

## Data Management Plan

### Introduction:

Data management of chemical and physical sensor data will be coordinated by PI C.S. Martens and Engineer H. Mendlovitz. All project participants will have access to and participate in data analysis and interpretation. The plan encompasses three areas: use policies, standards, and data preservation and archival. We will leverage existing systems wherever possible. All data will be communicated in a timely fashion following the NSF policy. Several types of field data will be generated in the proposed activities. These include laboratory and time-series nutrient concentration data sets obtained by returning water samples to the lab plus deployment of our automated underwater MSEAS nutrient analyzers. We will obtain sponge biomass, distribution and pumping rate data through fieldwork by UNC and FWC-M laboratory personnel. Microbial and meta-genomics samples will be collected by all FWC and UNC personnel, analyzed at FWC-SP and then will be discussed by all scientific participants and available for shared publications by FWC and UNC personnel as in pre-Irma studies.

### Data access and sharing policies:

We are committed to making all data types publicly available through peer-reviewed publications and public databases with as few restrictions as possible. As data is processed and analyzed, both raw and processed data will be uploaded to servers maintained at UNC-Chapel Hill and at FWC labs. These servers are backed up weekly, and can be made available to all collaborators needing access to the data. Relatively rapid (within months) sharing of data sets will be crucial for discussions and further sampling efforts by the entire group. Data from UNC and FWC labs will be transferred to the Biological and Chemical Oceanography Data Management Office (BCO-DMO) following processing, and public access will be granted to data following its publication or at most, within two years after its collection. Formats to be used for metadata and data: We will conform to the metadata standards established by the BCO-DMO. As much as possible, data will be archived in ASCII format, which is the most flexible and readable over the long term, though long time series data may be transferred to BCO-DMO in more native formats, e.g. matlab. In the case of chemical sensor data, concentrations will be reported to BCO-DMO along with detailed information on blank corrections and calibration between sensors.

### Plans for archiving and preserving data:

Our sensor data files will also be stored in long-term storage space provided to UNC researchers by UNC-CH Research Computing. In all our efforts we will work with the BCO-DMO to archive the data and to ensure our metadata conform to their standards.