

TITLE: Readme File-“**PacMARS_Sed Com Oxygen Consumption 1984-2012 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:

For Sediment Community Oxygen Consumption (SCOC) experiments, a single or multi (4-barrel) Haps corer (each core = 0.0133 m²) was used to collect sediment cores to measure SCOC. Note that some of these data are available in composite with other environmental parameters at the following data archive; SBI Phase 1 (retrospective) and Phase 2 (field), <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:

A single or multi (4 barrel) HAPS corer (each core = 0.0133 m²) was used to collect sediment cores to measure Sediment Community Oxygen Consumption (SCOC). For more information on the HAPS core, see Kanneworff and Nicolaisen (1973).

DATA COLLECTION AND PROCESSING

Sediment community oxygen consumption (SCOC) rates, inclusive of macro, meio, and microfauna (microbes), as well as chemical cycling, were obtained from shipboard incubation experiments conducted at in situ temperatures (Grebmeier and McRoy 1989, Cooper et al. 2013). Duplicate sediment cores for shipboard incubations were collected using a HAPS benthic corer with removable plexiglass insert sleeves (133 cm² surface area as described above). Under optimal conditions, the cores recovered were approximately 15 cm deep, with a low degree of apparent disturbance. Sediment flux measurements for dissolved oxygen followed the methods of Grebmeier and McRoy (1989) and Cooper et al. (2013). Bottom water for these experiments was collected from the CTD rosette. Enclosed sediment cores with motorized paddles were maintained in the dark at in-situ bottom temperatures for approximately 12–24 h. Point measurements were made at the start and end of the experiment, and flux measurements were calculated, based on concentration differences adjusted to a daily flux per m².

DATA FORMAT

Data File Structure:

File Names (Formats): **PacMARS_Sed Com Oxygen Consumption 1984-2012.xlsx**

DATA PARAMETERS:

CruiseID=Cruise title (e.g., HLY0601 (HLY: "Healy", USCG Icebreaker WAGB-20; 06=2006, 01=Leg 1 for HLY in the year 2006)

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

SCOC= Sediment community oxygen consumption (mmol O₂/m²/d)

Data Version Number and Date: Version 1, 05/12/14

Software Compatibility: This dataset will be posted in Microsoft Excel 14.3.6 for MAC.

REFERENCES

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.

Grebmeier, J.M. and C.P. McRoy. 1989. Pelagic-benthic coupling on the shelf of the northern Bering and Chukchi Seas. III. Benthic food supply and carbon cycling. Mar. Ecol. Prog. Ser. 53, 79–91.

Kannevorff, E., and Nicolaisen, W. (1973). The "HAPS:" A frame supported bottom corer. Ophelia Supplement 10, 119-129.