**Conservation of Biodiversity**

**Spring 2021**

**Plants in the Human-Altered Environment (PHAE) Research Assignment**

This semester, we will be contributing to a national research project led by Dr. Jason Kilgore (Washington & Jefferson College) and Dr. Karen Kuers (University of the South). This is a project to compare effects of a continuum of landscape alteration intensities on plant diversity, biomass, and ecosystem services, and to explore human socioeconomic connections to plants in the environment.

The learning outcomes for this project are to:

* Recognize a continuum of natural and human-altered landscapes
* Identify an appropriate study site and plot within a range of landscapes
* Classify landscape features, identify woody and non-woody plants, and measure plant abundance and cover
* Improve data management skills by collecting, sharing, and analyzing data using defined variables in spreadsheets
* Analyze spatially relevant data within and across project sampling locations to address local, regional, and continental scale research questions related to local landscape features and plant abundance, diversity, and size
* Become familiar with continental-scale ecological research through EREN and NEON and the importance of long-term ecological monitoring across time and space

Working with a partner is **highly recommended** for this project, but not strictly required. Elements of this project require being outside (in a location of your choosing) and also online research. Particularly in this time of COVID, students periodically may have to quarantine, and having a partner increases the likelihood that you can divide the work responsibly (outdoors for one team member, online for the other, etc.) and still complete all required tasks. You will work your way through eight modules of site selection, data compilation and collection, and data analysis culminating in a brief paper and presentation to the class on your findings.

While the first components of the project are not due until February 11, you will not be able to complete all of these modules in a single day. **Procrastination will not serve you well on this assignment.**

**Assignment grading**

Phase 1 (due Feb 11):

5%: Background worksheet

5%: Module 1: Identify and characterize your study site

10%: Module 2: Characterize your study site’s climate

10%: Module 3: Classify the land cover of your study site

10%: Module 4: Locate your study plot within the study area

10%: Module 5: Collect data about your plot

10%: Module 6: Identify and measure woody plants in the plot

Final project (due Mar 4)

15%: Module 7: Data exploration

10%: Module 8: Data comparisons

15%: Report (two pages) and brief presentation