

Data management plan

Types of data

This proposal seeks funding for a project that is entirely experimental, involving manipulations of environmental conditions in incubation experiments of aquifer samples, or manipulation of conditions in situ. Numerous parameters will be measured in subsamples of the incubations and of the in situ natural gradient plumes, including: NO_3^- , NO_2^- , NH_4^+ , DON, Br^- , O_2 , N_2O , N_2 concentrations; $\delta^{15}\text{N}_{\text{NO}_3}$, $\delta^{18}\text{O}_{\text{NO}_3}$, $\delta^{15}\text{N}_{\text{NH}_4}$, $\delta^{15}\text{N}_{\text{NO}_2}$, $\delta^{18}\text{O}_{\text{NO}_2}$, $\delta^{18}\text{O}_{\text{N}_2\text{O}}$, $\delta^{18}\text{O}_{\text{N}_2\text{O}}$ (natural and/or tracer abundance), $\delta^{15}\text{N}_{\text{TDN}}$ (total dissolved N -natural abundance), $\delta^{18}\text{O}_{\text{H}_2\text{O}}$ (tracer and natural abundance), $\delta^{15}\text{N}_{\text{N}_2}$ (tracer abundance), $\delta^{18}\text{O}_{\text{O}_2}$ (natural abundance), and pH.

Data and metadata standards

Measurements will be collated on spreadsheets made available electronically to all researchers involved in the project, through a shared "Drop Box." Inter-calibration of measurements made with different methods ($\delta^{15}\text{N}_{\text{NH}_4}$ and $\delta^{15}\text{N}_{\text{NO}_2}$ and $\delta^{18}\text{O}_{\text{NO}_2}$) will be made on select samples.

Data archiving

For this proposal Granger will be responsible for coordinating data submission with BCO-DMO (Biological & Chemical Oceanography Data Management Office) at Woods Hole. If the project is funded, as a first step we will submit a data inventory form to the data archive. The primary data will consist of those listed above associated with particular incubations. Metadata for each of type of incubation and measurement will be collated into a single file. Once per year, when annual reports are submitted, the data specific to this project (including new data and any updates/corrections of previously submitted data) will be provided to the BCO-DMO. Upon completion of the project, the final data will be archived with BCO-DMO.

Data sharing

Presentations and peer-reviewed publications resulting from the proposed work will be documented on the respective web sites of Granger and Tobias, and also featured on the USGS "Toxic Substances Hydrology Program" website: <http://toxics.usgs.gov/bib/bib-cape-cod.html>. Archived primary data will become available to interested parties at BCO-DMO upon completion of the project as specified to NSF.