

8Data Management Plan

This Data Management Plan (DMP) is in conformity to the NSF policy on the dissemination and sharing of research results as described in the Grant Proposal Guide (GPG) Chapter II.C.2.j.

Compliance with Data Policy

The data generated during this project will be submitted to the NSF-OCE supported Biological and Chemical Oceanography Data Management Office (BCO-DMO) system as a contribution to the GEOTRACES database. It is a part of the US GEOTRACES data policy to submit the generated data to BCO-DMO. It will be BCO-DMO responsibility to link US GEOTRACES data to the international GEOTRACES data management system hosted at the British Oceanographic Data Center in the UK. The international GEOTRACES data policy is modeled after the US NSF policy and will be implemented to the extent possible by peer pressure, even in cases where the policies of other nations do not require that data be made publicly available.

Pre-Cruise Planning

Planning for the Arctic section began during several discussions of the US GEOTRACES Scientific Steering Committee, and led to a management proposal submitted by cruise leaders (Kadko, Landing and Cutter), which outlines for the collection of water samples to be used in the work proposed here. This proposal also establishes a preliminary data management system set up compliant with the BCO-DMO group, providing the routing to link the measurements planned on the samples collected using the Niskin rosette to the metadata concerning sample collection. We will enter all of our data to be conforming with these databases, in order to ensure that the sample IDs and collection metadata are linked to our data.

A cruise planning meeting will held for funded PIs at a yet to be determined date. Detailed plans for station locations, instrument deployment, water sampling strategy and water sample allocation will be developed at that meeting.

During the Cruise

The chief scientists will maintain a cruise log and prepare a cruise report. Our sampling protocols will follow those described in two GEOTRACES intercalibration papers (*van de Flierdt and Pahnke, 2012*, and *Pahnke et al., 2012*, see references). Our sampling methods will follow the procedures in these papers and we will reference them accordingly.

Most of our samples will be collected using the SIO-ODF rosette equipped with 30-liter Niskin bottles. We anticipate that other groups funded to collect particulate material by in situ filtration, aerosols and surface sediments will provide us with subsamples of these materials for analysis (see letters of support attached). We also anticipate collecting sediment subsamples from the mono-corer and multi-corer that will be used in this cruise to collect core-top sediment samples.

Post-cruise

We will process all of our samples after the cruise and back in the laboratory at OSU. The analytical protocols that we will follow are also described in the two GEOTRACES intercalibration papers (*van de Flierdt and Pahnke, 2012*, and *Pahnke et al., 2012*). Therefore we will also reference these publications to document our methods.

As with our collaborators, quality control measures will include sharing chemical reagents and samples to ensure good sample reproducibility between the different laboratories involved. In addition, we will routinely measure sample standards and check for procedural blanks to ensure the internal consistency of our results.

In compliance with US GEOTRACES policy our results will be submitted to the BCO-DMO and the data sets will be available online from the BCO-DMO data system (<http://bco-dmo.org/data/>).