Data Management Plan – Olson, Keister, Love

Expected data

The proposed work will generate laboratory data collected from controlled experiments on the physiological and biochemical response of two phytoplankton species and two copepod species incubated **A)** individually under 3 treatment concentrations of pCO_2 (ambient [395], 750 and 1000 ppmv), and **B)** in combination under the same 3 pCO_2 treatments. For each of these two scenarios, we will collect the following phytoplankton, copepod and supporting data:

A) Phytoplankton: cellular growth rates, particulate organic carbon, nitrogen and phosphorus, chlorphyll *a*, cell size, and lipid profile (see proposal text for lipid profile description)

Copepods: Oxygen consumption, lipid profile, short term grazing on non pCO_2-acclimated prey

B) Phytoplankton: cellular growth rates, particulate organic carbon, nitrogen and phosphorus, chlorphyll *a*, cell size, and lipid profile (see proposal text for lipid profile description)

Copepods: Egg production rate, egg hatching success, grazing rate, naupliar development.

Supporting data during each of these two experimental scenarios will include measurement of the experimental conditions (temperature, pH, pCO_2, total alkalinity, DIC). These data will be added to a database (MS Access or MySQL) for our own analysis. Metadata will be compiled in a similar database framework. Key aspects of our data formatting for archiving will include (1) following standard formats and (2) proper data attribution.

Data access, re-use, re-distribution

We envision that a wide variety of users will be interested in the data we generate. These include climate and ecosystem modelers, resources managers, and research scientists. Because of the pressing need for the information we will generate, we will make the data available to degreed scientists upon request immediately following completion of its QA/QC. We will request proper attribution for its generation when presented or published as part of other scientist's studies. Proper attribution may include co-authorship or acknowledgment depending on the data and use. Upon our own completion of peer-review articles that utilize the data, or by three years beyond the end of the project funding period (whichever is earliest), the data will be publicly archived as described below.

Archiving and Preservation of access

To archive our data and ensure long-term, open public access, we will deposit our data in the Biological and Chemical Oceanography Data Management Office (BCO-DMO). Prior to developing our own databases, we will consult with data managers at the BCO-DCMO to learn how to configure data and metadata so that it is compatible with existing databases. Metadata on the experiments such as equipment calibrations, comments on quality control, and laboratory conditions will be submitted along with the data. Additionally, experimental data will be

archived as hard copies in PI offices and labs, and an electronic version of all data will be stored on computer serves at the Shannon Point Marine Center.

We will endeavor to adhere to the data management policies of the NSF Division of
Ocean Sciences, and to practice data sharing consistent with Western Washington University and University of Washington policies governing intellectual property, copyright and the dissemination of research products.