Plan Overview

A Data Management Plan created using DMPTool

Title: Collaborative research: Climate-induced biodiversity shifts across a biogeographic barrier

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Collaborative research: Climate-induced biodiversity shifts across a biogeographic barrier

Question not answered.

Cruises will be planned between PIs via email and teleconference calls. Once dates of the cruises are given to use from NSF we will have bimonthly calls to plan the cruise leading up to the first cruise. We will modify existing protocols for the proposed research, train those that will go on the cruise and make travel plans

We will be using a CTD, bongo plankton nets and MOCNESS trawl

An event log will be created from a field laptop that all events will be recorded in in UTIM time

Paper logs will also be used to record flow rates and other environmental data during CTD casts and net deployments.

A cruise report will be prepared after each cruise with the number of stations occupied and record any issues that occurred on the cruise including changes in stations and protocols.

Repository: BCO-DMO and Rolling Deck to Repository (R2R)

Code repository: Github

The project will produce several observational datasets described in the list below. Observational data will be collected on seasonal research cruises planned to take place during spring, summer and fall in the vicinity of Cape Hatteras, North Carolina in the US Northwest Atlantic ocean.

Observational Datasets:

CTD and Niskin bottle data: CTD data collected using a SeaBird SBE CTD package; processing to be done using SeaBird's SeaSave software; data will include standard environmental measurements (such as pressure, temperature, salinity, fluorescence). File types: Raw (.con, .hdr, .hex, .bl) and processed and .cnv, .asc, .btl) ASCII files. Repository: BCO-DMO

Event log: Cruise scientific sampling event log; will include event numbers, start/end dates, times & locations of instrument deployments. Will be recorded using the R2R event logger (if available) and on paper log sheets. File types: Excel file converted to .csv; scanned PDFs. Repository: BCO-DMO and Rolling Deck to Repository (R2R).

Cruise underway data: Routine underway data collected along the ship's track (including meteorological data, sea surface temperature, salinity, fluorescence, ADCP). Will be collected by the shipboard instrumentation. File types: .csv ASCII files. Repository: BCO-DMO and R2R.

Ichthyoplankton sampling logs and images: Zooplankton will be sampled via bongo net trawls and MOCNESS (Multiple Opening/Closing Net and Environmental Sensing System) tows during the cruise. Tow numbers, locations, depths, dates, and times will be recorded by hand on log sheets. Information from log will be transferred into an Excel spreadsheet. File types: PDF files of scanned log sheets; Excel files of sampling logs; images (.jpg files). Repository: BCO-DMO.

Repository: BCO-DMO and Rolling Deck to Repository (R2R)

Code repository: Github

Field observation data will be stored in flat ASCII files, which can be read easily by different software packages.

Field data will include date, time, latitude, longitude, cast number, and depth, as appropriate. Quality flags will be assigned according to the ODS IODE Quality Flag scheme (IOC Manuals and Guides, 54, volume 3; http://www.iode.org/mg54_3). Metadata will be prepared in accordance with BCO-DMO conventions (i.e. using the BCO-DMO metadata forms) and will include detailed descriptions of collection and analysis procedures.

The investigators will store project data (including spreadsheets, ASCII files, images, and PDFs of scanned logs) on laboratory computers that are backed up by the University's central IT organization. Data will also be made available in a timely fashion on the above repositories.

Data sets produced by the science party will be made available through the BCO-DMO data system within two-years from the date of collection. The project investigators will work with BCO-DMO data managers to make project data available online in compliance with the NSF OCE Sample and Data Policy. Data, samples, and other information collected under this project can be made publicly available without restriction once submitted to the public repositories.

Data produced by this project may be of interest to chemical and biological oceanographers, and climate scientists interested in the role of biogeochemistry in the global climate system. We will adhere to and promote the standards, policies, and provisions for data and metadata submission, access, re-use, distribution, and ownership as prescribed by the BCO-DMO Terms of Use (http://www.bco-dmo.org/terms-use).

R2R will ensure that the original underway measurements are archived permanently at NCEI and/or NGDC as appropriate. BCO-DMO will also ensure that project data are submitted to the appropriate national data archive. The PI will work with R2R and BCO-DMO to ensure data are archived appropriately and that proper and complete documentation are archived along with the data. Githib will make code available to process the data and provide updates to the code.

Each PI will be responsible for sharing his/her subset of data among the project participants in a timely fashion. R. Asch will be responsible for collecting and analyzing the ichthyoplankton sampling data. The lead PI, J. Nye will coordinate the overall data management and sharing process and will submit the the processed data and code used to analyze the data on Github, ensure that the metadata is provided to the Biological and Chemical Oceanography Data Management Office (BCO-DMO) who will be responsible for forwarding these data and metadata to the appropriate national archive.