

DATA MANAGEMENT PLAN

Guiding philosophy: We will conform to NSF policy on the dissemination and sharing of research results by making data from this project freely available to as many scientists and members of the general public as possible (*i.e.*, by archiving data at publically accessible data centers and by providing as much help as possible with inquiries).

Data policy compliance: We will share and archive data collected as part of this research project in compliance with NSF policy (NSF20001) and the Division of Ocean Science Sample and Data Policy (NSF17037). A BCO-DMO project site will be established in year 1 of this proposal. All data will be publicly available within six months of the project end date and posted to the BCO-DMO website. We will additionally comply with any data handling requirements stipulated by participation in the NASA EXPORTS program as long as they are not in conflict with NSF policy. The original data collector/creator/PI does not retain the right to use the data before opening it to wider use. There are no ethical and privacy issues with the proposed data and no human research subjects are included as part of this study (negating the need for an IRB protocol). The dataset from this project will not be copyrighted.

Types of data and samples: This project will generate several types of data and samples including (1) frozen or dried tissue samples from organisms, (2) frozen sinking and suspended particle and fecal pellet samples, (3) nitrogen and carbon stable isotope analysis of particles and zooplankton, (4) amino acid carbon and nitrogen isotope analysis of particles and zooplankton, (5) total amino acid and D-Alanine concentration in particles, and (6) sample collection or specimen capture records (GPS location, date, time, etc.) and environmental measurements (e.g., water temperature, salinity, light, etc.) from stations in the Atlantic Ocean. Samples and subsamples will be physically archived in appropriate locations (e.g., freezers, climate-controlled facilities) for subsequent (re)analysis in PIs' laboratories.

Data and Metadata Standards: Data quality will be assured through proper analysis of replicate samples, certified reference materials, and blanks/controls. Our quality control protocols are stringent and we will discard data that do not meet all requirements. Data will also be archived in multiple locations, including hard copies, laboratory computers, and cloud-based servers. All data will be compiled in a commonly-used database management program, and metadata and primary data will be submitted to archiving data repositories as appropriate. Experimental data and observations not appropriate for archiving in national data repositories will be reported in peer-reviewed publications, either as tabulated data in the publication or in supplementary data tables. Where appropriate, data will also be made available on laboratory websites for download. To increase accessibility to project data and the dissemination of our research findings—particularly among scientists from developing countries—we will make every effort to publish our results as open-access articles or within open-access journals. Ph.D. or M.S. theses associated with the project will also be made available electronically.

Policies and provisions for re-use, re-distribution: All data from this project are considered within the public domain for all not-for-profit uses and there will be no permission restrictions placed on use of the data.

Data sharing among participants: Finally, we will encourage data sharing among participants in this project to promote collaboration and prompt publication. Co-authorships and acknowledgments will be discussed when the data are requested and revised as needed in light of contributions to subsequent data analyses and writing efforts.