MOCNESS CTD data from the R/V Thuwal cruise in the Red Sea during January 2014 (Red Sea Krill project)

Website: https://www.bco-dmo.org/dataset/630187
Version: 2015-12-28

Project
» Red Sea Krill (Red Sea Krill)

Contributors	Affiliation	Role
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Dataset Description

CTD data from the MOCNESS-1/4m^2 tows taken in the Red Sea near Economic City (ECDEEP), January 2014.

Methods & Sampling

Three day trips were made aboard the R/V Thuwal to a location referred to as the Economic City Deep or ECDEEP: a ~700 m deep basin located north of KAUST at 22.5o N, 39.03o E). A 1/4-m MOCNESS (Multiple Opening/Closing Net and Environmental Sensing System; Wiebe et al., 1985) with 200 µm mesh nets was used to sample the zooplankton.

Field sampling: The MOCNESS was obliquely towed four times from the stern A-frame using 11.43 mm conducting cable to 600 m depth with a ship speed nominally of 2 kts (Fig. 2; Table 1). Two MOCNESS tows were taken during daytime, one each on 7 and 8 January 2014, and two night tows were taken on 12 January 2014. The first day tow (m-25-001) was equipped with 5 nets that sampled 600-400, 400-200, 200-100, and 100-0 m. The second day tow (m-25-002) and the two night tows (m-25-003, m-25-004) each had six nets that sampled 600-400, 400-200, 200-100, 100-50, and 50-0 m. The first tow was done without having GPS data input to the MOCNESS acquisition program, so positions from the bridge were obtained for the tow start and end, and at each opening of a net. GPS positions were logged for the other three tows. The MOCNESS system was equipped with the standard SeaBird temperature and conductivity probes. Volume of water filtered by each net was based on the net frame angle and flowmeter counts using equation 10b in Wiebe et al., 1985.

Data Processing Description

Pressure was corrected by subtracting the reading at the surface from collected data. For tow 1, this was 15.8 meters; for tow 2, 4.9 meters; tow 3, 4.0 meters, and tow 4, 3.9 meters.

BCO-DMO Processing:

- added conventional header with dataset name, PI name, version date
- renamed parameters to BCO-DMO standard
- removed columns with no data: fluor, ptran, oxygen, irradiance, irradiance current

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Data Files

File
MOC_ctd_mda.csv (Comma Separated Values (.csv), 483.19 KB) MD5:059a3020976c02f4f529f446d9dcfdfc Primary data file for dataset ID 630187

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Related Datasets

IsRelatedTo

Wiebe, P. H. (2022) **Tow krill raw counts and species abundance collected from the R/V Thuwal cruise in the Red Sea during January 2014.** Biological and Chemical Oceanography Data Management Office (BCO-DMO). (Version 3) Version Date 2022-05-26 doi:10.26008/1912/bco-dmo.620329.3 [view at BCO-DMO]
Relationship Description: Data from the same tow.

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Parameters

Parameter	Description	Units
cruise_id	cruise identification	unitless
station	sequential station	unitless
tow	MOCNESS tow number	unitless
year	year	yyyy
month_local	local month, 1-12	mm
day_local	local day, 1-31	dd
yrday_local_start	local year-day at start tow	unitless

yrday_local_end	local year-day at end tow	unitless
lat_start	latitude at start of tow; north is positive	decimal degrees
lat_end	latitude at end of tow; north is positive	decimal degrees
net	net number	unitless
lon_start	longitude at start of tow; east is positive	decimal degrees
lon_end	longitude at end of tow; east is positive	decimal degrees
press_corr	corrected pressure	decibars
press	uncorrected presssure	decibars
yrday_local	local day and decimal time; as 326.5 for the 326th day of the year or November 22 at 1200 hours (noon)	unitless
temp	temperature	degrees Celsius
potemp	potential temperature	degrees Celsius
sal	salinity	PSU
sigma	potential density	kilograms/meter^3-1000
angle	angle of net opening relative to the vertical/horizonal?	degrees
flow	flow counts from flow meter	counts
hzvel	horizontal velocity	m/min
vtvel	vertical velocity	m/min
vol_filt	volume filtered	cubic meters
lat	latitude; north is positive	decimal degrees

lon	longitude; east is positive	decimal degrees

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Instruments

Dataset-specific Instrument Name	MOCNESS-.25 m^2
Generic Instrument Name	MOCNESS.25
Dataset-specific Description	This MOCNESS sampled with either 5 or 6 nets, 200 micron mesh.
Generic Instrument Description	The Multiple Opening/Closing Net and Environmental Sensing System or MOCNESS is a family of net systems based on the Tucker Trawl principle. The MOCNESS-1/4 carries nine 1/4-m2 nets usually of 64 micrometer mesh and is used to sample the larger micro-zooplankton.

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Deployments

Thuwal-2014-01

Website	https://www.bco-dmo.org/deployment/620087
Platform	R/V Thuwal
Start Date	2014-01-07
End Date	2015-01-12
Description	Three day trips to sample krill at ECDEEP station near Economic City, Saudi Arabia, north of KAUST.

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Project Information

Red Sea Krill (Red Sea Krill)

Coverage: Red Sea

The krill population at station ECDEEP was characterized via MOCNESS sampling and CTD casts.

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Funding

Funding Source	Award
King Abdullah University of Science and Technology (KAUST)	KAUST-Kaartvedt-2014

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