Data from mooring deployed on Northeast Peak in the Georges Bank, Northeast Peak in 1996 (GB project)

Website: https://www.bco-dmo.org/dataset/2495
Data Type: Cruise Results
Version: 1
Version Date: 2005-06-15

Project
» U.S. GLOBEC Georges Bank (GB)

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

Contributors	Affiliation	Role
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Coverage

Spatial Extent: **N**:41.7333 **E**:-66.4759 **S**:41.711 **W**:-66.5333
Temporal Extent: 1996-04-07 - 1996-12-10

Dataset Description

GLOBEC Georges Bank Long-term Moored Array Component

N.E. Peak Mooring Site
41 44' N, 66 32' W

Two deployments were made in 1996 at this site. The first deployment was between Apr 07, 1996 and Apr 17, 1996. The second deployment was between Oct 29, 1996 and Dec 19, 1996. (Dates reflect dates of data not deployment time)

Notes:
[1]Light transmission at 10 meters from the first deployment 1n 1996
is reported as volts.
Sampling rates vary from instrument to instrument and depth to depth.

Data Submitted by:

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1. The nominal position of the mooring is the designed deployment site
   and actual deployments varied by about 0.5 nm around this position.
2. Sensor depths are nominal designed depths. In water sensors vary
   around this designed depth by about 1 m, variation larger at greater
   distance below buoy.
3. Temperatures are listed in the IPTS68 standard, rather than IPT90.
4. Salinity conversion from conductivity was done with PSS78
5. Sensor normalization was done with pre-cruise calibrations, and checked
   with post-cruise calibrations.
6. Only minor editing has been done to remove spikes from records.
7. No corrections have been made to fluorometer and transmissometer data
   to remove biological fouling induced drift.
8. No corrections have been made to salinity for drifts due to biological
   fouling.

updated 06/15/05; gfh

Methods & Sampling

Two deployments were made in 1996 at this site. The first deployment was between Apr 07, 1996 and Apr 17, 1996. The second deployment was between Oct 29, 1996 and Dec 19, 1996. (Dates reflect dates of data not deployment time)

Data Processing Description

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Data Files

File
NEP1996.csv (Comma Separated Values (.csv), 130.47 KB) MD5:83a4bd82d8eea65835caad360df5e111 Primary data file for dataset ID 2495

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Parameters

Parameter	Description	Units
brief_desc	data type description	unitless
year_start	starting year of mooring deployment	unitless
lat	latitude, negative = South	decimal degrees
lon	longitude, negative = West	decimal degrees
depth	depth of instrument, negative = height above sea surf.	meters
hour_gmt	time GMT in hours (0-23)	unitless
minute_gmt	time GMT in minutes (0-59)	unitless
seconds_gmt	time GMT in seconds	unitless
day_gmt	day of month GMT (1-31)	unitless
month_gmt	month of year GMT (1-12)	unitless
year	year	unitless
julian_day	Julian day. In this convention, Julian day 2440000 begins at 0000 hours, May 23, 1968	unitless
par_scalar	scalar PAR	microEinstein/meter^2/second
temp_air	air temperature	decimal deg. C
cond	conductivity	seimens/meter
flvolt	fluorescense	volts
sal	salinity, PSS78	unitless
sigma_0	sigma-theta or potential density: density which takes into account adiabatic heating/cooling with changes in pressure	kg/m^3
temp	water temperature, IPTS68v	decimal deg. C
yrday_gmt	GMT day and decimal time, as 326.5 for the 326th day of the year, or November 22 at 1200 hours (noon). In the case of drifter data, year day may be continuous over a multi year period.	unitless
trans	light transmission	percentage

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Instruments

Dataset-specific Instrument Name	Acoustic Doppler Current Profiler
Generic Instrument Name	Acoustic Doppler Current Profiler
Dataset-specific Description	300-khz RD Instruments Workhorse ADCP mounted in a downward looking configuration in an in-line frame with auxiliary battery pack
Generic Instrument Description	The ADCP measures water currents with sound, using a principle of sound waves called the Doppler effect. A sound wave has a higher frequency, or pitch, when it moves to you than when it moves away. You hear the Doppler effect in action when a car speeds past with a characteristic building of sound that fades when the car passes. The ADCP works by transmitting "pings" of sound at a constant frequency into the water. (The pings are so highly pitched that humans and even dolphins can't hear them.) As the sound waves travel, they ricochet off particles suspended in the moving water, and reflect back to the instrument. Due to the Doppler effect, sound waves bounced back from a particle moving away from the profiler have a slightly lowered frequency when they return. Particles moving toward the instrument send back higher frequency waves. The difference in frequency between the waves the profiler sends out and the waves it receives is called the Doppler shift. The instrument uses this shift to calculate how fast the particle and the water around it are moving. Sound waves that hit particles far from the profiler take longer to come back than waves that strike close by. By measuring the time it takes for the waves to bounce back and the Doppler shift, the profiler can measure current speed at many different depths with each series of pings. (More from WHOI instruments listing).

Dataset-specific Instrument Name	MicroCat
Generic Instrument Name	CTD Sea-Bird MicroCAT 37
Dataset-specific Description	MicroCAT (SBE-37) was mounted about 72-m depth (4m above bottom) to measure near-bottom water properties
Generic Instrument Description	The Sea-Bird MicroCAT CTD unit is a high-accuracy conductivity and temperature recorder based on the Sea-Bird SBE 37 MicroCAT series of products. It can be configured with optional pressure sensor, internal batteries, memory, built-in Inductive Modem, integral Pump, and/or SBE-43 Integrated Dissolved Oxygen sensor. Constructed of titanium and other non-corroding materials for long life with minimal maintenance, the MicroCAT is designed for long duration on moorings. In a typical mooring, a modem module housed in the buoy communicates with underwater instruments and is interfaced to a computer or data logger via serial port. The computer or data logger is programmed to poll each instrument on the mooring for its data, and send the data to a telemetry transmitter (satellite link, cell phone, RF modem, etc.). The MicroCAT saves data in memory for upload after recovery, providing a data backup if real-time telemetry is interrupted.

Dataset-specific Instrument Name	Sea-Bird Seacat CTD
Generic Instrument Name	CTD Sea-Bird SEACAT
Dataset-specific Description	The SEACATs are mounted parallel with the mooring cable and tie wrapped and taped to the cable.
Generic Instrument Description	The CTD SEACAT recorder is an instrument package manufactured by Sea-Bird Electronics. The first Sea-Bird SEACAT Recorder was the original SBE 16 SEACAT developed in 1987. There are several model numbers including the SBE 16plus (SEACAT C-T Recorder (P optional))and the SBE 19 (SBE 19plus SEACAT Profiler measures conductivity, temperature, and pressure (depth)). More information from Sea-Bird Electronics.

Dataset-specific Instrument Name	LiCor Scalar Photosynthetically Active Radiation Sensor
Generic Instrument Name	LI-COR LI-192 PAR Sensor
Dataset-specific Description	LiCor scalar(4steradians) PAR sensor.
Generic Instrument Description	The LI-192 Underwater Quantum Sensor (UWQ) measures underwater or atmospheric Photon Flux Density (PPFD) (Photosynthetically Available Radiation from 360 degrees) using a Silicon Photodiode and glass filters encased in a waterproof housing. The LI-192 is cosine corrected and features corrosion resistant, rugged construction for use in freshwater or saltwater and pressures up to 800 psi (5500 kPa, 560 meters depth). Typical output is in um s-1 m-2. The LI-192 uses computer-tailored filter glass to achieve the desired quantum response. Calibration is traceable to NIST. The LI-192 serial numbers begin with UWQ-XXXXX. LI-COR has been producing Underwater Quantum Sensors since 1973. These LI-192 sensors are typically listed as LI-192SA to designate the 2-pin connector on the base of the housing and require an Underwater Cable (LI-COR part number 2222UWB) to connect to the pins on the Sensor and connect to a data recording device. The LI-192 differs from the LI-193 primarily in sensitivity and angular response. 193: Sensitivity: Typically 7 uA per 1000 umol s-1 m-2 in water. Azimuth: < ± 3% error over 360° at 90° from normal axis. Angular Response: < ± 4% error up to ± 90° from normal axis. 192: Sensitivity: Typically 4 uA per 1000 umol s-1 m-2 in water. Azimuth: < ± 1% error over 360° at 45° elevation. Cosine Correction: Optimized for underwater and atmospheric use. (www.licor.com)

Dataset-specific Instrument Name	Rotronics
Generic Instrument Name	Rotronics Temperature and Humidity Probe
Dataset-specific Description	Temperature & Humidity sensor
Generic Instrument Description	Rotronics device used to measure air temperature

Dataset-specific Instrument Name	SeaTech Fluorometer
Generic Instrument Name	Sea Tech Fluorometer
Dataset-specific Description	Sea Tech chlorophyll-a fluorometer
Generic Instrument Description	The Sea Tech chlorophyll-a fluorometer has internally selectable settings to adjust for different ranges of chlorophyll concentration, and is designed to measure chlorophyll-a fluorescence in situ. The instrument is stable with time and temperature and uses specially selected optical filters enabling accurate measurements of chlorophyll a. It can be deployed in moored or profiling mode. This instrument designation is used when specific make and model are not known. The Sea Tech Fluorometer was manufactured by Sea Tech, Inc. (Corvalis, OR, USA).

Dataset-specific Instrument Name	SeaTech Transmissometer
Generic Instrument Name	Sea Tech Transmissometer
Dataset-specific Description	Sea Tech 25-cm path-length transmissometer
Generic Instrument Description	The Sea Tech Transmissometer can be deployed in either moored or profiling mode to estimate the concentration of suspended or particulate matter in seawater. The transmissometer measures the beam attenuation coefficient in the red spectral band (660 nm) of the laser lightsource over the instrument's path-length (e.g. 20 or 25 cm). This instrument designation is used when specific make and model are not known. The Sea Tech Transmissometer was manufactured by Sea Tech, Inc. (Corvalis, OR, USA).

Dataset-specific Instrument Name	SBE-3
Generic Instrument Name	Sea-Bird SBE-3 Temperature Sensor
Dataset-specific Description	SBE-3 Temperature
Generic Instrument Description	The SBE-3 is a slow response, frequency output temperature sensor manufactured by Sea-Bird Electronics, Inc. (Bellevue, Washington, USA). It has an initial accuracy of +/- 0.001 degrees Celsius with a stability of +/- 0.002 degrees Celsius per year and measures seawater temperature in the range of -5.0 to +35 degrees Celsius. more information from Sea-Bird Electronics

Dataset-specific Instrument Name	SBE-4
Generic Instrument Name	Sea-Bird SBE-4 Conductivity Sensor
Dataset-specific Description	SBE-4 Conductivity
Generic Instrument Description	The Sea-Bird SBE-4 conductivity sensor is a modular, self-contained instrument that measures conductivity from 0 to 7 Siemens/meter. The sensors (Version 2; S/N 2000 and higher) have electrically isolated power circuits and optically coupled outputs to eliminate any possibility of noise and corrosion caused by ground loops. The sensing element is a cylindrical, flow-through, borosilicate glass cell with three internal platinum electrodes. Because the outer electrodes are connected together, electric fields are confined inside the cell, making the measured resistance (and instrument calibration) independent of calibration bath size or proximity to protective cages or other objects.

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Deployments

NE_Peak

Website	https://www.bco-dmo.org/deployment/57359
Platform	GB NEP Mooring
Report	http://globec.whoi.edu/globec-dir/data_doc/WHOI-2005-11.pdf
Start Date	1995-11-01
End Date	1999-08-14
Description	U.S. GLOBEC Georges Bank Long-Term Moored Program **Methods & Sampling** Two deployments were made in 1996 at this site. The first deployment was between Apr 07, 1996 and Apr 17, 1996. The second deployment was between Oct 29, 1996 and Dec 19, 1996. (Dates reflect dates of data not deployment time) **Processing Description** 1. The nominal position of the mooring is the designed deployment site and actual deployments varied by about 0.5 nm around this position. 2. Sensor depths are nominal designed depths. In water sensors vary around this designed depth by about 1 m, variation larger at greater distance below buoy. 3. Temperatures are listed in the IPTS68 standard, rather than IPT90. 4. Salinity conversion from conductivity was done with PSS78 5. Sensor normalization was done with pre-cruise calibrations, and checked with post-cruise calibrations. 6. Only minor editing has been done to remove spikes from records. 7. No corrections have been made to fluorometer and transmissometer data to remove biological fouling induced drift. 8. No corrections have been made to salinity for drifts due to biological fouling.

NEP_buoy_dep1

Website	https://www.bco-dmo.org/deployment/58019
Platform	GB NEP Mooring
Report	http://globec.whoi.edu/globec-dir/data_doc/WHOI-2005-11.pdf
Start Date	1995-11-27
End Date	1999-08-14
Description	U.S. GLOBEC Georges Bank Long-Term Moored Program

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Project Information

U.S. GLOBEC Georges Bank (GB)

Website: http://globec.whoi.edu/globec_program.html

Coverage: Georges Bank, Gulf of Maine, Northwest Atlantic Ocean

The U.S. GLOBEC Georges Bank Program is a large multi- disciplinary multi-year oceanographic effort. The proximate goal is to understand the population dynamics of key species on the Bank - Cod, Haddock, and two species of zooplankton (*Calanus finmarchicus* and *Pseudocalanus*) - in terms of their coupling to the physical environment and in terms of their predators and prey. The ultimate goal is to be able to predict changes in the distribution and abundance of these species as a result of changes in their physical and biotic environment as well as to anticipate how their populations might respond to climate change.

The effort is substantial, requiring broad-scale surveys of the entire Bank, and process studies which focus both on the links between the target species and their physical environment, and the determination of fundamental aspects of these species' life history (birth rates, growth rates, death rates, etc).

Equally important are the modelling efforts that are ongoing which seek to provide realistic predictions of the flow field and which utilize the life history information to produce an integrated view of the dynamics of the populations.

The U.S. GLOBEC Georges Bank Executive Committee (EXCO) provides program leadership and effective communication with the funding agencies.

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

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