

# Processed CTD data from TM casts from RVIB Nathaniel B. Palmer, R/V Roger Revelle NBP-96-4A, NBP-97-3, NBP-97-8, KIWI6, KIWI8, KIWI9 cruises in the Southern Ocean, 1997-1998 (U.S. JGOFS AESOPS project)

**Website:** <https://www.bco-dmo.org/dataset/2742>

**Version:** July 8, 1999

**Version Date:** 1999-07-08

## 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

Processed CTD data from TM casts

## Methods & Sampling

**PI:** John Morrison  
**of:** North Carolina State University  
**dataset:** Processed CTD data from TM casts

### **AESOPS Investigators, Please note:**

Begin and end parameters for time, latitude and longitude are provided in the core CTD and Bottle data. Investigators submitting data related to CTD/Bottle casts are urged to use the single lat/lon entry from the Chief Scientist's event log.

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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	
date	date (YYYYMMDD) decoded as follows YYYY = year, MM = month, DD = day Date converted to GMT.	
time_begin	starting time of cast in UTC	decimal hours
time_end	ending time of cast in UTC	decimal hours
lat_begin	starting latitude of cast, negative = south	decimal degrees
lon_begin	starting longitude of cast, negative = west	decimal degrees
lat_end	ending latitude of cast	decimal degrees
lon_end	ending longitude of cast	decimal degrees
depth	depth of sample	meters
press	depth of sample reported as pressure	decibars
temp	temperature	degrees C
cond	conductivity CTD	millimohs
sal	salinity	
potemp	potential temperture	degrees C
sigma_t	sigma t	kilograms/meter <sup>3</sup>
sigma_0	potental density	kilograms/meter <sup>3</sup>
par	PAR (Irradiance)	uEinsteins/cm <sup>2</sup> /sec
O2_1	oxygen	milliliters/liter
O2_2	oxygen	micromoles/kilogram
O2_3	oxygen	micromoles/liter

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## Instruments

<b>Dataset-specific Instrument Name</b>	CTD Sea-Bird
<b>Generic Instrument Name</b>	CTD Sea-Bird
<b>Generic Instrument Description</b>	Conductivity, Temperature, Depth (CTD) sensor package from SeaBird Electronics, no specific unit identified. This instrument designation is used when specific make and model are not known. See also other SeaBird instruments listed under CTD. More information from Sea-Bird Electronics.

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## Deployments

**NBP-96-04A**

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57718">https://www.bco-dmo.org/deployment/57718</a>
<b>Platform</b>	RVIB Nathaniel B. Palmer
<b>Report</b>	<a href="http://usjgofs.who.edu/aesops/p1.html">http://usjgofs.who.edu/aesops/p1.html</a>
<b>Start Date</b>	1996-10-02
<b>End Date</b>	1996-11-08
<b>Description</b>	<p>Ross Sea Process Study 1</p> <p><b>Methods &amp; Sampling</b>  PI: John Morrison of: North Carolina State University dataset: Processed CTD data from TM casts dates: October 08, 1996 to November 06, 1996 location: N: -63.454 S: -77.9638 W: 168.9967 E: -170.5822 project/cruise: AESOPS/NBP-96-4A - Ross Sea Process 1 Cruise ship: R/V Nathaniel B. Palmer Sampling Methodology PI-Note: The CTD transmissometer, fluorometer, light scattering and PAR measurements are currently being calibrated by other investigators AESOPS Investigators, Please note: Begin and end parameters for time, latitude and longitude are provided in the core CTD and Bottle data. Investigators submitting data related to CTD/Bottle casts are urged to use the single lat/lon entry from the Chief Scientist's event log.</p>

### NBP-97-03

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57721">https://www.bco-dmo.org/deployment/57721</a>
<b>Platform</b>	RVIB Nathaniel B. Palmer
<b>Report</b>	<a href="http://usjgofs.who.edu/aesops/p3.html">http://usjgofs.who.edu/aesops/p3.html</a>
<b>Start Date</b>	1997-04-04
<b>End Date</b>	1997-05-11
<b>Description</b>	<p>Ross Sea Process Study 3</p> <p><b>Methods &amp; Sampling</b>  PI: John Morrison of: North Carolina State University dataset: Processed CTD data from TM casts dates: April 09, 1997 to April 24, 1997 location: N: -67.6378 S: -77.9962 W: 169.0144 E: -176.0121 project/cruise: AESOPS/NBP-97-3 - Ross Sea Process Cruise 3 ship: R/V Nathaniel B. Palmer Sampling Methodology PI-Note: The CTD transmissometer, fluorometer, light scattering and PAR measurements are currently being calibrated by other investigators AESOPS Investigators, Please note: Begin and end parameters for time, latitude and longitude are provided in the core CTD and Bottle data. Investigators submitting data related to CTD/Bottle casts are urged to use the single lat/lon entry from the Chief Scientist's event log.</p>

### NBP-97-08

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57722">https://www.bco-dmo.org/deployment/57722</a>
<b>Platform</b>	RVIB Nathaniel B. Palmer
<b>Report</b>	<a href="http://usjgofs.whoi.edu/aesops/p4.html">http://usjgofs.whoi.edu/aesops/p4.html</a>
<b>Start Date</b>	1997-11-05
<b>End Date</b>	1997-12-13
<b>Description</b>	<p>Ross Sea Process Study 4 SeaWiFS transmits images to U.S. JGOFS scientists aboard the Palmer, for first time on November 23, 1997.</p> <p><b>Methods &amp; Sampling</b>  PI: John Morrison of: North Carolina State University dataset: Processed CTD data from TM casts dates: November 14, 1997 to December 11, 1997 location: N: -71.4372 S: -76.6287 W: 168.9257 E: -177.9637 project/cruise: AESOPS/NBP-97-8 - Ross Sea Process Cruise 4 ship: R/V Nathaniel B. Palmer Sampling Methodology PI-Note: The CTD transmissometer, fluorometer, light scattering and PAR measurements are currently being calibrated by other investigators AESOPS Investigators, Please note: Begin and end parameters for time, latitude and longitude are provided in the core CTD and Bottle data. Investigators submitting data related to CTD/Bottle casts are urged to use the single lat/lon entry from the Chief Scientist's event log.</p>

#### KIWI6

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57724">https://www.bco-dmo.org/deployment/57724</a>
<b>Platform</b>	R/V Roger Revelle
<b>Report</b>	<a href="http://usjgofs.whoi.edu/aesops/RRs1.html">http://usjgofs.whoi.edu/aesops/RRs1.html</a>
<b>Start Date</b>	1997-10-20
<b>End Date</b>	1997-11-24
<b>Description</b>	<p>Polar Front Survey I</p> <p><b>Methods &amp; Sampling</b>  PI: John Morrison of: North Carolina State University dataset: Processed CTD data from TM casts dates: October 24, 1997 to November 04, 1997 location: N: -57 S: -62.3658 W: -170.0765 E: -168.9993 project/cruise: AESOPS/KIWI06 - APFZ Polar Front Survey Cruise 1 ship: R/V Roger Revelle Sampling Methodology PI-Note: The CTD transmissometer, fluorometer, light scattering and PAR measurements are currently being calibrated by other investigators AESOPS Investigators, Please note: Begin and end parameters for time, latitude and longitude are provided in the core CTD and Bottle data. Investigators submitting data related to CTD/Bottle casts are urged to use the single lat/lon entry from the Chief Scientist's event log.</p>

#### KIWI8

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57726">https://www.bco-dmo.org/deployment/57726</a>
<b>Platform</b>	R/V Roger Revelle
<b>Report</b>	<a href="http://usjgofs.whoi.edu/aesops/RRs2.html">http://usjgofs.whoi.edu/aesops/RRs2.html</a>
<b>Start Date</b>	1998-01-08
<b>End Date</b>	1998-02-08
<b>Description</b>	<p>Polar Front Survey II</p> <p><b>Methods &amp; Sampling</b>  PI: John Morrison of: North Carolina State University dataset: Processed CTD data from TM casts dates: January 16, 1998 to January 28, 1998 location: N: -60 S: -67.7842 W: -170.1283 E: -170.1 project/cruise: AESOPS/KIWI08 - APFZ Polar Front Survey Cruise 2 ship: R/V Roger Revelle Sampling Methodology Beware! PI-Note All of the casts made with the TM Rosette CTD were mostly within the high salinity gradient surface region. Because of the slow time constant response of the SeaCat CTD, the conductivity data are quite noisy. No effort has been made to clean up this data as it would basically have made the profile worthless. Therefore, the TM Rosette CTD data reported here has been calibrated for conductivity difference between the bottles, but otherwise are "raw" data which might be at least of some use in identifying the conductivity(salinity) gradients in the upper layer. AESOPS Investigators, Please note: Begin and end parameters for time, latitude and longitude are provided in the core CTD and Bottle data. Investigators submitting data related to CTD/Bottle casts are urged to use the single lat/lon entry from the Chief Scientist's event log.</p>

#### KIWI9

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57727">https://www.bco-dmo.org/deployment/57727</a>
<b>Platform</b>	R/V Roger Revelle
<b>Report</b>	<a href="http://usjgofs.whoi.edu/aesops/RRp2.html">http://usjgofs.whoi.edu/aesops/RRp2.html</a>
<b>Start Date</b>	1998-02-13
<b>End Date</b>	1998-03-19
<b>Description</b>	<p>Polar Front Process II</p> <p><b>Methods &amp; Sampling</b>  PI: John Morrison of: North Carolina State University dataset: Processed CTD data from TM casts dates: February 18, 1998 to March 14, 1998 location: N: -54.3333 S: -71.3072 W: -173.3333 E: -165.9132 project/cruise: AESOPS/KIWI09 - APFZ Polar Front Process Cruise 2 ship: R/V Roger Revelle Sampling Methodology Beware! PI-Note All of the casts made with the TM Rosette CTD were mostly within the high salinity gradient surface region. Because of the slow time constant response of the SeaCat CTD, the conductivity data are quite noisy. No effort has been made to clean up this data as it would basically have made the profile worthless. Therefore, the TM Rosette CTD data reported here has been calibrated for conductivity difference between the bottles, but otherwise are "raw" data which might be at least of some use in identifying the conductivity(salinity) gradients in the upper layer. AESOPS Investigators, Please note: Begin and end parameters for time, latitude and longitude are provided in the core CTD and Bottle data. Investigators submitting data related to CTD/Bottle casts are urged to use the single lat/lon entry from the Chief Scientist's event log.</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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