Data Management Plan

Data generated during this project will arise from two general activities: an oceanographic cruise in Year 1, and laboratory-based experiments carried out in all years. The kinds of data-generating activities included in the proposal are summarized in Table 1 below. In Year 1, there will be pre-cruise planning meetings conducted between UConn, WHOI and Harvard primarily via teleconferencing. The sampling and instrument deployment plan has largely been set already by the co-PIs Carl Lamborg and Mak Saito for their Metalloenzyme cruise (on which we are invited), but will be made firm with our consultation. It is noteworthy that the Metalloenzyme cruise dates were recently adjusted to accommodate other UNOLS ship users, which has necessitated a change in end port (Apia, Samoa) from the original Metalloenzyme proposal. This change has presented the opportunity for additional days of science during the transit from the final station at 00N 150W to Samoa, and the use of these days will be arrived at in consultation with Lamborg and Saito.

Sampling events during the cruise will be documented using paper and digital event logs, rosette and pump cast sheets. A final cruise report will be generated (in collaboration with Lamborg and Saito) and will include summaries of sampling and analytical protocols used.

The data generated by the science party will be archived via the BCO-DMO (Biological and Chemical Oceanography Data Management Office), and we will comply with their recommendations with regard to data formatting and metadata generation in all instances where relevant. BCO-DMO currently archives the data they receive in national facilities (e.g., NODC), thus requirements for permanent data storage and archiving will be met.
As our stations lie along an upcoming proposed GEOTRACES section, we will also include in our sampling/analysis suite as many GEOTRACES compliant parameters as we can. In addition, Lamborg and Saito are eliciting requests for GEOTRACES-type samples from other laboratories.
Ship's underway data as well as that generated using UNOLS equipment (CTD, etc.) will be transferred by the vessel operator to the UNOLS data repository at www.rvdata.us/catalog.

Post-cruise data generation and processing will be significant. This will include analysis of samples collected at-sea as well as the generation of laboratory-based experimental results. Data from at-sea samples will be included in our BCO-DMO data transfer, and some laboratory data as well, where BCO-DMO is interested in archiving. At sea and in the lab, our QA/QC protocols include the frequent analysis of standard reference materials as well as the use of sampling blanks.

Table 1.

Data	Generated by
Underway meteorology, seawater temperature, salinity and Chl-a	R/V Kilo Moana
Underway atmospheric and surface seawater Hg^0 and volatile organic Se and S	Fitzgerald et al.
Water column dissolved and particulate Hg and Se species concentrations	Fitzgerald et al. Lamborg and Saito
Sinking particulate Hg and Se species concentrations and fluxes	Fitzgerald et al. Lamborg and Saito
Water column dissolved and particulate macronutrient, organic carbon and biogenic silica.	Lamborg and Saito
Water column dissolved oxygen, fluorescence, particle scattering, temperature, salinity	R/V Kilo Moana
Sediment trap spatial position	Lamborg and Saito