

Estuary plumes as drivers of inner continental shelf benthic community structure and function

Data Policy Compliance

The project investigators will comply with the data management and dissemination policies described in the *NSF Award and Administration Guide* (AAG, Chapter VI.D.4) and the *NSF Division of Ocean Sciences Sample and Data Policy* (NSF 17-037).

Description of Data Types

Observational Data:

- Data from benthic grabs including abundance and biomass of benthos, PC/PN organic matter content, chlorophyll-*a* and phaeophytin content, and sediment grain sizes, as well as depth and geospatial coordinates (DD). File types: spreadsheets.
- Water column concentrations of PC/PN, chlorophyll-*a* and phaeophytin at surface and bottom and geospatial coordinates. File types: spreadsheets.
- Natural abundance stable isotope values of suspended particulate organic matter and benthic particulate organic matter and major taxonomic and functional feeding groups of benthic and epibenthic macrofauna at experimental core sites. File types: spreadsheets.
- Electronic hydrographic data: Electronic from profiling CTD equipment with environmental sensors (temperature, salinity, fluorescence, dissolved oxygen, turbidity) from field collections. File types: raw (.hex, .con, .hdr., .bl) and processed data (spreadsheets)

Experimental Data:

- Enriched ^{13}C and ^{15}N stable isotope values of labile and refractory POM inputs and major taxonomic and functional feeding groups of benthic and epibenthic macrofauna at experimental core sites. File types: spreadsheets.
- Benthic assimilation rate data from field incubations including assimilation rates by major taxonomic and functional feeding groups of macrofauna. File types: spreadsheets.
- Data from biogeochemical remineralization rate measurements for nitrogen (nitrite + nitrate, ammonium) and oxygen (respiration). File types: spreadsheets.

Model derived data

- Model outputs from the hindcast simulations will be in the netcdf format and are expected to have a size of several terabytes. They are too large to be stored in a national database typically reserved for observational data but we will make them publicly accessible within two years of their generation. We will provide standard HTTP and FTP access to download datasets that are more easily used as files rather than services, but will ensure that published data are accompanied by appropriate metadata descriptions accompanying the data.

Data and Metadata Formats and Standards

Data will be recorded in notebooks and computer spreadsheets, which will be transcribed to spreadsheets or databases and these electronic files will be archived and backed up. All notebooks will be scanned into PDF files. Data and metadata will be submitted to BCO-DMO as either comma- or tab-separated ASCII files (.csv, .txt), as spreadsheet files (.xls, .xlsx), or as code (.R). All data will be accompanied by FGDC compliant metadata.

Data Storage and Access During the Project

Electronic archiving of data will be on the PIs' desktop computers and backed up to separate network storage devices, accessible remotely and in different buildings on campus at CBL and HPL. An additional backup drive attached to the lead PI's computer will retain tertiary copies of all electronic data and PDF copies of notebook recorded data. All data will be made available to all personnel working on the project through an institutional file-sharing site until the data are submitted to BCO-DMO. Data access and storage by project team members will be accomplished through the use of network attached storage devices, file-sharing site and email of files among PIs. Coordination of final data will be accomplished by PI Woodland.

Mechanisms and Policies for Access, Sharing, Re-Use, and Re-Distribution

Data and metadata from this project will be submitted and published on a timely basis by BCO-DMO (<http://www.bco-dmo.org/data-management-best-practices-guide>) located at Woods Hole Oceanographic Institution, compliant with the requirements of the Division of Ocean Sciences Data and Sample Policy. The best practice guidelines provided by BCO-DMO for data and metadata preparation will be followed and all metadata will be provided in FGDC compliant formats. The PIs will be in contact with BCO-DMO personnel to make sure adequate planning is done for the submission of data created during this project and appropriate to this repository. Public access to data will be given after quality control and publication, and availability will be in accordance with federal, NSF, and UMCES institutional guidelines for data accessibility.

Plans for Archiving

Biological samples will be stored in ethanol following fixation in formalin (benthos biomass/assembly), frozen in cryovials at -80°C or stored in desiccators (benthos stable isotope specimens) in climate controlled storage facilities. Electronic data that is contributed to BCO-DMO will be archived properly at the appropriate National Data Center for long-term archive preservation.

Roles and Responsibilities

PI Woodland will be responsible for coordinating all data management activities, which will be carried out by the PIs, technicians, postdoc and the graduate student on this project. Co-PIs Testa and Li will provide PI Woodland with biogeochemical flux data and summarized model output and assist in working with BCO-DMO to ensure compliance for this project.