WHOI-2005-04

Woods Hole Oceanographic Institution

CBLAST 2003 Field Work Report

by

Lara Hutto
Tom Farrar
Robert Weller

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April 2005

Technical Report

Funding was provided by the Office of Naval Research under contract numbers N00014-01-1-0029 and N00014-05-10090.

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Upper Ocean Processes Group
Woods Hole Oceanographic Institution
Woods Hole, MA 02543
UOP Technical Report 2005-01

WHOI-2005-04
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Approved for Distribution:

for NH

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Department of Physical Oceanography

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Written by:

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August, 2004

UOP Technical Report #UOP-05-01

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Abstract

The long-range scientific objective of the Coupled Boundary Layer Air Sea Transfer (CBLAST) project is to observe and understand the temporal and spatial variability of the upper ocean, to identify the processes that determine that variability, and to examine its predictability. Air-sea interaction is of particular interest, but attention is also paid to the coupling of the sub-thermocline ocean to the mixed layer and to both the open ocean and littoral regimes. We seek to do this over a wide range of environmental conditions with the intent of improving our understanding of upper ocean dynamics and of the physical processes that determine the vertical and horizontal structure of the upper ocean.

Field work for CBLAST was conducted during the summers of 2001, 2002, and 2003 off the south shore of Martha's Vineyard, Massachusetts. The 2003 field work was conducted from the following platforms: heavy moorings, light moorings, drifters, *F/V Nobska*, CIRPAS Pelican aircraft, and an IR Cessna Aircraft. This report documents the 2003 field work and includes field notes, platform descriptions, discussion of data returns, and mooring logs. The 2003 Intensive Operating Period (IOP) was very successful and a high data return was seen.

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1. Project Purpose

The long-range scientific objective of the Coupled Boundary Layer Air Sea Transfer (CBLAST) project is to observe and understand the temporal and spatial variability of the upper ocean, to identify the processes that determine that variability, and to examine its predictability. Air-sea interaction is of particular interest, but attention is also paid to the coupling of the sub-thermocline ocean to the mixed layer and to both the open ocean and littoral regimes. We seek to do this over a wide range of environmental conditions with the intent of improving our understanding of upper ocean dynamics and of the physical processes that determine the vertical and horizontal structure of the upper ocean.

Under conditions of light winds and positive surface buoyancy flux, persistent, rich spatial variability at scales of 10's of meters up to 100 kilometers has been observed in records of sea surface temperature (SST) obtained radiometrically by low-flying research aircraft (Walsh *et al.*, 1998; Hagan *et al.*, 1997). The oceanic mixed layer shoals to depths of less than a few meters under conditions of light winds and positive buoyancy flux; under these conditions it may be anticipated that SST may be sensitive to oceanic processes that spatially modulate the depth of the very shallow mixed layer as well as to spatial variability in the air-sea fluxes. In these same conditions, internal waves, including energetic features such as solitons, may have signatures in the surface as well as the subsurface fields. In addition, there is the possibility that mixing processes, including Langmuir circulation and low Richardson number instabilities driven by vertical shear may cause evolution of the horizontal and vertical structure.

However, little work has been done to explore air-sea interaction and upper ocean dynamics in light winds; and few observations are available that comprehensively span horizontal scales of 10's of m to 10's of km with high vertical and temporal resolution. Detailed observations of the surface forcing and of upper ocean variability provide the means to identify the processes at work in the ocean as well as to check the performance and realism of atmospheric, oceanic, and coupled models. Thus, the analyses of such data collected in the low wind component of the Coupled Boundary Layers Defense Research Initiative (CBLAST-LOW DRI) are seen as a significant step toward the long-range objectives of characterizing and understanding the temporal and spatial variability of the upper ocean and, as a result, of better predicting the variability of the upper ocean.

The principal objective of the CBLAST DRI is to improve understanding of the processes responsible for the exchange of momentum, mass, and heat between the atmosphere and ocean and for the evolution of the coupled boundary layers. It is hoped that this understanding will lead to improved ability to predict the evolution of the lower atmosphere and upper ocean. Progress toward this objective has been arrested by the inability to resolve the processes that operate on a wide range of scales, to directly measure fluxes, and to develop parameterizations for use in models that yield realistic variability and structure. For example, marine researchers have, over the years, relied heavily on air-sea flux parameterizations that are based largely on a few successful marine measurement campaigns that included direct estimates of the atmospheric fluxes, including TOGA COARE (Tropical Ocean-Global Atmosphere Coupled Ocean-Atmosphere Response Experiment). Unfortunately, the uncertainty in these parameterizations, particularly for the momentum fluxes in very low and very high wind conditions and the sensible and latent heat fluxes under all conditions, have been unacceptably high for many modeling applications. At the same time, understanding of additional processes that drive the evolution of the boundary layers during low and high wind conditions was lacking. Thus, the CBLAST DRI was structured with two components: low wind and hurricane force wind settings.

The vertical fluxes of momentum, mass, kinetic energy, and heat are modulated by naturally occurring temporal and horizontal spatial variability. This includes more or less random variability (e.g., wave breaking, SST patchiness due to clouds and precipitation), as well as organized/coherent structures (e.g., Langmuir cells, roll vortices, strong internal waves) in both the ocean and atmosphere. On the ocean mesoscale and smaller horizontal scales, under moderate to high winds, wind-driven mixing tends to lead to spatial homogeneity, though at scales equivalent to the depth of the mixed layer and smaller, coherent structures such as Langmuir cells are found. In light winds, the persistent, rich spatial variability at scales of 10's of m up to 100 km observed in SST indicates the need to more explicitly consider processes that introduce spatial as well as temporal variability. In light winds, the shallow ocean mixed layer is responsive to spatial variability in the air-sea fluxes. In addition, there is the possibility that mixing processes, including Langmuir circulation and low Richardson number instabilities driven by wind-driven and thermal wind shear or by waves on the diurnal thermocline, may both support and result from horizontal inhomogeneities in the upper ocean. At the same time, the lower atmosphere may be responding to spatial gradients in SST.

2. Previous Project Work

The CBLAST-LOW collaborative research program was set up to address the need to better understand and predict the coupled boundary layers in low wind conditions. It combines observations (in situ and remotely sensed), modeling, and simulations. It's goals are to improve our understanding of (a) the air-sea fluxes of mass, momentum, and energy; (b) the heating, cooling, mixing and transport processes in the upper ocean and marine atmospheric boundary layer; (c) how the vertical structure of those boundary layers is determined; (d) what drives and controls the horizontal inhomogeneity of the two boundary layers and the sea surface; (e) and how this variability feeds back to modulate the fluxes.

Fieldwork under the CBLAST-LOW program has been completed with great success. Observational campaigns were carried out in the summers of 2001, 2002, and 2003 off the south shore of Martha’s Vineyard. The site was selected because winds are often from offshore (from the south to southwest) with very large fetch while at the same time the synoptic variability yields a wide range of summer heating conditions, and also because the ocean has simple bathymetry. The air-sea interaction tower (ASIT) of the Martha’s Vineyard Coastal Observatory (MVCO) is situated approximately 4 km south of the island in 19 m of water. The major cooperative field effort, the Intensive Operating Period or IOP, was completed in August 2003. Processing of data and preliminary analyses are underway, with early results presented at the Ocean Sciences 2004 meeting and the American Meteorological Society Air-Sea Interaction meeting in August 2004. The principal investigators met at the Ocean Sciences 2004 meeting and laid groundwork for collaborations and joint analyses and publication.

In three successive summers, we carried out observational campaigns in the waters south of Martha's Vineyard in collaboration with other CBLAST-LOW investigators. The fieldwork for the previous year’s work is summarized briefly here.

2001: In 2001 our plan was to test our methods to observe the vertical structure of temperature, T(z), of salinity, S(Z), of horizontal velocity, U(z), with high temporal resolutions and vertical resolutions down to 0.5 m at a number of points separated by several m to 10’s of km, to observe the surface forcing and examine how it varies horizontally in the CBLAST-LOW domain, and to obtain CTD profiles and sections to aid in initialization of regional ocean models (Pritchard *et al.,* 2002).

Several measurement platforms were tested, including minimally intrusive, Lagrangian buoys supporting vertical arrays, horizontal or 2-D arrays using sword-fishing long-line technology to sample at horizontal lags ranging from 10's of meters to many kilometers, and a two-dimensional mesh deployed on the surface to support vertical strings of instruments and provide a 3-D array with lags of meters to 200 m. The 3-D array was deployed in June 2001 from a fishing trawler, *FV Nobska*, to verify it could be deployed and recovered. At the same time, we deployed an array of 6 bottom-mounted temperature, salinity, and pressure instruments to improve our knowledge of tidal flows on the south side of Martha's Vineyard both by observation and by supplying the ocean modelers in CBLAST-LOW with data they could work to replicate. Surface moorings were deployed at the 40 km and 20 km upwind sites (Figure 1a) and left in until mid-August, collecting month-long records of the surface forcing and temporal evolution of the vertical structure of the ocean. For a week, we set and instrumented the 3-D array; twenty vertical strings of instruments were attached to the 3-D array with instruments from the surface down to 25 m, and a Doppler profiler was hung from the center of the net. We also deployed a long-line 2-D array 1 km in length perpendicular to the shoreline. After 3 days we recovered the long-line array. After 5 days we recovered the 3-D array.

During that week, 135 CTD profiles were collected, including two sections from the tower site to 40 km offshore and one section parallel to the shore. Shipboard sampling was coordinated with flights of the LongEZ aircraft, instrumented by C. Zappa (LDEO) and A. Jessup (UW-APL) for infrared imaging of SST. The 6 bottom-mounted temperature, pressure, salinity instruments were recovered in mid-August with the surface moorings. CTD and moored observations were provided to J. Wilkin (Rutgers) to support his regional ocean model development.

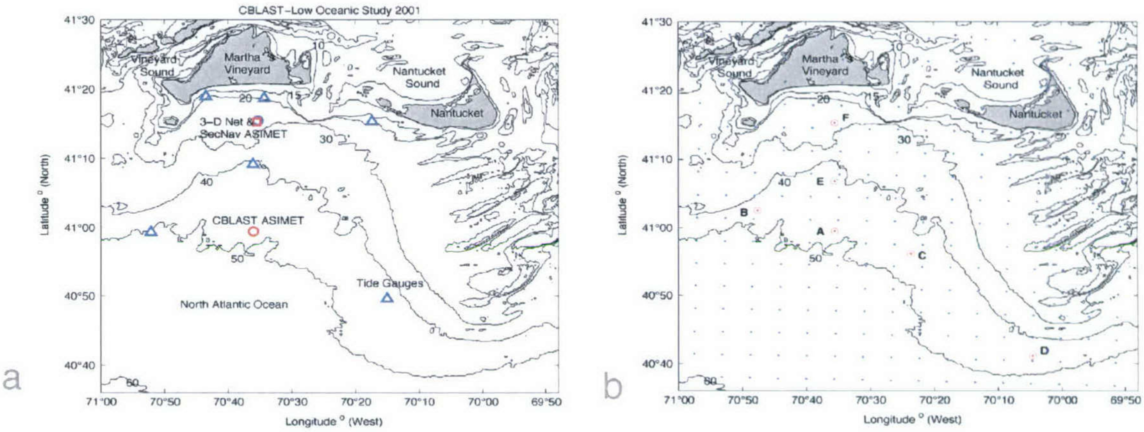

Figure 1. (a) Locations of where the 3-D array, the two surface moorings (SecNav ASIMET and CBLAST ASIMET), and the six tide gauges (blue triangles) were deployed in 2001. (b) Locations of the six surface moorings deployed in 2002.

2002: Apparent from the work in the summer of 2001 were the important roles of synoptic weather systems, regional oceanographic variability (associated with mixing over shoals and subsequent advection and intrusions of warm and cool water masses from the south and the east) in setting the regional spatial context and of the tides in energetic currents and thermocline displacements that varied significantly offshore and alongshore in the region south of Martha's Vineyard. To better understand and document this variability and to concurrently examine the ability of regional atmospheric and ocean models to simulate this variability (and thus provide great support for the analysis of the observations), we deployed a six-mooring regional array (Figure 1b) from late June to early September 2002. Data return from these moorings was high, and has been made available to modelers.

3. 2003 Project Work

During the August 2003 Intensive Operating Period (IOP) surface meteorological and upper ocean measurements were collected from five heavily instrumented moorings. These moorings recorded T(z), S(z) and U(z) using temperature recorders, temperature/conductivity recorders, and single point and Doppler current meters and were deployed from mid-July to the end of August. Ten "light moorings" measured temperature and pressure only. Five drifting buoys with precision, fast-response thermistor chains with 0.5 m vertical spacing were also deployed and recovered from the *F/V Nobska*. Table 1 below outlines the platforms used and measurements taken during CBLAST 2003.

Table 1. Overview of CBLAST 2003 Operations

Platform	Type of Measurement	Dates of Operation
Heavy Moorings	Surface – air temperature, barometric pressure, relative humidity, winds, precipitation, longwave radiation, shortwave radiation. Subsurface – temperature, salinity, currents.	Jul. 15 – Aug. 28
Light Moorings	Subsurface – temperature.	Aug. 2 – 28
Drifting Moorings	Subsurface – temperature, salinity, currents, and pressure.	Aug. 3 – 27
F/V Nobska	IMET – shortwave radiation, longwave radiation, sea surface temperature. Surface – ocean skin temperature from infrared radiometers, flux package. Boom Chain – temperature, salinity, pressure.	Aug. 2 - 28
CIRPAS Pelican Aircraft	Atmospheric turbulence, mean variables, and remotely sensed measurements of sea-surface characteristics	Aug. 12 - 28
IR Cessna Aircraft	Infrared imaging of sea surface temperature variability	Jul. 30 – Aug. 28

Three of the heavy moorings carried complete surface meteorological instrumentation sampling once per minute, and time series of the air-sea fluxes of heat, freshwater, and momentum have been computed for those sites using bulk formulae. To supplement the high temporal resolution of these fixed measurement platforms, *F/V Nobska* was instrumented to provide both direct and bulk flux estimates and was also fitted with a towed chain with fast response temperature or temperature/salinity sensors at 0.5 m vertical spacing.

During the IOP, colleagues collected SST and atmospheric boundary layer measurements using airplanes, SST and synthetic aperture radar (SAR) wind data from satellite, and detailed meteorological and oceanographic observations from the Martha's Vineyard Coastal Observatory and Air-Sea Interaction Tower and from a land station on Nantucket. The mooring locations are shown in Figure 2a; Figure 2b shows the drifter and tow tracks. Shipboard sampling within the CBLAST domain was coordinated in August 2003 with flights of the two aircraft involved.

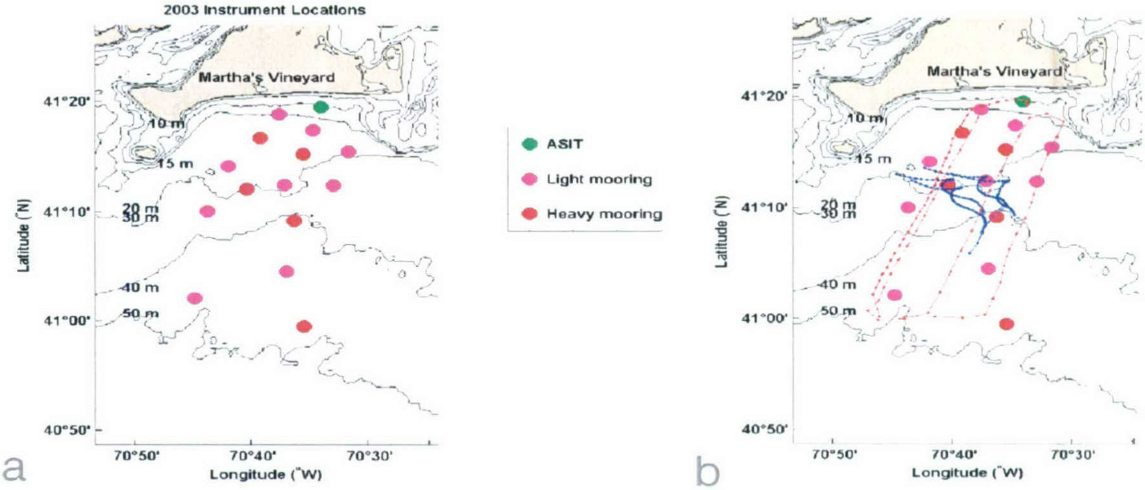

Figure 2. (a) The locations of the 5 heavy surface moorings and 10 light moorings deployed in 2003. (b) Example tracks (blue) from one deployment of the drifting thermistor strings, and one deployment of the towed chain by FV Nobska (red).

Data quality and return met or exceeded expectations, and all initial data processing and quality control is complete. A technical report has been written for the 2001 pilot experiment (Pritchard *et al.,* 2002) and for the 2002 mooring deployments (Hutto *et al.,* 2003). Data from the 2001 pilot revealed the presence of energetic solitons south of Martha's Vineyard (Pritchard and Weller, 2002; Pritchard and Weller, 2004, 2005). Results based on analyses of our data have been and will be presented at the 2004 AGU Ocean Sciences Meeting (Weller *et al.,* 2004; Farrar *et al.,* 2004a; Pritchard and Weller, 2004), the 2004 AMS Boundary Layers and Turbulence Conference (Farrar *et al.,* 2004b; Wang *et al.,* 2004), and the 2004 International Geoscience and Remote Sensing Symposium (Thompson *et al.,* 2004).

The 2003 effort during the IOP was aimed at addressing the small scale processes and structures identified in 2001, such as solitons and ocean structures beneath surface slicks, and intermediate scales, such as fronts, while at the same time observing the regional structure with sufficient horizontal resolution to map the depth of the mixed layer across the domain, which was roughly 20 km wide and extended 40 km offshore. The fieldwork was a resounding success. Data quality and return were excellent; and a wide variety of conditions were sampled, including low-to-moderate wind conditions and the passage of atmospheric and oceanic fronts through the study region. Figure 3 shows one day of surface wind, net heat flux, air temperature, and 1 m ocean temperature from a mooring near the center of the array, with warming of the upper ocean evident as the wind speed drops to close to 1 m s^{-1}.

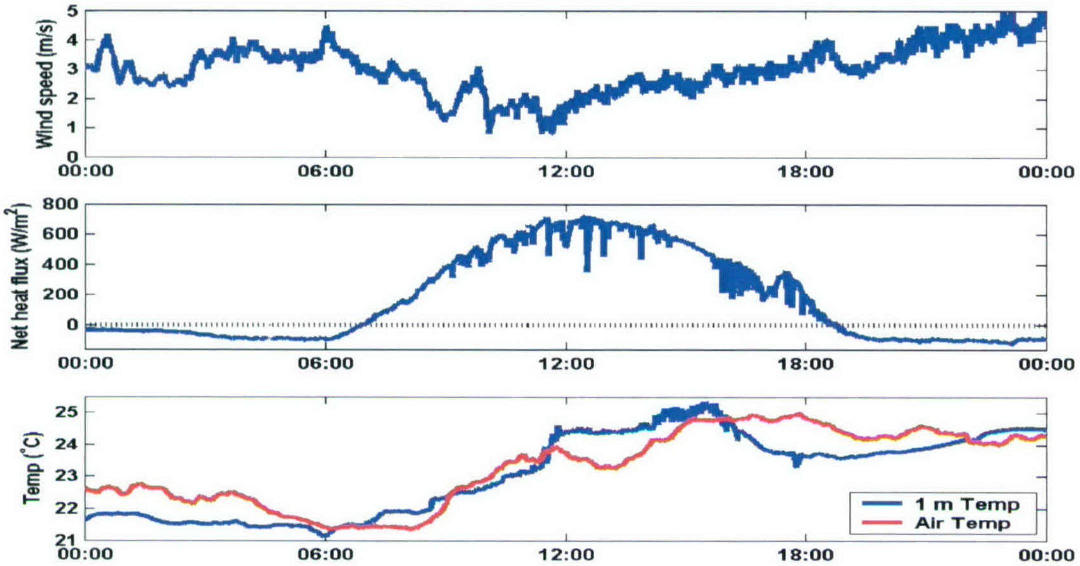

Figure 3. Surface wind speed (top), net heat flux (middle) and air and 1 m ocean temperatures (bottom) on Aug. 15, 2003, from a mooring near the center of the array.

Basic processing and application of post-deployment calibrations of our data from the 2003 IOP is complete and further processing and quality control is ongoing. Relevant portions of the data have been transferred to John Wilkin (Rutgers) for initialization and testing of the high resolution Regional Ocean Modeling System (ROMS) and to Wang (NRL) for comparison with Coupled Ocean/Atmosphere Mesoscale Predictions Systems (COAMPS).

Motivated by the strong spatial variability of SST observed under low winds at scales of 100 m to 10 km in the TOGA COARE program, specially designed measurement techniques were employed during CBLAST-Low to sample this variability with adequate horizontal, vertical, and temporal resolution. One technique was deployment of fast-response drifting instrument strings to sample the evolution of the upper ocean with minimal flow disturbance and platform induced mixing. These instruments sampled temperature, salinity, and velocity at 4 to 60 second intervals, and temperature measurements had a vertical resolution of 0.5 m. Another novel measurement technique involved coordinated ship-based and aircraft-based sampling. The *FV Nobska* was equipped with a towed instrument chain to accurately measure subsurface temperature with a vertical resolution of 0.5 m and a horizontal resolution of about 8 m.

In addition, the *FV Nobska* carried upward and downward looking infrared radiometers (Heitronics model KT19) to measure the ocean skin temperature and complete bulk and direct-covariance flux packages to measure the air-sea fluxes of heat and momentum. Field operations aboard the *Nobska* were coordinated with those of the CIRPAS Pelican aircraft (D. Khelif of U. California Irvine and H. Jonsson of Naval Postgraduate School) and the Cessna Skymaster infrared imaging aircraft (A. Jessup of U.W. and C. Zappa of

LDEO). Figure 4 shows an example of the spatial variability of SST observed midday on Aug 15, 2003, the day of low wind as shown in Figure 3. Quasi-periodic spatial variability in SST up to several tenths of a °C can be clearly seen at scales from 10's of m to km's.

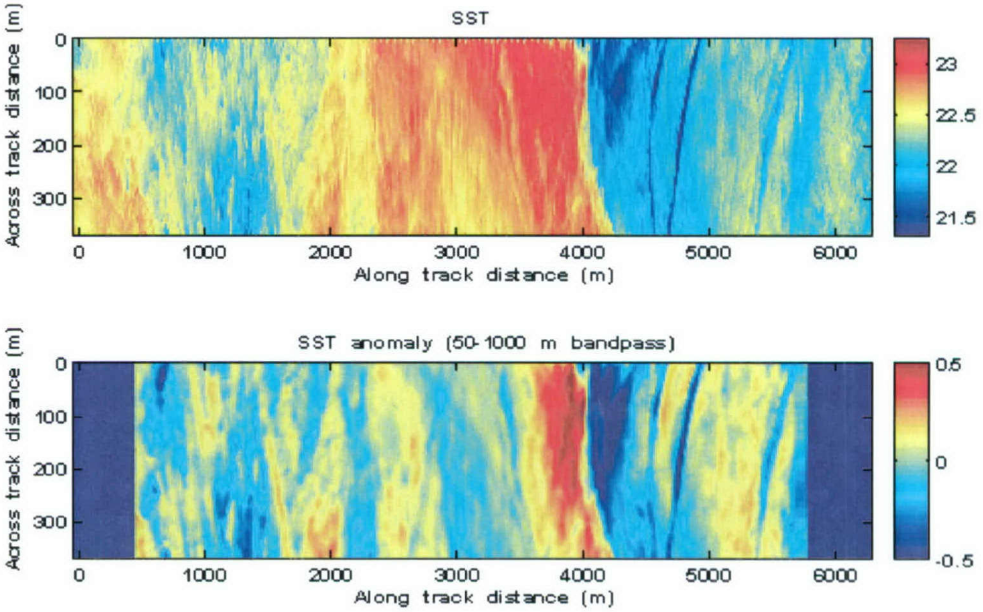

Figure 4: Upper panel: SST (°C) from infrared imagery on Aug. 15, 2003. Lower panel: SST anomaly (°C) relative to 1 km along-track smoothed SST.

Preliminary analysis suggests that this organized SST variability is a surface expression of oceanic internal waves. Figure 5 shows the temperature anomaly, relative to the 150 m along-track smoothed temperature, collected from the *FV Nobska* on Aug 15, 2003. Data from both the towed instrument chain and the shipboard radiometers are included, and the measurements at nine depths in the upper 5 m of the ocean show that there is a strong vertical coherence of horizontal temperature fluctuations extending from depth to the sea surface. A similar relationship between surface and subsurface temperature fluctuations exists at a wide range of scales, up to the O (500 m) scales that have been examined to date. As has been recognized for some time, strong near surface stratification forms under conditions of light winds and strong insolation (e.g. Price *et al.,* 1986). Preliminary analysis indicates that these spatial fluctuations in SST are associated with oceanic internal waves, which cause temperature fluctuations extending from depth to very near the surface because of the relatively strong stratification that exists throughout the water column under low wind conditions (Farrar *et al.,* 2004a). If further analysis can elucidate the relationship between surface and subsurface temperature variability, then it may prove possible to use aerial surveys to make inferences about upper ocean variability and other fields (such as sound speed) dependent on that variability.

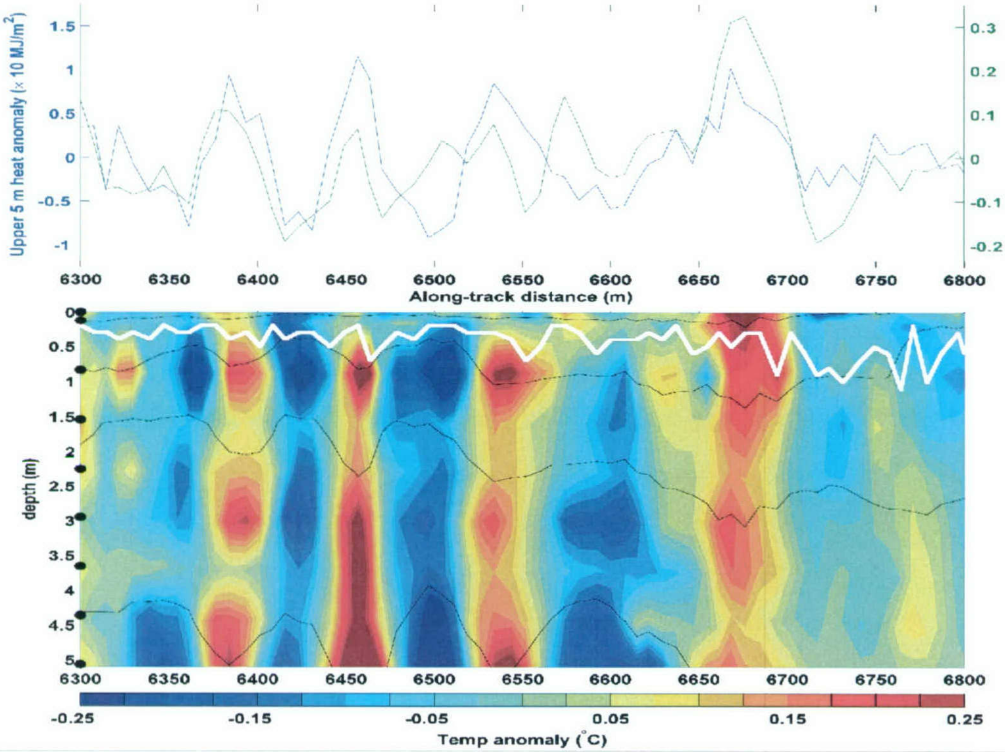

Figure 5: Upper panel shows SST and upper 5 m heat anamolies. Lower panel shows subsurface temperature anamoly relative to the 150 m along-track smoothed values. The measurement depths are indicated by black dots on the left side of the figure, and isotherms (black lines) are marked at intervals of 1°C. The white line marks the depth where the temperature is 1°C less than the surface temperature.

A central objective of the CBLAST DRI has been to further characterize the evolution and variability of the coupled boundary layers and the exchange of heat, momentum, and mass across the air-sea interface. The upper ocean temperature fluctuations in Figure 5 have a significant anomaly in upper ocean heat content and thus the potential to force the lower atmosphere. Preliminary analysis has allowed identification of some periods when the ocean responded strongly to atmospheric forcing, as well as periods when the atmosphere responded strongly to oceanic forcing. For example, Figure 6 shows that as the ship crossed SST variability associated with a cool intrusion from the east, there was spatial modulation of sensible and latent surface heat fluxes and of atmospheric temperature as observed by the Pelican aircraft. There is a very strong spatial modulation of the surface heat flux at the southern edge of the cold SST filament, with a combined change in latent and sensible heat flux of more than 150 W/m^2 over a distance of about 5 km.

Our data from the three summers includes time series at fixed points of surface meteorology, air-sea fluxes, and ocean variability; it also includes CTD sections and swaths of high-resolution ocean sampling from the drifters and the towed chain. We have been working with S. Wang (NRL) to examine the success of COAMPS at predicting the surface meteorological and air-sea flux fields. With good air-sea flux fields, ocean models can be run to examine their realism. We have been working with J. Wilkin (Rutgers) to evaluate ROMS model runs. Initial efforts have focused on using the *in situ* oceanographic data from 2002 to evaluate ROMS model runs that are identical except for the vertical mixing parameterization employed (Wilkin and Lanerolle, 2004). The various mixing schemes lead to significantly different model simulations; of the three mixing schemes tested, the simulation using the KPP mixing scheme is the most realistic, particularly in simulation of SST and mean currents. We are working to examine if by focusing on sites within the CBLAST-LOW domain where the local heat balance is predominantly 1-D, we can isolate the 1-D dynamics and use comparisons between the model and the observations to guide the selection of the 'best' parameterization for vertical mixing and thus improve predictions and hindcasts.

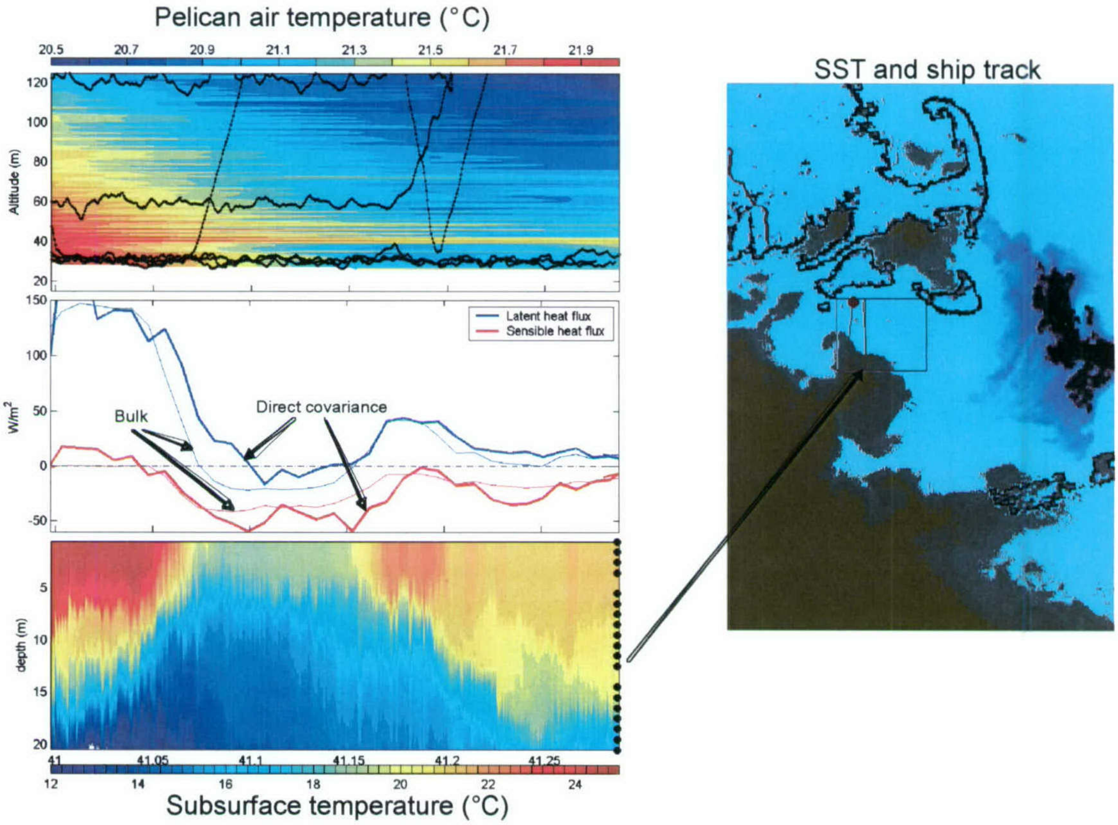

Figure 6. On the left, subsurface thermal structure (lower), sensible and latent surface heat fluxes (middle), and atmospheric temperature from the Pelican aircraft (upper) associated with the ship track shown on the right executed on the afternoon of Aug. 19, 2003.

4. Land Operations

A. Weather Forecasts

During the CBLAST 2003 project, various landside operations were conducted. These included collecting weather forecasts to guide the at-sea operations, monitoring the formation of hurricanes along the east coast, gathering weather images for future analyses, and coordinating communications between the science party, the *F/V Nobska*, and the airplanes. Below is a list of websites used to gather current and forecasted weather information.

Current Conditions

NCAR – RAP Surface Data	http://www.rap.ucar.edu/weather/surface/
NWS – Ocean Prediction Center	http://www.mpc.ncep.noaa.gov/
NWS – Forecast Office	http://www.erh.noaa.gov/er/box/maps/maps2.html

Forecasts

NCEP Models	http://www.rap.ucar.edu/weather/model/
COAMPS Model	http://www.nrlmry.navy.mil/shared-bin/CBLAST/cblast.cgi
NWS Forecasts	http://www.erh.noaa.gov/er/box/

Satellite Images

Cloud Cover	http://www.rap.ucar.edu/weather/satellite/
Precipitation	http://www.rap.ucar.edu/weather/radar/
SST, John Hopkins, APL	http://fermi.jhuapl.edu/avhrr/cmo/index.html

Hurricanes

The National Hurricane Center (NOAA / NWS)	http://www.nhc.noaa.gov/

5. Field Operations

A. Field Notes

During the fieldwork done onboard the *F/V Nobska*, extensive notes were taken documenting the work done. These notes have been condensed, and are presented below. All times are recorded in UTC.

Heavy Mooring Deployment, July 15-16

July 15:

12:36-13:21	Moorings C and D deployed.
14:17-16:42	Trowbridge moorings T1 and T2 deployed.

July 16:

14:26-17:25	Moorings A, E, and F deployed.
17:50	Bottom tripod deployed near tower.

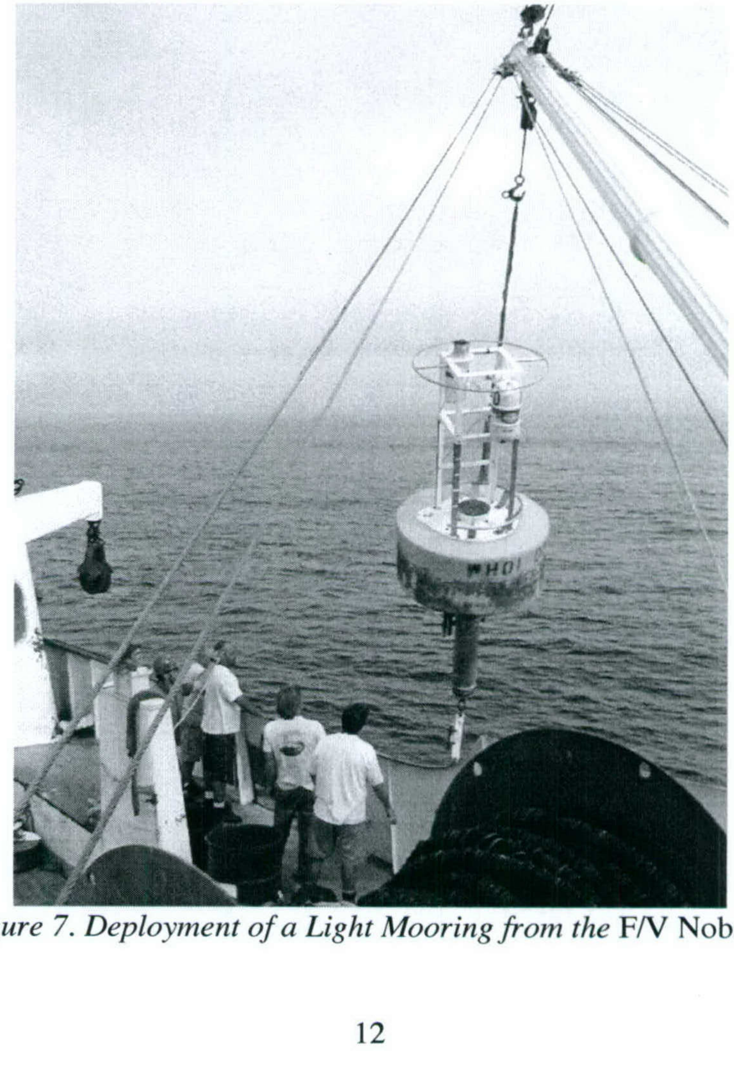

Figure 7. Deployment of a Light Mooring from the F/V Nobska.

Leg 1, August 2-8

August 2:

~10:30	Leave dock.
13:45-19:20	Deploy L1 through L10. CTD, bucket SST, and handheld met samples taken at each station.
21:40-01:09	CTD section, L1 to ASIT (details on p.8 of cruise log).

August 3:

~01:30-10:00	On station near ASIT, bow-into-wind for flux system comparison.
11:42:00	Time spike for instrumentation (thoroughly wet at 11:42:20).
11:58:20	End time spike (all instruments on deck at 11:58:29).
12:28-13:15	Deployment of D1-D3 for experiment #1. CTD taken.
14:16-14:30	Loading instruments on boom chain, 1 m spacing (configuration details on p.11 of cruise log).
15:46-15:55	Boom snags lobster trap. Recover boom chain.
16:51-17:25	Deploy D4 and D5 for experiment #1.
17:37	Deploy boom chain (1 m spacing).

August 4:

10:15-10:55	Recover drifters.
12:42-14:50	Deploy drifters D1-D4 for experiment #2 (deployed in a N-S line between moorings F and A).
15:14	CTD taken (cruise log p. 17)
15:45	Deploy boom chain near mooring A (1.5 m spacing)
18:25	Remove top 3 instruments from boom chain (because of shallow water).
19:05	Remove next 3 instruments from boom chain (because of shallow water).
19:29	Remove next 3 instruments from boom chain (because of shallow water).
~22:40	Adding instruments to boom chain (see cruise log p.19).
21:55	Recover boom chain.
22:43-01:29	Recover drifters D1-D4 (end experiment #2).

August 5:

01:50-8:50	Boom chain section A-E.
9:05-10:00	Deploy drifters D1-D5 (begin experiment #3).
10:15	CTD (cruise log p.24)
10:27	Deploy boom chain (1 m spacing?). Added/removed instruments (see log p.24-25).
22:08-22:22	Recover/redeploy boom chain because of snag. 3 instruments removed 00:27.

August 6:

07:20	Chain recovered (with lobster pot).
8:30-9:50	Recover drifters (end experiment #3).
11:44	Begin boom chain tow (0.5 m spacing). "Radiator" transects.

August 7:

16:42-18:13	On station at ASIT for flux comparison, bow-into-wind.
17:05-17:10	Reposition not bow-into-wind.
18:13	Recover boom chain.
20:17-21:09	Deploy drifters D1-D5 (begin experiment #4, surrounding mooring A).
21:10	Deploy boom chain (1.5 m spacing). Tow around drifters.

August 8:

6:30	Recover boom chain.
6:57-8:00	Recover drifters D1-D5 (end experiment #4).
11:40	Arrive at Woods Hole.

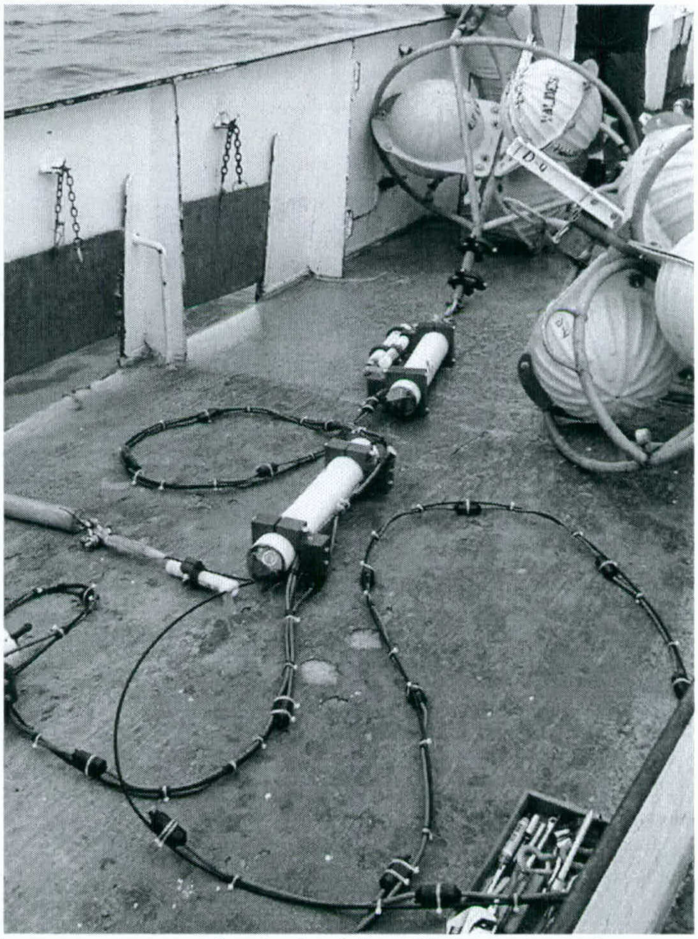

Figure 8. Drifting mooring on the deck of the F/V Nobska *being prepared for launch during Leg 1.*

Leg 2, August 13-16

August 13:

07:00	Leave dock at Woods Hole.
~10:20	Deploy surface mooring G at 41° 20.227'N, 70° 33.426'W in 12 m of water.
~10:30	Deploy MVO subsurface mooring (steel sphere) at 41°20.240'N, 70° 33.508'W in 12 m of water.
~10:40-11:17	Instrumentation time spike. Note that the start time is uncertain because it was taken from the ship's navigation computer rather than GPS. A correction has been applied in the time estimate shown here. See further notes on page 32 of cruise log.
~10:35	CTD taken at 41° 20.280'N, 70° 33.724'W in 12 m of water.
11:48	Begin towing boom chain in "radiator" pattern at 41° 17.67'N, 70° 31.20'W with 1m spacing and without top 5 instruments.
12:09-12:11	Added remaining 5 instruments to boom chain. In all tows, instrument 1 and 2 are switched from original configuration. Start: 41° 16.275'N, 70° 31.287'W. Underway at 41° 16.598'N, 70° 31.163'W.
23:54	Recover boom chain at 41° 10.418'N, 70° 43.193'W after snagging lobster pot.

August 14:

00:05	Redeploy boom chain (underway at this time) and continue radiator pattern. Instrument #16 (SN 0477) was damaged and removed from service. The chain now has 1m spacing and 21 instruments. 41°10.418'N, 70° 43.193'W.
00:15-00:19	Recover and redeploy boom chain after snagging a lobster pot. 41° 11.68'N, 70° 42.55'W
02:24-02:27	Top 2 sensors removed from boom chain. 41° 18.90'N, 70° 39.035'W.
03:19-03:22	Top 2 sensors added to boom chain. 41° 18.220'N, 70° 35.742'W
10:58-11:32	Deploy drifters for experiment #1. One drifter (PTT#22334) was rigged with Brightwaters sail kit. D4 instrumentation was not deployed.
11:33-11:37	Deploy boom chain to tow around drifters.
14:30	Recover boom chain (in order to recover drifter D2, #7387). 41° 16.605'N, 70° 36.599'W.
14:40	Recover drifter D2, #7387. (Drifter was leaving the group).
14:50	Redeploy boom chain 41° 16.287'N, 70° 35.964'W
16:46	Recover boom chain. 41° 15.825'N, 70° 37.842'W
17:00-17:19	Recover drifters D1, D5, and D4.
17:27	Deploy boom chain for intensive "slick" sampling near D3.
20:02	Recover boom chain.
20:19-20:57	Deploy drifters D1, D2, D4, D5 on advice of Skymaster/Zappa.

August 15:

04:30-04:40	Recover/redeploy boom chain.
08:12-09:39	Recover chain and drifters so that drifters are on deck for rapid deployment on advice of Skymaster.
10:35	Deploy boom chain near mooring E.
12:20	No word from Skymaster. Recover chain to deploy drifters.
12:28-13:15	Deploy D1-D5
13:28	Deploy boom chain with 1 m spacing. 41° 10.196'N, 70° 36.443'W
15:47-16:22	Recover D4 and D1
16:39-16:47	Learn Skymaster is grounded. Re-deploy D4 and D1.
16:55	Deploy boom chain with lower 10 instruments at 1.5 m spacing and upper 11 instruments at 1.0 m spacing (1 m between #'s 11 and 12; see cruise log p. 53).
21:50	Removed top 3 instruments from chain.
22:51	Replace top 3 instruments on boom chain.

August 16:

03:00	Recover boom chain.
03:25-04:24	Recover drifters D1-D5.
~09:30	Return to WHOI dock.

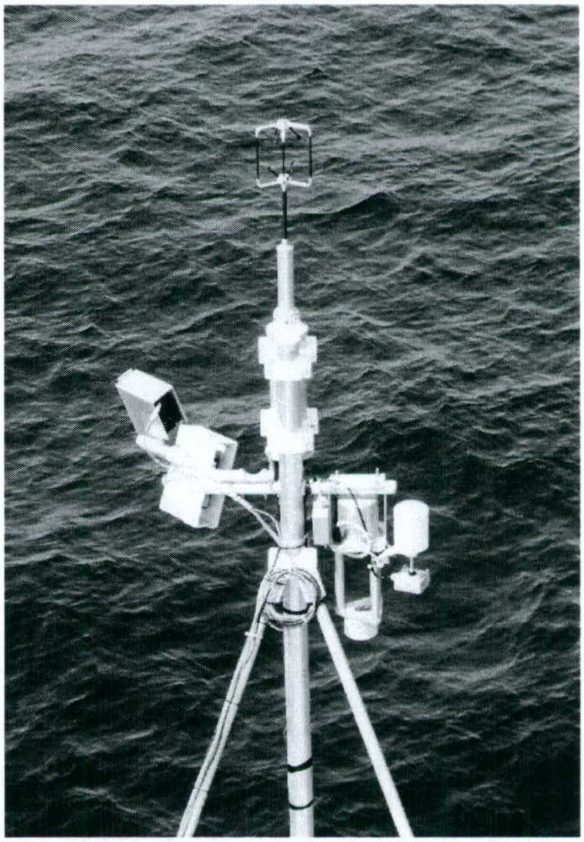

Figure 9. Meteorological instruments on the bow of the F/V Nobska *during Leg 2.*

Leg 3, August 19-22

August 19:

09:00	Leave dock at Woods Hole with Tom Farrar, Brian Hogue, Jim Boyle, and Brandon W. in science party.
12:28:29	Instrumentation for drifters and boom chain dunked for time-spike.
13:00:30	End instrumentation time-spike.
13:15	Load boom chain for a radiator-tow; 41° 18.675'N, 70° 38.706'W (top 2 instruments were initially out of the water).

August 20:

09:56	Recover boom chain 41° 08.478'N, 70° 37.430'W
10:10-10:58	Deploy D1-D5 (near mooring E); Jim Boyle's drifter deployed.
11:56	Begin boom-chain tow 41° 08.777'N, 70° 36.740'W; Note original instrument #1 on top.
16:25	Recover boom-chain at 41° 09.39'N, 70° 36.98'W; recover Boyle's drifter.
17:44	Begin boom-chain tow 41° 16.709'N, 70° 35.487'W, headed southward from mooring F. Saw ONR tour group. Note: original instrument #2 and #1 swapped as in most tows.
22:23	Recover boom-chain (to check on D1); 41° 11.348'N, 70° 39.671'W.
22:47	Deploy boom-chain; 41° 10.696'N, 70° 37.630'W.

August 21:

10:38	Recover boom chain 41° 07.798'N, 70° 39.268'W (deploy Boyle's drifter).
10:57	Deploy boom-chain at 41° 08.955'N, 70° 39.003'W (1 m spacing)
12:44	Recover boom-chain at 41° 07.64'N, 70° 39.12'W
13:54	Deploy boom-chain at 41° 18.2'N, 70° 39.56'W
16:58	Recover boom-chain at 41° 08.96'N, 70° 40.05'W
17:21-18:37	Recover drifters (D1-D5 and Boyle's)
19:40	Deploy boom-chain near 41° 00.00'N, 70° 39.85'W on advice of Skymaster/Zappa. Unusual chain spacing to cover full depth—see p.74 of cruise log. Many slicks seen around 23:00 (multiple passes through, p. 75).

August 22:

00:16	Recover boom chain 41° 06.352'N, 70° 34.600'W
00:18	Deploy boom chain with 1 m spacing.
06:00	Recover boom-chain 41° 06.95'N, 70° 35.131'W
~10:00	Return to WHOI dock.

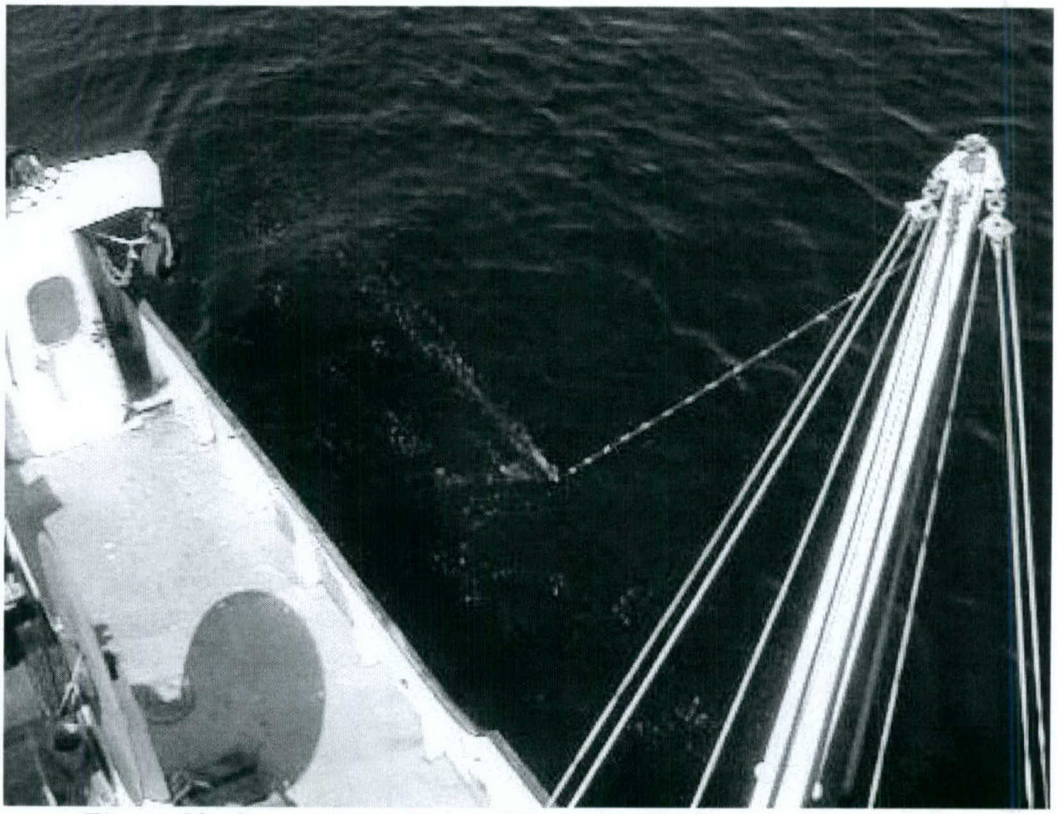

Figure 10. Boom chain deployed from the F/V Nobska *during Leg 3.*

Leg 4, August 25-28

August 25:	
10:15	Leave dock at Woods Hole with Tom Farrar, Matt Littleton, and Brandon W. in science party.
13:25-13:49	Anchor "drifters" around mooring F; CTD taken
14:23	Deploy boom-chain, towing southward on advice of Skymaster/Zappa. 41° 17.349'N, 70° 33.451'W (instrument wet times recorded, p. 80 of log)
August 26:	
07:15	Recover boom-chain to exercise engine, 40° 59.00'N, 70° 42.00'W
07:40	Deploy boom-chain, 41° 17'N, 70° 42.00'W (this is clearly an error, it implies 17 nm in 25 min, p. 82 of log-- probably 41° 00.17'N, 70° 42.00'W).
10:30-11:10	Slicks observed and sampled (p. 82).
15:05	Slicks observed and sampled (p. 83; photos taken; low winds).
17:00-18:30	Slicks observed and sampled (p. 83; photos taken; low winds).
21:33	Recovered chain to reposition on advice of Zappa
22:00	Deployed chain with 1.5 m spacing 41° 09.1'N, 70° 36.5'W (section from E to A—repeated 3 times).

August 27:

08:57	Recover boom-chain, 40° 58.292'N, 70° 35.167'W
09:34	Recover mooring A; CTD taken.
10:49	Recover mooring L1; CTD taken.
11:53	Recover mooring L2; CTD taken.
12:36	Recover mooring E; CTD taken.
13:26	Recover mooring L6; CTD taken.
14:02	Recover mooring L7; CTD taken.
14:30-15:14	Recover moored "drifters".
15:31	Recover mooring F; CTD taken.
16:21	Recover Tripod (near F)
16:46	Recover mooring D; CTD taken.
~20:00	Return to WHOI dock to unload and change crew.
~22:30	Leave WHOI dock with Tom Farrar and Jeff Lord in science party.

August 28:

01:15	Deploy Grosenbaugh's buoy; 41° 20.147'N, 70° 33.330'W
01:20	Recover guard buoy "A"
02:07	Recover L8
02:35	Recover L9
02:52	Deploy replacement L9
03:19	Recover mooring L10; CTD taken.
09:35	Recover mooring L3; CTD taken.
10:00-12:00	Search for L4 (also searched from 04:00-06:00)—in all, we covered a 5-nm radius around last known position. L4 was lost at sea.
12:15	Recover mooring C; CTD taken.
13:11	Deploy former C-buoy as replacement mooring F; 41° 15.264'N, 70° 35.497'W
13:21	Deploy Tripod; 41° 15.253'N, 70° 35.415'W; CTD taken.
14:00	Recover mooring L5; CTD taken.
~16:00	Return to WHOI dock.

B. Instruments

1. Improved Meteorological (IMET) Systems

There are two main differences between the IMET systems used during CBLAST and the IMET systems used by the UOP Group on other moorings. First, CBLAST had only a single suite of instruments, whereas other UOP moorings have duplicate systems with two of each instrument per mooring. Second, the CBLAST systems have only one recording option, a central logger. Other UOP moorings have instrument modules that internally record and write to a central logger. The CBLAST systems measure the following parameters once per minute:

relative humidity with temperature
barometric pressure
precipitation
wind speed and direction
shortwave radiation
longwave radiation
near-surface sea temperature and conductivity

Parameters recorded on the logger FLASH card:

TIME
WND - wind east and north velocity; wind speed average, max, and min; last wind vane direction, and last compass direction
BPR - barometric pressure
HRH - relative humidity and air temperature
SWR - short wave radiation
LWR - dome temperature, body temperature, thermopile voltage, and long wave radiation
PRC - precipitation level
SST - sea surface temperature and conductivity
ADI - multiplexed optional parameter value from A/D module (only 1 of 8 in each record)

2. MicroCat Conductivity and Temperature Recorder

The MicroCat, model SBE37, is a high-accuracy conductivity and temperature recorder with internal battery and memory. It is designed for long-term mooring deployments and includes a standard serial interface to communicate with a PC. Its recorded data are stored in non-volatile FLASH memory. The temperature range is -5° to +35°C, and the conductivity range is 0 to 6 Siemens/meter. The MicroCat is capable of storing 419,430 samples of temperature, conductivity and time.

3. Brancker Temperature Recorders (TPODs)

The Brancker temperature recorders are self-recording, single-point temperature loggers. The operating temperature range for this instrument is 2° to 34°C. It has internal battery and logging, with the capability of storing 24,000 samples in one deployment. A PC is used to communicate with the Brancker via serial cable for instrument set-up and data download. These older model Branckers are listed as 'Brancker' in the instrument tables in following sections.

4. SBE-39 Temperature Recorder

The Sea-bird model SBE-39 is a light weight and reliable high-accuracy temperature logger. It has an internal battery, non-volatile memory, and can be deployed at depths up to 10,500 meters. The measurement range for this instrument is –5 to 35° C.

5. New Generation Vector Measuring Current Meters

The NGVM has two orthogonal cosine response propeller sensors that measured the components of horizontal current velocity parallel to the axles of the two-propeller sensors. The orientation of the instrument relative to magnetic north was determined by a flux gate compass. East and north components of velocity were computed continuously, averaged and then stored on flash cards. Temperature was also recorded using a thermistor mounted in a fast response pod, which was mounted on the top end cap of the VMCM.

6. RDI Acoustic Doppler Current Profiler

An RD Instruments (RDI) Workhorse Acoustic Doppler Current Profiler (ADCP, Model WHS300-1) was mounted to the mooring line in a downward looking direction. The RDI ADCP measures a profile of current velocities.

7. Nortek Current Profiler

Nortek Aquadopp current profilers use Doppler technology to measure current velocities. Two different frequencies were used during CBLAST 2003: 2MHz and 1MHz. These instruments have internal memories and batteries. The Aquadopp records temperature, heading, tilt, pressure, and currents.

8. Sontek Current Meter

Sontek Argonaut MD current meters use Doppler technology to measure currents. The Argonaut had internal batteries and memory, and records temperature, heading, tilt, pressure, and currents.

9. Tidbit Temperature Logger

Onset StowAway Tidbits are very small temperature loggers that have a 5 year non-replaceable battery. Its memory can hold 32,520 measurements and uses optical communications to download data.

10. Brancker Pressure Recorder

Brancker DR-1050 pressure recorders are small, self-contained, and have internal flash memory that can record 1,200,000 samples. Internal lithium batteries provide power for long-term deployments.

11. Brancker Multi-Channel Temperature Logger

Brancker XR-420 model temperature loggers are multi-channel, and in this case recorded 24 channels of temperature. This instrument was configured to record temperature every 0.5 m. Internal memory allows for as many as 1,200,000 samples to be recorded and internal lithium batteries provide power.

12. Brancker Temperature Recorder

Brancker TR-1050 temperature recorders are small, self-contained, and have an accuracy of +/- 0.002 °C. The internal flash memory can record 1,200,000 samples, and there are two internal lithium batteries.

C. Heavy Moorings

Five heavy moorings were deployed during CBLAST 2003. Three of the five moorings were equipped with Improved Meteorological (IMET) systems. The tables below detail the instruments and sampling rates on the heavy moorings. Figures 11–15 show the heavy mooring diagrams.

Table 2. Mooring A Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m), or Height from Deck (cm)	Sampling Rate (s)	Spikes (UTC, year 2003)
Relative humidity, air temperature	HRH	503	208 (224.4 cm from water)	60	N/A
Barometric pressure	BPR	503	202 (218.4 cm from water)	60	N/A
Wind speed and direction	WND	345	241 (257.4 cm from water)	60	Jul. 16, 10:04:00 – 10:05:00
Precipitation	PRC	503	227 (243.4 cm from water)	60	
Longwave radiation	LWR	501	201 (217.4 cm from water)	60	Jul.16, 11:35:00 – 11:52:00
Shortwave radiation	SWR	503	202 (218.4 cm from water)	60	Jul.16, 11:35:00 – 11:52:00
IMET Variables	Logger	L14	---	60	N/A
Location	PTT 19456	ID #'s: 27380, 27381, 27382	---	---	N/A
Salinity, temperature	SBE37	1839	0.5	60	Aug. 29, 15:31:30 – 16:50:00
Temperature	SBE39	0685	1	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	NGVM[1]	012	2.23	60	Jul. 16, 09:55:30 and 11:30:30 Aug. 28, 12:57:30 and 13:38:30
Salinity, temperature	SBE37	1838	4.4	60	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0644	5.1	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	600 kHz RDI	182	6.55	150	Jul. 15, 20:12 - ~20:30 Aug. 28, 13:44:00 – 14:58:30
Temperature	SBE39	0718	7.6	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	NGVM	042	8.5	60	Jul. 16, 09:55:00 and 11:30:00 Aug. 28, 12:58:30 and 13:39:30
Salinity, temperature	SBE37	2033	10	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	2MHz Nortek	0357	11	75 (sampling) 15 (averaging)	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	1905	12.5	60	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0276	14	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	2032	16	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0720	18	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	1906	20	60	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0648	22	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	1903	24	60	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0700	26	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0719	28	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	2039	30	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature, pressure	SBE37	1912	35	60	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30

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[1] NGVM's were spiked by spinning the rotors for approximately 30 seconds; each instrument was spiked twice as noted by the two times given.

Table 3. Mooring C Instrumentation and Sampling Rates.

Parameters	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Salinity, temperature	SBE37	1304	1	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0035	1.85	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0691	2.75	30	Aug. 29, 2003 15:38:30 – 16:48:00
Salinity, temperature	SBE37	2046	3.5	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0044	5	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0696	6	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0046	7	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0624	8	30	Aug. 29, 2003 15:38:30 – 16:48:00
Salinity, temperature	SBE37	0685	10	60	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0054	12	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0647	14	30	Aug. 29, 2003 15:38:30 – 16:48:00
Salinity, temperature	SBE37	0683	16	60	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0102	18	30	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	SBE39	0692	20	30	Aug. 29, 2003 15:38:30 – 16:48:00
Salinity, temperature, pressure	SBE37	0671	23.5	60	Aug. 29, 2003 15:38:30 – 16:48:00

Table 4. Mooring D Instrumentation and Sampling Rates.

Parameters	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Salinity, temperature	SBE37	0011	1	30	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0045	1.85	30	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0693	2.75	30	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, temperature	SBE37	2031	3.5	30	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0649	5	30	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0039	6	30	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0626	7	30	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0053	8	30	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, temperature	SBE37	0686	10	60	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0688	12	30	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0103	14	30	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, temperature	SBE37	0669	16	60	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0821	18	30	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, temperature, pressure	SBE37	0670	20	60	Aug. 29, 2003 10:35:30 – 11:35:30

Table 5. Mooring E Instrumentation and Sampling Rates.

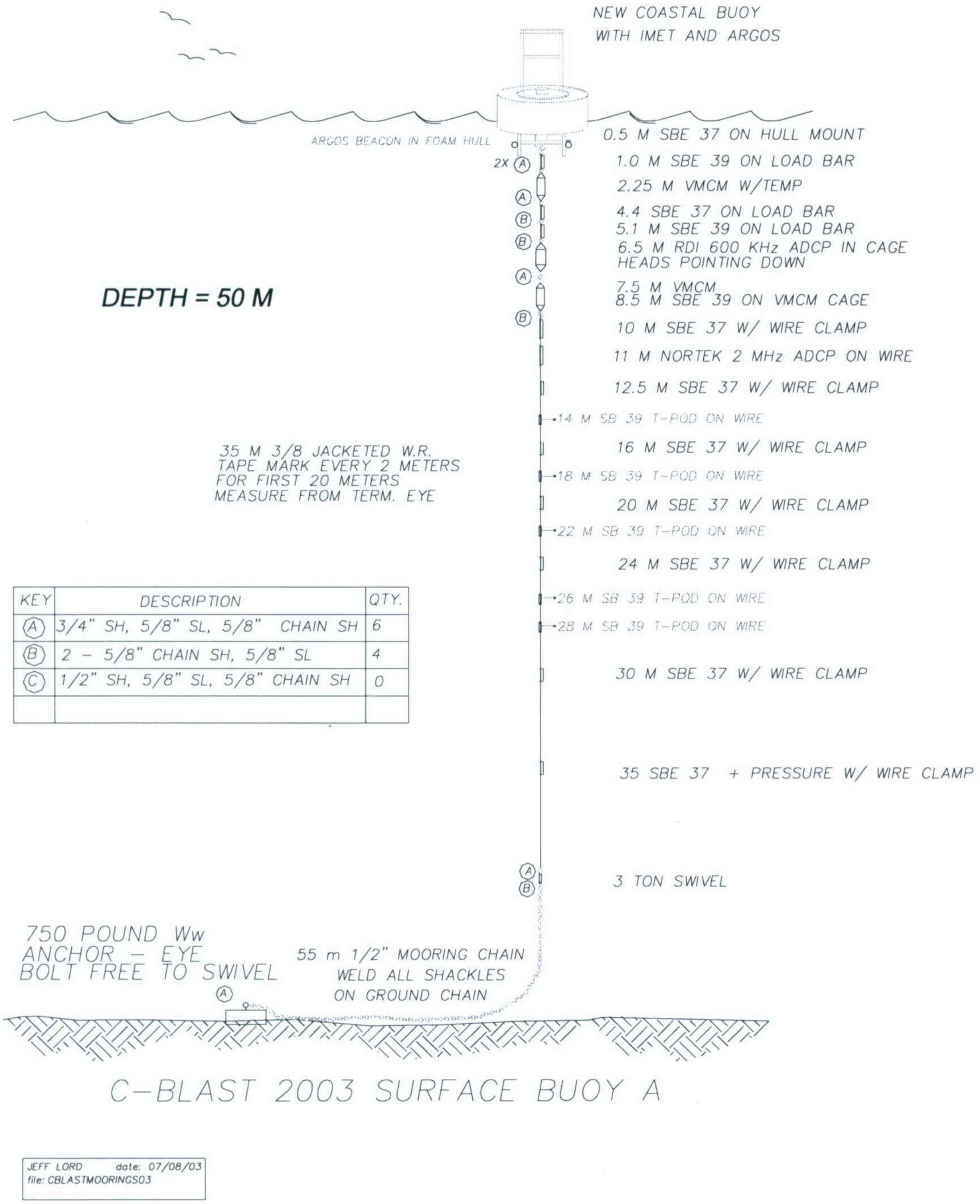
Parameters	**Instrument**	**Serial #**	**Depth (m) or Height from Deck (cm)**	**Sampling Rate (s)**	**Spikes (UTC, year 2003)**
Relative humidity, air temperature	HRH	506	163 (187 cm from water)	60	N/A
Barometric pressure	BPR	504	156.5 (180.5 cm from water)	60	N/A
Wind speed and direction	WND	348	197 (221 cm from water)	60	Jul. 16, 10:07:30 – 10:08:30
Precipitation	PRC	506	158 (182 cm from water)	60	
Longwave Radiation	LWR	505	185 (209 cm from water)	60	Jul. 16, 11:53:00 – 12:27:00
Shortwave Radiation	SWR	502	187.5 (211.5 cm from water)	60	Jul. 16, 11:53:00 – 12:27:00
IMET Variables	Logger	L12	---	60	N/A
Location	PTT 19488	ID #'s: 14644, 14652, 14653	---	---	N/A
Salinity, temperature	SBE37	1419	1	60	Aug. 29, 15:32:00 – 16:50:15
Temperature	SBE39	0051	2.15	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0628	2.82	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	NGVM	019	4.2	60	Jul. 16, 09:51:30 and 11:31:30 Aug. 28, 12:54:30 and 13:36:30
Salinity, temperature	SBE37	1325	6.2	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0645	6.9	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	NGVM	058	8	60	Jul. 16, 09:51:00 and 11:31:00 Aug. 28, 12:53:30 and 13:35:30
Salinity, temperature	SBE37	2038	10	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0101	12	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	2028	14	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0701	16	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	1 MHz Nortek	0253	17	75 (sampling) 15 (averaging)	Jul. 15, 20:12 -~20:30
Temperature	SBE39	0041	18	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	1760	20	60	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0623	24	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0047	28	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature, pressure	SBE37	1910	32	60	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0695	36	30	Jul. 15, 20:12 -~20:30 Aug. 29, 10:35:30 – 11:35:30

Table 6. Mooring F Instrumentation and Sampling Rates.

Parameter(s)	Instrument	Serial #	Depth (m) or Height from Deck (cm)	Sampling Rate (s)	Spikes (UTC, year 2003)
Relative humidity, air temperature	HRH	504	161 (184 cm from water)	60	N/A
Barometric pressure	BPR	505	155.5 (178.5 cm from water)	60	N/A
Wind speed and direction	WND	347	195 (218 cm from water)	60	Jul. 16, 10:12:00 – 10:13:00
Precipitation	PRC	504	159 (182 cm from water)	60	
Longwave radiation	LWR	504	173 (196 cm from water)	60	Jul. 16, 12:27:30 – 12:54:00
Shortwave radiation	SWR	505	173 (196 cm from water)	60	Jul. 16, 12:27:30 – 12:54:00
IMET Variables	Logger	L16	---	60	N/A
Location	PTT 19472	ID #'s: 14766, 14778, 14901	---	---	N/A
Salinity, temperature	SBE37	1306	1	60	Aug. 29, 15:32:30 – 16:50:30
Temperature	SBE39	0040	2.2	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0819	2.9	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	NGVM	038	3.84	60	Jul. 16, 09:54:00 and 11:33:00 Aug. 28, 12:52:30 and 13:34:30
Salinity, temperature	SBE37	0009	6	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	Sontek	D208	7.15	300	Jul. 15, 20:12 - ~20:30 Aug. 28, 13:48:30 – 14:58:30
Salinity, temperature	SBE37	0010	8	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	NGVM	032	9	60	Jul. 16, 09:52:00 and 11:32:30 Aug. 28, 12:56:30 and 13:37:30
Salinity, temperature	SBE37	2029	11.5	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	1908	12.5	60	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0038	14	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature	SBE37	2034	16	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Currents, temperature	1 MHz Nortek	0333	17	75 sampling 15 averaging	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0629	18	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Temperature	SBE39	0721	20	30	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30
Salinity, temperature, pressure	SBE37	1913	22	60	Jul. 15, 20:12 - ~20:30 Aug. 29, 10:35:30 – 11:35:30

Table 7. Heavy Mooring Recovery and Deployment Times, and Anchor Positions.

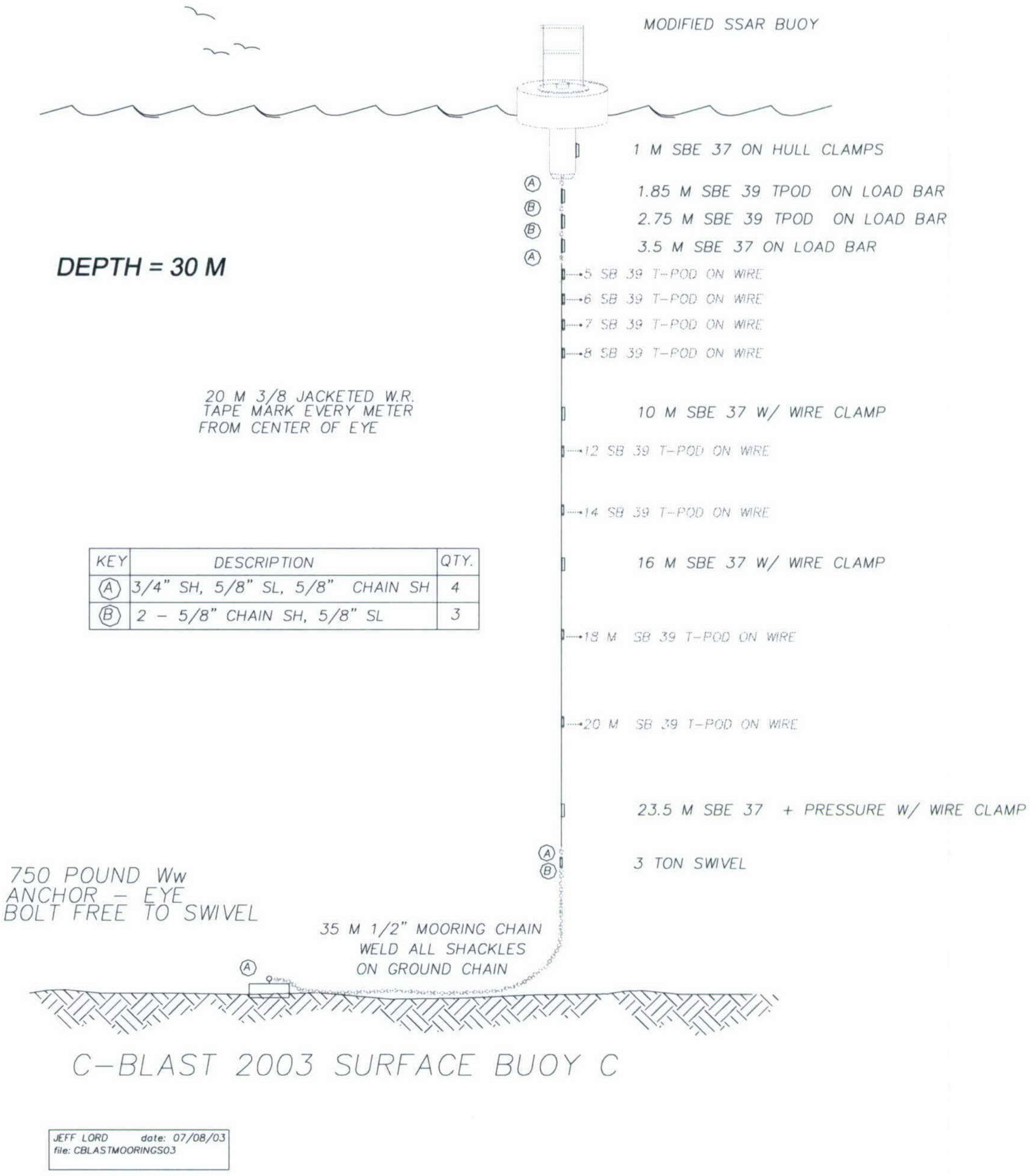
Mooring	Deployment (UTC)	Recovery (UTC)	Latitude	Longitude
Mooring A	Jul. 16, 2003, 14:26:14	Aug. 27, 2003, 09:34:34	40° 59.457' N	70° 35.454' W
Mooring C	Jul. 15, 2003, 12:36:19	Aug. 28, 2003, 12:14:44	41° 12.033' N	70° 40.325' W
Mooring D	Jul. 15, 2003, 13:21:00	Aug. 27, 2003, 16:53:38	41° 16.676' N	70° 39.164' W
Mooring E	Jul. 16, 2003, 16:09	Aug. 27, 2003, 12:36:40	41° 09.172' N	70° 36.279' W
Mooring F	Jul. 16, 2003, 17:25	Aug. 27, 2003, 15:30:54	41° 15.230' N	70° 35.482' W



KEY	DESCRIPTION	QTY.
Ⓐ	3/4" SH, 5/8" SL, 5/8" CHAIN SH	6
Ⓑ	2 - 5/8" CHAIN SH, 5/8" SL	4
Ⓒ	1/2" SH, 5/8" SL, 5/8" CHAIN SH	0

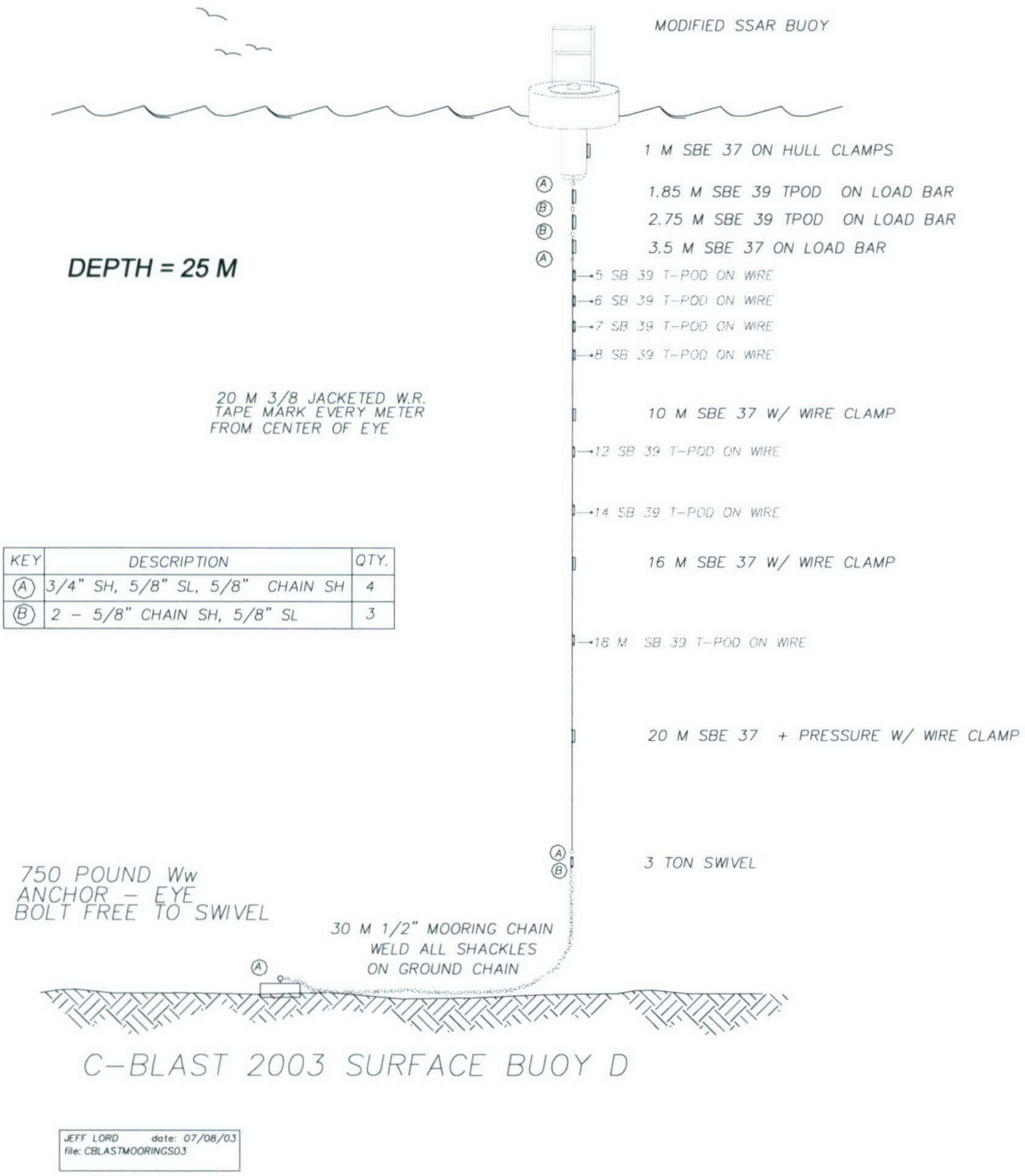
JEFF LORD date: 07/08/03
file: CBLASTMOORINGS03

Figure 11. Diagram of heavy mooring A.



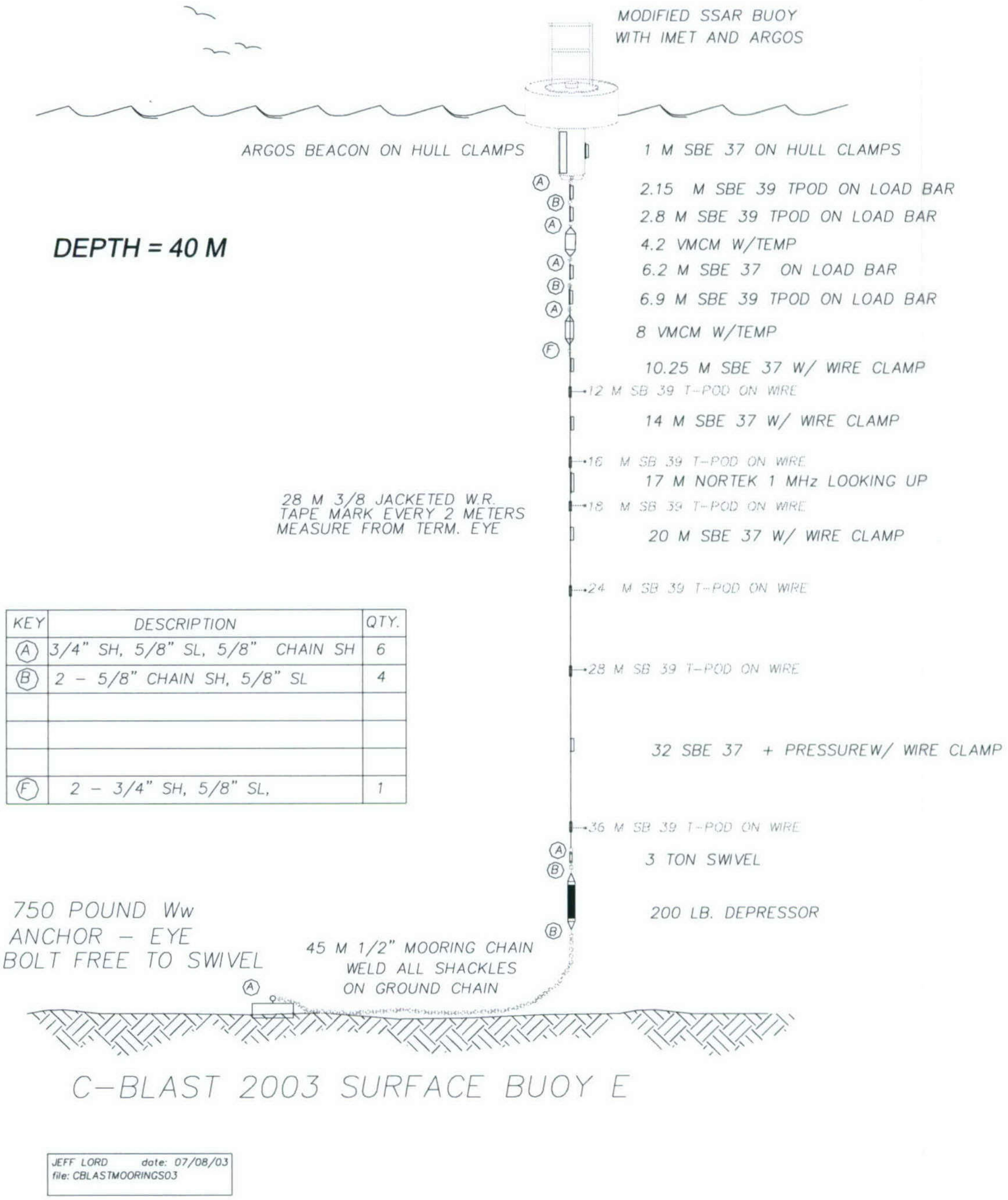
KEY	DESCRIPTION	QTY.
Ⓐ	3/4" SH, 5/8" SL, 5/8" CHAIN SH	4
Ⓑ	2 – 5/8" CHAIN SH, 5/8" SL	3

Figure 12. Diagram of heavy mooring C.



KEY	DESCRIPTION	QTY.
Ⓐ	3/4" SH, 5/8" SL, 5/8" CHAIN SH	4
Ⓑ	2 – 5/8" CHAIN SH, 5/8" SL	3

Figure 13. Diagram of heavy mooring D.



KEY	DESCRIPTION	QTY.
Ⓐ	3/4" SH, 5/8" SL, 5/8" CHAIN SH	6
Ⓑ	2 – 5/8" CHAIN SH, 5/8" SL	4
Ⓕ	2 – 3/4" SH, 5/8" SL,	1

Figure 14. Diagram of heavy mooring E.

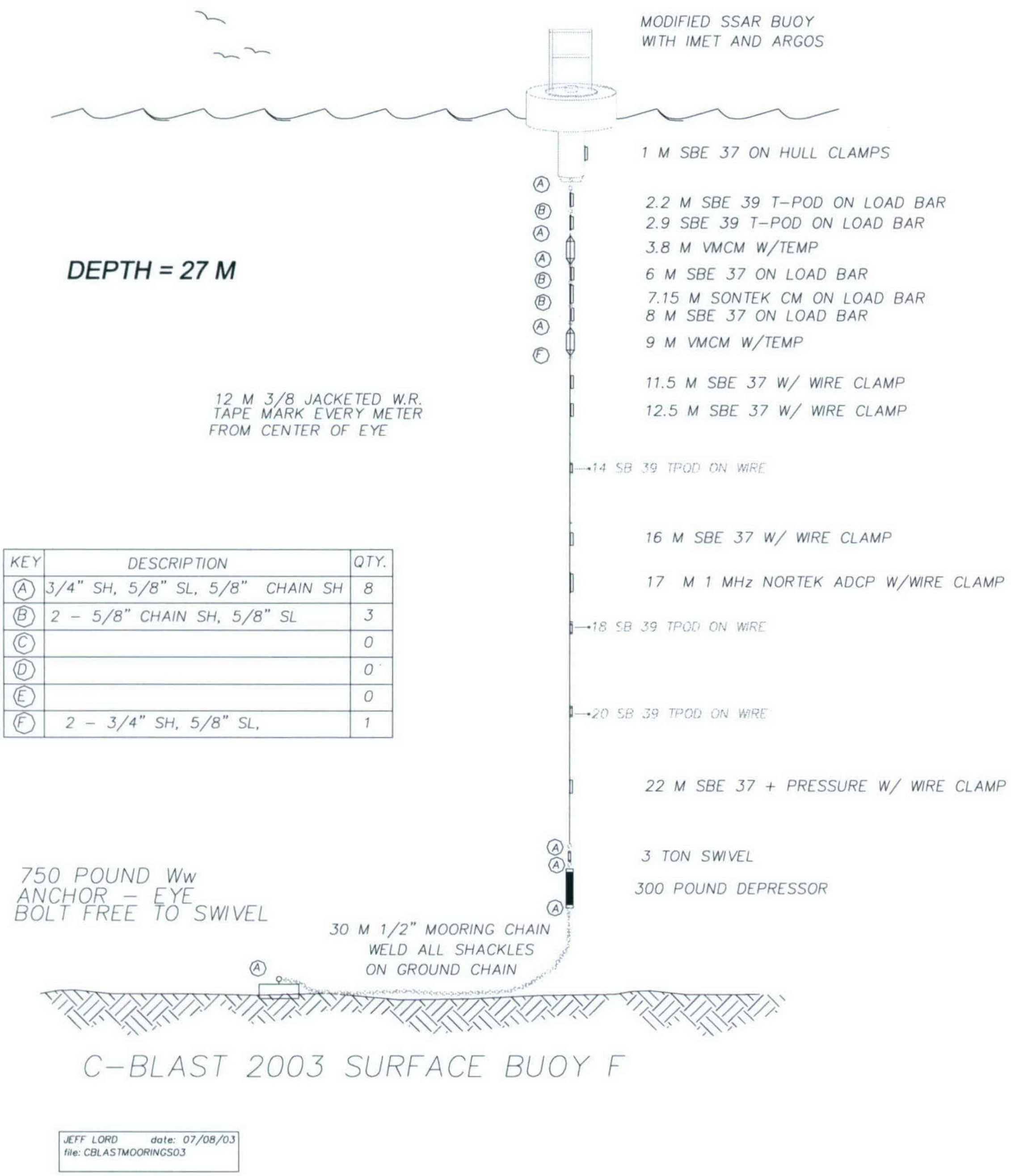


Figure 15. Diagram of heavy mooring F.

D. Light Moorings

Ten light moorings were deployed during CBLAST 2003. These light moorings were equipped to measure subsurface temperature only. The tables below detail the instruments and sampling rates of the light moorings.

Table 8. Light Mooring L1 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Pre-deployment Spike (UTC, year 2003)
Temperature	Onset Tidbit	358907	Surface	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Brancker	3270	0.5	180	August 29, 10:35:30 – 11:35:30
Temperature	Onset Tidbit	358908	1	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	358909	2	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	358910	3	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395851	4	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395852	5	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395853	6	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395854	7	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395855	8	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395856	9	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395857	10	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395858	11	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395859	12	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395860	13	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395861	14	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395862	15	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395863	16	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395864	17	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395865	18	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395866	19	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395867	20	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395868	21	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395870	22	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395871	23	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395872	24	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395873	25	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	395874	26	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	452685	28	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	452686	30	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	452687	32	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	452689	34	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	452690	36	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	452691	38	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Onset Tidbit	452692	40	300	Jul. 31, 18:05 – 19:05 and Aug. 28, 13:13 – 14:14
Temperature	Brancker	3715	44	180	Aug. 29, 15:38:30 – 16:48

Table 9. Light Mooring L2 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Temperature	Onset Tidbit	452695	Surface	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Brancker	3277	0.5	180	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	452696	1	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452697	2	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452698	3	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452699	4	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452700	5	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452701	6	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452702	7	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452703	8	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452704	9	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452705	10	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452706	11	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452707	12	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452708	13	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452709	14	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452710	15	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452711	16	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452713	17	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452714	18	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452715	19	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452716	20	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452717	21	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452718	22	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452719	23	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452720	24	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452721	25	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452723	26	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452724	28	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452726	30	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452727	32	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452728	34	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452730	36	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	452733	38	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Brancker	3314	42	180	Aug. 29, 2003 15:38:30 – 16:48:00

Table 10. Light Mooring L3 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Post-deployment Spike (UTC)
Temperature	Onset Tidbit	452735	Surface	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3281	0.5	180	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	452736	1	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	452737	2	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	452740	3	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453580	4	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453581	5	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453582	6	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453583	7	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453584	8	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453586	9	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453587	10	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453588	11	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453589	12	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453590	13	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453591	14	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453592	15	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453593	16	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453594	17	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453595	18	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453596	19	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453597	20	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453598	22	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453599	24	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453600	26	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453601	28	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453603	30	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	5458	31	180	Aug. 29, 2003 15:38:30 – 16:48:00

Table 11. Light Mooring L4 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (meters)	Sampling Rate (seconds)
Temperature	Onset Tidbit	453604	Surface	300
Temperature	Brancker	3282	0.5	180
Temperature	Onset Tidbit	453605	1	300
Temperature	Onset Tidbit	453606	2	300
Temperature	Onset Tidbit	453608	3	300
Temperature	Onset Tidbit	453609	4	300
Temperature	Onset Tidbit	453610	5	300
Temperature	Onset Tidbit	453611	6	300
Temperature	Onset Tidbit	453612	7	300
Temperature	Onset Tidbit	453613	8	300
Temperature	Onset Tidbit	453614	9	300
Temperature	Onset Tidbit	453616	10	300
Temperature	Onset Tidbit	453618	11	300
Temperature	Onset Tidbit	453619	12	300
Temperature	Onset Tidbit	453620	13	300
Temperature	Onset Tidbit	453623	14	300
Temperature	Onset Tidbit	453625	15	300
Temperature	Onset Tidbit	453626	16	300
Temperature	Onset Tidbit	453627	17	300
Temperature	Onset Tidbit	453628	18	300
Temperature	Onset Tidbit	453630	19	300
Temperature	Onset Tidbit	453631	20	300
Temperature	Onset Tidbit	453632	21	300
Temperature	Onset Tidbit	453633	22	300
Temperature	Onset Tidbit	453635	23	300
Temperature	Onset Tidbit	453636	24	300
Temperature	Onset Tidbit	453638	26	300
Temperature	Onset Tidbit	453640	28	300
Temperature	Onset Tidbit	453643	30	300
Temperature	Onset Tidbit	453644	32	300
Temperature	Onset Tidbit	453645	34	300
Temperature	Onset Tidbit	453647	36	300
Temperature	Onset Tidbit	453607	38	300
Temperature	Brancker	5463	40	180

Table 12. Light Mooring L5 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Temperature	Onset Tidbit	45650	Surface	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3285	0.5	180	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453651	1	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453652	2	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453653	3	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453654	4	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453655	5	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453656	6	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453657	7	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453658	8	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453659	9	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453661	10	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453662	11	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453663	12	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453664	13	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453665	14	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453666	15	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453667	16	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453668	18	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453669	20	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453670	22	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453671	24	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453672	26	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3708	27	180	Aug. 29, 2003 15:38:30 – 16:48:00

Table 13. Light Mooring L6 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Temperature	Onset Tidbit	453673	Surface	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Brancker	3294	0.5	180	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	Onset Tidbit	453674	1	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453675	2	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453676	3	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453678	4	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453679	5	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453681	6	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453682	7	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453683	8	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453684	9	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453685	10	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453686	11	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453687	12	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453688	13	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453689	14	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453690	15	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453691	16	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453692	18	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453693	20	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453694	22	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453695	24	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453696	26	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Brancker	3713	27	180	Aug. 29, 2003 10:35:30 – 11:35:30

Table 14. Light Mooring L7 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Temperature	Onset Tidbit	453697	Surface	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Brancker	3302	0.5	180	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	Onset Tidbit	453698	1	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453699	2	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453700	3	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453701	4	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453702	5	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453703	6	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453704	7	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453705	8	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453706	9	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453707	10	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453708	11	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453709	12	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453710	14	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	453711	16	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	484884	18	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	484885	20	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	484901	22	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	484903	24	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	484907	26	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	484908	28	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	484906	30	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Onset Tidbit	395875	32	300	Aug. 28, 2003 13:13:00 – 14:14:00
Temperature	Brancker	3312	35	180	Aug. 29, 2003 10:35:30 – 11:35:30

Table 15. Light Mooring L8 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Post-deployment Spike (UTC)
Temperature	Onset Tidbit	453712	Surface	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3304	0.5	180	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453713	1	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453714	2	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453715	3	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453716	4	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453717	5	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453718	6	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453719	7	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453721	8	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453722	9	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453723	10	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453725	11	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453726	12	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453680	13	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484882	14	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484883	16	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3706	18	180	Aug. 29, 2003 15:38:30 – 16:48:00

Table 16. Light Mooring L9 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Post-deployment Spikes (UTC)
Temperature	Onset Tidbit	484886	Surface	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3307	0.5	180	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484887	1	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484888	2	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484889	3	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484890	4	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484891	5	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484892	6	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484893	7	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484894	8	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484895	9	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484896	10	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484897	11	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484898	12	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484899	13	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484900	14	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	452694	16	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484904	18	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484905	20	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3714	22	180	Aug. 29, 2003 15:38:30 – 16:48:00

Table 17. Light Mooring L10 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Post-deployment Spikes (UTC)
Temperature	Onset Tidbit	484909	Surface	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	3310	0.5	180	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484910	1	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484911	2	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484912	3	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	453648	4	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484914	5	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484915	6	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484916	7	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484917	8	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484918	9	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484919	10	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484920	11	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484921	12	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484922	13	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484923	14	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484924	15	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484925	16	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484926	17	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484927	18	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484928	19	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484929	20	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484930	22	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Onset Tidbit	484931	24	300	Aug. 29, 2003 15:38:30 – 16:48:00
Temperature	Brancker	5457	27	180	Aug. 29, 2003 15:38:30 – 16:48:00

Table 18. Light Mooring Recovery and Deployment Times, and Anchor Positions.

Mooring	Deployment (UTC)	Recovery (UTC)	Latitude	Longitude
Light 1	Aug. 2, 2003, 13:48:04	Aug. 27, 2003, 10:55:50	41° 02.126' N	70° 44.817' W
Light 2	Aug. 2, 2003, 14:48:00	Aug. 27, 2003, 11:53:45	41° 04.538' N	70° 36.934' W
Light 3	Aug. 2, 2003, 16:00:50	Aug. 28, 2003, 09:40:30	41° 10.036' N	70° 43.755' W
Light 4	Aug. 2, 2003, 15:26:40	Lost at sea	41° 07.507' N	70° 40.572' W
Light 5	Aug. 2, 2003, 16:38:30	Aug. 28, 2003, 14:00:00	41° 14.130' N	70° 41.865' W
Light 6	Aug. 2, 2003, 17:25:44	Aug. 27, 2003, 13:26:52	41° 12.419' N	70° 37.100' W
Light 7	Aug. 2, 2003, 17:57:25	Aug. 27, 2003, 14:02:30	41° 12.344' N	70° 33.894' W
Light 8	Aug. 2, 2003, 19:21:21	Aug. 28, 2003, 02:06:50	41° 18.814' N	70° 37.556' W
Light 9	Aug. 2, 2003, 18:56:11	Aug. 28, 2003, 02:35:40	41° 17.379' N	70° 34.660' W
Light 10	Aug. 2, 2003, 18:25:40	Aug. 28, 2003, 03:19:20	41° 15.450' N	70° 31.568' W

E. F/V Nobska

During CBLAST 2003, the *F/V Nobska* was rented and used for deployment and recovery of heavy and light moorings, as well as making CTD casts, taking meteorological readings, and towing an instrumented chain.

CTD Casts

During the fieldwork for CBLAST 2003, many CTD casts were performed to validate the measurements taken from the moorings and boom chain. The tables below give the dates, times, and locations for the casts. There are multiple file names for some of the casts because the instrument was not cleared of previous cast data.

Table 19. CTD casts during deployment of heavy moorings.

Leg	Date	Time	Location
D	15-Jul	12:38:10	Mooring C
D	15-Jul	13:22:23	Mooring D
D	16-Jul	14:27:28	Mooring A
D	16-Jul	16:11:33	Mooring E
D	16-Jul	17:28:01	Mooring F

Table 20. CTD casts during deployment of light moorings.

Leg	Date	Time	Location
1	2-Aug	13:50:08	L1
1	2-Aug	14:48:57	L2
1	2-Aug	15:28:19	L4
1	2-Aug	16:01:54	L3
1	2-Aug	16:39:43	L5
1	2-Aug	17:27:21	L6
1	2-Aug	17:58:59	L7
1	2-Aug	18:27:02	L10
1	2-Aug	18:57:02	L9
1	2-Aug	19:22:17	L8

Table 21. CTD casts during transect from light mooring 1 to ASIT.

Leg	Date	Time	Location
1	2-Aug	21:39:27	41 deg 05.631 70 deg 43.17
1	2-Aug	21:53:49	41 deg 06.56 70 deg 42.55
1	2-Aug	22:07:34	41 deg 07.54 70 deg 42.06
1	2-Aug	22:20:53	41 deg 08.47 70 deg 41.60
1	2-Aug	22:33:39	41 deg 09.41 70 deg 41.36
1	2-Aug	22:46:19	41 deg 10.34 70 deg 40.85
1	2-Aug	22:58:14	41 deg 11.21 70 deg 40.38
1	2-Aug	23:10:31	41 deg 12.12 70 deg 40.06
1	2-Aug	23:28:47	41 deg 13.04 70 deg 39.67
1	3-Aug	0:06:19	41 deg 13.94 70 deg 39.10
1	3-Aug	0:18:09	41 deg 14.87 70 deg 38.66
1	3-Aug	0:30:50	41 deg 15.82 70 deg 38.03
1	3-Aug	0:43:22	41 deg 16.65 70 deg 37.24
1	3-Aug	0:55:59	41 deg 17.60 70 deg 36.44
1	3-Aug	1:09:29	41 deg 18.34 70 deg 35.16

Table 22. CTD casts taken prior to deployment of the tow chain.

Leg	Date	Time	Location
1	3-Aug	13:27:17	41 deg 10.443 70 deg 41.614
1	4-Aug	15:13:53	40 deg 59.361 70 deg 35.659
1	5-Aug	10:09:59	41 deg 08.685 70 deg 35.126

Table 23. CTD casts taken during recovery of moorings.

Leg	Date	Time	Location
4	25-Aug	13:56:15	Mooring F
4	27-Aug	9:19:00	Mooring A
4	27-Aug	10:47:53	L1
4	27-Aug	11:46:41	L2
4	27-Aug	12:27:38	Mooring E
4	27-Aug	13:19:29	L6
4	27-Aug	13:55:25	L7
4	27-Aug	16:44:06	Mooring D
4	28-Aug	3:13:02	L10
4	28-Aug	9:32:47	L3
4	28-Aug	12:03:44	Mooring C
4	28-Aug	14:05:34	L5

Figures 16–18 show the location and results of the CTD transect taken between Light Mooring 1 and the Air Sea Interaction Tower (ASIT).

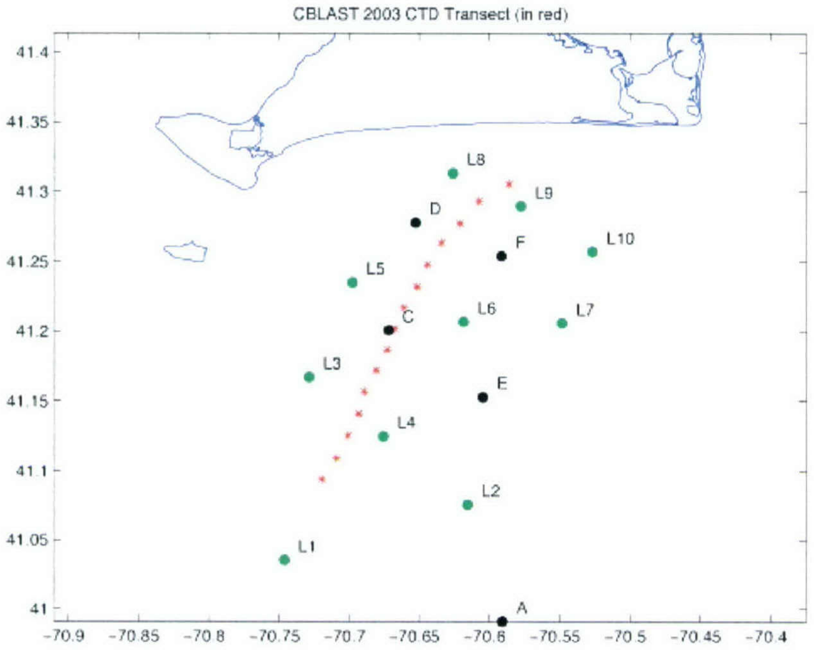


Figure 16. Map of CTD transect.

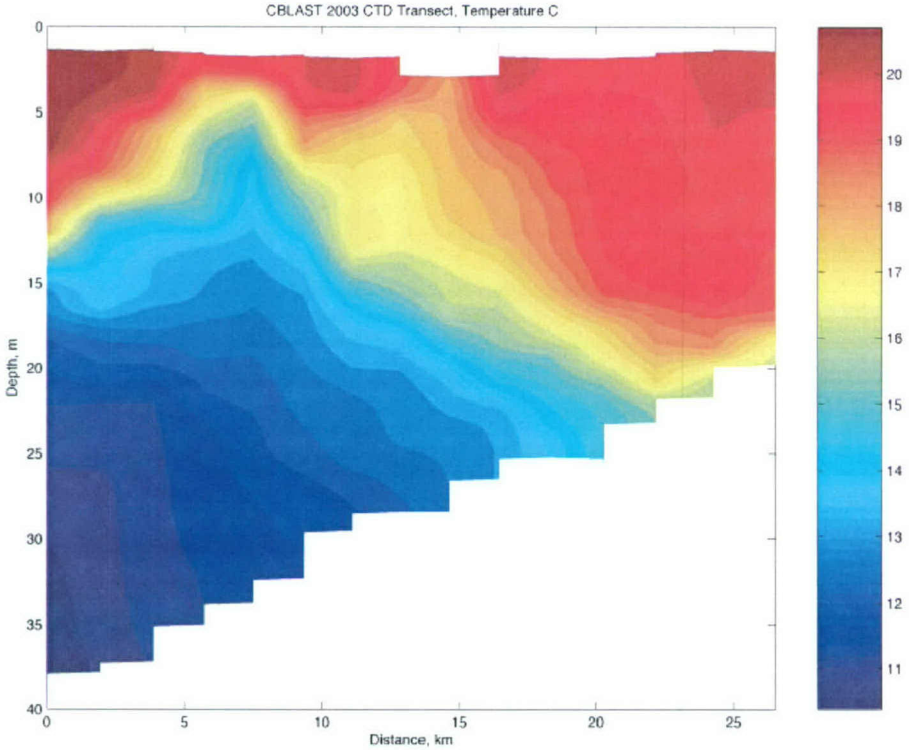


Figure 17. Contour plot of temperature from CTD section in Figure 16.

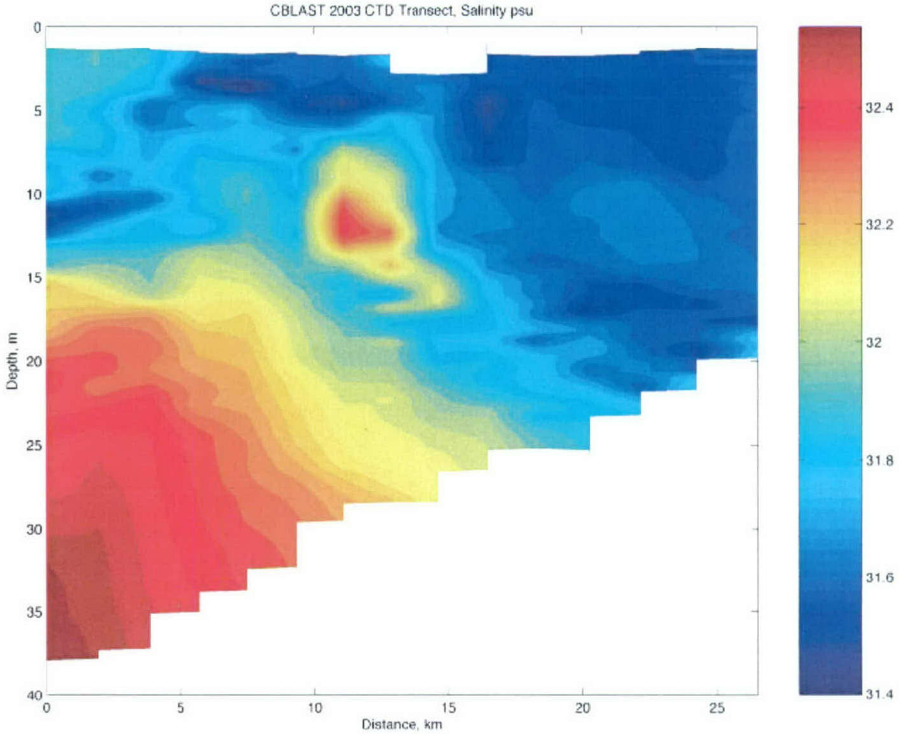


Figure 18. Contour plot of salinity from CTD section in Figure 16.

Handheld Meteorological Readings

During the deployment of the light moorings, meteorological data was taken with handheld sensors. The table below gives the results of these measurements. As noted, the first several sets of measurements were duplicated by several sensors. 'Kestrel' refers to a Kestrel 4000, which measures relative humidity, air temperature, wind speed, and barometric pressure. 'Air' refers to an Air HB-1A handheld barometric pressure sensor. 'Vaisala' refers to an HM-34 relative humidity sensor. All sea surface temperature readings were taken with a bucket thermometer.

Table 24. Results of Handheld Met Readings.

Date and Time (UTC)	Position	Barometric Pressure (mb)	Relative Humidity (%)	Air Temperature (°C)	Sea Surface Temperature (°C)	Mooring[2]
Aug. 2 13:54	41° 02.105’ N 70° 44.636’ W	1018.1 (Kestrel) 1018.4 (Air)	81.6 (Kestrel) 81.7 (Vaisala)	24.1 (Kestrel) 25.2 (Vaisala)	21.0	L1
Aug. 2 14:54	41° 04.631’ N 70° 36.832’ W	1018.4 (Kestrel) 1019.2 (Air)	78.8 (Kestrel) 78.3 (Vaisala)	24.3 (Kestrel) 26.4 (Vaisala)	20.9	L2
Aug. 2 15:30	41° 07.596’ N 70° 40.616’ W	1018.8 (Air)	76.7 (Vaisala)	26.3 (Vaisala)	21.8	L4
Aug. 2 16:05	41° 10.070’ N 70° 43.779’W	1018.8 (Air)	82.2 (Vaisala)	25.3 (Vaisala)	21.0	L3
Aug. 2 16:40	Exact Position Unknown	1018.8 (Air)	81.7 (Vaisala)	24.6 (Vaisala)	20.0	L5
Aug. 2 17:30	41° 12.419’ N 70° 37.100’ W	1019.0 (Air)	85.1 (Vaisala)	24.3 (Vaisala)	20.1	L6
Aug. 2 18:00	41° 12.344’ N 70° 33.894’ W	1019.1 (Air)		22.6 (Vaisala)	18.2	L7
Aug. 2 18:30	41° 15.450’ N 70° 31.568’ W	1018.9 (Air)		23.9 (Vaisala)	20.5	L10
Aug. 2 19:00	41° 17.379’ N 70° 34.650’ W	1019.0 (Air)	86.5 (Vaisala)	23.5 (Vaisala)	20.1	L9
Aug. 2 19:25	41° 18.807’N 70° 37.556’ W	1018.9 (Air)	85.3 (Vaisala)	24.9 (Vaisala)	20.5	L8

Tow Chain

The instruments on the tow chain were labeled in sequence from 1 to 22 (#1 being the shallowest). Except for a two-time reversal of instruments 1 and 2, this order was maintained throughout the field program. The spacing could be varied, but it was usually between 0.5 and 1.5 m and was typically uniform. The spacing was varied between tows (and even during tows), and the spacing was recorded in the cruise log. Spacings shown below should be viewed as tentative and should be checked against pressure measurements. Frequently, the top few instruments were removed to avoid dragging instruments on the bottom. Table 26 gives the instrument serial numbers, sampling rates, and spikes.

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[2] Note that readings were taken just after deployments of light moorings.

Table 25. Tow Chain Original Configuration.

Instrument #	Parameter(s)	Type	Serial #	Spikes (UTC)
1	Temperature, Salinity	SBE 37	2045 (#1 and 2 were swapped on 08/13)	Aug. 29, 2003 10:35:30 – 11:35:30
2	Temperature	SBE 39	0630	Aug. 29, 2003 10:35:30 – 11:35:30
3	Temperature	SBE 39	0203	Aug. 29, 2003 10:35:30 – 11:35:30
4	Temperature	SBE 39	0653	Aug. 29, 2003 10:35:30 – 11:35:30
5	Temperature	SBE 39	0282	Aug. 29, 2003 10:35:30 – 11:35:30
6	Temperature	SBE 39	0820	Aug. 29, 2003 10:35:30 – 11:35:30
7	Temperature	SBE 39	0284	Aug. 29, 2003 10:35:30 – 11:35:30
8	Temperature, Salinity	SBE 37	1900	Aug. 29, 2003 10:35:30 – 11:35:30
9	Temperature	SBE 39	0686	Aug. 29, 2003 10:35:30 – 11:35:30
10	Temperature, Pressure	SBE 39	0369	Aug. 29, 2003 10:35:30 – 11:35:30
11	Temperature	SBE 39	0687	Aug. 29, 2003 10:35:30 – 11:35:30
12	Temperature, Pressure	SBE 39	0370	Aug. 29, 2003 10:35:30 – 11:35:30
13	Temperature	SBE 39	0689	Aug. 29, 2003 10:35:30 – 11:35:30
14	Temperature	SBE 39	0476	Aug. 29, 2003 10:35:30 – 11:35:30
15	Temperature, Salinity	SBE 37	1902	Aug. 29, 2003 10:35:30 – 11:35:30
16	Temperature	SBE 39	0477 (0042, leg 3 and 4)	Aug. 29, 2003 10:35:30 – 11:35:30
17	Temperature	SBE 39	0694	Aug. 29, 2003 10:35:30 – 11:35:30
18	Temperature	SBE 39	0716	Aug. 29, 2003 10:35:30 – 11:35:30
19	Temperature	SBE 39	0789	Aug. 29, 2003 10:35:30 – 11:35:30
20	Temperature	SBE 39	0717	Aug. 29, 2003 10:35:30 – 11:35:30
21	Temperature, Salinity	SBE 37	2015	Aug. 29, 2003 10:35:30 – 11:35:30
22	Pressure	DR1050	9793	Aug. 29, 2003 10:35:30 – 11:35:30

Leg 1 Tow Chain:

Aug. 4, 2003

18:25	1-m spacing. Top 3 instruments removed.
19:05	Next 3 removed.
19:28	Next 3 removed.
21:38	Entire chain recovered (time in log questionable).

21:42 Redeployed (time in log questionable).
21:54 Chain recovered.

Aug. 5, 2003
01:49 Chain deployed with 1.5 m spacing.
08:50 Recovered.
10:27 Spacing not recorded. Probably 1.5 m (instruments were removed when depth ~30m).
11:44 Swapped instruments #1 and #2, deployed chain with 0.5 m spacing.
13:36-18:10 Top 3 instruments removed and replaced twice.
20:41 Removed top 3 instruments.
22:08-22:22 Recover/redeploy.

Aug. 6, 2003
00:27 Top 3 instruments removed.
07:20 Chain recovered.
11:44 Swapped instruments #1 and #2, deploy chain, 0.5 m spacing. "Radiator" transects.
Aug. 7, 2003
16:42-18:13 On station at ASIT for flux comparison, bow-into-wind.
17:05-17:10 Reposition (not bow-into-wind). Chain remains deployed.
18:13 Recover boom chain.
21:10 Deploy boom chain (1.5 m spacing). Tow around drifters.

Aug. 8, 2003
06:30 Recover boom chain.

Leg 2 Tow Chain:

Aug. 13, 2003
12:11 Radiator tow, spacing not recorded, probably 1-m.
23:54 Instrument #16 (S/N 0477) damaged and removed from service. Redeploy with 1-m spacing and 21 instruments, i.e. we did not skip spot #16.
16:49 Deploy chain with bottom 9 (i.e. 12-22, excluding 16) at 1.5 m spacing and 1-12 at 1 m spacing.

Leg 3 Tow Chain:

Aug. 19, 2003 Instrument #16 now has S/N 0042. 1 m spacing default.

Aug. 20, 2003
11:56 Chain deployed with original #1 on top (not swapped).
17:43 Chain deployed with original #2 on top.

Aug. 21, 2003
19:40 2.5 m spacing on #12-22, 1.5 m between #1-12.

Aug. 22, 2003
00:18 1 m spacing.

Leg 4 Tow Chain:

Aug. 25, 2003 1 m spacing default.

Aug. 27, 2003
00:00 Deploy with 1.5 m spacing.

Table 26. Tow Chain Instruments and Sampling Rates.

Parameter(s)	Instrument	Serial #	Sampling Rate (s)	Spikes (UTC)
Temperature, pressure	DR 1050	9793	5	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, Temperature	SBE37	1900	5	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, temperature	SBE37	2045	5	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, temperature	SBE37	2015	5	Aug. 29, 2003 10:35:30 – 11:35:30
Salinity, temperature	SBE37	1902	5	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0476	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0694	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0689	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0716	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0717	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0789	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0686	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0820	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0369	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0284	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0653	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0203	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0687	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0282	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0630	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0370	4	Aug. 29, 2003 10:35:30 – 11:35:30
Temperature	SBE39	0477	4	Aug. 29, 2003 10:35:30 – 11:35:30

Drifting Moorings

Five drifting moorings were deployed from the *F/V Nobska* during Aug. of 2003. The tables below detail the instruments and sampling rates on the drifters.

Table 27. Drifter 1 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	**Instrument**	**Serial #**	**Depth (m)**	**Sampling Rate (s)**	**Spikes (UTC)**
Location	Brightwater	7388 "V" […-]	Surface	---	N/A
Salinity, Temperature	SBE37	2042	0.5	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature Logger	XR – 420 – T24	10304	1.55	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	TR - 1050	11177	1.61	5	Aug. 28, 2003 17:36:30 – 18:34:30
Current	Sontek	171	2.15	300 sampling rate 120 averaging time	Aug. 28, 2003 13:48:30 – 14:58:30
Temperature	T – 24	---	2.15	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 23	---	2.64	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 22	---	3.14	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 21	---	3.64	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 20	---	4.13	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 19	---	4.63	10	Aug. 28, 2003 17:36:30 – 18:34:30
Current	Sontek	193	5.13	300 sampling rate 120 average time	Aug. 28, 2003 13:48:30 – 14:58:30
Temperature	T – 18	---	5.13	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 17	---	5.63	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 16	---	6.12	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 15	---	6.62	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 14	---	7.11	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 13	---	7.60	10	Aug. 28, 2003 17:36:30 – 18:34:30
Current	Sontek	197	8.09	300 sampling rate 120 average time	Aug. 28, 2003 13:48:30 – 14:58:30
Temperature	T – 12	---	8.09	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 11	---	8.59	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 10	---	9.09	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 09	---	9.60	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 08	---	10.12	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 07	---	10.62	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 06	---	11.12	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 05	---	11.62	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 04	---	12.11	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 03	---	12.61	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 02	---	13.11	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 01	---	13.64	10	Aug. 28, 2003 17:36:30 – 18:34:30
Salinity, Temperature	SBE37	2030	14.25	10	Aug. 28, 2003 17:36:30 – 18:34:30
Pressure	DR - 1050	9794	14.9	5	Aug. 28, 2003 17:36:30 – 18:34:30

Table 28. Drifter 2 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	**Instrument**	**Serial #**	**Depth (m)**	**Sampling Rate (s)**	**Spikes (UTC)**
Location	Brightwater	7387 “Z” [- - . .]	Surface	---	N/A
Salinity, Temperature	SBE37	1648	0.5	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature Logger	XR – 420 – T24	10303	1.5	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	TR - 1050	10985	1.68	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 24	---	2.19	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 23	---	2.68	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 22	---	3.18	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 21	---	3.69	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 20	---	4.19	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 19	---	4.69	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 18	---	5.19	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 17	---	5.71	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 16	---	6.19	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 15	---	6.68	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 14	---	7.19	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 13	---	7.68	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 12	---	8.17	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 11	---	8.68	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 10	---	9.17	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 09	---	9.66	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 08	---	10.2	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 07	---	10.7	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 06	---	11.2	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 05	---	11.7	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 04	---	12.2	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 03	---	12.7	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 02	---	13.2	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 01	---	13.71	10	Aug. 28, 2003 17:36:30 – 18:34:30
Salinity, Temperature	SBE37	2040	14.25	5	Aug. 28, 2003 17:36:30 – 18:34:30
Pressure	DR - 1050	9799	14.9	5	Aug. 28, 2003 17:36:30 – 18:34:30

Table 29. Drifter 3 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
	Brightwater	9630 "J" [. - - -]	Surface	---	N/A
Salinity, Temperature	SBE37	2036	0.5	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature Logger	XR – 420 – T24	10305	1.59	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	TR - 1050	10983	1.67	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 24	---	2.24	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 23	---	2.74	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 22	---	3.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 21	---	3.73	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 20	---	4.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 19	---	4.73	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 18	---	5.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 17	---	5.73	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 16	---	6.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 15	---	6.72	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 14	---	7.22	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 13	---	7.72	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 12	---	8.22	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 11	---	8.72	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 10	---	9.21	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 09	---	9.71	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 08	---	10.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 07	---	10.74	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 06	---	11.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 05	---	11.74	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 04	---	12.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 03	---	12.74	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 02	---	13.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 01	---	13.76	10	Aug. 28, 2003 17:36:30 – 18:34:30
Salinity, Temperature	SBE37	2041	14.25	5	Aug. 28, 2003 17:36:30 – 18:34:30
Pressure	DR - 1050	9797	14.99	5	Aug. 28, 2003 17:36:30 – 18:34:30

Table 30. Drifter 4 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial #	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Location	Brightwater	7456 “Q” [- - . -]	Surface	---	N/A
Salinity, Temperature	SBE37	1649	0.5	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature Logger	XR – 420 – T24	10306	1.55	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	TR - 1050	10986	1.69	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 24	---	2.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 23	---	2.73	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 22	---	3.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 21	---	3.72	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 20	---	4.22	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 19	---	4.72	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 18	---	5.22	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 17	---	5.74	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 16	---	6.17	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 15	---	6.67	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 14	---	7.17	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 13	---	7.66	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 12	---	8.16	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 11	---	8.65	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 10	---	9.15	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 09	---	9.69	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 08	---	10.22	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 07	---	10.72	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 06	---	11.22	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 05	---	11.72	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 04	---	12.2	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 03	---	12.7	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 02	---	13.21	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 01	---	13.74	10	Aug. 28, 2003 17:36:30 – 18:34:30
Salinity, Temperature	SBE37	2037	14.25	5	Aug. 28, 2003 17:36:30 – 18:34:30
Pressure	DR - 1050	9788	15.02	5	Aug. 28, 2003 17:36:30 – 18:34:30

Table 31. Drifter 5 Instrumentation, Sampling Rates, and Spikes.

Parameter(s)	Instrument	Serial Number	Depth (m)	Sampling Rate (s)	Spikes (UTC)
Location	Brightwater	7455 "Y" [- . - -]	---	---	N/A
Salinity, Temperature	SBE37	2047	0.5	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature Logger	XR – 420 – T24	10302	1.5	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	TR - 1050	10984	1.67	5	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 24	---	2.18	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 23	---	2.68	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 22	---	3.17	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 21	---	3.67	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 20	---	4.17	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 19	---	4.67	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 18	---	5.17	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 17	---	5.68	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 16	---	6.26	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 15	---	6.76	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 14	---	7.26	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 13	---	7.76	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 12	---	8.24	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 11	---	8.76	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 10	---	9.25	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 09	---	9.75	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 08	---	10.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 07	---	10.73	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 06	---	11.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 05	---	11.73	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 04	---	12.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 03	---	12.73	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 02	---	13.23	10	Aug. 28, 2003 17:36:30 – 18:34:30
Temperature	T – 01	---	13.74	10	Aug. 28, 2003 17:36:30 – 18:34:30
Salinity, Temperature	SBE37	2035	14.25	5	Aug. 28, 2003 17:36:30 – 18:34:30
Pressure	DR - 1050	9798	15.04	5	Aug. 28, 2003 17:36:30 – 18:34:30

Nobska Instruments

Several stand-alone instruments were mounted on the *F/V Nobska* during CBLAST 2003. The table below details the instruments and sampling rates onboard the vessel.

Table 32. Nobska Stand Alone Instruments.

Parameter(s)	Instrument	Serial #	Height (cm) above deck (above waterline height in parentheses)	Sampling Rate (s)	Spikes (UTC)
Shortwave Radiation	SWR	201	212 (604)	120	Jul. 16, 2003 12:29:00 – 12:54:00
Longwave Radiation	LWR	211	212 (604)	120	
Flux Package			237 (657) measured to bottom of IR radiometer		
Anemometer			385 (805)		
Upward Radiometer			266 (686)		
Downward Radiometer			253 (673)		
Sea Surface Temperature	SST (ASIMET)	202	287 below waterline	60	Aug. 28, 2003 17:36:30 – 18:34:30

F. MVCO and ASIT

The Air-Sea Interaction Tower (ASIT) and the Martha's Vineyard Coastal Observatory (MVCO) were both utilized during CBLAST 2003. The table below gives the location of the platforms associated with ASIT and MVCO.

Table 33. Locations MVCO, ASIT, and associated equipment.

Shore Lab	41° 21.720' N 70° 31.35' W
Meteorological Mast	41° 20.996' N 70° 31.606' W
12 m Node	41° 20.200' N 70° 33.388' W
ASIT	41° 19.500' N 70° 34.0' W

The ASIT is located 2 miles south of Martha's Vineyard Island in 15 m of water and reaches approximately 76 feet into the air (see Figure 19). The tower was built in a tripod configuration to minimize flow distortion. The objective of ASIT is to investigate ocean processes including air-sea interaction, ocean mixing, gas exchange, bio-optics, and sediment transport. Data from ASIT is transmitted through a node to the MVCO shore lab.

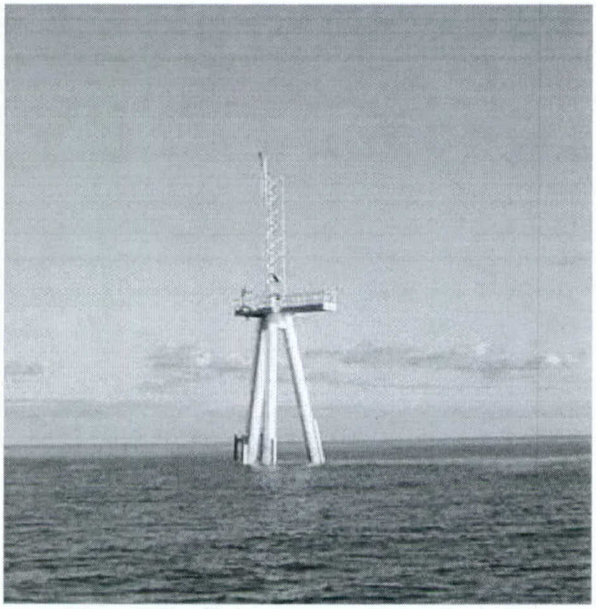

Figure 19. ASIT off the coast of Martha's Vineyard.

The MVCO is a research observatory located on South Beach and extends into the ocean, connecting to a node and the ASIT. The meteorological mast at MVCO measures winds, temperature, humidity, precipitation, CO2, solar and IR radiation, momentum, heat, and moisture fluxes. The subsurface node measures currents, waves, temperature, salinity, and near-bottom wave-orbital and low frequency currents. MVCO provides real-time and archived coastal and meteorological data.

G. Planes

CIRPAS Pelican

The Center for Interdisciplinary Remotely-Piloted Aircraft Studies (CIRPAS) Pelican aircraft is highly instrumented rear-propeller aircraft designed to measure atmospheric turbulence, mean variables, and remotely sensed measurements of sea-surface characteristics. During CBLAST 2003 the Pelican mapped out variability in momentum, heat, moisture, and radiative fluxes as well as boundary layer structure. The figures below show the Pelican aircraft and maps showing representative flight tracks of the Pelican during CBLAST 2003.

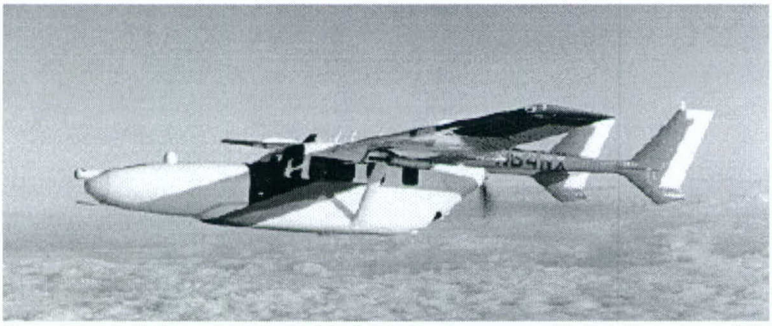

Figure 20. CIRPAS Pelican airplane.

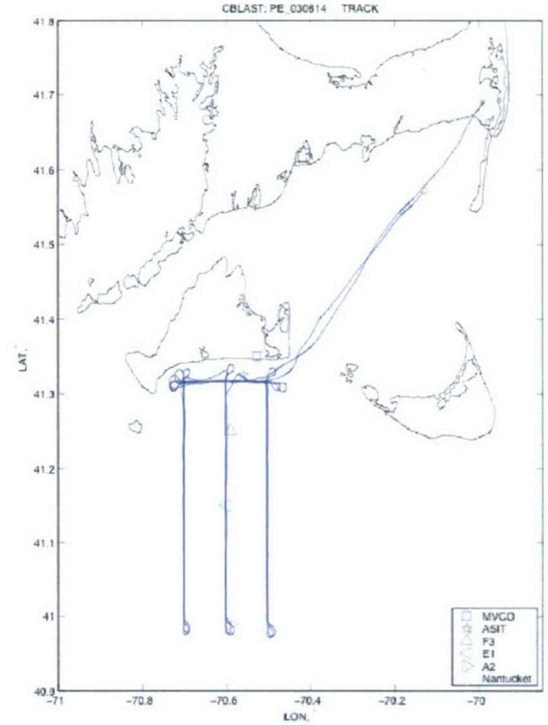

Figure 21. Pelican flight path from Aug. 14, 2003.

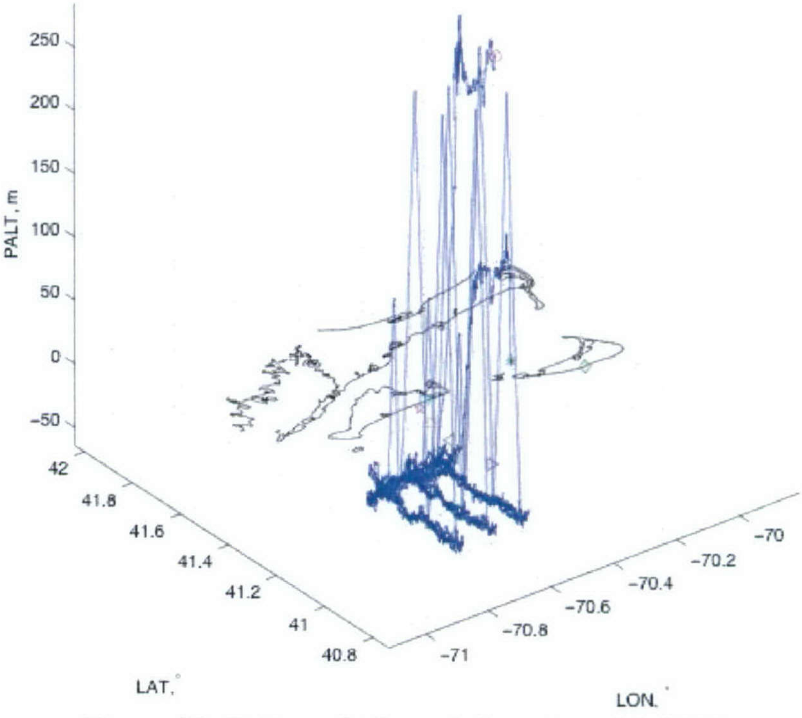

Figure 22. Pelican flight path from Aug. 14, 2003.

IR Cessna

During CBLAST 2003 a Cessna Skymaster airplane equipped with infrared (IR) equipment made measurements of sea surface temperature variability. The IR system included a downward looking longwave IR imager, a collocated downward looking video camera, and a collocated downward-looking longwave narrow field of view IR radiometer. The aircraft is capable of flying as low as 300 m, but normally flew in the range of 850 m.

Figure 23. Infrared Cessna airplane.

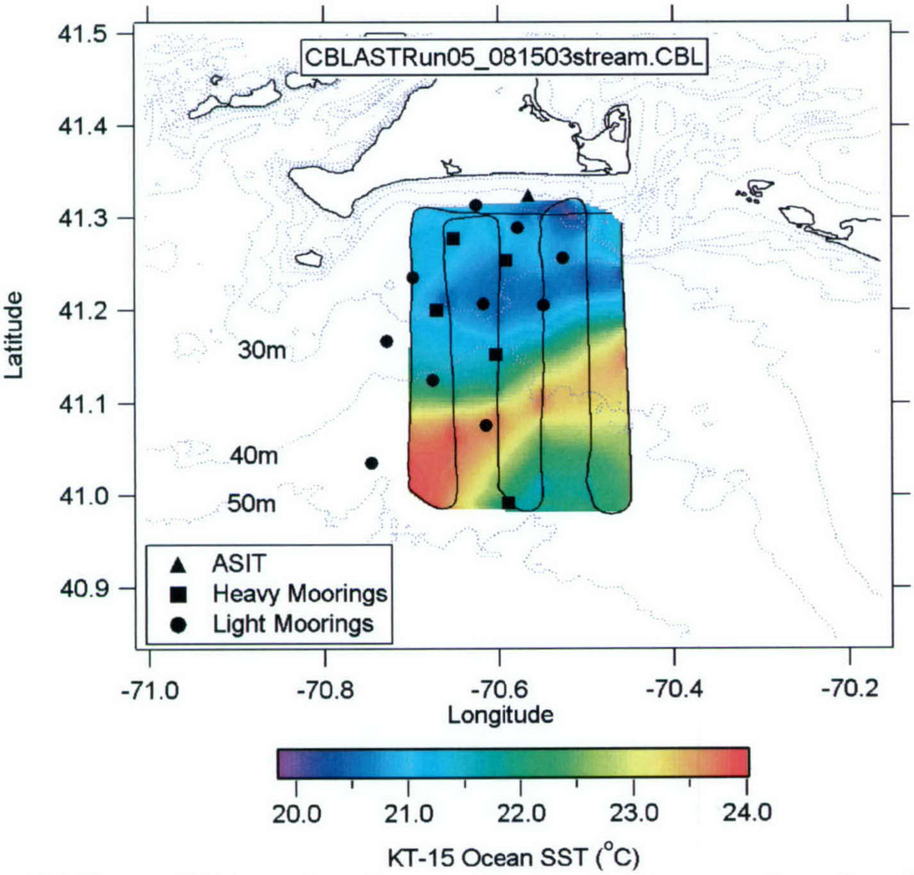

Figure 24. Cessna flight track and sea surface temperature map from Aug. 15, 2003.

6. Data Processing

Overview of Data Return
Data return for the CBLAST 2003 fieldwork was exceptional despite the large number of instruments used and the often treacherous coastal environment. The following gives an overview of instrument problems encountered.

Deployment:
- No known problems.

Leg 1:
- No known problems.

Leg 2:
- SBE39 0477 was snagged on a lobster pot while on the boom chain and broken.

Leg 3:
- SBE39 0282 and SBE39 0476 did not produce any data.

Leg4:
- Brancker DR-1050 9794 gave no data due to a bad start time.
- SBE37 2045 gave very spiky salinity data.

Recovery:
- SBE39 0644 and SBE39 0648 had short record and had already failed by deployment (0644 had low battery).
- SBE39 0692 had short record.
- SBE39 0688 failed about 16 hours before recovery (mooring D).
- No communications were established with SBE37 1325 – no data available.
- SBE39 0695 produced no data.
- SBE39 0721 had garbage records in middle of file (Aug 1-3).
- Five Onset Tidbits were broken / damaged, and all were returned to Onset. Onset was able to retrieve data from #'s 395867, 453684, and 484909. #'s 452699 and 453596 did not have data.
- Nortek 0357 had a short data record ending 8/22/03. Sampling frequency decreased beginning on 8/19/03, and data is suspect for last few days.
- Nortek 0333 had short record and only recorded data for about 2 weeks.

Details of Data Return and Filenames
After each leg of the CBLAST 2003 field work, data was dumped from the instruments and immediately processed. This fast data turn around insured that any instruments that were not working properly were replaced prior to the next leg. Visual review of the data also insured that the experiments were capturing the sought after data. The following tables include the instrument types, serial numbers, sampling rates, filenames, and processing notes for all of the platforms used. The time noted in the files is a year-day (yday) based on 0 being midnight on January 1.

Table 34. Deployment Data Processing

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Nobska	SBE19 CTD Casts	2972	akita/data/cblast/cblast_2003/v2/ctd/deployment/1stpass/CBLAST00.asc, CBLAST01.asc, CBLAST02.asc CBLAST03.asc, CBLAST04.asc	akita/data/cblast/cblast_2003/v2/ctd/deployment/1stpass/CBLAST00.mat, CBLAST01.mat, CBLAST02.mat CBLAST03.mat, CBLAST04.mat	akita/data/cblast/cblast_2003/v2/ctd/deployment/CBLAST00.mat, CBLAST01.mat, CBLAST02.mat CBLAST03.mat, CBLAST04.mat	Y	0.5	

Table 35. Leg 1 Data Processing

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	DR-1050	9793	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/Nobska_RBR_00973_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/Nobska_RBR_00973_01.mat	-	Y	5	
Boom	SBE37	1902	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/Nobska_SBE37_1902_01.asc	akita/data/cblast/cblast_2003/v2/leg1/Nobska_SBE37_1902_01.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	1900	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/Nobska_SBE37_1900_01.asc	akita/data/cblast/cblast_2003/v2/leg1/Nobska_SBE37_1900_01.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	2015	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/Nobska_SBE37_2015_01.asc	akita/data/cblast/cblast_2003/v2/leg1/Nobska_SBE37_2015_01.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	2045	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/Nobska_SBE37_2045_01.asc	akita/data/cblast/cblast_2003/v2/leg1/Nobska_SBE37_2045_01.mat	-	Y	5	
Boom	SBE39	0203	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0203_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0203_01.mat	-	Y	5	
Boom	SBE39	0282	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0282_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0282_01.mat	-	Y	5	
Boom	SBE39	0284	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0284_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0284_01.mat	-	Y	5	
Boom	SBE39	0369	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0369_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0369_01.mat	-	Y	5	
Boom	SBE39	0370	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0370_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0370_01.mat	-	Y	5	
Boom	SBE39	0476	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0476_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0476_01.mat	-	Y	5	
Boom	SBE39	0477	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0477_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0477_01.mat	-	Y	5	
Boom	SBE39	0630	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0630_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0630_01.mat	-	Y	5	
Boom	SBE39	0653	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0653_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0653_01.mat	-	Y	4	
Boom	SBE39	0686	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0686_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0686_01.mat	-	Y	4	
Boom	SBE39	0687	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0687_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0687_01.mat	-	Y	5	
Boom	SBE39	0689	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0689_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0689_01.mat	-	Y	4	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	SBE39	0694	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0694_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0694_01.mat	-	Y	4	
Boom	SBE39	0716	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0716_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0716_01.mat	-	Y	5	
Boom	SBE39	0717	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0717_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0717_01.mat	-	Y	4	
Boom	SBE39	0789	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0789_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0789_01.mat	-	Y	4	
Boom	SBE39	0820	akita/data/cblast/cblast_2003/v1/sbe39/leg1/raw/Nobksa_SBE39_0820_01.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg1/Nobksa_SBE39_0820_01.mat	-	Y	4	
Drifter 1	Brightwater	7388	akita/data/cblast/cblast_2003/v2/brightwaters/leg1/7388.txt	-	-	Y	variable	N/A
Drifter 1	DR-1050	9794	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D1_RBR_009794_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D1_RBR_009794_01.mat	-	Y	5	
Drifter 1	SBE37	2030	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D1_SBE37_2030_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D1_SBE37_2030_01.mat	-	Y	5	
Drifter 1	SBE37	2042	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D1_SBE37_2042_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D1_SBE37_2042_01.mat	-	Y	5	
Drifter 1	Sontek	197	akita/data/cblast/cblast_2003/v1/sontek/leg1/D1_D197001_01.dat	akita/data/cblast/cblast_2003/v2/sontek/leg2/D1_SON_D197_01.mat	-	Y	300 sampling 120 averaging	
Drifter 1	Sontek	171	akita/data/cblast/cblast_2003/v1/sontek/leg1/D1_D171001_01.dat	akita/data/cblast/cblast_2003/v2/sontek/leg2/D1_SON_D171_01.mat	-	Y	300 sampling 120 averaging	
Drifter 1	Sontek	193	akita/data/cblast/cblast_2003/v1/sontek/leg1/D1_D193001_01.dat	akita/data/cblast/cblast_2003/v2/sontek/leg2/D1_SON_D193_01.mat	-	Y	300 sampling 120 averaging	
Drifter 1	TR-1050	11177	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D1_RBR_011177_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D1_RBR_011177_01.dat	-	Y	5	
Drifter 1	XR-420-T24	10304	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D1_RBR_010304_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D1_RBR_010304_01.dat	-	Y	10	
Drifter 2	Brightwater	7387	akita/data/cblast/cblast_2003/v2/brightwaters/leg1/7387.txt	-	-	Y	variable	N/A
Drifter 2	DR-1050	9799	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D2_RBR_9799_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D2_RBR_009799_01.mat	-	Y	5	
Drifter 2	SBE37	1648	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D2_SBE37_1648_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D2_SBE37_1648_01.mat	-	Y	5	
Drifter 2	SBE37	2040	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D2_SBE37_2040_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D2_SBE37_2040_01.mat	-	Y	5	
Drifter 2	TR-1050	10985	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D2_RBR_010985_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D2_RBR_010985_01.dat	-	Y	5	
Drifter 2	XR-420-T24	10303	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D2_RBR_010303_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D2_RBR_010303_01.dat	-	Y	10	
Drifter 3	Brightwater	6930	akita/data/cblast/cblast_2003/v2/brightwaters/leg1/6930.txt	-	-	Y	variable	N/A
Drifter 3	DR-1050	9797	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D3_RBR_009797_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D3_RBR_009797_01.mat	-	Y	5	
Drifter 3	SBE37	2041	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D3_SBE37_2041_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D3_SBE37_2041_01.mat	-	Y	5	
Drifter 3	SBE37	2036	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D3_SBE37_2036_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D3_SBE37_2036_01.mat	-	Y	5	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Drifter 3	TR-1050	10983	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D3_RBR_010983_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D3_RBR_010983_01.dat	-	Y	5	
Drifter 3	XR-420-T24	10305	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D3_RBR_010305_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D3_RBR_010305_01.dat	-	Y	10	
Drifter 4	Brightwater	7456	akita/data/cblast/cblast_2003/v2/brightwaters/leg1/7456.txt	-	-	Y	variable	N/A
Drifter 4	DR-1050	9788	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D4_RBR_009788_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D4_RBR_009788_01.mat	-	Y	5	
Drifter 4	SBE37	1649	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D4_SBE37_1649_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D4_SBE37_1649_01.mat	-	Y	5	
Drifter 4	SBE37	2037	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D4_SBE37_2037_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D4_SBE37_2037_01.mat	-	Y	5	
Drifter 4	TR-1050	10986	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D4_RBR_010986_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D4_RBR_010986_01.dat	-	Y	5	
Drifter 4	XR-420-T24	10306	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D4_RBR_010306_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D4_RBR_010306_01.dat	-	Y	10	
Drifter 5	Brightwater	7455	akita/data/cblast/cblast_2003/v2/brightwaters/leg1/7455.txt	-	-	Y	variable	N/A
Drifter 5	DR-1050	9798	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D5_RBR_009798_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D5_RBR_009798_01.mat	-	Y	5	
Drifter 5	SBE37	2035	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D5_SBE37_2035_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D5_SBE37_2035_01.mat	-	Y	5	
Drifter 5	SBE37	2047	akita/data/cblast/cblast_2003/v1/sbe37/leg1/raw/D5_SBE37_2047_01.asc	akita/data/cblast/cblast_2003/v2/leg1/D5_SBE37_2047_01.mat	-	Y	5	
Drifter 5	TR-1050	10984	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D5_RBR_010984_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D5_RBR_010984_01.dat	-	Y	5	
Drifter 5	XR-420-T24	10302	akita/data/cblast/cblast_2003/v1/brancker/leg1/raw/D5_RBR_010302_01.dat	akita/data/cblast/cblast_2003/v2/brancker/leg1/D5_RBR_010302_01.dat	-	Y	10	
Hull SST	IMET	202	akita/data/cblast/cblast2003/hullsst/raw/cbl03_hull_1.asc	akita/data/cblast/cblast_2003/v2/hullsst/processed/cbl03_hull_1.mat	-	Y	60	
Nobska	SBE19	2972	akita/data/cblast/cblast_2003/v2/leg1/1st pass - see CTD table for file names	akita/data/cblast/cblast_2003/v2/leg1 - see CTD table for file names	akita/data/cblast/cblast_2003/v2/leg1/ctd_light.mat and ctd_transect.mat	Y	0.5	

Table 36. Leg 2 Data Processing

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	DR-1050	9793	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/Nobska_RBR_00973_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/Nobska_RBR_00973_02.mat	-	Y	5	
Boom	SBE37	1902	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/Nobska_SBE37_1902_02.asc	akita/data/cblast/cblast_2003/v2/leg2/Nobska_SBE37_1902_02.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	1900	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/Nobska_SBE37_1900_02.asc	akita/data/cblast/cblast_2003/v2/leg2/Nobska_SBE37_1900_02.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	2015	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/Nobska_SBE37_2015_02.asc	akita/data/cblast/cblast_2003/v2/leg2/Nobska_SBE37_2015_02.mat	-	Y	5	Completed, no post-processing necessary

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	SBE37	2045	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/Nobska_SBE37_2045_02.asc	akita/data/cblast/cblast_2003/v2/leg2/Nobska_SBE37_2045_02.mat	-	Y	5	
Boom	SBE39	0203	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0203_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0203_02.mat	-	Y	5	
Boom	SBE39	0282	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0282_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0282_02.mat	-	Y	5	
Boom	SBE39	0284	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0284_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0284_02.mat	-	Y	5	
Boom	SBE39	0369	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0369_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0369_02.mat	-	Y	5	
Boom	SBE39	0370	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0370_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0370_02.mat	-	Y	5	
Boom	SBE39	0476	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0476_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0476_02.mat	-	Y	5	
Boom	SBE39	0477	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0477_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0477_02.mat	-	Y - 0477 was snagged on a lobster pot and broken during this leg.	3	
Boom	SBE39	0630	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0630_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0630_02.mat	-	Y	5	
Boom	SBE39	0653	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0653_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0653_02.mat	-	Y	4	
Boom	SBE39	0686	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0686_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0686_02.mat	-	Y	4	
Boom	SBE39	0687	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0687_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0687_02.mat	-	Y	5	
Boom	SBE39	0689	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0689_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0689_02.mat	-	Y	4	
Boom	SBE39	0694	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0694_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0694_02.mat	-	Y	4	
Boom	SBE39	0716	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0716_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0716_02.mat	-	Y	4	
Boom	SBE39	0717	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0717_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0717_02.mat	-	Y	4	
Boom	SBE39	0789	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0789_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0789_02.mat	-	Y	4	
Boom	SBE39	0820	akita/data/cblast/cblast_2003/v1/sbe39/leg2/raw/Nobksa_SBE39_0820_02.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg2/Nobksa_SBE39_0820_02.mat	-	Y	4	
CTD's	SBE19	2792	akita/data/cblast/cblast_2003/v2/leg2 - see CTD table for file names	akita/data/cblast/cblast_2003/v2/leg2 - see CTD table for file names	-	Y	0.5	
Drifter 1	Brightwater	7388	akita/data/cblast/cblast_2003/v2/brightwaters/leg2/7388_2.txt	-	-	Y	variable	N/A
Drifter 1	DR-1050	9794	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D1_RBR_009794_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D1_RBR_009794_02.mat	-	Y	5	
Drifter 1	SBE37	2030	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D1_SBE37_2030_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D1_SBE37_2030_02.mat	-	Y	5	
Drifter 1	SBE37	2042	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D1_SBE37_2042_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D1_SBE37_2042_02.mat	-	Y	5	
Drifter 1	Sontek	197	akita/data/cblast/cblast_2003/v1/sontek/leg2/D1_D197001_02.dat	akita/data/cblast/cblast_2003/v2/sontek/leg2/D1_SON_D197_02.mat	-	Y	300 sampling 120 averaging	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
			eg2/D1_D197001_02.dat	/D1_SON_D197_02.mat			averaging	
Drifter 1	Sontek	171	akita/data/cblast/cblast_2003/v1/sontek/leg2/D1_D171001_02.dat	akita/data/cblast/cblast_2003/v2/sontek/leg2/D1_SON_D171_02.mat	-	Y	300 sampling 120 averaging	
Drifter 1	Sontek	193	akita/data/cblast/cblast_2003/v1/sontek/leg2/D1_D193001_02.dat	akita/data/cblast/cblast_2003/v2/sontek/leg2/D1_SON_D193_02.mat	-	Y	300 sampling 120 averaging	
Drifter 1	TR-1050	11177	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D1_RBR_011177_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D1_RBR_011177_02.dat	-	Y	5	
Drifter 1	XR-420-T24	10304	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D1_RBR_010304_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D1_RBR_010304_02.dat	-	Y	10	
Drifter 2	Brightwater	7387	akita/data/cblast/cblast_2003/v2/brightwaters/leg2/7387_2.txt	-	-	Y	variable	N/A
Drifter 2	DR-1050	9799	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D2_RBR_009799_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D2_RBR_009799_02.mat	-	Y	5	
Drifter 2	SBE37	1648	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D2_SBE37_1648_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D2_SBE37_1648_02.mat	-	Y	5	
Drifter 2	SBE37	2040	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D2_SBE37_2040_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D2_SBE37_2040_02.mat	-	Y	5	
Drifter 2	TR-1050	10985	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D2_RBR_010985_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D2_RBR_010985_02.dat	-	Y	5	
Drifter 2	XR-420-T24	10303	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D2_RBR_010303_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D2_RBR_010303_02.dat	-	Y	10	
Drifter 3	Brightwater	6930	akita/data/cblast/cblast_2003/v2/brightwaters/leg2/6930_2.txt	-	-	Y	variable	N/A
Drifter 3	DR-1050	9797	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D3_RBR_009797_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D3_RBR_009797_02.mat	-	Y	5	
Drifter 3	SBE37	2041	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D3_SBE37_2041_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D3_SBE37_2041_02.mat	-	Y	5	
Drifter 3	SBE37	2036	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D3_SBE37_2036_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D3_SBE37_2036_02.mat	-	Y	5	
Drifter 3	TR-1050	10983	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D3_RBR_010983_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D3_RBR_010983_02.dat	-	Y	5	
Drifter 3	XR-420-T24	10305	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D3_RBR_010305_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D3_RBR_010305_02.dat	-	Y	10	
Drifter 4	Brightwater	7456	akita/data/cblast/cblast_2003/v2/brightwaters/leg2/7456_2.txt	-	-	Y	variable	N/A
Drifter 4	DR-1050	9788	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D4_RBR_009788_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D4_RBR_009788_02.mat	-	Y	5	
Drifter 4	SBE37	1649	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D4_SBE37_1649_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D4_SBE37_1649_02.mat	-	Y	5	
Drifter 4	SBE37	2037	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D4_SBE37_2037_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D4_SBE37_2037_02.mat	-	Y	5	
Drifter 4	TR-1050	10986	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D4_RBR_010986_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D4_RBR_010986_02.dat	-	Y	5	
Drifter 4	XR-420-T24	10306	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D4_RBR_010306_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D4_RBR_010306_02.dat	-	Y	10	
Drifter 5	Brightwater	7455	akita/data/cblast/cblast_2003/v2/brightwaters/leg2/7455_2.txt	-	-	Y	variable	N/A

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Drifter 5	DR-1050	9798	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D5_RBR_009798_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D5_RBR_009798_02.mat	-	Y	5	
Drifter 5	SBE37	2035	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D5_SBE37_2035_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D5_SBE37_2035_02.mat	-	Y	5	
Drifter 5	SBE37	2047	akita/data/cblast/cblast_2003/v1/sbe37/leg2/raw/D5_SBE37_2047_02.asc	akita/data/cblast/cblast_2003/v2/leg2/D5_SBE37_2047_02.mat	-	Y	5	
Drifter 5	TR-1050	10984	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D5_RBR_010984_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D5_RBR_010984_02.dat	-	Y	5	
Drifter 5	XR-420-T24	10302	akita/data/cblast/cblast_2003/v1/brancker/leg2/raw/D5_RBR_010302_02.dat	akita/data/cblast/cblast_2003/v2/brancker/leg2/D5_RBR_010302_02.dat	-	Y	10	
Hull SST	IMET	202	akita/data/cblast/cblast2003/hullsst/raw/cbl03_hull_2.asc	akita/data/cblast/cblast_2003/v2/hullsst/processed/cbl03_hull_2.mat	-	Y	60	

Table 37. Leg 3 Data Processing.

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	DR-1050	9793	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/Nobska_RBR_00973_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/Nobska_RBR_00973_03.mat	-	Y	5	
Boom	SBE37	1902	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/Nobska_SBE37_1902_03.asc	akita/data/cblast/cblast_2003/v2/leg3/Nobska_SBE37_1902_03.mat	-	Y	5	Completed, no post-processing needed
Boom	SBE37	1900	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/Nobska_SBE37_1900_03.asc	akita/data/cblast/cblast_2003/v2/leg3/Nobska_SBE37_1900_03.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	2015	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/Nobska_SBE37_2015_03.asc	akita/data/cblast/cblast_2003/v2/leg3/Nobska_SBE37_2015_03.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	2045	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/Nobska_SBE37_2045_03.asc	akita/data/cblast/cblast_2003/v2/leg3/Nobska_SBE37_2045_03.mat	-	Y	5	
Boom	SBE39	0042	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0042_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0042_03.mat	-	SBE39 0042 replaced 0477 that was broken during Leg 2.	5	
Boom	SBE39	0203	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0203_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0203_03.mat	-	Y	5	
Boom	SBE39	0282	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0282_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0282_03.mat	-	Failed	5	
Boom	SBE39	0284	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0284_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0284_03.mat	-	Y	5	
Boom	SBE39	0369	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0369_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0369_03.mat	-	Y	5	
Boom	SBE39	0370	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0370_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0370_03.mat	-	Y	5	
Boom	SBE39	0476	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0476_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0476_03.mat	-	Failed	3	
Boom	SBE39	0630	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0630_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0630_03.mat	-	Y	5	
Boom	SBE39	0653	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0653_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0653_03.mat	-	Y	4	
Boom	SBE39	0686	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0686_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0686_03.mat	-	Y	4	
Boom	SBE39	0687	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0687_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0687_03.mat	-	Y	5	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	SBE39	0689	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0689_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0689_03.mat	-	Y	4	
Boom	SBE39	0694	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0694_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0694_03.mat	-	Y	4	
Boom	SBE39	0716	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0716_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0716_03.mat	-	Y	4	
Boom	SBE39	0717	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0717_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0717_03.mat	-	Y	4	
Boom	SBE39	0789	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0789_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0789_03.mat	-	Y	4	
Boom	SBE39	0820	akita/data/cblast/cblast_2003/v1/sbe39/leg3/raw/Nobksa_SBE39_0820_03.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg3/Nobksa_SBE39_0820_03.mat	-	Y	4	
CTD's	SBE19	2792	akita/data/cblast/cblast_2003/v2/raw_ctd - see CTD table for file names	-	-	N	0.5	
Drifter 1	Brightwater	7388	akita/data/cblast/cblast_2003/v2/brightwaters/leg3/7388_3.txt	-	-	Y	variable	
Drifter 1	DR-1050	9794	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D1_RBR_009794_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D1_RBR_009794_03.mat	-	Y	5	
Drifter 1	SBE37	2030	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D1_SBE37_2030_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D1_SBE37_2030_03.mat	-	Y	5	
Drifter 1	SBE37	2042	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D1_SBE37_2042_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D1_SBE37_2042_03.mat	-	Y	5	
Drifter 1	Sontek	197	akita/data/cblast/cblast_2003/v1/sontek/leg3/D1_D197001_03.dat	akita/data/cblast/cblast_2003/v2/sontek/leg3/D1_SON_D197_03.mat	-	Y	300 sampling 120 averaging	
Drifter 1	Sontek	171	akita/data/cblast/cblast_2003/v1/sontek/leg3/D1_D171001_03.dat	akita/data/cblast/cblast_2003/v2/sontek/leg3/D1_SON_D171_03.mat	-	Y	300 sampling 120 averaging	
Drifter 1	Sontek	193	akita/data/cblast/cblast_2003/v1/sontek/leg3/D1_D193001_03.dat	akita/data/cblast/cblast_2003/v2/sontek/leg3/D1_SON_D193_03.mat	-	Y	300 sampling 120 averaging	
Drifter 1	TR-1050	11177	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D1_RBR_011177_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D1_RBR_011177_03.dat	-	Y	5	
Drifter 1	XR-420-T24	10304	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D1_RBR_010304_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D1_RBR_010304_03.dat	-	Y	10	
Drifter 2	Brightwater	7387	akita/data/cblast/cblast_2003/v2/brightwaters/leg3/7387_3.txt	-	-	Y	variable	
Drifter 2	DR-1050	9799	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D2_RBR_009799_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D2_RBR_009799_03.mat	-	Y	5	
Drifter 2	SBE37	1648	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D2_SBE37_1648_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D2_SBE37_1648_03.mat	-	Y	5	
Drifter 2	SBE37	2040	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D2_SBE37_2040_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D2_SBE37_2040_03.mat	-	Y	5	
Drifter 2	TR-1050	10985	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D2_RBR_010985_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D2_RBR_010985_03.dat	-	Y	5	
Drifter 2	XR-420-T24	10303	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D2_RBR_010303_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D2_RBR_010303_03.dat	-	Y	10	
Drifter 3	Brightwater	6930	akita/data/cblast/cblast_2003/v2/brightwaters/leg3/6930_3.txt	-	-	Y	variable	
Drifter 3	DR-1050	9797	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D3_RBR_009797_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D3_RBR_009797_03.mat	-	Y	5	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Drifter 3	SBE37	2041	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D3_SBE37_2041_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D3_SBE37_2041_03.mat	-	Y	5	
Drifter 3	SBE37	2036	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D3_SBE37_2036_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D3_SBE37_2036_03.mat	-	Y	5	
Drifter 3	TR-1050	10983	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D3_RBR_010983_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D3_RBR_010983_03.dat	-	Y	5	
Drifter 3	XR-420-T24	10305	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D3_RBR_010305_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D3_RBR_010305_03.dat	-	Y	10	
Drifter 4	Brightwater	7456	akita/data/cblast/cblast_2003/v2/brightwaters/leg3/7456_3.txt	-	-	Y	variable	
Drifter 4	DR-1050	9788	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D4_RBR_009788_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D4_RBR_009788_03.mat	-	Y	5	
Drifter 4	SBE37	1649	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D4_SBE37_1649_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D4_SBE37_1649_03.mat	-	Y	5	
Drifter 4	SBE37	2037	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D4_SBE37_2037_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D4_SBE37_2037_03.mat	-	Y	5	
Drifter 4	TR-1050	10986	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D4_RBR_010986_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D4_RBR_010986_03.dat	-	Y	5	
Drifter 4	XR-420-T24	10306	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D4_RBR_010306_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D4_RBR_010306_03.dat	-	Y	10	
Drifter 5	Brightwater	7455	akita/data/cblast/cblast_2003/v2/brightwaters/leg3/7455_3.txt	-	-	Y	variable	
Drifter 5	DR-1050	9798	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D5_RBR_009798_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D5_RBR_009798_03.mat	-	Y	5	
Drifter 5	SBE37	2035	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D5_SBE37_2035_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D5_SBE37_2035_03.mat	-	Y	5	
Drifter 5	SBE37	2047	akita/data/cblast/cblast_2003/v1/sbe37/leg3/raw/D5_SBE37_2047_03.asc	akita/data/cblast/cblast_2003/v2/leg3/D5_SBE37_2047_03.mat	-	Y	5	
Drifter 5	TR-1050	10984	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D5_RBR_010984_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D5_RBR_010984_03.dat	-	Y	5	
Drifter 5	XR-420-T24	10302	akita/data/cblast/cblast_2003/v1/brancker/leg3/raw/D5_RBR_010302_03.dat	akita/data/cblast/cblast_2003/v2/brancker/leg3/D5_RBR_010302_03.dat	-	Y	10	
Hull SST	IMET	202	akita/data/cblast/cblast2003/hullsst/raw/cbl03_hull_2.asc	akita/data/cblast/cblast_2003/v2/hullsst/processed/cbl03_hull_2.mat	-	N/A	60	

Table 38. Leg 4 Data Processing

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	DR-1050	9793	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/Nobska_RBR_009793_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/Nobska_RBR_009793_04.mat	-	Y	5	
Boom	SBE37	1900	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/Nobska_SBE37_1900_04.asc	akita/data/cblast/cblast_2003/v2/leg4/Nobska_SBE37_1900_04.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	1902	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D1_SBE37_1902_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D1_SBE37_1902_04.mat	-	Y	5	Completed, no post-processing necessary
Boom	SBE37	2015	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D5_SBE37_2015_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D5_SBE37_2015_04.mat	-	Y	5	Completed, no post-processing necessary

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Boom	SBE37	2045	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/Nobska_SBE37_2045_04.asc	akita/data/cblast/cblast_2003/v2/leg4/Nobska_SBE37_2045_04.mat	-	Y - 2045 a bit sketchy	5	
Boom	SBE39	0042	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0042_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0042_04.mat	-	Y	5	
Boom	SBE39	0203	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0203_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0203_04.mat	-	Y	4	
Boom	SBE39	0282	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0282_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0282_04.mat	-	Y	5	
Boom	SBE39	0284	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0284_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0284_04.mat	-	Y	5	
Boom	SBE39	0369	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0369_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0369_04.mat	-	Y	5	
Boom	SBE39	0370	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0370_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0370_04.mat	-	Y	5	
Boom	SBE39	0476	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0476_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0476_04.mat	-	Y	5	
Boom	SBE39	0630	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0630_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0630_04.mat	-	Y	5	
Boom	SBE39	0653	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0653_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0653_04.mat	-	Y	4	
Boom	SBE39	0686	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0686_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0686_04.mat	-	Y	4	
Boom	SBE39	0687	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0687_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0687_04.mat	-	Y	5	
Boom	SBE39	0689	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0689_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0689_04.mat	-	Y	4	
Boom	SBE39	0694	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0694_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0694_04.mat	-	Y	4	
Boom	SBE39	0716	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0716_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0716_04.mat	-	Y	4	
Boom	SBE39	0717	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0717_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0717_04.mat	-	Y	4	
Boom	SBE39	0789	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0789_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0789_04.mat	-	Y	4	
Boom	SBE39	0820	akita/data/cblast/cblast_2003/v1/sbe39/leg4/raw/Nobksa_SBE39_0820_04.asc	akita/data/cblast/cblast_2003/v2/sbe39/leg4/Nobksa_SBE39_0820_04.mat	-	Y	4	
Drifter 1	Brightwater	7388	akita/data/cblast/cblast_2003/v2/brightwaters/leg4/7388_4.txt	-	-	Y	variable	
Drifter 1	DR-1050	9794	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D1_RBR_009794_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D1_RBR_009794_04.mat	-	No data, bad start time	5	
Drifter 1	SBE37	2030	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D4_SBE37_2030_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D4_SBE37_2030_04.mat	-	Y	5	
Drifter 1	SBE37	2042	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D3_SBE37_2042_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D3_SBE37_2042_04.mat	-	Y	5	
Drifter 1	Sontek	197	akita/data/cblast/cblast_2003/v1/sontek/leg4/D1_D197001_04.dat	akita/data/cblast/cblast_2003/v2/sontek/leg4/D1_SON_D197_04.mat	-	Y	300 sampling 120 averaging	
Drifter 1	Sontek	171	akita/data/cblast/cblast_2003/v1/sontek/leg4/D1_D171001_04.dat	akita/data/cblast/cblast_2003/v2/sontek/leg4/D1_SON_D171_04.mat	-	Y	300 sampling 120 averaging	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Drifter 1	Sontek	193	akita/data/cblast/cblast_2003/v1/sontek/leg4/D1_D193001_04.dat	akita/data/cblast/cblast_2003/v2/sontek/leg4/D1_SON_D193_04.mat	-	Y	300 sampling 120 averaging	
Drifter 1	TR-1050	11177	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D1_RBR_011177_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D1_RBR_011177_04.dat	-	Y	10	
Drifter 1	XR-420-T24	10304	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D1_RBR_010304_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D1_RBR_010304_04.dat	-	Y	10	
Drifter 2	Brightwater	7387	akita/data/cblast/cblast_2003/v2/brightwaters/leg4/7387_4.txt	-	-	Y	variable	
Drifter 2	DR-1050	9799	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D2_RBR_009799_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D2_RBR_009799_04.mat	-	Y	5	
Drifter 2	SBE37	1648	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D2_SBE37_1648_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D2_SBE37_1648_04.mat	-	Y	5	
Drifter 2	SBE37	2040	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/Nobska_SBE37_2040_04.asc	akita/data/cblast/cblast_2003/v2/leg4/Nobska_SBE37_2040_04.mat	-	Y	5	
Drifter 2	TR-1050	10985	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D2_RBR_010985_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D2_RBR_010985_04.dat	-	Y	5	
Drifter 2	XR-420-T24	10303	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D2_RBR_010303_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D2_RBR_010303_04.dat	-	Y	10	
Drifter 3	Brightwater	6930	akita/data/cblast/cblast_2003/v2/brightwaters/leg4/6930_4.txt	-	-	Y	variable	
Drifter 3	DR-1050	9797	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D3_RBR_009797_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D3_RBR_009797_04.mat	-	Y	5	
Drifter 3	SBE37	2036	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D3_SBE37_2036_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D3_SBE37_2036_04.mat	-	Y	5	
Drifter 3	SBE37	2041	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/Nobska_SBE37_2041_04.asc	akita/data/cblast/cblast_2003/v2/leg4/Nobska_SBE37_2041_04.mat	-	Y	5	
Drifter 3	TR-1050	10983	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D3_RBR_010983_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D3_RBR_010983_04.dat	-	Y	5	
Drifter 3	XR-420-T24	10305	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D3_RBR_010305_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D3_RBR_010305_04.dat	-	Y	10	
Drifter 4	Brightwater	7456	akita/data/cblast/cblast_2003/v2/brightwaters/leg4/7456_4.txt	-	-	used on deck of Nobska	variable	
Drifter 4	DR-1050	9788	N/A	N/A	-	not used	N/A	
Drifter 4	SBE37	1649	N/A	N/A	-	not used	N/A	
Drifter 4	SBE37	2037	N/A	N/A	-	not used	N/A	
Drifter 4	TR-1050	10986	N/A	N/A	-	not used	N/A	
Drifter 4	XR-420-T24	10306	N/A	N/A	-	not used	10	
Drifter 5	Brightwater	7455	akita/data/cblast/cblast_2003/v2/brightwaters/leg4/7455_4.txt	-	-	Y	variable	
Drifter 5	DR-1050	9798	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D5_RBR_009798_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D5_RBR_009798_04.mat	-	Y	5	
Drifter 5	SBE37	2035	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D2_SBE37_2035_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D2_SBE37_2035_04.mat	-	Y	5	
Drifter 5	SBE37	2047	akita/data/cblast/cblast_2003/v1/sbe37/leg4/raw/D5_SBE37_2047_04.asc	akita/data/cblast/cblast_2003/v2/leg4/D5_SBE37_2047_04.mat	-	Y	5	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate	Post Cal's
Drifter 5	TR-1050	10984	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D5_RBR_010984_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D5_RBR_010984_04.dat	-	Y	5	
Drifter 5	XR-420-T24	10302	akita/data/cblast/cblast_2003/v1/brancker/leg4/raw/D5_RBR_010302_04.dat	akita/data/cblast/cblast_2003/v2/brancker/leg4/D5_RBR_010302_04.dat	-	Y	10	

Table 39. Final Recovery Data Processing

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Light 1	Brancker	3715	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003715.DAT	-	-	3715 not yet processed because of missing cal file.	180	
Light 1	Brancker	3270	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003270.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3270.mat	-	Instrument range maxed at 25 degrees.	180	
Light 1	Onset Tidbit	358907, 358908, 358909, 358910, 395851, 395852, 395853, 395854, 395855, 395856, 395857, 395858, 395859, 395860, 395861, 395862, 395863, 395864, 395865, 395866, 395867, 395868, 395870, 395871, 395872, 395873, 395874, 452685, 452686, 452687, 452689, 452690, 452691, 452692	akita/cblast/cblast_2003/v1/tidbits/Light_1/raw/L1_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L1_Tidbit.mat	-	Y. #395867 sent to Onset for dumping, returned file fine.	300	
Light 10	Brancker	3310	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003310.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3310.mat	-	Instrument range maxed at 25 degrees.	180	
Light 10	Brancker	5457	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/005457.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod5457.mat	-	Instrument range maxed at 25 degrees.	180	
Light 10	Onset Tidbit	484909, 484910, 484911, 484912, 453648, 484914, 484915, 484916, 484917, 484918, 484919, 484920, 484921, 484922, 484923, 484924, 484925, 484926, 484927, 484928, 484929, 484930, 484931	akita/cblast/cblast_2003/v1/tidbits/Light_10/raw/L10_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L10_Tidbit.mat	-	Y. #484909 sent to Onset for dumping, returned file fine.	300	
Light 2	Brancker	3314	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003314.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3314.mat	-	Instrument range maxed at 25 degrees.	180	
Light 2	Brancker	3277	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003277.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3277.mat	-	Instrument range maxed at 25 degrees.	180	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Light 2	Onset Tidbit	452695, 452696, 452697, 452698, 452699, 452700, 452701, 452702, 452703, 452704, 452705, 452706, 452707, 452708, 452709, 452710, 452711, 452713, 452714, 452715, 452716, 452717, 452718, 452719, 452720, 452721, 452723, 452724, 452726, 452727, 452728, 452730, 452733	akita/cblast/cblast_2003/v1/tidbits/Light_2/raw/L2_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L2_Tidbit.mat	-	Y. #452699 had no data.	300	
Light 3	Brancker	3281	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003281.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3281.mat	-	Instrument range maxed at 25 degrees.	180	
Light 3	Brancker	5458	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/005458.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod5458.mat	-	Instrument range maxed at 25 degrees.	180	
Light 3	Onset Tidbit	452735, 452736, 452737, 452740, 453580, 453581, 453582, 453583, 453584, 453586, 453587, 453588, 453589, 453590, 453591, 453592, 453593, 453594, 453595, 453596, 453597, 453598, 453599, 453600, 453601, 453603	akita/cblast/cblast_2003/v1/tidbits/Light_3/raw/L3_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L3_Tidbit.mat	-	Y. #453596 had no data.	300	
Light 4	Brancker	3282	N/A	N/A	N/A	Lost At Sea	180	N/A
Light 4	Brancker	5463	N/A	N/A	N/A	Lost At Sea	180	N/A
Light 4	Onset Tidbit	453604, 453605, 453606, 453608, 453609, 453610, 453611, 453612, 453613, 453614, 453616, 453618, 453619, 453620, 453623, 453625, 453626, 453627, 453628, 453630, 453631, 453632, 453633, 453635, 453636, 453638, 453640, 453643, 453644, 453645, 453647, 453607	N/A	N/A	N/A	Lost At Sea	300	N/A
Light 5	Brancker	3285	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003285.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3285.mat	-	Instrument range maxed at 25 degrees.	180	
Light 5	Brancker	3708	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/00308.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3708.mat	-	Instrument range maxed at 25 degrees.	180	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Light 5	Onset Tidbit	45650, 453651, 453652, 453653, 453654, 453655, 453656, 453657, 453658, 453659, 453661, 453662, 453663, 453664, 453665, 453666, 453667, 453668, 453669, 453670, 453671, 453672	akita/cblast/cblast_2003/v1/tidbits/Light_5/raw/L5_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L5_Tidbit.mat	-	Y	300	
Light 6	Brancker	3294	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003294.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3294.mat	-	Instrument range maxed at 25 degrees.	180	
Light 6	Brancker	3713	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003713.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3713.mat	-	Instrument range maxed at 25 degrees.	180	
Light 6	Onset Tidbit	453673, 453674, 453675, 453676, 453678, 453679, 453681, 453682, 453683, 453684, 453685, 453686, 453687, 453688, 453689, 453690, 453691, 453692, 453693, 453694, 453695, 453696	akita/cblast/cblast_2003/v1/tidbits/Light_6/raw/L6_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L6_Tidbit.mat	-	Y. #453684 sent to Onset for dumping, returned file fine.	300	
Light 7	Brancker	3302	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003302.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3302.mat	-	Instrument range maxed at 25 degrees. Except 3312, which had full temperature range.	180	
Light 7	Brancker	3312	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003312.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3312.mat	-	Instrument range maxed at 25 degrees.	180	
Light 7	Onset Tidbit	45367, 453698, 453699, 453700, 453701, 453702, 453703, 453704, 453705, 453706, 453707, 453708, 453709, 453710, 453711, 484884, 484885, 484901, 484903, 484907, 484908, 484906, 395875	akita/cblast/cblast_2003/v1/tidbits/Light_7/raw/L7_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L7_Tidbit.mat	-	Y	300	
Light 8	Brancker	3304	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003304.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3304.mat	-	Instrument range maxed at 25 degrees.	180	
Light 8	Brancker	3706	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003706.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3706.mat	-	Instrument range maxed at 25 degrees.	180	
Light 8	Onset Tidbit	453712, 453713, 453714, 453715, 453716, 453717, 453718, 453719, 453721, 453722, 453723, 453725, 453726, 453680, 484882, 484883	akita/cblast/cblast_2003/v1/tidbits/Light_8/raw/L8_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L8_Tidbit.mat	-	Y	300	
Light 9	Brancker	3307	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003307.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3307.mat	-	Instrument range maxed at 25 degrees.	180	
Light 9	Brancker	3714	akita/data/cblast/cblast_2003/v1/brancker/light_moor/raw/003714.DAT	akita/data/cblast/cblast_2003/v2/brancker/light_moor/tpod3714.mat	-	Instrument range maxed at 25 degrees.	180	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Light 9	Onset Tidbit	484886, 484887, 484888, 484889, 484890, 484891, 484892, 484893, 484894, 484895, 484896, 484897, 484898, 484899, 484900, 452694, 484904, 484905	akita/cblast/cblast_2003/v1/tidbits/Light_9/raw/L9_Tidbit_SN#_01.dtf	akita/cblast/cblast_2003/v2/tidbit/L9_Tidbit.mat	-	Y	300	
Mooring A	BPR	503	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L14.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03114_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03114_met.mat	Y	60	
Mooring A	HRH	503	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L14.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03114_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03114_met.mat	Y	60	
Mooring A	LWR	501	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L14.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03114_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03114_met.mat	Y	60	
Mooring A	NGVM	012	akita/data/cblast/cblast_2003/v1/vmcm/raw/cblast03_ng012.dat	akita/data/cblast/cblast_2003/v2/vmcm/cblast03_ng012.mat	-	Y	60	
Mooring A	NGVM	042	akita/data/cblast/cblast_2003/v1/vmcm/raw/cblast03_ng042.dat	akita/data/cblast/cblast_2003/v2/vmcm/cblast03_ng042.mat	-	Y	60	
Mooring A	Nortek (2MHz)	357	akita/cblast/cblast_2003/v1/nortek/raw0357/CBLAST03_0357	akita/cblast/cblast_2003/v1/nortek/semi0357/cblast03_0357.mat	-	Y. Short data record ending 8/22/03. Sampling frequency decreased beginning 8/19/03.	75 sampling 15 averaging	
Mooring A	PRC	503	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L14.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03114_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03114_met.mat	Y	60	
Mooring A	RDI (600 kHz)	182	akita/data/cblast/cblast_2003/v1/rdi/raw/MooringA_RDI_0182.000	akita/data/cblast/cblast_2003/v2/rdi/RDI_QC.mat	-	Y	150	
Mooring A	SBE37	1838	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring A	SBE37	1839	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	120	
Mooring A	SBE37	1903	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	Completed, no post processing necessary.
Mooring A	SBE37	1905	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	Completed, no post processing necessary.
Mooring A	SBE37	1906	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	Completed, no post processing necessary.
Mooring A	SBE37	1912	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring A	SBE37	2032	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	30	
Mooring A	SBE37	2033	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	30	
Mooring A	SBE37	2039	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	30	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Mooring A	SBE39	0685	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring A	SBE39	0644	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y. #0644 failed by deployment.	30	
Mooring A	SBE39	0718	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring A	SBE39	0276	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring A	SBE39	0720	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring A	SBE39	0648	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y. #0648 failed by deployment.	30	
Mooring A	SBE39	0700	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring A	SBE39	0719	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring A	SWR	503	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L14.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03114_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03114_met.mat	Y	60	
Mooring A	WND	345	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L14.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03114_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03114_met.mat	Y	60	
Mooring C	SBE37	1304	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	30	
Mooring C	SBE37	2046	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	30	
Mooring C	SBE37	0671	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring C	SBE37	0683	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring C	SBE37	0685	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring C	SBE39	0035	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring C	SBE39	0691	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Mooring C	SBE39	0044	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring C	SBE39	0046	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring C	SBE39	0696	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring C	SBE39	0647	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring C	SBE39	0054	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring C	SBE39	0692	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y. #0692 had short record.	30	
Mooring C	SBE39	0102	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring C	SBE39	0624	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring D	SBE37	0011	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	30	
Mooring D	SBE37	0669	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring D	SBE37	0670	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring D	SBE37	0686	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	60	
Mooring D	SBE37	2031	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y	30	
Mooring D	SBE39	0045	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring D	SBE39	0693	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring D	SBE39	0694	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	

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Mooring D	SBE39	0039	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring D	SBE39	0626	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring D	SBE39	0053	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring D	SBE39	0688	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y. SBE39 0688 failed about 16 hours before recovery.	30	
Mooring D	SBE39	0103	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring D	SBE39	0821	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	BPR	504	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L12.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03112_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03112_met.mat	Y	60	
Mooring E	HRH	506	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L12.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03112_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03112_met.mat	Y	60	
Mooring E	LWR	505	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L12.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03112_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03112_met.mat	Y	60	
Mooring E	NGVM	019	akita/data/cblast/cblast_2003/v1/vmcm/raw/cblast03_ng019.dat	akita/data/cblast/cblast_2003/v2/vmcm/cblast03_ng019.mat	-	Y	60	
Mooring E	NGVM	058	akita/data/cblast/cblast_2003/v1/vmcm/raw/cblast03_ng058.dat	akita/data/cblast/cblast_2003/v2/vmcm/cblast03_ng058.mat	-	Y	60	
Mooring E	Nortek (1MHz)	0253	akita/cblast/cblast_2003/v1/nortek/raw0253/CBLAST03_0253	akita/cblast/cblast_2003/v1/nortek/semi0253/cblast03_0253.mat	-	Y. Several bins were found to be bad due to reflection off of other instruments. Sampling frequency begins to slow ~ 8/23/03	75 sampling 15 averaging	
Mooring E	PRC	506	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L12.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03112_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03112_met.mat	Y	60	
Mooring E	SBE37	1325	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	30	Completed, no post processing necessary.
Mooring E	SBE37	1419	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y. No comms established for 1325, no data.	60	
Mooring E	SBE37	1760	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	60	
Mooring E	SBE37	1910	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	60	

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Mooring E	SBE37	2028	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	30	
Mooring E	SBE37	2038	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	30	
Mooring E	SBE39	0051	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0628	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0645	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0101	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0701	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0041	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0623	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0047	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring E	SBE39	0695	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y. No data for 0695.	30	
Mooring E	SWR	502	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L12.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03112_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03112_met.mat	Y	60	
Mooring E	WND	348	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L12.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03112_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03112_met.mat	Y	60	
Mooring F	BPR	505	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L16.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03116_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03116_met.mat	Y	60	
Mooring F	HRH	504	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L16.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03116_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03116_met.mat	Y	60	
Mooring F	LWR	504	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L16.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03116_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03116_met.mat	Y	60	
Mooring F	NGVM	038	akita/data/cblast/cblast_2003/v1/vmcm/raw/cblast03_ng038.dat	akita/data/cblast/cblast_2003/v2/vmcm/cblast03_ng038.mat	-	Y	60	
Mooring F	NGVM	032	akita/data/cblast/cblast_2003/v1/vmcm/raw/cblast03_ng032.dat	akita/data/cblast/cblast_2003/v2/vmcm/cblast03_ng032.mat	-	Y	60	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
Mooring F	Nortek (1MHz)	0333	akita/cblast/cblast_2003/v1/nortek/raw0333/CBLAST03_0333	akita/cblast/cblast_2003/v1/nortek/semi0333/cblast03_0333.mat	-	Y. Short record, instrument only recorded for about 2 weeks.	75 sampling 15 averaging	
Mooring F	PRC	504	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L16.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03116_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03116_met.mat	Y	60	
Mooring F	SBE37	1306	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	60	
Mooring F	SBE37	0009	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	30	
Mooring F	SBE37	0010	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	30	
Mooring F	SBE37	1908	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	60	Completed, no post processing necessary.
Mooring F	SBE37	1913	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	60	
Mooring F	SBE37	2029	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	30	
Mooring F	SBE37	2034	akita/data/cblast/cblast_2003/v1/sbe37/moorings/raw/Mooring#_SBE37_SN#.asc	akita/cblast/cblast_2003/v2/sbe37/moorings/Mooring#_SBE37_SN#.mat	-	Y.	30	
Mooring F	SBE39	0040	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring F	SBE39	0819	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring F	SBE39	0038	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring F	SBE39	0629	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y	30	
Mooring F	SBE39	0721	akita/data/cblast/cblast_2003/v1/sbe39/moorings/raw/Mooring#_SBE39_2n#.asc	akita/cblast/cblast_2003/v2/sbe39/moorings/Mooring#_SBE39_SN#.mat	-	Y. Bad values in middle of record for 721 (Aug 1-3).	30	
Mooring F	Sontek	D208	akita/data/cblast/cblast_2003/v1/sontek/moored/F_SON_D208001_01	akita/cblast/cblast_2003/v2/sontek/moored/F_SON_D208.mat	-	Y	300	
Mooring F	SWR	505	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L16.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03116_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03116_met.mat	Y	60	
Mooring F	SWR Stand Alone	801	akita/data/cblast/cblast_2003/v1/imet/module/raw/swr801.dat	akita/cblast/cblast_2003/v1/imet/module/swr801.mat	-	Y	60	
Mooring F	WND	347	akita/data/cblast/cblast_2003/v1/imet/logger/raw/cblast03_L16.dat	akita/data/cblast/cblast_2003/v1/imet/logger/cb03116_met.mat	akita/data/cblast/cblast_2003/v2/imet/cb03116_met.mat	Y	60	

Platform	Instrument	SN's	Raw Filename	Processed Filename	Final Filename	Prelim Check	Sampling Rate (s)	Post Cal's
F			et/logger/raw/cblast03_L16.dat	logger/cb03l16_met.mat	v2/imet/cb03l16_met.mat			
Nobska	LWR	211	akita/data/cblast/cblast_2003/v1/imet/module/raw/LWR211.DAT	akita/data/cblast/cblast_2003/v1/imet/module/lwr211.mat	-	Y	120	
Nobska	SWR	201	akita/data/cblast/cblast_2003/v1/imet/module/raw/swr201.dat	akita/cblast/cblast_2003/v1/imet/module/swr201.mat	-	Y	60	

CTD Casts

During the field work for CBLAST 2003, many CTD casts were performed to validate the measurements taken from the moorings and boom chain. The tables below give the dates, times, locations, and file names for the casts. There are multiple file names for some of the casts because the instrument was not cleared of previous casts data.

Table 40. CTD casts during deployment of heavy moorings.

Leg	Date	Time	Location	Raw File Name(s)
D	15-Jul	12:38:10	Mooring C	cblast00.HEX
D	15-Jul	13:22:23	Mooring D	cblast01.HEX
D	16-Jul	14:27:28	Mooring A	cblast02.HEX
D	16-Jul	16:11:33	Mooring E	cblast03.HEX
D	16-Jul	17:28:01	Mooring F	cblast04.HEX

Table 41. CTD casts during deployment of light moorings.

Leg	Date	Time	Location	Raw File Name(s)			
1	2-Aug	13:50:08	L1	Nobska_SBE19_2972_01000.hex	cb030100.HEX	sat0100.HEX	sat0000.HEX
1	2-Aug	14:48:57	L2	Nobska_SBE19_2972_01001.hex	cb030101.HEX	sat0101.HEX	sat0001.HEX
1	2-Aug	15:28:19	L4	Nobska_SBE19_2972_01002.hex	cb030102.HEX	sat0102.HEX	sat0002.HEX
1	2-Aug	16:01:54	L3	Nobska_SBE19_2972_01003.hex	cb030103.HEX	sat0103.HEX	sat0003.HEX
1	2-Aug	16:39:43	L5	Nobska_SBE19_2972_01004.hex	cb030104.HEX	sat0104.HEX	sat0004.HEX
1	2-Aug	17:27:21	L6	Nobska_SBE19_2972_01005.hex	cb030105.HEX	sat0105.HEX	sat0005.HEX
1	2-Aug	17:58:59	L7	Nobska_SBE19_2972_01006.hex	cb030106.HEX	sat0106.HEX	sat0006.HEX
1	2-Aug	18:27:02	L10	Nobska_SBE19_2972_01007.hex	cb030107.HEX	sat0107.HEX	sat0007.HEX
1	2-Aug	18:57:02	L9	Nobska_SBE19_2972_01008.hex	cb030108.HEX	sat0108.HEX	sat0008.HEX
1	2-Aug	19:22:17	L8	Nobska_SBE19_2972_01009.hex	cb030109.HEX	sat0109.HEX	sat0009.HEX

Table 42. CTD casts during transect from light mooring 1 to ASIT.

Leg	Date	Time	Location	Raw File Name(s)		
1	2-Aug	21:39:27	41 deg 05.631 70 deg 43.17	Nobska_SBE19_2972_01010.hex	cb030110.HEX	sat0110.HEX
1	2-Aug	21:53:49	41 deg 06.56 70 deg 42.55	Nobska_SBE19_2972_01011.hex	cb030111.HEX	sat0111.HEX
1	2-Aug	22:07:34	41 deg 07.54 70 deg 42.06	Nobska_SBE19_2972_01012.hex	cb030112.HEX	sat0112.HEX
1	2-Aug	22:20:53	41 deg 08.47 70 deg 41.60	Nobska_SBE19_2972_01013.hex	cb030113.HEX	sat0113.HEX
1	2-Aug	22:33:39	41 deg 09.41 70 deg 41.36	Nobska_SBE19_2972_01014.hex	cb030114.HEX	sat0114.HEX
1	2-Aug	22:46:19	41 deg 10.34 70 deg 40.85	Nobska_SBE19_2972_01015.hex	cb030115.HEX	sat0115.HEX
1	2-Aug	22:58:14	41 deg 11.21 70 deg 40.38	Nobska_SBE19_2972_01016.hex	cb030116.HEX	sat0116.HEX
1	2-Aug	23:10:31	41 deg 12.12 70 deg 40.06	Nobska_SBE19_2972_01017.hex	cb030117.HEX	sat0117.HEX
1	2-Aug	23:28:47	41 deg 13.04 70 deg 39.67	Nobska_SBE19_2972_01018.hex	cb030118.HEX	sat0118.HEX
1	3-Aug	0:06:19	41 deg 13.94 70 deg 39.10	Nobska_SBE19_2972_01019.hex	cb030119.HEX	sat0119.HEX
1	3-Aug	0:18:09	41 deg 14.87 70 deg 38.66	Nobska_SBE19_2972_01020.hex	cb030120.HEX	sat0120.HEX
1	3-Aug	0:30:50	41 deg 15.82 70 deg 38.03	Nobska_SBE19_2972_01021.hex	cb030121.HEX	sat0121.HEX
1	3-Aug	0:43:22	41 deg 16.65 70 deg 37.24	Nobska_SBE19_2972_01022.hex	cb030122.HEX	sat0122.HEX
1	3-Aug	0:55:59	41 deg 17.60 70 deg 36.44	Nobska_SBE19_2972_01023.hex	cb030123.HEX	sat0123.HEX
1	3-Aug	1:09:29	41 deg 18.34 70 deg 35.16	Nobska_SBE19_2972_01024.hex	cb030124.HEX	sat0124.HEX

Table 43. CTD casts taken prior to deployment of the tow chain.

Leg	Date	Time	Location	Raw File Name(s)	
1	3-Aug	13:27:17	41 deg 10.443 70 deg 41.614	Nobska_SBE19_2972_01025.hex	cb030125.HEX
1	4-Aug	15:13:53	40 deg 59.361 70 deg 35.659	Nobska_SBE19_2972_01026.hex	
1	5-Aug	10:09:59	41 deg 08.685 70 deg 35.126	Nobska_SBE19_2972_01027.hex	

Table 44. CTD casts taken during recovery of moorings.

Leg	Date	Time	Location	Raw File Name(s)		
4	25-Aug	13:56:15	Mooring F	leg403.HEX	leg4203.HEX	
4	27-Aug	9:19:00	Mooring A	cb_rec.HEX	leg4204.HEX	leg404.HEX
4	27-Aug	10:47:53	L1	leg405.HEX	leg4205.HEX	
4	27-Aug	11:46:41	L2	leg406.HEX	leg4206.HEX	
4	27-Aug	12:27:38	Mooring E	leg407.HEX	leg4207.HEX	
4	27-Aug	13:19:29	L6	leg408.HEX	leg4208.HEX	
4	27-Aug	13:55:25	L7	leg409.HEX	leg4209.HEX	
4	27-Aug	16:44:06	Mooring D	leg411.HEX	leg4211.HEX	
4	28-Aug	3:13:02	L10	leg412.HEX	leg4212.HEX	
4	28-Aug	9:32:47	L3	leg413.HEX	leg4213.HEX	
4	28-Aug	12:03:44	Mooring C	leg414.HEX	leg4214.HEX	
4	28-Aug	14:05:34	L5	leg416.HEX	leg4216.HEX	

Many of the casts produced extremely spiky values for salinity. Therefore, some extra effort was made to process the casts to create usable data files. The following are possible causes of spiking in the CTD data files.

Sea-Bird recommends a profiling speed of 1 m/s for good quality data return. However, they do note that ship motion can have an impact on data quality. In cases of large ship motion, the profiling speed should be increased to reduce dynamic errors. Under very calm conditions, the speed can be lowered to 10 cm/s to increase vertical resolution. (Sea-Bird does not quantify these ranges of ship motion.)

Rapidly changing descent/ascent rates can cause spiking, which is referred to as the yo-yo effect. The yo-yo effect keeps the instrument from following a direct path, but instead its direction (up or down) is constantly changing. If heavy ship motion becomes a problem, Sea-Bird recommends letting the instrument free-fall. (The SBE 19plus has a 0.21 m depth accuracy.) Figure 25 shows a representative profiling speed plot for the CBLAST 2003 casts. The yo-yo effect generates noise in the plot.

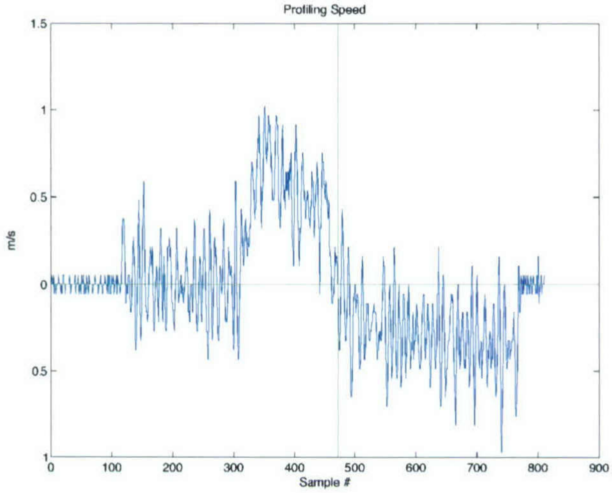

Figure 25. Sample profiling speed of CTD.

The SBE 19plus is intended only for one-way sampling. In this case, the instrument was set up to provide better downcast data because the sensor was located on the bottom and was leading through the water column on the way down. Figure 26 compares the raw CTD data against SBE37 data from the same time period. The SBE37 data agrees more closely with the downcast data than the upcast.

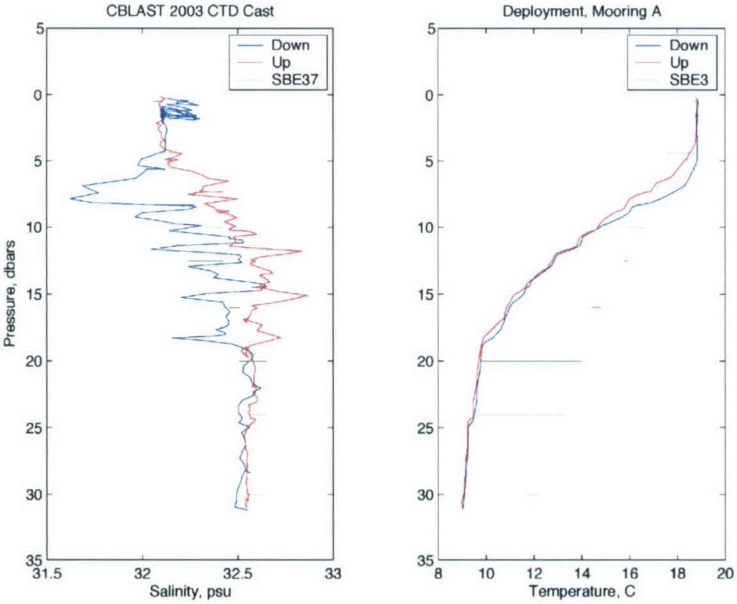

Figure 26. Sample CTD cast showing upcast and downcast.

Sea-Bird recommends allowing the instrument to 'soak' for several minutes in the sample water to allow the instrument to equilibrate to the water temperature. Under extreme air to water temperature differences, more soak time should be allowed. During CBLAST 2003, the instrument was allowed to soak for one minute before being lowered. The air and sea surface temperature were relatively close during this project, and soak time is not a likely cause of error.

Spiking in derived variables, such as salinity and density, can occur because of a response time mismatch of the conductivity and temperature sensors. This problem is exacerbated by steep temperature gradients and reversals of instrument direction caused by ship motion. Figure 27 shows an example of a steep temperature gradient creating spiking in a derived variable.

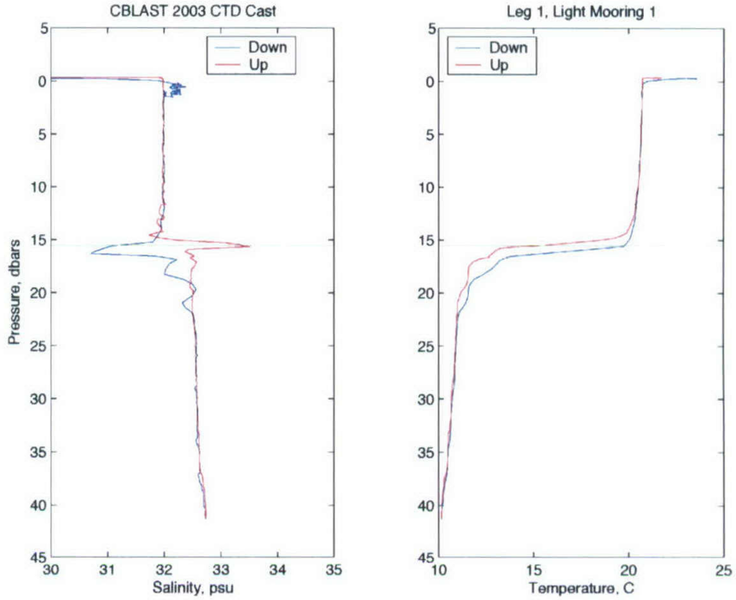

Figure 27. Sample CTD cast with steep temperature gradient.

A rolling average was applied to the CTD data to try to diminish the effects of the salinity spiking. While this did smooth the data plots substantially, real data points may be indiscriminately removed, therefore this was not used in the final dataset.

Sea-Bird provides the SBE Data Processing program for analyzing data from the SBE 19plus. For this analysis, seven of the modules within the program were used. The first module used was the Data Conversion tool, which converts the raw .hex files to an ASCII file with .cnv extension. Only the primary variables are converted at this point: conductivity (mS/cm), temperature (ITS-90, °C), and pressure (dbars).

The Align CTD Module aligns parameter data in time, relative to pressure. By correctly aligning the data, derived values such as salinity are made using measurements from the same parcel of water and salinity spiking is minimized. Sea-Bird lists three reasons for the misalignment of CTD measurements:

- *Physical misalignment of the sensors in depth*
- *Inherent time delay (time constants) of the sensor responses*
- *Water transit time delay in the pumped plumbing line – the time it takes the parcel of water to go through the plumbing to each sensor*

Signs that the parameters are misaligned are depth mismatches between the downcast and upcast, and spiking in salinity near steep temperature gradients. Negative spikes of salinity on the downcast in CBLAST data showed that conductivity was leading temperature, therefore temperature was advanced by 0.5 seconds (which is a recommended advance by Sea-Bird).

The Cell Thermal Mass module 'uses a recursive filter to remove conductivity cell thermal mass effects from the measured conductivity'. This module should be used only for data with steep temperature gradients, as correction is negligible in unstratified waters. For this analysis, the Sea-Bird recommended values of alpha = 0.04 and 1/beta = 8 were used.

The Filter module runs a low-pass filter on selected data, which smooths high frequency data. The Sea-Bird recommended time constants were used in the filter: 0.5 seconds for temperature and conductivity, and 1 second for pressure.

The Loop Edit module marks scans that have pressure slowdowns or reversals with a bad flag value. The user specifies a minimum velocity, and the program flags any scans with velocity less than the minimum, or scans with a direction reversal. For this analysis, a minimum velocity of 0.1 m/s was set.

The Wild Edit module marks wild points with a bad flag, as determined by analyzing standard deviations. For this analysis, the following settings were used for the conductivity, temperature, and pressure parameters:

Standard deviations for pass one = 2
Standard deviations for pass two = 20
Scans per block = 100
Keep data within this distance of the mean = 0

The final step is to use the Derive module, which generates depth (seawater, m), salinity (psu), descent rate (m/s), and other variables from the primary parameters of conductivity, temperature, and pressure. Figure 28 shows raw CTD data, and Figure 29 shows the same CTD data after processing. Salinity spiking has been greatly reduced.

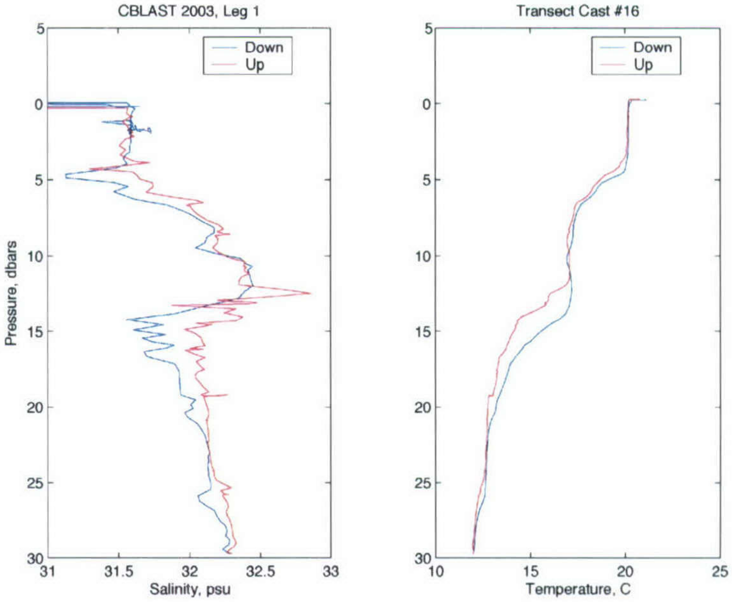

Figure 28. Sample CTD cast shown in raw form.

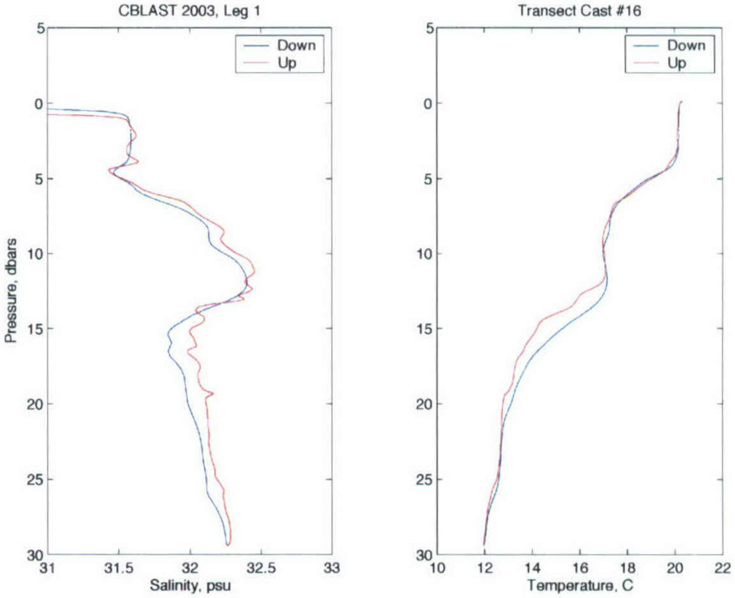

Figure 29. Sample CTD cast shown after post-processing.

Subsurface Pressure

Two types of pressure sensors were deployed during CBLAST 2003. Sea-Bird model SBE37s with optional pressure sensors installed were used on the heavy moorings near the anchor. Brancker model DR-1050s were used on the drifters and the *Nobska* boom chain.

Both types of instruments report pressure in units of decibars (db). In seawater, a decibar is equivalent to a one meter depth. However, they differ in the type of pressure reported. The Sea-Birds report gauge pressure, and the Branckers report absolute pressure.

$$P_{\text{absolute}} = P_{\text{gauge}} + P_{\text{atmospheric}}$$

$$P_{\text{atmospheric}} = 10.13 \text{ db (at sea level)}$$

Therefore, atmospheric pressure needs to be subtracted from the Brancker data files before the data can be read as depth in meters. In order to determine the atmospheric pressure and to determine if there was bias in any of the instruments, the in-air data was analyzed. There are three different time sets where the instruments were on land and recording:

Prior to mooring deployment (all Sea-Birds)
Prior to drifter deployment (all Branckers)
At the end of the experiment (all instruments)

Analysis of the Sea-Bird data at the beginning of the mooring deployment showed that the Mooring C instrument (0671) did not produce reliable data; see Figure 30. However, the remaining four instruments were tightly grouped with an average pressure spread of only 0.14 db; see Figure 31. As expected, the Sea-Bird instruments gave gauge air pressure readings hovering around 0. Table 45 gives an average in-air pressure reading from the four working instruments. Subtracting these values from the data series would eliminate the slight bias in the instruments. However, these biases are close to the accuracy of the instrument, which is 0.11 db.

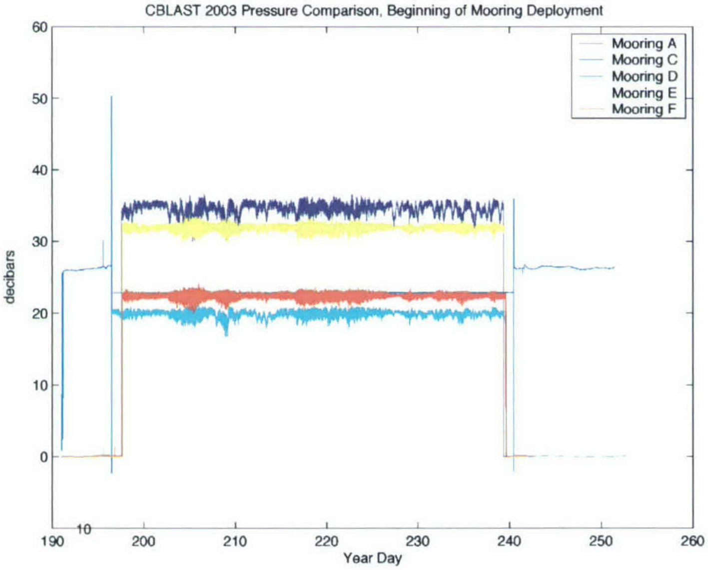

Figure 30. Comparison of pressure sensors.

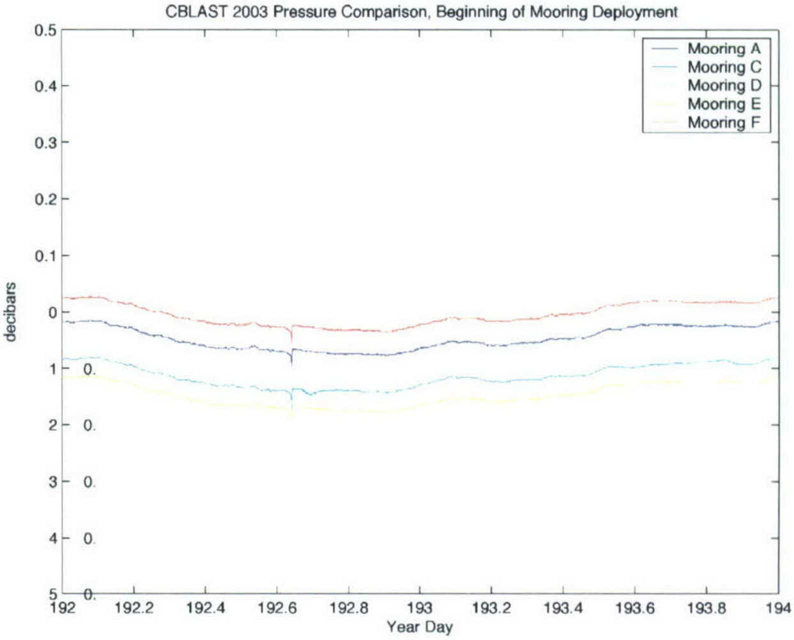

Figure 31. Comparison of pressure sensors.

Table 45. Pressure sensors and their average sea level pressures.

Platform	Serial #	In-Air Average Pressure (db)
Mooring A	1912	-0.0336
Mooring C	0671	Not working
Mooring D	0670	-0.0981
Mooring E	1910	-0.1331
Mooring F	1913	0.0088

Analysis of the Brancker pressure data showed that all six sensors worked correctly; see Figure 32 for a plot of the in-air data. Table 46 gives a 5-hour in-air average for the sensors. These average values can be subtracted from the data series to provide depth in meters. The maximum average pressure spread is 0.0055 db, within the 0.05 db accuracy of the instrument. As expected, the Branckers gave atmospheric pressure values in the range of 10.13 db, equivalent to atmospheric pressure at sea-level. In-air pressure data from all of the instruments agrees with the average values given below.

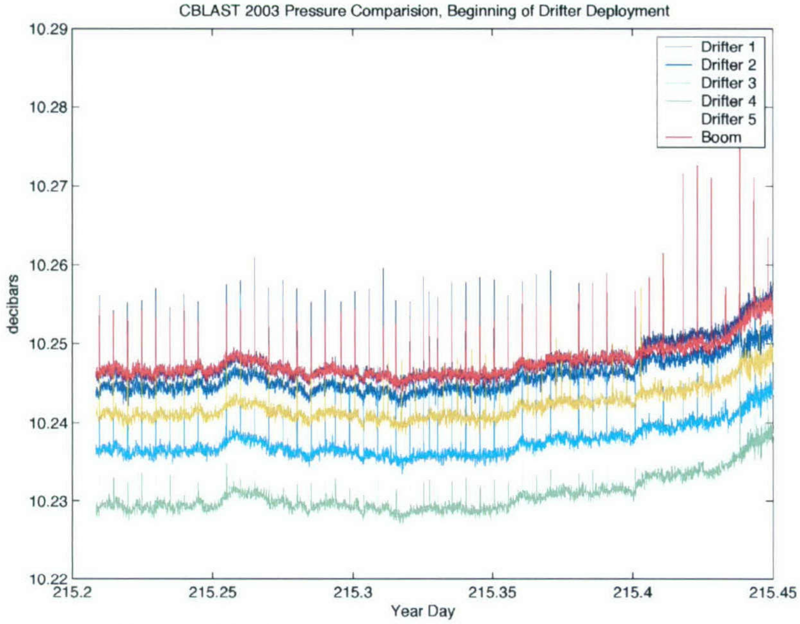

Figure 32. Comparison of pressure sensors.

Table 46. Pressure sensors and their sea level averages.

Platform	Serial #	In-Air Average
Drifter 1	9794	10.2467
Drifter 2	9799	10.2448
Drifter 3	9797	10.2368
Drifter 4	9788	10.2298
Drifter 5	9798	10.2414
Boom	9793	10.2469

7. Acknowledgements

There were many people who contributed to the success of CBLAST 2003. We would like to thank Jeff Lord, Paul Bouchard, Brian Hogue, Brandon Wasnewski, Ryan Brown, and Matt Littleton who helped with the fieldwork. Nan Galbraith and Kelan Huang assisted with landside operations and data processing.

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Appendix A – Mooring Logs

Moored Station Log

PAGE 1

(fill out log with black ball point pen only)

ARRAY NAME AND NO. CBLAST - A MOORED STATION NO. 1112

Launch (anchor over)

Date 16-07-2003 (day-mon-year) Time 14:26:14 UTC

Latitude 40°59.457 (deg-min) [✓ N] or S Longitude 70°35.454 (deg-min) E or [✓ W]

Position Source: GPS, LORAN, SAT. NAV., OTHER GPS (Garmin Hand-held)

Deployed by: J. Lord / R. Weller Recorder/Observer: Tom Farrar

Ship and Cruise No Nobska Intended duration: ______ days

Depth Recorder Reading 48.0 m Correction Source: ______

Depth Correction +6ft m

Corrected Water Depth ______ m Magnetic Variation: 15° E or [✓ W]

Anchor Position: Lat. 40°59.457 [✓ N] or S Long. 70°35.454 E or [✓ W]

Argos Platform ID No. ______ Additional Argos Info may be found on pages 2 and 3.

Acoustic Release Information

Release No. N/A Tested to ______ meters

Receiver No. ______ Release Command ______

Interrogate Freq. ______ Reply Freq. ______

Recovery (buoy hooked ~~release fired~~)

Date Aug 27, 2003 (day-mon-year) Time 09:34:34 UTC

Latitude 40°59.477' N (deg-min) N or S Longitude 70°35.382' W (deg-min) E or W

Postion Source: [✓ GPS], LORAN, SAT. NAV., OTHER ______

Recovered by: B. Wasnewski Recorder/Observer: T. Farrar

Ship and Cruise No. Nobska Actual duration: ______ days

Distance from actual waterline to buoy deck ______ meters

Surface Components

Buoy Type ____________ **Color(s) Hull** ________ **Tower** ____________

Buoy Markings ____

Surface Instrumentation

Item	ID	Height *	Comments
HRH/ATMP	503 ✓	208 cm	
BPR	503 ✓	202 cm	
WND	345 ✓	241 cm	
PRC	503 ✓	227 cm	
LWR	501 ✓	201 cm	
SWR	503 ✓	202 cm	
Logger	L14		
PTT	19456		ID#'s : 27380, 27381, 27382

*** Height above buoy deck**

Sub-Surface Instrumentation on Buoy and Bridle

Item	ID	Depth†	Comments
SBE37	1839 ✓	0.5	

† Depth below buoy deck

Sub-Surface Components

	Type	Size(s)	Manufacturer
Chain			
Wire Rope			
Synthetics			
Hardware			

Flotation	Type (G.B.s, Spheres, etc)	Size	Quantity	Color

No. of Flotation Clusters ________

Anchor Dry Weight _________ lbs

MOORED STATION NUMBER i112

Item No.	Lgth [m]	Item	Inst No.	Time Over	Notes	Data No.	(m) Calc Dpth	Time Back	Notes
1		SBE39	0685 ✓				1.0	9:35:10	
2		NGVM	012 ✓				2.23	9:35:10	
3		SBE37	1838 ✓				4.4		out by 9:44:30
4		SBE39	0644 ✓				5.1		
5		RDI	182 ✓		600 KHz head-down		6.55		
6		SBE39	0718 ✓				7.6		
7		NGVM	042 ✓				8.5	9:44:30	
8		SBE37	2033 ✓				10	9:45:45	
9		Nortek	0357 ✓		2MHz		11		out by 9:55:00
10		SBE37	1905 ✓				12.5		
11		SBE39	0276 ✓				14		
12		SBE37	2032 ✓				16	9:56:40	Bobbing at 9:56:05
13		SBE39	0720 ✓				18	9:57:30	
14		SBE37	1906 ✓				20	9:57:55	
15		SBE39	0648 ✓				22	9:58:15	
16		SBE37	1903 ✓				24	9:58:40	
17		SBE39	none shown		0700 written on case		26	9:58:55	
18		SBE39	0719 ✓				28	9:59:30	
19		SBE37	2039 ✓				30	9:59:45	
20		SBE37	1912 ✓				35	10:00:23	

Date/Time	Comments
16-07-03	CTD in at 14:27:24
	CTD on deck at 14:32:00
15-07-03	Subsurf. instrumentation spiked at 4:12 AM EST
	for moorings A, E, and F (out at approx 4:30 PM)

Moored Station Log

PAGE 1

(fill out log with black ball point pen only)

ARRAY NAME AND NO. CBLAST - C MOORED STATION NO. 1113

Launch (anchor over)

Date 15-07-2003 Time 12:36:19 UTC
day-mon-year

Latitude 41° 12' 02.0" N or S Longitude 70° 40' 19.5" E or W
deg-min deg-min

Position Source: GPS, LORAN, SAT. NAV., OTHER GPS (Garmin handheld)

Deployed by: Jeff Lord Recorder/Observer: Tom Farrar

Ship and Cruise No F/V Nobska Intended duration: ______ days

Depth Recorder Reading 16.2 FM (29.63m) m Correction Source: ______

Depth Correction Add 6 ft m

Corrected Water Depth 31.46 m m Magnetic Variation: 15° E or [✓ W]

Anchor Position: Lat. 41° 12' 02.0" N or S Long. 70° 40' 19.5" E or W

Argos Platform ID No. ______ Additional Argos Info may be found on pages 2 and 3.

Acoustic Release Information

Release No. N/A Tested to ______ meters

Receiver No. ______ Release Command ______

Interrogate Freq. ______ Reply Freq. ______

Recovery ~~(release fired)~~ hooked

Date Aug 28, 2003 Time 12:14:44 UTC
day-mon-year

Latitude 41° 12.037' N N or S Longitude 70° 40.311' W E or W
deg-min deg-min

Postion Source: GPS, LORAN, SAT. NAV., OTHER Ship GPS

Recovered by: J Lord Recorder/Observer: T. Farrar

Ship and Cruise No. F/V Nobska, leg 4 Actual duration: ______ days

Distance from actual waterline to buoy deck ______ meters

Sub-Surface Instrumentation on Buoy and Bridle

Item	ID	Depth†	Comments
SBE37	1304 ✓	1	

† Depth below buoy deck

Sub-Surface Components

	Type	Size(s)	Manufacturer
Chain			
Wire Rope			
Synthetics			
Hardware			

Flotation	Type (G.B.s, Spheres, etc)	Size	Quantity	Color

No. of Flotation Clusters ________

Anchor Dry Weight ________ lbs

MOORED STATION NUMBER 1113

Item No.	Lgth [m]	Item	Inst No.	Time Over	Notes	Data No.	(m) Calc Dpth	Time Back	Notes
1		SBE39	0035✓				1.85	12:15:05	
2		SBE39	0691✓				2.75	12:15:05	
3		SBE37	2046✓				3.5	12:15:05	
4		SBE39	0044✓				5	12:21:00	In and out from 12:20:05
5		SBE39	0696✓				6		
6		SBE39	0046✓				7		
7		SBE39	0624✓				8	12:23:50	
8		SBE37	0685✓				10	12:24:25	
9		SBE39	0054✓				12	~~12:26:10~~	12:25:45
10		SBE39	0647✓				14	~~12:26:28~~	12:26:10
11		SBE37	0683✓				16	12:26:28	
12		SBE39	0102✓				18	12:26:46	
13		SBE39	0692✓				20	12:27:10	
14		SBE37	0671✓				23.5	12:28:55	Bobbed at 12:27:58
15									
16									
17									
18									
19									
20									

Date/Time	Comments
15-07-03/ 12:40 UTC	CTD on
15-07-03/ 12:43 UTC	CTD on deck
	See cruise log p. 108

Moored Station Log

PAGE 1

(fill out log with black ball point pen only)

ARRAY NAME AND NO. CBLAST - D **MOORED STATION NO.** 1114

Launch (anchor over)

Date 15-07-2003 (day-mon-year) **Time** 13:21:00 **UTC**

Latitude 41° 16.676' (deg-min) **N or S** **Longitude** 70° 39.164' (deg-min) **E or W**

Position Source: GPS, LORAN, SAT. NAV., OTHER GPS (Garmin handheld)

Deployed by: Jeff Lord **Recorder/Observer:** Tom Farrar

Ship and Cruise No F/V Nobska **Intended duration:** ______ **days**

Depth Recorder Reading 13.2fm **m** **Correction Source:** ______

Depth Correction add 1fm **m**

Corrected Water Depth 25.97m **m** **Magnetic Variation:** 15° **E or [✓ W]**

Anchor Position: Lat. 41° 16.676 **N or S** **Long.** 70° 39.164 **E or W**

Argos Platform ID No. ______ **Additional Argos Info may be found on pages 2 and 3.**

Acoustic Release Information

Release No. N/A **Tested to** ______ **meters**

Receiver No. ______ **Release Command** ______

Interrogate Freq. ______ **Reply Freq.** ______

Recovery (~~release fired~~ hooked buoy)

Date Aug 27, 2003 (day-mon-year) **Time** 16:53:38 **UTC**

Latitude 41° 16.688' N (deg-min) **N or S** **Longitude** 70° 39.086' W (deg-min) **E or W**

Postion Source: [✓ GPS], LORAN, SAT. NAV., OTHER ______

Recovered by: B. Wasnewski **Recorder/Observer:** T. Farrar

Ship and Cruise No. Nobska, leg 4 **Actual duration:** ______ **days**

Distance from actual waterline to buoy deck ______ **meters**

Sub-Surface Instrumentation on Buoy and Bridle

Item	ID	Depth†	Comments
SBE37	0011 ✓	1	

† Depth below buoy deck

Sub-Surface Components

	Type	Size(s)	Manufacturer
Chain			
Wire Rope			
Synthetics			
Hardware			

Flotation	Type (G.B.s, Spheres, etc)	Size	Quantity	Color

No. of Flotation Clusters ________

Anchor Dry Weight ________ lbs

PAGE 4

MOORED STATION NUMBER 1114

Item No.	Lgth [m]	Item	Inst No.	Time Over	Notes	Data No.	(m) Calc Dpth	Time Back	Notes
1		SBE39	0045 ✓				1.85	16:54:35	
2		SBE39	0693 ✓				2.75		
3		SBE37	2031 ✓				3.5		
4		SBE39	0649 ✓				5	16:57:35	
5		SBE39	0039 ✓				6		Missing guard on recovery
6		SBE39	0626 ✓				7		
7		SBE39	0053 ✓				8		Instr guard missing on recovery
8		SBE37	0686 ✓				10	17:00:00	
9		SBE39	0688 ✓				12	17:00:30	
10		SBE39	0103 ✓				14	17:02:34	
11		SBE37	0669 ✓				16	17:02:50	
12		SBE39	0821 ✓				18	17:03:00	
13		SBE37	0670 ✓				20	17:03:55	
14									
15									
16									
17									
18									
19									
20									

Date/Time	Comments
15-07-03 / 13:22	CTD turned on
15-07-03 / 13:29	CTD recovered / on deck

Moored Station Log

PAGE 1

(fill out log with black ball point pen only)

ARRAY NAME AND NO. CBLAST - E **MOORED STATION NO.** 1115

Launch (anchor over)

Date 16 - 07 - 2003 (day-mon-year) **Time** 16:09 **UTC**

Latitude 41° 09.172 (deg-min) [✓ N] or S **Longitude** 70° 36.279 (deg-min) E or [✓ W]

Position Source: GPS, LORAN, SAT. NAV., OTHER GPS (Garmin hand-held)

Deployed by: J. Lord / R. Weller **Recorder/Observer:** Tom Farrar

Ship and Cruise No F/V Nobska **Intended duration:** ______ **days**

Depth Recorder Reading 40 **m** **Correction Source:** ______

Depth Correction add 6 ft **m**

Corrected Water Depth ______ **m** **Magnetic Variation:** 15° E or [✓ W]

Anchor Position: Lat. 41° 09.172 [✓ N] or S **Long.** 70° 36.279 E or [✓ W]

Argos Platform ID No. ______ **Additional Argos Info may be found on pages 2 and 3.**

Acoustic Release Information

Release No. N/A **Tested to** ______ **meters**

Receiver No. ______ **Release Command** ______

Interrogate Freq. ______ **Reply Freq.** ______

Recovery (release fired)

Date Aug 27, 2003 (day-mon-year) **Time** 12:36:40 **UTC**

Latitude 41° 09.162' N (deg-min) **N or S** **Longitude** 70° 36.265' W (deg-min) **E or W**

Postion Source: [✓ **GPS**], **LORAN, SAT. NAV., OTHER** ______

Recovered by: B. Wasnewski **Recorder/Observer:** T. Farrar

Ship and Cruise No. Nobska, leg 4 **Actual duration:** ______ **days**

Distance from actual waterline to buoy deck ______ **meters**

PAGE 2

Surface Components

Buoy Type ______________ **Color(s) Hull** __________ **Tower** ______________

Buoy Markings ____

Surface Instrumentation

Item	ID	Height *	Comments
HRH/ATMP	506 ✓	163 cm	
BPR	504 ✓	156.5 cm	
WND	348 ✓	197 cm	
PRC	506 ✓	158 cm	
LWR	505 ✓	185 cm	
SWR	502 ✓	187.5 cm	
Logger	L12		
PTT	19488		ID#'s: 14644, 14652, 14653

* Height above buoy deck

Sub-Surface Instrumentation on Buoy and Bridle			
Item	ID	Depth†	Comments
SBE37	1419 ✓	1	

† Depth below buoy deck (m)

Sub-Surface Components

	Type	Size(s)	Manufacturer
Chain			
Wire Rope			
Synthetics			
Hardware			

Flotation	Type (G.B.s, Spheres, etc)	Size	Quantity	Color

No. of Flotation Clusters ________

Anchor Dry Weight ________ lbs

MOORED STATION NUMBER 1115

Item No.	Lgth [m]	Item	Inst No.	Time Over	Notes	Data No.	Calc Dpth (m)	Time Back	Notes
1		SBE39	0051✓				2.15	12:37:00	
2		SBE39	0628✓				2.82	12:37:00	
3		NGVM	019✓				4.2	12:37:30	→+/- 10 sec
4		SBE37	1325✓				6.2		
5		SBE39	0645✓				6.9		
6		NGVM	058✓				8	12:43:00	
7		SBE37	2038✓				10		
8		SBE39	0101✓				12		
9		SBE37	2028✓				14	12:45:15	Bobbing from 12:44:45
10		SBE39	0701?				16	12:45:15	
11		Nortek	0253✓		1 MHz		17	12:46:00	
12		SBE39	0041✓				18		out within 20 sec of #11 Nortek
13		SBE37	1760✓				20		
14		SBE39	0623✓				24	12:48:00	
15		SBE39	0047✓				28	12:48:45	
16		SBE37	1910✓				32	12:49:35	
17		SBE39	0695✓				36	12:50:00	
18									
19									
20									

Date/Time	Comments
	CBLAST Mooring E
7-16-03/11:05ET	Serial no covered on #0701 (item #10)
7-15-03/4:12 PM EST	Subsurf instrumentation spiked for moorings A,E,&F

Moored Station Log

PAGE 1

(fill out log with black ball point pen only)

ARRAY NAME AND NO. CBLAST - F **MOORED STATION NO.** 1116

Launch (anchor over)

Date 16-07-03 (day-mon-year) **Time** 17:25 **UTC**

Latitude 41°15.230' (deg-min) [✓ N] or S **Longitude** 70°35.482' (deg-min) E or [✓ W]

Position Source: GPS, LORAN, SAT. NAV., OTHER GPS Hand-held

Deployed by: J. Lord/R. Weller **Recorder/Observer:** Tom Farrar

Ship and Cruise No F/V Nobska **Intended duration:** ______ days

Depth Recorder Reading 26,0 m **Correction Source:** ______

Depth Correction add 6ft m

Corrected Water Depth ______ m **Magnetic Variation:** 15° E or [✓ W]

Anchor Position: Lat. 41°15.230' N or S **Long.** 70°35.482' E or W

Argos Platform ID No. ______ **Additional Argos Info may be found on pages 2 and 3.**

Acoustic Release Information

Release No. N/A **Tested to** ______ meters

Receiver No. ______ **Release Command** ______

Interrogate Freq. ______ **Reply Freq.** ______

Recovery (buoy hooked ~~release fired~~)

Date Aug 27, 2003 (day-mon-year) **Time** 15:30:54 **UTC**

Latitude 41° 15.242' N (deg-min) **N or S** **Longitude** 70°36.441' W (deg-min) **E or W**

Postion Source: [✓ GPS], **LORAN, SAT. NAV., OTHER** (All recovery positions are ship GPS)

Recovered by: B. Wasnewski **Recorder/Observer:** T. Farrar

Ship and Cruise No. Nobska, Leg 4 **Actual duration:** ______ days

Distance from actual waterline to buoy deck ______ meters

PAGE 2

Surface Components

Buoy Type ______ Color(s) Hull ______ Tower 1116

Buoy Markings ______

Surface Instrumentation

Item	ID	Height *	Comments
HRH/ATMP	504 ✓	161 cm	
BPR	505 ✓	155.5 cm	
WND	347 ✓	195 cm	
PRC	504 ✓	159 cm	
LWR	504 ✓	173 cm	
SWR	505 ✓	173 cm	
Logger	L16		
PTT	19472		ID#'s: 14766, 14778, 14901
SWR	801 ✓	173 cm	Stand Alone

* Height above buoy deck

Sub-Surface Instrumentation on Buoy and Bridle

Item	ID	Depth†	Comments
SBE37	1306 ✓	1	

† Depth below buoy deck

Sub-Surface Components

	Type	Size(s)	Manufacturer
Chain			
Wire Rope			
Synthetics			
Hardware			

Flotation	Type (G.B.s, Spheres, etc)	Size	Quantity	Color

No. of Flotation Clusters ________

Anchor Dry Weight ________ lbs

MOORED STATION NUMBER 1116

Item No.	Lgth [m]	Item	Inst No.	Time Over	Notes	Data No.	(m) Calc Dpth	Time Back	Notes
1		SBE39	0040				2.2		
2		SBE39	0819				2.9		
3		NGVM	038				3.84	15:32:15 ~~12:37:20~~	~~→ +/- 10 sec~~
4		SBE37	0009				6		
5		Sontek	D208		head down		7.15		
6		SBE37	0010				8		
7		NGVM	032				9	15:37:10 ~~12:43:00~~	→ +/- 3 sec ~~→ approx~~
8		SBE37	2029✓				11.5	15:40:45 ~~12:43:00~~	→ 15:44:57
9		SBE37	1908✓				12.5	~~15:40:45~~ ~~12:44:45~~	~~Bobbing at 12:45:00~~
10		SBE39	0038✓				14		Bobbing after 16:44:57
11		SBE37	2034✓				16		
12		Nortek	0333✓				17	15:47:20	Out before this time
13		SBE39	0629✓				18	15:47:20	
14		SBE39	0721✓				20	15:47:20	
15		SBE37	1913✓				22	15:49:44	
16									
17									
18									
19									
20									

Date/Time	Comments
	CBLAST-F mooring
16/07/03 / 17:50 UTC	Tripod deployed at 41° 15.279' N, 70° 35.559' W
15/07/03 / 16:12 EST	Subsurf instrumentation spiked for moorings A, E, + F

Light Mooring Log

Project: CBLAST 2003	Mooring #: L1

Launch Information	
Date: Aug 2, 2003	Time (UTC): 13:48:04
Latitude (N or S): 41°02.126'N	Longitude (E or W): 70°44.817'W
Position Source: Ship GPS	Ship: F/V Nobska
Deployed By: J. Lord	Recorded By: T. Farrar
Depth Reading: 44 m + 6 ft	Magnetic Variation:

Recovery Information	
Date: Aug 27, 2003	Time(UTC): 10:55:50 (hooked)
Latitude (N or S): 41°02.150'N	Longitude (E or W): 70°44.830'W
Position Source: Ship GPS	Ship: F/V Nobska
Recovered By: B. Wasnewski	Recorded By: T. Farrar
Depth Reading: 44.7 m + 6 ft	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments → Recovered
Onset Tidbit	358907	Surface	Out ~ 10:56:~~4~~5 +/- 15 sec
Brancker	3270	0.5	
Onset Tidbit	358908	1	Out ~ 11:00:00 after bobbing from 10:57:40
Onset Tidbit	358909	2	
Onset Tidbit	358910	3	
Onset Tidbit	395851	4	
Onset Tidbit	395852	5	
Onset Tidbit	395853	6	
Onset Tidbit	395854	7	
Onset Tidbit	395855	8	
Onset Tidbit	395856	9	
Onset Tidbit	395857	10	
Onset Tidbit	395858	11	
Onset Tidbit	395859	12	
Onset Tidbit	395860	13	
Onset Tidbit	395861	14	
Onset Tidbit	395862	15	
Onset Tidbit	395863	16	
Onset Tidbit	395864	17	
Onset Tidbit	395865	18	
Onset Tidbit	395866	19	
Onset Tidbit	395867	20	
Onset Tidbit	395868	21	
Onset Tidbit	395870	22	
Onset Tidbit	395871	23	
Onset Tidbit	395872	24	
Onset Tidbit	395873	25	
Onset Tidbit	395874	26	
Onset Tidbit	452685	28	
Onset Tidbit	452686	30	
Onset Tidbit	452687	32	
Onset Tidbit	452689	34	
Onset Tidbit	452690	36	
Onset Tidbit	452691	38	
Onset Tidbit	452692	40	Out 11:03:40
Brancker	3715	44	Out 11:08:40

Light Mooring Log

Project: CBLAST 2003	Mooring #: L2

Launch Information	
Date: Aug 2, 2003	Time (UTC): 14:48:00
Latitude (N or S): 41°04.538'N	Longitude (E or W): 70°36.934'N
Position Source: Ship GPS	Ship: F/V Nobska
Deployed By: J. Lord	Recorded By: T. Farrar
Depth Reading: 42m + 6ft	Magnetic Variation:

Recovery Information	
Date: Aug 27, 2003	Time(UTC): 11:53:45
Latitude (N or S): 41°04.541'N	Longitude (E or W): 70°36.946'W
Position Source: Ship GPS	Ship: F/V Nobska
Recovered By: B. Wasnewski	Recorded By: T. Farrar
Depth Reading: 41.7m + 6ft	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments
Onset Tidbit	452695	Surface	11:54:23
Brancker	3277	0.5	
Onset Tidbit	452696	1	
Onset Tidbit	452697	2	11:56:20
Onset Tidbit	452698	3	
Onset Tidbit	452699	4	
Onset Tidbit	452700	5	
Onset Tidbit	452701	6	
Onset Tidbit	452702	7	
Onset Tidbit	452703	8	
Onset Tidbit	452704	9	
Onset Tidbit	452705	10	
Onset Tidbit	452706	11	
Onset Tidbit	452707	12	
Onset Tidbit	452708	13	
Onset Tidbit	452709	14	
Onset Tidbit	452710	15	
Onset Tidbit	452711	16	
Onset Tidbit	452713	17	
Onset Tidbit	452714	18	
Onset Tidbit	452715	19	
Onset Tidbit	452716	20	
Onset Tidbit	452717	21	
Onset Tidbit	452718	22	
Onset Tidbit	452719	23	
Onset Tidbit	452720	24	
Onset Tidbit	452721	25	
Onset Tidbit	452723	26	
Onset Tidbit	452724	28	
Onset Tidbit	452726	30	
Onset Tidbit	452727	32	
Onset Tidbit	452728	34	
Onset Tidbit	452730	36	
Onset Tidbit	452733	38	
Brancker	3314	42	11:59:20

Light Mooring Log

Project: CBLAST 2003	Mooring #: L3

Launch Information	
Date: Aug 2, 2003	Time (UTC): 16:00:50
Latitude (N or S): 41°10.036'N	Longitude (E or W): 70°43.755'W
Position Source: Ship GPS	Ship: F/V Nobska
Deployed By: J. Lord	Recorded By: T. Farrar
Depth Reading: 31.5m+6ft	Magnetic Variation:

Recovery Information	
Date: Aug 28, 2003	Time(UTC): ~~9:45~~ 09:40:30
Latitude (N or S): 41°10.025	Longitude (E or W): 70°43.747
Position Source: ship GPS	Ship: F V Nobska
Recovered By: J. Lord	Recorded By: T Farrar
Depth Reading: 31.2m + 6ft	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments
Onset Tidbit	452735	Surface	
Brancker	3281	0.5	9:45:10
Onset Tidbit	452736	1	
Onset Tidbit	452737	2	
Onset Tidbit	452740	3	
Onset Tidbit	453580	4	
Onset Tidbit	453581	5	
Onset Tidbit	453582	6	
Onset Tidbit	453583	7	
Onset Tidbit	453584	8	
Onset Tidbit	453586	9	
Onset Tidbit	453587	10	
Onset Tidbit	453588	11	
Onset Tidbit	453589	12	
Onset Tidbit	453590	13	
Onset Tidbit	453591	14	
Onset Tidbit	453592	15	
Onset Tidbit	453593	16	
Onset Tidbit	453594	17	
Onset Tidbit	453595	18	
Onset Tidbit	453596	19	
Onset Tidbit	453597	20	
Onset Tidbit	453598	22	
Onset Tidbit	453599	24	
Onset Tidbit	453600	26	
Onset Tidbit	453601	28	
Onset Tidbit	453603	30	
Branker	5458	31	9:49:58

Light Mooring Log

Project: CBLAST 2003	Mooring #: L4

Launch Information	
Date: Aug 2, 2003	Time (UTC): 15:26:40
Latitude (N or S): 41°07.507'N	Longitude (E or W): 70'40.572'W
Position Source: Ship GPS	Ship: FV Nobska
Deployed By: J. Lord	Recorded By: T. Farrar
Depth Reading: 41m+6ft	Magnetic Variation:

Recovery Information	
Date:	Time(UTC):
Latitude (N or S):	Longitude (E or W):
Position Source:	Ship:
Recovered By:	Recorded By:
Depth Reading:	Magnetic Variation:

Not recovered. We searched a 5-mi radius of the last known position, on Aug 27 and Aug 28.

Light Mooring Log

Project: CBLAST 2003
Mooring #: L5

Launch Information

Date: Aug 2, 2003
Time (UTC): 16:38:30
Latitude (N or S): 41°14.130'N
Longitude (E or W): 70°41.865'W
Position Source: Ship GPS
Ship: F/V Nobska
Deployed By: J Lord
Recorded By: T Farrar
Depth Reading: 26.7m+6ft
Magnetic Variation:

Recovery Information

Date: Aug 28, 2003
Time(UTC): 14:00:00
Latitude (N or S): 41°14.112'N
Longitude (E or W): 70°41.870'W
Position Source: Ship GPS
Ship: FV Nobska
Recovered By: J Lord
Recorded By: T Farrar
Depth Reading: 27.1m+6ft
Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments Out
Onset Tidbit	45650	Surface	
Brancker	3285	0.5	14:00:05 +/- 5 sec
Onset Tidbit	453651	1	
Onset Tidbit	453652	2	
Onset Tidbit	453653	3	
Onset Tidbit	453654	4	
Onset Tidbit	453655	5	
Onset Tidbit	453656	6	
Onset Tidbit	453657	7	
Onset Tidbit	453658	8	
Onset Tidbit	453659	9	
Onset Tidbit	453661	10	
Onset Tidbit	453662	11	
Onset Tidbit	453663	12	
Onset Tidbit	453664	13	
Onset Tidbit	453665	14	
Onset Tidbit	453666	15	
Onset Tidbit	453667	16	
Onset Tidbit	453668	18	
Onset Tidbit	453669	20	
Onset Tidbit	453670	22	
Onset Tidbit	453671	24	
Onset Tidbit	453672	26	
Brancker	3708	27	14:04:19

Light Mooring Log

Project: CBLAST 2003	Mooring #: L6

Launch Information	
Date: Aug 2, 2003	Time (UTC): 17:25:44
Latitude (N or S): 41°12.419′N	Longitude (E or W): 70°37.100′W
Position Source: Ship GPS	Ship: F/V Nobska
Deployed By: J. Lord	Recorded By: T. Farrar
Depth Reading: 27.1 m + 6 ft	Magnetic Variation:

Recovery Information	
Date: Aug 27, 2003	Time(UTC): 13:26:52
Latitude (N or S): 41°12.417′ N	Longitude (E or W): 70°37.097′W
Position Source: Ship GPS	Ship: F/V Nobska
Recovered By: B. Wasnewski	Recorded By: T. Farrar
Depth Reading: 27.6m + 6 ft	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments Out
Onset Tidbit	453673	Surface	13:27:20
Brancker	3294	0.5	
Onset Tidbit	453674	1	
Onset Tidbit	453675	2	13:30:05
Onset Tidbit	453676	3	
Onset Tidbit	453678	4	
Onset Tidbit	453679	5	
Onset Tidbit	453681	6	
Onset Tidbit	453682	7	
Onset Tidbit	453683	8	
Onset Tidbit	453684	9	
Onset Tidbit	453685	10	
Onset Tidbit	453686	11	
Onset Tidbit	453687	12	
Onset Tidbit	453688	13	
Onset Tidbit	453689	14	
Onset Tidbit	453690	15	
Onset Tidbit	453691	16	
Onset Tidbit	453692	18	
Onset Tidbit	453693	20	
Onset Tidbit	453694	22	
Onset Tidbit	453695	24	
Onset Tidbit	453696	26	
Brancker	3713	27	13:31:56

Light Mooring Log

Project: CBLAST 2003	Mooring #: L7

Launch Information	
Date: Aug 2, 2003	Time (UTC): 17:57:25
Latitude (N or S): 41°12.344'N	Longitude (E or W): 70°33.844'W
Position Source: Ship GPS	Ship: F/V Nobska
Deployed By: J. Lord	Recorded By: T Farrar
Depth Reading: 34m + 6ft	Magnetic Variation:

Recovery Information	
Date: Aug 27, 2003	Time(UTC): 14:02:30
Latitude (N or S): 41°12.350'N	Longitude (E or W): 70°32.891'W
Position Source: Ship GPS	Ship: F/V Nobska
Recovered By: B. Wasnewski	Recorded By: T. Farrar
Depth Reading: 34.3 m + 6ft	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments
Onset Tidbit	453697	Surface	14:03:08
Brancker	3302	0.5	
Onset Tidbit	453698	1	14:06:05
Onset Tidbit	453699	2	
Onset Tidbit	453700	3	
Onset Tidbit	453701	4	
Onset Tidbit	453702	5	
Onset Tidbit	453703	6	
Onset Tidbit	453704	7	
Onset Tidbit	453705	8	
Onset Tidbit	453706	9	
Onset Tidbit	453707	10	
Onset Tidbit	453708	11	
Onset Tidbit	453709	12	
Onset Tidbit	453710	14	
Onset Tidbit	453711	16	
Onset Tidbit	484884	18	
Onset Tidbit	484885	20	
Onset Tidbit	484901	22	
Onset Tidbit	484903	24	
Onset Tidbit	484907	26	
Onset Tidbit	484908	28	
Onset Tidbit	484906	30	
Onset Tidbit	395875	32	
Brancker	3312	35	14:07:10

Light Mooring Log

Project: CBLAST 2003	Mooring #: L8

Launch Information	
Date: Aug 2, 2003	Time (UTC): 19:21:21
Latitude ([✓ N] or S): 41° 18.807'N	Longitude (E or W): 70°37.556'W
Position Source: Ship GPS	Ship: FV Nobska
Deployed By: J. Lord	Recorded By: T. Farrar
Depth Reading: 19m + 6ft	Magnetic Variation:

Recovery Information	
Date: Aug 28, 2003	Time(UTC): 02: 06 :50
Latitude ([✓ N] or S): 41° 18.814'N	Longitude (E or W): 70° 37.526'W
Position Source: Ship GPS	Ship: FV Nobska
Recovered By: J. Lord	Recorded By: T. Farrar
Depth Reading:	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments out
Onset Tidbit	453712	Surface	02:11:00
Brancker	3304	0.5	02:11:10
Onset Tidbit	453713	1	}
Onset Tidbit	453714	2	} 02:11:10
Onset Tidbit	453715	3	}
Onset Tidbit	453716	4	
Onset Tidbit	453717	5	
Onset Tidbit	453718	6	
Onset Tidbit	453719	7	
Onset Tidbit	453721	8	
Onset Tidbit	453722	9	
Onset Tidbit	453723	10	
Onset Tidbit	453725	11	
Onset Tidbit	453726	12	
Onset Tidbit	453680	13	
Onset Tidbit	484882	14	
Onset Tidbit	484883	16	
Brancker	3706	18	~~02:14:40~~ 02:14:45

Light Mooring Log

Project:	Mooring #: L9

Launch Information

Date: Aug 2, 2003	Time (UTC): 18:56:11
Latitude (N or S): 41°17.379'N	Longitude (E or W): 70°34.660'W
Position Source: Ship GPS	Ship: F/V Nobska
Deployed By: J. Lord	Recorded By: T Farrar
Depth Reading: 21 m + 6 ft	Magnetic Variation:

Recovery Information

Date: Aug 28, 2003	Time(UTC): 02:35:40
Latitude (N ~~or~~ S): 41°17.372'N	Longitude (E or W): 70°34.630'W
Position Source: ship GPS	Ship: FV Nobska
Recovered By: J. Lord	Recorded By: T Farrar
Depth Reading: 22.0 m + 6 ft	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments Out
Onset Tidbit	484886	Surface	
Brancker	3307	0.5	~~22:37:34~~ 02:37:34
Onset Tidbit	484887	1	
Onset Tidbit	484888	2	
Onset Tidbit	484889	3	
Onset Tidbit	484890	4	
Onset Tidbit	484891	5	
Onset Tidbit	484892	6	
Onset Tidbit	484893	7	
Onset Tidbit	484894	8	
Onset Tidbit	484895	9	
Onset Tidbit	484896	10	
Onset Tidbit	484897	11	
Onset Tidbit	484898	12	
Onset Tidbit	484899	13	
Onset Tidbit	484900	14	
Onset Tidbit	452694	16	
Onset Tidbit	484904	18	
Onset Tidbit	484905	20	
Brancker	3714	22	02:41:18

Light Mooring Log

Project: CBLAST 2003	Mooring #: L10

Launch Information	
Date: Aug 2, 2003	Time (UTC): 18:26:40
Latitude (N or S): 41°15.460'N	Longitude (E or W): 70°31.568'W
Position Source: Ship GPS	Ship: F/V Nobska
Deployed By: J. Lord	Recorded By: T. Farrar
Depth Reading: 26.4m+6ft	Magnetic Variation:

Recovery Information	
Date: Aug 28, 2003	Time(UTC): 03:19:20
Latitude (N or S): 41° 15.443'N	Longitude (E or W): 70°31.437'W
Position Source: Ship GPS	Ship: FV Nobska
Recovered By: J. Lord	Recorded By: T Farrar
Depth Reading: 27.3m+6 ft	Magnetic Variation:

Instrument	Serial Number	Depth (meters)	Comments Out
Onset Tidbit	484909	Surface	
Brancker	3310	0.5	03:21:45
Onset Tidbit	484910	1	
Onset Tidbit	484911	2	
Onset Tidbit	484912	3	
Onset Tidbit	453648	4	
Onset Tidbit	484914	5	
Onset Tidbit	484915	6	
Onset Tidbit	484916	7	
Onset Tidbit	484917	8	
Onset Tidbit	484918	9	
Onset Tidbit	484919	10	
Onset Tidbit	484920	11	
Onset Tidbit	484921	12	
Onset Tidbit	484922	13	
Onset Tidbit	484923	14	
Onset Tidbit	484924	15	
Onset Tidbit	484925	16	
Onset Tidbit	484926	17	
Onset Tidbit	484927	18	
Onset Tidbit	484928	19	
Onset Tidbit	484929	20	
Onset Tidbit	484930	22	
Onset Tidbit	484931	24	
Brancker	5457	27	03:25:52

Appendix B – Technical Notes

Logger/Module Serial Numbers
Project Name: CBLAST 2003 “A”

Logger #: L-14	Firmware Version:	LGR53 CBLAST/SecNav v2.70	
HRH #: 503		v1.60	Height from deck: 208 cm
BPR #: 503		v3.28	202 cm
WND #: 345		v3.30/v1.50	241 cm
PRC #: 503/0954		v1.60	227 cm
LWR #: 501		v1.40	201 cm
SWR #: 503		v1.60	202 cm
SST#: 1839	SST type:	SBE-37 v2.10	Depth from deck:
PTT #: 19456	I.D #:	27380	
		27381	
		27382	

Logger/Module Serial Numbers
Project Name: CBLAST 2003 “E”

Logger #: L-12	Firmware Version:	LGR53 CBLAST/SecNav v2.70	
HRH #: 506		v1.60	Height from deck: 163 cm
BPR #: 504		v3.28	156.5 cm
WND #: 348		v3.30/v1.50	197 cm
PRC #: 506/0953		v1.60	158 cm
LWR #: 505		v1.40	185 cm
SWR #: 502		v1.60	187.5 cm
SST#: 1419	SST type:	SBE-37 v2.20	Depth from deck:
PTT #: 19488	I.D #:	14644	
		14652	
		14653	

Logger/Module Serial Numbers
Project Name: CBLAST 2003 “F”

Logger #: L-16	Firmware Version:	LGR53 CBLAST/SecNav v2.70	
HRH #: 504		v1.60	Height from deck: 161 cm
BPR #: 505		v3.28	155.5 cm
WND #: 347		v3.30/v1.50	195 cm
PRC #: 504/0955		v1.60	159 cm
LWR #: 504		v1.40	173 cm
SWR #: 505		v1.60	173 cm
SST#: 1306	SST type:	SBE-37 v2.20	Depth from deck:
PTT #: 19472	I.D #:	14766	
		14778	
		14901	

Precruise In port Check List
Project Name: CBLAST 2003 "A"

Note Primary Logger Number: L-14
Note Primary Module Numbers (Attach Form): Done
Start SST's (SBE-37's) to Internal Record Note start time/date UTC: 15:00:00, 20 JUN 03 UTC
Power Up Logger Primary Note time/date UTC: 13:16:00, 20 JUN 03 UTC
Test Modules Primary System: Done
Check/Set Logger Clock Primary System Note time/date UTC: 13:25:00, 20 JUN 03
Check/Set Module Clocks: NA
Zero Module FLASH Cards: NA
Zero Logger FLASH Card Primary System: Done
Buoy Spin (Attach Sheets): Done
Record interval of Modules Primary System: NA
Record interval of Logger Primary System: 1.0 Min.
Record interval of SST's (SBE-37's): 2.0 Min.
Logger Start sampling Time/Date UTC: 14:00:00, 20 JUN 03 UTC

Precruise In port Check List
Project Name: CBLAST 2003 "E"

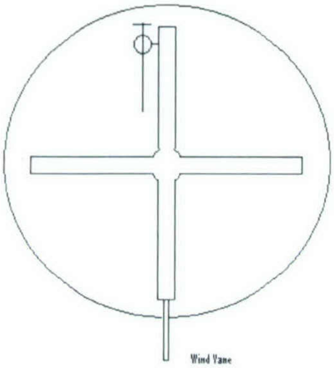
Note Primary Logger Number: L-12
Note Primary Module Numbers (Attach Form): Done
Start SST's (SBE-37's) to Internal Record Note start time/date UTC: 15:00:00, 20 JUN 03 UTC
Power Up Logger Primary Note time/date UTC: 16:56:00, 20 JUN 03 UTC
Test Modules Primary System: Done
Check/Set Logger Clock Primary System Note time/date UTC: 17:10:00, 20 JUN 03
Check/Set Module Clocks: NA
Zero Module FLASH Cards: NA
Zero Logger FLASH Card Primary System: Done
Buoy Spin (Attach Sheets): Done
Record interval of Modules Primary System: NA
Record interval of Logger Primary System: 1.0 Min.
Record interval of SST's (SBE-37's): 2.0 Min.
Logger Start sampling Time/Date UTC: 17:15:00, 20 JUN 03

Precruise In port Check List
Project Name: CBLAST 2003 "F"

Note Primary Logger Number: L-16
Note Primary Module Numbers (Attach Form): Done
Start SST's (SBE-37's) to Internal Record Note start time/date UTC: 15:00:00, 20 JUN 03 UTC
Power Up Logger Primary Note time/date UTC: 14:54:00, 20 JUN 03 UTC
Test Modules Primary System: Done
Check/Set Logger Clock Primary System Note time/date UTC: 15:01:30, 20 JUN 03 UTC
Check/Set Module Clocks: NA
Zero Module FLASH Cards: NA
Zero Logger FLASH Card Primary System: Done
Buoy Spin (Attach Sheets): Done
Record interval of Modules Primary System: NA
Record interval of Logger Primary System: 1.0 Min.
Record interval of SST's (SBE-37's): 2.0 Min.
Logger Start sampling Time/Date UTC: 15:02:00, 20 JUN 03 UTC

In-port Primary Buoy Spin
Project Name: CBLAST Buoy "A"

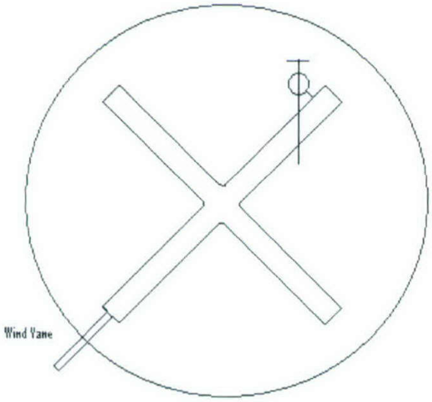
Heading 129 Deg.



Vane Fixed Time/Date UTC: 13:40:30, 9 MAY 03

System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 13:46:30				
Logger #: L-14				
Wind #: WND345	302.2	183.8	126.0	13:47:30
Restart Sampling: 13:48:00				

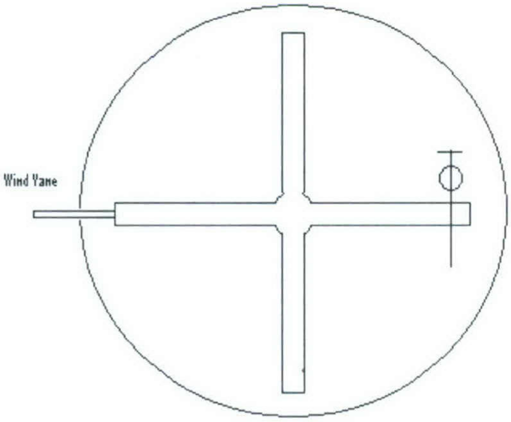
Heading 129 Deg.



Vane Fixed Time/Date UTC: 13:49:00, 9 MAY 03

System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 13:55:30				
Logger #: L-14				
Wind #: WND345	350.3	137.5	127.8	13:56:00
Restart Sampling: 13:57:00				

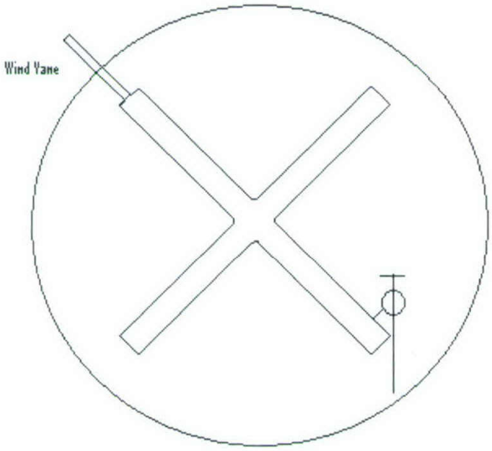
Heading 129 Deg.



Vane Fixed Time/Date UTC: 12:41:00, 9 MAY 03

System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 12:47:00				
Logger #: L-14				
Wind #: WND345	32.3	96.2	128.5	12:47:30
Restart Sampling: 12:48:00				

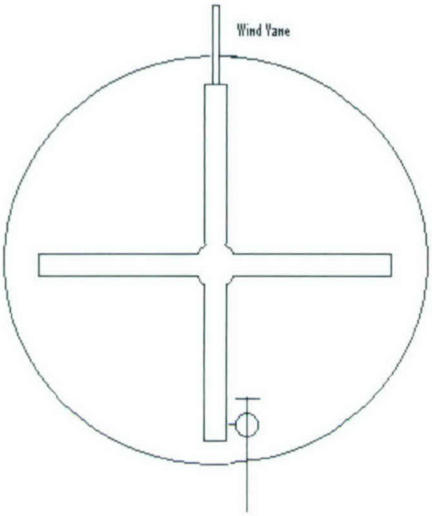
Heading 129 Deg.



Vane Fixed Time/Date UTC: 12:50:00, 9 MAY 03

System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 12:58:00				
Logger #: L-14				
Wind #: WND345	84.7	42.7	127.4	12:59:00
Restart Sampling: 13:00:00				

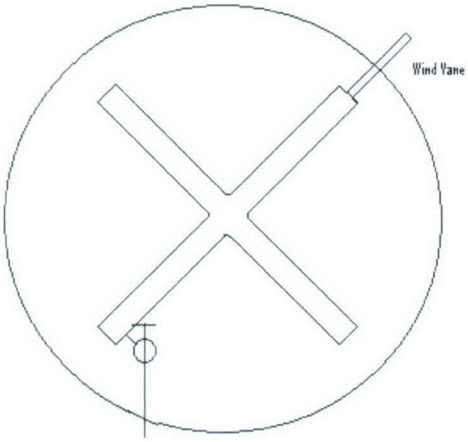
Heading 129 Deg.



Vane Fixed Time/Date UTC: 13:01:30, 9 MAY 03

System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 13:07:30				
Logger #: L-14				
Wind #: WND345	124.2	2.9	127.1	13:08:00
Restart Sampling: 13:08:30				

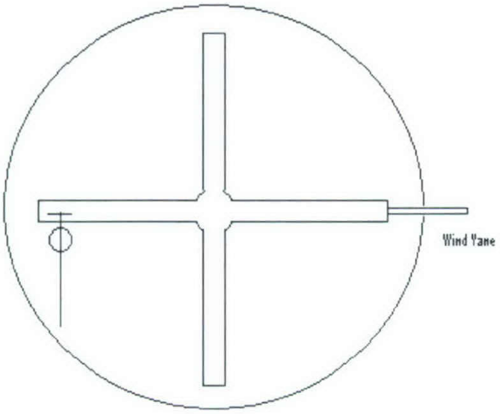
Heading 129 Deg.



Vane Fixed Time/Date UTC: 13:11:00, 9 MAY 03

System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 13:18:30				
Logger #: L-14				
Wind #: WND345	160.6	324.8	124.4	13:19:30
Restart Sampling: 13:20:00				

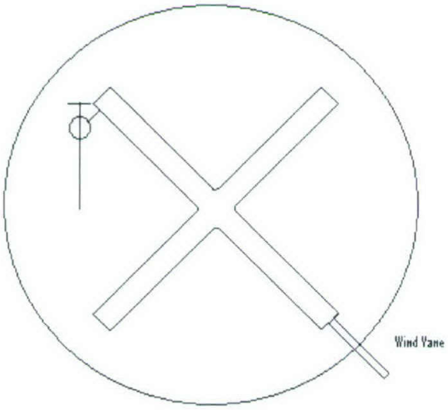
Heading 129 Deg.



Vane Fixed Time/Date UTC: 13:22:00

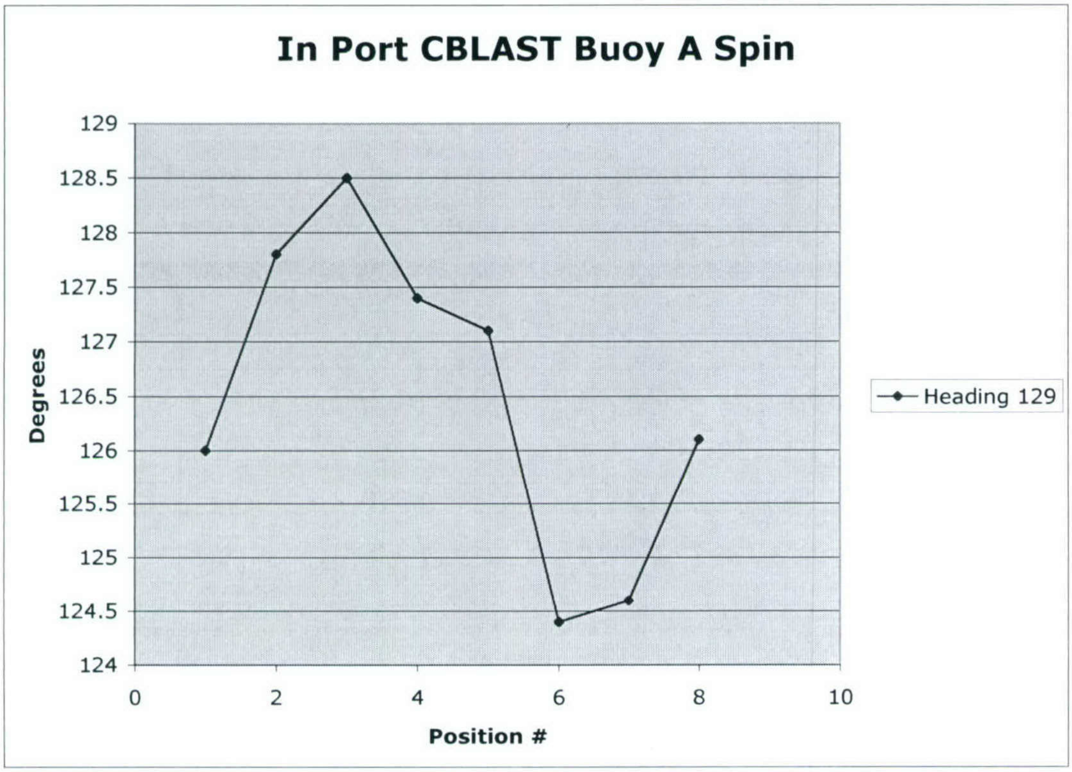
System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 13:27:30				
Logger #: L-14				
Wind #: WND345	209.4	275.2	124.6	13:28:30
Restart Sampling: 13:29:00				

Heading 129 Deg.

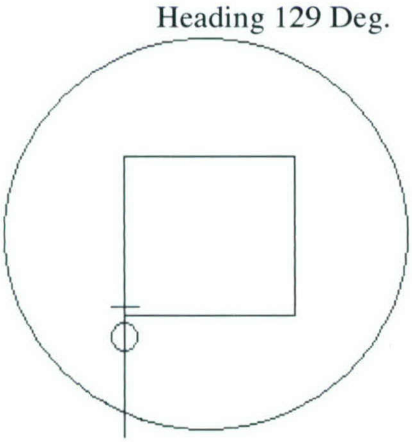


Vane Fixed Time/Date UTC: 13:31:00, 9 may 03

System # 2	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 13:36:30				
Logger #: L-14				
Wind #: WND345	251.8	234.3	126.1	13:37:30
Restart Sampling: 13:38:00				



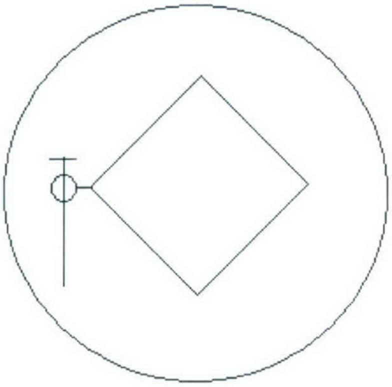
In-port Primary Buoy Spin
Project Name: CBLAST Buoy "E"



Vane Fixed Time/Date UTC: 17:14:00, 9 may 03

System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 17:31:30				
Logger #: L-12				
Wind #: WND348	138.6	347.0	125.6	17:32:00
Restart Sampling: 17:33:00				

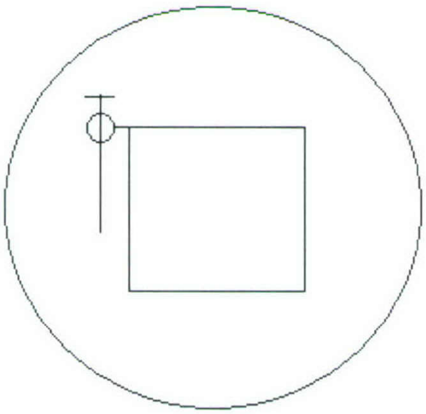
Heading 129 Deg.



Vane Fixed Time/Date UTC: 17:37:00, 9 may 03

System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 17:44:30				
Logger #: L-12				
Wind #: WND348	182.4	301.4	123.8	17:45:00
Restart Sampling: 17:46:00				

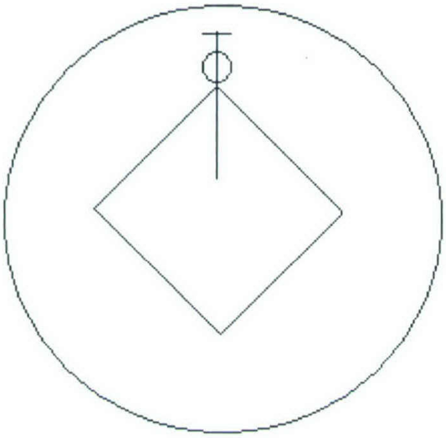
Heading 129 Deg.



Vane Fixed Time/Date UTC: 17:49:30, 9 may 03

System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 18:03:00				
Logger #: L-12				
Wind #: WND348	228.3	255.3	123.6	18:03:30
Restart Sampling: 18:04:00				

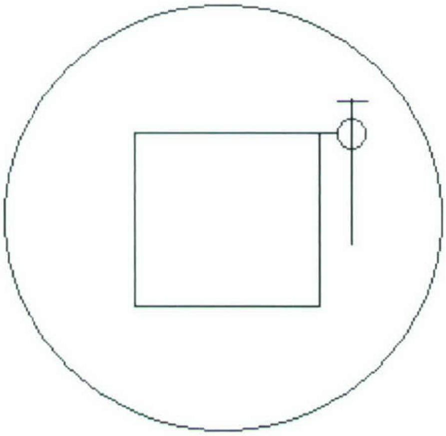
Heading 129 Deg.



Vane Fixed Time/Date UTC: 18:08:00, 9 may 03

System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 18:13:30				
Logger #: L-12				
Wind #: WND348	283.2	203.5	126.7	18:14:00
Restart Sampling: 18:15:00				

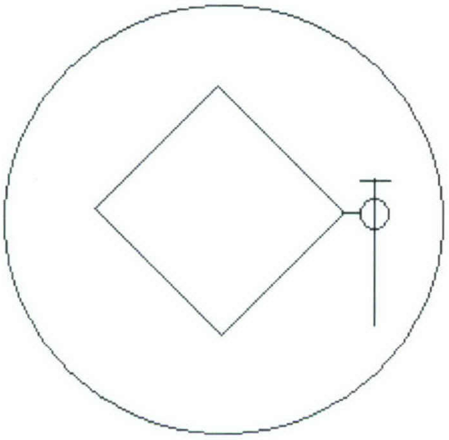
Heading 129 Deg.



Vane Fixed Time/Date UTC: 16:21:00, 9 may 03

System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling: 16:35:30				
Logger #: L-12				
Wind #: WND348	315.7	171.9	127.6	16:36:00
Restart Sampling: 16:37:00				

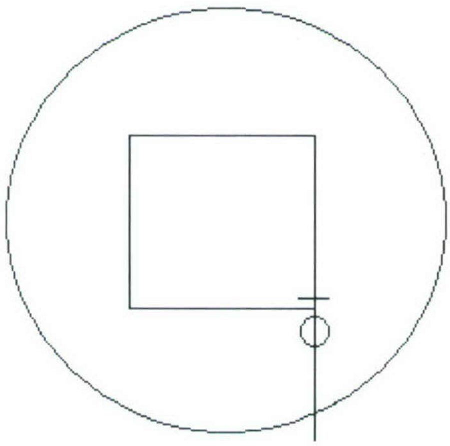
Heading 129 Deg.



Vane Fixed Time/Date UTC: 16:40:00, 9 may 03

System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling: 16:46:30				
Logger #: L-12				
Wind #: WND348	12.3	116.5	128.8	16:47:00
Restart Sampling: 16:48:00				

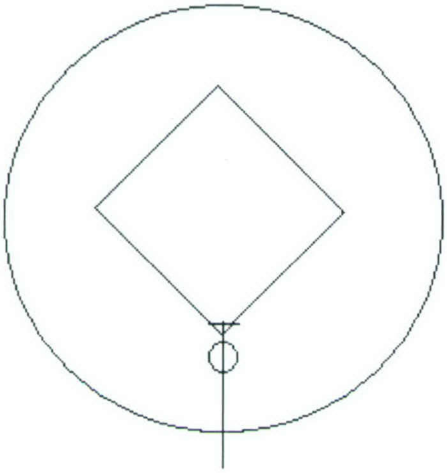
Heading 129 Deg.



Vane Fixed Time/Date UTC: 16:51:00, 9 may 03

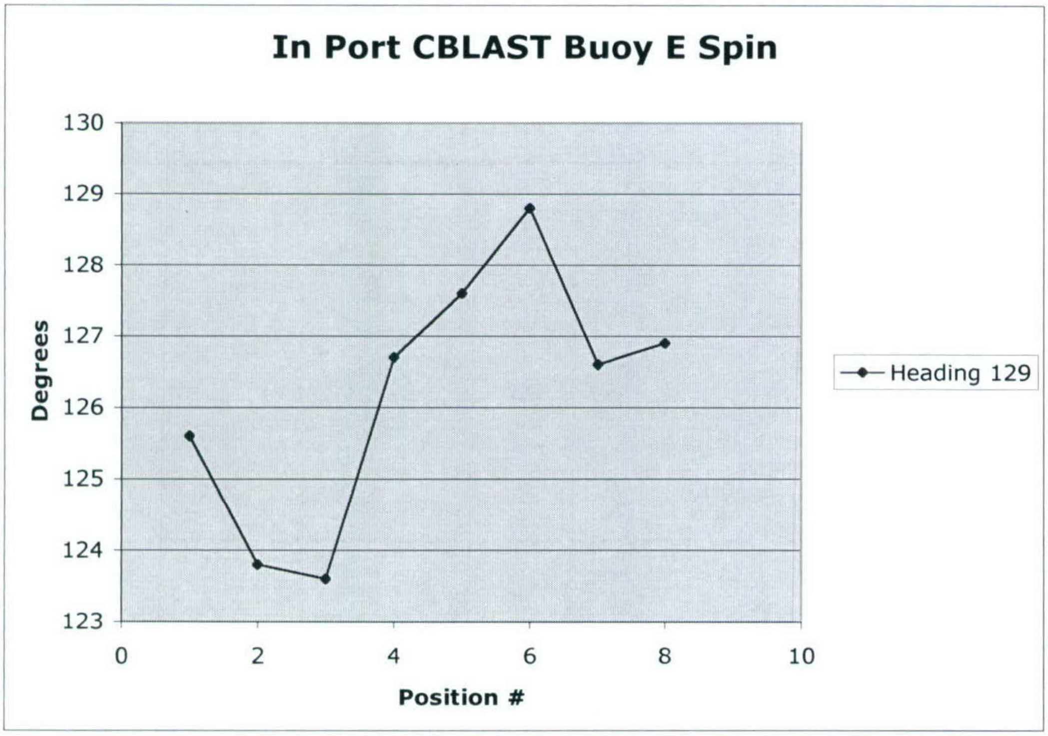
System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling: 16:56:30				
Logger #: L-12				
Wind #: WND348	49.1	77.5	126.6	16:57:00
Restart Sampling: 16:58:00				

Heading 129 Deg.



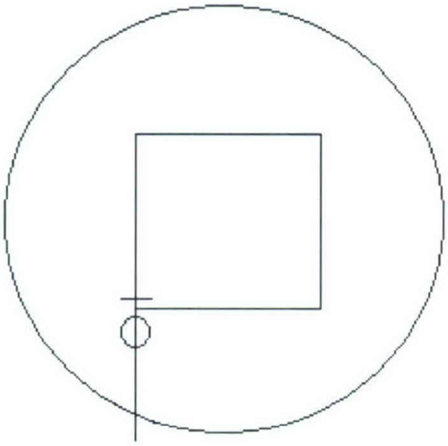
Vane Fixed Time/Date UTC: 17:03:30, 9 may 03

System 1	Compass	Vane	Direction	Time/Date UTC
Stop Sampling: 17:09:30				
Logger #: L-12				
Wind #: WND348	104.2	22.7	126.9	17:10:00
Restart Sampling: 17:11:00				



In-port Primary Buoy Spin
Project Name: CBLAST Buoy "F"

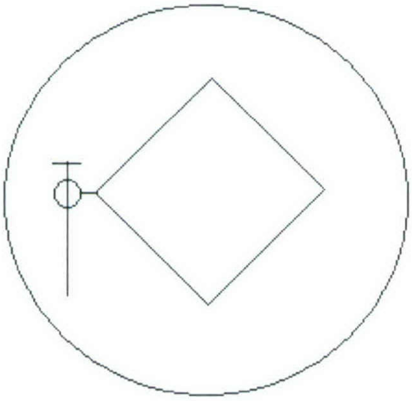
Heading 129 Deg.



Vane Fixed Time/Date UTC: 14:19:00, 9 may 03

System # 3	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 14:25:30				
Logger #: L-16				
Wind #: WND347	130.2	1.7	131.9	14:26:00
Restart Sampling: 14:27:00				

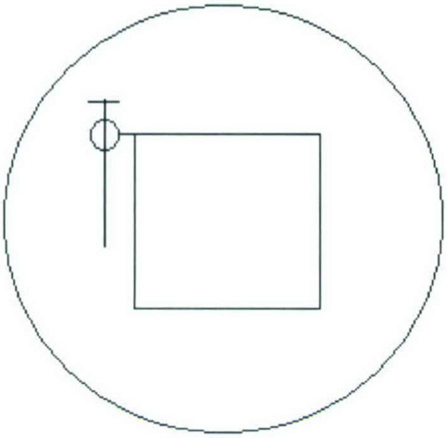
Heading 129 Deg.



Vane Fixed Time/Date UTC: 14:32:00, 9 may 03

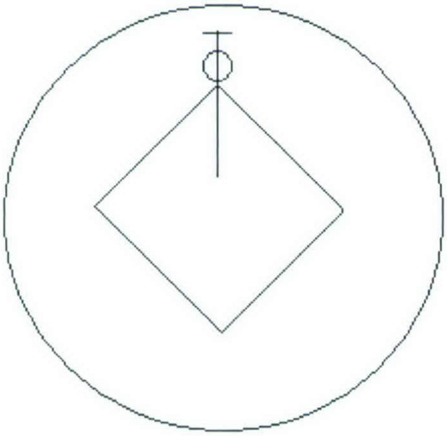
System # 3	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 14:37:30				
Logger #: L-16				
Wind #: WND347	183.3	307.7	131.0	14:38:30
Restart Sampling: 14:39:00				

Heading 129 Deg.



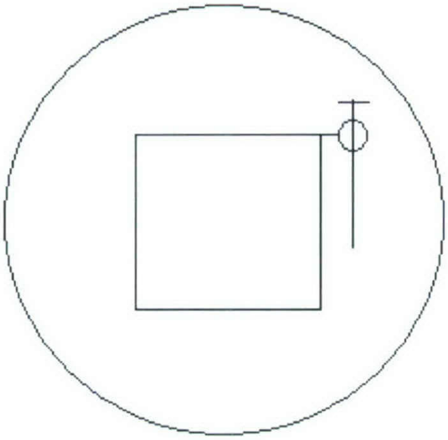
Vane Fixed Time/Date UTC: 14:45:30, 9 may 03
System # 3 Compass Vane Direction Time/Date UTC
Stop Sampling : 14:50:30
Logger #: L-16
Wind #: WND347 219.5 269.8 129.3 14:51:00
Restart Sampling: 14:52:00

Heading 129 Deg.



Vane Fixed Time/Date UTC: 14:55:00, 9 may 03
System # 3 Compass Vane Direction Time/Date UTC
Stop Sampling : 15:01:30
Logger #: L-16
Wind #: WND347 263.1 225.6 128.7 15:02:30
Restart Sampling: 15:03:00

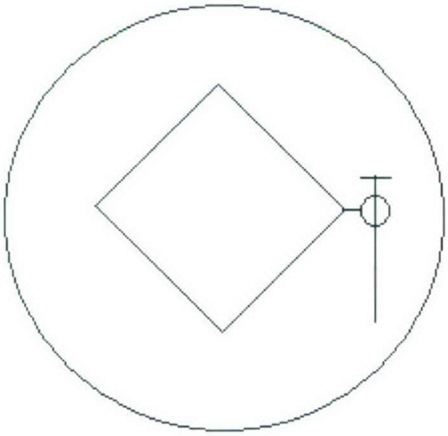
Heading 129 Deg.



Vane Fixed Time/Date UTC: 15:11:00, 9 may 03

System # 3	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 15:16:30				
Logger #: L-16				
Wind #: WND347	305.0	182.9	127.9	15:17:00
Restart Sampling: 15:18:00				

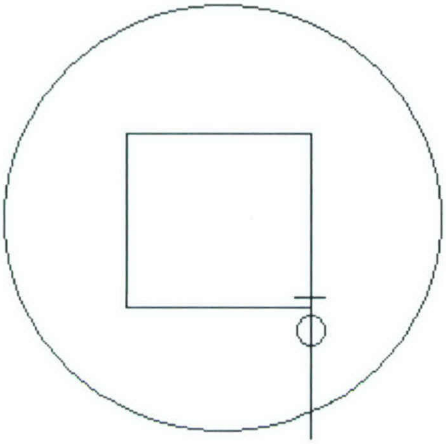
Heading 129 Deg.



Vane Fixed Time/Date UTC: 15:21:00

System # 3	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 15:27:30				
Logger #: L-16				
Wind #: WND347	347.1	141.2	128.3	15:28:00
Restart Sampling: 15:29:00				

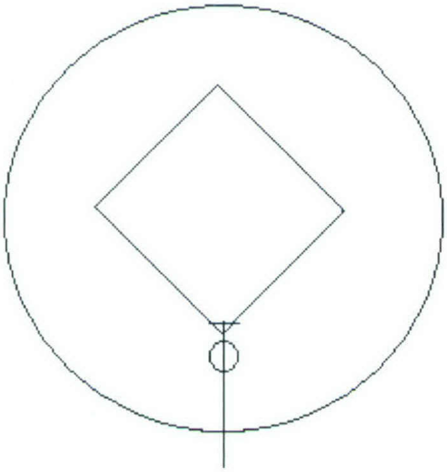
Heading 129 Deg.



Vane Fixed Time/Date UTC: 15:36:00, 9 may 03

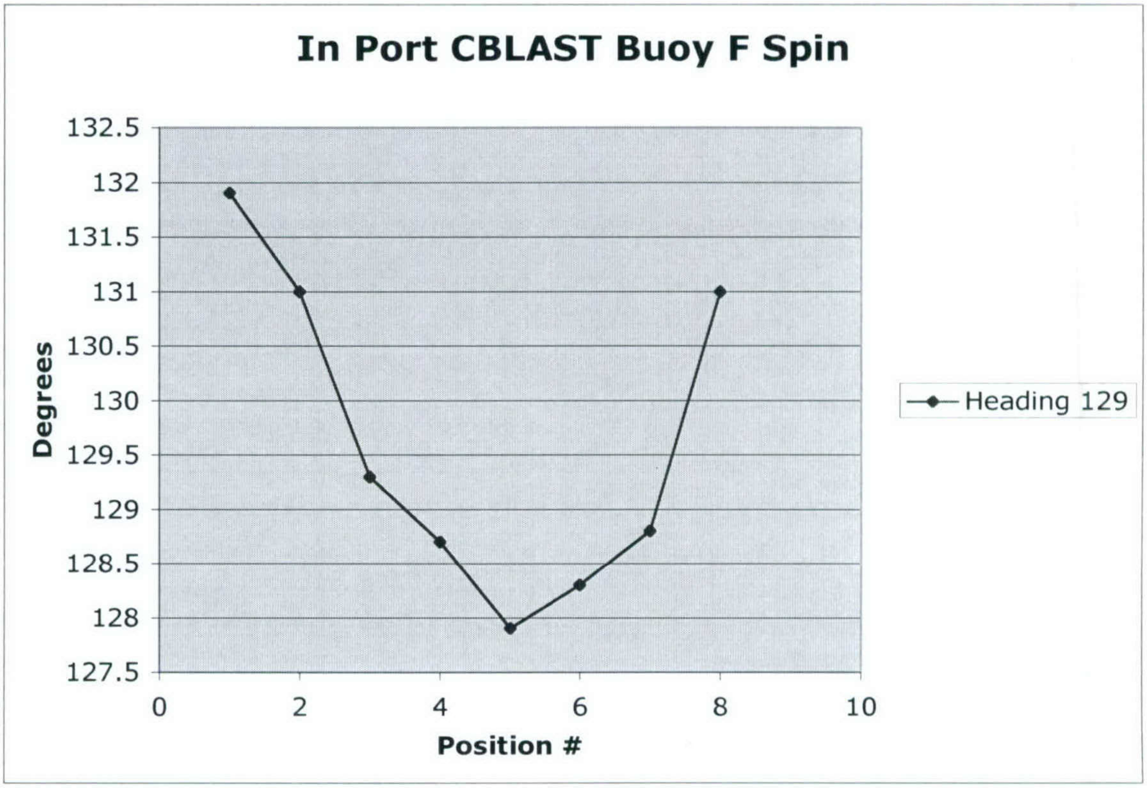
System # 3	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 15:42:30				
Logger #: L-16				
Wind #: WND347	36.2	93.6	128.8	15:43:00
Restart Sampling: 15:44:00				

Heading 129 Deg.



Vane Fixed Time/Date UTC: 15:50:00, 9 may 03

System # 3	Compass	Vane	Direction	Time/Date UTC
Stop Sampling : 16:00:30				
Logger #: L-16				
Wind #: WND347	87.1	43.9	131.0	16:01:00
Restart Sampling: 16:02:00				


In Port CBLAST Buoy F Spin
Degrees
132.5
132
131.5
131
130.5
130
129.5
129
128.5
128
127.5
0
2
4
6
8
10
Position #
Heading 129

50272-101

REPORT DOCUMENTATION PAGE

1. REPORT NO. WHOI-2005-04

2. UOP-2005-01

3. Recipient's Accession No.

4. Title and Subtitle
CBLAST 2003 Field Work Report

5. Report Date
April 2005

6.

7. Author(s) Lara Hutto, Tom Farrar, Robert Weller

8. Performing Organization Rept. No.
WHOI-2005-04

9. Performing Organization Name and Address

Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C) N00014-01-1-0029
(G) N00014-05-10090

12. Sponsoring Organization Name and Address
Office of Naval Research

13. Type of Report & Period Covered
Technical Report

14.

15. Supplementary Notes
This report should be cited as: Woods Hole Oceanog. Inst. Tech. Rept., WHOI-2005-04.

16. Abstract (Limit: 200 words)

The long-range scientific objective of the Coupled Boundary Layer Air Sea Transfer (CBLAST) project is to observe and understand the temporal and spatial va riability of the upper ocean, to identify the processes that determine that variability, and to examine its predictability. Air-sea interaction is of particular interest, but attention is also paid to the coupling of the sub-thermocline ocean to the mixed layer and to both the open ocean and littoral regimes. We seek to do this over a wide range of environmental conditions with the intent of improving our understanding of upper ocean dynamics and of the physical processes that determine the vertical and horizontal structure of the upper ocean. Field work for CBLAST was conducted during the summers of 2001, 2002, and 2003 off the south shore of Martha's Vineyard, Massachusetts. The 2003 field work was conducted from the following platforms: heavy moorings, light moorings, drifters, F/V Nobska, CIRPAS Pelican aircraft, and an IR Cessna Aircraft. This report documents the 2003 field work and includes field notes, platform descriptions, discussion of data returns, and mooring logs. The 2003 Intensive Operating Period (IOP) was very successful and a high data return was seen.

17. Document Analysis a. Descriptors

air-sea interaction
upper ocean dynamics
mixed layer

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement
Approved for public release; distribution unlimited.

19. Security Class (This Report)
UNCLASSIFIED

20. Security Class (This Page)

21. No. of Pages
146

22. Price

(See ANSI-Z39.18)

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