

Data Management Plan

PIs Barry, Nicholson, and Seltzer have read and agreed to abide by NSF guidelines and award conditions for scientific conduct and data management. Geochemical results, data, models and experiments will be made available to bonafide researchers upon request, provided that the quantities and time requirements for compliance do not compromise the research objectives.

Data Type. Data obtained in this project will mainly be seawater noble data (He, Ne, Ar, Kr, Xe, obtained by mass-spectrometry), which will be stored in form of tables (in spreadsheets and/or text files) and deposited in appropriate data bases (see below). For accessibility and export, raw and processed data will be formatted via standard data-handling software (e.g., into excel workbooks), and for use in data analysis and plotting standard data-visualization software will be applied.

Data Archiving. All metadata derived through this project will be submitted in .csv or .xls format to the Biological and Chemical Oceanography Data Management Office (BCO-DMO). This office was created in late 2006 to serve PIs funded by the NSF Geosciences Directorate (GEO) Division of Ocean Sciences (OCE) Biological and Chemical Oceanography Sections and (with augmented funding in 2010) Office of Polar Programs (OPP) Antarctic Sciences (ANT). BCO-DMO manages and serves oceanographic biogeochemical, ecological, and companion physical data and information developed in the course of scientific research and contributed by the originating investigators. The BCO-DMO data system facilitates data stewardship, dissemination, and storage on short and intermediate time-frames. Long term archiving will be at the NOAA National Oceanographic Data Center (NODC).

Also, all experimental data and metadata collected at WHOI will be backed up locally on external hard drives and an Institution-wide backup system. Seawater samples from this study that are not consumed during analysis will be stored in the WHOI Seafloor Samples Laboratory (<http://www.whoi.edu/science/GG/corelab/>) within one year of completion of the analytical work. Full data sets and derived products obtained as part of the project will be deposited in the Dryad Digital Repository (<https://datadryad.org/>; a long-lived and publicly accessible archive) within two years of collection or by the end of the award (whichever comes first). The PIs consent to provide updates on the status of metadata and data archival in annual project reports.

Communication of Results. We plan to publish results in highly ranked, peer-reviewed journals as the primary mechanism for dissemination of results. The details of data acquisition will be systematically reported, including sample/experiment preparation methods, analytical settings, error estimates, and assumptions of the models, in order to give the community a full picture of the quality of the data presented. Published manuscripts will be made available through the Woods Hole Oceanographic Institution opt-in open access policy. Under this policy, authors permit WHOI to host their articles in compliance with the journals original copyright in the Woods Hole Open Access Server (WHOAS; <https://darchive.mblwhoilib.org/>), an institutional repository maintained by the MBLWHOI Library. The PIs will present data and results at national and international meetings with broad research interest, such as AGU or Goldschmidt.

Data Sharing. Technical details of the measurements and numerical models will be made available directly on the journal website through supplementary material, if not enough space is available in the published article.