Optical Plankton Counter data - SEASOAR Tows from R/V Roger Revelle KIWI6, KIWI8 cruises in the Southern Ocean, 1998 (U.S. JGOFS AESOPS project)

Website: https://www.bco-dmo.org/dataset/2771
Version: final
Version Date: 2001-03-22

Project
» U.S. JGOFS Antarctic Environment and Southern Ocean Process Study (AESOPS)

Program
» U.S. Joint Global Ocean Flux Study (U.S. JGOFS)

Contributors	Affiliation	Role
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Dataset Description

Optical Plankton Counter data - SEASOAR Tows

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Parameters

Parameter	Description	Units
depth_begin	starting depth of the integrated interval	meter
depth_end	ending depth of the integrated interval	meter
lat_n	nominal latitude of the integrated interval	decimal degrees
lon_n	nominal longitude of the integrated interval	decimal degrees
ESD_XX	Equivalent Spherical Diameter size class number from 1 to 40 (see ESD note)	
event	event number from event log	
sta	station number from event log	
vol_filt	water volume filtered	m^3
counts_tot	total counts collected within the integrated interval normalized by the water volume filtered	

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Instruments

Dataset-specific Instrument Name	MOCNESS
Generic Instrument Name	MOCNESS
Dataset-specific Description	MOCNESS (Multiple Opening and Closing Nets Envionment Sampling System)
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. There are currently 8 different sizes of MOCNESS in existence which are designed for capture of different size ranges of zooplankton and micro-nekton Each system is designated according to the size of the net mouth opening and in two cases, the number of nets it carries. The original MOCNESS (Wiebe et al, 1976) was a redesigned and improved version of a system described by Frost and McCrone (1974).(from MOCNESS manual) This designation is used when the specific type of MOCNESS (number and size of nets) was not specified by the contributing investigator.

Dataset-specific Instrument Name	Optical Plankton Counter
Generic Instrument Name	Optical Plankton Counter
Generic Instrument Description	An OPC provides quantitative measurements of abundance and sizes of mesozooplankton ranging between approximately 0.25 and 14 mm in Equivalent Spherical Diameter (ESD), and has the capability to integrate measurements from other sensors such as a CTD, fluorometer and Global Positioning System (GPS). It can be deployed on a variety of instruments such as SeaSoar, Aries, Scanfish, MOCNESS, a bongo net or simple towing frame. The data from an OPC are typically transmitted to a data acquisition computer through two conducting wires in a towing cable at real time, but it can also be modified to have an internal memory. Large amounts of data are produced. The procedures employed by OPC users vary from; i) estimating integrated biomass by integrating the OPC size distributions, ii) comparing size distributions between OPC and net samples, and iii) simply isolating a size region in the OPC size distribution which correspond solely to specific taxa, eg. Calanus spp.. from: Zhou, M., Tande, K., 2002. Optical Plankton Counter Workshop. GLOBEC Report 17, University of Tromso, Tromso

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Deployments

KIWI6

Website	https://www.bco-dmo.org/deployment/57724
Platform	R/V Roger Revelle
Report	http://usjgofs.whoi.edu/aesops/RRs1.html
Start Date	1997-10-20
End Date	1997-11-24
Description	Polar Front Survey I **Methods & Sampling** PI: Mark Huntley and Meng Zhou of: Scripps Institution of Oceanography (Huntley) and University of Minnesota, Duluth (Zhou) dataset: Optical Plankton Counter data - SEASOAR Tows dates: October 25, 1997 to November 11, 1997 location: N: -58.0083 S: -61.4936 W: -171.9470 E: -167.7914 project/cruise: AESOPS/KIWI06 - APFZ Polar Front Survey Cruise 1 ship: R/V Roger Revelle Sampling Methodology

KIWI8

Website	https://www.bco-dmo.org/deployment/57726
Platform	R/V Roger Revelle
Report	http://usjgofs.whoi.edu/aesops/RRs2.html
Start Date	1998-01-08
End Date	1998-02-08
Description	Polar Front Survey II **Methods & Sampling** PI: Mark Huntley and Meng Zhou of: Scripps Institution of Oceanography (Huntley) and University of Minnesota, Duluth (Zhou) dataset: Optical Plankton Counter data - SEASOAR Tows dates: January 12, 1997 to January 29, 1997 location: N: -57.009 S: -67.788 W: -171.908 E: -170.075 project/cruise: AESOPS/KIWI08 - APFZ Polar Front Survey Cruise 2 ship: R/V Roger Revelle Sampling Methodology

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Project Information

U.S. JGOFS Antarctic Environment and Southern Ocean Process Study (AESOPS)

Website: http://usjgofs.whoi.edu/research/aesops.html

Coverage: Southern Ocean, Ross Sea

The U.S. Southern Ocean JGOFS program, called Antarctic Environment and Southern Ocean Process Study (AESOPS), began in August 1996 and continued through March 1998. The U.S. JGOFS AESOPS program focused on two regions in the Southern Ocean: an east/west section of the Ross-Sea continental shelf along 76.5°S, and a second north/south section of the Southern Ocean spanning the Antarctic Circumpolar Current (ACC) at ~170°W (identified as the Polar Front). The science program, coordinated by Antarctic Support Associates (ASA), comprised eleven cruises using the R.V.I.B Nathaniel B. Palmer and R/V Roger Revelle as observational platforms and for deployment and recovery of instrumented moorings and sediment-trap arrays. The Ross-Sea region was occupied on six occasions and the Polar Front five times. Mapping data were obtained from SeaSoar, ADCP, and bathymetric systems. Satellite coverage was provided by the NASA SeaWiFS and the NOAA/NASA Pathfinder programs.

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Program Information

U.S. Joint Global Ocean Flux Study (U.S. JGOFS)

Website: http://usjgofs.whoi.edu/

Coverage: Global

The United States Joint Global Ocean Flux Study was a national component of international JGOFS and an integral part of global climate change research.

The U.S. launched the Joint Global Ocean Flux Study (JGOFS) in the late 1980s to study the ocean carbon cycle. An ambitious goal was set to understand the controls on the concentrations and fluxes of carbon and associated nutrients in the ocean. A new field of ocean biogeochemistry emerged with an emphasis on quality measurements of carbon system parameters and interdisciplinary field studies of the biological, chemical and physical process which control the ocean carbon cycle. As we studied ocean biogeochemistry, we learned that our simple views of carbon uptake and transport were severely limited, and a new "wave" of ocean science was born. U.S. JGOFS has been supported primarily by the U.S. National Science Foundation in collaboration with the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the Department of Energy and the Office of Naval Research. U.S. JGOFS, ended in 2005 with the conclusion of the Synthesis and Modeling Project (SMP).

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