

Rosette Bottle Data from R/V Wecoma and R/V New Horizon on cruises W0205A and NH0207 in the Northeast Pacific in 2002 as part of the U.S. GLOBEC program (NEP project)

Website: <https://www.bco-dmo.org/dataset/2452>

Data Type: Cruise Results

Version: 1

Version Date: 2007-04-06

Project

» [U.S. GLOBEC Northeast Pacific](#) (NEP)

Program

» [U.S. GLOBal ocean ECosystems dynamics](#) (U.S. GLOBEC)

Contributors	Affiliation	Role
Batchelder, Hal	Oregon State University (OSU-CEOAS)	Principal Investigator
Allison, Dicky	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Abstract

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Coverage

Spatial Extent: N:44.65 E:-124.1 S:41.9 W:-126.2

Temporal Extent: 2002-05-29 - 2002-08-19

Dataset Description

CTD Rosette Bottle Data from 2002 GLOBEC NEP cruises:

New Horizon Cruise (NH0207: 1-19 August 2002)

Wecoma Cruise (W0205: 29 May - 18 June 2002)

Notes:

Physical data processed by Jane Fleischbein (OSU).

Chlorophyll readings done by Leah Feinberg (OSU).

Nutrient analysis done by Burke Hales (OSU).

Summary prepared (22 July 2003) by: Hal Batchelder, Oregon State University, Corvallis, OR 97331-503. hbatchelder@coas.oregonstate.edu

Metadata Last updated 23 May 2012 (reformatting)

Acquisition Description

Nutrient samples were collected from most bottles; all nutrient data developed from samples frozen during the cruise and analyzed ashore; data developed by Burke Hales (OSU).

Sal00 - salinity calculated from primary sensors (C0,T0).

Sal11 - salinity calc. from secondary sensors (C1,T1).

Secondary sensor pair was used in final processing of CTD data for most stations because the primary had more noise and spikes. The primary pair were used for cast# 9,24,48,111 and 150 due to multiple spikes or offsets in the secondary pair.

Operation Detection Limits for Nutrient Concentrations (Units are micromoles per liter):

PO4 Range: 0.003-0.004; Mean = 0.004.

NO3+NO2 Range: 0.04-0.08; Mean = 0.06.

Si(OH)4 Range: 0.13-0.24; Mean=0.16.

NO2 Range: 0.003-0.004; Mean = 0.003.

Parameters

Parameter	Description	Units
cruiseid	Cruise identification.	dimensionless
ship	Name of ship.	dimensionless
year	Year.	YYYY
cast	CTD cast number.	dimensionless
station_std	Standard station name.	dimensionless
month_gmt	month of year, GMT	MM
day_gmt	day of month, GMT	DD
time_gmt	time, GMT	HHmm
lat	latitude, negative = South	decimal degrees
lon	longitude, negative = West	decimal degrees
bottle	Rosette bottle number.	dimensionless
press	pressure at depth of bottle trip (sample depth)	decibars
chl_a	chlorophyll-a concentration, total	ug/L
chl_a_10um	chlorophyll-a concentration in the less than 10um fraction	ug/L
phaeo	phaeopigment concentration, total	ug/L
phaeo_10um	phaeopigment concentration in the less than 10um fraction	ug/L
sal	salinity calculated from primary CTD sensors of temperature and conductivity	psu
sal2	salinity calculated from secondary CTD sensors of temperature and conductivity	psu
temp	temperature from primary CTD temp sensor	degrees C.
temp2	temperature from secondary CTD temp sensor	degrees C.
flvolt	fluorescence	volts
trans_v	transmissometer (light transmission)	volts

PO4	phosphate concentration	umoles/L
NO3_NO2	nitrate+nitrite combined concentration	umoles/L
NO3	Nitrate [by subtraction]	umoles/L
SiOH_4	silicate (Orthosilicic Acid) concentration	umoles/L
NO2	Nitrite concentration	umoles/L
NH4	ammonium ion concentration	umoles/L
o2	oxygen concentration	ml/L
par_v	photo synthetically available radiation	volts

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Instruments

Dataset-specific Instrument Name	Niskin Bottle
Generic Instrument Name	Niskin bottle
Dataset-specific Description	Niskin bottle cast used to collect water samples for pigment, nutrient, plankton, etc. analysis
Generic Instrument Description	<p>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.</p>

Dataset-specific Instrument Name	Conductivity, Temperature, Depth
Generic Instrument Name	CTD profiler
Dataset-specific Description	CTD measurements taken, CTD unit unidentified
Generic Instrument Description	<p>The Conductivity, Temperature, Depth (CTD) unit is an integrated instrument package designed to measure the conductivity, temperature, and pressure (depth) of the water column. The instrument is lowered via cable through the water column and permits scientists observe the physical properties in real time via a conducting cable connecting the CTD to a deck unit and computer on the ship. The CTD is often configured with additional optional sensors including fluorometers, transmissometers and/or radiometers. It is often combined with a Rosette of water sampling bottles (e.g. Niskin, GO-FLO) for collecting discrete water samples during the cast. This instrument designation is used when specific make and model are not known.</p>

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Deployments

W0205A

Website	https://www.bco-dmo.org/deployment/57609																								
Platform	R/V Wecoma																								
Report	http://globec.who.edu/nep/reports/ccs_cruises/w0205acr.pdf																								
Start Date	2002-05-29																								
End Date	2002-06-18																								
Description	Acquisition Description Nutrient samples were collected from most bottles.Wecoma Cruise (W0205: 29 May - 18 June 2002)																								
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NH0207

Website	https://www.bco-dmo.org/deployment/57559
Platform	R/V New Horizon
Report	http://globec.who.edu/nep/reports/ccs_cruises/nh0207acr.pdf
Start Date	2002-07-31
End Date	2002-08-19
Description	<p>Acquisition Description Nutrient samples were collected from most bottlesNew Horizon Cruise (NH0207: 1-19 August 2002)</p> <p>Processing Description All nutrient data developed from samples frozen during the cruise and analyzed ashore. Physical data processed by Jane Fleischbein (OSU) Chlorophyll readings done by Leah Feinberg (OSU) Nutrient analysis done by Burke Hales (OSU) Sal00 - salinity calculated from primary sensors (C0,T0) Sal11 - salinity calc. from secondary sensors (C1,T1) secondary sensor pair was used in final processing of CTD data for most stations because the primary had more noise and spikes The primary pair were used for cast# 9,24,48,111 and 150 due to multiple spikes or offsets in the secondary pair Nutrient samples were collected from most bottles; all nutrient data developed from samples frozen during the cruise and analyzed ashore; data developed by Burke Hales (OSU). Operation Detection Limits for Nutrient Concentrations Nutrient Range Mean Variable Units PO4 0.003-0.004 0.004 Phosphate micromoles per liter NO3+NO2 0.04-0.08 0.06 Nitrate+Nitrite micromoles per liter Si(OH)4 0.13-0.24 0.16 Silicate micromoles per liter NO2 0.003-0.004 0.003 Nitrite micromoles per liter</p>

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Project Information

U.S. GLOBEC Northeast Pacific (NEP)

Website: <http://nepglobec.bco-dmo.org>

Coverage: Northeast Pacific Ocean, Gulf of Alaska

Program in a Nutshell Goal: To understand the effects of climate variability and climate change on the distribution, abundance and production of marine animals (including commercially important living marine resources) in the eastern North Pacific. To embody this understanding in diagnostic and prognostic ecosystem models, capable of capturing the ecosystem response to major climatic fluctuations. Approach: To study the effects of past and present climate variability on the population ecology and population dynamics of marine biota and living marine resources, and to use this information as a proxy for how the ecosystems of the eastern North Pacific may respond to future global climate change. The strong temporal variability in the physical and biological signals of the NEP will be used to examine the biophysical mechanisms through which zooplankton and salmon populations respond to physical forcing and biological interactions in the coastal regions of the two gyres. Annual and interannual variability will be studied directly through long-term observations and detailed process studies; variability at longer time scales will be examined through retrospective analysis of directly measured and proxy data. Coupled biophysical models of the ecosystems of these regions will be developed and tested using the process studies and data collected from the long-term observation programs, then further tested and improved by hindcasting selected retrospective data series.

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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).

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-0000733
National Oceanic and Atmospheric Administration (NOAA)	unknown NEP NOAA

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