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Submission Read Me

Submission Title: Distributed Biological Observatory (DBO), Conductivity-Temperature-Depth (CTD) data along DBO6, from 2016 the Late Season Productivity, Carbon, and Nutrient Dynamics in a Changing Arctic project the R/V Sikuliaq (SKQ201612S).

Summary:

Chief Scientist: Laurie Juranek (ljuranek@coas.oregonstate.edu)
Associated Program: Late Season Productivity, Carbon, and Nutrient Dynamics in a Changing Arctic (NSF)
Ship: R/V Sikuliaq
Cruise: SKQ201612S
Dates: 31 Aug – 29 Sept 2016
DBO line: DBO6

Description:

The Pacific sector of the Arctic Ocean is experiencing major reductions in seasonal sea ice extent and increases in sea surface temperatures. One of the key uncertainties in this region is how the marine ecosystem will respond to seasonal shifts in the timing of spring sea ice retreat and/or delays in fall sea ice formation. Variations in upper ocean water hydrography, planktonic production, pelagic-benthic coupling and sediment carbon cycling are all influenced by sea ice and temperature change. To more systematically track the broad biological response to sea ice retreat and associated environmental change, an international consortium of scientists have developed a coordinated “Distributed Biological Observatory” (DBO) that includes selected biological measurements at multiple trophic levels, along with satellite and mooring measurements. The DBO currently focuses on five regional biological “hotspot” locations along a latitudinal gradient that allows for consistent sampling and monitoring at five biologically productive locations across a latitudinal gradient: DBO 1 (SLIP)-south of St. Lawrence Island (SLI), DBO2 (Chirikov)-north of SLI, DBO3 (southern Chukchi Sea), DBO4-NE Chukchi Sea, and DBO5-Barrow Canyon.

This data has been collected and submitted as part of the Distributed Biological Observatory (DBO) program. Data were originally collected as part of the Late Season Productivity, Carbon, and Nutrient Dynamics in a Changing Arctic project, headed by Laurie Juranek (ljuranek@coas.oregonstate.edu). Conductivity-Temperature-Depth (CTD) data were taken aboard the R/V Sikuliaq during SKQ201612S. During this cruise, data were taken along the established repeat hydrography transects, DBO6. This submission includes CTD data from the DBO6 transect. There are 17 csv data files containing the following parameters: pressure, depth, temperature, conductivity, oxygen, fluorescence, practical salinity, density, and potential temperature.

Methods:

CTD casts were performed using a ship-provided Sea Bird 911plus CTD and deck unit (<http://www.seabird.com/sbe911plus-ctd>) configured to measure pressure, temperature, conductivity, oxygen current, and other variables. The CTD data were acquired by an SBE Deck Unit providing demodulated data to a personal computer running SEASAVE

(<http://www.seabird.com/software/seasave-v7>) acquisition software. Calibrations for CTD sensors were performed by the manufacturer before the cruise. As per manufacturer recommendations, CTD data were processed using Sea Bird data processing software (<http://www.seabird.com/software/sbe-data-processing>).

Files included in this submission:

Documentation files:

Submission_read_me_DBO6.pdf	This file
Station_table_DBO6.pdf	Table of data file names with corresponding DBO station names
DBO_station_coordinates.pdf	Latitude and Longitude values of DBO transects (for reference)

Data files:

skq201612s-008avg.cnv –	CTD data file
skq201612s-025avg.cnv	
file_format_description.pdf	Description of the cnv/cdn file format