

---TITLE: Lomas_particulate_nutrients_subm_December 2011.xls

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-Contact information for data questions – same as above

---FUNDING SOURCE AND GRANT NUMBER:

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---DATA SET OVERVIEW:

-These data were collected from process stations and other stations on the following BEST cruises: HLY0902, KN195-10, TN249 and TN250. Data presented are volumetric concentrations (umol/L) of suspended particulate organic carbon (POC), nitrogen (PON), phosphorus (POP) and biogenic silica (BioSi). All samples were collected on the eastern Bering Sea shelf from 55-63°N and 164-180°W during 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:

- POC and PON samples were processed on a Control Equipment 440 Elemental Analyzer as in Lomas and Bates . POP samples were processed manually as in Lomas et al. . Biogenic Silica samples were processed manually as in Krause et al .

---DATA COLLECTION and PROCESSING:

- All samples were directly collected from the Niskin bottles, with POC/N/P filtered immediately onto precombusted Ahlstrom 151 glass fiber filters (equivalent to Whatman GF/F filters) and biogenic silica filtered on 0.6um polycarbonate filters as described in the above references. After filtering, all samples were folded in half, wrapped in precombusted aluminum foil and stored at -20°C until returned to the home institution for processing.

POC/PON samples were dried, fumed in an acid environment to remove inorganic carbonates, and then analyzed using our standard protocol on the elemental analyzer and calibrated to acetanilide standards.

POP samples were dried, combusted at 500oC and then hydrolyzed with hydrochloric acid before manual analysis on a spectrophotometer.

Biogenic silica samples were digested and hydrolyzed and analyzed on a spectrophotometer.

-Description of quality control procedures. Duplicate analyses were run (roughly 5% of the total number of samples) with the average difference found to always be <10%, and often better depending upon the absolute concentration.

---DATA FORMAT:

-Data are reported as a comma delimited ASCII text file. Reported data are the averages where replicate analyses were made. File naming convention is by PI's last name, parameters reported (ie., Phytoplankton) and date submitted.

-Column 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
Declat (oN)	Decimal degree latitude
Declong (oW)	Decimal degree longitude
Nominal_Depth (m)	nominal depth
Niskin	niskin number sample collected from
POC (umol/L)	Particulate organic carbon >0.7um (GF/F filter)
PON (umol/L)	Particulate organic nitrogen >0.7um (GF/F filter)
POP (umol/L)	Particulate organic phosphorus >0.7um (GF/F filter)
BioSi (umol/L)	Particulate biogenic silica >0.6um filter

-All missing data are reported as "-9.99". NOTE: as this more analyses are done this dataset will be updated and recorded below.

-Data version 1.0, December 2011

---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:

Krause, J., Nelson, D.M., Lomas, M.W., 2009. Biogeochemical responses to late-winter storms in the Sargasso Sea. II. Increased production and export of biogenic silica. Deep Sea Research I, doi:10.1016/j.dsr.2009.1001.1002.
Lomas, M.W., Bates, N.R., 2004. Potential controls on interannual partitioning of organic carbon during the winter/spring phytoplankton bloom at the Bermuda Atlantic Time-series Study (BATS) site. Deep-Sea Research Part I 51 (11), 1619-1636.

Lomas, M.W., Burke, A., Lomas, D., Shen, C., Bell, D., Dyrman, S.T., Ammerman, J.W., 2010. Sargasso Sea phosphorus biogeochemistry: an important role for dissolved organic phosphorus (DOP). *Biogeosciences* 7, 695-710.