

# Deep sea sediment trap particle flux data from RVIB Nathaniel B. Palmer and R/V Roger Revelle cruises and Sediment Traps in the Southern Ocean, 1996-1998 (U.S. JGOFS AESOPS project)

**Website:** <https://www.bco-dmo.org/dataset/2747>

**Version:** March 20, 1999

**Version Date:** 1999-03-20

## 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
<a href="#">Honjo, Susumu</a>	Woods Hole Oceanographic Institution (WHOI)	Principal Investigator
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## Dataset Description

Deep sea sediment trap particle flux data

## Methods & Sampling

**PI:** Susumu Honjo, Woods Hole Oceanographic Institution and Jack Dymond, Oregon State  
**dataset:** Deep sea sediment trap particle flux  
**dates:** August 30, 1996 to March 19, 1998  
**location:** N: -53.0305 S: -76.49542 W: 176.88623 E: -168.6723  
**project/cruise:** AESOPS; NBP-96-5; Moorings Deployment cruise  
**ship:** R/V Nathaniel B. Palmer

**Methods:** Refer to North Atlantic Bloom Experiment (NABE) for a [description of the time-series sediment trap arrays](#).

Laboratory methodology described in NABE has been modified. Contact Steve Manganini at WHOI for details.

Note: Each sediment trap consisted of 21 cups. Only cups that contained a sample are reported in the data set.

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## Data Files

File
<b>sediment_traps.csv</b> (Comma Separated Values (.csv), 20.79 KB) MD5:8d7039838e02ef56a7c03a00ef8f8bd2
Primary data file for dataset ID 2747

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## Parameters

Parameter	Description	Units
mooring	mooring identification	
lat	latitude (negative = south)	decimal degrees
lon	longitude (negative = west)	decimal degrees
depth_ocean	ocean depth	meters
depth_trap	depth of trap	meters
sample_loc	location of archived samples (WHOI or OSU)	
date_open	date sediment trap opened	YYYYMMDD
days_open	number of days trap remained open	day
cup	sediment trap cup number	
flux_tot	total partical flux recovered	mg/m2/day
C_org	organic carbon, particle size	micromoles/m2/day
C_inorg	inorganic carbon, particle size	micromoles/m2/day
N_tot	total nitrogen, particle size	micromoles/m2/day
Si_bio	biogenic silicon, particle size	micromoles/m2/day

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## Instruments

<b>Dataset-specific Instrument Name</b>	Sediment Trap
<b>Generic Instrument Name</b>	Sediment Trap
<b>Generic Instrument Description</b>	Sediment traps are specially designed containers deployed in the water column for periods of time to collect particles from the water column falling toward the sea floor. In general a sediment trap has a jar at the bottom to collect the sample and a broad funnel-shaped opening at the top with baffles to keep out very large objects and help prevent the funnel from clogging. This designation is used when the specific type of sediment trap was not specified by the contributing investigator.

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## Deployments

**NBP-96-5**

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57719">https://www.bco-dmo.org/deployment/57719</a>
<b>Platform</b>	RVIB Nathaniel B. Palmer
<b>Report</b>	<a href="http://usjgofs.whoi.edu/aesops/m1.html">http://usjgofs.whoi.edu/aesops/m1.html</a>
<b>Start Date</b>	1996-11-11
<b>End Date</b>	1996-12-01
<b>Description</b>	<p>Moorings Deployment</p> <p><b>Methods &amp; Sampling</b>  PI: Susumu Honjo, Woods Hole Oceanographic Institution and Jack Dymond, Oregon State dataset: Deep sea sediment trap particle flux dates: August 30, 1996 to March 19, 1998 location: N: -53.0305 S: -76.49542 W: 176.88623 E: -168.6723 project/cruise: AESOPS; NBP-96-5; Moorings Deployment cruise ship: R/V Nathaniel B. Palmer Methods: Refer to North Atlantic Bloom Experiment (NABE) for a description of the time-series sediment trap arrays. Laboratory methodology described in NABE has been modified. Contact Steve Manganini at WHOI for details. Note: Each sediment trap consisted of 21 cups. Only cups that contained a sample are reported in the data set.</p>

**NBP-98-2**

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57723">https://www.bco-dmo.org/deployment/57723</a>
<b>Platform</b>	RVIB Nathaniel B. Palmer
<b>Report</b>	<a href="http://usjgofs.whoi.edu/aesops/nbp-bp_mr.html">http://usjgofs.whoi.edu/aesops/nbp-bp_mr.html</a>
<b>Start Date</b>	1998-02-25
<b>End Date</b>	1998-04-03
<b>Description</b>	<p>Benthic Process and Moorings Recovery</p> <p><b>Methods &amp; Sampling</b>  PI: Susumu Honjo, Woods Hole Oceanographic Institution and Jack Dymond, Oregon State dataset: Deep sea sediment trap particle flux dates: August 30, 1996 to March 19, 1998 location: N: -53.0305 S: -76.49542 W: 176.88623 E: -168.6723 project/cruise: AESOPS; NBP-98-2; Benthic Process and Moorings Recovery cruise ship: R/V Nathaniel B. Palmer Methods: Refer to North Atlantic Bloom Experiment (NABE) for a description of the time-series sediment trap arrays. Laboratory methodology described in NABE has been modified. Contact Steve Manganini at WHOI for details. Note: Each sediment trap consisted of 21 cups. Only cups that contained a sample are reported in the data set.</p>

**AESOPS\_Array**

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57753">https://www.bco-dmo.org/deployment/57753</a>
<b>Platform</b>	JGOFS Sediment Trap
<b>Start Date</b>	1996-11-28
<b>End Date</b>	1998-01-27
<b>Description</b>	<p>AESOPS sediment trap and current meter moorings Mooring M1 was set at 53.031°S 174.730°W in 5441 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. Mooring M2 was set at 56.895°S 170.165°W in 4924 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. Mooring M3 was set at 60.283°S 170.056°W in 3958 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. Mooring M4 was set at 63.149°S 169.897°W in 2886 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. Mooring M5 was set at 66.161°S 168.672°W in 3016 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. Mooring M6 was set at 73.543°S 176.886°E in 566 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. Mooring M7a was set at 76.491°S 177.872°W in 567 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. Mooring M7b was set at 76.495°S 178.022°W in 582 meters of water during cruise NBP 96-5 and recovered during cruise NBP 98-2. View a graphic showing the location of AESOPS mooring arrays, courtesy of Suzanne O'Hara of Lamont-Doherty Earth Observatory, Columbia University.</p> <p><b>Methods &amp; Sampling</b>  PI: Susumu Honjo, Woods Hole Oceanographic Institution and Jack Dymond, Oregon State dataset: Deep sea sediment trap particle flux dates: August 30, 1996 to March 19, 1998 location: N: -53.0305 S: -76.49542 W: 176.88623 E: -168.6723 project/cruise: AESOPS; NBP-96-5; Moorings Deployment cruise ship: R/V Nathaniel B. Palmer Methods: Refer to North Atlantic Bloom Experiment (NABE) for a description of the time-series sediment trap arrays. Laboratory methodology described in NABE has been modified. Contact Steve Manganini at WHOI for details. Note: Each sediment trap consisted of 21 cups. Only cups that contained a sample are reported in the data set.</p>

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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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