

SECTION J. 1: DATA MANAGEMENT

(1) Types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project

Field experiments will generate data from in-situ instruments (e.g., CTD, ADCP currents, microstructure profiles), and from processing of chemical and biological samples (e.g., flow cytometric counts of picoplankton, nutrient concentrations). As with previous projects, all relevant field data will be supplied to the Biological and Chemical Oceanography Data Management Office (<http://bco-dmo.org/>). Samples from this project will be made available, as requested, to the wider scientific community if this does not interfere with the goals of this project. Educational and outreach materials will be made publically available through the Earth2Class (<http://earth2class.org/site/>).

(2) Standards to be used for data and metadata format and content

Following common biological, chemical and physical and oceanographic practices, all data will be collected using certified reference materials (CRMs) where available. These include nutrient (NRC Institute for National Measurement Standards, <http://www.nrc-cnrc.gc.ca/eng/services/inms/reference-materials.html>), and chlorophyll analyses (http://www.turnerdesigns.com/t2/doc/appnotes/998_0058.html) among others. Where CRMs are not available, other best practices will be used including using internal standards or appropriate controls. Data will be formatted in accordance with archival database repositories using requested formats. Environmental data including metadata from research cruises will be submitted to the Biological and Chemical Oceanography Data Management Office following their submission procedure (<http://bco-dmo.org/>). Our past NSF-sponsored research projects have used similar approaches and data repositories, and their inclusion and execution is a standard component of our project management.

(3) Policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements

All PIs will have equal access to all data generated from this project. Given the nature of this research, security or intellectual property rights are not a concern. Data access rights will follow standard NSF project management rules.

(4) Policies and provisions for re-use, re-distribution, and the production of derivatives

Once publically disseminated to the archival databases described above, all data and research products will be available for unrestricted re-use or re-distribution. Acknowledgement of the original source of the data will be requested, but not required for its use.

(5) Plans for archiving data, samples, and other research products, and for preservation of access to them

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As outlined above, all data and research project products will be archived to publically accessible database repositories or scientific journals. We do not anticipate generating samples that require long-term archiving (i.e., beyond the project duration).