

Data Management Plan

The proposed project will yield valuable field data and model output describing chemical and biological systems in mid-Atlantic coastal waters. We will generate data on nutrient concentrations, hydrography, and biotic conditions prior to and subsequent to rainfall events during summer, when water temperatures are high and nitrogen can be limiting to phytoplankton growth. In addition, 1-D and 3-D marine and atmospheric models will be calibrated, evaluated, and used to better understand the temporal and spatial variability of the data collected.

Data generated during this project will be submitted to the Biological and Chemical Oceanography Data Management Office (BCO-DMO) for permanent archival, to ensure public access. The BCO-DMO data archive 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) by the 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. See <http://bco-dmo.org> for Data, Resources and Contact information.

We will work with the BCO-DMO staff to manage our field data and model output. The BCO-DMO staff will also provide us with additional assistance to coordinate interactions with other data repositories that are suitable for archival of our data, such as the National Oceanographic Data Center. We will meet with the BCO-DMO staff during the first four months of our project (before the field campaign) to discuss details associated with each of our data types and to define protocols for producing the appropriate data format, documentation of quality control, and metadata.

Data policy compliance will be in accordance with the NSF Division of Ocean Sciences Data and Sample Policy. The nanomolar-level nitrate and phosphate sampling will be coordinated with GEOTRACES protocols and we have already been in contact with colleagues involved in this effort (see letter of support from G. Cutter).

Pre-cruise planning will be done via e-mail, teleconferencing, and meetings among the PIs involved in various aspects of the project to ensure that all of the data needed to complete modeling and data assimilation will be collected. We will be using standard measuring methods and QA/QC procedures will be followed to ensure accurate and precise measurements, including the analysis of certified reference materials, where possible, and the use of appropriate procedural blanks and control treatments. In the project description we indicated PI responsibility for each of the specific measurements. The cruise is planned for Year 1 of the project. Detailed plans for station locations, instrument deployment, water sampling strategy, and water sample allocation will be written up as a science implementation plan for the cruise.

During the cruise we will maintain paper and electronic logs, referenced to the ship's Global Positioning System, where all sampling events will be recorded. Shortly after the cruise, a detailed cruise report will be prepared and the underway data will be made available via the central repository for data collected aboard UNOLS vessels (<http://www.rvdata.us>).