

DATA MANAGEMENT PLAN

Data and metadata collected under the project, *Quantifying the drivers of midwater zooplankton community structure* will be served and archived through a number of repositories, including the Biological and Chemical Oceanography Data Management Office (BCO-DMO), EcoTaxa, and the NCBI GenBank.

This project leverages previously existing cruise data whose hydrographic and cruise data are already available on BCO-DMO. We will work with BCO-DMO members to publish and link our analytical data characterizing the biodiversity and biogeochemical contributions of the community in a timely fashion, compliant with the requirements of the Division of Ocean Sciences Data and Sample Policy. Molecular, processed image data and metadata will be stored separately (see below), but these datasets will be cross-listed on BCO-DMO so that all outcomes of the project have a centralized repository.

Both PI's maintain a continuous backup of their laboratory computers using various online or institutional backup facilities at their respective locations. They will maintain project specific data on a business class Dropbox drive. Data backups will further be maintained throughout the project on external hard drives and archived on BIOS's 96TB enterprise class storage array at the end of the project.

Specific plans for particular data types include:

1. **Zooplankton counts and biogeochemical contributions:** Abundance counts, biovolume calculations and inferred biogeochemical contributions will be stored in BCO-DMO. Final datasets will be given a DOI that will be cited in all associated publications.
2. **Metabarcoding:** Raw and processed sequence data will be archived with GenBank (NCBI). 18S data will also be submitted to SILVA <http://www.arb-silva.de/> with their expansive metadata format. Upon conclusion of analyses, more heterogeneous datasets combining molecular, temporal, and spatial information will be submitted to DRYAD Data Repository or similar. The project codes for these repositories will be included in associated publications and the link will be posted to BCO-DMO.
3. **Image data:** Image data from the ZooScan will be archived with EcoTaxa in the form of processed vignettes and the link to the project will be posted to BCO-DMO. Original scans (raw images) of each sample will be directly posted to BCO-DMO.
4. **Educational component:** The elements of the workshop will be developed in collaboration with Co-PI Noyes as part of BIOS's annual Educator Workshop. The resources developed by the workshop will be shared with the marine education community through BIOS's Ocean Academy resources webpage, The Bridge Ocean Science Education Resource Center and hosted by the Biological and Chemical Oceanography Data Management Office (BCO-DMO) website. Lessons will be co-presented at the Marine Science Educators Association (NMEA) meeting in year two of the grant. Pre and post assessments will be administered to evaluate how the workshop has met its intended goals and these data will be housed at BIOS for delivering the workshop in year 3 of the grant.
5. **DMP (BCO-DMO).** BCO-DMO activities will not be generating any data products during this project. Data management training curricula will be published with Digital Object Identifiers (DOIs) through the Marine Biological Laboratory and Woods Hole Oceanographic Institution (MBLWHOI) Library system located in Woods Hole, MA and posted publicly on the BCO-DMO website. Qualitative repository use information will be collected anonymously and only available to authorized project members. Any publicly available information shared outside of the project will remain anonymized as per review by Institutional Review Boards (IRB) of the sub-award organization (WHOI).