Chlorophyll data from bottles, buckets, and ice from RVIB Nathaniel B. Palmer cruises NBP0103, NBP0104, NBP0202, and NBP0204 in the Southern Ocean from 2001-2002 (SOGLOBEC project)

Website: https://www.bco-dmo.org/dataset/2356

Data Type: Cruise Results

Version: 1

Version Date: 2003-02-10

Project

» U.S. GLOBEC Southern Ocean (SOGLOBEC)

Program

» U.S. GLOBal ocean ECosystems dynamics (U.S. GLOBEC)

Contributors	Affiliation	Role
Vernet, Maria	University of California-San Diego (UCSD-SIO)	Principal Investigator
Allison, Dicky	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Abstract

Chlorophyll data from bottles, buckets, and ice from RVIB Nathaniel B. Palmer cruises NBP0103, NBP0104, NBP0202, and NBP0204 in the Southern Ocean from 2001-2002 (SOGLOBEC project)

Table of Contents

Coverage

Spatial Extent: **N**:-64.129 **E**:-65.501 **S**:-70.633 **W**:-77.762

Temporal Extent: 2001 - 2002

Dataset Description

Chlorophyll *a* and Phaeo Pigments from Bottle Casts and Ice / Ice Cores

A short note on the "Southern Ocean Grid System": The grid is a Cartesian plane covering the sample region in which distances are easy to calculate. The grid system used for SOGLOBEC is a universal transverse mercator (UTM) projection with a certain base point and rotation. The base point was chosen in the far south and the rotation was chosen to create one axis along the peninsula, and the other offshore. The units of UTM are meters, but the points are chosen in km rounded to the nearest km. Negative numbers mean that samples were taken southwest of the y axis or southeast of the x axis. For more details see: Complete explanation of the Southern Ocean grid system.

METHODS:
Chlorophylls were dissolved in 90% acetone and measured using a Turner Designs Digital 10-AU-05 Fluorometer. The instrument was calibrated using chlorophyll *a* standards from Sigma Chemicals as noted below.

Calibration Notes: NBP0103
Calibrated at start of cruise using Sigma Chemicals chl_a standard.

Calibration values used were as follows:

High Fd: 0.109 High tau: 1.970
Med Fd: 0.111 Med tau: 1.950
Low Fd: 0.109 Low tau: 2.215

Calibration Notes: NBP0104
Calibrated at start of cruise using Sigma Chemicals chl_a standard.
Calibration values used were as follows:

High Fd: 0.090 High tau: 1.982
Med Fd: 0.092 Med tau: 1.981
Low Fd: 0.100 Low tau: 2.215

Calibration Notes: NBP0202
Calibrated at start of cruise using Sigma Chemicals chl_a standard.
Calibration values used were as follows:

High Fd: 0.109 High tau: 1.954
Med Fd: 0.103 Med tau: 1.949
Low Fd: 0.100 Low tau: 1.954

Calibration Notes: NBP0204

Calibrated at start of cruise using Sigma Chemicals chl_a standard.
Calibration values used were as follows:

High Fd: 0.149 High tau: 1.887
Med Fd: 0.141 Med tau: 1.968
Low Fd: 0.149 Low tau: 1.938

Data submitted by:

Maria Vernet
Scripps Institute of Oceanography
University of California, San Diego
La Jolla, California 92093-0218

Phone: 1-858-534-5322
email: mvernet@ucsd.edu

Last update: November 30, 2005; gfh

Acquisition Description

Chlorophylls were dissolved in 90% acetone and measured using a Turner Designs Digital 10-AU-05 Fluorometer.

[table of contents | back to top]

Parameters

Parameter	Description	Units
cruiseid	cruise identification, (e.g., NBP0103)	
year	year, GMT	
station_desc	station description, station location by grid and distance or text	
station	station number, generally consecutive with in cruise	
grid_line	distance from the grid origin in the Northeast direction; (grid_line and grid_sta) define a point location within grid. See grid notes below.	kilometers
grid_sta	distance from the grid origin in the Northeast direction; (grid_line and grid_sta) define a point location within grid.See grid notes below	kilometers
yrday_gmt	year day based on Julian Calendar	YYY.Y
lat	latitude, negative = South	degrees
lon	longitude, negative = West	degrees
event	event or operation number	
cast	cast number, CTD rosette cast number	
bottle	bottle number	
depth	depth of sample, NBP0103 depths rounded to nearest whole meter	meters
chl_a	chlorophyll a	micrograms/liter
phaeo	phaeopigment (the phaeopigment in this case is primarily phaeophytin a)	micrograms/liter

[table of contents | back to top]

Instruments

Dataset-specific Instrument Name	Turner Design Digital 10-AU-05 Fluorometer
Generic Instrument Name	Turner Designs Fluorometer -10-AU
Dataset-specific Description	The instrument was calibrated using chlorophyll a standards from Sigma Chemicals as noted below.
Generic Instrument Description	The Turner Designs 10-AU Field Fluorometer is used to measure Chlorophyll fluorescence. The 10AU Fluorometer can be set up for continuous-flow monitoring or discrete sample analyses. A variety of compounds can be measured using application-specific optical filters available from the manufacturer. (read more from Turner Designs, turnerdesigns.com, Sunnyvale, CA, USA)

[table of contents | back to top]

Deployments

NBP0103

Website	https://www.bco-dmo.org/deployment/57636
Platform	RVIB Nathaniel B. Palmer
Report	http://globec.whoi.edu/so-dir/reports/nbp0103/nbp0103.html
Start Date	2001-04-24
End Date	2001-06-05
Description	**Acquisition Description** Chlorophylls were dissolved in 90% acetone and measured using a Turner Designs Digital 10-AU-05 Fluorometer. **Processing Description** Calibration Notes: NBP0103 Calibrated at start of cruise using Sigma Chemicals chl_a standard. Calibration values used were as follows: High Fd: 0.109 High tau: 1.970 Med Fd: 0.111 Med tau: 1.950 Low Fd: 0.109 Low tau: 2.215

NBP0104

Website	https://www.bco-dmo.org/deployment/57638
Platform	RVIB Nathaniel B. Palmer
Report	http://www.ccpo.odu.edu/Research/globec/cruises01/nbp0104_menu.html
Start Date	2001-07-22
End Date	2001-08-31
Description	**Acquisition Description** Chlorophylls were dissolved in 90% acetone and measured using a Turner Designs Digital 10-AU-05 Fluorometer. **Processing Description** Calibration Notes: NBP0104 Calibrated at start of cruise using Sigma Chemicals chl_a standard. Calibration values used were as follows: High Fd: 0.090 High tau: 1.982 Med Fd: 0.092 Med tau: 1.981 Low Fd: 0.100 Low tau: 2.215

NBP0202

Website	https://www.bco-dmo.org/deployment/57641
Platform	RVIB Nathaniel B. Palmer
Report	http://globec.whoi.edu/so-dir/reports/nbp0202/nbp0202b.html
Start Date	2002-04-09
End Date	2002-05-21
Description	**Acquisition Description** Chlorophylls were dissolved in 90% acetone and measured using a Turner Designs Digital 10-AU-05 Fluorometer. **Processing Description** Calibration Notes: NBP0202 Calibrated at start of cruise using Sigma Chemicals chl_a standard. Calibration values used were as follows: High Fd: 0.109 High tau: 1.954 Med Fd: 0.103 Med tau: 1.949 Low Fd: 0.100 Low tau: 1.954

NBP0204

Website	https://www.bco-dmo.org/deployment/57643
Platform	RVIB Nathaniel B. Palmer
Report	http://globec.whoi.edu/so-dir/reports/nbp0204/nbp0204b.html
Start Date	2002-07-31
End Date	2002-09-18
Description	**Acquisition Description** Chlorophylls were dissolved in 90% acetone and measured using a Turner Designs Digital 10-AU-05 Fluorometer. **Processing Description** Calibration Notes: NBP0204 Calibrated at start of cruise using Sigma Chemicals chl_a standard. Calibration values used were as follows: High Fd: 0.149 High tau: 1.887 Med Fd: 0.141 Med tau: 1.968 Low Fd: 0.149 Low tau: 1.938

[table of contents | back to top]

Project Information

U.S. GLOBEC Southern Ocean (SOGLOBEC)

Website: http://www.ccpo.odu.edu/Research/globec_menu.html

Coverage: Southern Ocean

The fundamental objectives of United States Global Ocean Ecosystems Dynamics (U.S. GLOBEC) Program are dependent upon the cooperation of scientists from several disciplines. Physicists, biologists, and chemists must make use of data collected during U.S. GLOBEC field programs to further our understanding of the interplay of physics, biology, and chemistry. Our objectives require quantitative analysis of interdisciplinary data sets and, therefore, data must be exchanged between researchers. To extract the full scientific value, data must be made available to the scientific community on a timely basis.

[table of contents | back to top]

Program Information

U.S. GLOBal ocean ECosystems dynamics (U.S. GLOBEC)

Website: http://www.usglobec.org/

Coverage: Global

U.S. GLOBEC (GLOBal ocean ECosystems dynamics) is a research program organized by oceanographers and fisheries scientists to address the question of how global climate change may affect the abundance and production of animals in the sea. The U.S. GLOBEC Program currently had major research efforts underway in the Georges Bank / Northwest Atlantic Region, and the Northeast Pacific (with components in the California Current and in the Coastal Gulf of Alaska). U.S. GLOBEC was a major contributor to International GLOBEC efforts in the Southern Ocean and Western Antarctic Peninsula (WAP).

[table of contents | back to top]

Funding

Funding Source	Award
NSF Antarctic Sciences (NSF ANT)	ANT-9910175

[table of contents | back to top]