

Data management Plan

Types of data: Analytical measurements from the field and the laboratory will be generated during this research project.

Measurements include:

Organic material concentrations: community and cellular composition, proteins, metabolites (including compatible solutes), enzymes, DNA, chlorophyll *a*, cell numbers, biomass concentration and bulk composition (POC, PON, fatty acids etc).

Biochemical rates: primary production of oxygen and carbon, enzyme catalysis, photochemical analysis, excretion of organic C and N compounds.

Inorganic measurements: temperature, salinity, photosynthetically active radiation (PAR), nutrients, carbonate chemistry.

Data and Metadata Standards: Raw measurement data will be stored in flat file format. Processed data will also be stored in flat file format for easy automated processing. We avoid excel or other formatted data types as they cause errors in our analysis code. This also enables simpler data sharing. Data will be carefully curated and quality controlled by the PIs before the data is made accessible.

Policies for access: We are dedicated to providing ALL of our data in as timely a manner as possible. Data will be released and shared as requested by colleagues, published in a timely fashion and ultimately released after QA/QC. Data will be submitted to the Antarctic Master Directory, via the USAP Data Coordination Center (<http://www.usap-data.org/>) in the form of a Directory Interchange Format (DIF) entry. All of the data will be made available no more than 2 years after collection date, or by the end of the award, whichever comes first.

Policies and provisions for re-use: We will put no restrictions on the data. We expect various geochemists, oceanographers and molecular biologists to use the data. Biochemical and photochemical measurements will be valuable to researchers studying psychrophilic algae and plants. There are no reasons not to share any of our data with the public.

Archiving and preservation of data: Data will be uploaded to publically available databases (as described above). Open access publication of the data is the best archiving method of project results and data. Every effort will be made to publish the data in as timely a manner as possible.