Data Management Plan

1. Products of Research

Data management will be the responsibility of the PI, in collaboration with the Co-PI. In the proposed project, the majority of the data generated will fall into two categories: (1) synchrotron generated X-ray fluorescence data revealing elemental distribution and content on filters as well as phosphorus chemical form; and (2) observations detailing the sampling (airmass,date, collection hours, mass collected, etc.) and wet chemical characterizations of the samples.

2. Data Format

Observations collected during field activities (e.g. specimen collection date, location, etc.) will be organized into searchable electronic spreadsheets for ease of use. Synchrotron X-ray fluorescence data will be generated as electronic files. X-ray fluorescence data files can be processed and interpreted using free, publically available software (e.g. MAPS and ATHENA). Key analytical parameters utilized to acquire X-ray fluorescence data (e.g., dwell times, X-ray optics configuration, detectors, etc.) will be recorded in laboratory notebooks and then organized into searchable electronic spreadsheets. We will upload all data (X-ray fluorescence data and analytical spreadsheets, as well as field spreadsheets) to the Biological and Chemical Oceanography Data Management Office (BCO- DMO) with notes on how and where to download the MAPS and ATHENA software programs.

3. Access to Data & Data Sharing Practices and Policies The results of this research will be published in peer-reviewed journals within approximately 1 year after the completion of the project. The data will also be uploaded in formats acceptable to the Biological and Chemical Oceanography Data Management Office (BCO- DMO) in accordance with the NSF requirements and within one year of the completion of data collection. In past publications (Ingall et al., 2011; 2013) the PI has provided spectral data on standard P and Fe containing compounds in Excel spreadsheets, available as supplemental materials to the published papers. Where possible we will continue to make such data available through this mechanism in addition to the above approaches. Data will also be made available upon request directly from the PI following publication.

4. Policies for Re-Use, Re-Distribution, and Production of Derivatives

Data generated by the proposed research is intended for non-commercial and educational purposes. The research does not require provisions for the protection of privacy, confidentiality, security, intellectual property, or other rights or requirements. Copyrights for published journal articles would be subject to standard procedures outlined by the respective publishers. Any materials generated for educational use will be made available on the PI's website for use by other educational institutions.

5. Archiving of Data

Original hard copy laboratory notebooks will be retained in the PI's laboratory and at the synchrotron facilities. All electronic files will be stored in multiple locations, including Georgia Tech and Argonne National Laboratory. Automated backups of data on Georgia Tech lab and office computer hard drives occur on a daily basis.