

# 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

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## 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*

## Acquisition Description

### 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):

**PO<sub>4</sub>** Range: 0.003-0.004; Mean = 0.004

**NO<sub>3</sub>+NO<sub>2</sub>** Range: 0.04-0.08; Mean = 0.06

**Si(OH)<sub>4</sub>** Range: 0.13-0.24; Mean = 0.16

**NO<sub>2</sub>** Range: 0.003-0.004; Mean= 0.003

## 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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## Parameters

Parameter	Description	Units
ship	Ship name.	dimensionless
cruise_id	cruise identification	dimensionless
sta_std	Standard station name/number.	dimensionless
cast	CTD cast number	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

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

## Deployments

### NH0007

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57558">https://www.bco-dmo.org/deployment/57558</a>
<b>Platform</b>	R/V New Horizon
<b>Report</b>	<a href="http://globec.whoi.edu/nep/reports/ccs_cruises/nh0007/nh0007cr.pdf">http://globec.whoi.edu/nep/reports/ccs_cruises/nh0007/nh0007cr.pdf</a>
<b>Start Date</b>	2000-07-27
<b>End Date</b>	2000-08-12
<b>Description</b>	<p><b>Acquisition Description</b> Chl_QCF is a quality control flag for the extracted chlorophyll data.</p> <p><b>Processing Description</b> 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 &lt;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</p>

## 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
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-0000733</a>
National Oceanic and Atmospheric Administration (NOAA)	<a href="#">unknown NEP NOAA</a>

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