---TITLE: Lomas_Chl_PP_subm_Oct2009.xlsx

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---FUNDING SOURCE AND GRANT NUMBER:
NSF, Arctic Natural Sciences, Grant No. 0732359
---DATA SET OVERVIEW:
-These data were collected from process stations and other stations where my group collected bulk chlorophyll (Chl) measurements on the following BEST cruises: HLY08-02, HLY08-03, HLY09-02 and Knorr 195-10. Data presented are total and >5um Chla, and total and >5um primary production. All samples were collected on the eastern Bering Sea shelf from 55-63oN and 164-180oWduring spring and summer. At process stations, seven (7) depths were sampled representing roughly the 100%, 55%, 30%, 17%, 9%, 5% and 1.5% light depths. At other stations, generally four (4) depths were sampled and were chosen as surface, deep chlorophyll maximum, and two other depths selected based upon equal distributions throughout the water column or profile features (e.g., elevated concentrations near the bottom).

---INSTRUMENT DESCRIPTION:
- Chl samples are measured on a Turner Designs TD-700, calibrated in my laboratory. Samples for primary production are counted on a Perkin Elmer Packard TriCarb 2900 that is regularly standardized and calibrated.

---DATA COLLECTION and PROCESSING:
-All parameters are directly measured and calculated to volume seawater depending upon sample type. All Chla samples are direct filtrations of water from the Niskin bottle, followed by acetone extraction and analysis using the fluorometric, acidification technique (Parsons, Maita et al. 1984). All primary production samples (in triplicate) are from 24hour incubations with carbon-14 tracer followed by filtration and analysis using liquid scintillation counter. Light levels for the incubation are achieved using neutral density screening and approximate the light depth from which the samples are originally collected. For each light depth, a dark bottle is also incubated. Primary production rates are calculated using standard equations estimating inorganic carbon content from salinity (Parsons, Maita et al. 1984). Rates are corrected for carbon-14 uptake in the dark. Corrected primary production rates that are negative (dark uptake greater than light uptake) are left as negative values, but are not the ‘-9.99’ to denote missing values.

-Description of quality control procedures. For Chla, a solid standard was measured daily to quantify fluorometer drift over time. Drift was found to be <1% over the duration of any cruise; samples were not corrected for this drift. Roughly 5% of the total number of samples was replicated. Coefficient of variation was generally <5%. For primary production there is no standardization procedure, rather samples are evaluated based upon 'reasonableness'. All sample depths are done in triplicate and CV was generally <10%.

-Only informal data comparisons have been done with the Chl data for Dr. Evelyn Lessard. This intercomparison was conducted by Dr. Ned Cokelet on the HLY09-02 cruise.

---DATA FORMAT:
-Data are reported as a comma delimited ASCII text file. Reported data are the averageFile naming convention is by PI's last name, parameters reported (ie., Chl and Primary Production; PP) and date submitted.
-Colum header information for dataset.

Cruise	Cruise name
Station_No.	Station Number within each cruise
Station_Name	Station Name for each Station Number
Cast _#	Consecutive CTD cast number within each cruise
Date/Time (UTC)	YYYYMMDDhhmmss; all times are time in the water
DecLat (oN)	Decmial degree latitude
DecLong (oW)	Decimal degree longitude
Nominal_Depth (m)	nominal depth
Niskin	niskin number sample collected from
Total_Chl (ug L-1)	total chlorophyll collected on GF/F filter, analyzed by acidification technique
Chl_>5um (ug L-1)	>5um chlorophyll collected on 5um polycarbonate filter, analyzed by acidification technique
Total_PP (mmol C m-3 d-1)	total primary production collected on GF/F filter, 24hour - 14C incubation
PP_ >5um (mmol C m-3 d-1)	>5um primary production collected on 5um polycarbonate filter, 24hour - 14C incubation

-All missing data are reported as "-9.99"

-Data version 1.0, October 2009

---DATA REMARKS:
-All data reported are free of known errors, whether in sample collection or sample analysis. Any data where there is a question that would compromise the data quality have been omitted and listed as missing data.

---REFERENCES:

Parsons, T., Y. Maita, et al. (1984). A manual of chemical and biological methods for seawater analysis. New York, Pergamon Press.