Salinity, nutrients, and and extracted pigments from R/V New Horizon cruise NH0007 in the Northeast Pacific in 2000 as part of the U.S. GLOBEC program (NEP project)

Website: https://www.bco-dmo.org/dataset/2461
Data Type: Cruise Results
Version: 1
Version Date: 2012-08-17

Project
» U.S. GLOBEC Northeast Pacific (NEP)

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

Contributors	Affiliation	Role
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Abstract
Salinity, nutrients, and and extracted pigments from R/V New Horizon cruise NH0007 in the Northeast Pacific in 2000 as part of the U.S. GLOBEC program.

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Coverage

Spatial Extent: **N**:44.6554 **E**:-123.6919 **S**:38.7976 **W**:-126.1733
Temporal Extent: 2000-07-28 - 2000-08-12

Dataset Description

CTD Rosette Bottle Data from New Horizon cruise July 28 - August 12, 2000 (NH0007).

Notes:
(1) Actual Rosette Bottle Number (1-12) is obtained by dividing shown Bottle Position by 2 (e.g., 12 shown = 6).
(2) Chlorophyll readings done by Leah Feinberg.
(3) Chl_QCF is a quality control flag for the extracted chlorophyll data. Flagged 1 for samples that may have been rinsed with unfiltered rinse water.

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Last updated by BCO-DMO: 17 Aug 2012

Methods & Sampling

Notes:
(1) 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).
(2) Bottle Salts were run by SIO techs on Guildline Autosalinometer.
(3) sal (sal00) - salinity calculated from primary sensors (C0,T0) differ from bottle salts by less than 0.003 psu.
(4) sal2 (sal11) - salinity calc. from secondary sensors (C1,T1) differ from bottle salts by ca. 0.0088 psu.

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

Data Processing Description

BCO-DMO replaced single digit day and month values with 2-digit values (ie. replaced '7' with '07').

08/17/12: BCO-DMO added lat and lon from the NH0007 event log station locations.

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Data Files

File
bottle_data.csv (Comma Separated Values (.csv), 140.34 KB) MD5:d13bd87eb990787a2954ba3678f2eba9 Primary data file for dataset ID 2461

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Parameters

Parameter	Description	Units
ship	Ship name.	dimensionless
cruise_id	cruise identification	dimensionless
sta_std	Standard station name/number.	dimensionless
cast	CTD cast cumber	dimensionless
bottle_posn	Rosette bottle position. Actual Rosette Bottle Number (1-12) is obtained by dividing shown Bottle Position by 2 (e.g., 12 shown = 6).	dimensionless

yr	Year	dimensionless
chl_qcf	Chlorophyll-a quality control flag, 1 = sample may have been rinsed with unfiltered water.	dimensionless
chl_a	Chlorophyll-a concentration.	ug/L
phaeo	Phaeopigment concentration.	ug/L
sal	Salinity calculated from CTD primary temperature and conductivity sensors, PSU. Originally named 'sal00'.	PSU
sal2	Salinity calculated from CTD secondary temperature and conductivity sensors, PSU. Originally named 'sal11'.	PSU
sal_bottle	Salinity measured from bottle samples, PSU. Originally named 'bottle_salt'.	PSU
pressure	Pressure at depth of bottle/sample.	decibars
temp	Temperature from CTD primary temperature sensor. Originally named 't068'.	degrees C
temp2	Temperature from CTD secondary temperature sensor. Originally named 't168'.	degrees C
flvolt	Fluorescence electronic data (volts). Originally named 'flc'.	volts
PO4	Phosphate concentration.	umoles/L
Si	Silicate (Orthosilicic Acid) concentration.	umoles/L
NO2	Nitrite concentration.	umoles/L
NH4	Ammonium ion concentration.	umoles/L
trans	Light transmission (transmissometer). Originally named 'xmiss'.	percent
NO3_NO2	nitrate+nitrite combined concentration. Originally named 'N+N'.	umoles/L
month	Month of year.	dimensionless

day	Day of month.	dimensionless
lat	Latitude in decimal degrees.	decimal degrees
lon	Longitude in decimal degrees.	decimal degrees

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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	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.

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Deployments

NH0007

Website	https://www.bco-dmo.org/deployment/57558
Platform	R/V New Horizon
Report	http://globec.whoi.edu/nep/reports/ccs_cruises/nh0007/nh0007cr.pdf
Start Date	2000-07-27
End Date	2000-08-12
Description	**Methods & Sampling** Chl_QCF is a quality control flag for the extracted chlorophyll data. **Processing Description** 1..Actual Rosette Bottle Number (1-12) is obtained by dividing shown Bottle Position by 2 (e.g., 12 shown = 6) 2..Chlorophyll readings done by Leah Feinberg 3..Chl_QCF is a quality control flag for the extracted chlorophyll data. Flagged 1 for samples that may have been rinsed with unfiltered rinse water. 4..Bottle Salts were run by SIO techs on Guildline Autosalinometer. 5..Sal00 - salinity calculated from primary sensors (C0,T0) differ from bottle salts by <0.003 psu. 6..Sal11 - salinity calc. from secondary sensors (C1,T1) differ from bottle salts by ca. 0.0088 psu. 7..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). 8..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

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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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