Summary of Project Progress

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Recent progress on my project has been centered around the calibration of NutsFor towards the 4 base case sites I’m representing in my work. I first started by exploring the model, shifting its parameters and observing outputs. I did this by writing a R program that reads NutsFor data files and visualizes them after each model run. Once I understood how the model’s parameters functioned together, I calibrated the model by individually calibrating each sub-module within the larger model. The order of calibration was:

1). Hydrology

I used evaporation data for the Oregon Coast region(Safley et al. 2009), and drainage data from (Perakis and Sinkhorn 2011) to calibrate evapotranspiration and water leaching fluxes in my simulated sites. I assumed the same hydrological outputs between the basalt and sedimentary sites. I also assumed that hydrology was constant over time,

Workflow showing calibration proccess of hydrological sub-module.

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2). Through fall and Deposition

3). Soil Organic Matter

4). Anion Calibration

5). Cation calibration

6). Final Calibration (10-year observation)

#References

Perakis, Steven S., and Emily R. Sinkhorn. 2011. “Biogeochemistry of a Temperate Forest Nitrogen Gradient.” *Ecology* 92 (7): 1481–91. <https://doi.org/10.1890/10-1642.1>.

Safley, L. M, Carl DuPoldt, Frank Geter, Donald Stettler, and Timothy Murphy. 2009. “Part 651: Appendix 10E.” In *Agricultural Waste Management Field Handbook*. United States Department of Agriculture, NRCS.