

TITLE: Readme File-"**PacMARS Benthic infaunal parameters_dominant fauna (2000-2012)_README.doc**"

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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:

This dataset contains the composite dominant macrofaunal taxon type by dry weight biomass (gC/m²) to class level at each station for the identified cruises in Table 1 for the period 2000-2012. The associated station abundance, wet weight biomass (gww/m²), carbon dry weight biomass (gC/m²), number of taxa, Shannon-Weaner diversity and evenness indices, and number of grabs collected per station are available in a separate file for the period 1970-2012 (see Grebmeier J, Cooper L (2014a) PacMARS Benthic infaunal parameters (1970-2012), Version 1.0, doi:10.5065/D6H70CVR; available at the PacMARS EOL data archive site <http://pacmars.eol.ucar.edu>).

INSTRUMENT DESCRIPTION:

A single (weighted with 32 kg of lead) or double van Veen grab (0.1 m² sediment area) was used in the collection of macroinfauna.

DATA COLLECTION AND PROCESSING

On average, 3-5 van Veen grabs were collected at each station for macroinfauna. The number of replicates collected at each station is provided in the data set (Grebmeier J, Cooper L (2014a)). The grabs were normally sieved on a 1 mm screen and macroinfauna were preserved in 10% seawater formalin, buffered with hexamethylenetetramine, in plastic containers for post-cruise sorting. Infauna samples were sorted, counted, and weighed (wet weight) either to family or species level. The carbon biomass was calculated from published carbon conversion values (Stoker 1978, Grebmeier et al. 1989). Most samples were subsequently archived in 50% propanol. See Table 1 below for the further methods citations and weblinks to project data.

DATA FORMAT

Data File Structure:

File Names (Formats): "**PacMARS Benthic infaunal parameters_dominant fauna (2000-2012).xlsx**"

- CruiseID=Cruise number or other identifier (e.g. HLY0601 (HLY: "Healy", USCG Icebreaker WAGB-20; 06: year, 2006; xx: cruise number for the ship for that year); see list of cruise acronyms in the caption for Table 1.
- 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
- Latitude=in decimal degrees
- Longitude=in decimal degrees
- Station Depth (m)
- Bot_Depth-station bottom depth (m)
- Dominant benthic infaunal taxon type (Class or higher) by gC/m2 dry weight for each station: Polychaeta, Bivalvia, Crustacea, Sipuncula, Ophiuroidea, Echnoidea, Anthozoa, Ascidiacea, Nemertea, Others
- TotGC=total gram dry weight for the dominant faunal type at that station in g carbon/m2
- DomTaxGC=Dominant taxa type by gC biomass for that station

Data Version Number and Date: Version 1, 12/31/14

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

REFERENCES*

- Grebmeier J, Cooper L (2014a) PacMARS Benthic infaunal parameters (1970-2012), Version 1.0, doi:10.5065/D6H70CVR; available at the PacMARS EOL data archive site <http://pacmars.eol.ucar.edu>
- 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, Mar. Ecol. Prog. Ser., 51, 253-268.
- Stoker, S. W. (1978), Benthic invertebrate macrofauna of the eastern continental shelf of the Bering/Chukchi Seas, Ph.D. thesis, University of Alaska Fairbanks.
- *see citations in Table 1 below for further details.

Table 1. Research cruises by year, month, ship, cruise title, region, and associated references/data archives for benthic macrofaunal and coincident environmental data used for associated maps produced in the northern Bering and Chukchi Seas for the SOAR benthic synthesis. Abbreviations: BEST=Bering Sea Ecosystem Study, BSEO=Bering Strait Environmental Observatory, BS=Beaufort Sea, CCGS=Canadian Coast Guard Ship, CS=Chukchi Sea, CSESP=Chukchi Sea Environmental Studies Program, ESS=East Siberian Sea, HLY=Healy, MV=Marine Vessel, NBS=Northern Bering Sea, PacMARS=Pacific Marine Arctic Regional Synthesis, PSea=Polar Sea, RUSALCA=Russian-American Long-term Census of Marine Life project, SBI=Shelf-Basin Interactions, SLIPP=St. Lawrence Island Polynya Project, SWL=Sir Wilfrid Laurier; USCGC=US Coast Guard Cutter, RV=Research Vessel, WWW=RV Westward Wind. Weblinks to data archives listed in table: ¹CITAO, Chemical and Isotopic Tracers from the Arctic Ocean, <http://data.eol.ucar.edu/codiad/dss/id=106.ARCSS079>; ²PacMARS, <http://pacmars.eol.ucar.edu>; ³SBI, <http://www.eol.ucar.edu/projects/sbi/>; ⁴BEST, <https://www.eol.ucar.edu/projects/best/>; ⁵CSESP, <http://www.fairweatherscience.com>; ⁶COMIDA CAB, <http://www.comidacab.org/>; ⁷COMIDA Hanna Shoal (HS), <http://www.comidacab.org/hannashoal/index.html>.

Year	Month	Ship	Cruise Title	Region	References/Data archives
2000	July	CCGS SWL 2000	SWL2000= BSEO-2000	NBS, CS, BS	Grebmeier and Barry, 2007; Grebmeier et al., 2006a; ¹ CITAO, ² PacMARS
2001	March-April	USCGC Polar Star	Polar Star01= SLIPP-2001	NBS	Simpkins et al., 2003; ² PacMARS
2001	July	CCGS SWL	SWL2001= BSEO-2001	NBS, CS	Grebmeier and Barry, 2007; Grebmeier et al., 2006a; ² PacMARS
2002	May-June	USCGC HLY	HLY0201=	CS, BS	Cooper et al., 2005b; Grebmeier et

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Year	Month	Ship	Cruise Title	Region	References/Data archives
			SBI spring		al., 2006a; Grebmeier and Barry 2007; ³ SBI
2002	July-Aug.	USCGC HLY	HLY0203=	CS, BS	Cooper et al. 2005b, Grebmeier and Barry 2007; Grebmeier et al., 2006a; ² PacMARS, ³ SBI
		CCGS SWL	SWL 2002 =BSEO-2002		
2003	July	CCGS SWL	SWL 2003 =BSEO-03	NBS, CS	Grebmeier and Barry, 2007; Grebmeier et al., 2006a; ² PacMARS
2004	May-June	USCGC HLY	HLY0402 =SBI spring	CS, BS,	Grebmeier and Barry 2007; Grebmeier et al. 2006a; ³ SBI
	July	CCGS SWL	SWL 2004 =BSEO-04	NBS, CS	² PacMARS
	July-Aug	USCGC HLY	HLY0403 =SBI summer	CS, BS	² PacMARS; ³ SBI,
	August	RV Khromov	RUSALCA04	CS	² PacMARS
2005	July	CCGS SWL	SWL2005	NBS, CS	² PacMARS
2006	May-June	USCGC Healy	HLY0601	CS	Cooper et al., 2012; ⁴ BEST
	July	CCGS SWL	SWL2006	NBS, CS	² PacMARS
2007	May-June	USCGC HLY	HLY0702	NBS	Cooper et al., 2012; ⁴ BEST
	July	CCGS SWL	SWL2007	NBS, CS	² PacMARS
2008	Mar-April	USCGC HLY	HLY0801 =BEST spring	NBS	Cooper et al., 2013; Grebmeier, 2012; ² PacMARS, ⁴ BEST
	July	CCGS SWL	SWL2008	NBS, CS	² PacMARS
	Aug-Sept	RV Norseman II	SHELL08	CS	⁵ CESP
2009	Mar-April	USCGC Healy	HLY0901	NBS, CS	Cooper et al. 2013; Grebmeier, 2012; ³ BEST and ² PacMARS
	Aug-Sept	RV Alpha Helix	COMIDA09	CS	⁶ COMIDA CAB
	Aug-Sept	RV Khromov	RUSALCA09	CS, ESS	Grebmeier 2012; ² PacMARS
	Aug-Sept	RV Westward Wind	CESP09	CS	⁵ CESP, Blanchard et al. 2013a
2010	Mar-April	USCGC Polar Sea	PSea2010	NBS	Cooper et al. 2013; Grebmeier, 2012; ² PacMARS, ³ BEST,
	July	CCGS SWL	SWL10	NBS, CS	⁶ COMIDA CAB
	Aug-Sept	RV Moana Wave	COMIDA10	CS	⁵ CESP, Blanchard et al. 2013a
	Aug-Sept	RV Westward Wind	CESP10	CS	
2011	July	CCGS SWL	SWL11	NBS, CS	Grebmeier, 2012; ² PacMARS
	Aug-Sept	RV Westward Wind	CESP11	CESP11	⁵ CESP

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Year	Month	Ship	Cruise Title	Region	References/Data archives
2012	July	CCGS SWL	SWL12	NBS, CS	Grebmeier 2012; ¹ PacMARS
	Aug-Sept	HLY1201	COMIDA-HS	CS	⁷ COMIDA HS
	Aug	RV Westward Wind	CSESP12	CS	⁵ CSESP; ² PacMARS