Broad-scale hydrography from CTDs deployed from 30 cruises on the R/V Albatross IV, R/V Endeavor, and R/V Oceanus in the Gulf of Maine and Georges Bank from 1995-1999 (GB project)

Website: https://www.bco-dmo.org/dataset/2395
Data Type: Cruise Results
Version: 2
Version Date: 2004-11-19

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

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

Contributors	Affiliation	Role
Mountain, David	National Marine Fisheries Service (NMFS)	Principal Investigator
Allison, Dicky	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Abstract
Broad-scale hydrography from CTDs deployed from 30 cruises on the R/V Albatross IV, R/V Endeavor, and R/V Oceanus in the Gulf of Maine and Georges Bank from 1995-1999 (GLOBEC-GB project).

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Coverage

Spatial Extent: **N**:42.343 **E**:-65.647 **S**:40.285 **W**:-69.268
Temporal Extent: 1995-05-09 - 1999-06-23

Dataset Description

Broad-scale Hydrography, 1995 - 1999

If you encounter any questionable values or have other questions, contact: David Mountain National Marine Fisheries Servce, NEFC Woods Hole, MA 02540 voice: 508 495 2000 fax: 508 495 2258 email: David.Mountain@noaa.gov

File Descriptions:

At level 1 in the comments field, the user has three options for selecting CTD profile data available from this cruise:

mark5CTD link - Links the user to the Neil Brown Mark-5 CTD profiles. The Mark-5 profiler, has a higher

sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations.

seabirdCTD link - Links the user to the SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. Users working with the plankton data may want to work with this data set exclusively.

primary link - Links the user to the best hydrography coverage available for the cruise. The "primary version", in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only).

Prepared by: Maureen Taylor, NMFS/Woods Hole, 2/7/1996
last updated: 19 Nov. 2004; gfh

Methods & Sampling

- The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations.
- SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and
- SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only).

Data Processing Description

Procedure for processing primary CTD data:

The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys.

1. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out:
    1. **"first differencing"** (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit.
    2. **"smart editor"** used to interpolate over any flagged values from "first differencing"
    3. **ENDCAST XXX** (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy)
    4. **CTDPLOT** (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data.
    5. **MK5BOT.EXE** This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files.
2. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal
    - **tstslt.bas** was used to compare the cruise btl file with the autosal output file
    - **mk5xxxx.m** (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset
    1. any single comparison that was greater than -0.1 or +0.1 was ignored.
    2. the mean offset and standard deviation (std) were calculated

3. any single comparison that was greater than +/- 2 std's was discarded as an outlier
4. the mean and std were re-calculated
5. The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate.

3. The mean conductivity offsets were applied to each cruise data set using **MK5final.bas**. **MK5cru.fin** was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files.
   - During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software **DATCNV, ALIGNCTD, BINAVG, DERIVE,** and **ASCIIOUT**. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro.

4. Final data checking was accomplished with a matlab program called **dchkXX.m** (where xx is the cruise code) that did the following:
   1. read in the cruise .h3 file (output of **ENDCRUIS.FOR**) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected.
   2. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection.

      RANGES
      0 <--- T ---> 25
      30 <--- S ---> 37
      0 <--- Fl ---> 5
      -0.05 <--- ST---> 0.1

      The above flagged values were written out to **datachk.xx**

** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records.

** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

The output listing of the flagged observations from "datachk.m" are kept on file (and can be made available). Any record deletions are noted.

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Data Files

File
ctd_hydrography.csv (Comma Separated Values (.csv), 73.99 MB) MD5:19df5a5da79033ca094e318177f56813 Primary data file for dataset ID 2395

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Parameters

Parameter	Description	Units
year	4-digit year (i.e. 1992)	
ship	ship name (i.e. Albatross)	
cruiseid	originator's cruise identification	
si	name of scientist responsible for data	
eventno	event number assigned to a suite of sampling events	
site	designated site (Broadscale)	
comments	comments (free text)	
month_local	month of year, local time (as 01-12)	
day_local	day of month, local time (as 01-31)	
time_local	time of day, local time	decimal min.
cast	CTD cast number	
station	station number, not always consecutive	
station_std	standard station no., (Globec assigned)	
depth_w	water depth	meters
lon	longitude, negative = west	decimal degrees
lat	latitude, negative = south	decimal degrees
yrday_gmt	gmt yearday (Julian Calendar)	decimal
yrday_local	local yearday (Julian Calendar)	decimal
press	depth of sample reported as pressure	decibars
temp	temperature, in 1996 NMFS CTD temps. switch to ITS90 scale	deg. C ITS68
sal	salinity (CTD)	PSU
flvolt	fluorescence (mk5ctd only)	volts
light_tran_v	light transmission (mk5ctd only)	volts
numb_obs	number of observations per bin	
object	name of the data object	
object_year	a duplicate year variable with a different name	
par_scalar_v	photosynthetically available radiation, 400-700nm wave length, with scalar sensor response (PAR), reported in conjunction with a water depth	volts

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Instruments

Dataset-specific Instrument Name	Mark 5 CTD
Generic Instrument Name	CTD Neil Brown Mark 5
Dataset-specific Description	Mark 5 CTD.
Generic Instrument Description	The Neil Brown Instrument Systems Mark 5 CTD is used to measure conductivity, temperature, and depth of sea water. The MK5 profiler has a higher sampling rate then the SeaBird SEACAT. (For the GLOBEC Georges Bank project the Mark 5 was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations.)

Dataset-specific Instrument Name	SeabirdCTD
Generic Instrument Name	CTD Sea-Bird
Dataset-specific Description	SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations.
Generic Instrument Description	Conductivity, Temperature, Depth (CTD) sensor package from SeaBird Electronics, no specific unit identified. This instrument designation is used when specific make and model are not known. See also other SeaBird instruments listed under CTD. More information from Sea-Bird Electronics.

Dataset-specific Instrument Name	Sea-Bird Seacat CTD
Generic Instrument Name	CTD Sea-Bird SEACAT
Dataset-specific Description	CTD measurements taken by Seabird Seacat CTD instrument package..The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time.
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.

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Deployments

AL9505

Website	https://www.bco-dmo.org/deployment/57371
Platform	R/V Albatross IV

Report	http://globec.whoi.edu/globec-dir/reports/al9505/al9505rot.pdf
Start Date	1995-05-09
End Date	1995-05-18
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -

	0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

AL9506

Website	https://www.bco-dmo.org/deployment/57372
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9506/al9506new.html
Start Date	1995-06-05
End Date	1995-06-15
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS

	files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

AL9508

Website	https://www.bco-dmo.org/deployment/57373
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9508/a9508rp2.HTM
Start Date	1995-07-10
End Date	1995-07-20
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine

Description	(again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

EN261

Website	https://www.bco-dmo.org/deployment/57401
Platform	R/V Endeavor
Start Date	1995-02-10
End Date	1995-02-20
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is

Description	inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

EN263

Website	https://www.bco-dmo.org/deployment/57403
Platform	R/V Endeavor
Report	http://globec.whoi.edu/globec-dir/reports/en263/EN263.pdf
Start Date	1995-03-13

End Date	1995-03-24
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. 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EN265

Website	https://www.bco-dmo.org/deployment/57405
Platform	R/V Endeavor
Start Date	1995-04-11
End Date	1995-04-22
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of

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AL9605

Website	https://www.bco-dmo.org/deployment/57375
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9605/al9605.html
Start Date	1996-05-06
End Date	1996-05-17
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm)

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AL9607

Website	https://www.bco-dmo.org/deployment/57376
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9607/AL9607.pdf
Start Date	1996-06-03
End Date	1996-06-13
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the

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EN276

Website	https://www.bco-dmo.org/deployment/57413
Platform	R/V Endeavor
Report	http://globec.whoi.edu/globec-dir/reports/en276/EN276.pdf
Start Date	1996-01-10
End Date	1996-01-22
	broad-scale

Description	**Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. 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	substitute fluorescence value.

EN278

Website	https://www.bco-dmo.org/deployment/57414
Platform	R/V Endeavor
Start Date	1996-02-13
End Date	1996-02-25
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise

	code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

EN282

Website	https://www.bco-dmo.org/deployment/57415
Platform	R/V Endeavor
Start Date	1996-04-08
End Date	1996-04-20
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and

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OC275

Website	https://www.bco-dmo.org/deployment/57440
Platform	R/V Oceanus
Start Date	1996-03-11
End Date	1996-03-22
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files).

Description	These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

AL9701

Website	https://www.bco-dmo.org/deployment/57378
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9701/cral9701.htm
Start Date	1997-01-13
End Date	1997-01-20
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission,

Description	fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. 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Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

AL9705

Website	https://www.bco-dmo.org/deployment/57379

Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9705/al9705.html
Start Date	1997-05-19
End Date	1997-05-27
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of

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AL9707

Website	https://www.bco-dmo.org/deployment/57380
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9707/al9707.html
Start Date	1997-06-18
End Date	1997-06-28
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most

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OC298

Website	https://www.bco-dmo.org/deployment/57444
Platform	R/V Oceanus
Report	http://globec.whoi.edu/globec-dir/reports/oc298/cruisereport.html
Start Date	1997-02-11
End Date	1997-02-23
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each

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OC300

Website	https://www.bco-dmo.org/deployment/57446
Platform	R/V Oceanus
Report	http://globec.whoi.edu/globec-dir/reports/oc300/oc300rpt.mr7.html
Start Date	1997-03-16
End Date	1997-03-28
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently

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OC302

Website	https://www.bco-dmo.org/deployment/57448
Platform	R/V Oceanus

Report	http://globec.whoi.edu/globec-dir/reports/oc302/oce302.html
Start Date	1997-04-22
End Date	1997-05-02
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -

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AL9801

Website	https://www.bco-dmo.org/deployment/57382
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9801/al9801.html
Start Date	1998-01-07
End Date	1998-01-19
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS

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AL9806

Website	https://www.bco-dmo.org/deployment/57384
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9806/al9806.html
Start Date	1998-05-13
End Date	1998-05-22
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine

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AL9808

Website	https://www.bco-dmo.org/deployment/57385
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9808/al9808.html
Start Date	1998-06-16
End Date	1998-06-26
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one

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OC317

Website	https://www.bco-dmo.org/deployment/57451
Platform	R/V Oceanus
Start Date	1998-02-06

End Date	1998-02-19
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). 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Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s

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OC319

Website	https://www.bco-dmo.org/deployment/57452
Platform	R/V Oceanus
Report	http://globec.whoi.edu/globec-dir/reports/oc319/oc319new/oc319rpt.8april98.htm
Start Date	1998-03-15
End Date	1998-03-27
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were

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OC322

Website	https://www.bco-dmo.org/deployment/57454
Platform	R/V Oceanus
Report	http://globec.whoi.edu/globec-dir/reports/oc322/oc322.html
Start Date	1998-04-15
End Date	1998-04-27
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired

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AL9901

Website	https://www.bco-dmo.org/deployment/57386
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9901/al9901.html
Start Date	1999-01-12
End Date	1999-01-24
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description**

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AL9904

Website	https://www.bco-dmo.org/deployment/57387
Platform	R/V Albatross IV
Start Date	1999-05-19
End Date	1999-05-27
	broad-scale

Description	**Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. 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	casts, I looked in the raw data files, and chose a substitute fluorescence value.

AL9906

Website	https://www.bco-dmo.org/deployment/57388
Platform	R/V Albatross IV
Report	http://globec.whoi.edu/globec-dir/reports/al9906/al9906rpt.html
Start Date	1999-06-14
End Date	1999-06-24
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data

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EN320

Website	https://www.bco-dmo.org/deployment/57427
Platform	R/V Endeavor
Report	http://globec.whoi.edu/globec-dir/reports/en320new/en320mda.htm
Start Date	1999-03-10
End Date	1999-03-23
Description	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential scans exceed some preset limit. "smart editor" used to interpolate over any flagged values from "first differencing" ENDCAST XXX (a dos batch routine where xxx=cast#) runs MK5PROC.EXE which creates pressure averaged, pressure centered 1 db files (.PRE files). These routines (pressure averaging and pressure centering) were developed by Bob Millard at WHOI and were modified for the Mk5. "ENDCAST" also updates a cruise header file, and backs up the data to floppy) CTDPLOT (visual basic program by David Mountain) was run at each station to plot out the cast profile and to visually inspect the data. MK5BOT.EXE This routine (again, developed by Bob Millard) extracts and averages 30 data scans around the data scan number (as identified in the cast .BTL file) at which bottles were fired during a cast and appends to a cruise bottle file. These files were reviewed after each cruise to ensure that each btl fired had a corresponding observation record in the btl file. If we forgot to record a btl fired (forgot to press [CTRL] F3), we used an observation from the .PRE files. Salinity samples (btm) collected on each cruise were analyzed on a guildline autosal tstslt.bas was used to compare the cruise btl file with the autosal output file mk5xxxx.m (where xxxx=4 digit cruise id) was used to calculate the mean conductivity offset any single comparison that was greater than -

	0.1 or +0.1 was ignored. the mean offset and standard deviation (std) were calculated any single comparison that was greater than +/- 2 std's was discarded as an outlier the mean and std were re-calculated The offset series for each cruise were inspected to insure that a time dependant trend was not evident and that using a mean offset was appropriate. The mean conductivity offsets were applied to each cruise data set using MK5final.bas. MK5cru.fin was read in as input containing the necessary information for cruise id, directory, and most importantly conductivity offset. The output was pressure averaged, pressure centerred .PRS files. During EN261 and ALB9506, seabird data was used to supplement for primary hydro data when there were problems with the MK5 (or winch). Seabird CTD data were processed to pressure averaged, 1 db files using the manufacturer's software DATCNV, ALIGNCTD, BINAVG, DERIVE, and ASCIIOUT. When Seabird data were used as "primary" data, the casts were numbered >100. The same steps outlined in 2a)--2e) were followed in the quality controlling of the seabird salinity data except that the comparison was done with salinity (rather than conductivity). The seabird cast data have also been processed to NODC formatted files and are available in this format in a NEFSC anonymous ftp account ftp: ftp/pub/hydro. Final data checking was accomplished with a matlab program called dchkXX.m (where xx is the cruise code) that did the following: read in the cruise .h3 file (output of ENDCRUIS.FOR) and calculated the distance and time between consecutive casts and wrote the results to headchk.xx (where xx is the cruise code). Any speed that was >= 10 knots was verified with the original cruise logs and if found in error, was corrected. read in the cast files and went through a series of allowable "range checking" of T, S, Sigma-t, and fluorescence. Profiles of these 4 parameters are plotted to the screen for visual inspection. RANGES 0 25 30 37 0 5 -0.05 0.1 The above flagged values were written out to datachk.xx ** note: in most instances, the positive sigma-t differences were O.K. and occurred when stratification had developed or when the MK5 sampled through strong gradients like the shelf / slope front. However, there were cases of "hysteresis" (sp?) when the MK5 or seabird sampled through sharp t/s gradients. In these instances, I had to delete the records. ** On a number of occasions, there were negative fluorescence values for the sfc observation. (These were also observed in the raw data...A consultant with Sea-tech said that this is probably "noise" associated with its equilibrating when just powered up). For these casts, I looked in the raw data files, and chose a substitute fluorescence value.

OC336

Website	https://www.bco-dmo.org/deployment/57459
Platform	R/V Oceanus
Report	http://globec.whoi.edu/globec-dir/reports/oc336/oc336cruise-report.html
Start Date	1999-02-11
End Date	1999-02-23
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. Upon completion of each broad scale cruise, preliminary processing of the MK5 data was carried out: "first differencing" (called from within CTDPOST) of the Raw cast files was completed. This program flags any data where the difference between sequential

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OC341

Website	https://www.bco-dmo.org/deployment/57464
Platform	R/V Oceanus
Report	http://globec.whoi.edu/globec-dir/reports/oc341/reptoc341.html
Start Date	1999-04-16
End Date	1999-04-27
	broad-scale **Methods & Sampling** The Mark-5 profiler, has a higher sampling rate then the SeaBird SEACAT, was instrumented with an expanded suite of sensors and deployed almost exclusively at GLOBEC Standard

Description	stations. SeaBird SEACAT profiler deployed with the bongo plankton net tow system at Standard and Intermediate stations. The upcast portion of the tow is the most reliable and that is what is reported here. These profiles do not contain the parameters: light transmission, fluorescence, and scalar par. The primary version, in most cases, is a composite of both the Mark-5 and SEACAT CTD casts. These casts have been extracted from their respective cruise files and sorted by time. As a result, the reported cast and station numbers are frequently duplicated and random in order. When present, SeaBird profiles are identified with a one hundred series cast number to distinguish from a Mark-5 profile, however, this convention is inconsistent and does not always appear in all cruises (primary link only). **Processing Description** The following is an outline of the methods used to process the "primary" CTD data from the 1995 Broad scale surveys. 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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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