DATA MANAGEMENT

Expected data

The proposed work will generate both nutrient concentration measurements as well as model output. Water column nutrient concentration measurements will include soluble reactive phosphorus (SRP), nitrate+nitrite (NO_3^-+NO_2^-), dissolved organic nitrogen (DON), and dissolved organic phosphorus (DOP) from marine water column samples. The nutrient concentration data will be collated and disseminated to the public upon publication. PI Knapp will be responsible for maintaining and backing up the nutrient concentration data to external hard drives in the lab. Model output will come from 2 sources: (1) the inverse DON and DOP cycling model, and (2) simulations of the BEC-Community Earth System Model. Both input and output files of the inverse DON/DOP model will be stored in the native data format of MATLAB® software, .mat, which is a matrix data format that stores matrices, values, or strings in a binary format. Metadata for these files will consist of user-generated 'readme' files describing the contents of each stored matrix. Simulations of the BEC-CESM will follow the CCSM data management plan (http://www.ccsm.ucar.edu/experiments/data.mgmt.plan.050803.html), with the output stored using the community standard netCDF format and metadata described in the header section. PI Letscher will be responsible for maintaining and backing up model files to external hard drives in the lab.

Data formats and dissemination

All nutrient concentration data will be published in manuscripts resulting from this work. In particular, it is anticipated that the first publication from the proposed work will be a dataset paper to be published in an Open Access journal such as Earth System Science Data. Model output from the inverse DON/DOP model will be made available following the release of relevant publications upon request via email (robert.letscher@uci.edu) or the PI's website (http://www.ess.uci.edu/~rletscher/). CESM model output will follow the general rules of the CCSM data management plan whereby output is initially made available to the CCSM working groups after 6 months with full release to the public after publication of results or 1 year. No policies are imposed for reuse or production of derivatives from the model output other than citation of original publications.

Period of data retention

Both nutrient concentration and model data will be published in peer-reviewed journals and will also be available directly from the PIs throughout the existence of the PIs labs.

Data storage and preservation of access

Nutrient concentration data will initially be stored on computers in PI Knapp's lab. These computers are backed up daily to external hard drives to store redundant copies of all data. Eventually all data will be made available through peer reviewed publications, and once published these data will also be archived in national databases (e.g. the Biological and Chemical Oceanography Data Management Office, BCO-DMO) where the data will be freely available to the public. Data corresponding to a publication will be made available as supplementary material and will be available through the website of the relevant journal. The primary archive for model results will be within published papers in peer-reviewed journals. Model code, input, and output files for the inverse DON/DOP model will be archived at the PI's institution (Univ. of New Hampshire). CESM model

output will be archived at both the PI's institution as well as with the Earth System Grid (http://www.earthsystemgrid.org/), consistent with other CESM output.