 10% per day and not be accepted after Sunday night (UVM mandated deadline for grading).