Shipboard sensor data from along the ship track of R/V New Horizon cruises NH0005and NH0007 in the Northeast Pacific in 2000 as part of the U.S. GLOBEC program (NEP project)

Website: https://www.bco-dmo.org/dataset/2460
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
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Abstract
Shipboard sensor data from along the ship track of R/V New Horizon cruises NH0005and NH0007 in the Northeast Pacific in 2000 as part of the U.S. GLOBEC program.

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Coverage

Spatial Extent: **N**:44.6902 **E**:-122.1927 **S**:37.5097 **W**:-126.2055
Temporal Extent: 2000-05-28 - 2000-08-12

Dataset Description

PI: H. Batchelder
Dataset: Alongtrack data (MET & navigation)
Ship: R/V New Horizon
Cruises: NH0005, NH0007

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Sensor locations were as follows:

Location          Unit                                  Sensors
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Flying Bridge Coastal Environmental WeatherPak temp_air,press_bar, winds, radiation_s, radiation_l, humidity Aft Lab SeaBird SBE21 Thermosalinograph Temp, Conductivity Wetlabs Wetstar Fluorometer Relative Fluorescence Engine Room Dual Temperature Unit temp_ss, temp_ss_sec Chart Room Pcode Receiver Trimble Differential GPS lat, lon Bridge Gyro Compass

Last modified: 14 February 2001

Acquisition Description

The data were colleted at 15 s intervals throughout the duration of each cruise.

Wind data collected on board were post-processed to true winds using a software algorithms developed by Shawn R. Smith and Mark A. Bourassa for the WOCEMET software analysis package (wocemet@coaps.fsu.edu). The algorithms was implemented in a matlab function (truewind1.m; written by Hal Batchelder, hbatchelder@oce.orst.edu) that takes 1) direction the bow is pointing, 2) course over which the vessel is moving (may be different from bow direction), 3) speed of vessel over the ground, 4) wind direction referenced to the ship, zero line reference (e.g., angle between the bow and the zero line n the anemometer), and a convention for reporting the output (conv = 0 is meteorological; conv = 1 is oceanographic). The function returns 1) true wind direction, referenced to the fixed earth, 2) true wind speed, referenced to the fixed earth, and 3) apparent wind direction.

Relative fluorescence and wind data were significantly noisier than most other data types. To reduce the high-f equency noise, east wind, north wind and relative fluorescence were filtered (averaged) over a 3 min sampling window (12 observations), although the data are still reported here at 15 s intervals.

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Parameters

Parameter	Description	Units
yrday_utc	UTC yearday (noon Jan1 = 1.5)	yearday
yrday_local	local yearday (noon Jan1 = 1.5)	yearday
lon	longitude	decimal degrees
lat	latitude	decimal degrees
cond	conductivity	mmhos/cm
sal_ss	salinity	psu
temp_ss	temperature, primary	degrees Centigrade
temp_ss_sec	temperature, secondary	degrees Centigrade
fluor	relative fluorescence	volts
temp_air	air temperature	degrees Centigrade
humidity	relative humidity	%
press_bar	barometric pressure	millibars
radiation_s	short wave radiation	W/m2
radiation_l	long wave radiation	W/m2
wind_east_c	eastward wind speed, corrected for ship motion	meters/second
wind_north_c	northward wind speed, corrected for ship motion	meters/second
month_gmt	Month, GMT.	dimensionless
day_gmt	Day of month (GMT).	dimensionless
time_gmt	Time (GMT); 24 hr clock.	hours and minutes
cruiseid	Cruise identifier.	dimensionless
ship	Name of the vessel.	dimensionless
year	Year of the cruise.	4-digit year
ISO_DateTime_UTC	Date and time (UTC) formatted to ISO8601 standard. T indicates start of time string; Z indicates UTC.	YYYY-mm-ddTHH:MM:SS.ssZ

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Instruments

Dataset-specific Instrument Name	Thermosalinograph
Generic Instrument Name	Thermosalinograph
Dataset-specific Description	Thermosalinograph used to obtain a continuous record of sea surface temperature and salinity.
Generic Instrument Description	A thermosalinograph (TSG) is used to obtain a continuous record of sea surface temperature and salinity. On many research vessels the TSG is integrated into the ship's underway seawater sampling system and reported with the underway or alongtrack data.

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Deployments

NH0005

Website	https://www.bco-dmo.org/deployment/57557
Platform	R/V New Horizon
Report	http://globec.whoi.edu/nep/reports/ccs_cruises/nh0005/nh0005cr.pdf
Start Date	2000-05-28
End Date	2000-06-13
Description	**Acquisition Description** Wind data collected on board were post-processed to true winds using a software algorithms developed by Shawn R. Smith and Mark A. Bourassa for the WOCEMET software analysis package (wocemet@coaps.fsu.edu). The algorithms was implemented in a matlab function (truewind1.m **Processing Description** written by Hal Batchelder, hbatchelder@oce.orst.edu) that takes 1) direction the bow is pointing, 2) course over which the vessel is moving (may be different from bow direction), 3) speed of vessel over the ground, 4) wind direction referenced to the ship, zero line reference (e.g., angle between the bow and the zero line n the anemometer), and a convention for reporting the output (conv = 0 is meteorological

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	**Acquisition Description** Wind data collected on board were post-processed to true winds using a software algorithms developed by Shawn R. Smith and Mark A. Bourassa for the WOCEMET software analysis package (wocemet@coaps.fsu.edu). The algorithms was implemented in a matlab function (truewind1.m **Processing Description** written by Hal Batchelder, hbatchelder@oce.orst.edu) that takes 1) direction the bow is pointing, 2) course over which the vessel is moving (may be different from bow direction), 3) speed of vessel over the ground, 4) wind direction referenced to the ship, zero line reference (e.g., angle between the bow and the zero line n the anemometer), and a convention for reporting the output (conv = 0 is meteorological

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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
National Oceanic and Atmospheric Administration (NOAA)	unknown NEP NOAA
National Science Foundation (NSF)	unknown NEP NSF

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