SeaSoar CTD and fluorometer data from RVIB Nathaniel B. Palmer, R/V Roger Revelle NBP-97-8, KIWI6, KIWI8 cruises in the Southern Ocean, 1997-1998 (U.S. JGOFS AESOPS project)

Website: https://www.bco-dmo.org/dataset/2760
Version: final
Version Date: 2002-12-02

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

SeaSoar CTD and Fluorometer

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Parameters

Parameter	Description	Units
event	from cruise event log	MMDDhhmm
section_name	tow number	
date_begin	date sampling begins	YYYYMMDD
date_end	date sampling ends	YYYYMMDD
lat	latitude (- for South)	decimal degrees
lon	longitude (- for West)	decimal degrees
press	pressure	decibars
sal	salinity (PSS-78)	dimensionless
temp	in-situ temperature	degrees Celsius
sigma_t	sigma density (density at in-situ temperature)	kg/cubic meter
PAR	Photosynthetically Active Radiation	microEinsteins/m^2/second
O2_umol_kg	oxygen, dissolved	micromoles/kg seawater
pCO2_is	partial pressure of CO2 at the temperature reported in temp	microatmospheres
NO3_NO2_kg	nitrate plus nitrite concentration	micromoles/kg seawater
PO4_kg	phosphate	micromoles/kg seawater
SiO4_d	silicate depletion; difference between measured value and value in the deep water at the bottom of the cast	micromoles/kg seawater
chl_a_LPSS	chlorophyll-a concentration from fluorometry	micrograms/kg
yrday	Julian Day plus fractional day for reference: Jan 1 noon = 1.5 Jan 1 midnight = 2.0	decimal days (UTC)
potemp	Potential Temperature	degrees C
sigma_0	Sigma-Theta	kg / cubic meter
SVA	Specific Volume Anomaly	1.0E-8 cubic meter / kg
fluor_1	1st Fluorometer, Chlorophyl_a	micro g / liter
fluor_2	2nd Fluorometer, Chlorophyl_a	micro g / liter

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Instruments

Dataset-specific Instrument Name	SeaSoar
Generic Instrument Name	SeaSoar
Dataset-specific Description	Lamont Pumping SeaSoar (LPSS)
Generic Instrument Description	Towed, undulating vehicle usually equipped with a VPR, TAPS, PAR, CTD

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Deployments

NBP-97-08

Website	https://www.bco-dmo.org/deployment/57722
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/p4.html
Start Date	1997-11-05
End Date	1997-12-13
Description	Ross Sea Process Study 4 SeaWiFS transmits images to U.S. JGOFS scientists aboard the Palmer, for first time on November 23, 1997. **Methods & Sampling** PI: Taro Takahashi collaborators: S.C. Sutherland and Burke Hales of: Lamont-Doherty Earth Observatory dataset: Lamont Pumping SeaSoar (LPSS) CTD and Fluorometer data dates: November 25, 1997 to December 07, 1997 location: N: -76.4725 S: -76.7065 W: 169.6563 E: 172.4118 project/cruise: AESOPS/NBP-97-8 - Ross Sea Process Cruise 4 ship: R/V Nathaniel B. Palmer Sampling Methodology Note: "-9.900e+01" indicates no data

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: Tim Cowles, Jack Barth, Jim Richman of: Oregon State University dataset: SeaSoar CTD and Fluorometer data, transit and mapping dates: October 20, 1997 to November 24, 1997 location: N: -58.0067 S: -62.3775 W: -171.948 E: -167.5941 project/cruise: Southern Ocean JGOFS/KIWI 6 - Polar Frontal Survey 1 ship: R/V Roger Revelle Sampling Methodology: SeaSoar CTD Observations During the Coastal Mixing and Optics Experiment: R/V Endeavor Cruises from 14-Aug to 1-Sep 1996 and 25-Apr to 15-May 1997. R. O'Malley, J.A. Barth, A. Erofeev, J. Fleischbein, P.M. Kosro and S.D. Pierce. College of Oceanic & Atmospheric Sciences, Oregon State University, Corvallis. Reference 98-1, Data Report 168, October 1998. Each file is a section intended to be at constant heading with the SeaSoar in tow. These are flat files, with data every 2-db in the vertical and every 2-km in the horizontal. The lat, lon, and yrday are the average values for the given column; each column runs from 1-db to 401-db at 2-db steps. The sections are numbered sequentialy (line01, line 02, etc) and the connecting lines are indicated as such (line01-02, etc). note: "nd" in a field represents no data present

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: Tim Cowles and Jack Barth of: Oregon State University dataset: SeaSoar CTD and Fluorometer data, transit and mapping dates: January 08, 1998 to February 08, 1998 location: N: -57.0032 S: -67.7947 W: -171.9064 E: -169.3959 project/cruise: Southern Ocean JGOFS/KIWI 8 - Polar Frontal Survey 2 ship: R/V Roger Revelle Sampling Methodology: SeaSoar CTD Observations During the Coastal Mixing and Optics Experiment: R/V Endeavor Cruises from 14-Aug to 1-Sep 1996 and 25-Apr to 15-May 1997. R. O'Malley, J.A. Barth, A. Erofeev, J. Fleischbein, P.M. Kosro and S.D. Pierce. College of Oceanic & Atmospheric Sciences, Oregon State University, Corvallis. Reference 98-1, Data Report 168, October 1998. Each file is a section intended to be at constant heading with the SeaSoar in tow. These are flat files, with data every 2-db in the vertical and every 2-km in the horizontal. The lat, lon, and yrday are the average values for the given column; each column runs from 1-db to 401-db at 2-db steps. The sections are numbered sequentialy (line01, line 02, etc) and the connecting lines are indicated as such (line01-02, etc). note: "nd" in a field represents no data present

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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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