TITLE: File-"**PacMARS BW Nutrients 1988-2012_README.docx"**

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ORIGINAL AWARD TITLE: Pacific Marine Arctic Regional Synthesis (PacMARS)

DATA ARCHIVE: PacMARS EOL data archive, http://pacmars.eol.ucar.edu

DATASET OVERVIEW:
Water column samples were collected at designated bottom water depths during the cruises, primarily utilizing a CTD/rosette bottle system, although sometimes with a water pumping system (COMIDA CAB 2009 and 2010). Cruises included in this synthesis data set are outlined in the PacMARS Final Report, Methods section to be posted on the PacMARS website (http://pacmars.cbl.umces.edu/. Each sample depth has associated latitude, longitude, water depth, and four nutrient collections: silica, nitrite/nitrate, phosphate and ammonia. Note that many of these data are also listed in full hydrographic files found for: CITAO, Chemical and Isotopic Tracers from the Arctic Ocean, http://data.eol.ucar.edu/codiac/dss/id=106.ARCSS079; SBI, http://www.eol.ucar.edu/projects/sbi/; BEST, https://www.eol.ucar.edu/projects/best/; COMIDA CAB, http://www.comidacab.org/; and COMIDA Hanna Shoal (HS), http://www.comidacab.org/hannashoal/index.html (in progress).

INSTRUMENT DESCRIPTION:
All water column samples were collected near-bottom during each of the cruises, primarily with a CTD/rosette system, although sometimes with a water pumping system.

DATA COLLECTION AND PROCESSING:
Water column collections for inorganic nutrients were collected from the bottom water bottle from the CTD/rosette or other sampling device (pump), filtered shipboard, and either processed real-time on an autoanalyzer or frozen for post cruise analyses. Nutrients were analyzed at variable analytical laboratory locations (e.g. University of Alaska Fairbanks, AK; PMEL/NOAA Laboratory, Seattle, WA; Institute of Marine Science Analytical Lab, University of California, Santa Barbara, CA; and the Nutrient Analytical Service's Lab (NASL) at the Chesapeake Biological Laboratory (2008-2012). Procedures and techniques used by NASL are available at http://nasl.cbl.umces.edu/.

DATA FORMAT
Data File Structure: Excel
File Names (Formats): **"PacMARS BW Nutrients 1988-2012.xlsx"**

DATA PARAMETERS:
CruiseID=Cruise number or other identifier (e.g., HLY0601 (HLY: "Healy", USCGC Icebreaker WAGB-20.)

StationNum= equals station number from beginning to end of cruise
StationNme=Station Name – based on transect name, see cruise reports
DataDate=yyyymoday
DataYear=year of collection
DataTime=hour and minutes of collection
TimeZone=UTC
UTCOffset= offset (hours) from UTC
Latitude=in decimal degrees
Longitude=in decimal degrees
Depth (m)
Silica=Bottom water Silica (µmol/L=micromoles per liter)
NiTriTra=Bottom water Nitrite/nitrate (µmol/L)
Phosphate=Bottom water Phosphate (µmol/L)
Ammonia=Bottom water Ammonia (µmol/)

REFERENCES

Cooper, L.W., J.M. Grebmeier, I.L. Larsen, V.G. Egorov, C. Theodorakis, H.P. Kelly, and J.R. Lovvorn, 2002. Seasonal variation in water column processes and sedimentation of organic materials in the St. Lawrence Island polynya region, Bering Sea. Mar. Ecol. Prog. Ser. 226, 13–26.

Cooper, L.W., M.A. Janout, K.E. Frey, R. Pirtle-Levy, M.L. Guarinello, J.M. Grebmeier, and J.R. Lovvorn. 2012. The relationship between sea ice break-up, water mass variation, chlorophyll biomass, and sedimentation in the northern Bering Sea. Deep Sea Research Part II 65, 141-162; doi:10.1016/j.dsr2.2012.02.002.

Cooper, L.W, M.G. Sexson, J.M. Grebmeier, R. Gradinger, C.W. Mordy, J.R. Lovvorn. 2013. Linkages Between Sea Ice Coverage, Pelagic-Benthic Coupling and the Distribution of Spectacled Eiders: Observations in March 2008, 2009 and 2010 from the Northern Bering Sea, Deep Sea Research Part II, Topical Studies in Oceanography, 94, 31-43.