

POC and PON from CTD/bottle casts 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/2746>

Version: final

Version Date: 2002-04-12

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

POC and PON from CTD/bottle casts

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Parameters

Parameter	Description	Units
event	event number from event log	
sta	station number from event log	
cast	cast number	
bot	bottle number	
depth_n	nominal depth	meters
POC_orig	particulate organic carbon in units received from P.I.	micrograms/liter
POC	particulate organic carbon units converted by US JGOFS DMO	micromoles/liter
PON_orig	particulate organic nitrogen in units received from P.I.	micrograms/liter
PON	particulate organic nitrogen units converted by US JGOFS DMO	micromoles/liter
cast_type	CTD = CTD rosette TM = Trace Metal rosette	

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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-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	<p>Ross Sea Process Study 1</p> <p>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from CTD casts dates: October 17, 1996 to November 06, 1996 location: N: -76.4733 S: -78.0175 W: 169.0185 E: -175.9053 project/cruise: AESOPS/NBP96-4A - Ross Sea Process 1 Cruise ship: R/V Nathaniel B. Palmer Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</p>

NBP-97-01

Website	https://www.bco-dmo.org/deployment/57720
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.who.edu/aesops/p2.html
Start Date	1997-01-13
End Date	1997-02-11
Description	<p>Ross Sea Process Study 2</p> <p>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from CTD casts dates: January 13, 1997 to February 09, 1997 location: N: -74.0029 S: -78.0414 W: 163.3950 E: -176.0035 project/cruise: AESOPS/NBP97-1 - Ross Sea Process Cruise 2 ship: R/V Nathaniel B. Palmer Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</p>

NBP-97-03

Website	https://www.bco-dmo.org/deployment/57721
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.who.edu/aesops/p3.html
Start Date	1997-04-04
End Date	1997-05-11
Description	<p>Ross Sea Process Study 3</p> <p>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from CTD casts dates: April 12, 1997 to April 29, 1997 location: N: -73.9602 S: -77.9106 W: 168.9281 E: -176.1422 project/cruise: AESOPS/NBP97-3 - Ross Sea Process Cruise 3 ship: R/V Nathaniel B. Palmer Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</p>

NBP-97-08

Website	https://www.bco-dmo.org/deployment/57722
Platform	RVIB Nathaniel B. Palmer
Report	http://usjgofs.who.edu/aesops/p4.html
Start Date	1997-11-05
End Date	1997-12-13
Description	<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>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from bottle casts dates: November 15, 1997 to December 11, 1997 location: N: -73.5055 S: -77.888 W: 168.9907 E: -177.9562 project/cruise: AESOPS/NBP-97-8 - Ross Sea Process Cruise 4 ship: R/V Nathaniel B. Palmer Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</p>

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	<p>Polar Front Survey I</p> <p>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from bottle casts dates: October 23, 1997 to November 17, 1997 location: N: -57 S: -62.341 W: -171.9 E: -168.0622 project/cruise: AESOPS/KIWI06, APFZ Polar Front Survey cruise 1 ship: R/V Roger Revelle Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</p>

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	<p>Polar Front Process I</p> <p>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from bottle casts dates: December 04, 1997 to December 29, 1997 location: N: -52.9467 S: -64.7418 W: -174.7303 E: -168.8333 project/cruise: AESOPS/KIWI07, APFZ Polar Front Process cruise 1 ship: R/V Roger Revelle Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</p>

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	<p>Polar Front Survey II</p> <p>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from bottle casts dates: January 10, 1998 to January 28, 1998 location: N: -53.0002 S: -67.52 W: -175.5483 E: -170.0983 project/cruise: AESOPS/KIWI08, APFZ Polar Front Survey cruise 2 ship: R/V Roger Revelle Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</p>

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	<p>Polar Front Process II</p> <p>Methods & Sampling PI: Walker O. Smith of: University of Tennessee, Knoxville dataset: POC and PON from bottle casts dates: February 15, 1998 to March 15, 1998 location: N: -52.967 S: -71.3157 W: -174.7338 E: -165.9145 project/cruise: AESOPS/KIWI09, APFZ Polar Front Process cruise 2 ship: R/V Roger Revelle Methodology: Please see Chapter 15 of the JGOFS protocols (1994), "Determination of Particulate Organic Carbon and Particulate Organic Nitrogen" PI-Notes on Methodology:</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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