

## Data Management Plan

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The participants will adhere to all NSF-OCE data policies on the dissemination and sharing of research results as detailed in this proposal supplement.

### I. Title, contact information, types of data

**A. Project title:** “Hawaii Aerosol Time-Series (HATS): Quantifying Marine Dust Deposition and Composition in an Oligotrophic Gyre”

**B. Points of contact:** Aerosol elemental concentration and  $^7\text{Be}$  data: Clifton Buck, Clifton.Buck@skio.uga.edu, 912-598-2418; Marine particulate elemental data and synchrotron x-ray data: Dan Ohnemus, dan@uga.edu, 912-598-2414

#### C. Types of data and data descriptions:

**i. Geochemical data:** Throughout the course of this project, we will collect geochemical elemental and isotopic concentration data from aerosol, precipitation, water column samples, and marine particle samples. The data will be generated at Skidaway and Florida International as described in the project description. Project points of contact, listed above, will ensure that their respective datasets are collected or generated, vetted, disseminated, and archived. Elemental and isotopic concentration data will be numeric and kept in simple spreadsheet formats. Metadata collected alongside samples will be similarly kept in ASCII or spreadsheet formats for ease of use during the project and afterwards.

**ii. Synchrotron data:** Synchrotron x-ray fluorescence maps and x-ray speciation data will be collected for select size-fractionated particulate samples and aerosol samples. X-ray data consist of fluorescence spectra and associated visual/microscopy images of x-ray targets, and ancillary spectral data. Expected data collection, including raw ASCII data files, instrument output, and imagery is expected to be < 200 GB. We will work with BCO-DMO and the National Laboratories where these data will be collected to archive and disseminate this “non-traditional” geochemical/imagery data.

### II. Standards for data and metadata format and content

**Analytical data:** All sample analyses will be ongoing throughout the project period following procedures outlined in the project description. Data will be archived in a shared cloud drive and on the desktop terminals that operate the analytical instruments. Duplicate files will be created for data analysis to preserve the integrity of the original datasets. Blanks and error/uncertainty calculations will be rigorously recorded for all concentration data and reported, along with data quality flags for content control, with the final datasets.

**Sampling Information:** Sampling metadata will be recorded on log sheets at the time of collection which will be scanned and archived in a shared cloud drive. All PIs have experience with GEOTRACES-compliant data and metadata standards and will follow appropriate guidance from that program and rolling repository requirements during the seagoing fieldwork. Sample

metadata information will also be entered into a spreadsheet program to be stored on a cloud drive ensuring replication of digital and physical records.

### **III. Policies for Access and Sharing**

The data will be of exclusive use by the PIs until publication or one year after the end of the project, whichever is first. Due to the multi-year time-series nature of the project and its experimental nature, full datasets must be collected prior to interpretation and dissemination. The PIs will upload processed data files and collection-level metadata to BCO-DMO at the end of the project or once submitted for publication, whichever is first. BCO-DMO will make the datasets publicly available through their system immediately upon receipt and subject to any approved embargo periods. Data may be parsed into subsets that work with the format of the underlying data. For example, synchrotron data may be provided separately from chemical data. All project datasets will be connected such that anyone looking at the project can easily access them, in addition to any prior NSF-funded research associated with the PIs and their collaborators.

### **IV. Data Reuse**

Many geochemists and modelers will be interested in the linkages between aerosol composition and solubility, particulate elemental and mineralogical composition, and dust deposition measurements. We will maintain links on our institutional websites to the location of the data on BCO-DMO and indicate their availability in our publications and described in accordance with developing BCO-DMO standards. As with our earlier projects, the PIs will work closely with BCO-DMO curators to ensure accurate and complete documentation in accordance with the BCO-DMO designated level of service, if appropriate. To facilitate tracking of reuse and fair credit to data providers, BCO-DMO will provide a recommended formal citation for the datasets, including persistent identifiers and the contact person's last name.

### **V. Data Preservation**

All data and metadata will be submitted to BCO-DMO after appropriate quality control. BCO-DMO will archive the data for long-term storage at NODC. Data will be uploaded via Electronic Data Description Format, including relevant metadata components and all analyzed data fields. Metadata will include specifics on data collection (collector, position, platform, site characteristics) and laboratory analysis techniques (type of instrumentation, date and specification of last calibration, standards, blanks, and QA/QC).