

Data management plan

Types of data

This proposal seeks funding for a project that will lead to analyses of multiple isotopic and gas tracers on the US GEOTRACES Arctic section. The parameters that will be measured include: nitrate $\delta^{15}\text{N}_{\text{NO}_3}$ (‰ vs. air) and $\delta^{18}\text{O}_{\text{NO}_3}$ (‰ vs. SMOW) in seawater, sea ice, snow and atmospheric samples; $\Delta^{17}\text{O}_{\text{NO}_3}$ (‰ vs. SMOW) in sea ice, snow and atmospheric samples; and section depth profiles of $\delta^{15}\text{N}_{\text{NO}_2}$, $\delta^{15}\text{N}_{\text{NH}_4}$, $\delta^{15}\text{N}_{\text{TDN}}$ (and derived $\delta^{15}\text{N}_{\text{DON}}$), $\delta^{15}\text{N}_{\text{PN}}$ and $\delta^{15}\text{N}_{\text{N}_2}$ (‰ vs. air) N_2/Ar ratios, O_2/Ar ratios and $\delta^{18}\text{O}_{\text{O}_2}$.

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 $\delta^{15}\text{N}_{\text{NO}_3}$, $\delta^{18}\text{O}_{\text{NO}_3}$, $\delta^{15}\text{N}_{\text{NH}_4}$ and $\delta^{15}\text{N}_{\text{TDN}}$ among the PI’s labs will be made on subsets of samples.

Data archiving

For this proposal Granger will be responsible for coordinating data submission with the GEOTRACES data archive and 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(s). The primary data will consist of those listed above, coordinated with corresponding hydrocast identifications. Metadata for each of type of analysis 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 GEOTRACES and BCO-DMO archives. Upon completion of the project, the *final* data will be archived with both data repositories, and with the National Oceanic Data Center (NODC).

Data sharing

Presentations and peer-reviewed publications resulting from the proposed work will be documented on the respective web sites of the PIs. Quality-controlled primary data will be available to all interested parties in the GEOTRACES program during tenure of the project, on the GEOTRACES archive and via direct requests to the PIs. Data will be made available to the broader community at BCO-DMO and NODC upon completion of the project as specified to NSF.