TITLE: **HLY1301\_Sediment Parameters\_README.docx**

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website: http://arctic.cbl.umces.eduFUNDING SOURCE/GRANT NUMBER: Bureau of Ocean Energy Management (BOEM)

ORIGINAL AWARD TITLE: Chukchi Sea Offshore Monitoring in Drilling Area (COMIDA): Hanna Shoal

DATA ARCHIVE: COMIDA Hanna Shoal, <http://www.comidacab.org/hannashoal/index.html>

DATASET OVERVIEW:This dataset contains summary measurements of surface sediment collected at each station for HLY1301 (July 29-August 15, 2013) identified by Station Number (#), Station name (Stn. Name), Date (mm/dd/yy), latitude (°N), longitude (°W), and station depth (m). The following parameters are listed in this data file for surface sediment (sed) values: grain size (≤0 phi, 1 phi, 2 phi, 3 phi, 4 phi, and ≥5 phi, 1-4 phi=sand, and modal phi size), percent total organic carbon (TOC), percent total organic nitrogen (TON), C/N, del-13 carbon value (per mil), del-15 nitrogen value (per mil), surface sediment chlorophyll (chl a) content, and sediment community oxygen consumption (SCOC).

INSTRUMENT DESCRIPTION:A van Veen grab (0.1 m2 sediment grab), weighted with 32 kg of lead was used in the collection of surface sediment samples for all parameters in this file,

DATA COLLECTION AND PROCESSING

Sediment was collected from the first van Veen grab used for collection of sediment samples. Surface samples (1 cm) were collected with a cut-off 10 cc syringe and subsequently processed for chlorophyll a content. Sediment chlorophyll was measured shipboard 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. 2012, 2013 for further details). Another subsample of surface sediment was collected and placed in whirl-pak bags, frozen, and processed post-cruise at the Chesapeake Biological Laboratory. Sediment grain size was determined in the laboratory after removal of organics and of iron oxides following the process of Gee and Bauder (1986). Dried sediment subsamples were acidified, packaged in small aluminum boats and analyzed on a Thermo Delta+ Stable Isotope mass spectrometer at CBL to obtain the TOC, TON, C/N, del-13 C and del-15N content of these samples.

DATA FORMAT

Data File Structure:

File Names (Formats): **HLY1301\_Sediment Parameters.xlsx** is an excel file

DATA PARAMETERS:

Cruise-Ship, Year, Cruise # =HLY1301 (HLY=USCGC Healy), 2013

Station # - sequentially numbered from beginning to end of cruiseStation Name - based on transect names

Date arrived- mm/dd/yyyy

Latitude-decimal coordinates

Longitude-decimal coordinates

Station (Stn) Depth - bottom station depth in metersSed Phi size- percent of surface sediment grain size fraction, 0 phi-largest, 5 phi-smallest, 1 to 4 =sand total

Sed modal size – highest percent of surface sediment grain size phi class in sample

TOC - total organic carbon (%) in surface sedimentTON - total organic nitrogen (%) in surface sedimentC/N - carbon-to-nitrogen ratio (wt./wt.) in surface sediment

Sed Chl-a - concentration chlorophyll that has settled on one m2 (mg/m2) surface sediment

Sed C13= Sediment delta carbon-13 value (per mil, (o/oo)

Sed N15= Sediment delta nitrogen-15 value (per mil, (o/oo)

Data Version Number and Date: Version 1, 05/09/14Software 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.

Gee, G.W., & Bauder J.W. (1986), Particle-size analysis. p. 383–411. In A. Klute (ed.) Methods of soil analysis. Part 1. 2nd ed. Agron. Monogr. 9. ASA and SSSA, Madison, WI.

Grebmeier, J.M., Howard M. Feder and C. Peter McRoy (1989), Pelagic-benthic coupling on the shelf of the northern Bering and Chukchi Seas. II. Benthic community structure, Marine Ecology Progress Series, 51, 253-268.

Cruise report: http://arctic.cbl.umces.edu/web-content/HLY13-01\_cruise\_report.pdf