CPB Proposed Workshop:
Tools and Workflows for Reproducible Science

Science in general, and ecology in particular, is beginning to focus on *reproducibility*. This is evidenced by journal policies that require the deposition of data and computer code necessary to reproduce the analyses associated with a publication. However, getting your data and code "in shape" for public release is a daunting and time-intensive task. Fortunately, there are new tools and workflows that make the process easier, especially if they are used throughout a project's life cycle from idea conception to publication. Aside from the benefits to other researchers, conducting reproducible science greatly benefits one person in particular: your future self!

During the three day workshop (four hours each day), I will introduce students, postdocs, and faculty to contemporary tools for reproducible science, including Github, R Markdown, Figshare, and Zenodo. Using an example project, we will create a Github repository with code and data, create stunning documents with embedded R code, figures, and tables in R Markdown, and archive the entire project on Figshare or Zenodo. I will introduce best practices for coding and data cleaning/manipulation along the way, which eases the burden of getting code production-ready after paper acceptance. Throughout the workshop I will highlight how the tasks we are learning benefit both the researcher themselves (e.g., figures that update on the fly in R Markdown) and other researchers (e.g., providing a resource from which others can build). By the end of the workshop participants will have the skills to easily make their own science reproducible.