Policy Compliance
All project investigators will comply with the data management and dissemination policies for submission to public repositories within two years of data generation as described in the NSF Award and Administration Guide (AAG, Chapter VI.D.4) and the NSF *Division of Ocean Sciences (OCE) Sample and Data Policy* (NSF17-037).

Pre-Cruise Planning
Pre-cruise planning will occur through email and teleconference. The cruise will utilize a remotely operated vehicle (ROV Saab SeaEye Falcon, Baruch College) and CTD aboard the RV Connecticut in the Gulf of Maine in YR1. Preliminary dive plans will be written prior to the cruise and updated/amended prior to each dive based on cruise events. Detailed dive plans and logs for each ROV dive and CTD cast will be compiled along cruise tracks and watch-stander logs into a cruise report at the conclusion of the cruise.

Description of Data Types
This project will produce the following data types during a Gulf of Maine Cruise to Jordan Basin, Gulf of Maine in YR1 and in laboratories at URI and Dalhousie University throughout the duration of the project, as indicated below.
1) Cruise data: A YR1 cruise will produce detailed plans and reports for each ROV dive (.jpg, .mpeg, .mov) and CTD (.csv) cast as well as the cruise tracks, which will be digitally compiled as .docx and ASCII files during the cruise. Files will be tagged in directories correlated with each dive number and date/time. Each report will include site information, times of launch and recovery, sampling events, and watch-stander logs compiled into a cruise report (.pdf) at the conclusion of the cruise. Repository: BCO-DMO, URI Inner Space Center's Data Repository
2) Copepod Collection: Quantitative data on copepod species, size, life stage, and abundance will be collected from two species of copepods from the NMFS-NOAA Archive (Narragansett, RI). Associated metadata from the NOAA Archive (e.g., cruise number, date and time, station, tow number, latitude and longitude, water depth, and surface and bottom temperature and salinity) will be included with each file. File types: .csv, .jpg. Repository: BCO-DMO
3) Stable isotope data: Stable carbon (δ13C) and nitrogen (δ15N) isotope data from: 1) coral polyp tissue and proteinaceous skeleton from Red Tree Coral (*Primnoa resedaeformis*) and 2) whole body tissue of *Calanus finmarchicus* and *Centropages typicus*. All primary isotope data, including original, unprocessed chromatograms from samples and standards (bulk isotope data and CSIA carbon isotope data - URI; CSIA nitrogen isotope data - Dalhousie), will be stored in their original "Isodat .dxf" software format as well as .csv files and archived in perpetuity on secure servers at URI and Dalhousie University. Repository: BCO-DMO, IsoBank
4) Model code and outputs: R code to run all Markov switching analyses and Generalized Addive Models will be shared through GitHub. Model output data will be deposited in BCO-DMO. File types: .NetCDF, .csv, .jpg, .r Repository: BCO-DMO, GitHub

Data and Metadata Formats and Standards
Field observation data from the YR1 cruise, including cruise information, CTD, and ROV data will be stored in .docx, .pdf, .csv, .jpg, .mpeg, .mov files appropriate metadata as described above. Copepod Archive data (copepod species, size, life stage, and abundance) along with associated metadata from the NOAA Archive (described above) will be collected in .csv, .jpg files. QA/QC will follow NOAA guidelines set forth through the EcoMon Program. Isotope data, including sample type, weight, preparation protocols, and resulting chromatograms for both samples and standards will be archived as .csv and .dxf files. QA/QC will follow discipline standards as outline in the literature (e.g., Yarnes et al. 2017 RCMS *31:*693-704, Riekenberg et al 2020 RCMS *34:*e8797). Model code will be archived in .r files and output will be archived as in .csv files. Metadata will be prepared in accordance with BCO-DMO

conventions using the BCO-DMO metadata forms) and will include detailed descriptions of collection and analysis procedures as well as glossary codes data entries.

Data Storage and Access During the Project
The investigators will store project data of all types on a shared Google Drive directory in perpetuity through the University of Rhode Island's unlimited space Google Suite as well as on investigators' laboratory computers that are backed up by institutions' central IT organizations.

Mechanisms and Policies for Access, Sharing, Re-Use, and Re-Distribution
Within four months of the cruise, the final cruise report will be submitted to the BCO-DMO. All other data will be submitted to the above indicated repositories (BCO-DMO, GitHub, IsoBank, URI ISC) upon submission of manuscripts or within two years of data generation, whichever comes first. Data generated are not considered sensitive. 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, fisheries biologists, and climate scientists. 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).

Plans for Archiving
The URI Inner Space Center maintains a permanent archive of ROV sensor data, images, and video. The PIs will work with BCO-DMO to ensure data are archived appropriately and that proper and complete documentation is archived along with the data within two years of data generation. We anticipate that all copepod samples will be consumed by proposed analyses, and any remaining copepod material will be returned to the NMFS-NOAA Archive. Any remaining coral tissue material will be archived dry in glass vials at URI in the McMahon Lab with printed and electronic corresponding meta-data. Samples will be made available to other researchers and future students and postdocs as requested.

Roles and Responsibilities
McMahon will oversee the entire project and coordinate overall data management and sharing with BCO-DMO. Each PI will be responsible for sharing his/her subset of data among the project participants in a timely fashion. Phillips: cruise logistics and reporting; McMahon bulk tissue and amino acid carbon isotope analysis reporting; Sherwood amino acid nitrogen isotope analysis reporting; Stamieszkin zooplankton analysis reporting; Record model development and reporting.