RAPID: Biogeochemical effects of fire ash deposition to the coastal ocean, in response to the 2017 Southern California fires.

Data and Materials Produced

Describe the types of data, physical samples or collections, software, curriculum materials, and other materials to be produced in the course of the project. (For collaborative proposals, the DMP must cover all the various data types being collected by each collaborator.)

We anticipate generating data from the following sources: 1) water column chemical profiles of nutrients (nitrate, phosphate, nitrite, silica), 2) ship-board and shore-based incubations made using fresh water samples (POC, HPLC), 3) sequence data from metagenomics and community analysis, 4) hydrographic and water chemical properties from CTD casts, and 5) chemical analyses of ash.

Standards, Formats and Metadata

Describe the standards to be used for all the data types anticipated, including data or file format and metadata.

Detailed protocols, including, but not limited to setup description, instrument calibration, quantitative methods, analysis pipelines, and references to previous publications using identical techniques will also be deposited concurrently with data.

Roles and Responsibilities

Describe the roles and responsibilities of all parties with respect to the management of the data (including contingency plans for the departure of key personnel from the project).

All resulting data including water column measurements, incubations, water chemistry, and sequence data will be collated and submitted to BCO-DMO for public archival when analysis is finalized. Craig Carlson and his graduate student, Nicholas Huynh, are managing microbial community analysis (DNA sequences) from water column measurements (DOC, POC, bacterial abundance). David Valentine and his graduate students, Connor Love and Eleanor Arrington, are managing data related to the chemical composition of ash and biodegradation of ash-derived compounds. Debora Iglesias-Rodriguez and her graduate student, Tanika Ladd, are managing data related to phytoplankton response to ash leachate.

Dissemination Methods

Describe the dissemination methods that will be used to make data and metadata available to others during the period of the award, and any modifications or additional technical information regarding data access after the grant ends.

Data will be added to BCO-DMO as it is finalized to be publicly archived while the grant is still active. Data will be revisited in BCO-DMO if it is necessary to make modifications, even after the period designated for the award has ended. Peer-reviewed publications resulting from the collected data will be supplemented with relevant raw data, as well as information to access all collected data from the above repositories. Local copies of all raw data will be distributed to all three PIs involved in this project (Valentine, Carlson, Iglesias-Rodriguez) and will be freely available upon request. Full data sets, derived data products, and physical collections will be made publicly accessible within two years of collection.

Policies for Data Sharing and Public Access

Describe the PI's policies for data sharing, public access and re-use, including re-distribution by others and the production of derivatives. Where appropriate, include provisions for protection of privacy, confidentiality, security, intellectual property rights and other rights.

Local copies of all raw data will be distributed to all three PIs involved in this project (Valentine, Carlson, Iglesias-Rodriguez) and will be freely available upon request from other PIs at any time. Data resulting from this project will result in peer-reviewed publications with supplements including raw data that are open for re-use and re-distribution. If peer-reviewed publications do not result from this project within 2 years of funding, the data will be uploaded to the appropriate archives. This data and the possible derivatives of this data will be available for use by others.

Archiving, Storage and Preservation

Where relevant, describe plans for archiving data, samples, software, and other research products, and for on-going access to these products through their lifecycle of usefulness to research and education. Consider which data (or research products) will be deposited for long-term access and where. (What physical and/or cyber resources and facilities (including third party resources) will be used to store and preserve the data after the grant ends?)

We have collected samples for DOC, POC, bacterial abundance, microbial community analysis, HPLC, and flow cytometry. Each sample is stored at appropriate temperatures in the dark using fridges, freezers, and incubators connected to back-up generators in the case of power loss. All raw data generated from analysis of these samples and CTD data with hydrographic and water chemical properties is immediately uploaded to a data server and marked as read-only. The finalized forms of these data will be added to public repositories as per NSF guidelines. Once uploaded to public archives data will be perpetually available to the public. All community analysis data will be uploaded to BCO-DMO and NCBI. All geochemical measurements will be uploaded to BCO-DMO, NODC, and NGDC databases.