

## DATA MANAGEMENT PLAN

The University of Georgia (UGA) and the University of Delaware (UD) agree to comply with the open access data policy as described in *Division of Ocean Sciences Sample and Data Policy, December 2016*.

### Types of Data and Access Locations

The oceanographic data, cruise deployment information, data sets, and derived data products stemming from this project will be made publicly available within two years.

The table summarizes the analysis technique, resulting measurements, and point of contact for each surface microlayer and seawater dataset posted to BCO-DMO.

Analysis Technique	Resulting Measurements	Water Type	File Type	Contact
<b>Physical Properties</b>				
Dynamic surface tension	Evolution of surface tension with solution age (mN m <sup>-1</sup> )	Sampled; irradiated	.csv	Wozniak
Equilibrium surface tension	Surface tension of solution at equilibrium (mN m <sup>-1</sup> )	Sampled; irradiated	.csv	Frossard
Surface tension curve using equilibrium surface tension	Critical micelle concentration (M)	Sampled; irradiated	.csv	Frossard
<b>Chemical Properties</b>				
Dissolved and Particulate Organic Carbon Analyses	Concentrations of DOC (μM) and POC (μM)	Sampled; irradiated	.csv	Wozniak
Surfactant Colorimetry paired with UV-visible Spectroscopy	Surfactant concentrations (M) by ionic type	Sampled; irradiated	.csv	Frossard
Excitation emission matrix spectroscopy (EEMS)	CDOM and FDOM spectral absorbance and fluorescence by wavelength	Sampled; irradiated	.png; .csv	Wozniak
Fourier-transform ion cyclotron resonance mass spectrometry (FTICR-MS)	Exact mass, molecular formula assignment, and peak magnitude data for peaks observed in mass spectra	Sampled; irradiated	.png; .csv	Frossard/ Wozniak
Liquid chromatography mass spectrometry (LC-MS)	Structural identification of polarity separated molecules	Sampled; irradiated	.csv	Frossard/ Wozniak
<b>Biological Properties</b>				

DNA PCR and sequencing	Phytoplankton and Microbial community composition	Sampled	.csv	Wozniak
<b>Ancillary Measurements</b>				
Ancillary atmospheric and oceanographic measurements	Sea surface temperature (°C), seawater chlorophyll-a concentration ( $\text{mg m}^{-3}$ ), wind speed ( $\text{m s}^{-1}$ ), air temperature (°C), solar irradiance ( $\text{W m}^{-2}$ )	Ambient seawater and air	.csv	Frossard/ Wozniak

### **Archive of Final Data**

Final research data will be archived long-term. Data resulting from this project will be made available through the archive network managed by Biological and Chemical Oceanography Data Management Office (BCO-DMO) (<http://www.bco-dmo.org/datasets>). Before posting the final data to BCO-DMO, the data will be verified by the PIs.

### **Access to Preliminary Data**

During the initial period of data interpretation prior to their public posting, we will also use Google Drive to share preliminary versions of these data with collaborating investigators. After each cruise, measurements will be uploaded to maintain one location with a backup of all of the data. There, we will also share with collaborators preliminary findings, draft manuscripts, and conference presentations.

### **Broad Dissemination of Final Data and Findings**

The PIs will publish the findings from this work in journals such as Environmental Science and Technology, Marine Chemistry, and the Journal of Geophysical Research - Oceans. They will abide by journal specific data access policies and refer back to the BCO-DMO database. Additionally, the PIs will present their findings at the Ocean Sciences Meeting (OSM), the Association for the Sciences of Limnology and Oceanography (ASLO) Aquatic Sciences meeting, and/or the fall meeting of the American Geophysical Union (AGU). They also propose to chair a session at OSM based on this work, in order to draw a broad audience and share findings. The data and findings will also be the bases of MS and/or PhD dissertations at UGA and UD, which will be publicly available, upon submission.

The lessons developed as a part of this project, as described in the Broader Impacts, will be posted on the Science Education Resource Center (SERC) at Carleton College (<https://serc.carleton.edu/NAGTWorkshops/geochemistry/activities.html>).