Picophytoplankton abundance and biomass from RVIB Nathaniel B. Palmer, R/V Roger Revelle NBP-97-1, KIWI9 cruises in the Southern Ocean, 1997-1998 (U.S. JGOFS AESOPS project)

Website: https://www.bco-dmo.org/dataset/2751
Version: final
Version Date: 2001-09-05

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
Olson, Robert	Woods Hole Oceanographic Institution (WHOI)	Principal Investigator
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Dataset Description

Picophytoplankton abundance and biomass

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Data Files

File	
picophytoplankton_KIWI9.csv	(Comma Separated Values (.csv), 14.48 KB) MD5:f89d872e1bf83ab0f4031bf5f62aafa8

Version April 24, 2001 (original version July 20, 1999)
PI: Robert Olson and Heidi Sosik
of: Woods Hole Oceanographic Institution
dataset: Picophytoplankton abundance and biomass
cruise: AESOPS/KIWI-9, APFZ Process 2 cruise
ship: R/V Roger A. Revelle

picophytoplankton_NBP-97-01.csv	(Comma Separated Values (.csv), 11.16 KB) MD5:570ab9920815e43647d769f7ddc4091c

Version September 5, 2001 (previous version July 20, 1999)
PI: Robert Olson and Heidi Sosik
of: Woods Hole Oceanographic Institution
dataset: Picophytoplankton abundance and biomass
cruise: AESOPS/NBP97-1, Ross Sea Process 2 cruise
ship: R/V Nathaniel B. Palmer

DMO note (020423):
suspect event 01190310, sta 7, cast 2,
data reported from bottle 5 was most likely
from bottle 4 (tripped at 9.9 db).

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Parameters

Parameter	Description	Units
event	event number from event log	
sta	station number from event log	
cast	CTD rosette cast number	
cast_type	CTD = CTD rosette TM = Trace Metal rosette	
bot	rosette bottle number	
depth_n	nominal sample depth	meters
bact_cyan_lt40	Cyanobacteria, abundance (Synechococcus and Prochlorococcus)	cells/ml
diatom_pen_lt40	Pennate diatoms, abundance	cells/ml
diatom_pen_lt40_C	Pennate diatoms, biomass	picograms C/ml
phyto_cryp_lt40	Cryptophyte phytoplankton, abundance	cells/ml
phyto_cryp_lt40_C	Cryptophyte phytoplankton, biomass	picograms C/ml
phyto_oth_lt40	Other phytoplankton, abundance	cells/ml
phyto_oth_lt40_C	Other phytoplankton, biomass	picograms C/ml
phyto_tot_lt40	Total phytoplankton, abundance	cells/ml
phyto_tot_lt40_C	Total phytoplankton, biomass	picograms C/ml
coccus_s_lt40	Synechococcus, abundance	cells/ml
coccus_s_lt40_C	Synechococcus, biomass	picograms C/ml

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Instruments

Dataset-specific Instrument Name	Niskin Bottle
Generic Instrument Name	Niskin bottle
Dataset-specific Description	CTD clean rosette (Niskin) bottles were used to collect water samples.
Generic Instrument Description	A Niskin bottle (a next generation water sampler based on the Nansen bottle) is a cylindrical, non-metallic water collection device with stoppers at both ends. The bottles can be attached individually on a hydrowire or deployed in 12, 24, or 36 bottle Rosette systems mounted on a frame and combined with a CTD. Niskin bottles are used to collect discrete water samples for a range of measurements including pigments, nutrients, plankton, etc.

Dataset-specific Instrument Name	Trace Metal Bottle
Generic Instrument Name	Trace Metal Bottle
Dataset-specific Description	Trace metal (TM) clean rosette bottles were used to collect water samples.
Generic Instrument Description	Trace metal (TM) clean rosette bottle used for collecting trace metal clean seawater samples.

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Deployments

NBP-97-01

Website	https://www.bco-dmo.org/deployment/57720
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/p2.html
Start Date	1997-01-13
End Date	1997-02-11
Description	Ross Sea Process Study 2 **Methods & Sampling** PI: Robert Olson and Heidi Sosik of: Woods Hole Oceanographic Institution dataset: Picophytoplankton abundance and biomass dates: January 13, 1997 to February 08, 1997 location: N: -74.0029 S: -78.0414 W: 163.3383 E: -173.9992 project/cruise: AESOPS/NBP-97-1 - Ross Sea Process 2 Cruise ship: R/V Nathaniel B. Palmer References: Olson, R.J., E.R. Zettler and M.D. DuRand. 1993. Phytoplankton analysis using flow cytometry. In: Kemp, P.F., B.F. Sherr, E.B. Sherr and J.J. Cole {Eds.}, Handbook of Methods in Aquatic Microbial Ecology, Lewis Publ., 777 pp. Method Note: 5-ml preserved samples were analyzed using a modified version of the flow cytometer in which each optical signal was split and measured by two photomultipliers at different gain settings, which increased the dynamic range of the measurements (allowing cells ranging in size from 1 to 40 micrometers to be analyzed simultaneously). DMO note regarding parameter names: In the parameter names listed below, lt40 indicates cells ranging in size from 1 to 40 microns.

KIWI9

Website	https://www.bco-dmo.org/deployment/57727
Platform	R/V Roger Revelle
Report	http://usjgofs.whoi.edu/aesops/RRp2.html
Start Date	1998-02-13
End Date	1998-03-19
Description	Polar Front Process II. Additional information about this cruise can be found at https://usjgofs.whoi.edu/aesops/aboutrr9.html **Methods & Sampling** PI: Robert Olson and Heidi Sosik of: Woods Hole Oceanographic Institution dataset: Picophytoplankton abundance and biomass dates: February 16, 1998 to March 15, 1998 location: N: -52.966 S: -71.3157 W: -174.732 E: -165.9132 project/cruise: AESOPS/KIWI09, APFZ Polar Front Process 2 cruise ship: R/V Roger Revelle References: Olson, R.J., E.R. Zettler and M.D. DuRand. 1993. Phytoplankton analysis using flow cytometry. In: Kemp, P.F., B.F. Sherr, E.B. Sherr and J.J. Cole {Eds.}, Handbook of Methods in Aquatic Microbial Ecology, Lewis Publ., 777 pp. Method Note: 5-ml preserved samples were analyzed using a modified version of the flow cytometer in which each optical signal was split and measured by two photomultipliers at different gain settings, which increased the dynamic range of the measurements (allowing cells ranging in size from 1 to 40 micrometers to be analyzed simultaneously). DMO note regarding parameter names: In the parameter names listed below, lt40 indicates cells ranging in size from 1 to 40 microns.

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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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