Data Management Plan for the Division of Ocean Sciences

The overall goals of the proposed Data Management Plan are: 1) to promptly publish significant findings in appropriate peer-reviewed journals and with authorship that accurately reflects the contributions of participants, 2) to make data available to other researchers at minimal expense and within a reasonable time, 3) to carefully archive any samples and materials collected and to make these available to other researchers whenever possible, 4) to share methods developments, software or other innovations that are useful to the scientific community.

Data processing and management

The proposed work will foremost generate experimental laboratory data and depth profile data for samples from cruises to HOT and BATS. The best way to convey the results of analytical measurements is in the form of publications. We plan to submit papers along with descriptive supplemental material within a year of the project ending date. This work will not generate any samples for long-term archiving. All data will be developed using standards accepted by the scientific community and as depicted in our previous publications, many of which are cited in the Project Description. We do not foresee that our data will result in any issues of privacy, security, confidentiality, intellectual property, or other rights or requirements as described in NSF documentation. If such issues arise, privileged or confidential information will be released only in a form that protects the privacy of individuals and subjects involved. Our typical laboratory practice is to attach descriptive, metadata worksheets to all spreadsheets developed in the labs. As such, specific user requests can be handled at minimal cost because our organizational efforts during data development will prevent responses from requiring significant further time investment. Publication will constitute our primary means of data sharing, though user-specific requests for more detailed data will be granted as appropriate. Many journals will publish supplementary data along with the primary article. We have used this as a mechanism to widely disseminate data, and we will continue this practice. We anticipate publication of these results within a year of their generation. Publication authorship will be determined as data sets reveal their stories, and priority will be given to graduate students for first authorship when feasible.

Final field and laboratory data will be published as comma-separated (.csv) or text (.txt) files. Plots of model results will be published as images (.tiff) or in the portable document format (.pdf). Metadata for all of these types of files will follow the National Science Foundation (NSF) Repository's requirements. All data, including mass spectra and NMR spectra, will be georeferenced in the geodatabase format. All data generated will remain the copyright of the generating researchers and/or TAMUG and BU except as transferred to publishers for individual articles.

Data storage, sharing and repositories

To facilitate access and distribution of the products, all scientific results, figures, and supporting data will be cataloged in two ways:

(1) Data will be archived at the TAMU cloud storage service that allows unlimited storage of files. The field data will be valuable both as a management and educational outreach/visualization tool. The project results will be easily adapted into visualization tools for scientific and community presentations and students in a number of classes such as organic geochemistry, isotope geochemistry, and environmental chemistry.

(2) Once all of the data are checked for QA/QC, lead PI Kaiser will organize the overall project dataset, and work with the staff from the Biological and Chemical Oceanography Data Management Office (BCO-DMO) to upload the data, and the data set will then be made available online from their data system. All data will be publicly accessible after being released to NSF. Data and metadata will also be published in peer-review journals in text, graphical and tabulated forms, as appropriate.