Final version CTD, including beam attenuation optics from RVIB Nathaniel B. Palmer and R/V Roger Revelle cruises in the Southern Ocean, 1997-1998 (U.S. JGOFS AESOPS project)

Website: https://www.bco-dmo.org/dataset/2723
Version: final
Version Date: 2001-05-08

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

Final version CTD, including beam attenuation optics.

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Parameters

Parameter	Description	Units
event	a unique number assigned to each sampling operation consisting of month MM, day DD, hour HH and minute mm	
sta	station number	
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, negative = south	decimal degrees
lon_begin	starting longitude, negative = west	decimal degrees
lat_end	ending latitude	decimal degrees
lon_end	ending longitude	decimal degrees
depth	depth of sample	meters
press	depth of sample reported as pressure	decibars
temp	temperature, IPTS-68	degrees C
cond	conductivity CTD	milliSiemens/centimeter
sal	salinity, PSS-78	PSU
potemp	potental temperature, IPTS-68	degrees C
sigma_t	sigma t	kilograms/meter^3
sigma_0	potental density	kilograms/meter^3
beam_cp	beam attenuation due to particles	1/meter
fluor	relative fluorescence, corrected by Seabird software to chlorophyll-a	milligram/meter^3
light_bs	backscattered light from a Light Scattering Sensor	volts
O2_ml_L	oxygen	milliliters/liter
O2_umol_kg	oxygen	micromoles/kilogram
O2_umol_L	oxygen	micromoles/liter

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Instruments

Dataset-specific Instrument Name	CTD Seabird 911
Generic Instrument Name	CTD Sea-Bird 911
Dataset-specific Description	CTD measurements taken, Sea-Bird SBE 9
Generic Instrument Description	The Sea-Bird SBE 911 is a type of CTD instrument package. The SBE 911 includes the SBE 9 Underwater Unit and the SBE 11 Deck Unit (for real-time readout using conductive wire) for deployment from a vessel. The combination of the SBE 9 and SBE 11 is called a SBE 911. The SBE 9 uses Sea-Bird's standard modular temperature and conductivity sensors (SBE 3 and SBE 4). The SBE 9 CTD can be configured with auxiliary sensors to measure other parameters including dissolved oxygen, pH, turbidity, fluorescence, light (PAR), light transmission, etc.). More information from Sea-Bird Electronics.

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Deployments

NBP-96-4

Website	https://www.bco-dmo.org/deployment/57717
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/ss.html
Start Date	1996-08-30
End Date	1996-09-24
Description	Site Survey Cruise **Methods & Sampling** PI: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD data, including beam attenuation optics dates: September 06, 1996 to September 15, 1996 location: N: -60.085 S: -64.1155 W: -170.0035 E: -169.364 project/cruise: AESOPS/NBP-96-4 - Site Survey Cruise ship: Nathaniel B. Palmer Sampling Methodology Sampling Methodology, Optics PI-Note: To convert Beam C (C(1/m)) to Cp the following amount was added to ALL casts: -0.364 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.

NBP-96-04A

Website	https://www.bco-dmo.org/deployment/57718
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/p1.html
Start Date	1996-10-02
End Date	1996-11-08
Description	Ross Sea Process Study 1 **Methods & Sampling** PI: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner and Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: October 08, 1996 to November 06, 1996 location: N: -63.4455 S: -78.0348 W: 168.9800 E: -170.5797 project/cruise: AESOPS/NBP-96-4A - Ross Sea Process Cruise 1 ship: Nathaniel B. Palmer Sampling Methodology Sampling Methodology, Optics PI-Note: To convert Beam C (C(1/m)) to Cp the following amount was added to ALL casts: -0.364 In addition the following casts were adjusted: 96410403 -0.012 96410501 -0.04 96410502 -0.03 96410503 -0.013 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.

NBP-96-5

Website	https://www.bco-dmo.org/deployment/57719
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/m1.html
Start Date	1996-11-11
End Date	1996-12-01
Description	Moorings Deployment **Methods & Sampling** PI: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: November 13, 1996 to November 26, 1996 location: N: -53.0385 S: -76.5168 W: 176.9095 E: -169.6785 project/cruise: AESOPS/NBP-96-5 - Mooring and Trap Deployment ship: Nathaniel B. Palmer Sampling Methodology Sampling Methodology, Optics PI-Note: To convert Beam C (C(1/m)) to Cp the following amount was added to ALL casts: -0.364 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.

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: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: January 13, 1997 to February 09, 1997 location: N: -74.0029 S: -78.0498 W: 163.3383 E: -173.9992 project/cruise: AESOPS/NBP-97-1 - Ross Sea Process Cruise 2 ship: Nathaniel B. Palmer Sampling Methodology Sampling Methodology, Optics PI-Note: To convert Beam C (C(1/m)) to Cp the following amount was added to ALL casts: -0.354 In addition the following casts were adjusted: 97100601 0.02069 97100701 0.07223 97100902 0.01145 97100906 0.01101 97101109 0.00837 97101110 0.01411 97101901 0.07433 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.

NBP-97-03

Website	https://www.bco-dmo.org/deployment/57721
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/p3.html
Start Date	1997-04-04
End Date	1997-05-11
Description	Ross Sea Process Study 3 **Methods & Sampling** PI: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: April 08, 1997 to May 05, 1997 location: N: -63.5023 S: -77.964 W: 168.8260 E: -176.0699 project/cruise: AESOPS/NBP-97-3 - Ross Sea Process Cruise 3 ship: Nathaniel B. Palmer Sampling Methodology Sampling Methodology, Optics PI-Note: To convert Beam C (C(1/m)) to Cp the following amount was added to ALL casts: -0.366 In addition the following casts were adjusted: 97330103 -0.03665 97330104 -0.04735 97330302 -0.05805 97330304 -0.04420 97330305 -0.04420 97330401 -0.04420 97330403 -0.03355 97330405 -0.03222 97330406 -0.03177 97330407 -0.03177 97330408 -0.03889 97330409 -0.03177 97330411 -0.04423 97330501 -0.01012 97330502 -0.02027 97330504 -0.00220 97330508 -0.00895 97330509 -0.00748 97330602 -0.01056 97330603 -0.00397 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.

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: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: November 09, 1997 to December 12, 1997 location: N: -60.1627 S: -77.888 W: 168.7308 E: -169.8918 project/cruise: AESOPS/NBP-97-8 - Ross Sea Process Cruise 4 ship: Nathaniel B. Palmer Sampling Methodology Sampling Methodology, Optics PI-Note: To convert Beam C (C(1/m)) to Cp the following amount was added to ALL casts: -0.36 In addition the following casts were adjusted: 97840303 -0.00700 97840504 -0.00800 97840602 -0.00600 97840607 -0.00400 97841605 -0.00900 97841608 -0.01200 97843001 -0.45000 97843003 -0.44000 97843101 -0.33000 97843201 -0.40000 97843302 -0.37500 97843303 -0.30500 97843305 -0.02000 97843706 0.18712 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.

NBP-98-2

Website	https://www.bco-dmo.org/deployment/57723
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.whoi.edu/aesops/nbp-bp_mr.html
Start Date	1998-02-25
End Date	1998-04-03
Description	Benthic Process and Moorings Recovery **Methods & Sampling** PI: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: February 26, 1998 to March 31, 1998 location: N: -49.9148 S: -76.5017 W: 176.8417 E: -169.5078 project/cruise: AESOPS/NBP-98-2 - Benthic Process and Morring Recovery Cruise ship: Nathaniel B. Palmer Sampling Methodology Sampling Methodology, Optics PI-Note: To convert Beam C (C(1/m)) to Cp the following amount was added to ALL casts: -0.382 In addition the following casts were adjusted: 98020502 -0.00300 98021001 -0.01800 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.

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: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner and Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: October 23, 1997 to November 18, 1997 location: N: -56.9998 S: -62.341 W: -171.9 E: -168.0622 project/cruise: AESOPS/KIWI06 - APFZ Survey Cruise 1 ship: Roger Revelle Sampling Methodology Sampling Methodology, Optics Notes on Beam C corrections 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.

KIWI7

Website	https://www.bco-dmo.org/deployment/57725
Platform	R/V Roger Revelle
Report	http://usjgofs.whoi.edu/aesops/RRp1.html
Start Date	1997-12-02
End Date	1998-01-03
Description	Polar Front Process I **Methods & Sampling** PI: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: December 03, 1997 to December 30, 1997 location: N: -52.9143 S: -64.7418 W: -174.7303 E: -168.8302 project/cruise: AESOPS/KIWI07 - APFZ Polar Front Process Cruise 1 ship: Roger Revelle Sampling Methodology Sampling Methodology, Optics Notes on Beam C corrections 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.

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: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: January 12, 1998 to January 28, 1998 location: N: -56.9998 S: -67.7842 W: -170.1117 E: -169.9983 project/cruise: AESOPS/KIWI08 - APFZ Polar Front Survey Cruise 2 ship: Roger Revelle Sampling Methodology Sampling Methodology, Optics Notes on Beam C corrections 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.

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 **Methods & Sampling** PI: John Morrison of: North Carolina State University PI for Optics: Wilford Gardner & Mary Jo Richardson of: Texas A&M University dataset: Final version CTD, including beam attenuation optics dates: February 15, 1998 to March 15, 1998 location: N: -52.966 S: -71.3157 W: -174.7755 E: -165.9143 project/cruise: AESOPS/KIWI09 - APFZ Polar Front Process Cruise 2 ship: Roger Revelle Sampling Methodology Sampling Methodology, Optics Notes on Beam C corrections 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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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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