DATA MANAGEMENT PLAN

Types of data, samples, and other materials to be produced

Observational data will be collected during the course of this project.

1. 1. Trajectories, distances and rates of transport and vertical profiles of drifters simulating four larval behaviors during the upwelling season in a region of persistent upwelling.
2. 2. Concurrent boat-based environmental parameters collected during drifter deployments, including current profiles and surface temperature, salinity, chlorophyll fluorescence and turbidity.
3. 3. Time-series of water properties (temperature, salinity, chlorophyll fluorescence), current profiles and forcing conditions (e.g., winds) from our study area, including moorings and HF Radar.

Standards to be used for data and metadata format and content

Data quality will be controlled by plotting data and outliers will be flagged and critically evaluated. Data will be submitted as comma- or tab-separated ASCII files (.csv, .txt) or as spreadsheet files (.xls, .xlsx). We plan to use two formats: one for oceanographic and meteorological data and one for ABLE data.

For oceanographic and meteorological data, we will use the standard Climate and Forecast Metadata Convention for use with climate, forecast, atmosphere, surface and ocean model-generated data and comparable observational datasets. Metadata records may include core library catalog elements (e.g., title, abstract), geographic elements (e.g., geographic extent) and database elements (attribute label definitions).

For ABLE data, we will use the Ecological Metadata Language (EML), which is a metadata specification that was based on efforts by the Ecological Society of America for ecologists. EML is implemented as a series of XML document types to document ecological data. Metadata would include fields on ecological attributes (e.g., extent of cross-shelf migrations, depth preferences, types of vertical migrations) and water column attributes (e.g., temperature, salinity).

Fundamental metadata fields, such as the origin and description of data using standard names, units, dimensions, coordinates and times, will be included in the metadata standards. Our goal is to effectively promote processing and sharing of data files by definitively describing the type of data for each variable and the spatial and temporal properties of the data. This will enable users of data collected from different sources to decide which quantities are comparable, locate data in space–time and as a function of other independent variables and facilitate processing and graphics

Methods and policies for providing access, enabling sharing and re-use and re-distribution

All data, including spreadsheets, ASCII files, images, will be stored be stored at the Bodega Marine Laboratory and shared with principle investigators at North Carolina State University by via the cloud. Computers are automatically backed up nightly and data are stored on RAID, failure-tolerant servers by the IT department. Data on personal computers will be backed up to external hard drives daily. Data also will be backed up offsite at our other member institution, North Carolina State University, where similar back up and redundancy procedures are followed.

Data will be made available to external investigators through the BCO-DMO data system within a year of the end of the project. We will work with BCO-DMO data managers to make project data available online in compliance with the NSF OCE Sample and Data Policy. Data can be made publically available without restriction once submitted to the public repositories.

Data produced by this project may interest biological and physical oceanographers that are interested in transport on the inner continental shelf. 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).

Methods for archiving and preserving access to data and materials

BCO-DMO will ensure that data are archived properly at the National Oceanographic Data Center for long-term archive preservation.