

## Data Management Plan

**I. Types of data, samples, physical collections, software, derived models, curriculum materials, and other materials to be produced in the course of the project** Records will comprise oceanographic data from CTD casts, flow cytometry analysis. Field data will be submitted to the Biological and Chemical Oceanography Data Management Office (BCO-DMO) (<http://www.bco-dmo.org/>). Flow cytometry data will be shared in the Flow Repository (<http://flowrepository.org/>). Software scripts for analyzing flow cytometry data will be made available through a project website, publications, and the request of other researchers. In addition, we will provide other researchers with samples generated during the project when possible. We will also generate classroom material (PowerPoint presentations, Excel spreadsheets, Test templates, Handout materials etc.), curricula, and lesson plans that will be available through our laboratory website to be created.

### **II. Data and Metadata Standards**

Meta-data in the form of automated input from flow cytometry will be stored in different formats (such as tab-delimited, fasta, fastq, BAM, xls, nexus, msf etc.) to ensure compatibility between different programs and databases. We will collect contextual details such as sampling time, horizontal and vertical location, oceanographic metadata. We will adapt meta data standards that are compliant with MIxS (Minimum Information). Flow cytometry data will be collected according to the Minimum Information about a Flow Cytometry Experiment (MIFlowCyt) standards. All education material developed in this project will be aligned to state and national standards.

### **III. Policies for access and sharing and provisions for appropriate protection/privacy**

All raw and processed data in the form of web accessible databases, R packages, Java packages and applications and in other forms will be available on through indexed public websites and databases, our own website to be created and freely accessible through NCBI archive and the Biological and Chemical Oceanography Data Management Office “BCO-DMO” upon publication. Data privacy, confidentiality and security will be adjusted according to publication timeline.

### **IV. Policies and provisions for re-use, re-distribution**

There will be no permission restrictions on data and they will be open for sharing and re-use upon publication.

### **V. Plans for archiving and Preservation of access**

Collected and generated data will be curated both automatically, manually and computationally before made available. Periodic data backups and submission to online repositories such as (BCO-DMO) will be done according to suggested journal and archive guidelines. All captured metadata and protocols will be documented and available in the form of references and research papers. Data preservation beyond the life of the project will be determined on case-by-case bases and will be backed up on tapes for long-term storage.

### **VI. Algorithms and Interpreted Data**

Not Applicable for this project

### **VII. Plans for archiving and Preservation of access**

Data and research products will be archived to publically available databases and scientific journals. No samples will be available after analysis. If samples remain valuable, they will be stored for longer periods following publication. Collected and generated data will be curated both automatically, manually and computationally before made available. Periodic data backups and submission to online