Chamberlain, Understanding the effects of climate change on carbon sequestration and forest resilience in southern Appalachian forest system

Data Management Plan:

The main goal of my proposed plan is to produce robust, reusable data with adequate additional information (e.g., metadata, note and README files) and storage practices that give the data a long lifespan. This Data Management Plan applies to all raw data, derived data and code that will be used during my postdoctoral appointment. Raw data (also known as primary or source data) are data collected or produced by the lab that have not been processed or cleaned in any way that would make them derived.

Raw data collected for **Experiment 1** will include species abundance and recruitment, diameter at breast height measurements, phenological observations, percent herbivory of focal individuals, and specific leaf area metrics. Cleaning code and evaluations of species richness and diversity will also be made public. Raw data for **Experiment 2** will include phenology data, mortality, temperature and light recordings, canopy development and shoot apical meristem damage. And for **Experiment 3**, soil temperature, volumetric soil moisture, soil microbial community structure hemispherical canopy photos will be made available as well as the cleaning code and evaluated light availability data for each site. All data will be continuously available on GitHub at https://github.com/cchambe12/.

We will first disseminate our results through publication in scientific journals. We are in support of journals now requiring you share raw data upon submission. In addition, we will make data available on GitHub and share our code as freely downloadable spreadsheets, R scripts, PDFs and .txt files. These repositories will be maintained and updated regularly.

Data and code from the experimental and observational data proposed in my project description will additionally be published to a repository such as the Knowledge Network of Biocomplexity (KNB), DataOne or Zenado upon publication of research and will be available upon request. Raw data, *Stan* model code and output will be available on GitHub at https://github.com/cchambe12/and provided upon request. Data used in my proposed research will be made public: immediately at the time of publication, or two years after completion of the project—whichever comes first.

Data from my research will generally be made public under a Creative Commons license. In general the CC0 is recommended, this license clarifies that the data are in the public domain, and one relies on scientific norms for attribution.

In addition to experimental data, I will provide my course materials, mentoring resources and webinar series publicly on a Weebly site.