

## **Data Management Plan**

All investigators who participate in US GEOTRACES cruises must comply with the International GEOTRACES data policy, which is fully compatible with NSF Data policies. Reporting of all appropriate meta-data (data describing methods and protocols) is required in addition to data submission. Data will be submitted in a timely manner to the Biological and Chemical Oceanography Data Management Office (<http://www.bco-dmo.org>) at WHOI. This office will then submit it to the GEOTRACES International Data Assembly Centre (GDAC) that is at the British Oceanographic Data Centre in Liverpool, UK (<http://www.bodc.ac.uk/geotraces/>), who will be ultimately responsible for the permanent archiving of all GEOTRACES data sets and their distribution. Our comprehensive survey data will pass an additional quality test by being evaluated by the International GEOTRACES Standards and Intercalibration Committee (S&IC), which requires demonstration of stringent quality standards, including participation in intercomparison exercises, intercalibration with other laboratories, and routine analysis of reference materials.

The Lam lab has so far submitted three full particle geochemistry datasets from previous U.S. GEOTRACES cruises (GA03 in 2010/2011, GP16 in 2013, GN01 in 2015) to BCO-DMO, each consisting of around 50 parameters, each with estimated errors and quality flags.

For the GP17-ANT cruise (this proposal), we will generate the analogous full particle geochemistry datasets as for previous U.S. GEOTRACES cruises for major, minor, and trace element concentrations of size-fractionated particles collected by in-situ filtration (~25 parameters for 2 size-fractions at ~300 unique locations). Officially designated GEOTRACES parameters already exist for most of these. Co-PI Ohnemus will be responsible for the generation, quality control, intercalibration, and submission of size-fractionated particulate trace metal data (outlined in section 5.1.1 of project description) to BCO-DMO and interaction with the GEOTRACES Standards and Intercalibration Committee. PI-Lam will be responsible for the generation, quality control, intercalibration, and submission of size-fractionated major phase and particle mass data (outlined in section 5.1.2 of project description) to BCO-DMO and interaction with the GEOTRACES Standards and Intercalibration Committee.

Data from speciation, bioassay, and oxidation rate experiments (sections 5.2-5.4; PIs Lam and Oldham) are not currently included in the GEOTRACES Intermediate Data Products but will be submitted to BCO-DMO. We will work with the GEOTRACES Parameter Definition Committee to determine which parameters may be useful to include in a future IDP.

PIs Lam, Ohnemus and Oldham will work together to ensure internal intercomparability of results prior to submission to BCO-DMO.

Data submitted to BCO-DMO and the GEOTRACES Intermediate Data Products are freely available online (<http://bco-dmo.org/data/> and <https://www.bodc.ac.uk/geotraces/data/idp2017/>).