

TITLE: Readme File-“**PacMARS Integrated Chl a 1985-2012_README.doc**”

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FUNDING SOURCE/GRANT NUMBER: NPRB Project #A01/T2201

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 variable 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/>). Chlorophyll-a samples were filtered shipboard and either extracted shipboard or the filters frozen and analyzed at a land-based laboratory. Note that many of these data are listed as individual bottle depths and values 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:

Water samples were collected from rosette bottles attached to a Seabird Model SBE19 CTD for discrete chlorophyll determinations, although sometimes with a water pumping system.

DATA COLLECTION AND PROCESSING

Water column collections for chlorophyll content were collected from the designated rosette bottles at select depths in surface waters up to 100m. Seawater samples were filtered shipboard and either ground and processed onboard the ship following standard protocols using the acidification method and a Turner Designs fluorometer, or seawater samples were analyzed for chlorophyll a using a Turner Designs AU-20 fluorometer (non-acidification or Welschmeyer method) following a 24-hour in the dark incubation with 90% acetone at 4°C method (see Cooper et al. 2002, 2012, 2013).

DATA FORMAT

Data File Structure:

File Names (Formats): “**PacMARS Integrated Chl a 1985-2012.xlsx**”

DATA PARAMETERS:

CruiseID=Cruise title

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)
Latitude=in decimal degrees
Longitude=in decimal degrees
IntegChla=Integrated chlorophyll a value (mg/m²)

Data Version Number and Date: Version 1, 05/08/14

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.