Data Management Plan

Types of data and software to be produced in the course of the project:

The proposed research will generate time-series data from multiple sensors deployed on the two EC systems and continuous 3-week long data series from two ADCPs, two data sondes, and light sensors as detailed in the Project Description. Most of the raw data will be time series of single-point standard chemical and hydrologic parameters: velocities, light, hydrodynamics, wave parameters, temperature, salinity, pressure, pH, and TA, DIC, CO_2 and O_2 concentrations. All of these data will have associated metadata and, after preliminary processing, will also have associated statistics and quality assurance metrics. MATLAB software will also be expanded and improved for flux extraction.

During the project data will be stored as data files (.dat) on the Woods Hole Oceanographic Institution servers. Data will be quality checked and flux rates extracted as described in this proposal. Data that is found to be erroneous will be either interpolated or removed from analysis (to be replaced by -9999 values for ODM protocols) as described in section 5 (proposed analysis) of this proposal.

Standards to be used for data and metadata format and content:

Prior to the start of the project, the PIs will review our planned data collection protocols. We will work in advance with the Biological and Chemical Oceanography Data Management Office (BCO-DMO)[1] for advice on streamlining our data and metadata collection methods. Our data management plan also includes sharing our findings via meetings and workshops, via outreach and educational activities, and timely publication in peer-reviewed scientific journals.

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

Per the policy of the NSF Division of Ocean Sciences, we will submit all other data and associated metadata to the BCO-DMO office; they will in turn make the data available online at http://bco-dmo.org/data/. Data will be embargoed within the project for a period of two years or until publication (whichever comes first). Source code for EC software and instrument designs will be available on-line through a WHOI webpage dedicated to EC measurements, information, instrument designs, and software (to be developed under this project).

Policies and provisions for re-use, re-distribution, and the production of derivatives:

Re-use and re-distribution will be encouraged (and facilitated by searchable on-line format through BCO-DMO). Re-use and production of derivatives will be subject to prevailing standards for ethical use; see for example www.creativecommons.org.

Plans for archiving data and other research products, and for preservation of access to them:

Final quality controlled in situ data will be published and permanently archived by BCO-DMO where it can be easily accessed through web-based clients or open source applications.

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[1]Biological and Chemical Oceanography Data Management Office (BCO-DMO)
http://bco-dmo.org

The Biological and Chemical Oceanography Data Management Office (BCO-DMO) was created in late 2006 to serve PIs funded by the NSF Geosciences Directorate (GEO) Division of Ocean Sciences (OCE) Biological and Chemical Oceanography Sections and (with augmented funding in 2010) Office of Polar Programs (OPP) Antarctic Sciences (ANT). BCO-DMO manages and serves oceanographic biogeochemical, ecological, and companion physical data and information developed in the course of scientific research and contributed by the originating investigators. The BCO-DMO data system facilitates data stewardship, dissemination, and storage on short and intermediate time-frames.