UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 0501
4 – 20 January 2005

CC Reference 07-03
2 March 2007

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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INTRODUCTION

The data presented in this report were collected during cruise 0501* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of Scripps Institution of Oceanography, University of California, San Diego. The CalCOFI program was organized in the late 1940's to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Integrative Oceanography Division (IOD) at Scripps Institution of Oceanography (SIO). IOD contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from the cruises were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. SIO staff members from the Ocean Data Facility participate in the chemical analysis of nutrient samples at sea. CalCOFI data presented in this report and collected on previous cruises can be accessed at http://www.calcofi.org.

STANDARD PROCEDURES

CTD/Rosette Cast Data

A Sea-Bird Electronics, Inc., Conductivity-Temperature-Depth (CTD) instrument (Seabird 911, Serial number 1049) with a rosette was deployed at each station on these cruises. The rosette was equipped with 24 ten-liter plastic (PVC) bottles equipped with epoxy-coated springs and Viton O-rings. Each CTD/rosette cast usually sampled 20 depths to a maximum sampling depth of 525 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. The sample spacing was designed to sample depth intervals as close as 10 meters around the sharp upper thermocline features such as the chlorophyll, oxygen, nitrite maxima and the shallow salinity minimum. Salinity, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-*a* and phaeopigments were determined at sea on samples from the top 200 meters, bottom depth permitting.

Pressures and temperatures assigned to the water sample data were derived from the CTD signals recorded just prior to the bottle trip. Pressures have been converted to depths by the Saunders (1981) pressure-to-depth conversion technique. CTD temperatures reported with the bottle data have been rounded to the nearest hundredth of a degree Celsius.

Salinity samples were collected from all rosette bottles and analyzed at sea using a Guildline model 8410 Portasal salinometer. Salinity samples were drawn into 200 ml Kimax high-alumina borosilicate bottles that were rinsed three times with sample prior to filling. The results were compared with the CTD salinity to verify that the rosette bottle did not mis-trip or leak. The salinometer was standardized before and after each group of samples with standardized seawater. Periodic checks on the conductivity of the standardized seawater were made by comparison with IAPSO Standard Seawater batch P144. Salinity values were calculated using the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and are reported to three decimal places, provided that accepted standards were met.

Dissolved oxygen analyses were performed with an Ocean Data Facility of Scripps Institution of Oceanography designed automated oxygen titrator using photometric end-point detection based on the absorption of 365nm wavelength ultra-violet light. A computer using PC software controlled the titration of the samples and the data logging. The method used a modified-Winkler titration following the technique of Carpenter (1965) with modifications by Culberson (1991), but with higher concentrations of thiosulfate solution (50 g/l). Standard KIO3

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* The first two digits represent the year and the last digits the month of the cruise.

solutions prepared ashore were run at the beginning of each run. Reagent and sea water blanks were determined to account for presence of oxidizing or reducing materials.

Nutrient samples were analyzed at sea for dissolved silicate, phosphate, nitrate and nitrite using procedures similar to those described in Gordon et al., 1993. Samples were collected in 45 ml high-density polypropylene screw-capped tubes, which were rinsed three times prior to filling. Standardizations were done at the beginning and end of each group of samples with a set of mid-concentration range standards prepared fresh for each run. Samples not analyzed immediately after collection were refrigerated and run the following day. Sets of six different concentration standards were analyzed periodically to determine the deviation from linearity as a function of concentration, for the silicate, nitrate and phosphate analyses. Final sample concentrations were corrected for deviations from linearity using a second order polynomial.

Samples for chlorophyll-*a* and phaeopigments were collected in calibrated 138 ml polyethylene bottles and filtered onto Whatman GF/F filters. The pigments were extracted in cold 90% acetone (Venrick and Hayward, 1984) for a mimimum of 24 hours. Chlorophyll a and pheopigment concentrations were determined from fluorescence readings before and after acidification with a Turner Designs Fluorometer Model 10-AU-005-CE (Yentsch and Menzel, 1963; Holm-Hansen *et al*., 1965).

Evaluation of the water sample data involved comparisons with the CTD data, adjacent stations and consideration of the variation of a property as a function of density or depth and the relationships with other properties (Klein, 1973). Precision estimates for routine analyses were made on CalCOFI cruise 9003 and are reported in SIO Ref. 91-4.

Primary Productivity Sampling

Primary productivity samples were taken each day shortly before local apparent noon (LAN). Primary production was estimated from ^{14}C uptake using a simulated *in situ* technique. Light penetration was estimated from the Secchi depth (assuming that the 1% light level is three times the Secchi depth). The depths with ambient light intensities corresponding to light levels simulated by the on-deck incubators were identified and sampled on the rosette up-cast. Occasionally an extra bottle or two were tripped in addition to the usual 20 levels sampled in the combined rosette-productivity cast in order to maintain the normal sampling depth resolution. Triplicate samples (two light and one dark control) were drawn from each productivity sample depth into 250 ml polycarbonate incubation bottles. Samples were inoculated with 10 µCi of ^{14}C as $NaHCO_3$ (200 µl of 50 µCi/ml stock) prepared in a 0.3 g/liter solution of sodium carbonate (Fitzwater *et al*., 1982). Samples were incubated from LAN to civil twilight in seawater-cooled incubators with neutral-density screens which simulate *in situ* light levels. At the end of the incubation, the samples were filtered onto Millipore HA filters and placed in scintillation vials. One half ml of 10% HCl was added to each sample. The sample was then allowed to sit, without a cap, at room temperature for 12 hours (after Lean and Burnison, 1979). Following this, 10 ml of scintillation cocktail were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Salinity, oxygen, nutrients, chlorophyll-*a* and phaeopigments were determined from all rosette productivity bottles.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71 cm mouth diameter paired net (bongo net) equipped with 0.505mm plankton mesh. Bottom depth permitting, the nets were towed obliquely from 210 meters to the surface. The tow time for a standard tow was 21.5 minutes. Volumes filtered were determined from flowmeter readings and the mouth area of the net. Only one sample of each pair was retained and preserved. The biomass, as wet displacement volume, after removal of large (>5 ml) organisms, was determined in the laboratory ashore. These procedures are summarized in greater detail in Kramer *et al*. (1972). An Optical Plankton Counter (OPC, Dave Checkley, SIO) was routinely used in one side of the paired bongo net frame. The purpose of the OPC is to obtain information on the vertical distributions of size categories of zooplankton, using data from the counter, without affecting the ongoing time series of data obtained from the catches of the integrative bongo net.

Avifauna Observations (Point Reys Bird Observatory)

Sea birds were counted within a 300-meter wide strip off to one side of the ship. Counts were made while underway between stations during periods of daylight. These counts were summed over 20 nautical mile (nm) intervals, or the distance between consecutive stations, whichever was less. Included at the end of this report are individual maps of the most numerous bird species (individuals/nm).

Ancillary Programs

Several ancillary programs produced data on these cruises that are not presented in this report. These programs include:

1) *Underway Data*. Continuous near surface measurements of temperature, salinity and *in vivo* chlorophyll fluorescence were recorded from seawater pumped through the ship's uncontaminated seawater system. Water was drawn from a depth of approximately 3 meters. The data were logged in one-minute averages using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinograph and a Wetlabs Wetstar fluorometer.

2) *ADCP*. Continuous profiles of ocean currents and acoustic backscatter between 20 and 500 meters deep were measured along the shiptrack from a hull-mounted 150 kHz Acoustic Doppler Current Profiler (ADCP). The ADCP data were averaged over 3-minute intervals. Sixty 8-meter depth bins were recorded. (T. Chereskin, SIO)

3) *Underway Sea Surface xCO2*. Continuous measurements of the partial pressure of CO2 were made from the ship's uncontaminated seawater system. The seawater was equilibrated in a membrane contactor with a gas loop that was analyzed with a Licor 6262 infrared CO2/H2O analyzer. One-minute averages were recorded and the mole fraction of CO2 (xCO2) at sea surface temperature was calculated. The system was calibrated with standard gases traceable to CMDL every two hours; at that time absolute zero and atmospheric samples were also collected. (G. Friederich, MBARI)

4) *Stable isotopes composition of copepods and fish eggs*. Additional bongo tows were carried out to obtain samples for the analysis of stable isotopes (carbon and nitrogen) of anchovy eggs, Engralis mordax, (R. Gonzalez-Quiros, SIO).

5) *California Current Ecosystem Long Term Ecological Research Program*: The CCE-LTER program augments standard CalCOFI measurements to further characterize the lower trophic levels as well as the carbon system. These additional samples, taken at all CalCOFI stations, are for measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs, microscopic counts of nano- microplankton, determination of mesozooplankton size structure using a Laser Optical Plankton Counter, and mesozooplankton community structure.

6) *SCCOOS Nearshore and Bio-optical Observations*: The objective of these observations is to extend CalCOFI time series to the nearshore and make bio-optical observations for the development of empirical proxies for particle size load and structure and phytoplankton biomass and rates of primary production. The nearshore observations consist of 9 stations at the ends and interspersed with current CalCOFI lines on the 20 m isobath with a standard set of CalCOFI observations. Bio-optical measurements at all CalCOFI and SCCOOS stations consist of irradiance at 9 wavelengths, light transmission at three wavelengths, fluorescence of Chl a, CDOM and phycoerythrin and light scattering at three wavelengths.

7) Marine mammal observations. During daylight transits, visual line-transect surveys were conducted by marine mammal observers focusing on cetaceans. Acoustic line-transect surveys were performed using a towed hydrophone array which consists of multiple hydrophone elements that sample sounds up to 100 kHz allowing for localization of calling animals. Acoustic monitoring also takes place on individual stations using sonobuoys.

TABULATED DATA

CTD/Rosette Cast Data

The time reported is the Coordinated Universal Time (UTC) of the first rosette bottle trip on the up cast. The rosette bottles tripped on the up cast are reported as cast 2, where cast 1 is considered to be the down CTD profile. The sample number reported is the cast number followed by a two-digit rosette bottle number. Bottom depths, determined acoustically, have been corrected using British Admiralty Tables (Carter, 1980) and are reported in meters. Weather conditions have been coded using WMO code 4501. Secchi depths are reported for most daylight stations.

Data values from discreet sampled CTD rosette were interpolated and are reported for standard depths. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Multiple bottles tripped at the same depth to provide water for ancillary programs are not used in the calculation of standard depth data. Density-related parameters have been calculated from the International Equation of State of Seawater 1980 (UNESCO, 1981b). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), and dynamic height or geopotential anomaly are included with both observed and interpolated standard depth levels.

On stations where primary productivity samples were drawn a footnote appears after each productivity depth sampled. The corresponding primary productivity data are reported in a separate section following the tabulated rosette cast data.

Primary Productivity Data

In addition to the normal hydrographic data that are reported in the rosette cast data section, the tabulated data include: the *in situ* light levels at which the samples were collected, the uptake from each of the replicate light bottles, uptake 1 and uptake 2 (which have been corrected for dark uptake by subtracting the dark value), the mean of the two uptake values and the dark uptake. The uptake values are totals for the incubation period. Also shown are the times of LAN, civil twilight, and the value of the mean uptake integrated from the surface to the deepest sample, assuming the shallowest value continues to the surface and that negative values (when dark uptake exceeds light uptake) are zero. The uptake data are reported to two significant digits (values <1.00) or one decimal (values >1.00). Incubation time, LAN, and civil twilight are given in local Pacific Standard Time (PST); to convert to UTC, add eight hours to the PST time. Incubation light intensities are listed in a footnote at the bottom of each page.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume ($cm^3/1000m^3$ strained) and as the total volume minus the volume of larger organisms under the heading "Small." Tow times are given in local PST (+8) time.

FOOTNOTES

In addition to footnotes, special notations are used without footnotes because the meaning is always the same:

D: CTD salinity value listed in place of normal shipboard salinity analysis.
ISL: After a depth value indicates that this is an interpolated or extrapolated standard level.
U: Uncertain value. Values which are not used in interpolation because they seem to be in error without apparent reason.

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FIGURES

Cruise 0501

1. CalCOFI Cruise 0501 track and station positions.

2. Horizontal distribution of dynamic height anomaly (0 over 500m). In areas shallower than 500 m, the dynamic heights were extrapolated on the basis of the offshore deeper steric height as described in Reid and Mantyla (1976).

3. Horizontal distributions at 10 meters: A) chlorophyll-*a*; B) potential density; C) temperature; and D) salinity.

4. Horizontal distributions at 200 meters: A) dynamic height anomaly (200 over 500 m); B) potential density; C) temperature; and D) salinity.

5. Sections along CalCOFI line 90 (vertical exaggeration, 1000): A) potential density; B) temperature; C) salinity; D) silicate; E) nitrate; F) phosphate; G) chlorophyll-*a*; H) oxygen saturation; I) oxygen; J) nitrite; and K) phaeopigments.

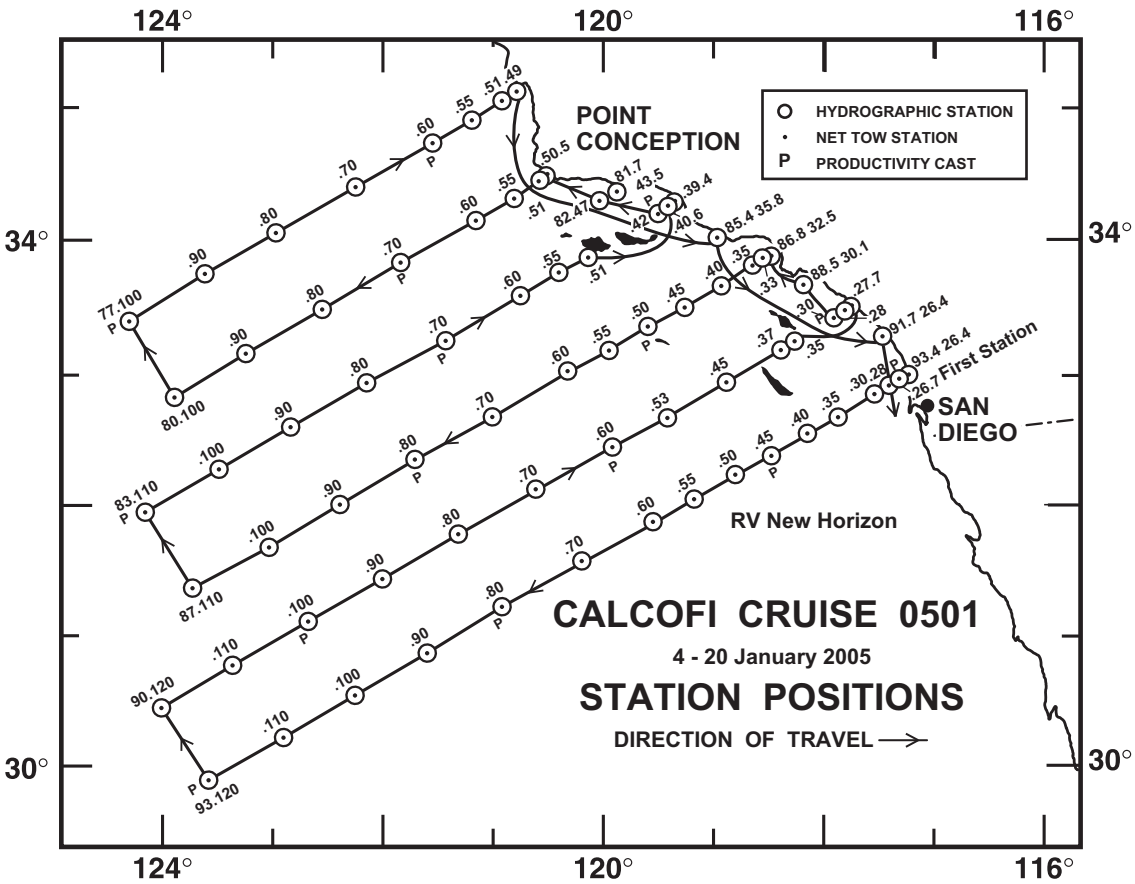

FIGURE 1

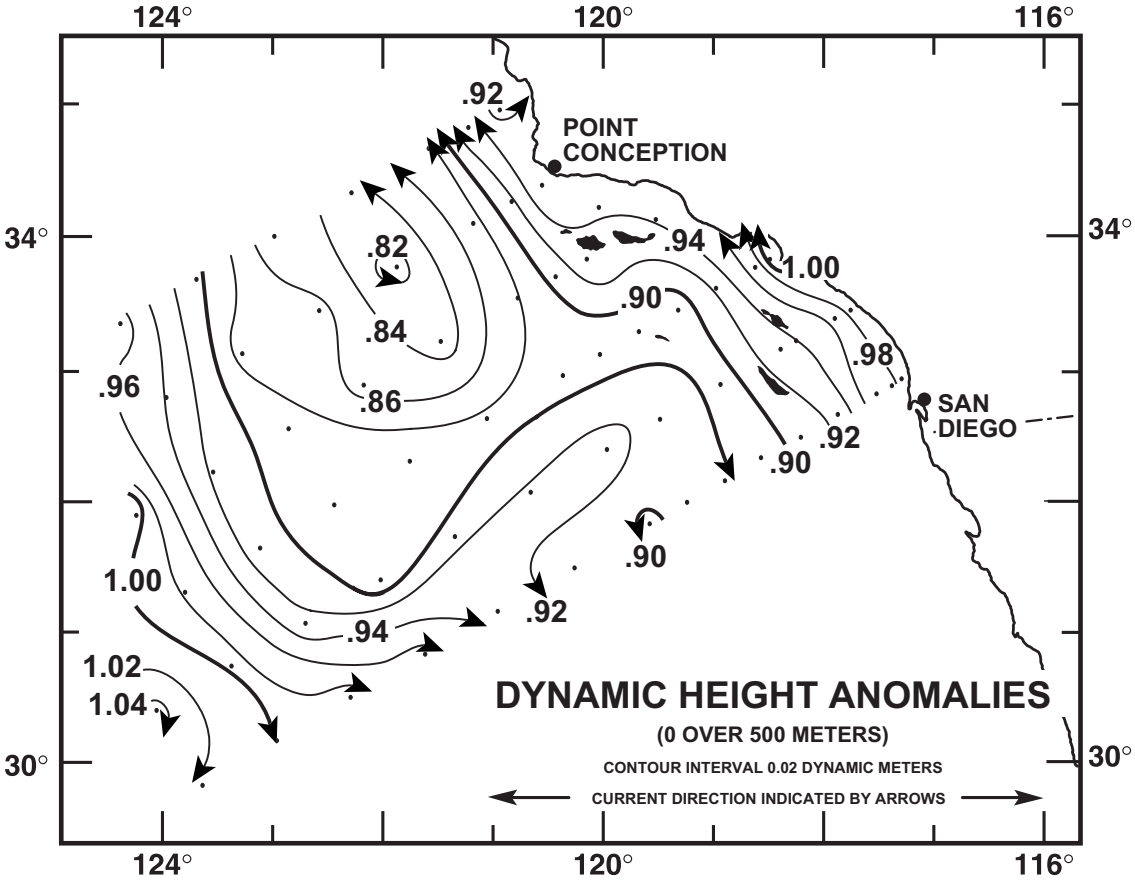

FIGURE 2

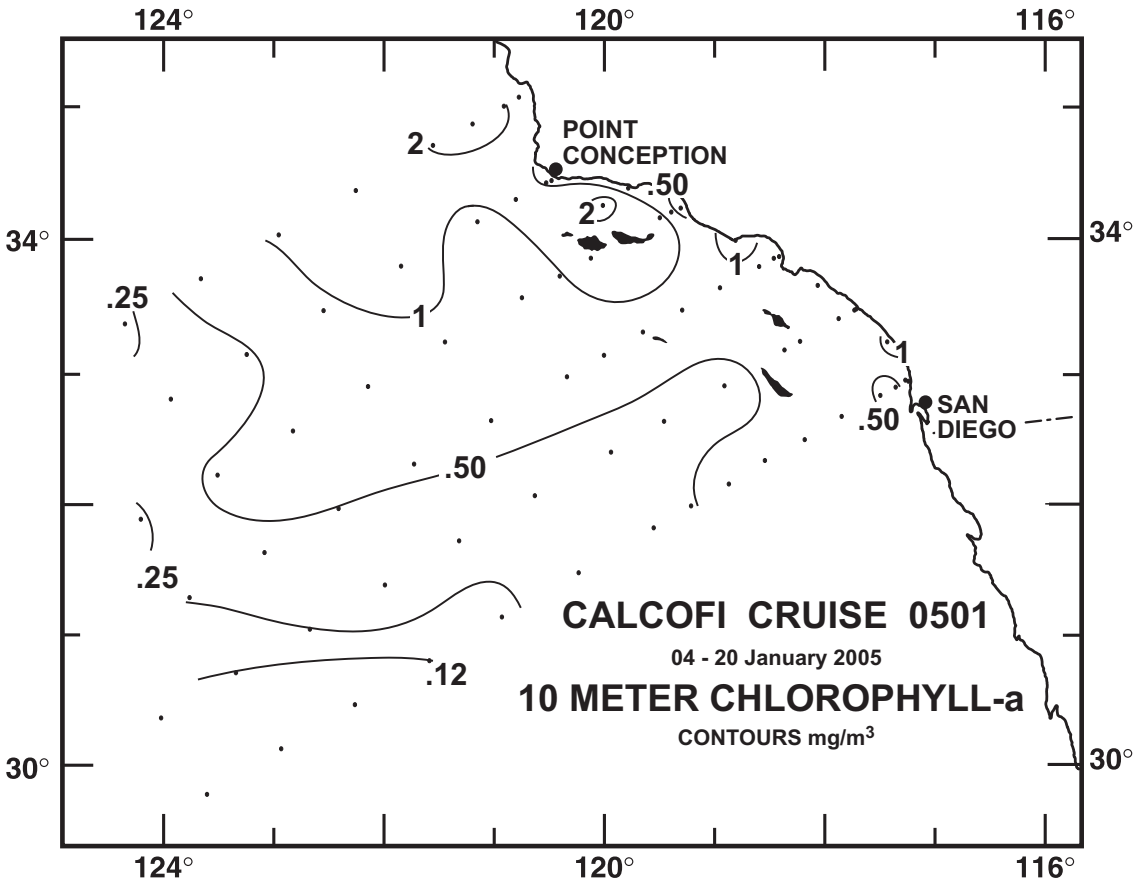

FIGURE 3A

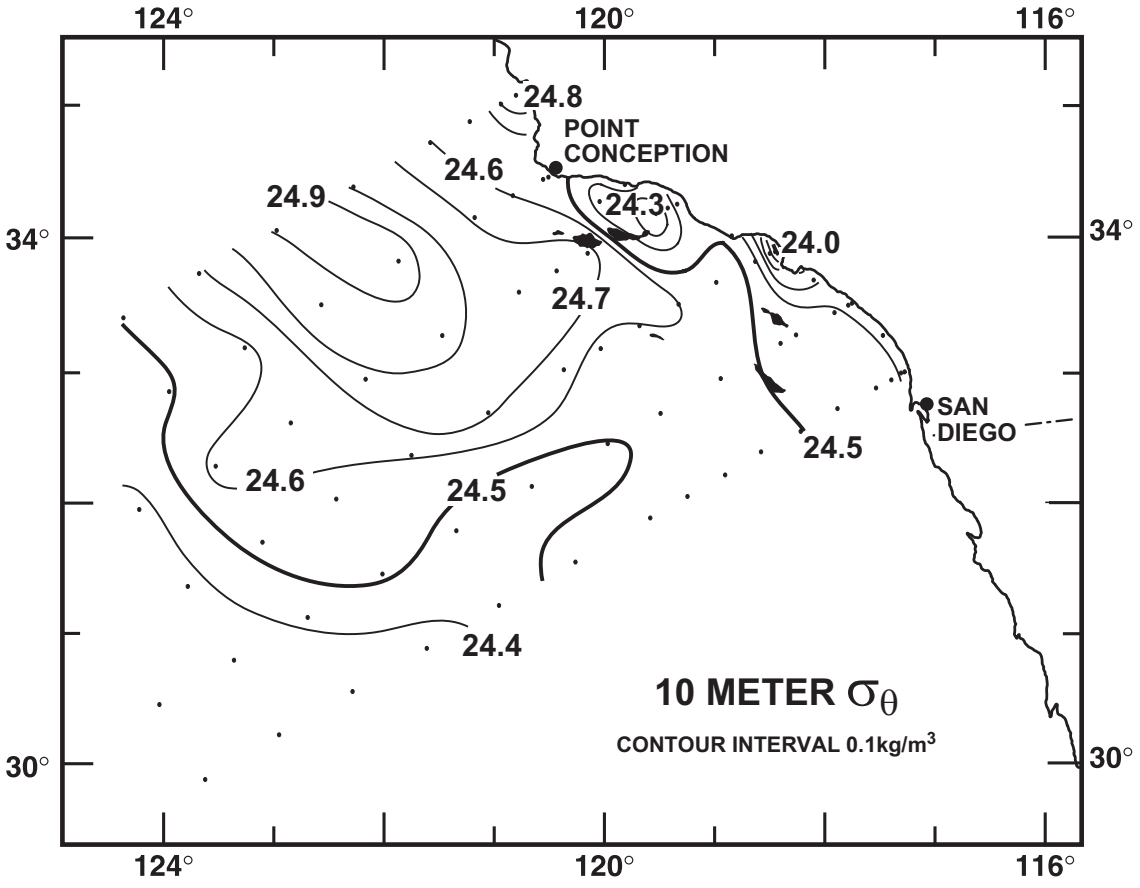

FIGURE 3B

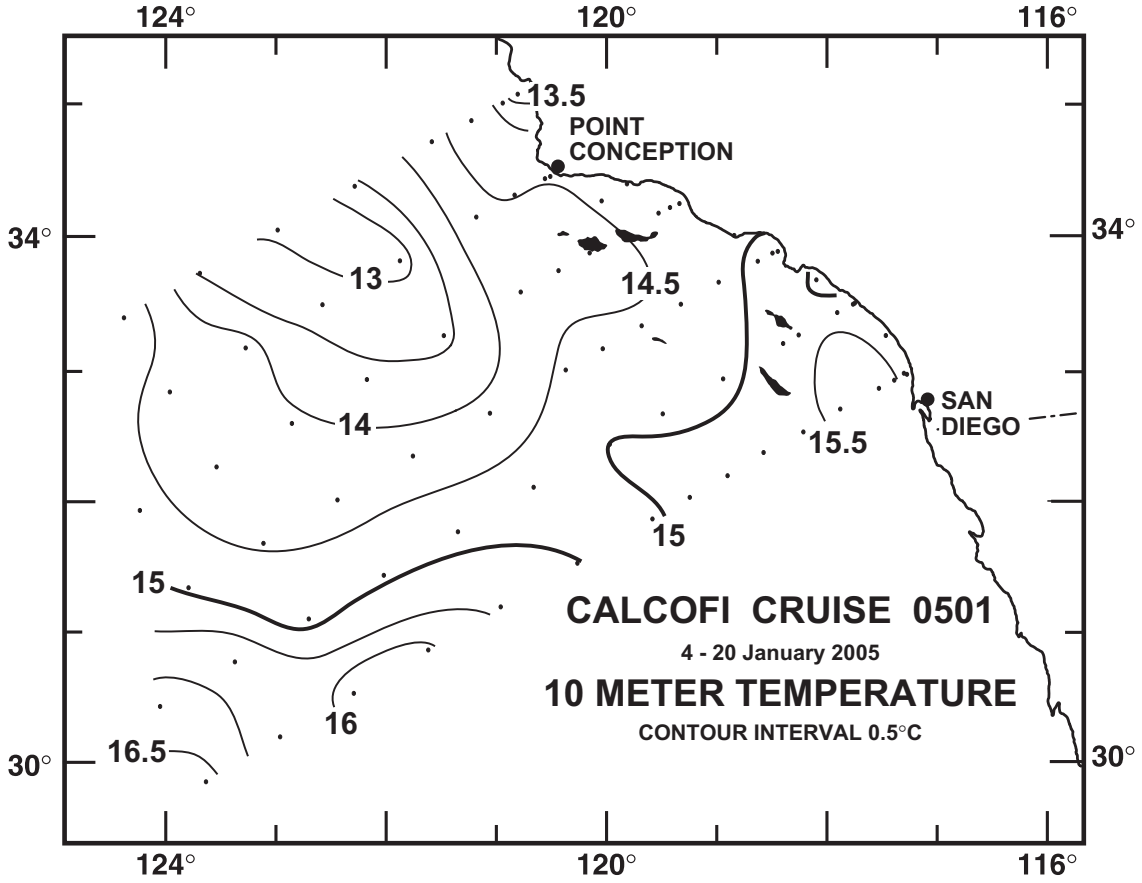

FIGURE 3C

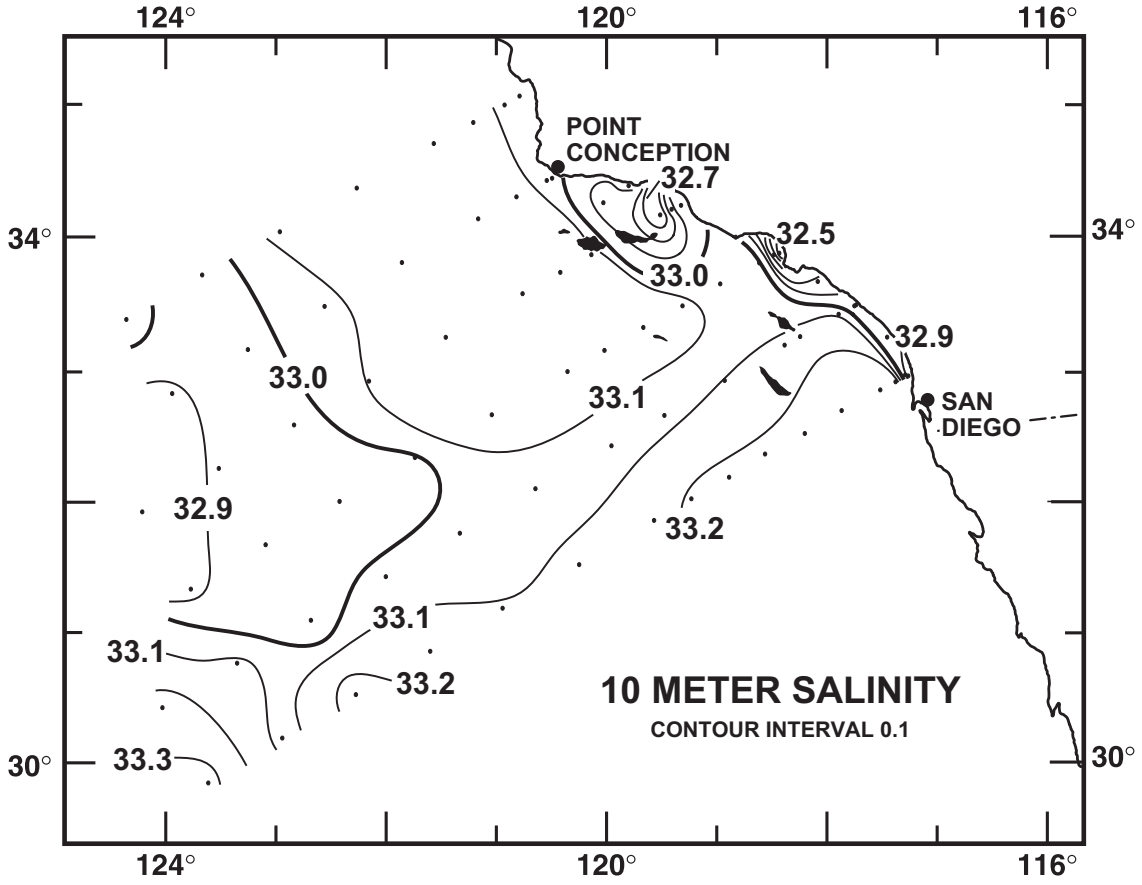

FIGURE 3D

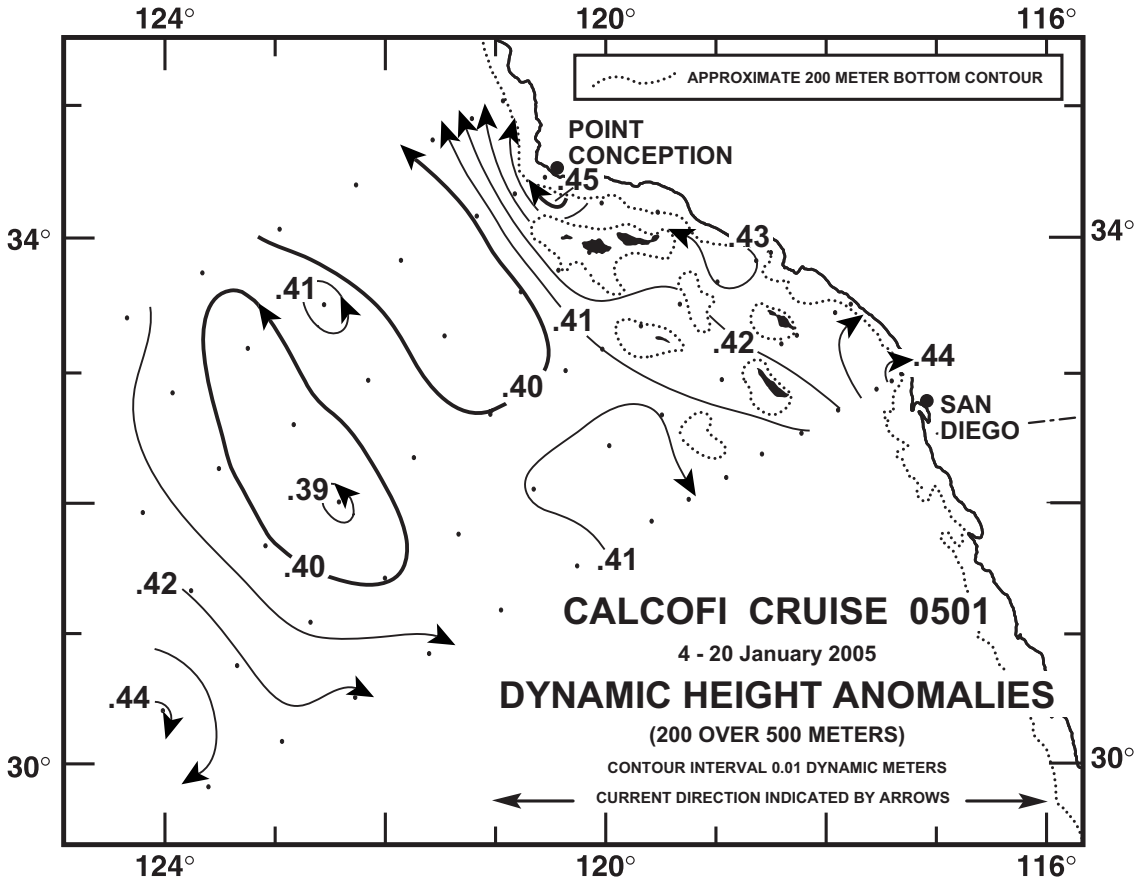

FIGURE 4A

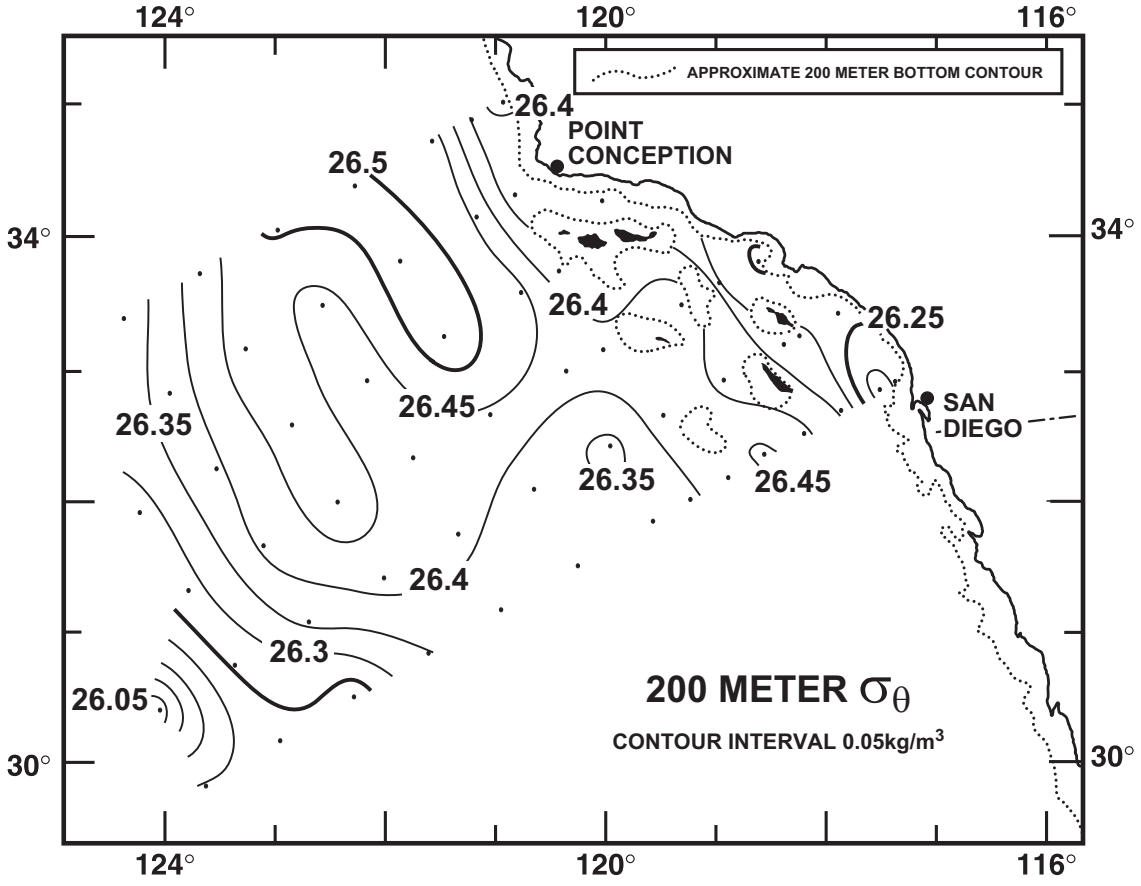

FIGURE 4B

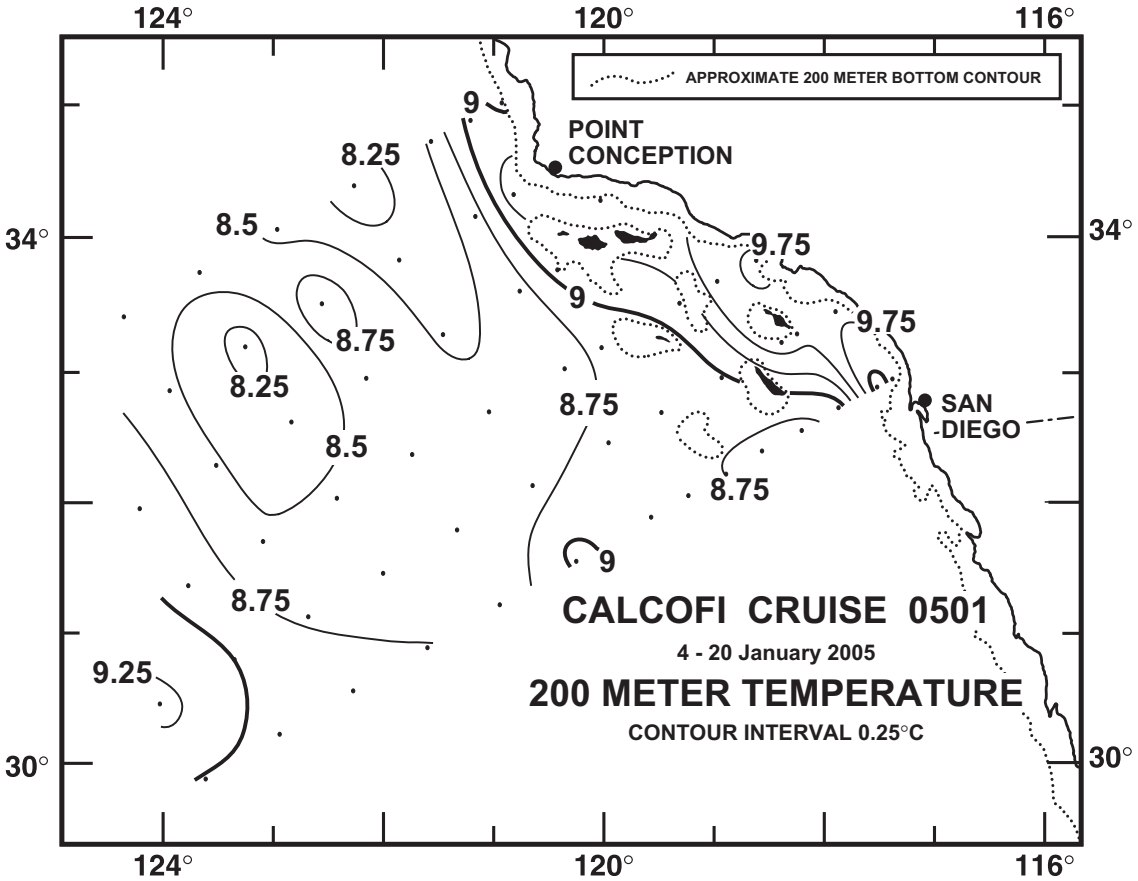

FIGURE 4C

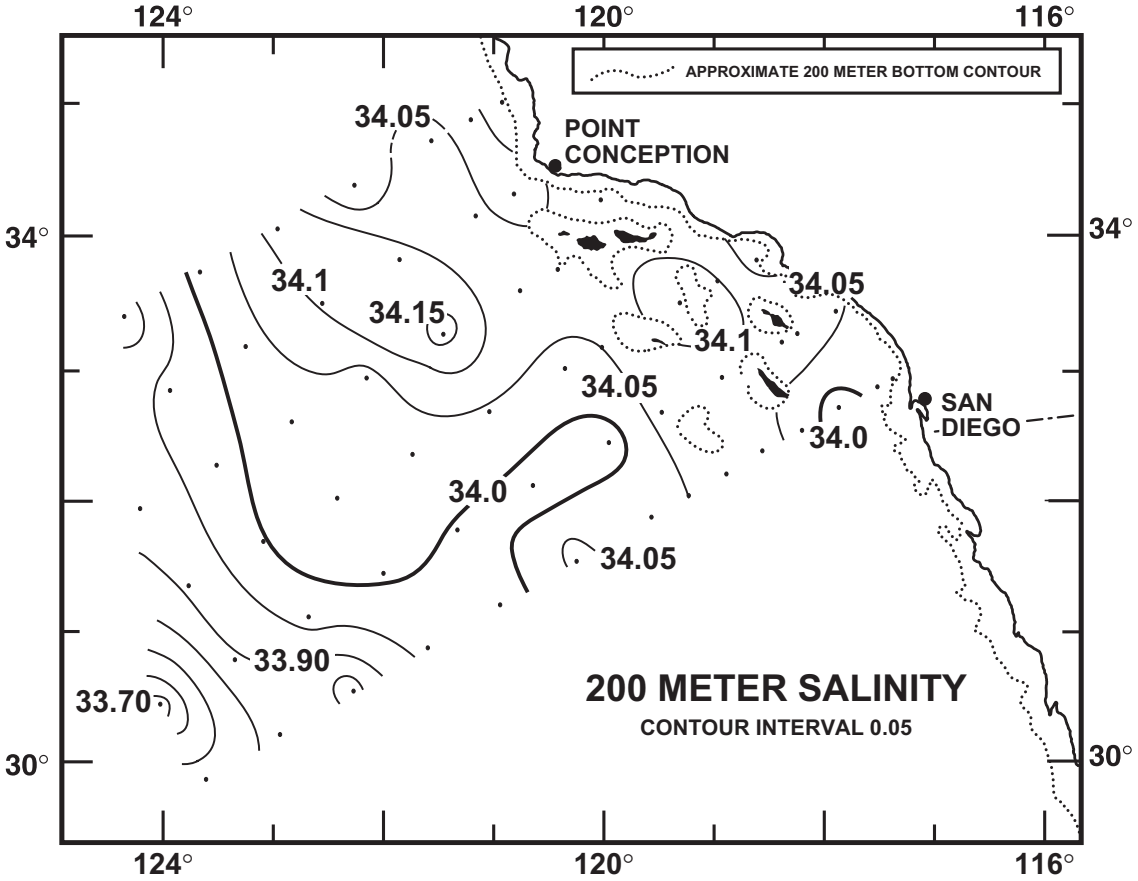

FIGURE 4D

CALCOFI CRUISE 0501

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POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

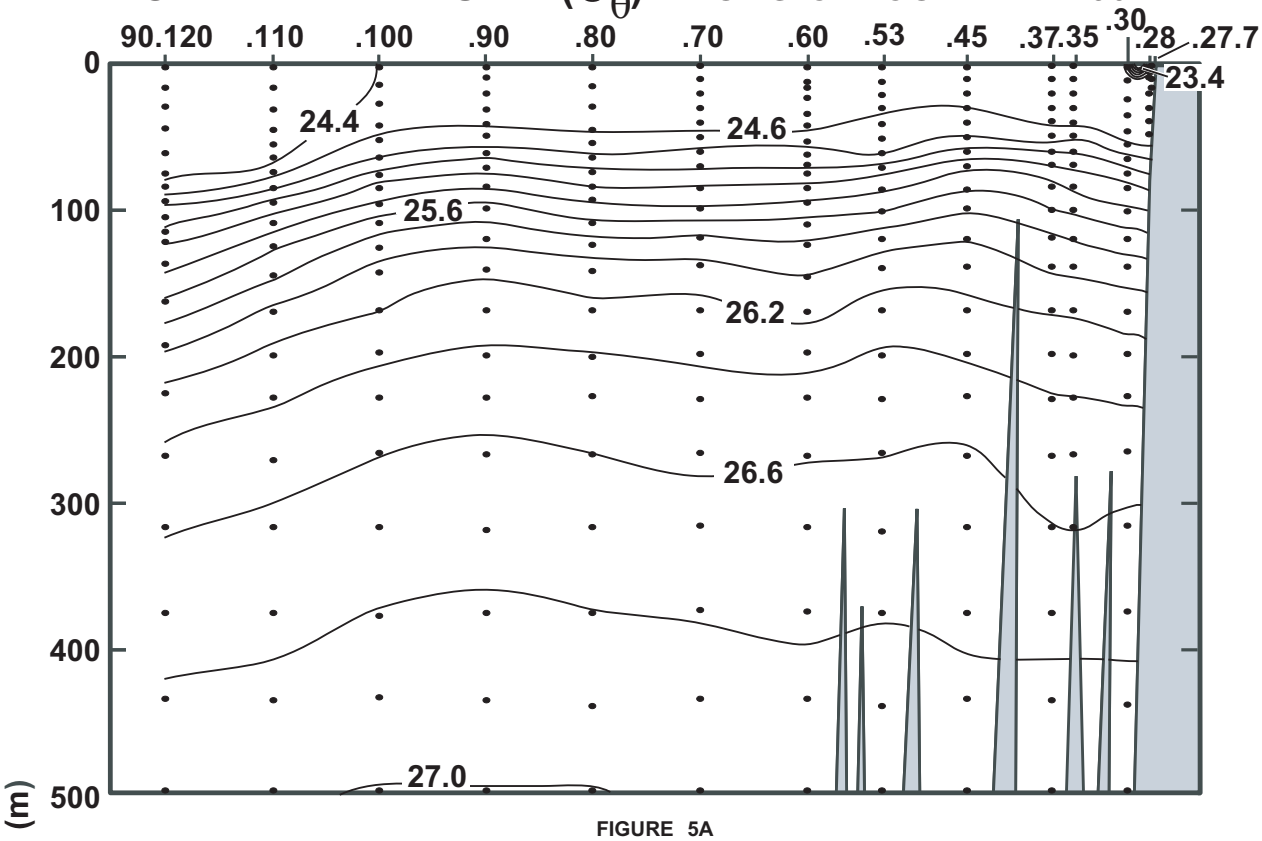


FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

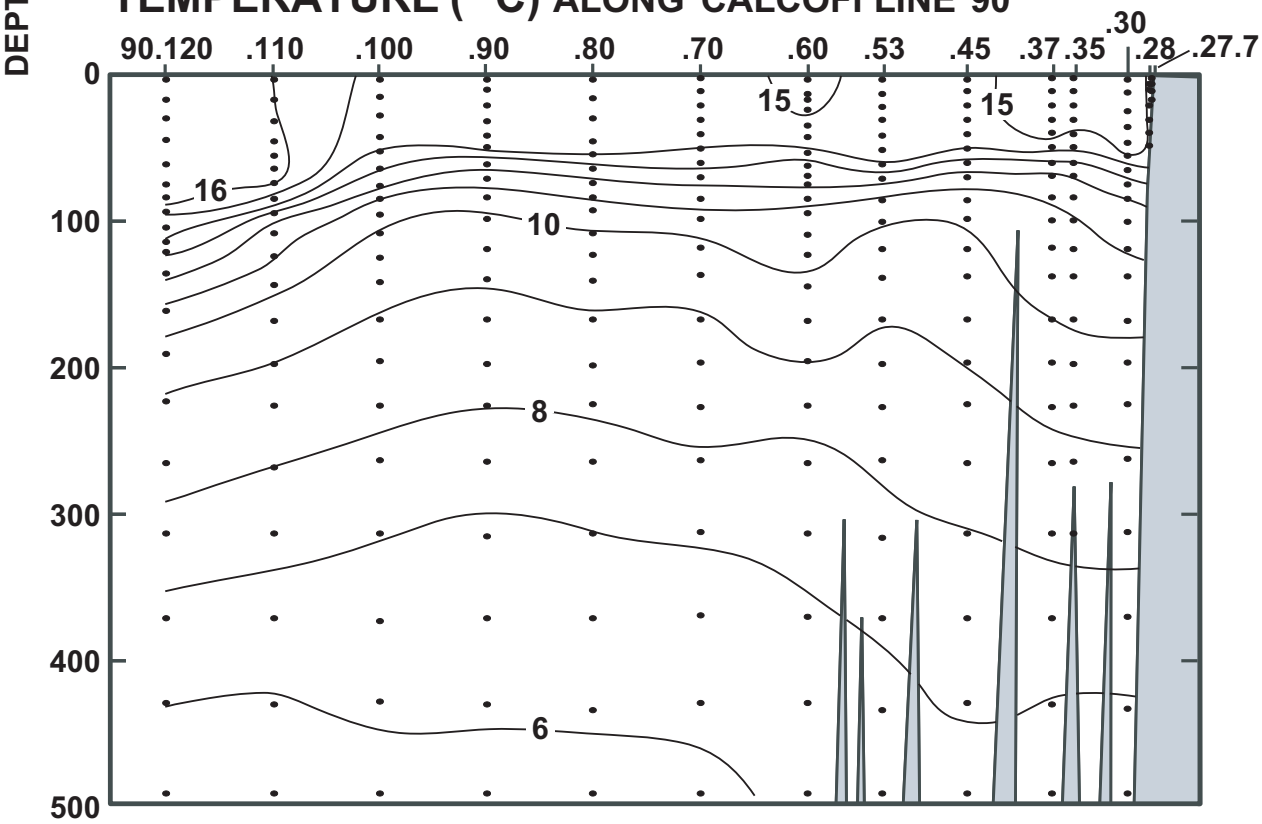


FIGURE 5B

CALCOFI CRUISE 0501

7- 10 January 2005

SALINITY ALONG CALCOFI LINE 90

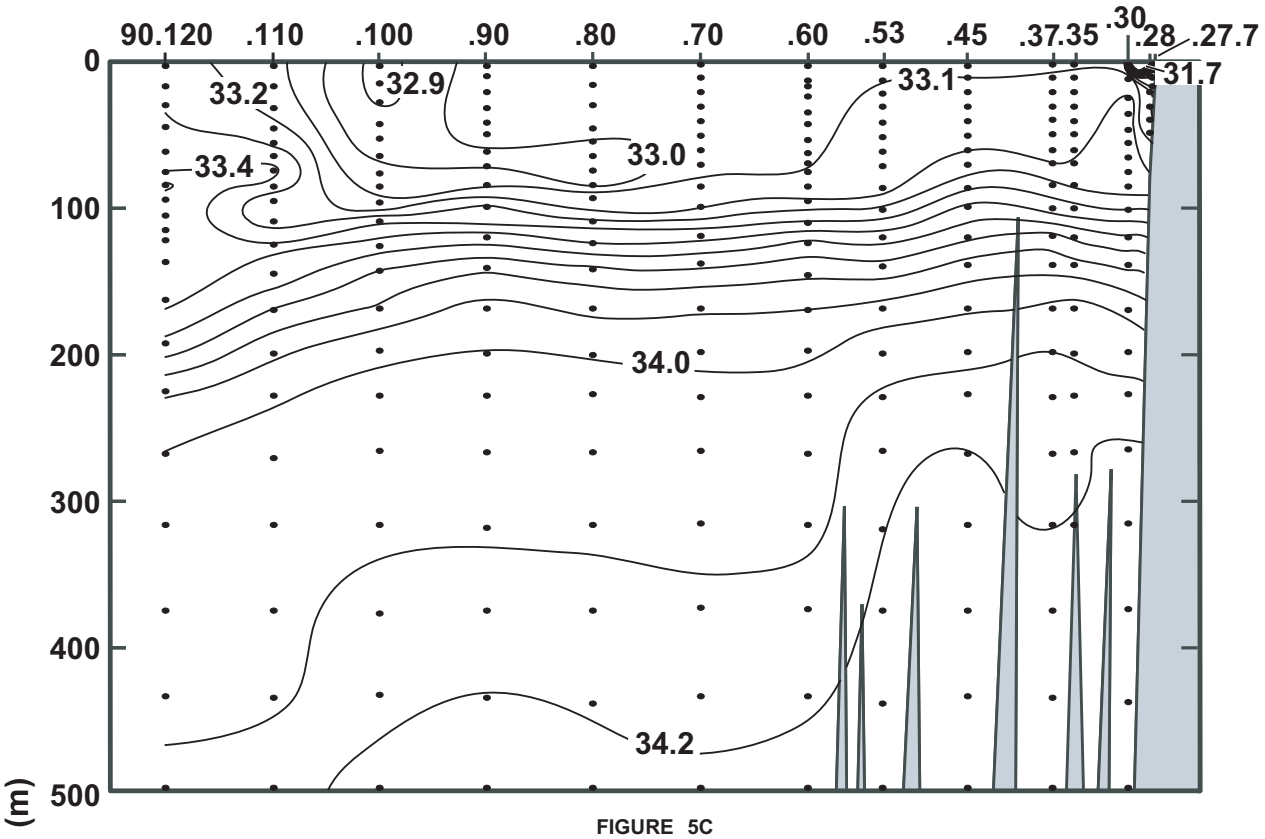


FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

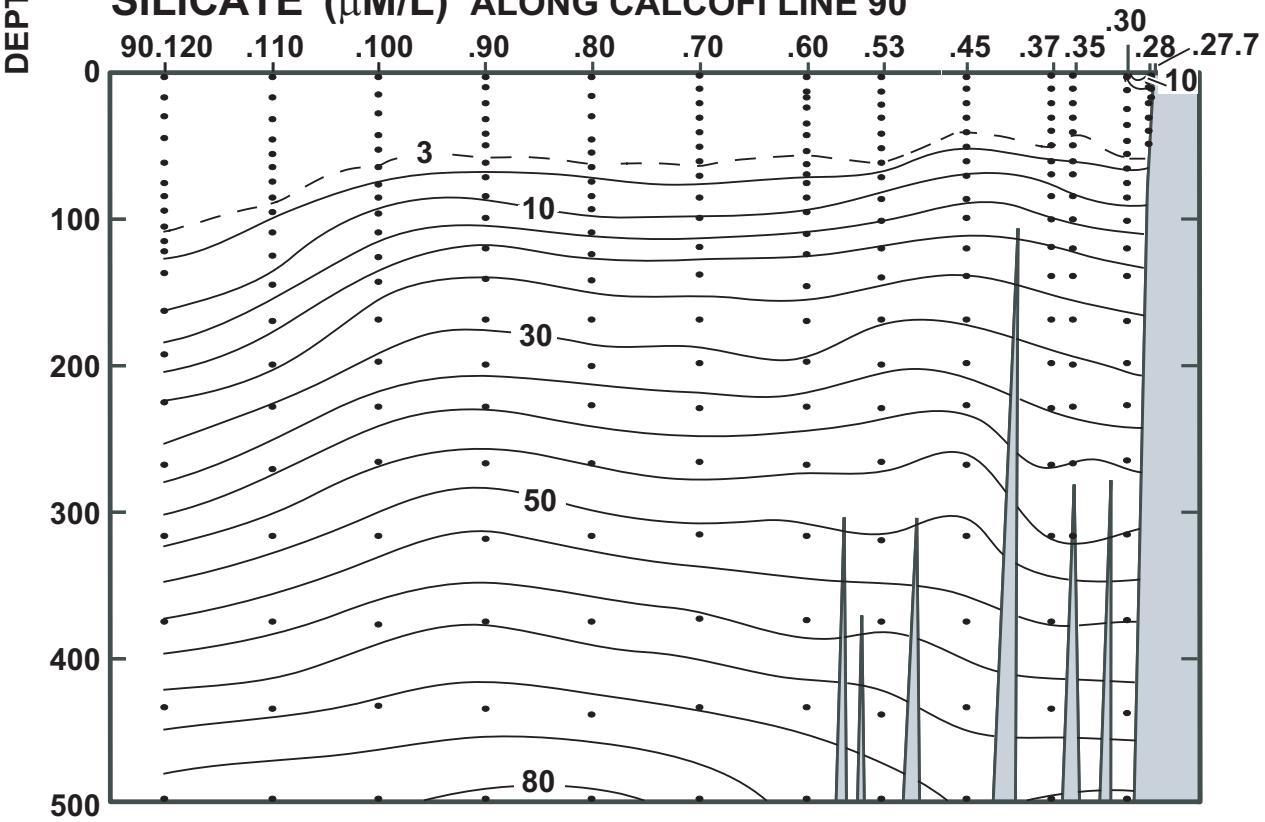


FIGURE 5D

CALCOFI CRUISE 0501

7 - 10 January 2005

NITRATE (μM/L) ALONG CALCOFI LINE 90

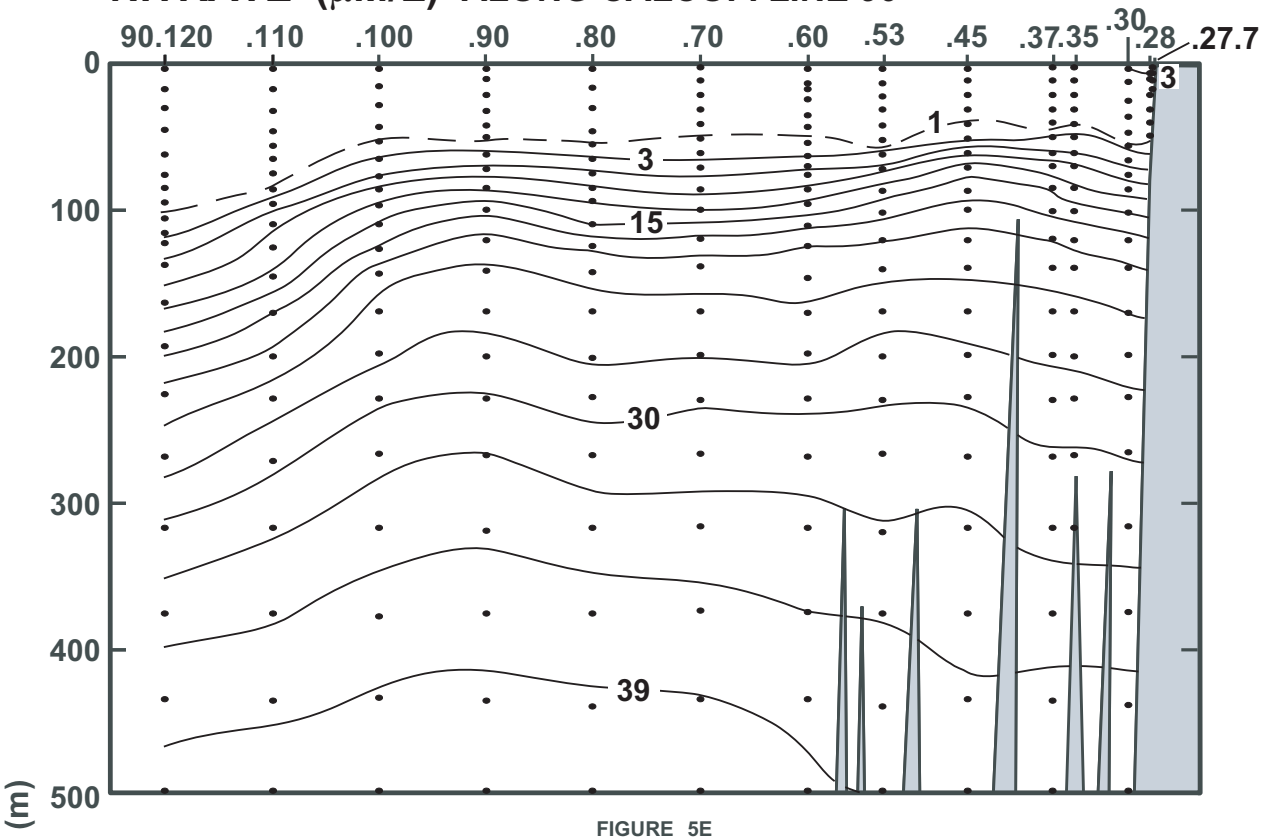


FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

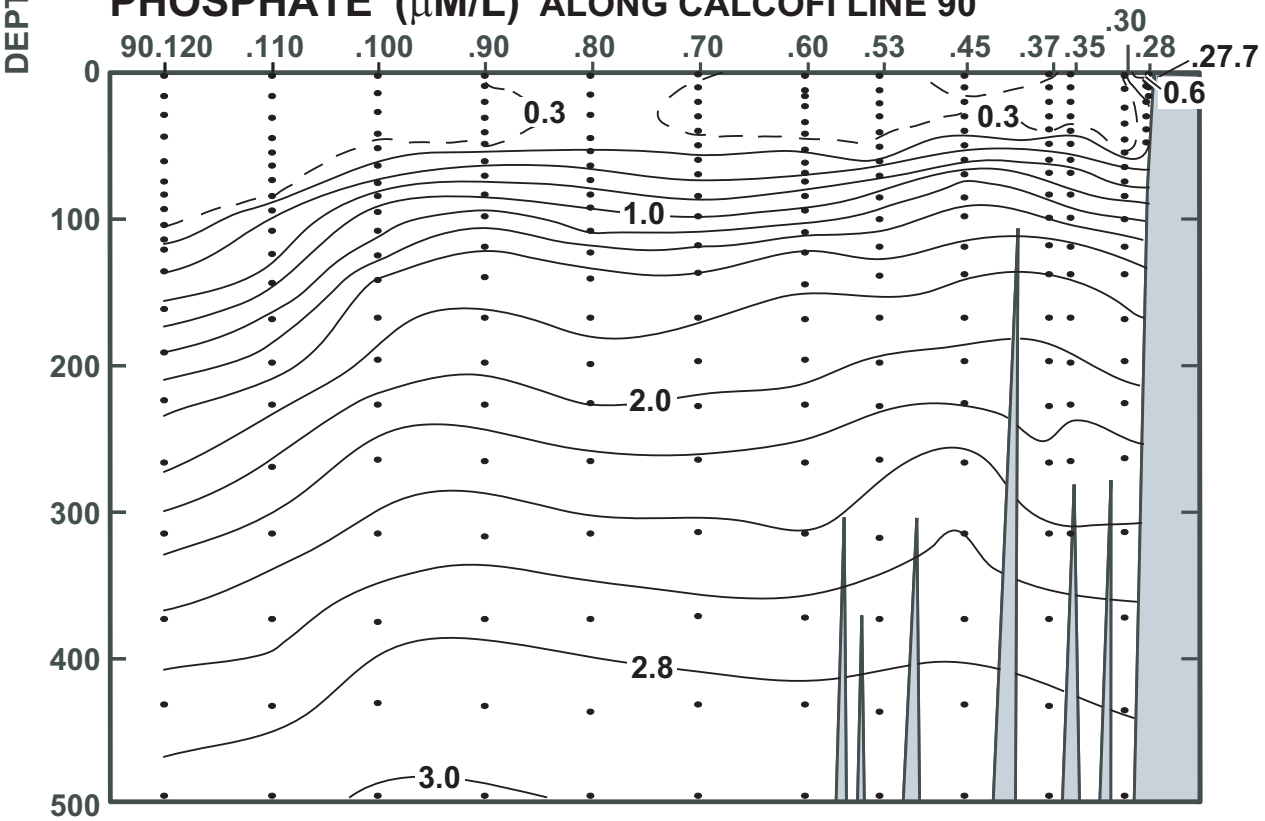


FIGURE 5F

CALCOFI CRUISE 0501

7 - 10 January 2005

CHLOROPHYLL-a (μg/L) ALONG CALCOFI LINE 90

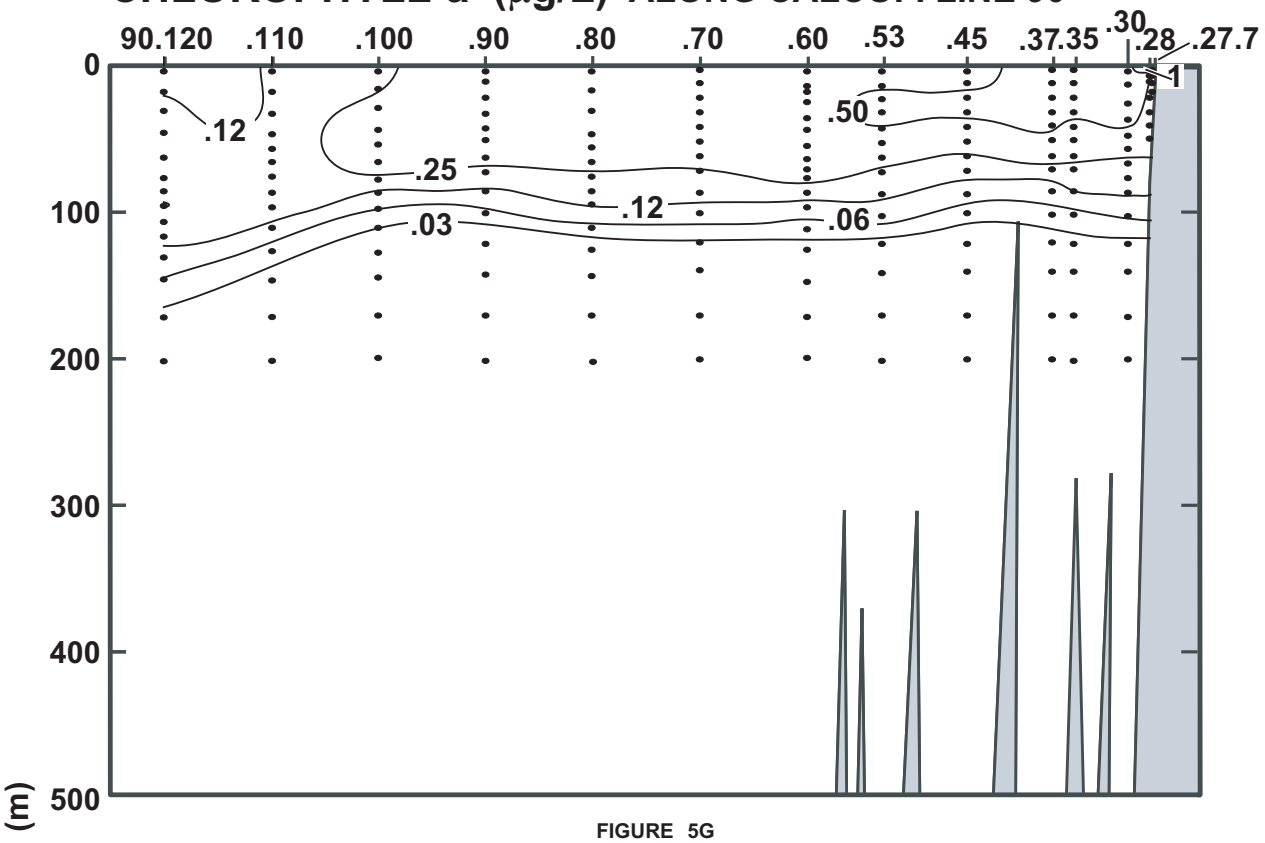


FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

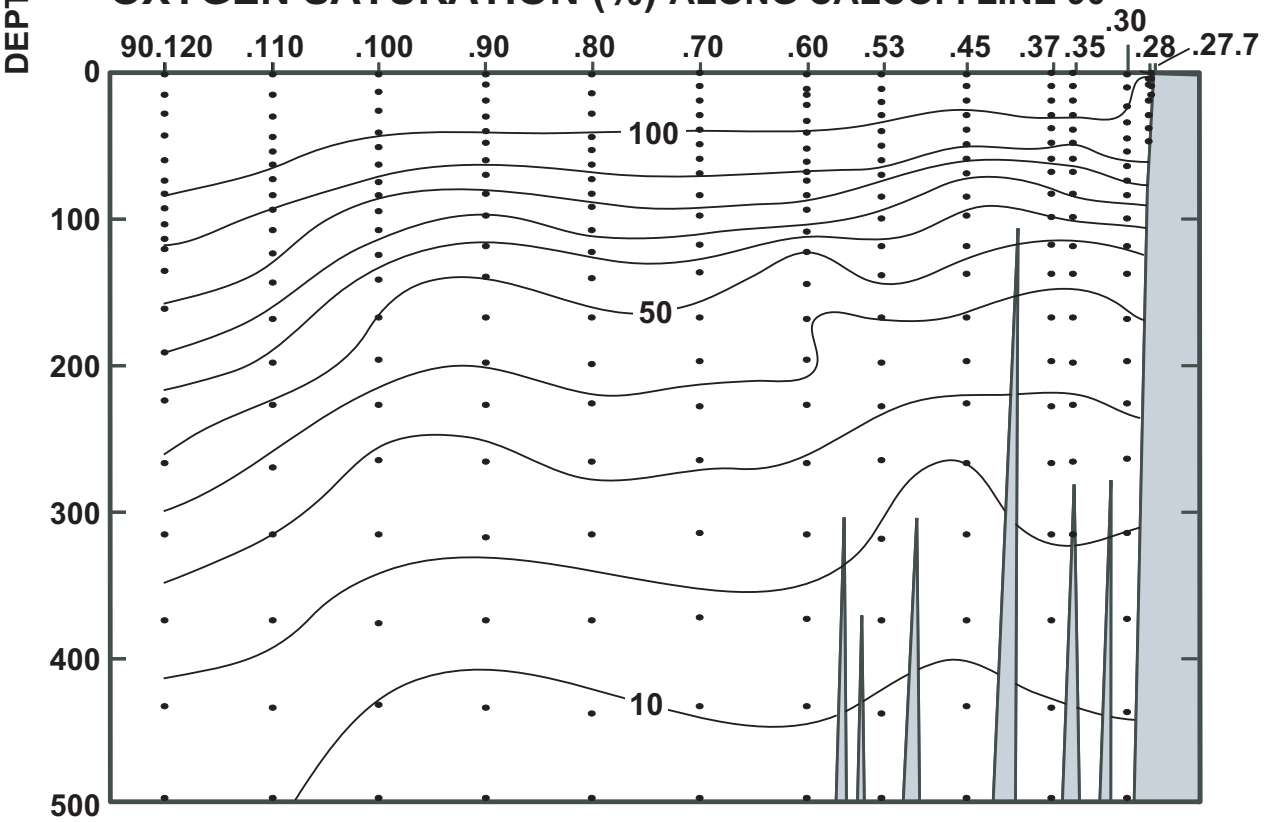


FIGURE 5H

CALCOFI CRUISE 0501

7 - 10 January 2005

OXYGEN (mL/L) ALONG CALCOFI LINE 90

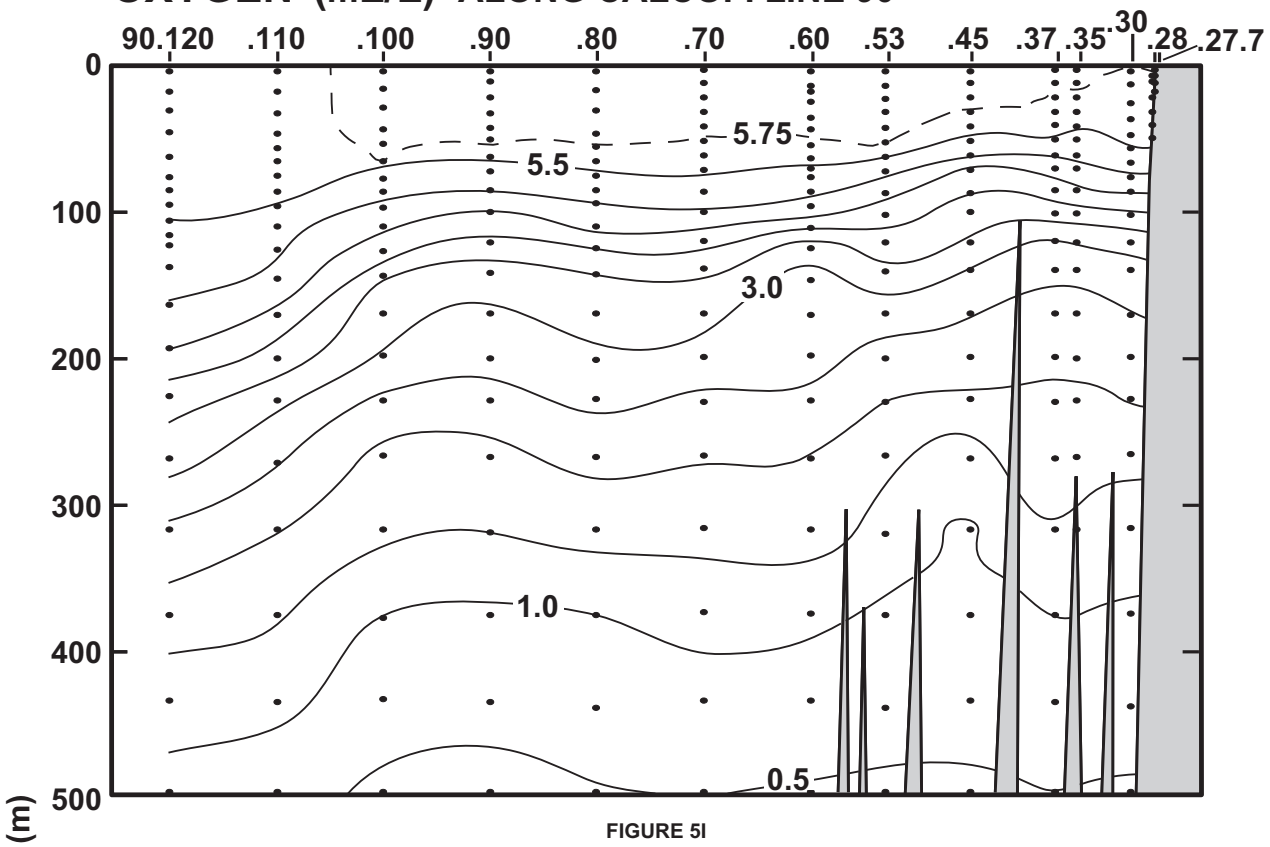


FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

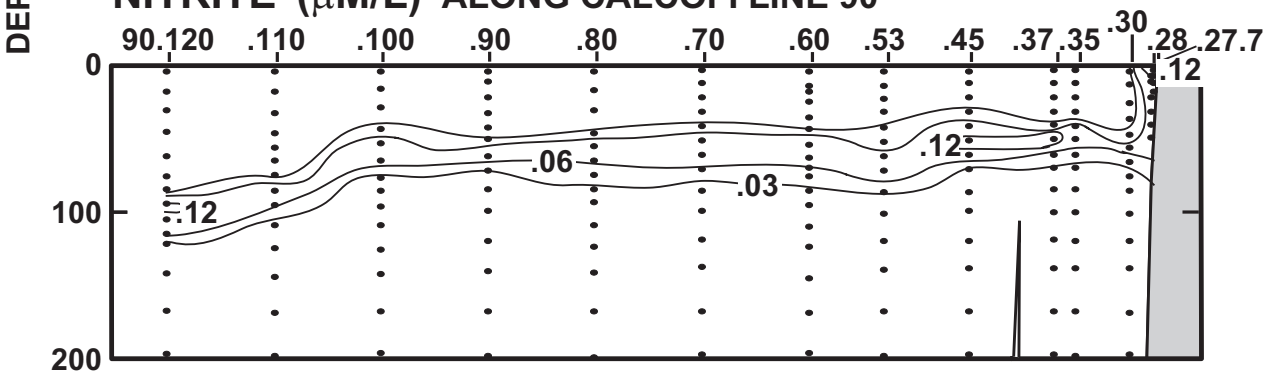


FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

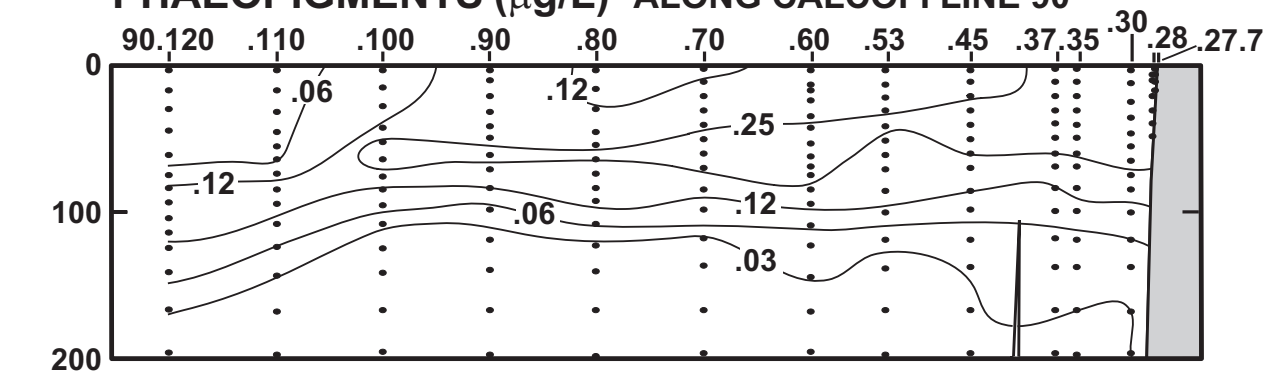


FIGURE 5K

PERSONNEL

CalCOFI Cruise 0501

SHIP'S CAPTAIN

Wesley J. Hill, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Wilkinson, James R. (Chief Scientist)	Programmer Analyst, SIO	1,2
Camacho, Dominique	Biologist, Cascadia Research	1,2
Clermont, Jason J.	Staff Research Associate, SIO	1,2
Gaither, Michelle	Resident Technician, SIO	1,2
Goericke, Ralf	Research Oceanographer, SIO	1
Gonzalez-Quiros, Rafael	Post-Doc, SIO	1,2
Hays, Amy E.	Fishery Biologist, NMFS	1,2
Henderson, E. Elizabeth	Staff Research Associate, SIO	1,2
Manion, Susan, M.	Fishery Biologist, NMFS	1,2
Newell, Sonya	Staff Research Associate, SIO	1,2
Quiroz, Erik W.	Hydrography Technician, USM	1,2
Ramirez, Fernando	Staff Research Associate, SIO	1,2
Sheldon, Jennifer L.	Staff Research Associate, SIO	1,2
Soldevilla, Melissa S.	Graduate Student, SIO	1
Taylor, Andrew G.	Lab Assistant, SIO	1,2
Thombley, Robert L.	Staff Research Associate, SIO	2
Vazquez-Morquecho, Ernesto	Biologist, Cascadia Research	1,2
Wolgast, David M.	Staff Research Associate, SIO	1,2
Yakich, Jason D.	Seabird Biologist, Pt. Reyes Bird Observatory	1,2

Leg 1: San Diego to Dana Point, California, 1-10 January, 2005
Leg 2: Dana Point to San Diego, California, 10-20 January, 2005

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 5.4 N	120 46.8 W	19/01/05	0457 UTC	70 m	150 05 kn			1021.3 mb	14.9 C	13.2 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.54	13.54	33.158	24.859	308.2	0.000	6.13	103.4	3.5	0.34	1.2	0.08	1.95	0.53	0	
2	13.54	13.54	33.158	24.859	308.3	0.006	6.13	103.4	3.5	0.34	1.2	0.08	1.95	0.53	2	208
5	13.47	13.47	33.159	24.874	306.9	0.015	6.02	101.4	3.6	0.35	1.5	0.09	1.70	0.55	5	207
10	13.36	13.36	33.168	24.903	304.3	0.031	5.84	98.2	3.9	0.41	2.3	0.13	1.17	0.44	10	206
20 ISL	12.94	12.94	33.194	25.007	294.6	0.061	5.47	91.2	5.2	0.56	4.4	0.20	0.39	0.25	20	
21	12.89	12.89	33.198	25.020	293.4	0.064	5.42	90.2	5.4	0.58	4.7	0.20	0.34	0.23	21	205
30	12.57	12.57	33.254	25.126	283.6	0.090	4.82	79.7	8.7	0.83	8.4	0.22	0.20	0.17	30	204
41	12.31	12.30	33.298	25.210	275.8	0.120	4.47	73.6	11.1	1.01	10.5	0.23	0.14	0.32	41	203
50	12.12	12.11	33.321	25.264	270.9	0.145	4.33	71.0	12.0	1.07	11.5	0.22	0.10	0.29	50	202
60	11.83	11.82	33.356	25.346	263.3	0.172	4.13	67.3	13.9	1.20	13.1	0.22	0.10	0.36	60	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
35 1.3 N	120 54.9 W	19/01/05	0231 UTC	250 m	320 08 kn			1020.1 mb	16.7 C	14.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.28	14.28	33.133	24.687	324.6	0.000	6.21	106.4	3.4	0.29	0.7	0.06	2.22	0.51	0	
1	14.28	14.28	33.133	24.687	324.6	0.003	6.21	106.4	3.4	0.29	0.7	0.06	2.22	0.51	1	215
10	13.74	13.74	33.135	24.801	314.0	0.032	6.24	105.7	3.4	0.27	0.6	0.05	2.23	0.71	10	214
20 ISL	13.69	13.69	33.137	24.813	313.2	0.063	6.16	104.2	3.4	0.28	0.7	0.06	2.78	0.66	20	
21	13.68	13.68	33.137	24.815	313.0	0.066	6.15	104.0	3.4	0.28	0.7	0.06	2.83	0.66	21	213
30	13.66	13.66	33.143	24.824	312.4	0.095	5.96	100.8	3.5	0.31	1.1	0.07	2.50	0.31	30	212
39	13.64	13.63	33.153	24.836	311.5	0.123	5.91	99.9	3.5	0.31	1.2	0.08	2.04	0.26	39	211
49	13.53	13.52	33.159	24.863	309.2	0.154	5.68	95.8	3.8	0.39	2.1	0.14	1.05	0.32	49	210
50 ISL	13.51	13.50	33.161	24.869	308.7	0.157	5.64	95.1	3.9	0.41	2.3	0.15	0.96	0.31	50	
60	13.10	13.09	33.185	24.969	299.3	0.187	5.19	86.8	5.5	0.60	5.3	0.25	0.29	0.22	60	209
70	12.23	12.22	33.225	25.170	280.4	0.216	4.82	79.1	8.2	0.84	9.3	0.18	0.17	0.14	70	208
75 ISL	11.72	11.71	33.266	25.297	268.3	0.230	4.58	74.4	10.3	0.99	11.9	0.13	0.13	0.12	75	
85	10.79	10.78	33.370	25.546	244.8	0.256	4.11	65.5	14.4	1.28	16.6	0.06	0.09	0.10	85	207
100	10.07	10.06	33.528 D	25.793	221.5	0.291	3.66	57.5	17.9	1.48	19.9	0.05	0.05	0.09	100	206
119	9.65	9.64	33.688	25.988	203.3	0.331	3.15	49.0	22.8	1.67	22.8	0.01	0.02	0.06	120	205
125 ISL	9.60	9.59	33.720	26.022	200.3	0.343	3.06	47.6	23.7	1.70	23.3	0.02	0.02	0.06	126	
139	9.54	9.52	33.782	26.080	195.0	0.371	2.89	44.9	25.4	1.77	24.1	0.04	0.01	0.07	140	204
150 ISL	9.49	9.47	33.839	26.133	190.2	0.392	2.70	41.9	27.2	1.84	24.9	0.05	0.01	0.09	151	
170	9.34	9.32	33.943	26.239	180.5	0.429	2.31	35.8	31.1	1.98	26.4	0.07	0.01	0.11	171	203
197	8.94	8.92	34.074	26.406	165.1	0.476	1.80	27.6	37.8	2.21	28.9	0.07	0.01	0.10	198	202
200 ISL	8.93	8.91	34.076	26.409	164.8	0.481									201	
234	8.80	8.77	34.098	26.448	161.9	0.536									235	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 53.3 N	121 11.8 W	18/01/05	2308 UTC	568 m	080 05 kn	050 02 08	1	1020.2 mb	18.0 C	15.1 C	9m	3/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.87	14.87	33.045	24.494	343.0	0.000	6.06	105.0	2.5	0.23	0.0	0.01	1.88	0.52	0	
2	14.87	14.87	33.045	24.494	343.0	0.007	6.06	105.0	2.5	0.23	0.0	0.01	1.88	0.52	2	220
10 ISL	14.61	14.61	33.047	24.551	337.8	0.034	6.11	105.3	2.5	0.23	0.0	0.00	2.18	0.65	10	
11	14.57	14.57	33.048	24.561	336.9	0.037	6.11	105.2	2.5	0.23	0.0	0.00	2.23	0.67	11	219
20	14.49	14.49	33.051	24.580	335.3	0.068	6.05	104.0	2.5	0.23	0.0	0.00	2.47	0.86	20	218
30	14.37	14.37	33.067	24.618	332.0	0.101	5.82	99.8	2.8	0.28	0.6	0.07	1.22	0.70	30	217
40	13.99	13.98	33.064	24.695	324.9	0.134	5.65	96.1	3.6	0.39	1.9	0.16	0.70	0.36	40	216
50	13.70	13.69	33.118	24.797	315.5	0.166	5.48	92.7	4.3	0.49	3.1	0.27	0.34	0.29	50	215
60	13.34	13.33	33.171	24.911	304.9	0.197	5.20	87.4	5.5	0.62	5.1	0.30	0.26	0.22	60	214
70	12.99	12.98	33.204	25.006	296.0	0.227	4.98	83.1	6.6	0.73	6.8	0.21	0.17	0.17	70	213
75 ISL	12.53	12.52	33.191	25.086	288.5	0.242	4.89	80.8	7.3	0.82	8.4	0.15	0.16	0.16	75	
84	11.63	11.62	33.177	25.245	273.5	0.267	4.73	76.6	9.0	1.00	11.7	0.06	0.15	0.15	84	212
100	10.69	10.68	33.279	25.493	250.2	0.309	4.28	68.0	13.0	1.26	16.0	0.04	0.09	0.13	100	211
120	10.07	10.06	33.447	25.730	227.9	0.357	3.83	60.1	17.1	1.46	19.4	0.03	0.05	0.07	121	210
125 ISL	10.00	9.99	33.482	25.770	224.3	0.368	3.74	58.6	17.9	1.49	19.9	0.03	0.04	0.07	126	
139	9.86	9.84	33.581	25.870	215.0	0.399	3.49	54.6	20.3	1.58	21.3	0.03	0.03	0.06	140	209
150 ISL	9.73	9.71	33.692	25.979	204.9	0.422	3.20	49.9	22.7	1.68	22.7	0.03	0.02	0.05	151	
170	9.48	9.46	33.886	26.172	186.9	0.461	2.67	41.5	27.3	1.86	25.1	0.03	0.01	0.04	171	208
199	9.13	9.11	34.035	26.346	171.0	0.513	2.26	34.9	32.4	2.03	27.4	0.03	0.00	0.04	200	207
200 ISL	9.12	9.10	34.039	26.350	170.5	0.515	2.25	34.7	32.6	2.03	27.5	0.03			201	
228	8.82	8.80	34.115	26.458	160.8	0.561	1.94	29.7	36.8	2.16	29.3	0.03			229	206
250 ISL	8.67	8.64	34.158	26.515	155.7	0.596	1.70	26.0	39.6	2.26	30.3	0.03			251	
268	8.53	8.50	34.178	26.553	152.4	0.623	1.55	23.6	41.8	2.34	31.1	0.03			270	205
300 ISL	8.06	8.03	34.161	26.611	147.2	0.671	1.46	22.0	45.7	2.41	32.7	0.02			302	
318	7.77	7.74	34.144	26.640	144.6	0.698	1.45	21.7	47.8	2.44	33.5	0.02			320	204
379	7.16	7.12	34.139	26.724	137.3	0.784	1.25	18.4	54.7	2.57	35.6	0.03			381	203
400 ISL	7.07	7.03	34.163	26.755	134.5	0.812	1.08	15.9	57.3	2.64	36.1	0.03			403	
439	6.92	6.88	34.216	26.818	129.1	0.864	0.75	11.0	62.9	2.79	37.1	0.02			442	202
500 ISL	6.33	6.28	34.264	26.935	118.4	0.939	0.44	6.4	75.4	2.98	39.0	0.04			503	
518	6.16	6.11	34.279	26.969	115.3	0.960	0.35	5.0	79.1	3.03	39.5	0.04			522	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 43.6 N	121 33.2 W	18/01/05	1837 UTC	906 m	330 10 kn	350 02 05	1	1023.4 mb	16.9 C	14.6 C	12m	1/8	ST

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.32	14.32	33.007	24.581	334.6	0.000	6.03	103.3	2.8	0.25	0.4	0.03	1.96	0.55	0	
2 A	14.32	14.32	33.007	24.581	334.7	0.007	6.03	103.3	2.8	0.25	0.4	0.03	1.96	0.55	2	224
8 A	14.25	14.25	33.009	24.598	333.3	0.027	6.04	103.3	2.9	0.24	0.4	0.03	2.09	0.57	8	222
10 ISL	14.25	14.25	33.010	24.599	333.3	0.033	6.04	103.3	2.9	0.24	0.4	0.03	2.14	0.57	10	
17 A	14.23	14.23	33.010	24.603	333.1	0.057	6.01	102.8	2.9	0.24	0.4	0.03	2.41	0.58	17	220
20 ISL	14.22	14.22	33.011	24.606	332.9	0.067	6.00	102.6	2.9	0.25	0.4	0.03	2.59	0.54	20	
25 A	14.21	14.21	33.013	24.610	332.6	0.083	5.98	102.2	2.9	0.26	0.5	0.03	2.90	0.47	25	219
30 ISL	14.08	14.08	33.064	24.676	326.4	0.100	5.74	97.9	3.1	0.35	1.4	0.15	1.61	0.43	30	
33 A	13.95	13.95	33.101	24.732	321.2	0.110	5.58	94.9	3.4	0.41	2.2	0.22	0.76	0.40	33	218
40	13.43	13.42	33.158	24.882	307.1	0.132	5.35	90.0	4.6	0.55	4.2	0.27	0.33	0.28	40	217
47 A	13.09	13.08	33.162	24.953	300.5	0.153	5.23	87.4	5.4	0.64	5.7	0.22	0.28	0.27	47	216
50 ISL	13.04	13.03	33.168	24.968	299.2	0.162	5.17	86.3	5.6	0.66	6.0	0.19	0.28	0.23	50	
54	12.85	12.84	33.184	25.018	294.5	0.174	5.03	83.7	6.4	0.73	7.0	0.15	0.26	0.17	54	215
61	11.63	11.62	33.263	25.311	266.7	0.193	4.45	72.2	10.3	1.05	12.4	0.05	0.13	0.16	61	214
70	11.11	11.10	33.279	25.418	256.6	0.217	4.35	69.8	11.7	1.17	14.4	0.04	0.13	0.20	70	213
75 ISL	10.79	10.78	33.309	25.498	249.1	0.229	4.25	67.7	12.9	1.24	15.8	0.04	0.11	0.17	75	
86	10.17	10.16	33.410	25.684	231.6	0.256	3.95	62.1	16.1	1.42	18.9	0.03	0.06	0.08	86	212
100	9.75	9.74	33.579	25.886	212.6	0.287	3.40	53.0	20.9	1.65	22.5	0.02	0.02	0.05	100	211
121	9.39	9.38	33.713	26.050	197.4	0.330	3.09	47.8	24.2	1.75	24.3	0.02	0.01	0.04	122	210
125 ISL	9.33	9.32	33.741	26.082	194.5	0.338	3.03	46.9	24.9	1.77	24.6	0.02	0.01	0.04	126	
140	9.16	9.14	33.836	26.184	185.1	0.366	2.83	43.6	27.3	1.85	25.8	0.02	0.00	0.03	141	209
150 ISL	9.09	9.07	33.876	26.227	181.2	0.385	2.75	42.3	28.2	1.88	26.2	0.02	0.00	0.03	151	
169	8.95	8.93	33.941	26.300	174.6	0.418	2.60	39.9	30.3	1.93	27.1	0.02	0.00	0.03	170	208
199	8.53	8.51	34.081	26.476	158.4	0.468	2.10	32.0	37.3	2.14	29.7	0.02	0.00	0.02	200	207
200 ISL	8.52	8.50	34.083	26.479	158.1	0.470	2.09	31.8	37.5	2.14	29.8	0.02			201	
229	8.23	8.21	34.116	26.549	151.9	0.515	1.82	27.5	41.6	2.26	31.2	0.02			230	206
250 ISL	8.06	8.03	34.147	26.599	147.4	0.546	1.58	23.8	45.1	2.37	32.2	0.02			251	
268	7.91	7.88	34.169	26.639	143.9	0.573	1.39	20.9	48.0	2.46	33.0	0.02			270	205
300 ISL	7.58	7.55	34.171	26.689	139.6	0.618	1.25	18.6	51.8	2.54	34.1	0.02			302	
319	7.39	7.36	34.169	26.714	137.3	0.644	1.20	17.8	53.8	2.57	34.7	0.02			321	204
380	7.00	6.96	34.220	26.809	129.0	0.726	0.86	12.6	60.5	2.74	36.6	0.02			382	203
400 ISL	6.87	6.83	34.233	26.838	126.6	0.751	0.76	11.1	62.9	2.79	37.2	0.02			403	
438	6.66	6.62	34.255	26.884	122.6	0.798	0.59	8.6	67.3	2.87	38.3	0.02			441	202
500 ISL	6.44	6.39	34.280	26.933	118.7	0.873	0.48	7.0	71.8	2.94	39.2	0.02			503	
514	6.39	6.34	34.286	26.945	117.8	0.890	0.45	6.5	72.8	2.96	39.4	0.02			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 23.2 N	122 14.8 W	18/01/05	1221 UTC	4023 m	350 16 kn			1022.1 mb	13.1 C	12.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.42	13.42	33.043	24.794	314.4	0.000	6.01	101.1	3.1	0.31	0.9	0.08	0.62	0.23	0	
1	13.42	13.42	33.043	24.794	314.4	0.003	6.01	101.1	3.1	0.31	0.9	0.08	0.62	0.23	1	220
10	13.42	13.42	33.044	24.795	314.5	0.031	6.01	101.1	3.0	0.31	0.9	0.08	0.71	0.26	10	219
20	13.42	13.42	33.043	24.795	314.9	0.063	6.01	101.1	3.0	0.30	0.9	0.08	0.68	0.24	20	218
30	13.42	13.42	33.046	24.797	314.9	0.094	6.01	101.1	3.0	0.30	0.9	0.08	0.68	0.24	30	217
40	13.39	13.38	33.044	24.802	314.7	0.126	5.99	100.7	3.1	0.31	0.9	0.09	0.68	0.24	40	216
49	12.01	12.00	33.099	25.113	285.3	0.153	5.34	87.2	6.8	0.71	7.0	0.14	0.17	0.16	49	215
50 ISL	11.89	11.88	33.109	25.143	282.4	0.156	5.26	85.7	7.2	0.75	7.7	0.13	0.17	0.15	50	
60	10.84	10.83	33.237	25.433	255.0	0.183	4.49	71.6	12.1	1.14	14.3	0.03	0.12	0.10	60	214
70	10.04	10.03	33.422	25.715	228.3	0.207	3.77	59.1	17.9	1.51	20.2	0.02	0.07	0.08	70	213
75 ISL	9.77	9.76	33.466	25.794	220.8	0.218	3.73	58.2	19.4	1.54	20.8	0.02	0.05	0.07	75	
85	9.35	9.34	33.514	25.901	210.8	0.240	3.66	56.5	21.1	1.61	22.1	0.02	0.03	0.05	85	212
100	8.81	8.80	33.587	26.043	197.5	0.270	3.89	59.4	23.0	1.59	22.2	0.02	0.01	0.03	101	211
119	8.62	8.61	33.758	26.207	182.3	0.306	3.35	51.0	27.8	1.75	25.2	0.01	0.00	0.02	120	210
125 ISL	8.57	8.56	33.790	26.240	179.3	0.317	3.22	49.0	28.9	1.80	25.9	0.01	0.00	0.02	126	
139	8.46	8.45	33.848	26.302	173.6	0.342	2.98	45.2	31.2	1.88	27.0	0.01	0.01	0.02	140	209
150 ISL	8.37	8.35	33.895	26.353	169.0	0.361	2.89	43.8	32.7	1.91	27.6	0.01	0.01	0.02	151	
169	8.21	8.19	33.964	26.432	161.8	0.392	2.82	42.6	35.0	1.93	28.2	0.01	0.00	0.02	170	208
199	8.00	7.98	34.019	26.507	155.2	0.440	2.73	41.0	38.1	1.97	28.9	0.01	0.00	0.02	200	207
200 ISL	8.00	7.98	34.021	26.508	155.1	0.441	2.70	40.6	38.3	1.98	29.0	0.01			201	
228	7.88	7.86	34.082	26.574	149.3	0.484	1.89	28.3	43.4	2.27	32.2	0.01			229	206
250 ISL	7.67	7.65	34.096	26.616	145.6	0.516	1.66	24.8	46.5	2.37	33.5	0.01			252	
268	7.47	7.44	34.097	26.646	143.0	0.542	1.59	23.6	48.7	2.42	34.1	0.01			270	205
300 ISL	7.14	7.11	34.098	26.693	138.8	0.587	1.45	21.4	52.7	2.51	35.4	0.01			302	
317	6.97	6.94	34.100	26.718	136.6	0.611	1.37	20.1	55.0	2.55	36.0	0.01			319	204
377	6.45	6.42	34.148	26.826	126.9	0.690	0.90	13.1	64.8	2.77	38.4	0.01			379	203
400 ISL	6.36	6.32	34.179	26.863	123.7	0.719	0.73	10.6	67.7	2.84	39.0	0.01			403	
437	6.22	6.18	34.223	26.916	119.1	0.764	0.50	7.2	72.3	2.94	39.8	0.01			440	202
500 ISL	5.55	5.51	34.220	26.997	111.6	0.836	0.40	5.7	82.9	3.03	41.8	0.01			504	
521	5.33	5.29	34.221	27.024	109.0	0.859	0.37	5.2	86.5	3.06	42.4	0.01			525	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 3.2 N	122 56.4 W	18/01/05	0611	UTC	4232 m	360 15 kn			1023.5 mb	12.3 C	11.8 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	12.91	12.91	33.161	24.987	296.0	0.000	6.13	102.1	4.8	0.41	2.7	0.08	1.09	0.02	0	
2	12.91	12.91	33.161	24.987	296.1	0.006	6.13	102.1	4.8	0.41	2.7	0.08	1.09	0.02	2	220
10	12.91	12.91	33.162	24.988	296.2	0.030	6.14	102.2	4.7	0.41	2.7	0.08	1.09	0.02	10	219
20 ISL	12.91	12.91	33.163	24.989	296.4	0.059	6.12	101.9	4.8	0.41	2.7	0.09	1.06	0.02	20	
21	12.91	12.91	33.163	24.989	296.4	0.062	6.12	101.9	4.8	0.41	2.7	0.09	1.06	0.02	21	218
30	12.81	12.81	33.166	25.011	294.5	0.089	6.09	101.2	5.0	0.43	3.1	0.10	1.00	0.04	30	217
40	12.68	12.67	33.180	25.047	291.3	0.118	5.97	98.9	5.3	0.47	3.7	0.14	0.71	0.01	40	216
50	12.57	12.56	33.186	25.074	289.1	0.147	5.88	97.2	5.6	0.51	4.1	0.17	0.42	0.25	50	215
60	12.33	12.32	33.197	25.129	284.1	0.176	5.66	93.1	6.6	0.60	5.5	0.19	0.27	0.20	60	214
70	11.14	11.13	33.299	25.428	255.7	0.203	4.53	72.7	12.3	1.13	14.2	0.04	0.14	0.13	70	213
75 ISL	10.61	10.60	33.368	25.575	241.7	0.215	4.10	65.1	15.2	1.34	17.5	0.03	0.10	0.10	75	
85	9.75	9.74	33.500	25.824	218.2	0.238	3.53	55.0	20.0	1.62	21.9	0.00	0.05	0.07	85	212
100	9.16	9.15	33.593	25.993	202.4	0.270	3.39	52.2	23.4	1.72	23.6	0.01	0.02	0.05	101	211
118	9.10	9.09	33.796	26.162	186.7	0.305	2.72	41.9	27.9	1.92	26.5	0.00	0.01	0.05	119	210
125 ISL	9.02	9.01	33.845	26.213	182.0	0.318	2.60	40.0	29.2	1.96	27.1	0.00	0.01	0.05	126	
139	8.85	8.84	33.918	26.297	174.2	0.343	2.46	37.7	31.4	2.01	28.0	0.00	0.01	0.05	140	209
150 ISL	8.80	8.78	33.970	26.346	169.8	0.361	2.29	35.0	32.9	2.06	28.7	0.00	0.01	0.05	151	
169	8.72	8.70	34.040	26.414	163.7	0.393	2.01	30.7	35.4	2.14	29.7	0.00	0.00	0.04	170	208
200	8.41	8.39	34.101	26.510	155.1	0.443	1.73	26.3	39.8	2.28	31.2	0.00	0.00	0.03	201	207
227	8.17	8.15	34.115	26.557	151.0	0.484	1.62	24.5	42.6	2.34	32.0	0.01			228	206
250 ISL	7.94	7.91	34.136	26.608	146.5	0.518	1.48	22.2	45.7	2.43	32.9	0.01			252	
267	7.75	7.72	34.148	26.646	143.2	0.543	1.37	20.5	48.2	2.49	33.6	0.01			269	205
300 ISL	7.28	7.25	34.138	26.705	137.8	0.589	1.27	18.8	52.9	2.57	35.0	0.00			302	
316	7.04	7.01	34.129	26.731	135.4	0.611	1.23	18.1	55.3	2.60	35.7	0.00			318	204
377	6.35	6.32	34.124	26.820	127.4	0.691	1.01	14.6	65.4	2.77	38.2	0.00			379	203
400 ISL	6.15	6.11	34.131	26.852	124.6	0.720	0.91	13.1	68.7	2.82	39.0	0.00			403	
437	5.89	5.85	34.151	26.901	120.2	0.765	0.75	10.7	73.6	2.91	40.0	0.01			440	202
500 ISL	5.65	5.61	34.219	26.984	112.9	0.839	0.45	6.4	80.9		41.2	0.01			503	
520	5.57	5.53	34.241	27.012	110.5	0.861	0.36	5.1	83.2		41.6	0.01			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 43.4 N	123 38.4 W	17/01/05	2353	UTC	4179 m	360 18 kn	360 04 06	1	1023.5 mb	13.5 C	12.9 C	12m	6/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.43	13.43	32.905	24.685	324.7	0.000	6.05	101.7	2.7	0.30	0.5	0.04	0.71	0.17	0	
2	13.43	13.43	32.905	24.685	324.8	0.006	6.05	101.7	2.7	0.30	0.5	0.04	0.71	0.17	2	220
10	13.41	13.41	32.910	24.693	324.2	0.032	6.05	101.6	2.8	0.30	0.5	0.05	0.66	0.21	10	219
19	13.39	13.39	32.914	24.701	323.8	0.062	6.04	101.4	2.9	0.30	0.6	0.05	0.84	0.17	19	218
20 ISL	13.39	13.39	32.914	24.701	323.8	0.065	6.04	101.4	2.9	0.30	0.6	0.05	0.84	0.17	20	
30	13.31	13.31	32.913	24.716	322.6	0.097	6.05	101.4	3.1	0.30	0.6	0.05	0.86	0.22	30	217
40	13.18	13.17	32.932	24.757	318.9	0.129	6.04	101.0	3.5	0.32	0.9	0.05	0.97	0.20	40	216
49	13.12	13.11	32.942	24.777	317.3	0.158	6.02	100.5	3.7	0.33	1.2	0.06	0.81	0.22	49	215
50 ISL	13.12	13.11	32.943	24.778	317.2	0.161	6.02	100.5	3.7	0.33	1.2	0.06	0.81	0.22	50	
60	13.07	13.06	32.949	24.793	316.1	0.193	6.00	100.1	3.8	0.34	1.3	0.07	0.81	0.21	60	214
70	12.56	12.55	32.971	24.910	305.2	0.224	5.75	94.9	4.7	0.47	3.2	0.12	0.24	0.13	70	213
75 ISL	12.18	12.17	32.965	24.977	298.8	0.239	5.65	92.5	5.2	0.54	4.2	0.10	0.24	0.13	75	
86	11.27	11.26	32.979 D	25.156	281.9	0.271	5.37	86.2	7.0	0.72	7.3	0.02	0.25	0.13	86	212
100	10.33	10.32	33.137	25.444	254.7	0.308	4.78	75.3	12.1	1.09	13.6	0.01	0.06	0.06	100	211
120	9.21	9.20	33.361	25.804	220.7	0.356	4.23	65.1	19.4	1.45	19.6	0.01	0.02	0.03	121	210
125 ISL	9.02	9.01	33.418	25.879	213.6	0.367	4.16	63.8	20.8	1.49	20.4	0.01	0.02	0.03	126	
137	8.72	8.71	33.555	26.033	199.2	0.392	3.97	60.5	23.8	1.58	21.9	0.01	0.01	0.02	138	209
150 ISL	8.79	8.77	33.732	26.161	187.3	0.417	3.44	52.6	27.0	1.73	24.1	0.01	0.01	0.02	151	
168	8.89	8.87	33.915	26.289	175.6	0.449	2.72	41.7	30.9	1.91	26.7	0.00	0.01	0.03	169	208
200	8.59	8.57	34.019	26.418	163.9	0.504	2.56	39.0	35.0	1.98	27.9	0.01	0.00	0.02	201	207
238	7.80	7.78	34.027	26.543	152.4	0.564	2.42	36.2	41.9	2.11	30.2	0.00			239	206
250 ISL	7.58	7.56	34.023	26.572	149.8	0.582	2.39	35.6	44.2	2.15	30.7	0.00			251	
279	7.17	7.14	34.027	26.633	144.2	0.624	2.19	32.3	49.4	2.27	32.0	0.01			281	205
300 ISL	7.10	7.07	34.065	26.673	140.7	0.654	1.77	26.1	52.6	2.42	33.7	0.01			302	
318	7.06	7.03	34.098	26.704	138.0	0.679	1.40	20.6	55.2	2.54	35.1	0.00			320	204
376	6.28	6.25	34.083	26.797	129.5	0.757	1.23	17.8	64.7	2.69	37.5	0.00			378	203
400 ISL	6.12	6.08	34.107	26.836	126.0	0.788	1.03	14.8	68.5	2.78	38.4	0.00			403	
440	5.94	5.90	34.159	26.901	120.3	0.837	0.70	10.0	74.6	2.92	39.8	0.00			443	202
500 ISL	5.63	5.59	34.213	26.982	113.1	0.907	0.58	8.3	82.6	3.04	41.1	0.00			503	
515	5.55	5.51	34.226	27.002	111.3	0.924	0.55	7.8	84.6	3.07	41.4	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 23.0 N	124 19.4 W	17/01/05	1817	UTC	4570 m	010	18 kn	340 03 04	2	1026.9 mb	14.7 C	13.9 C	21m	8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.88	14.88	33.061	24.504	342.0	0.000	5.80	100.5	1.6	0.21	0.0	0.00	0.23	0.10	0	
2 A	14.88	14.88	33.061	24.504	342.1	0.007	5.80	100.5	1.6	0.21	0.0	0.00	0.23	0.10	2	223
10 ISL	14.88	14.88	33.061	24.504	342.3	0.034	5.81	100.7	1.6	0.20	0.0	0.00	0.24	0.09	10	
15 A	14.88	14.88	33.061	24.505	342.4	0.051	5.81	100.7	1.6	0.20	0.0	0.00	0.24	0.09	15	221
20 ISL	14.85	14.85	33.057	24.508	342.2	0.068	5.81	100.6	1.5	0.20	0.0	0.00	0.25	0.10	20	
30 A	14.80	14.80	33.055	24.518	341.6	0.103	5.81	100.5	1.5	0.21	0.0	0.00	0.29	0.12	30	220
44 A	14.28	14.27	32.949	24.546	339.2	0.150	5.84	99.9	1.8	0.23	0.0	0.03	0.35	0.18	44	218
50 ISL	14.27	14.26	32.949	24.549	339.2	0.171	5.83	99.7	1.9	0.24	0.0	0.03	0.33	0.17	50	
51	14.27	14.26	32.949	24.549	339.2	0.174	5.83	99.7	1.9	0.24	0.0	0.03	0.33	0.17	51	217
57 A	14.28	14.27	32.964	24.558	338.5	0.194	5.84	99.9	1.9	0.24	0.0	0.04	0.33	0.19	57	216
68	13.99	13.98	32.972	24.625	332.4	0.231	5.88	100.0	1.9	0.24	0.0	0.03	0.29	0.16	68	215
75 ISL	13.86	13.85	32.953	24.637	331.4	0.254	5.89	99.9	2.0	0.24	0.0	0.04	0.28	0.16	75	
80 A	13.79	13.78	32.938	24.640	331.3	0.271	5.89	99.7	2.1	0.25	0.0	0.05	0.27	0.16	80	214
88	13.72	13.71	32.932	24.650	330.5	0.298	5.88	99.4	2.1	0.26	0.1	0.07	0.25	0.14	88	213
95	12.62	12.61	33.032	24.946	302.4	0.320	5.70	94.2	3.2	0.42	2.4	0.06	0.11	0.12	95	212
100 ISL	12.17	12.16	33.063	25.056	292.0	0.335	5.61	91.9	3.7	0.49	3.5	0.05	0.10	0.10	100	
109	11.56	11.55	33.091	25.191	279.2	0.360	5.43	87.8	5.1	0.61	5.7	0.02	0.08	0.07	109	211
125	9.94	9.93	33.207	25.565	243.7	0.402	4.80	75.0	12.0	1.09	13.9	0.02	0.03	0.03	126	210
145	9.25	9.23	33.480	25.891	212.9	0.448	4.36	67.2	17.8	1.33	18.3	0.01	0.01	0.02	146	209
150 ISL	9.11	9.09	33.506	25.934	208.9	0.458	4.31	66.2	18.8	1.37	19.0	0.01	0.01	0.02	151	
170	8.71	8.69	33.581	26.055	197.7	0.499	4.15	63.2	22.3	1.48	21.0	0.01	0.01	0.01	171	208
199	8.56	8.54	33.851	26.291	175.9	0.553	3.68	56.0	27.5	1.62	23.5	0.01	0.00	0.01	200	207
200 ISL	8.55	8.53	33.857	26.297	175.3	0.555	3.67	55.8	27.7	1.62	23.6	0.01			201	
228	8.27	8.25	33.974	26.432	163.0	0.602	3.34	50.5	32.4	1.73	25.6	0.01			229	206
250 ISL	7.93	7.90	33.992	26.496	157.0	0.637	3.02	45.3	37.0	1.88	27.8	0.01			251	
269	7.64	7.61	33.994	26.540	153.1	0.667	2.68	39.9	41.2	2.03	29.9	0.01			271	205
300 ISL	7.41	7.38	34.058	26.624	145.5	0.713	1.92	28.5	47.8	2.31	33.0	0.01			302	
319	7.26	7.23	34.093	26.673	141.1	0.740	1.50	22.2	51.8	2.46	34.7	0.01			321	204
376	6.24	6.21	34.061	26.785	130.6	0.818	1.31	18.9	62.9	2.64	37.9	0.01			378	203
400 ISL	6.04	6.01	34.076	26.822	127.2	0.849	1.16	16.7	64.4	2.67	38.2	0.01			402	
437	5.85	5.81	34.110	26.873	122.8	0.895	0.90	12.9							440	202
500 ISL	5.42	5.38	34.158	26.964	114.6	0.970	0.59	8.4	70.9	2.79	39.5	0.01			503	
521	5.28	5.24	34.175	26.994	111.8	0.994	0.49	6.9	72.2	2.82	39.8	0.01			525	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80.0 50.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 27.7 N	120 29.2 W	16/01/05	0438	UTC	24 m	270	06 kn			1024.2 mb	15.3 C	11.9 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.66	14.66	33.008	24.510	341.4	0.000	5.77	99.5	4.3	0.46	1.3	0.13	1.10	0.45	0	
1	14.66	14.66	33.008	24.510	341.4	0.003	5.77	99.5	4.3	0.46	1.3	0.13	1.10	0.45	1	204
6	14.66	14.66	33.025	24.524	340.3	0.020	5.69	98.1	3.7	0.40	1.1	0.13	1.23	0.40	6	203
9	14.59	14.59	33.026	24.539	338.9	0.031	5.73	98.7	3.6	0.37	1.1	0.12	1.44	0.46	9	202
10 ISL	14.57	14.57	33.027	24.544	338.4	0.034	5.72	98.5	3.6	0.37	1.1	0.12	1.46	0.46	10	
18	14.43	14.43	33.036	24.581	335.2	0.061	5.67	97.4	3.4	0.37	1.2	0.13	1.59	0.48	18	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 26.7 N	120 32.1 W	16/01/05	0604	UTC	86 m	330	07 kn			1024.6 mb	15.0 C	12.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.39	14.39	33.021	24.577	335.0	0.000	5.78	99.2	3.5	0.36	1.0	0.17	0.86	0.28	0	
2	14.39	14.39	33.021	24.578	335.1	0.007	5.78	99.2	3.5	0.36	1.0	0.17	0.86	0.28	2	210
5	14.39	14.39	33.022	24.578	335.1	0.017	5.81	99.7	3.5	0.36	1.1	0.17	0.83	0.28	5	209
10	14.40	14.40	33.022	24.576	335.4	0.034	5.81	99.7	3.5	0.35	1.1	0.17	0.89	0.29	10	208
20	14.36	14.36	33.031	24.592	334.2	0.067	5.79	99.3	3.4	0.36	1.1	0.17	1.25	0.42	20	207
30	14.12	14.12	33.132	24.721	322.2	0.100	5.52	94.2	3.5	0.43	2.4	0.36	0.29	0.15	30	206
40	13.77	13.76	33.175	24.826	312.4	0.132	5.36	90.9	4.3	0.51	3.8	0.39	0.16	0.15	40	205
50	12.81	12.80	33.210	25.046	291.7	0.162	5.03	83.6	6.6	0.70	6.9	0.30	0.17	0.14	50	204
60	12.78	12.77	33.232	25.069	289.8	0.191	4.91	81.6	7.4	0.77	7.9	0.26	0.17	0.14	60	203
70	12.53	12.52	33.288	25.161	281.3	0.219	4.63	76.5	9.0	0.90	9.9	0.20	0.15	0.17	70	202
75 ISL	12.03	12.02	33.322	25.283	269.8	0.233	4.36	71.3	11.1	1.06	12.1	0.15	0.12	0.18	75	
80	11.53	11.52	33.360	25.405	258.2	0.246	4.09	66.2	13.2	1.21	14.4	0.10	0.08	0.19	80	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 19.2 N	120 48.5 W	16/01/05	0813 UTC	761 m	360 10 kn			1024.1 mb	14.1 C	13.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.52	14.52	33.063	24.582	334.5	0.000	5.89	101.3	2.3	0.26	0.5	0.08	1.40	0.50	0	
1	14.52	14.52	33.063	24.582	334.6	0.003	5.89	101.3	2.3	0.26	0.5	0.08	1.40	0.50	1	220
10	14.53	14.53	33.067	24.584	334.7	0.033	5.89	101.4	2.3	0.26	0.5	0.08	1.38	0.46	10	219
20	13.91	13.91	33.100	24.739	320.2	0.066	5.86	99.6	2.9	0.34	1.6	0.09	1.47	0.42	20	218
30	13.88	13.88	33.130	24.769	317.6	0.098	5.69	96.7	3.0	0.38	2.2	0.11	0.76	0.28	30	217
41	12.93	12.92	33.121	24.953	300.3	0.132	5.31	88.4	5.0	0.62	5.7	0.12	0.33	0.23	41	216
50	12.40	12.39	33.117	25.053	291.0	0.159	5.13	84.5	6.1	0.75	7.7	0.09	0.28	0.27	50	215
60	11.55	11.54	33.201	25.277	269.8	0.187	4.67	75.6	9.4	1.01	12.0	0.03	0.16	0.17	60	214
71	11.39	11.38	33.229	25.329	265.2	0.216	4.56	73.5	10.2	1.06	12.8	0.03	0.13	0.16	71	213
75 ISL	11.31	11.30	33.249	25.359	262.4	0.227	4.48	72.1	10.7	1.09	13.3	0.03	0.12	0.16	75	
84	11.06	11.05	33.325	25.463	252.7	0.250	4.21	67.5	12.5	1.21	15.1	0.03	0.10	0.14	84	212
100	10.27	10.26	33.588	25.806	220.3	0.288	3.37	53.2	19.1	1.56	20.2	0.02	0.03	0.07	100	211
120	10.07	10.06	33.738	25.957	206.4	0.330	2.96	46.5	22.5	1.72	22.3	0.03	0.01	0.07	121	210
125 ISL	10.01	10.00	33.759	25.984	204.0	0.341	2.91	45.7	23.0	1.74	22.6	0.03	0.01	0.07	126	
139	9.85	9.83	33.805	26.047	198.2	0.369	2.82	44.1	24.3	1.78	23.4	0.03	0.01	0.06	140	209
150 ISL	9.77	9.75	33.844	26.091	194.3	0.390	2.74	42.8	25.3	1.82	23.9	0.03	0.01	0.06	151	
168	9.66	9.64	33.910	26.161	188.0	0.425	2.58	40.2	27.0	1.88	24.8	0.02	0.01	0.05	169	208
197	9.45	9.43	34.028	26.288	176.5	0.478	2.23	34.6	30.6	2.01	26.5	0.02	0.01	0.05	198	207
200 ISL	9.43	9.41	34.037	26.299	175.5	0.483	2.19	34.0	31.0	2.03	26.7	0.02			201	
227	9.18	9.16	34.106	26.394	167.0	0.529	1.84	28.4	35.1	2.17	28.3	0.01			228	206
250 ISL	8.91	8.88	34.149	26.471	160.1	0.567	1.68	25.8	38.0	2.26	29.5	0.01			251	
268	8.70	8.67	34.172	26.522	155.5	0.595	1.60	24.5	40.0	2.31	30.2	0.01			270	205
300 ISL	8.45	8.42	34.190	26.575	150.9	0.644	1.47	22.3	42.8	2.38	31.1	0.01			302	
317	8.33	8.30	34.194	26.597	149.1	0.670	1.40	21.2	44.3	2.42	31.5	0.01			319	204
381	7.68	7.64	34.218	26.712	138.8	0.762	1.10	16.4	52.2	2.59	33.9	0.01			383	203
400 ISL	7.43	7.39	34.223	26.752	135.2	0.788	0.99	14.7	55.5	2.65	34.8	0.01			403	
439	6.97	6.93	34.233	26.825	128.5	0.839	0.79	11.6	61.9	2.77	36.6	0.01			442	202
500 ISL	6.63	6.58	34.250	26.885	123.5	0.916	0.62	9.0	67.2	2.88	38.0	0.01			503	
509	6.58	6.53	34.252	26.893	122.8	0.927	0.59	8.6	68.0	2.90	38.2	0.01			513	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 9.1 N	121 9.2 W	16/01/05	1200 UTC	2218 m	340 15 kn			1023.4 mb	14.7 C	12.5 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.34	14.34	33.165	24.699	323.4	0.000	5.88	100.9	2.0	0.26	0.3	0.03	0.63	0.23	0	
1	14.34	14.34	33.165	24.699	323.4	0.003	5.88	100.9	2.0	0.26	0.3	0.03	0.63	0.23	1	220
10	14.34	14.34	33.168	24.702	323.5	0.032	5.87	100.7	2.1	0.25	0.3	0.03	0.66	0.21	10	219
20	14.34	14.34	33.165	24.700	323.9	0.065	5.86	100.5	2.0	0.25	0.3	0.03	0.63	0.23	20	218
30 ISL	14.33	14.33	33.167	24.704	323.9	0.097	5.87	100.7	2.0	0.25	0.4	0.03	0.67	0.26	30	
31	14.33	14.33	33.168	24.704	323.8	0.100	5.87	100.7	2.0	0.25	0.4	0.03	0.67	0.26	31	217
41	14.28	14.27	33.167	24.714	323.2	0.133	5.81	99.5	2.0	0.26	0.5	0.04	0.62	0.25	41	216
50	13.47	13.46	33.153	24.870	308.5	0.161	5.43	91.5	3.9	0.51	4.1	0.12	0.29	0.17	50	215
60	11.51	11.50	33.149	25.244	273.0	0.190	4.79	77.4	8.5	0.98	11.7	0.05	0.19	0.19	60	214
71	11.00	10.99	33.214	25.387	259.6	0.219	4.52	72.3	10.8	1.14	14.4	0.03	0.14	0.13	71	213
75 ISL	10.81	10.80	33.251	25.449	253.7	0.230	4.38	69.8	12.0	1.21	15.6	0.03	0.12	0.11	75	
84	10.38	10.37	33.346	25.598	239.7	0.252	4.05	63.9	14.9	1.38	18.3	0.03	0.08	0.08	84	212
99	9.70	9.69	33.498	25.831	217.8	0.286	3.60	56.0	19.6	1.63	21.7	0.02	0.03	0.05	99	211
100 ISL	9.67	9.66	33.509	25.845	216.5	0.288	3.57	55.5	19.9	1.64	21.9	0.02	0.03	0.05	100	
120	9.27	9.26	33.723	26.078	194.8	0.330	3.08	47.6	24.8	1.80	24.7	0.02	0.01	0.03	121	210
125 ISL	9.21	9.20	33.767	26.122	190.7	0.339	2.99	46.1	25.7	1.82	25.1	0.02	0.01	0.03	126	
140	9.08	9.06	33.872	26.225	181.2	0.367	2.80	43.1	27.8	1.85	26.0	0.02	0.00	0.03	141	209
150 ISL	9.03	9.01	33.900	26.255	178.5	0.385	2.75	42.3	28.5	1.86	26.3	0.02	0.00	0.03	151	
169	8.94	8.92	33.932	26.295	175.1	0.419	2.65	40.7	29.9	1.90	26.9	0.02	0.00	0.04	170	208
200	8.58	8.56	34.054	26.447	161.1	0.471	2.20	33.5	36.0	2.09	29.4	0.02	0.00	0.03	201	207
230	8.30	8.28	34.087	26.516	155.0	0.518	1.98	30.0	39.5	2.19	30.6	0.02			231	206
250 ISL	7.99	7.96	34.102	26.574	149.8	0.549	1.79	26.9	43.1	2.28	31.9	0.02			251	
270	7.68	7.65	34.118	26.632	144.4	0.578	1.58	23.6	47.0	2.39	33.2	0.02			272	205
300 ISL	7.36	7.33	34.151	26.704	137.9	0.620	1.24	18.4	52.3	2.57	34.9	0.02			302	
317	7.22	7.19	34.169	26.738	134.9	0.644	1.06	15.7	55.1	2.66	35.7	0.02			319	204
378	6.80	6.76	34.195	26.817	128.1	0.724	0.79	11.6	62.6	2.78	37.4	0.02			380	203
400 ISL	6.61	6.57	34.202	26.848	125.4	0.752	0.70	10.2	65.6	2.83	38.1	0.02			403	
439	6.29	6.25	34.217	26.902	120.5	0.800	0.56	8.1	70.7	2.91	39.3	0.02			442	202
500 ISL	6.04	6.00	34.267	26.974	114.3	0.871	0.38	5.5	76.8	3.01	40.3	0.02			503	
509	6.00	5.96	34.274	26.985	113.4	0.882	0.35	5.0	77.7	3.02	40.5	0.02			513	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 49.1 N	121 50.4 W	16/01/05	1752	UTC	3630 m	260	12 kn	270 01 05	1	1025.5 mb	14.9 C	12.5 C	12m	1/8	ST

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	12.92	12.92	33.094	24.933	301.2	0.000	6.11	101.7	4.0	0.38	1.9	0.09	1.00	0.29	0	
1	A	12.92	12.92	33.094	24.933	301.2	0.003	6.11	101.7	4.0	0.38	1.9	0.09	1.00	0.29	1	223
8	A	12.90	12.90	33.097	24.939	300.8	0.024	6.13	102.0	4.0	0.37	2.0	0.09	1.13	0.25	8	222
10	ISL	12.87	12.87	33.134	24.974	297.5	0.030	6.12	101.8	4.5	0.40	2.5	0.11	1.09	0.27	10	
13		12.81	12.81	33.188	25.028	292.5	0.039	6.10	101.4	5.1	0.44	3.2	0.13	1.02	0.31	13	221
16	A	12.77	12.77	33.205	25.049	290.6	0.048	6.06	100.6	5.2	0.45	3.4	0.14	0.98	0.33	16	220
20	ISL	12.77	12.77	33.206	25.050	290.6	0.059	6.03	100.1	5.3	0.46	3.6	0.15	1.02	0.35	20	
25	A	12.77	12.77	33.207	25.051	290.6	0.074	6.00	99.6	5.3	0.47	3.7	0.16	1.04	0.36	25	219
30	ISL	12.76	12.76	33.211	25.056	290.3	0.088	5.95	98.8	5.4	0.49	3.9	0.17	0.84	0.38	30	
32	A	12.75	12.75	33.213	25.059	290.0	0.094	5.93	98.4	5.4	0.50	4.0	0.17	0.75	0.38	32	218
39		12.74	12.73	33.221	25.068	289.4	0.114	5.88	97.6	5.5	0.51	4.2	0.18	0.53	0.33	39	217
46	A	12.73	12.72	33.223	25.071	289.2	0.135	5.87	97.4	5.5	0.52	4.2	0.18	0.51	0.26	46	216
50	ISL	12.24	12.23	33.254	25.190	278.0	0.146	5.37	88.2	7.6	0.72	7.5	0.18	0.34	0.19	50	
54		11.50	11.49	33.310	25.371	260.8	0.157	4.69	75.9	10.9	1.02	12.4	0.17	0.16	0.13	54	215
60		10.12	10.11	33.443	25.718	227.8	0.171	3.66	57.5	17.4	1.54	20.7	0.05	0.08	0.10	60	214
71		9.70	9.69	33.518	25.846	215.8	0.196	3.40	52.9	20.4	1.68	22.8	0.04	0.05	0.08	71	213
75	ISL	9.56	9.55	33.545	25.891	211.6	0.204	3.34	51.9	21.4	1.72	23.4	0.03	0.04	0.08	75	
84		9.30	9.29	33.613	25.986	202.7	0.223	3.18	49.1	23.6	1.79	24.6	0.02	0.02	0.07	84	212
100		9.18	9.17	33.785	26.140	188.4	0.254	2.71	41.8	27.2	1.91	26.4	0.02	0.01	0.07	101	211
120		8.98	8.97	33.911	26.271	176.4	0.291	2.52	38.7	30.1	1.97	27.5	0.02	0.03	0.06	121	210
125	ISL	8.94	8.93	33.940	26.300	173.7	0.300	2.42	37.1	31.0	2.00	27.9	0.02	0.02	0.06	126	
140		8.85	8.84	34.014	26.372	167.1	0.325	2.13	32.6	33.5	2.09	28.9	0.02	0.00	0.06	141	209
150	ISL	8.79	8.77	34.040	26.402	164.5	0.342	2.04	31.2	34.6	2.13	29.4	0.02	0.00	0.06	151	
169		8.66	8.64	34.068	26.445	160.8	0.373	1.93	29.5	36.5	2.18	30.2	0.02	0.00	0.05	170	208
198		8.40	8.38	34.108	26.517	154.4	0.418	1.70	25.8	40.3	2.25	31.5	0.02	0.00	0.05	199	207
200	ISL	8.39	8.37	34.110	26.520	154.2	0.421	1.69	25.6	40.5	2.26	31.6	0.02			201	
228		8.14	8.12	34.123	26.568	150.0	0.464	1.61	24.3	43.3	2.35	32.3	0.02			229	206
250	ISL	7.75	7.73	34.106	26.612	146.0	0.497	1.58	23.6	46.9	2.40	33.4	0.02			252	
269		7.40	7.37	34.094	26.653	142.2	0.524	1.54	22.8	50.2	2.45	34.4	0.02			271	205
300	ISL	7.14	7.11	34.121	26.711	137.1	0.567	1.29	19.0	54.5	2.57	35.5	0.02			302	
319		7.04	7.01	34.145	26.744	134.2	0.593	1.12	16.5	57.0	2.64	36.1	0.02			321	204
377		6.66	6.63	34.186	26.828	126.9	0.669	0.79	11.5	64.5	2.80	37.8	0.02			379	203
400	ISL	6.51	6.47	34.201	26.860	124.1	0.698	0.68	9.9	67.6	2.86	38.4	0.02			403	
435		6.24	6.20	34.218	26.909	119.7	0.740	0.55	7.9	72.6	2.94	39.4	0.02			438	202
500	ISL	5.51	5.47	34.205	26.990	112.2	0.816	0.45	6.4	83.8	3.02	41.5	0.02			504	
520		5.28	5.24	34.203	27.016	109.7	0.838	0.42	5.9	87.2	3.05	42.2	0.02			524	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.0 N	122 32.2 W	16/01/05	2358	UTC	3997 m	340	19 kn	300 04 07	1	1023.8 mb	13.0 C	12.0 C	10m	1/8	CS

DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0	ISL	13.40	13.40	33.044	24.799	313.9	0.000	6.12	102.9	3.4	0.29	0.4	0.05	1.06	0.33	0	
2		13.40	13.40	33.044	24.799	314.0	0.006	6.12	102.9	3.4	0.29	0.4	0.05	1.06	0.33	2	220
10		13.39	13.39	33.041	24.799	314.2	0.031	6.13	103.0	3.4	0.29	0.5	0.05	0.99	0.29	10	219
20	ISL	13.38	13.38	33.044	24.803	314.0	0.063	6.11	102.7	3.4	0.28	0.5	0.05	0.99	0.29	20	
21		13.38	13.38	33.045	24.804	314.0	0.066	6.11	102.7	3.4	0.28	0.5	0.05	0.99	0.29	21	218
30		13.30	13.30	33.035	24.813	313.4	0.094	6.06 U	101.6 U	3.4	0.29	0.6	0.06	1.00	0.30	30	217
39		13.30	13.29	33.041	24.818	313.2	0.122	6.12	102.7	3.4	0.28	0.5	0.05	0.98	0.32	39	216
49		12.63	12.62	33.068	24.971	298.8	0.153	5.58	92.3	5.6	0.53	4.1	0.14	0.30	0.21	49	215
50	ISL	12.57	12.56	33.070	24.984	297.6	0.156	5.55	91.7	5.7	0.55	4.4	0.14	0.29	0.21	50	
59		11.86	11.85	33.113	25.152	281.8	0.182	5.19	84.5	8.0	0.76	7.9	0.14	0.24	0.18	59	214
70		10.00	9.99	33.310	25.634	236.0	0.211	4.18	65.4	15.8	1.35	17.8	0.03	0.10	0.08	70	213
75	ISL	9.82	9.81	33.445	25.770	223.2	0.222	3.83	59.8	18.6	1.51	20.3	0.03	0.07	0.06	75	
84		9.51	9.50	33.582	25.928	208.3	0.241	3.35	52.0	22.4	1.68	22.9	0.02	0.03	0.04	84	212
99		9.50	9.49	33.750	26.061	196.0	0.272	2.85	44.2	25.4	1.81	24.8	0.02	0.01	0.04	99	211
100	ISL	9.50	9.49	33.758	26.067	195.4	0.274	2.83	43.9	25.5	1.82	24.9	0.02	0.01	0.04	100	
120		9.47	9.46	33.881	26.169	186.2	0.312	2.48	38.5	28.0	1.93	26.0	0.02	0.01	0.04	121	210
125	ISL	9.45	9.44	33.912	26.196	183.7	0.321	2.39	37.1	28.7	1.96	26.3	0.02	0.01	0.04	126	
140		9.38	9.36	33.992	26.271	176.9	0.348	2.15	33.3	30.9	2.03	27.3	0.02	0.01	0.04	141	209
150	ISL	9.32	9.30	34.023	26.305	173.9	0.366	2.06	31.9	31.9	2.06	27.8	0.02	0.01	0.04	151	
170		9.18	9.16	34.062	26.358	169.2	0.400	1.93	29.8	33.7	2.12	28.6	0.02	0.00	0.03	171	208
199		8.99	8.97	34.109	26.426	163.3	0.448	1.77	27.2	36.2	2.20	29.5	0.02	0.00	0.04	200	207
200	ISL	8.99	8.97	34.111	26.427	163.2	0.450	1.77	27.2	36.3	2.20	29.5	0.02			201	
230		8.86	8.84	34.155	26.483	158.5	0.498	1.62	24.8	38.1	2.27	30.1	0.02			231	206
250	ISL	8.68	8.65	34.183	26.533	154.0	0.529	1.46	22.3	40.7	2.34	30.9	0.02			251	
269		8.49	8.46	34.204	26.579	149.9	0.558	1.32	20.1	43.3	2.41	31.7	0.02			271	205
300	ISL	8.23	8.20	34.213	26.626	145.9	0.604	1.20	18.2	46.2	2.48	32.6	0.02			302	
319		8.07	8.04	34.212	26.650	143.9	0.632	1.15	17.3	47.9	2.52	33.1	0.02			321	204
377		7.47	7.43	34.223	26.746	135.4	0.713	0.88	13.1	55.5	2.67	35.3	0.02			379	203
400	ISL	7.15	7.11	34.227	26.795	130.9	0.743	0.76	11.2	59.2	2.77	37.1	0.01			403	
435		6.69	6.65	34.235	26.864	124.5	0.788	0.59	8.6	64.7	2.90	39.6	0.00			438	202
500	ISL	6.32	6.27	34.258	26.931	118.7	0.867	0.44	6.4	72.0	2.97	39.8	0.02			503	
515		6.24	6.19	34.264	26.947	117.4	0.885	0.40	5.8	73.7	2.98	39.9	0.02			519	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 9.2 N	123 13.7 W	17/01/05	0541	UTC	4218 m	350	17 kn			1025.5 mb	13.9 C	13.1 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.15	14.15	32.959	24.580	334.8	0.000	5.93	101.2	1.8	0.26	0.0	0.01	0.43	0.17	0	
2	14.15	14.15	32.959	24.580	334.8	0.007	5.93	101.2	1.8	0.26	0.0	0.01	0.43	0.17	2	220
10 ISL	14.16	14.16	32.962	24.580	335.0	0.033	5.93	101.2	2.0	0.26	0.0	0.01	0.45	0.16	10	
11	14.16	14.16	32.963	24.581	335.0	0.037	5.93	101.2	2.0	0.26	0.0	0.01	0.45	0.16	11	219
20 ISL	14.16	14.16	32.967	24.584	334.9	0.067	5.93	101.2	2.1	0.26	0.0	0.01	0.46	0.16	20	
21	14.16	14.16	32.967	24.585	334.9	0.070	5.93	101.2	2.1	0.26	0.0	0.01	0.46	0.16	21	218
30	14.17	14.17	32.966	24.582	335.4	0.100	5.94	101.4	2.2	0.26	0.0	0.01	0.45	0.15	30	217
40	14.12	14.11	32.960	24.588	335.1	0.134	5.92	100.9	2.3	0.27	0.1	0.02	0.43	0.18	40	216
50 ISL	13.46	13.45	33.005	24.758	319.2	0.167	5.76	96.9	3.3	0.39	1.8	0.20	0.36	0.21	50	
51	13.36	13.35	33.009	24.781	317.0	0.170	5.74	96.4	3.4	0.41	2.0	0.21	0.35	0.21	51	215
60	12.24	12.23	33.003	24.995	296.7	0.198	5.55	91.0	4.9	0.59	4.9	0.06	0.17	0.13	60	214
70	11.27	11.26	33.013	25.182	279.1	0.226	5.28	84.8	7.1	0.80	8.1	0.02	0.11	0.10	70	213
75 ISL	10.72	10.71	33.058	25.315	266.5	0.240	5.08	80.7	9.2	0.93	10.6	0.02	0.09	0.08	75	
85	9.80	9.79	33.201	25.583	241.1	0.265	4.60	71.6	14.0	1.21	16.0	0.01	0.05	0.05	85	212
100	9.36	9.35	33.474	25.868	214.2	0.300	3.75	57.9	20.7	1.56	21.7	0.01	0.02	0.03	100	211
119	8.95	8.94	33.660	26.079	194.5	0.338	3.42	52.4	25.1	1.68	24.0	0.01	0.01	0.03	120	210
125 ISL	8.88	8.87	33.699	26.121	190.7	0.350	3.35	51.3	26.1	1.71	24.5	0.01	0.01	0.03	126	
140	8.73	8.72	33.784	26.211	182.4	0.378	3.16	48.2	28.4	1.78	25.6	0.01	0.01	0.02	141	209
150 ISL	8.60	8.58	33.854	26.286	175.4	0.396	2.97	45.2	30.7	1.84	26.6	0.01	0.01	0.02	151	
169	8.35	8.33	33.969	26.415	163.5	0.428	2.63	39.8	35.1	1.95	28.4	0.01	0.00	0.02	170	208
199	8.10	8.08	34.036	26.505	155.4	0.476	2.39	36.0	39.0	2.05	29.8	0.01	0.00	0.02	200	207
200 ISL	8.09	8.07	34.037	26.507	155.2	0.477	2.39	36.0	39.1	2.05	29.8	0.01			201	
231	7.62	7.60	34.051	26.588	147.9	0.524	2.25	33.5	44.0	2.16	31.3	0.01			232	206
250 ISL	7.43	7.41	34.063	26.624	144.7	0.552	2.00	29.7	47.0	2.27	32.6	0.01			251	
271	7.23	7.20	34.075	26.662	141.3	0.582	1.69	25.0	50.4	2.39	34.0	0.01			273	205
300 ISL	6.88	6.85	34.085	26.718	136.2	0.622	1.44	21.1	55.3	2.52	35.5	0.01			302	
317	6.67	6.64	34.090	26.751	133.3	0.645	1.33	19.4	58.2	2.58	36.3	0.01			319	204
379	6.00	5.97	34.118	26.860	123.4	0.725	0.94	13.5	69.5	2.80	39.0	0.01			381	203
400 ISL	5.88	5.85	34.131	26.885	121.1	0.751	0.83	11.9	72.0	2.84	39.6	0.01			403	
438	5.73	5.69	34.158	26.926	117.7	0.796	0.66	9.4	76.1	2.91	40.4	0.01			441	202
500 ISL	5.42	5.38	34.205	27.001	111.1	0.867	0.43	6.1	83.8	3.03	41.6	0.00			503	
507	5.39	5.35	34.210	27.008	110.4	0.875	0.40	5.7	84.7	3.04	41.7	0.00			510	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
32 49.0 N	123 54.6 W	17/01/05	1127	UTC	4371 m	330	19 kn			1025.3 mb	13.2 C	12.9 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.29	14.29	32.870	24.482	344.1	0.000	5.89	100.7	1.7	0.25	0.0	0.00	0.28	0.13	0	
2	14.29	14.29	32.870	24.482	344.2	0.007	5.89	100.7	1.7	0.25	0.0	0.00	0.28	0.13	2	220
10 ISL	14.29	14.29	32.867	24.480	344.6	0.034	5.90	100.9	1.7	0.25	0.0	0.00	0.27	0.15	10	
15	14.29	14.29	32.866	24.479	344.8	0.052	5.90	100.9	1.7	0.25	0.0	0.00	0.27	0.16	15	219
20 ISL	14.29	14.29	32.867	24.480	344.8	0.069	5.90	100.9	1.8	0.25	0.0	0.00	0.28	0.14	20	
30	14.29	14.29	32.871	24.484	344.8	0.103	5.89	100.7	2.0	0.24	0.0	0.00	0.31	0.11	30	218
45	14.29	14.28	32.873	24.486	345.0	0.155	5.89	100.7	1.9	0.24	0.0	0.00	0.32	0.14	45	217
50 ISL	14.28	14.27	32.872	24.487	345.1	0.172	5.89	100.7	1.9	0.24	0.0	0.00	0.32	0.14	50	
55	14.28	14.27	32.871	24.486	345.2	0.190	5.88	100.5	1.9	0.24	0.1	0.01	0.32	0.14	55	216
65	14.12	14.11	32.879	24.526	341.7	0.224	5.82	99.2	2.1	0.27	0.3	0.08	0.26	0.17	65	215
75 ISL	13.10	13.09	32.929	24.772	318.5	0.257	5.77	96.3	3.0	0.40	1.9	0.09	0.18	0.21	75	
76	12.97	12.96	32.936	24.803	315.5	0.260	5.76	95.9	3.1	0.42	2.1	0.09	0.17	0.21	76	214
85	11.71	11.70	33.013	25.103	287.1	0.287	5.52	89.5	4.7	0.59	5.1	0.02	0.09	0.09	85	213
94	11.44	11.43	33.017	25.155	282.2	0.313	5.47	88.2	5.2	0.65	6.0	0.02	0.08	0.08	94	212
100 ISL	10.92	10.91	33.055	25.278	270.6	0.329	5.29	84.4	7.2	0.79	8.5	0.02	0.06	0.06	100	
109	10.07	10.06	33.141	25.491	250.3	0.353	4.97	77.8	10.8	1.02	12.7	0.01	0.03	0.03	109	211
124	9.39	9.38	33.277	25.710	229.8	0.389	4.66	71.9	15.0	1.24	16.5	0.01	0.01	0.03	125	210
125 ISL	9.35	9.34	33.288	25.725	228.3	0.391	4.63	71.4	15.3	1.25	16.7	0.01	0.01	0.03	126	
143	8.85	8.83	33.503	25.972	205.1	0.430	4.16	63.5	20.9	1.48	20.6	0.01	0.00	0.02	144	209
150 ISL	8.76	8.74	33.584	26.050	197.9	0.444	4.04	61.6	22.5	1.53	21.5	0.01	0.00	0.02	151	
169	8.65	8.63	33.778	26.219	182.1	0.480	3.74	57.0	25.9	1.61	23.2	0.01	0.00	0.01	170	208
199	8.59	8.57	33.966	26.376	167.8	0.533	3.13	47.7	30.7	1.78	25.8	0.01	0.00	0.02	200	207
200 ISL	8.58	8.56	33.969	26.380	167.5	0.535	3.11	47.4	30.9	1.79	25.9	0.01			201	
230	8.22	8.20	34.009	26.467	159.7	0.584	2.53	38.2	36.8	2.02	29.1	0.01			231	206
250 ISL	7.92	7.89	34.037	26.533	153.6	0.615	2.27	34.1	40.7	2.13	30.6	0.01			251	
269	7.61	7.58	34.055	26.593	148.1	0.644	2.10	31.3	44.4	2.22	31.8	0.01			271	205
300 ISL	7.00	6.97	34.044	26.670	140.9	0.688	1.93	28.3	51.0	2.35	33.8	0.01			302	
318	6.67	6.64	34.034	26.707	137.5	0.714	1.85	27.0	54.7	2.42	34.9	0.01			320	204
376	6.06	6.03	34.053	26.801	128.9	0.791	1.41	20.3	64.5	2.63	37.7	0.01			378	203
400 ISL	5.87	5.84	34.078	26.845	124.9	0.821	1.17	16.7	68.9	2.73	38.8	0.01			403	
439	5.64	5.60	34.129	26.914	118.7	0.869	0.79	11.2	75.7	2.88	40.3	0.01			442	202
500 ISL	5.50	5.46	34.207	26.993	111.9	0.939	0.47	6.7	82.7	3.02	41.4	0.01			503	
520	5.45	5.41	34.232	27.019	109.7	0.961	0.37	5.2	85.0	3.06	41.8	0.01			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 81.7 43.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
34 24.3 N	119 47.8 W	15/01/05	2139	UTC	20 m	240	02 kn	250 01 10	1	1022.5 mb	15.9 C	13.0 C		2/8		CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.60	14.60	32.916	24.452	346.9	0.000	5.32	91.6	4.5	0.54	1.3	0.19	0.86	0.31	0	
1	14.60	14.60	32.916	24.452	347.0	0.003	5.32	91.6	4.5	0.54	1.3	0.19	0.86	0.31	1	204
5	14.60	14.60	32.886	24.429	349.3	0.017	5.38	92.6	4.6	0.50	1.3	0.17	1.12	0.33	5	203
10	14.62	14.62	32.943	24.469	345.6	0.035	5.29	91.1	4.4	0.54	1.2	0.19	0.59	0.25	10	202
15	14.56	14.56	33.036	24.554	337.7	0.052	5.08	87.5	4.9	0.74	1.5	0.26	0.32	0.22	15	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 16.5 N	120 1.5 W	15/01/05	2342	UTC	583 m	290 02 kn	240 01 06	1	1022.8 mb	16.0 C	14.3 C	7m	2/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.61	15.61	32.838	24.173	373.5	0.000	6.08	106.8	3.9	0.28	0.2	0.05	1.85	0.73	0	
1 A	15.61	15.61	32.838	24.173	373.6	0.004	6.08	106.8	3.9	0.28	0.2	0.05	1.85	0.73	1	224
10	14.92	14.92	32.825	24.314	360.4	0.037	6.09	105.5	4.0	0.29	0.2	0.05	2.22	0.66	10	223
20	14.89	14.89	32.940	24.409	351.6	0.072	5.68	98.4	3.8	0.37	0.8	0.13	0.59	0.27	20	222
30	14.89	14.89	33.079	24.517	341.7	0.107	5.70	98.8	3.1	0.33	0.5	0.13	0.51	0.37	30	221
39	14.21	14.20	33.175	24.735	321.1	0.137	5.35	91.5	4.2	0.50	3.0	0.30	0.19	0.15	39	220
49	13.35	13.34	33.187	24.921	303.6	0.168	5.10	85.7	6.2	0.67	5.8	0.15	0.19	0.19	49	219
50 ISL	13.27	13.26	33.187	24.937	302.1	0.171	5.07	85.1	6.3	0.69	6.0	0.14	0.18	0.19	50	
60	12.56	12.55	33.208	25.093	287.5	0.201	4.77	78.9	8.0	0.85	8.6	0.06	0.12	0.18	60	218
70	12.01	12.00	33.290	25.261	271.6	0.229	4.41	72.1	11.3	1.03	11.9	0.10	0.13	0.14	70	217
75 ISL	11.67	11.66	33.317	25.346	263.7	0.242	4.22	68.5	12.4	1.13	13.5	0.08	0.11	0.12	75	
84	11.12	11.11	33.362	25.481	251.0	0.265	3.92	62.9	14.1	1.28	15.9	0.03	0.07	0.10	84	216
99	10.80	10.79	33.464	25.618	238.3	0.302	3.61	57.6	17.4	1.43	18.0	0.02	0.04	0.09	99	215
100 ISL	10.78	10.77	33.470	25.626	237.6	0.304	3.59	57.2	17.6	1.44	18.1	0.02	0.04	0.09	100	
119	10.50	10.49	33.581	25.761	225.0	0.348	3.28	52.0	20.4	1.57	19.9	0.02	0.02	0.08	120	214
125 ISL	10.40	10.39	33.625	25.813	220.3	0.361	3.17	50.2	21.2	1.61	20.5	0.02	0.02	0.07	126	
139	10.16	10.14	33.733	25.939	208.6	0.392	2.92	46.0	23.1	1.71	22.0	0.02	0.01	0.06	140	213
150 ISL	10.01	9.99	33.817	26.030	200.2	0.414	2.71	42.6	25.1	1.79	23.1	0.02	0.01	0.06	151	
168	9.79	9.77	33.938	26.161	188.0	0.449	2.40	37.5	28.5	1.91	24.8	0.02	0.01	0.05	169	212
198	9.49	9.47	34.056	26.304	175.1	0.503	2.05	31.9	32.6	2.06	26.8	0.01	0.01	0.06	199	211
200 ISL	9.48	9.46	34.062	26.310	174.5	0.507	2.02	31.4	32.9	2.07	26.9	0.01			201	
228	9.27	9.24	34.122	26.392	167.3	0.555	1.65	25.5	36.9	2.21	28.5	0.01			229	210
250 ISL	8.99	8.96	34.153	26.461	161.0	0.591	1.35	20.8	41.5	2.35	29.9	0.01			251	
269	8.74	8.71	34.172	26.516	156.1	0.621	1.13	17.3	45.4	2.46	30.9	0.01			271	209
300 ISL	8.48	8.45	34.189	26.570	151.4	0.669	0.96	14.6	48.8	2.56	31.9	0.01			302	
320	8.33	8.30	34.195	26.597	149.1	0.699	0.89	13.5	50.9	2.62	32.3	0.01			322	208
377	7.72	7.68	34.216	26.705	139.5	0.781	0.54	8.1	61.6	2.87	33.3	0.01			379	207
400 ISL	7.44	7.40	34.223	26.751	135.3	0.813	0.43	6.4	66.1	2.96	33.2	0.01			403	
435	7.05	7.01	34.234	26.814	129.5	0.859	0.27	4.0	75.2	3.16	33.0	0.01			438	206
476	6.71	6.67	34.247	26.871	124.5	0.911	0.07	1.0	92.5	3.55	27.1	0.01			479	205
500 ISL	6.62	6.57	34.251	26.887	123.3	0.941	0.03	0.4	98.7	3.77	22.6	1.30			503	
512	6.59	6.54	34.251	26.891	123.0	0.955	0.02	0.3	103.2	3.96	18.7	1.78			516	204
539	6.51	6.46	34.250	26.901	122.4	0.989	0.01	0.1	124.8	4.89	0.8	0.70			543	203
568	6.51	6.46	34.259	26.908	122.1	1.024	0.00	0.0	127.3	5.05	0.0	0.01			572	202
573	6.51	6.46	34.251	26.902	122.8	1.030	0.00	0.0	127.4	5.05	0.0	0.01			577	201

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 15.3 N	119 19.5 W	15/01/05	1452	UTC	21 m	300 01 kn			1022.8 mb	12.9 C	10.9 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.47	14.47	32.259	23.973	392.6	0.000			11.3	0.81	3.3	0.17	0.68	0.17	0	
1	14.47	14.47	32.259	23.973	392.6	0.004			11.3	0.81	3.3	0.17	0.68	0.17	1	205
6	14.61	14.61	32.495	24.126	378.2	0.023			9.9	0.84	2.7	0.19	0.52	0.16	6	203
10 ISL	14.76	14.76	32.978	24.466	345.9	0.038			6.8	0.89	1.7	0.26	0.25	0.12	10	
11	14.79	14.79	33.091	24.547	338.2	0.041			6.1	0.91	1.5	0.28	0.19	0.11	11	202
17	14.62	14.62	33.112	24.599	333.4	0.061			6.6	1.29	1.9	0.38	0.19	0.16	17	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
34 13.5 N	119 24.6 W	15/01/05	1553	UTC	34 m	010 01 kn	010 01 07	0	1024.2 mb	13.3 C	11.4 C	6m	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.63	14.63	32.769	24.332	358.4	0.000	5.72	98.5	4.1	0.42	1.3	0.12	1.20	0.35	0	
1	14.63	14.63	32.769	24.332	358.4	0.004	5.72	98.5	4.1	0.42	1.3	0.12	1.20	0.35	1	205
6	14.73	14.73	32.830	24.358	356.1	0.021	5.67	97.8	3.6	0.41	1.2	0.12	0.82	0.30	6	204
10	14.75	14.75	32.870	24.385	353.6	0.036	5.65	97.5	3.5	0.40	1.1	0.13	0.69	0.27	10	203
20	14.82	14.82	33.046	24.506	342.4	0.070	5.53	95.7	3.0	0.46	1.1	0.31	0.24	0.14	20	202
29	14.69	14.69	33.110	24.583	335.3	0.101	5.37	92.7	3.8	0.68	1.5	0.37	0.17	0.13	29	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 10.9 N	119 30.8 W	15/01/05	1750 UTC	122 m	340 02 kn	350 01 07	0	1025.0 mb	14.9 C	13.1 C	5m	0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.69	14.69	32.534	24.139	376.8	0.000	5.78	99.5	6.5	0.51	1.7	0.14	2.00	0.32	0	
1 A	14.69	14.69	32.534	24.139	376.9	0.004	5.78	99.5	6.5	0.51	1.7	0.14	2.00	0.32	1	213
3 A	14.70	14.70	32.542	24.143	376.5	0.011	5.74	98.8	6.4	0.51	1.7	0.14	2.06	0.38	3	212
7 A	14.72	14.72	32.564	24.156	375.4	0.026	5.71	98.3	6.2	0.44	1.7	0.14	1.53	0.29	7	211
10 A	14.74	14.74	32.585	24.167	374.4	0.038	5.70	98.2	6.1	0.43	1.6	0.13	1.34	0.26	10	210
13 A	14.78	14.78	32.606	24.175	373.7	0.049	5.70	98.3	5.7	0.41	1.5	0.12	1.22	0.24	13	209
19 A	14.81	14.81	32.957	24.440	348.7	0.070	5.76	99.6	2.9	0.28	0.6	0.08	0.93	0.28	19	208
20 ISL	14.79	14.79	32.961	24.447	348.0	0.074	5.76	99.6	2.9	0.28	0.6	0.08	0.93	0.29	20	
30	14.58	14.58	32.994	24.517	341.6	0.108	5.70	98.1	3.3	0.31	1.1	0.09	0.92	0.34	30	207
40	14.54	14.53	33.052	24.571	336.8	0.142	5.67	97.6	3.1	0.32	1.2	0.09	0.83	0.38	40	206
50	14.44	14.43	33.106	24.634	331.1	0.176	5.52	94.8	3.3	0.38	1.8	0.12	0.37	0.22	50	205
60	13.60	13.59	33.219	24.896	306.4	0.208	4.97	84.0	5.4	0.65	5.5	0.06	0.14	0.13	60	204
71	11.70	11.69	33.284	25.315	266.6	0.239	4.28	69.5	10.4	1.09	12.7	0.03	0.10	0.14	71	203
75 ISL	11.35	11.34	33.327	25.412	257.4	0.250	4.09	65.9	11.9	1.19	14.3	0.03	0.09	0.13	75	
91	10.70	10.69	33.518	25.677	232.5	0.289	3.51	55.9	17.1	1.48	18.3	0.05	0.04	0.09	91	202
100 ISL	10.47	10.46	33.620	25.797	221.3	0.309	3.23	51.2	19.6	1.59	20.0	0.05	0.03	0.08	100	
111	10.18	10.17	33.746	25.945	207.4	0.333	2.89	45.5	22.7	1.73	22.1	0.04	0.02	0.07	112	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 52.7 N	120 8.0 W	15/01/05	0818 UTC	103 m	310 04 kn			1022.0 mb	12.2 C	10.9 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.80	13.80	33.134	24.787	315.0	0.000	5.63	95.5	4.0	0.47	3.1	0.13	1.34	0.41	0	
1	13.80	13.80	33.134	24.787	315.0	0.003	5.63	95.5	4.0	0.47	3.1	0.13	1.34	0.41	1	212
10	13.79	13.79	33.134	24.790	315.1	0.032	5.62	95.3	4.0	0.47	3.1	0.13	1.34	0.38	10	210
20	13.74	13.74	33.137	24.802	314.1	0.063	5.60	94.9	4.2	0.48	3.3	0.14	1.54	0.48	20	209
30	13.61	13.61	33.148	24.838	311.0	0.094	5.48	92.6	4.7	0.53	4.1	0.15	1.51	0.47	30	208
33	13.57	13.57	33.151	24.848	310.1	0.104	5.50	92.8	4.6	0.54	4.1	0.15	1.58	0.44	33	207
40	13.45	13.44	33.157	24.877	307.5	0.125	5.38	90.6	5.1	0.57	4.7	0.16	1.51	0.43	40	206
50	13.22	13.21	33.177	24.939	301.9	0.156	5.23	87.7	6.1	0.65	5.9	0.17	1.33	0.40	50	205
60	13.13	13.12	33.187	24.965	299.7	0.186	5.14	86.0	6.3	0.67	6.3	0.18	0.99	0.34	60	204
71	12.86	12.85	33.220	25.044	292.5	0.218	4.95	82.4	7.7	0.77	7.8	0.17	0.81	0.30	71	203
75 ISL	12.53	12.52	33.257	25.137	283.7	0.230	4.75	78.5	9.0	0.87	9.3	0.16	0.66	0.26	75	
80	12.00	11.99	33.320	25.287	269.5	0.244	4.43	72.4	11.1	1.02	11.7	0.13	0.45	0.20	80	202
89	10.84	10.83	33.479	25.622	237.7	0.266	3.70	59.1	16.1	1.37	17.4	0.07	0.07	0.12	89	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 44.6 N	120 24.8 W	15/01/05	0445 UTC	1018 m	330 09 kn			1021.7 mb	14.1 C	11.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.18	14.18	33.138	24.712	322.2	0.000	5.85	100.0	2.3	0.32	1.1	0.08	0.98	0.34	0	
2	14.18	14.18	33.138	24.712	322.3	0.006	5.85	100.0	2.3	0.32	1.1	0.08	0.98	0.34	2	221
10 ISL	14.19	14.19	33.136	24.708	322.8	0.032	5.85	100.0	2.2	0.32	1.1	0.08	0.97	0.31	10	
11	14.19	14.19	33.136	24.708	322.8	0.035	5.85	100.0	2.2	0.32	1.1	0.08	0.97	0.31	11	219
20 ISL	14.19	14.19	33.137	24.709	323.0	0.065	5.84	99.8	2.2	0.32	1.1	0.08	0.94	0.35	20	
21	14.19	14.19	33.137	24.709	323.0	0.068	5.84	99.8	2.2	0.32	1.1	0.08	0.94	0.36	21	218
30 ISL	14.19	14.19	33.137	24.710	323.3	0.097	5.83	99.7	2.3	0.31	1.1	0.08	0.92	0.34	30	
31	14.19	14.19	33.137	24.710	323.3	0.100	5.83	99.7	2.3	0.31	1.1	0.08	0.92	0.34	31	217
40	14.13	14.12	33.146	24.729	321.7	0.129	5.70	97.3	3.0	0.39	1.8	0.08	0.68	0.30	40	216
50	13.54	13.53	33.168	24.868	308.7	0.161	5.40	91.1	4.4	0.51	4.2	0.12	0.33	0.20	50	215
61	12.89	12.88	33.192	25.016	294.8	0.194	5.08	84.6	6.4	0.71	7.2	0.12	0.23	0.18	61	214
70	11.60	11.59	33.255	25.310	266.9	0.219	4.53	73.4	10.3	1.05	12.5	0.04	0.13	0.15	70	213
75 ISL	11.14	11.13	33.302	25.431	255.6	0.232	4.31	69.2	12.1	1.17	14.5	0.04	0.10	0.14	75	
85	10.55	10.54	33.394	25.606	239.0	0.257	4.00	63.4	15.1	1.34	17.2	0.03	0.06	0.11	85	212
100	10.07	10.06	33.499	25.771	223.7	0.292	3.73	58.5	18.2	1.49	19.7	0.02	0.03	0.07	100	211
119	10.15	10.14	33.763	25.963	205.8	0.332	2.87	45.2	22.8	1.74	22.3	0.02	0.01	0.06	120	210
125 ISL	10.12	10.11	33.804	26.001	202.4	0.345	2.82	44.4	23.6	1.78	22.8	0.02	0.01	0.06	126	
139	9.95	9.93	33.860	26.073	195.8	0.373	2.69	42.2	25.2	1.83	23.7	0.02	0.00	0.05	140	209
150 ISL	9.70	9.68	33.887	26.136	190.0	0.394	2.68	41.8	26.6	1.86	24.5	0.02	0.00	0.05	151	
169	9.28	9.26	33.930	26.239	180.5	0.429	2.67	41.3	29.2	1.92	25.9	0.01	0.00	0.04	170	208
200 ISL	9.09	9.07	34.063	26.374	168.3	0.483	2.18	33.6	33.6	2.08	27.6	0.01	0.00	0.04	201	
201	9.09	9.07	34.067	26.377	168.0	0.485	2.16	33.3	33.7	2.09	27.7	0.01	0.00	0.04	202	207
230	8.67	8.65	34.087	26.459	160.6	0.532	2.00	30.5	37.5	2.18	29.2	0.01			231	206
250 ISL	8.56	8.53	34.143	26.520	155.1	0.564	1.72	26.2	40.4	2.30	30.2	0.02			251	
268	8.51	8.48	34.195	26.569	150.9	0.591	1.46	22.2	42.8	2.40	31.0	0.02			270	205
300 ISL	8.36	8.33	34.214	26.607	147.8	0.639	1.32	20.0	45.3	2.47	31.8	0.01			302	
317	8.24	8.21	34.211	26.623	146.5	0.664	1.29	19.5	46.5	2.49	32.1	0.01			319	204
377	7.48	7.44	34.209	26.734	136.5	0.749	1.07	15.9	54.3	2.65	34.5	0.01			379	203
400 ISL	7.24	7.20	34.219	26.776	132.8	0.780	0.95	14.0	57.6	2.72	35.5	0.01			403	
438	6.90	6.86	34.239	26.839	127.1	0.829	0.74	10.9	62.8	2.82	36.9	0.01			441	202
500 ISL	6.55	6.50	34.266	26.908	121.2	0.906	0.53	7.7	69.5	2.92	38.4	0.01			503	
519	6.44	6.39	34.275	26.929	119.3	0.929	0.47	6.8	71.5	2.95	38.8	0.01			523	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 34.8 N	120 45.2 W	15/01/05	0031	UTC	1345 m	340	14 kn	330 03 07	0	1019.7 mb	15.2 C	12.5 C		0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.47	14.47	33.151	24.661	327.1	0.000	5.85	100.6	2.0	0.28	0.4	0.03	0.66	0.20	0	
2	14.47	14.47	33.151	24.661	327.1	0.007	5.85	100.6	2.0	0.28	0.4	0.03	0.66	0.20	2	221
10	14.47	14.47	33.153	24.663	327.2	0.033	5.86	100.8	2.0	0.27	0.4	0.03	0.58	0.23	10	219
20	14.43	14.43	33.157	24.675	326.3	0.065	5.85	100.5	2.0	0.27	0.4	0.03	0.67	0.22	20	218
30	14.37	14.37	33.161	24.691	325.1	0.098	5.84	100.2	2.0	0.27	0.4	0.03	0.64	0.28	30	217
40	14.36	14.35	33.159	24.691	325.3	0.130	5.82	99.9	2.0	0.27	0.4	0.03	0.64	0.26	40	216
50	14.35	14.34	33.160	24.695	325.3	0.163	5.80	99.5	2.0	0.27	0.5	0.03	0.63	0.22	50	215
60	13.76	13.75	33.145	24.806	315.0	0.195	5.59	94.7	3.3	0.42	2.7	0.10	0.30	0.18	60	214
70	11.72	11.71	33.106	25.173	280.1	0.225	5.00	81.1	7.6	0.87	9.7	0.05	0.17	0.19	70	213
75 ISL	11.28	11.27	33.118	25.262	271.6	0.239	4.85	78.0	8.7	0.98	11.5	0.04	0.15	0.18	75	
85	10.82	10.81	33.198	25.406	258.0	0.265	4.58	72.9	11.1	1.14	14.1	0.03	0.12	0.14	85	212
99	9.86	9.85	33.472	25.785	222.3	0.299	3.78	59.0	18.1	1.50	20.2	0.02	0.04	0.06	99	211
100 ISL	9.82	9.81	33.486	25.802	220.6	0.301	3.74	58.4	18.4	1.52	20.4	0.02	0.04	0.06	100	
117	9.47	9.46	33.667	26.001	202.0	0.337	3.30	51.2	22.9	1.69	23.0	0.01	0.01	0.03	118	210
125 ISL	9.34	9.33	33.745	26.084	194.3	0.353	3.09	47.8	24.9	1.76	24.2	0.01	0.00	0.03	126	
138	9.16	9.15	33.852	26.197	183.8	0.377	2.78	42.9	27.9	1.86	25.8	0.01	0.00	0.03	139	209
150 ISL	9.05	9.03	33.912	26.261	177.9	0.399	2.59	39.8	29.7	1.92	26.7	0.01	0.00	0.03	151	
168	8.92	8.90	33.973	26.330	171.7	0.430	2.39	36.7	31.9	2.00	27.7	0.01	0.00	0.02	169	208
198	8.65	8.63	34.077	26.454	160.5	0.480	2.07	31.6	36.5	2.13	29.3	0.01	0.00	0.02	199	207
200 ISL	8.63	8.61	34.081	26.460	159.9	0.483	2.05	31.3	36.8	2.14	29.4	0.01			201	
227	8.30	8.28	34.119	26.541	152.6	0.526	1.81	27.4	41.0	2.26	30.8	0.01			228	206
250 ISL	8.00	7.97	34.132	26.596	147.7	0.560	1.65	24.8	44.5	2.34	32.0	0.01			251	
267	7.78	7.75	34.137	26.633	144.4	0.585	1.54	23.0	47.1	2.40	32.8	0.01			269	205
300 ISL	7.37	7.34	34.155	26.706	137.8	0.632	1.29	19.1	52.5	2.54	34.4	0.01			302	
317	7.19	7.16	34.166	26.740	134.7	0.655	1.16	17.1	55.2	2.61	35.2	0.01			319	204
376	6.82	6.78	34.209	26.825	127.3	0.732	0.77	11.3	62.9	2.78	37.0	0.01			378	203
400 ISL	6.68	6.64	34.229	26.860	124.3	0.762	0.66	9.6	65.9	2.84	37.6	0.01			403	
437	6.46	6.42	34.258	26.912	119.7	0.807	0.49	7.1	70.5	2.93	38.6	0.01			440	202
500 ISL	6.01	5.97	34.295	27.000	111.9	0.880			79.1	3.04	40.2	0.01			503	
520	5.87	5.82	34.308	27.028	109.4	0.902			81.8	3.08	40.7	0.01			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 14.8 N	121 26.7 W	14/01/05	1833	UTC	3801 m	330	08 kn	330 01 07	0	1022.4 mb	14.1 C	12.1 C	15m	0/8	

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.42	13.42	33.071	24.816	312.3	0.000	5.96	100.3	3.2	0.34	1.2	0.09	0.92	0.15	0	
2 A	13.42	13.42	33.071	24.816	312.4	0.006	5.96	100.3	3.2	0.34	1.2	0.09	0.92	0.15	2	223
10 A	13.36	13.36	33.070	24.827	311.5	0.031	5.96	100.1	3.1	0.34	1.2	0.09	0.98	0.21	10	221
20 ISL	13.35	13.35	33.073	24.832	311.3	0.062	5.96	100.1	3.1	0.34	1.2	0.09	0.89	0.28	20	
21 A	13.35	13.35	33.073	24.832	311.4	0.065	5.96	100.1	3.1	0.34	1.2	0.09	0.88	0.29	21	220
30 ISL	13.34	13.34	33.070	24.832	311.6	0.093	5.94	99.7	3.1	0.34	1.3	0.09	0.79	0.28	30	
32 A	13.34	13.34	33.070	24.832	311.6	0.100	5.94	99.7	3.1	0.34	1.3	0.09	0.77	0.28	32	218
40 A	12.60	12.59	33.109	25.008	295.0	0.124	5.49	90.8	5.7	0.60	5.4	0.12	0.36	0.19	40	217
48	11.78	11.77	33.158	25.201	276.8	0.147	5.03	81.8	8.4	0.86	9.6	0.08	0.22	0.09	48	216
50 ISL	11.69	11.68	33.163	25.222	274.9	0.152	4.98	80.8	8.7	0.89	10.1	0.07	0.20	0.09	50	
57 A	11.36	11.35	33.200	25.311	266.5	0.171	4.78	77.0	10.1	1.00	12.0	0.06	0.16	0.11	57	215
64	10.66	10.65	33.323	25.531	245.7	0.189	4.32	68.6	13.7	1.24	15.7	0.04	0.12	0.09	64	214
70	10.18	10.17	33.347	25.633	236.1	0.204	4.09	64.3	15.6	1.38	18.0	0.03	0.09	0.07	70	213
75 ISL	9.87	9.86	33.445	25.761	224.0	0.215	3.78	59.1	18.0	1.50	20.1	0.03	0.07	0.06	75	
85	9.47	9.46	33.668	26.002	201.3	0.236	3.20	49.6	22.8	1.71	23.5	0.02	0.03	0.04	85	212
100	9.30	9.29	33.781	26.118	190.6	0.266	2.95	45.6	25.6	1.80	24.9	0.01	0.02	0.04	101	211
119	9.10	9.09	33.903	26.246	178.8	0.301	2.63	40.5	29.0	1.91	26.5	0.01	0.01	0.04	120	210
125 ISL	9.05	9.04	33.932	26.276	176.0	0.312	2.56	39.4	29.9	1.94	26.9	0.01	0.01	0.04	126	
139	8.94	8.93	33.993	26.342	170.0	0.336	2.38	36.5	32.0	2.01	27.7	0.01	0.01	0.03	140	209
150 ISL	8.87	8.85	34.049	26.397	165.0	0.354	2.17	33.3	34.0	2.08	28.4	0.01	0.01	0.03	151	
168	8.76	8.74	34.127	26.475	157.9	0.383	1.85	28.3	37.2	2.20	29.5	0.01	0.00	0.03	169	208
199	8.48	8.46	34.166	26.550	151.3	0.431	1.59	24.2	41.1	2.32	30.8	0.01	0.00	0.03	200	207
200 ISL	8.47	8.45	34.167	26.552	151.1	0.433	1.58	24.0	41.2	2.32	30.8	0.01			201	
228	8.27	8.25	34.191	26.602	146.9	0.474	1.39	21.0	44.4	2.42	31.8	0.01			229	206
250 ISL	8.06	8.03	34.203	26.643	143.3	0.506	1.25	18.8	47.1	2.48	32.6	0.01			251	
269	7.88	7.85	34.211	26.676	140.4	0.533	1.15	17.3	49.4	2.53	33.2	0.01			271	205
300 ISL	7.63	7.60	34.220	26.720	136.6	0.576	1.01	15.1	52.7	2.61	34.2	0.01			302	
318	7.49	7.46	34.225	26.744	134.6	0.601	0.93	13.8	54.7	2.66	34.8	0.01			320	204
377	7.03	6.99	34.254	26.832	126.9	0.678	0.67	9.9	62.2	2.81	36.7	0.01			379	203
400 ISL	6.89	6.85	34.263	26.859	124.6	0.707	0.59	8.7	64.6	2.86	37.2	0.01			403	
436	6.68	6.64	34.278	26.899	121.2	0.751	0.47	6.9	68.2	2.93	38.0	0.01			439	202
500 ISL	6.27	6.23	34.313	26.981	114.0	0.826	0.31	4.5	76.0	3.04	39.4	0.01			503	
518	6.16	6.11	34.323	27.003	112.0	0.847	0.27	3.9	78.2	3.07	39.8	0.01			522	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 54.7 N	122 8.2 W	14/01/05	1137 UTC	4184 m	350 11 kn			1022.0 mb	13.1 C	11.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.84	13.84	33.156	24.796	314.2	0.000	5.90	100.2	2.0	0.30	0.9	0.06	0.67	0.22	0	
2	13.84	13.84	33.156	24.796	314.2	0.006	5.90	100.2	2.0	0.30	0.9	0.06	0.67	0.22	2	221
10	13.84	13.84	33.158	24.798	314.3	0.031	5.91	100.3	2.0	0.30	0.9	0.06	0.68	0.23	10	219
20	13.85	13.85	33.159 D	24.797	314.7	0.063	5.88	99.8	2.0	0.30	1.0	0.06	0.74	0.22	20	218
30	13.86	13.86	33.176	24.808	313.9	0.094	5.85	99.4	2.1	0.31	1.1	0.07	0.63	0.24	30	217
40	13.43	13.42	33.219	24.929	302.6	0.125	5.44	91.6	4.1	0.54	4.7	0.10	0.29	0.16	40	216
50 ISL	11.31	11.30	33.129	25.265	270.7	0.154	4.92	79.2	8.6	0.96	11.4	0.04	0.16	0.14	50	
51	11.09	11.08	33.123	25.300	267.4	0.156	4.87	78.0	9.1	1.00	12.0	0.03	0.15	0.14	51	215
61	10.40	10.39	33.180	25.465	251.9	0.182	4.73	74.6	11.1	1.11	14.0	0.02	0.10	0.10	61	214
70	9.86	9.85	33.273	25.629	236.4	0.204	4.52	70.5	13.9	1.25	16.3	0.01	0.07	0.07	70	213
75 ISL	9.71	9.70	33.345	25.710	228.8	0.216	4.32	67.2	15.6	1.34	17.8	0.01	0.06	0.06	75	
84	9.59	9.58	33.473	25.830	217.6	0.236	3.93	61.0	18.4	1.49	20.2	0.01	0.04	0.04	84	212
100	9.48	9.47	33.607	25.953	206.2	0.270	3.48	54.0	21.4	1.64	22.6	0.01	0.02	0.03	100	211
119	9.23	9.22	33.777	26.126	190.1	0.308	3.00	46.3	25.6	1.79	24.9	0.01	0.01	0.03	120	210
125 ISL	9.17	9.16	33.802	26.156	187.5	0.319	3.02	46.6	26.1	1.79	24.9	0.01	0.01	0.03	126	
139	9.04	9.03	33.840	26.206	182.9	0.345	3.07	47.2	26.8	1.78	24.9	0.01	0.00	0.02	140	209
150 ISL	8.98	8.96	33.872	26.241	179.8	0.365	3.02	46.4	27.5	1.80	25.2	0.01	0.00	0.02	151	
169	8.89	8.87	33.929	26.300	174.6	0.399	2.84	43.5	29.3	1.85	26.1	0.01	0.00	0.02	170	208
199	8.63	8.61	34.032	26.422	163.5	0.449	2.48	37.8	33.9	1.99	28.1	0.01	0.00	0.02	200	207
200 ISL	8.62	8.60	34.035	26.426	163.2	0.451	2.47	37.7	34.0	2.00	28.2	0.01			201	
229	8.34	8.32	34.088	26.510	155.6	0.497	2.07	31.4	38.5	2.15	30.1	0.01			230	206
250 ISL	8.02	7.99	34.109	26.575	149.7	0.529	1.83	27.5	42.7	2.27	31.5	0.01			251	
270	7.72	7.69	34.124	26.631	144.6	0.559	1.64	24.5	46.7	2.37	32.8	0.01			272	205
300 ISL	7.43	7.40	34.147	26.691	139.2	0.601	1.38	20.5	51.3	2.50	34.1	0.00			302	
316	7.30	7.27	34.159	26.719	136.8	0.623	1.26	18.6	53.5	2.56	34.7	0.00			318	204
382	6.73	6.69	34.203	26.833	126.6	0.710	0.80	11.7	63.3	2.77	37.1	0.00			384	203
400 ISL	6.57	6.53	34.208	26.858	124.4	0.733	0.73	10.6	65.9	2.81	37.7	0.00			403	
437	6.25	6.21	34.214	26.905	120.2	0.778	0.61	8.8	71.0	2.89	38.9	0.00			440	202
500 ISL	5.76	5.72	34.233	26.982	113.3	0.852	0.44	6.3	79.1	2.98	40.5	0.00			503	
507	5.71	5.67	34.235	26.990	112.6	0.859	0.42	6.0	80.0	2.99	40.7	0.00			510	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 34.6 N	122 48.7 W	14/01/05	0536 UTC	4281 m	330 07 kn			1023.0 mb	13.3 C	11.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.996	13.996	32.956	24.609	332.0	0.000									0	
1	13.996	13.996	32.956 D	24.609	332.0	0.003									1	221
10 ISL	14.000	13.999	32.956	24.609	332.3	0.033									10	
11	14.00	14.00	32.956	24.609	332.3	0.037	5.95	101.2	2.0	0.26	0.0	0.02	0.43	0.18	11	219
20	14.00	14.00	32.957	24.610	332.5	0.066	5.94	101.0	2.0	0.26	0.0	0.02	0.46	0.16	20	218
30	13.98	13.98	32.961	24.617	332.0	0.100	5.93	100.8	1.9	0.26	0.1	0.03	0.51	0.19	30	217
40	13.97	13.96	32.967	24.624	331.7	0.133			2.0	0.26	0.1	0.04	0.47	0.17	40	216
50	13.87	13.86	32.994	24.666	328.0	0.166	5.84	99.1	2.2	0.30	0.6	0.09	0.31	0.10	50	215
60	13.52	13.51	33.044	24.776	317.7	0.198	5.71	96.2	3.0	0.41	2.0	0.20	0.29	0.15	60	214
70	12.66	12.65	33.049	24.951	301.3	0.229	5.50	91.0	4.4	0.56	4.7	0.14	0.19	0.12	70	213
75 ISL	12.01	12.00	33.038	25.066	290.4	0.244	5.35	87.3	5.6	0.68	6.8	0.10	0.15	0.10	75	
85	10.75	10.74	33.042	25.297	268.4	0.272	5.07	80.5	8.5	0.93	10.9	0.02	0.08	0.07	85	212
98	9.95	9.94	33.135	25.506	248.6	0.305	4.84	75.6	11.9	1.12	14.0	0.01	0.04	0.04	98	211
100 ISL	9.84	9.83	33.173	25.554	244.1	0.310	4.76	74.2	12.8	1.16	14.8	0.01	0.04	0.04	100	
119	9.12	9.11	33.570	25.982	203.8	0.353	3.84	59.0	21.5	1.57	21.6	0.01	0.01	0.02	120	210
125 ISL	9.10	9.09	33.666	26.060	196.5	0.365	3.59	55.2	23.3	1.65	22.8	0.01	0.01	0.02	126	
138	9.07	9.06	33.812	26.179	185.4	0.390	3.14	48.3	26.3	1.77	24.6	0.01	0.01	0.01	139	209
150 ISL	8.98	8.96	33.902	26.264	177.6	0.411	2.87	44.1	28.8	1.86	25.9	0.01	0.01	0.01	151	
169	8.77	8.75	33.983	26.361	168.7	0.444	2.63	40.2	32.0	1.94	27.3	0.01	0.00	0.01	170	208
199	8.35	8.33	34.026	26.460	159.8	0.494	2.62	39.7	35.4	1.98	28.3	0.01	0.00	0.02	200	207
200 ISL	8.34	8.32	34.027	26.462	159.6	0.495	2.61	39.5	35.6	1.99	28.4	0.01			201	
230	7.98	7.96	34.057	26.540	152.6	0.542	2.19	32.9	40.5	2.17	30.7	0.01			231	206
250 ISL	7.75	7.73	34.071	26.585	148.6	0.572	1.97	29.4	43.9	2.27	31.9	0.01			251	
269	7.54	7.51	34.081	26.623	145.2	0.600	1.78	26.5	47.0	2.35	32.9	0.01			271	205
300 ISL	7.21	7.18	34.098	26.683	139.8	0.644	1.51	22.3	51.7	2.48	34.4	0.01			302	
319	7.02	6.99	34.107	26.717	136.8	0.671	1.37	20.1	54.5	2.55	35.3	0.01			321	204
378	6.49	6.46	34.135	26.811	128.4	0.749	0.99	14.4	63.3	2.75	37.6	0.00			380	203
400 ISL	6.24	6.20	34.145	26.851	124.7	0.777	0.87	12.6	67.2	2.81	38.4	0.00			403	
436	5.87	5.83	34.166	26.915	118.9	0.820	0.69	9.9	73.6	2.91	39.7	0.00			439	202
500 ISL	5.57	5.53	34.236	27.007	110.6	0.894	0.43	6.1	82.4	3.04	41.1	0.00			503	
520	5.47	5.43	34.258	27.037	108.0	0.916	0.35	5.0	85.1	3.08	41.5	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 14.7 N	123 29.4 W	13/01/05	2352 UTC	4173 m	010 08 kn	350 03 07	2	1021.7 mb	14.0 C	11.8 C	17m	8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	13.89	13.89	32.947	24.624	330.5	0.000	5.92	100.5	2.4	0.29	0.4	0.05	0.53	0.17	0	
2	13.89	13.89	32.947	24.624	330.6	0.007	5.92	100.5	2.4	0.29	0.4	0.05	0.53	0.17	2	221
10	13.86	13.86	32.945	24.629	330.4	0.033	5.93	100.6	2.3	0.29	0.4	0.06	0.55	0.16	10	219
20	13.82	13.82	32.945 D	24.638	329.8	0.066	5.90	100.0	2.2	0.29	0.5	0.06	0.65	0.16	20	218
30	13.82	13.82	32.945	24.638	330.1	0.099	5.90	100.0	2.4	0.29	0.5	0.06	0.57	0.20	30	217
40	13.80	13.79	32.947	24.644	329.8	0.132	5.90	99.9	2.5	0.28	0.5	0.06	0.55	0.19	40	216
50	13.77	13.76	32.953	24.655	329.0	0.165	5.88	99.5	2.7	0.29	0.6	0.08	0.47	0.14	50	215
59	13.70	13.69	32.961	24.676	327.3	0.195	5.85	98.9	2.7	0.32	0.8	0.11	0.37	0.17	59	214
69	13.10	13.09	33.019	24.841	311.7	0.226	5.71	95.4	3.9	0.44	2.7	0.26	0.21	0.13	69	213
75 ISL	12.48	12.47	33.028	24.969	299.6	0.245	5.51	90.8	5.1	0.57	4.8	0.19	0.18	0.12	75	
84	11.48	11.47	33.041	25.166	280.9	0.271	5.19	83.8	7.4	0.79	8.4	0.03	0.16	0.11	84	212
98	10.30	10.29	33.108	25.427	256.3	0.309	4.86	76.5	11.2	1.06	13.1	0.01	0.08	0.06	98	211
100 ISL	10.23	10.22	33.132	25.457	253.4	0.314	4.77	75.0	11.8	1.10	13.8	0.01	0.07	0.06	100	
117	9.89	9.88	33.364	25.696	231.1	0.355	3.99	62.3	17.2	1.45	19.3	0.01	0.05	0.05	118	210
125 ISL	9.60	9.59	33.454	25.814	220.0	0.373	3.75	58.2	19.7	1.57	21.2	0.01	0.04	0.04	126	
138	9.13	9.12	33.584	25.991	203.3	0.400	3.47	53.4	23.4	1.70	23.4	0.01	0.02	0.03	139	209
150 ISL	8.91	8.89	33.685	26.105	192.6	0.424	3.36	51.5	25.5	1.75	24.3	0.01	0.01	0.02	151	
168	8.74	8.72	33.809	26.229	181.2	0.458	3.24	49.5	27.9	1.78	25.1	0.01	0.00	0.02	169	208
198	8.55	8.53	33.963	26.380	167.4	0.510	2.67	40.6	33.3	1.95	27.9	0.01	0.01	0.02	199	207
200 ISL	8.53	8.51	33.971	26.389	166.6	0.513	2.64	40.2	33.7	1.96	28.1	0.01			201	
228	8.21	8.19	34.047	26.498	156.7	0.559	2.28	34.4	39.0	2.11	30.0	0.01			229	206
250 ISL	7.84	7.82	34.048	26.554	151.6	0.593	2.24	33.5	42.4	2.16	31.0	0.01			251	
266	7.56	7.53	34.041	26.589	148.4	0.617	2.21	32.9	44.8	2.20	31.7	0.01			268	205
300 ISL	7.16	7.13	34.085	26.680	140.1	0.666	1.66	24.5	51.5	2.43	34.2	0.01			302	
318	6.97	6.94	34.110	26.726	135.9	0.690	1.35	19.8	55.1	2.56	35.6	0.01			320	204
378	6.23	6.20	34.109	26.824	127.0	0.769	1.12	16.2	65.1	2.71	37.9	0.00			380	203
400 ISL	6.04	6.01	34.123	26.859	123.8	0.797	0.96	13.8	69.0	2.79	38.8	0.00			403	
437	5.80	5.76	34.158	26.917	118.6	0.842	0.69	9.9	74.9	2.91	40.1	0.00			440	202
500 ISL	5.71	5.67	34.242	26.995	112.0	0.914	0.40	5.7	80.7	3.03	40.9	0.00			503	
520	5.68	5.64	34.269	27.021	109.8	0.936	0.31	4.4	82.5	3.07	41.2	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 54.8 N	124 10.8 W	13/01/05	1748 UTC	4214 m	040 09 kn	320 03 06	2	1024.5 mb	13.9 C	11.9 C	25m	8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.73	14.73	32.843	24.368	354.9	0.000	5.81	100.3	1.5	0.24	0.0	0.00	0.24	0.08	0	
3 A	14.73	14.73	32.843	24.368	355.0	0.011	5.81	100.3	1.5	0.24	0.0	0.00	0.24	0.08	3	224
10 ISL	14.73	14.73	32.837	24.364	355.6	0.036	5.82	100.4	1.5	0.24	0.0	0.00	0.23	0.09	10	
16 A	14.73	14.73	32.831 D	24.359	356.3	0.057	5.83	100.6	1.5	0.24	0.0	0.00	0.23	0.09	16	222
20 ISL	14.73	14.73	32.831	24.359	356.4	0.071	5.83	100.6	1.5	0.24	0.0	0.00	0.23	0.09	20	
25	14.72	14.72	32.831	24.362	356.3	0.089	5.82	100.4	1.5	0.24	0.0	0.00	0.23	0.09	25	221
30 ISL	14.72	14.72	32.831	24.362	356.4	0.107	5.82	100.4	1.5	0.23	0.0	0.00	0.24	0.09	30	
34 A	14.72	14.71	32.831	24.362	356.5	0.121	5.82	100.4	1.5	0.23	0.0	0.00	0.24	0.09	34	220
43	14.72	14.71	32.831	24.362	356.8	0.153	5.82	100.4	1.5	0.23	0.0	0.00	0.23	0.10	43	219
50 ISL	14.72	14.71	32.833	24.364	356.8	0.178	5.82	100.4	1.5	0.23	0.0	0.00	0.25	0.09	50	
52 A	14.72	14.71	32.833	24.364	356.8	0.185	5.82	100.4	1.5	0.23	0.0	0.00	0.26	0.09	52	218
60	14.61	14.60	32.849	24.400	353.6	0.214	5.81	100.0	1.6	0.23	0.0	0.01	0.31	0.17	60	217
66 A	14.46	14.45	32.864	24.444	349.6	0.235	5.82	99.9	1.7	0.24	0.0	0.02	0.30	0.16	66	215
75 ISL	14.33	14.32	32.870	24.476	346.8	0.266	5.85	100.1	1.7	0.25	0.0	0.02	0.29	0.16	75	
77	14.30	14.29	32.871	24.483	346.2	0.273	5.85	100.1	1.7	0.25	0.0	0.02	0.29	0.16	77	214
86	14.05	14.04	32.886	24.547	340.3	0.304	5.84	99.4	1.9	0.28	0.2	0.08	0.26	0.09	86	213
96 A	13.24	13.23	32.920	24.738	322.3	0.337	5.81	97.2	2.5	0.38	1.5	0.11	0.23	0.14	96	212
100 ISL	12.98	12.97	32.924	24.792	317.2	0.350	5.78	96.2	2.6	0.40	1.7	0.09	0.21	0.12	100	
109	12.39	12.38	32.941	24.920	305.2	0.378	5.72	94.1	3.3	0.46	2.8	0.02	0.17	0.06	109	211
125 ISL	11.09	11.07	33.062	25.254	273.5	0.424	5.15	82.4	7.7	0.86	9.7	0.01	0.06	0.05	126	
127	10.93	10.91	33.082 D	25.298	269.3	0.430	5.07	80.9	8.4	0.91	10.7	0.01	0.05	0.05	128	210
147	9.97	9.95	33.284	25.620	238.9	0.480	4.67	73.0	13.0	1.16	15.1	0.01	0.03	0.03	148	209
150 ISL	9.78	9.76	33.316	25.677	233.5	0.487	4.61	71.8	14.2	1.21	15.9	0.01	0.03	0.03	151	
172	8.71	8.69	33.569	26.046	198.6	0.535	4.02	61.2	22.8	1.55	21.8	0.01	0.00	0.01	173	208
200	8.97	8.95	33.911	26.274	177.7	0.588	2.77	42.5	29.3	1.88	26.5	0.01	0.00	0.02	201	207
232	8.52	8.50	34.007	26.420	164.3	0.642	2.84	43.2	33.1	1.89	27.2	0.01			233	206
250 ISL	8.23	8.20	34.029	26.481	158.7	0.671	2.65	40.0	36.5	1.98	28.6	0.01			251	
269	7.90	7.87	34.039	26.538	153.4	0.701	2.39	35.8	40.6	2.11	30.4	0.01			270	205
300 ISL	7.32	7.29	34.048	26.629	145.0	0.747	2.07	30.6	47.5	2.27	32.8	0.01			302	
317	7.01	6.98	34.051	26.674	140.8	0.772	1.90	27.9	51.3	2.35	34.0	0.01			319	204
379	6.09	6.06	34.065	26.807	128.4	0.855	1.33	19.1	64.8	2.66	37.7	0.01			381	203
400 ISL	5.96	5.93	34.089	26.842	125.3	0.882	1.11	15.9	68.4	2.75	38.7	0.01			402	
436	5.81	5.77	34.135	26.898	120.4	0.926	0.78	11.1	73.8	2.88	40.0	0.01			439	202
500 ISL	5.44	5.40	34.186	26.983	112.7	1.001	0.51	7.2	82.9	3.01	41.4	0.00			503	
512	5.37	5.33	34.196	27.000	111.2	1.014	0.46	6.5	84.6	3.03	41.7	0.00			515	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 85.4 35.8

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
34 0.7 N	118 49.9 W	19/01/05	2043 UTC	23 m	320 07 kn	150 01 07	0	1019.0 mb	19.9 C	16.3 C		0/8

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.18	15.18	33.005	24.396	352.3	0.000	5.94	103.5	0.9	0.36	0.8	0.08	1.53	0.44	0	
2	15.18	15.18	33.005	24.396	352.4	0.007	5.94	103.5	0.9	0.36	0.8	0.08	1.53	0.44	2	204
6	14.97	14.97	33.011	24.446	347.7	0.021	5.88	102.1	0.4	0.43	1.4	0.15	1.56	0.42	6	203
10 ISL	14.82	14.82	33.012	24.479	344.6	0.035	5.82	100.7	0.6	0.46	1.7	0.18	1.58	0.51	10	
11	14.79	14.79	33.012	24.486	344.0	0.038	5.81	100.5	0.7	0.46	1.7	0.18	1.58	0.53	11	202
17	14.74	14.74	33.016	24.500	342.9	0.059	5.69	98.3	0.1	0.49	2.0	0.23	1.27	0.40	17	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 86.8 32.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 53.4 N	118 26.4 W	11/01/05	0324 UTC	22 m	200 13 kn			1012.7 mb	15.9 C	15.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.11	15.11	32.300	23.868	402.6	0.000	5.67	98.3	5.0	0.56	2.0	0.19	0.61	0.30	0	
1	15.11	15.11	32.300	23.868	402.6	0.004	5.67	98.3	5.0	0.56	2.0	0.19	0.61	0.30	1	204
5	15.12	15.12	32.301	23.867	402.9	0.020	5.68	98.5	5.0	0.55	2.0	0.19	0.63	0.30	5	203
10	15.11	15.11	32.372	23.924	397.6	0.040	5.67	98.3	4.8	0.52	1.9	0.19	0.67	0.31	10	202
16	15.11	15.11	32.379	23.930	397.2	0.064	5.65	98.0	4.9	0.52	1.9	0.19	0.69	0.32	16	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 52.6 N	118 29.3 W	11/01/05	0507 UTC	66 m	200 09 kn			1012.1 mb	15.3 C	15.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.12	15.12	32.682	24.160	374.8	0.000	5.68	98.7	3.7	0.43	1.2	0.16	0.56	0.28	0	
2	15.12	15.12	32.682	24.160	374.8	0.007	5.68	98.7	3.7	0.43	1.2	0.16	0.56	0.28	2	208
5	15.12	15.12	32.682	24.160	374.9	0.019	5.67	98.5	3.7	0.41	1.2	0.16	0.53	0.27	5	207
10	15.10	15.10	32.685	24.167	374.4	0.037	5.67	98.5	3.7	0.42	1.2	0.16	0.56	0.27	10	206
20	15.08	15.08	32.694	24.179	373.6	0.075	5.66	98.3	3.8	0.41	1.3	0.17	0.54	0.28	20	205
30 ISL	15.08	15.08	32.718	24.198	372.1	0.112	5.65	98.1	3.8	0.40	1.3	0.17	0.55	0.24	30	
31	15.08	15.08	32.721	24.200	371.9	0.116	5.65	98.1	3.8	0.40	1.3	0.17	0.55	0.24	31	204
39	15.06	15.05	32.730	24.212	371.0	0.146	5.64	97.9	3.8	0.40	1.2	0.18	0.45	0.26	39	203
49	15.05	15.04	32.840	24.299	363.0	0.182	5.62	97.6	3.5	0.36	1.1	0.18	0.40	0.22	49	202
50 ISL	15.03	15.02	32.861	24.319	361.1	0.186	5.60	97.2	3.5	0.37	1.1	0.18	0.39	0.22	50	
59	14.85	14.84	33.049	24.503	343.8	0.218	5.45	94.4	3.7	0.41	1.2	0.19	0.26	0.26	59	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 48.9 N	118 37.2 W	11/01/05	0801 UTC	691 m	210 16 kn			1010.1 mb	16.0 C	15.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.19	15.19	33.086	24.456	346.6	0.000	5.77	100.6	1.7	0.24	0.1	0.02	0.70	0.31	0	
1	15.19	15.19	33.086	24.456	346.6	0.003	5.77	100.6	1.7	0.24	0.1	0.02	0.70	0.31	1	221
10	15.19	15.19	33.087	24.457	346.8	0.035	5.77	100.6	1.7	0.23	0.1	0.01	0.56	0.27	10	219
20	15.14	15.14	33.165	24.529	340.3	0.069	5.71	99.5	1.9	0.25	0.2	0.07	0.41	0.22	20	218
30 ISL	15.09	15.09	33.176	24.548	338.7	0.103	5.69	99.1	2.1	0.26	0.2	0.10	0.38	0.24	30	
31	15.08	15.08	33.175	24.550	338.6	0.106	5.69	99.1	2.1	0.26	0.2	0.10	0.38	0.24	31	217
41	14.98	14.97	33.183	24.578	336.2	0.140	5.65	98.2	2.3	0.29	0.5	0.15	0.37	0.26	41	216
50	14.89	14.88	33.196	24.608	333.6	0.170	5.56	96.4	2.8	0.33	1.0	0.26	0.29	0.23	50	215
59	14.76	14.75	33.213	24.649	330.0	0.200	5.48	94.8	3.2	0.38	1.6	0.41	0.22	0.21	59	214
70	14.47	14.46	33.227	24.722	323.3	0.236	5.30	91.2	3.9	0.46	2.9	0.25	0.17	0.17	70	213
75 ISL	14.18	14.17	33.225	24.781	317.8	0.252	5.18	88.6	4.5	0.52	3.9	0.17	0.16	0.17	75	
85	13.41	13.40	33.221	24.936	303.2	0.283	4.91	82.6	6.2	0.68	6.5	0.04	0.14	A 0.18 A	85	212
100	11.90	11.89	33.240	25.244	274.0	0.326	4.48	73.0	9.3	0.98	11.4	0.02	0.12	0.17	100	211
120	10.83	10.82	33.496	25.638	236.9	0.377	3.60	57.4	15.9	1.38	17.8	0.01	0.04	0.09	121	210
125 ISL	10.67	10.66	33.550	25.708	230.3	0.389	3.42	54.4	17.3	1.46	18.9	0.01	0.03	0.08	126	
140	10.33	10.31	33.684	25.871	215.0	0.423	3.00	47.4	20.9	1.63	21.4	0.01	0.01	0.07	141	209
150 ISL	10.08	10.06	33.740	25.958	207.0	0.444	2.97	46.7	22.2	1.67	22.3	0.01	0.01	0.06	151	
169	9.75	9.73	33.832	26.085	195.2	0.482	2.92	45.6	24.0	1.71	23.3	0.01	0.00	0.04	170	208
199	9.82	9.80	34.035	26.233	181.9	0.538	2.32	36.3	27.9	1.92	25.3	0.01	0.01	0.04	200	207
200 ISL	9.81	9.79	34.039	26.238	181.5	0.540	2.31	36.2	28.0	1.92	25.4	0.01			201	
229	9.48	9.45	34.111	26.349	171.4	0.591	1.98	30.8	31.7	2.04	27.3	0.01			230	206
250 ISL	9.19	9.16	34.153	26.429	164.1	0.627	1.78	27.5	34.9	2.14	28.6	0.01			251	
273	8.87	8.84	34.189	26.509	156.9	0.664	1.58	24.2	38.5	2.24	29.8	0.01			275	205
300 ISL	8.55	8.52	34.219	26.582	150.3	0.705	1.36	20.7	42.2	2.34	31.0	0.01			302	
319	8.34	8.31	34.233	26.626	146.4	0.733	1.22	18.5	44.8	2.41	31.8	0.01			321	204
377	7.63	7.59	34.255	26.749	135.3	0.815	0.84	12.5	53.4	2.63	34.4	0.01			379	203
400 ISL	7.39	7.35	34.264	26.790	131.6	0.846	0.72	10.7	56.7	2.69	35.3	0.01			403	
436	7.06	7.02	34.278	26.848	126.4	0.892	0.57	8.4	61.7	2.78	36.6	0.01			439	202
500 ISL	6.55	6.50	34.308	26.941	118.1	0.970	0.36	5.2	70.6	2.92	38.2	0.01			503	
507	6.49	6.44	34.311	26.951	117.1	0.979	0.34	4.9	71.6	2.94	38.4	0.01			510	201

A) FIRST FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 39.3 N	118 58.3 W	11/01/05	1134 UTC	753 m	290 21 kn			1009.8 mb	13.6 C	11.9 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.77	14.77	33.095	24.554	337.3	0.000	5.77	99.8	2.1	0.27	0.3	0.05	0.55	0.25	0	
1	14.77	14.77	33.095	24.554	337.3	0.003	5.77	99.8	2.1	0.27	0.3	0.05	0.55	0.25	1	220
10	14.77	14.77	33.095	24.554	337.5	0.034	5.77	99.8	2.3	0.27	0.3	0.05	0.59	0.24	10	219
20	14.77	14.77	33.099	24.558	337.5	0.067	5.77	99.8	2.3	0.27	0.3	0.05	0.46 A	0.18 A	20	218
30	14.67	14.67	33.135	24.607	333.1	0.101	5.74	99.1	2.3	0.28	0.5	0.07	0.59	0.22	30	217
40	14.38	14.37	33.166	24.693	325.2	0.134	5.58	95.8	3.1	0.37	1.7	0.13	0.63	0.26	40	216
50	13.76	13.75	33.175	24.828	312.5	0.166	5.26	89.1	4.6	0.55	4.2	0.15	0.32	0.30	50	215
60	12.13	12.12	33.230	25.192	278.0	0.195	4.59	75.2	8.5	0.96	10.4	0.04	0.15	0.31	60	214
70	11.67	11.66	33.291	25.326	265.5	0.223	4.28	69.5	10.6	1.11	12.8	0.02	0.12	0.16	70	213
75 ISL	11.47	11.46	33.348	25.407	257.9	0.236	4.06	65.6	12.1	1.20	14.2	0.01	0.09	0.14	75	
85	11.12	11.11	33.461	25.558	243.7	0.261	3.67	58.9	14.9	1.36	16.6	0.01	0.05	0.11	85	212
98	10.79	10.78	33.532	25.672	233.1	0.292	3.56	56.8	16.5	1.44	18.1	0.01	0.04	0.08	98	211
100 ISL	10.72	10.71	33.545	25.695	231.0	0.296	3.53	56.2	16.9	1.46	18.4	0.01	0.04	0.08	100	
119	10.11	10.10	33.687	25.911	210.8	0.338	3.18	50.0	20.7	1.63	21.2	0.01	0.01	0.05	120	210
125 ISL	10.03	10.02	33.735	25.962	206.0	0.351	3.07	48.2	21.9	1.68	21.9	0.01	0.01	0.05	126	
139	9.93	9.91	33.840	26.061	196.9	0.379	2.81	44.1	24.4	1.78	23.2	0.01	0.01	0.05	140	209
150 ISL	9.89	9.87	33.909	26.122	191.4	0.400	2.65	41.5	25.8	1.84	23.9	0.01	0.01	0.05	151	
169	9.85	9.83	34.001	26.201	184.3	0.436	2.41	37.8	27.7	1.93	24.9	0.01	0.00	0.04	170	208
197	9.72	9.70	34.079	26.284	177.0	0.487	2.15	33.6	30.0	2.05	26.2	0.01	0.00	0.05	198	207
200 ISL	9.68	9.66	34.082	26.293	176.2	0.492	2.15	33.6	30.3		26.3	0.01			201	
228	9.25	9.22	34.096	26.375	168.9	0.540	2.15	33.3	32.9		27.3	0.01			229	206
250 ISL	9.03	9.00	34.130	26.437	163.3	0.577	2.00	30.8	35.2		28.2	0.00			251	
268	8.87	8.84	34.161	26.487	158.9	0.606	1.83	28.1	37.4		29.1	0.00			270	205
300 ISL	8.49	8.46	34.202	26.578	150.6	0.655	1.47	22.4	42.8		30.9	0.00			302	
317	8.29	8.26	34.220	26.623	146.6	0.681	1.28	19.4	45.7		31.8	0.00			319	204
376	7.73	7.69	34.253	26.733	136.9	0.764	0.88	13.2	53.0		34.1	0.00			378	203
400 ISL	7.50	7.46	34.261	26.772	133.3	0.797	0.76	11.3	56.3		34.9	0.00			403	
440	7.13	7.09	34.273	26.834	127.8	0.849	0.60	8.8	61.9		36.2	0.00			443	202
500 ISL	6.69	6.64	34.300	26.916	120.6	0.923	0.41	6.0	69.8		37.8	0.00			503	
517	6.56	6.51	34.308	26.940	118.5	0.944	0.35	5.1	72.1		38.2	0.00			521	201

A) FIRST FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 29.2 N	119 18.7 W	11/01/05	1549 UTC	1644 m	310 21 kn	320 06 05	1	1012.4 mb	12.4 C	9.9 C	12m	2/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.58	14.58	33.113	24.608	332.1	0.000	5.80	99.9	2.0	0.29	0.4	0.05	0.76	0.33	0	
2	14.58	14.58	33.113	24.608	332.1	0.007	5.80	99.9	2.0	0.29	0.4	0.05	0.76	0.33	2	221
10	14.57	14.57	33.113	24.611	332.1	0.033	5.81	100.1	1.9	0.27	0.4	0.05	0.73	0.39	10	219
20 ISL	14.58	14.58	33.114	24.610	332.5	0.066	5.78	99.6	1.9	0.27	0.5	0.05	0.77	0.36	20	
21	14.58	14.58	33.114	24.610	332.6	0.070	5.78	99.6	1.9	0.27	0.5	0.05	0.77	0.35	21	218
30 ISL	14.34	14.34	33.137	24.678	326.3	0.099	5.67	97.2	2.6	0.35	1.7	0.11	0.60	0.32	30	
31	14.28	14.28	33.140	24.693	324.9	0.103	5.65	96.8	2.7	0.37	1.9	0.12	0.58	0.32	31	217
41	13.09	13.08	33.187 D	24.973	298.5	0.134									41	216
50	11.75	11.74	33.236	25.268	270.5	0.159	4.56	74.1	9.1	1.01	11.8	0.05	0.14	0.20	50	215
60	11.11	11.10	33.314	25.445	253.9	0.186	4.25	68.2	12.5	1.21	15.2	0.04	0.10	0.17	60	214
71	10.75	10.74	33.386	25.565	242.7	0.213	4.02	64.0	14.6	1.33	17.0	0.04	0.07	0.12	71	213
75 ISL	10.64	10.63	33.414	25.606	238.8	0.223	3.92	62.3	15.3	1.37	17.7	0.04	0.06	0.11	75	
85	10.39	10.38	33.488	25.707	229.4	0.246	3.66	57.9	17.2	1.48	19.2	0.03	0.04	0.08	85	212
100	10.07	10.06	33.618	25.863	214.9	0.279	3.32	52.2	20.2	1.62	21.2	0.02	0.02	0.08	100	211
119	9.79	9.78	33.756	26.018	200.5	0.319	3.06	47.8	23.1	1.73	22.9	0.02	0.01	0.07	120	210
125 ISL	9.77	9.76	33.793	26.051	197.5	0.331	2.96	46.2	23.9	1.76	23.3	0.02	0.01	0.06	126	
139	9.74	9.72	33.876	26.121	191.2	0.358	2.73	42.6	25.7	1.84	24.2	0.02	0.00	0.05	140	209
150 ISL	9.62	9.60	33.953	26.201	183.8	0.379	2.53	39.4	27.7	1.91	25.2	0.02	0.00	0.05	151	
170	9.36	9.34	34.077	26.341	170.9	0.414	2.21	34.3	31.5	2.04	27.0	0.02	0.00	0.05	171	208
199	9.10	9.08	34.160	26.448	161.2	0.462	1.91	29.5	35.5	2.17	28.5	0.02	0.00	0.04	200	207
200 ISL	9.09	9.07	34.160	26.450	161.1	0.464	1.91	29.5	35.6	2.17	28.5	0.02			201	
229	8.79	8.77	34.139	26.481	158.6	0.510	1.86	28.5	37.8	2.21	29.4	0.01			230	206
250 ISL	8.61	8.58	34.155	26.522	155.0	0.543	1.72	26.2	40.1	2.28	30.2	0.01			251	
269	8.45	8.42	34.179	26.566	151.2	0.572	1.56	23.7	42.5	2.36	30.9	0.01			271	205
300 ISL	8.14	8.11	34.207	26.635	145.0	0.618	1.35	20.4	46.6	2.47	32.1	0.01			302	
319	7.95	7.92	34.223	26.676	141.4	0.645	1.22	18.3	49.2	2.53	32.9	0.01			321	204
379	7.42	7.38	34.263	26.785	131.7	0.727	0.75	11.1	57.9	2.75	35.3	0.01			381	203
400 ISL	7.26	7.22	34.271	26.814	129.2	0.755	0.67	9.9	60.5	2.80	35.9	0.01			403	
439	7.00	6.96	34.282	26.859	125.3	0.804	0.56	8.2	64.9	2.88	36.7	0.00			442	202
500 ISL	6.63	6.58	34.300	26.924	119.8	0.879	0.41	6.0	70.9	2.99	38.0	0.00			503	
521	6.50	6.45	34.307	26.947	117.8	0.904	0.36	5.2	73.0	3.03	38.4	0.00			525	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 19.3 N	119 39.9 W	11/01/05	1945 UTC	81 m	300 21 kn	320 06 05	1	1013.9 mb	13.8 C	10.9 C	14m	2/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.66	14.66	33.117	24.594	333.4	0.000	5.80	100.1	2.1	0.27	0.4	0.04	0.72	0.32	0	
1 A	14.66	14.66	33.117	24.594	333.4	0.003	5.80	100.1	2.1	0.27	0.4	0.04	0.72	0.32	1	213
6	14.66	14.66	33.119	24.596	333.4	0.020	5.80	100.1	2.0	0.27	0.4	0.04	0.68	0.31	6	212
10 A	14.65	14.65	33.118	24.598	333.4	0.033	5.80	100.1	2.0	0.26	0.4	0.04	0.71	0.37	10	210
20 A	14.65	14.65	33.118	24.598	333.6	0.067	5.80	100.1	2.0	0.27	0.4	0.04	0.73	0.34	20	209
29 A	14.61	14.61	33.122	24.610	332.8	0.097	5.77	99.5	2.2	0.27	0.5	0.04	0.69	0.33	29	207
30 ISL	14.59	14.59	33.124	24.616	332.3	0.100	5.75	99.1	2.3	0.28	0.6	0.04	0.66	0.32	30	
37 A	14.40	14.39	33.140	24.668	327.4	0.123	5.64	96.8	2.7	0.34	1.6	0.06	0.46	0.26	37	206
46 A	14.24	14.23	33.133	24.697	325.0	0.152	5.58	95.5	3.2	0.38	2.1	0.07	0.44	0.25	46	205
50 ISL	13.83	13.82	33.161	24.803	314.9	0.165	5.41	91.8	4.3	0.48	3.7	0.09	0.35	0.20	50	
52	13.60	13.59	33.179	24.864	309.1	0.171	5.31	89.7	5.0	0.54	4.7	0.10	0.30	0.18	52	203
62	12.68	12.67	33.242	25.096	287.2	0.201	4.91	81.4	8.1	0.80	8.5	0.11	0.18	0.17	62	202
71	11.10	11.09	33.374	25.494	249.5	0.225	4.23	67.9	13.6	1.19	14.9	0.07	0.09	0.12	71	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 8.8 N	120 0.9 W	11/01/05	2335 UTC	1207 m	300 24 kn	290 08 06	1	1014.0 mb	14.0 C	11.0 C		3/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.77	14.77	33.109	24.565	336.2	0.000	5.86	101.4	1.8	0.23	0.0	0.01	0.87	0.32	0	
1	14.77	14.77	33.109	24.565	336.2	0.003	5.86	101.4	1.8	0.23	0.0	0.01	0.87	0.32	1	222
10 ISL	14.79	14.79	33.106	24.558	337.1	0.034	5.86	101.4	1.7	0.23	0.0	0.00	0.87	0.30	10	
11	14.79	14.79	33.106	24.558	337.1	0.037	5.86	101.4	1.7	0.23	0.0	0.00	0.87	0.30	11	220
20 ISL	14.79	14.79	33.109	24.561	337.2	0.067	5.86	101.4	1.8	0.23	0.0	0.01	0.85	0.36	20	
21	14.79	14.79	33.109	24.561	337.2	0.071	5.86	101.4	1.8	0.23	0.0	0.01	0.85	0.36	21	219
30	14.47	14.47	33.173	24.679	326.2	0.101	5.69	97.9	2.4	0.31	1.0	0.09	0.41	0.28	30	218
42	13.95	13.94	33.186	24.798	315.2	0.139	5.43	92.4	4.2	0.47	3.3	0.21	0.34	0.15	42	217
50 ISL	13.43	13.42	33.200	24.915	304.3	0.164	5.18	87.2	5.4	0.62	5.7	0.21	0.25	0.17	50	
51	13.36	13.35	33.202	24.931	302.8	0.167	5.15	86.6	5.6	0.64	6.0	0.21	0.24	0.18	51	216
59	12.71	12.70	33.223	25.075	289.1	0.191	4.88	80.9	7.4	0.80	8.5	0.13	0.21	0.20	59	215
71	12.07	12.06	33.248	25.218	275.9	0.224	4.65	76.1	9.3	0.96	11.0	0.08	0.18	0.16	71	214
75 ISL	11.75	11.74	33.267	25.292	268.8	0.235	4.53	73.6	10.4	1.04	12.3	0.06	0.15	0.15	75	
83	11.13	11.12	33.321	25.447	254.2	0.256	4.27	68.5	12.9	1.19	15.1	0.03	0.09	0.14	83	213
99	10.42	10.41	33.471	25.689	231.4	0.295	3.77	59.6	17.2	1.42	18.7	0.02	0.04	0.11	99	212
100 ISL	10.39	10.38	33.484	25.704	230.0	0.297	3.73	59.0	17.5	1.44	18.9	0.02	0.04	0.11	100	
119	9.88	9.87	33.707	25.965	205.6	0.339	3.12	48.8	22.7	1.69	22.4	0.01	0.01	0.07	120	211
125 ISL	9.77	9.76	33.742	26.011	201.3	0.351	3.03	47.3	23.7	1.72	23.0	0.01	0.01	0.07	126	
141	9.53	9.51	33.801	26.097	193.5	0.383	2.90	45.1	25.9	1.77	24.2	0.01	0.01	0.06	142	210
150 ISL	9.42	9.40	33.834	26.141	189.4	0.400	2.82	43.7	27.0	1.81	24.8	0.01	0.01	0.06	151	
170	9.19	9.17	33.910	26.238	180.6	0.437	2.61	40.3	29.6	1.92	26.1	0.01	0.01 A	0.05 A	171	209
197	8.86	8.84	34.041	26.393	166.3	0.484	2.20	33.7	34.4	2.09	28.3	0.01	0.00	0.05	198	208
200 ISL	8.83	8.81	34.050	26.405	165.2	0.489	2.17	33.2	34.8	2.10	28.5	0.01			201	
229	8.54	8.52	34.107	26.495	157.1	0.535	1.96	29.8	38.5	2.19	29.8	0.01			230	206
250 ISL	8.32	8.29	34.138	26.553	151.9	0.568	1.76	26.7	41.5	2.27	30.9	0.00			251	
268	8.11	8.08	34.157	26.600	147.7	0.595	1.59	24.0	44.3	2.35	31.8	0.00			270	205
300 ISL	7.63	7.60	34.166	26.677	140.6	0.641	1.36	20.3	49.8	2.50	33.5	0.00			302	
315	7.41	7.38	34.168	26.711	137.6	0.662	1.27	18.8	52.3	2.56	34.3	0.00			317	204
381	7.01	6.97	34.206	26.797	130.2	0.750	0.92	13.5	59.6	2.74	36.2	0.00			383	203
400 ISL	6.93	6.89	34.214	26.815	128.8	0.775	0.85	12.5	61.1	2.78	36.5	0.00			403	
438	6.77	6.73	34.229	26.849	126.1	0.823	0.73	10.7	64.1	2.85	37.2	0.00			441	202
500 ISL	6.41	6.36	34.266	26.926	119.3	0.899	0.51	7.4	70.9	2.98	38.8	0.00			503	
514	6.33	6.28	34.275	26.944	117.8	0.916	0.46	6.7	72.4	3.01	39.1	0.00			518	201

A) SECOND FLUOROMETER READING NOT RECORDED, CHLOROPHYLL AND PHAEOPIGMENT
CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 59.1 N	120 20.9 W	12/01/05	0354 UTC	739 m	310 23 kn			1015.6 mb	13.3 C	11.4 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.50	14.50	33.151	24.655	327.7	0.000	5.84	100.5	1.1	0.26	0.2	0.03	0.60	0.22	0	
3	14.50	14.50	33.151	24.655	327.7	0.010	5.84	100.5	1.1	0.26	0.2	0.03	0.60	0.22	3	222
10	14.51	14.51	33.151	24.653	328.1	0.033	5.84	100.5	1.2	0.26	0.2	0.03	0.61	0.23	10	220
20 ISL	14.51	14.51	33.151	24.653	328.4	0.066	5.84	100.5	1.2	0.25	0.2	0.03	0.59	0.24	20	
21	14.51	14.51	33.151	24.653	328.4	0.069	5.84	100.5	1.2	0.25	0.2	0.03	0.59	0.24	21	219
30 ISL	14.51	14.51	33.151	24.653	328.7	0.098	5.85	100.7	1.3	0.24	0.2	0.03	0.59	0.21	30	
31	14.51	14.51	33.151	24.653	328.7	0.102	5.85	100.7	1.3	0.24	0.2	0.03	0.59	0.21	31	218
40	14.51	14.50	33.150	24.653	329.0	0.131	5.84	100.5	1.4	0.24	0.2	0.03	0.58	0.23	40	217
50	14.50	14.49	33.170	24.671	327.6	0.164	5.80	99.8	1.5	0.26	0.3	0.04	0.51	0.23	50	216
60	14.29	14.28	33.214	24.749	320.4	0.197	5.67	97.2	1.5	0.33	1.3	0.11	0.30	0.17	60	215
71	12.57	12.56	33.080	24.992	297.4	0.231	5.41	89.4	4.5	0.60	5.3	0.16	0.22	0.18	71	214
75 ISL	12.00	11.99	33.084	25.104	286.8	0.242	5.22	85.2	5.9	0.74	7.6	0.13	0.19	0.17	75	
86	10.74	10.73	33.186	25.411	257.6	0.272	4.62	73.4	10.4	1.12	14.1	0.02	0.11	0.12	86	213
100	9.92	9.91	33.421	25.735	227.0	0.306	3.98	62.2	17.0	1.45	19.6	0.01	0.04	0.06	100	212
121	9.32	9.31	33.675	26.032	199.1	0.351	3.32	51.3	22.2	1.68	23.5	0.01	0.01	0.03	122	211
125 ISL	9.26	9.25	33.707	26.067	195.9	0.359	3.25	50.2	23.1	1.70	23.9	0.01	0.01	0.03	126	
141	9.10	9.08	33.811	26.174	186.0	0.389	3.02	46.5	26.2	1.77	25.1	0.01	0.00	0.03	142	210
150 ISL	9.00	8.98	33.866	26.233	180.6	0.406	2.90	44.5	28.0	1.82	25.9	0.01	0.00	0.03	151	
171	8.79	8.77	33.967	26.345	170.3	0.443	2.64	40.4	31.5	1.92	27.4	0.01	0.00	0.02	172	209
196	8.63	8.61	34.023	26.415	164.1	0.484	2.41	36.7	34.1	2.00	28.4	0.01	0.00	0.03	197	208
200 ISL	8.56	8.54	34.033	26.433	162.4	0.491	2.34	35.6	35.1	2.03	28.8	0.01			201	
228	8.04	8.02	34.097	26.562	150.5	0.535	1.88	28.3	42.5	2.22	31.4	0.00			229	206
250 ISL	7.83	7.81	34.115	26.608	146.5	0.567	1.70	25.5	45.0	2.31	32.4	0.00			251	
266	7.72	7.69	34.121	26.629	144.7	0.591	1.61	24.1	46.2	2.36	32.9	0.00			268	205
300 ISL	7.48	7.45	34.149	26.686	139.8	0.639	1.37	20.4	50.0	2.48	34.0	0.00			302	
316	7.36	7.33	34.160	26.711	137.5	0.661	1.26	18.7	52.0	2.53	34.5	0.00			318	204
377	6.80	6.76	34.171	26.798	129.9	0.743	0.96	14.0	60.6	2.72	36.7	0.00			379	203
400 ISL	6.64	6.60	34.194	26.838	126.4	0.772	0.80	11.7	64.0	2.79	37.5	0.00			403	
436	6.43	6.39	34.236	26.899	120.9	0.817	0.57	8.3	69.2	2.89	38.6	0.00			439	202
500 ISL	6.07	6.03	34.291	26.989	113.0	0.892	0.35	5.0	77.5	3.02	40.0	0.00			503	
519	5.96	5.91	34.308	27.017	110.5	0.913	0.28	4.0	79.9	3.06	40.4	0.00			523	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.3 N	121 1.8 W	12/01/05	1125 UTC	3795 m	330 27 kn			1018.5 mb	13.1 C	10.7 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.10	14.10	33.204	24.779	315.8	0.000	5.84	99.7	2.1	0.33	1.1	0.07	0.68	0.24	0	
3	14.10	14.10	33.204	24.779	315.8	0.009	5.84	99.7	2.1	0.33	1.1	0.07	0.68	0.24	3	221
10	14.10	14.10	33.204	24.780	316.0	0.032	5.84	99.7	2.1	0.33	1.1	0.07	0.63	0.26	10	219
10	14.10	14.10	33.203	24.779	316.1	0.032	5.82	99.4	2.1	0.33	1.1	0.07	0.65	0.23	10	218
20	14.11	14.11	33.204	24.778	316.5	0.063	5.83	99.5	2.1	0.32	1.1	0.07	0.65	0.25	20	217
30 ISL	14.10	14.10	33.203	24.780	316.6	0.095	5.83	99.5	2.2	0.32	1.1	0.07	0.64	0.24	30	
40	14.10	14.09	33.203	24.780	316.9	0.127	5.83	99.5	2.2	0.32	1.1	0.07	0.64	0.22	40	216
50	14.12	14.11	33.202	24.775	317.6	0.158	5.83	99.6	2.1	0.31	1.0	0.07	0.65	0.23	50	215
60	13.46	13.45	33.164	24.881	307.7	0.190	5.56	93.6	3.3	0.49	3.6	0.14	0.26	0.15	60	214
70	11.88	11.87	33.229	25.238	273.8	0.219	4.67	76.1	8.8	1.00	12.1	0.03	0.12	0.11	70	213
75 ISL	11.43	11.42	33.253	25.340	264.2	0.232	4.45	71.8	10.5	1.14	14.3	0.02	0.11	0.10	75	
85	10.85	10.84	33.302	25.482	250.8	0.258	4.20	67.0	13.0	1.31	16.9	0.01			85	212
100	10.08	10.07	33.431	25.716	228.9	0.294	3.80	59.6	17.1	1.50	20.1	0.02			100	211
120	9.75	9.74	33.530	25.849	216.6	0.338	3.57	55.7	19.5	1.61	21.7	0.01	0.03	0.05	121	210
125 ISL	9.60	9.59	33.589	25.919	210.0	0.349	3.44	53.5	20.9	1.65	22.5	0.01	0.02	0.04	126	
139	9.20	9.18	33.766	26.123	190.8	0.377	3.07	47.3	25.0	1.78	24.8	0.01	0.01	0.03	140	209
150 ISL	9.04	9.02	33.857	26.220	181.9	0.398	2.86	44.0	27.4	1.85	26.0	0.01	0.00	0.03	151	
169	8.86	8.84	33.961	26.330	171.7	0.431	2.60	39.8	30.8	1.95	27.4	0.01	0.00	0.03	170	208
199	8.53	8.51	34.040	26.443	161.4	0.481	2.34	35.6	35.3	2.07	29.1	0.01	0.00	0.03	200	207
200 ISL	8.52	8.50	34.041	26.446	161.2	0.483	2.33	35.4	35.4	2.07	29.1	0.01			201	
227	8.30	8.28	34.074	26.505	156.0	0.526	2.09	31.6	38.6	2.17	30.3	0.01			228	206
250 ISL	8.10	8.07	34.112	26.566	150.6	0.561	1.81	27.3	42.2	2.29	31.4	0.01			251	
269	7.93	7.90	34.144	26.616	146.1	0.589	1.56	23.4	45.4	2.40	32.4	0.01			271	205
300 ISL	7.62	7.59	34.183	26.692	139.2	0.633	1.22	18.2	50.8	2.56	34.0	0.01			302	
319	7.43	7.40	34.201	26.734	135.5	0.659	1.04	15.4	54.0	2.65	34.9	0.01			321	204
377	6.87	6.83	34.222	26.829	127.1	0.735	0.75	11.0	62.4	2.80	37.1	0.01			379	203
400 ISL	6.72	6.68	34.237	26.861	124.2	0.764	0.64	9.3	65.3	2.86	37.8	0.01			403	
440	6.49	6.45	34.264	26.913	119.7	0.813	0.48	7.0	70.0	2.95	38.7	0.00			443	202
500 ISL	6.16	6.12	34.299	26.984	113.5	0.883	0.33	4.8	76.5	3.00	39.8	0.00			503	
519	6.06	6.01	34.311	27.007	111.6	0.905	0.28	4.0	78.6	3.02	40.1	0.00			523	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 19.7 N	121 43.4 W	12/01/05	1753 UTC	4021 m	250 20 kn	320 08 06	1	1022.8 mb	13.5 C	10.9 C	13m	6/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.25	14.25	32.981	24.576	335.2	0.000	5.91	101.1	2.5	0.28	0.0	0.01	0.51	0.19	0	
1 A	14.25	14.25	32.981	24.576	335.2	0.003	5.91	101.1	2.5	0.28	0.0	0.01	0.51	0.19	1	223
9 A	14.24	14.24	32.980	24.578	335.3	0.030	5.91	101.0	2.5	0.26	0.0	0.01	0.54	0.21	9	221
10 ISL	14.24	14.24	32.980	24.578	335.3	0.034	5.91	101.0	2.5	0.26	0.0	0.01	0.54	0.21	10	
18 A	14.24	14.24	32.979	24.577	335.6	0.060	5.90	100.9	2.5	0.26	0.0	0.01	0.53	0.19	18	220
20 ISL	14.24	14.24	32.981	24.579	335.5	0.067	5.90	100.9	2.5	0.26	0.0	0.01	0.53	0.19	20	
28 A	14.22	14.22	32.988	24.588	334.8	0.094	5.90	100.8	2.5	0.26	0.0	0.02	0.53	0.18	28	218
30 ISL	14.22	14.22	32.988	24.589	334.8	0.101	5.90	100.8	2.5	0.26	0.0	0.02	0.53	0.18	30	
35 A	14.21	14.20	32.989	24.592	334.7	0.117	5.89	100.6	2.5	0.26	0.0	0.02	0.52	0.19	35	217
43	14.13	14.12	33.107	24.699	324.6	0.144	5.84	99.7	2.6	0.29	0.6	0.07	0.39	0.19	43	216
48 A	13.78	13.77	33.137	24.795	315.6	0.160	5.68	96.3	3.0	0.39	1.8	0.17	0.30	0.18	48	215
50 ISL	13.66	13.65	33.133	24.817	313.6	0.166	5.65	95.5	3.2	0.41	2.1	0.16	0.27	0.18	50	
61	12.71	12.70	33.053	24.944	301.7	0.200	5.50	91.1	4.6	0.56	4.5	0.11	0.18	0.17	61	214
70	11.35	11.34	32.988	25.148	282.3	0.226	5.25	84.5	6.8	0.78	8.2	0.03	0.13	0.14	70	213
75 ISL	10.82	10.81	33.013	25.262	271.5	0.240	5.08	80.8	8.2	0.89	10.1	0.03	0.11	0.13	75	
85	10.15	10.14	33.132 D	25.470	251.8	0.266									85	212
100	9.96	9.95	33.382 D	25.698	230.6	0.302									100	211
120	9.57	9.56	33.551	25.895	212.2	0.347	3.62	56.2	20.4	1.62	21.8	0.01	0.02	0.04	121	210
125 ISL	9.48	9.47	33.601	25.948	207.2	0.357	3.50	54.3	21.6	1.66	22.5	0.01	0.02	0.03	126	
141	9.22	9.20	33.753	26.109	192.2	0.389	3.16	48.7	25.1	1.76	24.4	0.01	0.01	0.02	142	209
150 ISL	9.11	9.09	33.817	26.177	185.9	0.406	3.03	46.6	26.6	1.80	25.1	0.01	0.01	0.02	151	
171	8.90	8.88	33.931	26.300	174.6	0.444	2.77	42.5	29.8	1.90	26.5	0.01	0.00	0.03	172	208
199	8.62	8.60	34.034	26.425	163.2	0.491	2.39	36.4	34.4	2.05	28.6	0.01	0.00	0.03	200	207
200 ISL	8.61	8.59	34.036	26.428	162.9	0.493	2.38	36.3	34.5	2.05	28.7	0.01			201	
229	8.34	8.32	34.073	26.499	156.7	0.539	2.10	31.8	38.5	2.17	30.2	0.00			230	206
250 ISL	8.13	8.10	34.094	26.547	152.4	0.572	1.94	29.3	41.3	2.25	31.1	0.00			251	
269	7.94	7.91	34.113	26.590	148.5	0.600	1.78	26.7	43.9	2.32	31.9	0.01			271	205
300 ISL	7.69	7.66	34.155	26.660	142.3	0.645	1.42	21.2	48.7	2.48	33.4	0.01			302	
318	7.56	7.53	34.178	26.697	139.0	0.671	1.21	18.0	51.5	2.57	34.2	0.01			320	204
380	7.08	7.04	34.215	26.795	130.5	0.754	0.83	12.2	59.5	2.74	36.3	0.01			382	203
400 ISL	6.91	6.87	34.223	26.824	127.9	0.780	0.74	10.9	62.2	2.80	37.0	0.01			403	
436	6.60	6.56	34.232	26.873	123.5	0.825	0.61	8.9	67.0	2.89	38.1	0.00			439	202
500 ISL	6.07	6.03	34.231	26.942	117.4	0.902	0.49	7.0	75.1	2.97	39.8	0.01			503	
513	5.96	5.92	34.231	26.956	116.1	0.918	0.47	6.7	76.7	2.99	40.2	0.01			516	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 59.6 N	122 24.1 W	12/01/05	2321 UTC	4121 m	360 17 kn	360 08 08	1	1021.6 mb	13.2 C	11.1 C	16m	6/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.37	14.37	32.901	24.489	343.4	0.000	5.90	101.1	2.0	0.27	0.0	0.00	0.47	0.13	0	
2	14.37	14.37	32.901	24.489	343.5	0.007	5.90	101.1	2.0	0.27	0.0	0.00	0.47	0.13	2	221
10 ISL	14.37	14.37	32.901	24.489	343.7	0.034	5.91	101.3	2.1	0.26	0.0	0.00	0.46	0.13	10	
11	14.37	14.37	32.901	24.489	343.7	0.038	5.91	101.3	2.1	0.26	0.0	0.00	0.46	0.13	11	219
20	14.38	14.38	32.901	24.488	344.2	0.069	5.91	101.3	2.1	0.25	0.0	0.00	0.45	0.15	20	218
30 ISL	14.37	14.37	32.901	24.490	344.2	0.103	5.92	101.4	2.1	0.25	0.0	0.01	0.47	0.12	30	
31	14.37	14.37	32.901	24.490	344.2	0.107	5.92	101.4	2.1	0.25	0.0	0.01	0.47	0.12	31	217
40	14.36	14.35	32.902	24.493	344.2	0.138	5.91	101.2	2.2	0.24	0.0	0.01	0.52	0.09	40	216
50	14.15	14.14	33.005	24.617	332.7	0.171	5.85	99.8	2.4	0.28	0.4	0.06	0.52	0.13	50	215
60	13.42	13.41	33.035	24.790	316.4	0.204	5.68	95.5	3.1	0.40	2.0	0.22	0.33	0.19	60	214
71	12.19	12.18	32.978	24.985	297.9	0.238	5.57	91.2	4.5	0.55	4.4	0.03	0.21	0.19	71	213
75 ISL	11.78	11.77	32.967	25.054	291.5	0.249	5.50	89.3	5.2	0.61	5.4	0.02	0.18	0.17	75	
86	10.77	10.76	32.989	25.253	272.7	0.280	5.25	83.4	7.7	0.82	8.9	0.01	0.12	0.11	86	212
100	9.80	9.79	33.150	25.543	245.2	0.317	4.76	74.1	13.0	1.16	14.9	0.01	0.05	0.05	100	211
121	9.35	9.34	33.610	25.976	204.4	0.364	3.68	56.9	21.3	1.56	21.7	0.01	0.02	0.03	122	210
125 ISL	9.28	9.27	33.673	26.037	198.7	0.372	3.51	54.2	22.7	1.62	22.6	0.01	0.01	0.03	126	
140	9.06	9.04	33.853	26.213	182.3	0.401	2.99	46.0	27.3	1.80	25.2	0.01	0.00	0.02	141	209
150 ISL	8.97	8.95	33.921	26.281	176.0	0.418	2.74	42.1	29.4	1.88	26.4	0.01	0.00	0.02	151	
165	8.87	8.85	33.985	26.347	170.0	0.444	2.45	37.6	31.9	1.98	27.7	0.01	0.00	0.03	166	208
199	8.58	8.56	34.100	26.483	157.7	0.500	1.98	30.2	38.0	2.18	29.7	0.01	0.00	0.02	200	207
200 ISL	8.56	8.54	34.101	26.487	157.4	0.502	1.97	30.0	38.2	2.18	29.8	0.01			201	
230	8.02	8.00	34.130	26.591	147.8	0.548	1.68	25.3	44.0	2.32	31.8	0.01			231	206
250 ISL	7.74	7.72	34.158	26.655	142.0	0.576	1.43	21.4	48.2	2.44	33.0	0.01			251	
272	7.50	7.47	34.189	26.714	136.6	0.607	1.16	17.3	52.5	2.56	34.2	0.01			274	205
300 ISL	7.32	7.29	34.217	26.762	132.5	0.645	0.92	13.6	56.1	2.66	35.2	0.01			302	
319	7.22	7.19	34.231	26.787	130.3	0.670	0.80	11.8	58.1	2.72	35.8	0.01			321	204
374	6.83	6.80	34.258	26.862	123.8	0.740	0.57	8.3	64.7	2.85	37.3	0.01			376	203
400 ISL	6.68	6.64	34.278	26.899	120.7	0.771	0.46	6.7	67.8	2.91	37.9	0.01			403	
441	6.49	6.45	34.307	26.947	116.5	0.820	0.33	4.8	72.2	2.99	38.7	0.00			444	202
500 ISL	6.26	6.22	34.322	26.990	113.2	0.888	0.28	4.0	76.1	3.03	39.4	0.00			503	
509	6.23	6.18	34.324	26.995	112.7	0.898	0.27	3.9	76.7	3.04	39.5	0.00			512	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 39.7 N	123 4.1 W	13/01/05	0524 UTC	4128 m	350 11 kn			1024.4 mb	13.1 C	10.1 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.48	14.48	33.044	24.576	335.1	0.000	5.87	100.9	1.9	0.26	0.0	0.01	0.48	0.14	0	
2	14.48	14.48	33.044	24.576	335.2	0.007	5.87	100.9	1.9	0.26	0.0	0.01	0.48	0.14	2	221
10 ISL	14.49	14.49	33.044	24.574	335.6	0.034	5.86	100.7	1.8	0.26	0.0	0.01	0.44	0.16	10	
11	14.49	14.49	33.044	24.574	335.6	0.037	5.86	100.7	1.8	0.26	0.0	0.01	0.43	0.16	11	219
20 ISL	14.49	14.49	33.045	24.576	335.8	0.067	5.85	100.6	1.8	0.25	0.0	0.01	0.46	0.17	20	
21	14.49	14.49	33.045	24.576	335.8	0.070	5.85	100.6	1.8	0.25	0.0	0.01	0.46	0.17	21	218
30	14.49	14.49	33.045	24.576	336.0	0.101	5.86	100.7	2.0	0.25	0.0	0.01	0.47	0.17	30	217
40	14.49	14.48	33.051	24.581	335.9	0.134	5.86	100.7	1.8	0.24	0.1	0.02	0.44	0.18	40	216
50	14.45	14.44	33.051	24.589	335.3	0.168	5.85	100.5	1.7	0.23	0.0	0.01	0.45	0.18	50	215
60	13.58	13.57	33.051	24.770	318.3	0.201	5.63	95.0	3.2	0.41	2.4	0.13	0.31	0.21	60	214
70	11.55	11.54	32.916	25.056	291.1	0.231	5.46	88.2	5.6	0.67	6.5	0.04	0.22	0.20	70	213
75 ISL	11.07	11.06	32.941	25.162	281.1	0.245	5.28	84.4	6.9	0.80	8.7	0.04	0.19	0.18	75	
85	10.59	10.58	33.069	25.346	263.7	0.273	4.85	76.8	9.9	1.05	12.9	0.03	0.14	0.14	85	212
97	10.12	10.11	33.252	25.569	242.7	0.303	4.35	68.2	14.0	1.29	17.0	0.01	0.09	0.11	97	211
100 ISL	10.02	10.01	33.292	25.617	238.2	0.310	4.24	66.4	14.9	1.34	17.8	0.01	0.08	0.10	100	
118	9.57	9.56	33.503	25.857	215.7	0.351	3.70	57.4	19.5	1.56	21.4	0.01	0.03	0.05	119	210
125 ISL	9.43	9.42	33.581	25.941	207.9	0.366	3.54	54.8	21.2	1.62	22.4	0.01	0.02	0.04	126	
137	9.24	9.23	33.700	26.065	196.3	0.390	3.33	51.4	23.7	1.70	23.7	0.01	0.01	0.03	138	209
150 ISL	9.09	9.07	33.792	26.161	187.4	0.415	3.18	48.9	25.6	1.75	24.6	0.01	0.01	0.03	151	
169	8.90	8.88	33.889	26.267	177.7	0.450	3.03	46.4	28.1	1.80	25.6	0.01	0.00	0.03	170	208
198	8.53	8.51	33.994	26.407	164.8	0.499	2.78	42.3	32.8	1.90	27.5	0.01	0.00	0.02	199	207
200 ISL	8.50	8.48	33.998	26.415	164.1	0.503	2.76	42.0	33.2	1.91	27.6	0.01			201	
228	8.09	8.07	34.041	26.511	155.4	0.547	2.45	36.9	38.3	2.05	29.7	0.01			229	206
250 ISL	7.88	7.85	34.070	26.565	150.5	0.581	2.07	31.0	42.3	2.21	31.5	0.01			251	
269	7.68	7.65	34.085	26.606	146.9	0.609	1.76	26.3	45.8	2.34	32.9	0.01			271	205
300 ISL	7.10	7.07	34.075	26.680	140.0	0.654	1.62	23.9	51.8	2.44	34.6	0.01			302	
318	6.76	6.73	34.069	26.722	136.1	0.679	1.59	23.2	55.2	2.48	35.4	0.01			320	204
378	6.27	6.24	34.123	26.830	126.4	0.757	1.06	15.3	64.7	2.72	38.0	0.00			380	203
400 ISL	6.15	6.11	34.138	26.857	124.1	0.785	0.92	13.3	67.5	2.78	38.7	0.00			403	
438	5.97	5.93	34.162	26.899	120.4	0.831	0.71	10.2	72.0	2.87	39.6	0.00			441	202
500 ISL	5.65	5.61	34.212	26.979	113.4	0.904	0.47	6.7	80.0	2.99	40.9	0.00			503	
515	5.57	5.53	34.224	26.998	111.7	0.921	0.41	5.8	81.9	3.02	41.2	0.00			518	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
31 19.4 N	123 44.5 W	13/01/05	1117	UTC	4041 m	020	15 kn			1023.1 mb	12.5 C	10.8 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.79	14.79	32.854	24.364	355.4	0.000	5.81	100.4	1.3	0.26	0.0	0.01	0.26	0.11	0	
2	14.79	14.79	32.854	24.364	355.4	0.007	5.81	100.4	1.3	0.26	0.0	0.01	0.26	0.11	2	222
10 ISL	14.80	14.80	32.857	24.364	355.6	0.036	5.80	100.2	1.3	0.25	0.0	0.01	0.26	0.10	10	
15	14.81	14.81	32.859	24.364	355.8	0.053	5.80	100.2	1.3	0.25	0.0	0.01	0.26	0.09	15	220
20 ISL	14.81	14.81	32.859	24.364	355.9	0.071	5.80	100.2	1.3	0.25	0.0	0.01	0.26	0.09	20	
30	14.82	14.82	32.858	24.361	356.5	0.107	5.80	100.3	1.3	0.24	0.0	0.01	0.26	0.10	30	219
45	14.82	14.81	32.858	24.362	356.9	0.160	5.81	100.4	1.3	0.24	0.0	0.01	0.27	0.10	45	218
50 ISL	14.83	14.82	32.857	24.359	357.3	0.178	5.80	100.3	1.3	0.24	0.0	0.01	0.27	0.10	50	
55	14.83	14.82	32.857	24.359	357.4	0.196	5.79	100.1	1.3	0.24	0.0	0.01	0.27	0.10	55	217
64	14.81	14.80	32.861	24.367	356.9	0.228	5.81	100.4	1.4	0.24	0.0	0.01	0.28	0.10	64	216
75	13.80	13.79	32.958	24.653	329.9	0.266	5.76	97.6	2.2	0.36	1.2	0.21	0.20	0.16	75	215
85	12.57	12.56	32.976	24.912	305.3	0.298	5.65	93.3	3.2	0.48	3.2	0.05	0.18	0.12	85	214
95	12.08	12.07	33.106	25.106	287.0	0.327	5.35	87.5	5.0	0.63	6.2	0.02	0.10	0.10	95	213
100 ISL	11.80	11.79	33.138	25.183	279.8	0.341	5.23	85.0	5.8	0.71	7.5	0.02	0.08	0.09	100	
110	11.11	11.10	33.176	25.339	265.1	0.369	5.00	80.1	8.0	0.89	10.5	0.01	0.06	0.07	110	212
124	9.70	9.69	33.245	25.634	237.0	0.404	4.66	72.4	14.0	1.23	16.1	0.01	0.02	0.03	125	211
125 ISL	9.64	9.63	33.252	25.650	235.6	0.406	4.65	72.2	14.3	1.24	16.3	0.01	0.02	0.03	126	
144	8.97	8.95	33.397	25.870	214.8	0.449	4.40	67.3	18.5	1.41	19.3	0.01	0.01	0.01	145	210
150 ISL	8.93	8.91	33.463	25.928	209.4	0.462	4.26	65.2	19.9	1.47	20.3	0.01	0.01	0.01	151	
168	8.79	8.77	33.630	26.081	195.2	0.498	3.83	58.5	23.6	1.61	22.7	0.01	0.01	0.01	169	209
197	8.92	8.90	33.895	26.269	178.0	0.552	3.32	50.9	26.8	1.71	24.3	0.00	0.00	0.02	198	208
200 ISL	8.88	8.86	33.909	26.286	176.4	0.558	3.34	51.2	27.2	1.71	24.3	0.00			201	
228	8.36	8.34	33.984	26.426	163.6	0.605	3.52	53.3	30.9	1.69	24.9	0.00			229	206
250 ISL	8.08	8.05	34.007	26.486	158.1	0.641	3.23	48.6	34.8	1.82	26.8	0.00			251	
269	7.85	7.82	34.012	26.524	154.7	0.670	2.88	43.1	38.5	1.96	28.7	0.00			270	205
300 ISL	7.34	7.31	34.018	26.602	147.5	0.717	2.49	36.9	44.8	2.14	31.2	0.00			302	
318	7.06	7.03	34.022	26.644	143.6	0.743	2.27	33.4	48.4	2.24	32.6	0.00			320	204
378	6.49	6.46	34.075	26.763	132.9	0.826	1.37	19.9	59.5	2.62	36.9	0.00			380	203
400 ISL	6.29	6.25	34.094	26.804	129.1	0.855	1.16	16.8	63.5	2.71	38.0	0.00			402	
441	5.92	5.88	34.126	26.877	122.5	0.907	0.88	12.6	70.8	2.84	39.5	0.00			444	202
500 ISL	5.44	5.40	34.157	26.960	114.9	0.977	0.65	9.2	80.5	2.98	41.2	0.00			503	
519	5.28	5.24	34.168	26.988	112.3	0.998	0.57	8.0	83.6	3.02	41.8	0.00			522	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 88.5 30.2

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 40.4 N	118 5.6 W	10/01/05	2358	UTC	21 m	190	14 kn	160 01 05	6	1014.0 mb	16.0 C	15.1 C		8/8		NS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.02	15.02	32.048	23.694	419.3	0.000	5.72	98.8	6.2	0.55	2.2	0.18	0.69	0.34	0	
2	15.02	15.02	32.048	23.694	419.3	0.008	5.72	98.8	6.2	0.55	2.2	0.18	0.69	0.34	2	204
5	15.03	15.03	32.168	23.784	410.8	0.021	5.72	98.9	6.2	0.58	2.2	0.18	0.79	0.31	5	203
10	14.99	14.99	32.805	24.283	363.3	0.040	5.68	98.5	3.7	0.41	0.8	0.14	0.74	0.32	10	202
17	15.00	15.00	32.812	24.287	363.2	0.066	5.69	98.7	3.6	0.39	0.8	0.14	0.75	0.33	17	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90.0 27.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 29.7 N	117 44.8 W	10/01/05	1957	UTC	20 m	160	14 kn	200 03 07	6	1016.4 mb	16.0 C	15.4 C		8/8		NS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.84	14.84	32.170	23.826	406.6	0.000	6.32	108.8	8.2	0.70	2.4	0.18	0.76	0.49	0	
1	14.84	14.84	32.170	23.826	406.6	0.004	6.32	108.8	8.2	0.70	2.4	0.18	0.76	0.49	1	204
5	14.84	14.84	32.754	24.276	363.9	0.019	5.64	97.5	5.3	0.52	1.4	0.13	0.52	0.30	5	203
10	14.90	14.90	32.840	24.330	358.9	0.038	5.65	97.8	4.6	0.45	1.3	0.11	0.47	0.25	10	202
16	14.89	14.89	32.859	24.347	357.4	0.059	5.64	97.6	4.5	0.44	1.2	0.11	0.48	0.26	16	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
33 29.2 N	117 45.8 W	10/01/05	2131	UTC	54 m	150	13 kn	140 02 08	6	1014.4 mb	16.5 C	15.8 C	1m	8/8		NS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.91	14.91	28.431	20.934	683.4	0.000			38.2	1.16	9.0	0.23	1.56	0.47	0	
1	14.91	14.91	28.431	20.934	683.4	0.007			38.2	1.16	9.0	0.23	1.56	0.47	1	207
5	14.89	14.89	31.759	23.499	438.0	0.029	5.75	98.9	14.0	0.72	4.0	0.17	0.90	0.42	5	206
9	14.89	14.89	32.819	24.316	360.2	0.045	5.66	98.0	4.9	0.49	1.3	0.11	0.50	0.25	9	205
10 ISL	14.89	14.89	32.835	24.328	359.1	0.049	5.66	98.0	4.8	0.48	1.2	0.11	0.49	0.25	10	
20	14.92	14.92	32.993	24.444	348.3	0.084	5.66	98.1	3.6	0.40	0.7	0.10	0.39	0.20	20	204
30	14.92	14.92	32.999	24.449	348.2	0.119	5.67	98.3	3.6	0.38	0.7	0.09	0.40	0.20	30	203
39	14.93	14.92	33.005	24.451	348.2	0.150	5.66	98.1	3.4	0.36	0.7	0.09	0.40	0.20	39	202
48	14.92	14.91	33.039	24.480	345.7	0.182	5.61	97.3	3.5	0.39	0.6	0.10	0.34	0.28	48	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 25.4 N	117 54.3 W	10/01/05	1734 UTC	621 m	130 11 kn	030 01 05	6	1017.4 mb	16.1 C	15.5 C	17m	8/8	NS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.51	15.51	32.909	24.250	366.2	0.000	5.75	100.8	1.6	0.25	0.0	0.00	0.65	0.25	0	
2 A	15.51	15.51	32.909	24.250	366.3	0.007	5.75	100.8	1.6	0.25	0.0	0.00	0.65	0.25	2	222
10 ISL	15.48	15.48	33.149	24.441	348.3	0.036	5.74	100.7	1.6	0.24	0.0	0.00	0.64	0.24	10	
11 A	15.47	15.47	33.186	24.472	345.4	0.039	5.74	100.7	1.6	0.24	0.0	0.00	0.64	0.24	11	220
20 ISL	15.44	15.44	33.193	24.484	344.5	0.070	5.73	100.5	1.6	0.23	0.0	0.00	0.63	0.25	20	
24 A	15.42	15.42	33.195	24.490	344.0	0.084	5.72	100.3	1.6	0.23	0.0	0.00	0.63	0.26	24	218
30 ISL	15.39	15.39	33.196	24.498	343.5	0.105	5.72	100.2	1.6	0.22	0.0	0.00	0.60	0.26	30	
35 A	15.36	15.35	33.196	24.505	343.0	0.122	5.72	100.2	1.7	0.22	0.0	0.01	0.57	0.26	35	217
46 A	15.31	15.30	33.201	24.520	341.9	0.160	5.69	99.5	1.8	0.23	0.0	0.02	0.45	0.24	46	216
50 ISL	15.24	15.23	33.203	24.537	340.4	0.173	5.65	98.7	2.0	0.25	0.2	0.05	0.40	0.24	50	
55	15.16	15.15	33.206	24.557	338.6	0.190	5.61	97.8	2.2	0.27	0.5	0.08	0.33	0.24	55	215
65 A	13.62	13.61	33.210	24.885	307.6	0.223	5.09	86.0	5.2	0.60	4.9	0.03	0.22	0.30	65	214
75	12.73	12.72	33.175	25.035	293.4	0.253	4.99	82.8	6.4	0.72	7.1	0.02	0.16	0.23	75	213
85	11.94	11.93	33.246	25.241	274.0	0.281	4.51	73.6	9.0	0.95	11.0	0.02	0.13	0.15	85	212
100 ISL	11.47	11.46	33.387	25.438	255.6	0.321	3.94	63.7	12.6	1.21	14.7	0.01	0.07	0.10	100	
101	11.46	11.45	33.397	25.447	254.7	0.323	3.91	63.2	12.8	1.22	14.9	0.01	0.07	0.10	101	211
120	11.05	11.04	33.612	25.689	232.1	0.370	3.16	50.7	18.1	1.52	19.1	0.01	0.02	0.06	121	210
125 ISL	10.96	10.94	33.659	25.742	227.2	0.381	3.05	48.9	19.1	1.57	19.8	0.01	0.02	0.05	126	
139	10.73	10.71	33.772	25.871	215.2	0.412	2.82	45.0	21.3	1.68	21.3	0.01	0.01	0.04	140	209
150 ISL	10.50	10.48	33.844	25.967	206.3	0.435	2.69	42.7	23.0	1.74	22.4	0.01	0.01	0.03	151	
170	10.10	10.08	33.947	26.116	192.4	0.475	2.50	39.4	25.9	1.83	24.0	0.01	0.00	0.03	171	208
199	9.75	9.73	34.053	26.259	179.5	0.529	2.24	35.0	29.3	1.96	25.9	0.00	0.00	0.03	200	207
200 ISL	9.74	9.72	34.056	26.263	179.1	0.531	2.23	34.9	29.4	1.96	26.0	0.00			201	
228	9.39	9.36	34.122	26.372	169.2	0.579	2.05	31.8	32.7	2.05	27.4	0.00			229	206
250 ISL	9.09	9.06	34.170	26.458	161.3	0.616	1.79	27.6	36.4	2.18	28.8	0.00			251	
266	8.88	8.85	34.198	26.514	156.3	0.641	1.60	24.6	39.1	2.27	29.8	0.00			268	205
300 ISL	8.46	8.43	34.215	26.593	149.2	0.693	1.38	21.0	43.5	2.38	31.3	0.00			302	
317	8.26	8.23	34.215	26.624	146.5	0.718	1.30	19.7	45.6	2.42	31.9	0.00			319	204
376	7.54	7.50	34.240	26.750	135.1	0.801	0.89	13.3	55.0	2.65	34.6	0.00			378	203
400 ISL	7.29	7.25	34.241	26.786	131.8	0.833	0.81	12.0	57.9	2.70	35.5	0.00			403	
440	6.92	6.88	34.245	26.841	127.0	0.885	0.71	10.4	62.4	2.78	36.7	0.00			443	202
500 ISL	6.53	6.48	34.291	26.930	119.1	0.959	0.44	6.4	71.0	2.95	38.2	0.00			503	
515	6.43	6.38	34.303	26.953	117.0	0.977	0.37	5.4	73.1	2.99	38.6	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
33 15.1 N	118 15.1 W	10/01/05	1230 UTC	336 m	170 09 kn			1016.1 mb	15.5 C	15.0 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.28	15.28	33.053	24.411	350.9	0.000	5.77	100.8	1.6	0.28	0.0	0.01	0.62	0.23	0	
1	15.28	15.28	33.053	24.411	350.9	0.004	5.77	100.8	1.6	0.28	0.0	0.01	0.62	0.23	1	217
10	15.31	15.31	33.152	24.481	344.5	0.035	5.76	100.7	1.5	0.26	0.0	0.00	0.68	0.20	10	216
20	15.33	15.33	33.180	24.499	343.1	0.069	5.74	100.5	1.6	0.25	0.0	0.01	0.69	0.16	20	215
30	15.35	15.35	33.188	24.501	343.2	0.103	5.71	100.0	1.6	0.24	0.0	0.01	0.56	0.24	30	214
40	14.71	14.70	33.194	24.644	329.8	0.137	5.50	95.1	2.8	0.38	1.5	0.10	0.40	0.29	40	213
49	13.69	13.68	33.177	24.844	311.0	0.166	5.23	88.5	4.5	0.57	4.2	0.06	0.37	0.31	49	212
50 ISL	13.63	13.62	33.172	24.853	310.2	0.169	5.23	88.4	4.5	0.58	4.3	0.06	0.36	0.31	50	
60	12.94	12.93	33.144	24.969	299.3	0.200	5.11	85.1	5.4	0.68	5.9	0.04	0.28	0.29	60	211
69	11.80	11.79	33.223	25.249	272.8	0.225	4.62	75.2	8.8	0.96	10.9	0.02	0.14	0.16	69	210
75 ISL	11.72	11.71	33.232	25.271	270.9	0.242	4.58	74.4	9.3	0.99	11.3	0.02	0.14	0.16	75	
84	11.59	11.58	33.246	25.306	267.7	0.266	4.52	73.2	9.6	1.03	11.9	0.02	0.13	0.16	84	209
100	10.88	10.87	33.414	25.564	243.4	0.307	3.89	62.1	14.0	1.31	16.5	0.01	0.06	0.09	100	208
120	10.79	10.78	33.680	25.788	222.6	0.353	3.03	48.4	19.6	1.63	20.3	0.01	0.02	0.05	121	207
125 ISL	10.74	10.72	33.723	25.830	218.7	0.364	2.94	46.9	20.4	1.67	20.8	0.01	0.02	0.05	126	
139	10.58	10.56	33.825	25.938	208.8	0.394	2.75	43.7	22.1	1.74	21.9	0.01	0.01	0.04	140	206
150 ISL	10.50	10.48	33.927	26.032	200.1	0.417	2.48	39.4	24.1	1.84	23.0	0.01	0.01	0.04	151	
169	10.30	10.28	34.069	26.177	186.7	0.454	2.10	33.2	27.6	1.99	24.9	0.00	0.00	0.03	170	205
200	9.51	9.49	34.077	26.317	173.9	0.509	2.22	34.5	30.8	2.00	26.6	0.00	0.00	0.03	201	204
229	9.42	9.39	34.168	26.403	166.3	0.559	1.80	28.0	34.0	2.17	28.0	0.01			230	203
250 ISL	9.02	8.99	34.194	26.488	158.4	0.593	1.62	24.9	37.9	2.27	29.4	0.01			251	
268	8.65	8.62	34.203	26.554	152.4	0.621	1.53	23.4	41.1	2.33	30.4	0.01			270	202
300 ISL	8.52	8.49	34.206	26.577	150.8	0.669	1.46	22.2	42.5	2.38	30.9	0.01			302	
318	8.45	8.42	34.208	26.589	149.9	0.696	1.42	21.6	43.3	2.41	31.2	0.01			320	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 11.2 N	118 23.5 W	10/01/05	0944 UTC	1180 m	160 14 kn			1017.6 mb	15.5 C	15.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.28	15.28	33.060	24.417	350.3	0.000	5.75	100.5	1.6	0.31	0.0	0.01	0.69	0.30	0	
1	15.28	15.28	33.060	24.417	350.4	0.004	5.75	100.5	1.6	0.31	0.0	0.01	0.69	0.30	1	220
10	15.30	15.30	33.089	24.435	348.9	0.035			1.6	0.29	0.0	0.00	0.75	0.24	10	219
20	15.37	15.37	33.184	24.493	343.7	0.070	5.74	100.5	1.5	0.28	0.0	0.00	0.58	0.27	20	218
30	15.36	15.36	33.183	24.495	343.8	0.104	5.73	100.3	1.4	0.27	0.0	0.01	0.60	0.25	30	217
39	15.40	15.39	33.199	24.499	343.7	0.135	5.72	100.2	1.4	0.26	0.0	0.01	0.55	0.23	39	216
49	14.59	14.58	33.189	24.666	328.0	0.168	5.49	94.6	2.6	0.41	1.7	0.13	0.45	0.30	49	215
50 ISL	14.45	14.44	33.182	24.691	325.7	0.172	5.47	94.0	2.8	0.43	2.0	0.13	0.45	0.30	50	
60	12.97	12.96	33.146	24.965	299.7	0.203	5.13	85.5	5.1	0.69	5.7	0.04	0.37	0.28	60	214
69	11.93	11.92	33.229	25.229	274.7	0.229	4.62	75.4	8.3	0.97	10.6	0.02	0.17	0.17	69	213
75 ISL	11.50	11.49	33.275	25.344	263.8	0.245	4.41	71.3	9.9	1.09	12.7	0.01	0.11	0.13	75	
84	11.11	11.10	33.336	25.463	252.7	0.268	4.17	66.9	11.9	1.22	14.7	0.01	0.07	0.11	84	212
100	10.81	10.80	33.450	25.605	239.5	0.308	3.78	60.3	14.8	1.37	17.1	0.01	0.05	0.08	100	211
119	10.78	10.77	33.733	25.831	218.5	0.351	2.89	46.1	20.5	1.70	20.8	0.01	0.01	0.05	120	210
125 ISL	10.74	10.72	33.780	25.875	214.5	0.364	2.78	44.4	21.4	1.74	21.4	0.01	0.01	0.05	126	
139	10.57	10.55	33.853	25.962	206.5	0.394	2.65	42.1	22.9	1.79	22.3	0.00	0.01	0.04	140	209
150 ISL	10.34	10.32	33.910	26.046	198.7	0.416	2.53	40.0	24.6	1.85	23.3	0.00	0.01	0.04	151	
169	9.95	9.93	33.997	26.181	186.2	0.452	2.33	36.6	27.4	1.95	25.0	0.01	0.00	0.03	170	208
199	9.74	9.72	34.105	26.301	175.5	0.507	2.07	32.4	30.5	2.05	26.4	0.01	0.00	0.03	200	207
200 ISL	9.73	9.71	34.108	26.305	175.1	0.509	2.06	32.2	30.6	2.05	26.5	0.01			201	
230	9.33	9.30	34.156	26.409	165.7	0.560	1.89	29.3	34.1	2.16	28.0	0.01			231	206
250 ISL	8.89	8.86	34.135	26.463	160.8	0.592	1.95	29.9	36.4	2.17	29.0	0.01			251	
269	8.50	8.47	34.113	26.506	156.8	0.622	1.99	30.3	38.6	2.19	29.9	0.00			271	205
300 ISL	8.31	8.28	34.155	26.569	151.4	0.670	1.70	25.8	42.1	2.33	31.0	0.00			302	
318	8.24	8.21	34.187	26.605	148.3	0.697	1.48	22.4	44.3	2.42	31.7	0.00			320	204
377	7.38	7.34	34.205	26.745	135.4	0.781	1.04	15.4	54.5	2.64	34.7	0.00			379	203
400 ISL	7.19	7.15	34.224	26.787	131.7	0.812	0.87	12.8	57.9	2.73	35.6	0.00			403	
437	6.95	6.91	34.254	26.844	126.7	0.859	0.65	9.5	62.8	2.85	36.8	0.00			440	202
500 ISL	6.47	6.42	34.270	26.921	119.8	0.937	0.50	7.3	70.4	2.95	38.6	0.00			503	
515	6.35	6.30	34.275	26.941	118.0	0.955	0.46	6.7	72.2	2.97	39.0	0.00			518	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 55.0 N	118 55.9 W	10/01/05	0423 UTC	1704 m	150 09 kn			1017.0 mb	15.2 C	14.6 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.78	14.78	33.049	24.516	340.8	0.000	5.79	100.1	2.0	0.33	0.1	0.02	0.34	0.13	0	
2	14.78	14.78	33.049	24.516	340.9	0.007	5.79	100.1	2.0	0.33	0.1	0.02	0.34	0.13	2	220
10	14.79	14.79	33.077	24.536	339.2	0.034	5.78	100.0	2.0	0.32	0.1	0.01	0.38	0.16	10	219
20	14.81	14.81	33.160	24.596	333.8	0.068	5.79	100.3	2.0	0.29	0.1	0.01	0.62	0.26	20	218
30	14.78	14.78	33.166	24.607	333.0	0.101	5.74	99.3	2.3	0.31	0.3	0.03	0.57	0.25	30	217
40	14.55	14.54	33.173	24.662	328.1	0.134	5.62	96.8	3.0	0.37	1.2	0.08	0.39	0.28	40	216
50	13.99	13.98	33.169	24.777	317.5	0.166	5.43	92.5	4.1	0.49	2.9	0.13	0.37	0.32	50	215
60	12.51	12.50	33.217	25.109	285.9	0.197	4.82	79.6	8.1	0.85	9.0	0.09	0.20	0.24	60	214
70	11.26	11.25	33.268	25.382	260.0	0.224	4.40	70.8	11.5	1.13	13.6	0.02	0.14	0.17	70	213
75 ISL	10.99	10.98	33.305	25.460	252.8	0.237	4.25	68.0	12.7	1.21	14.8	0.02	0.12	0.15	75	
86	10.69	10.68	33.397	25.584	241.1	0.264	3.98	63.3	14.9	1.32	16.6	0.02	0.08	0.12	86	212
99	10.23	10.22	33.527	25.765	224.2	0.294	3.66	57.7	18.2	1.49	19.3	0.01	0.04	0.08	99	211
100 ISL	10.19	10.18	33.535	25.778	222.9	0.296	3.65	57.5	18.4	1.50	19.5	0.01	0.04	0.08	100	
120	9.62	9.61	33.679	25.986	203.5	0.339	3.40	52.9	22.5	1.64	22.0	0.01	0.01	0.04	121	210
125 ISL	9.62	9.61	33.726	26.023	200.1	0.349	3.29	51.2	23.4	1.68	22.5	0.01	0.01	0.04	126	
139	9.61	9.59	33.834	26.109	192.2	0.376	2.97	46.2	25.6	1.78	23.6	0.01	0.00	0.03	140	209
150 ISL	9.59	9.57	33.898	26.163	187.4	0.397	2.76	43.0	27.1	1.84	24.3	0.01	0.00	0.03	151	
169	9.56	9.54	33.993	26.243	180.3	0.432	2.49	38.8	29.4	1.93	25.4	0.01	0.00	0.03	170	208
199	8.99	8.97	34.047	26.377	167.9	0.485	2.35	36.1	33.4	2.01	27.5	0.01	0.00	0.03	200	207
200 ISL	8.98	8.96	34.049	26.380	167.6	0.486	2.34	36.0	33.6	2.01	27.6	0.01			201	
228	8.65	8.63	34.123	26.490	157.6	0.532	1.91	29.2	39.1	2.18	29.6	0.00			229	206
250 ISL	8.44	8.41	34.181	26.568	150.5	0.566	1.55	23.6	43.3	2.35	31.0	0.00			251	
269	8.28	8.25	34.221	26.625	145.5	0.594	1.27	19.2	46.5	2.48	32.0	0.00			271	205
300 ISL	8.07	8.04	34.246	26.676	141.1	0.638	1.03	15.5	50.0	2.58	33.0	0.00			302	
318	7.95	7.92	34.250	26.697	139.3	0.663	0.95	14.3	51.6	2.61	33.5	0.00			320	204
377	7.51	7.47	34.264	26.773	132.9	0.744	0.74	11.0	57.7	2.75	35.1	0.00			379	203
400 ISL	7.39	7.35	34.268	26.793	131.2	0.774	0.68	10.1	59.5	2.79	35.5	0.00			403	
436	7.21	7.17	34.274	26.824	128.8	0.821	0.59	8.7	62.3	2.84	36.2	0.00			439	202
500 ISL	6.75	6.70	34.287	26.898	122.4	0.901	0.45	6.6	69.2	2.95	37.8	0.00			503	
519	6.61	6.56	34.292	26.921	120.4	0.924	0.41	6.0	71.3	2.98	38.3	0.00			523	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 39.0 N	119 28.5 W	09/01/05	2229	UTC	1299 m	230	14 kn	210 07 08	2	1016.3 mb	15.8 C	15.2 C	14m	8/8	NS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.89	14.89	33.011	24.463	345.9	0.000	5.81	100.7	1.5	0.28	0.0	0.00	0.43	0.13	0	
2	14.89	14.89	33.011	24.463	345.9	0.007	5.81	100.7	1.5	0.28	0.0	0.00	0.43	0.13	2	220
10 ISL	14.87	14.87	33.068	24.512	341.5	0.034	5.82	100.8	1.6	0.26	0.0	0.00	0.46	0.14	10	
12	14.87	14.87	33.086	24.526	340.3	0.041	5.82	100.9	1.6	0.26	0.0	0.00	0.47	0.15	12	219
20 ISL	14.82	14.82	33.104	24.551	338.1	0.068	5.81	100.6	1.7	0.26	0.0	0.01	0.56	0.18	20	
21	14.81	14.81	33.106	24.554	337.8	0.072	5.81	100.6	1.7	0.26	0.0	0.01	0.57	0.18	21	218
30	14.67	14.67	33.145	24.615	332.3	0.102	5.78	99.8	2.0	0.28	0.3	0.02	0.56	0.25	30	217
41	14.62	14.61	33.154	24.633	331.0	0.138	5.77	99.5	2.1	0.30	0.5	0.03	0.49	0.22	41	216
50 ISL	14.58	14.57	33.166	24.651	329.5	0.168	5.75	99.1	2.3	0.31	0.7	0.04	0.42	0.21	50	
51	14.57	14.56	33.167	24.654	329.3	0.171	5.75	99.1	2.3	0.31	0.7	0.04	0.41	0.21	51	215
61	14.46	14.45	33.174	24.683	326.8	0.204	5.68	97.7	2.6	0.35	1.1	0.07	0.31	0.17	61	214
71	12.03	12.02	33.060	25.079	289.0	0.235	5.19	84.8	6.2	0.77	8.1	0.10	0.22	0.22	71	213
75 ISL	11.55	11.54	33.075	25.180	279.5	0.246	5.03	81.3	7.4	0.88	10.0	0.08	0.19	0.21	75	
86	10.86	10.85	33.171	25.378	260.7	0.276	4.66	74.3	10.4	1.10	13.7	0.02	0.14	0.19	86	212
100 ISL	10.27	10.26	33.295	25.578	242.0	0.311	4.34	68.3	13.7	1.27	16.7	0.02	0.09	0.11	100	
101	10.24	10.23	33.305	25.590	240.8	0.314	4.32	68.0	13.9	1.28	16.9	0.02	0.09	0.10	101	211
120	9.44	9.43	33.555	25.919	209.9	0.356	3.80	58.8	20.1	1.53	20.9	0.01	0.02	0.03	121	210
125 ISL	9.37	9.36	33.603	25.968	205.3	0.367	3.70	57.2	21.1	1.57	21.5	0.01	0.01	0.03	126	
140	9.27	9.25	33.727	26.081	194.8	0.397	3.42	52.8	23.6	1.65	23.0	0.01	0.00	0.03	141	209
150 ISL	9.16	9.14	33.810	26.164	187.2	0.416	3.19	49.2	25.8	1.73	24.2	0.01	0.00	0.03	151	
169	8.95	8.93	33.945	26.303	174.3	0.450	2.77	42.5	29.8	1.88	26.3	0.01	0.00	0.03	170	208
200	8.78	8.76	34.071	26.429	162.9	0.503	2.30	35.2	34.6	2.04	28.2	0.01	0.00	0.02	201	207
230	8.51	8.49	34.120	26.510	155.7	0.550	1.99	30.3	38.9	2.19	29.8	0.01			231	206
250 ISL	8.33	8.30	34.144	26.556	151.6	0.581	1.79	27.1	41.6	2.27	30.7	0.01			251	
267	8.18	8.15	34.161	26.592	148.5	0.607	1.63	24.6	43.8	2.34	31.4	0.01			269	205
300 ISL	7.94	7.91	34.187	26.649	143.6	0.655	1.38	20.7	47.6	2.45	32.5	0.01			302	
321	7.78	7.75	34.199	26.682	140.7	0.685	1.24	18.6	50.1	2.52	33.2	0.01			323	204
377	7.14	7.10	34.221	26.791	130.9	0.761	0.89	13.1	59.2	2.70	35.8	0.01			379	203
400 ISL	6.93	6.89	34.230	26.827	127.6	0.790	0.78	11.4	62.4	2.77	36.6	0.01			403	
441	6.62	6.58	34.248	26.883	122.7	0.842	0.61	8.9	67.5	2.87	37.8	0.00			444	202
500 ISL	6.37	6.32	34.283	26.945	117.5	0.913	0.44	6.4	72.9	2.96	38.9	0.00			503	
513	6.32	6.27	34.291	26.958	116.4	0.928	0.40	5.8	74.1	2.98	39.1	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 25.1 N	119 57.1 W	09/01/05	1834	UTC	950 m	180	15 kn	330 04 05	2	1016.1 mb	16.7 C	15.0 C	16m	8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.05	15.05	33.079	24.481	344.2	0.000	5.78	100.5	1.5	0.29	0.0	0.00	0.41	0.15	0	
2 A	15.05	15.05	33.079	24.481	344.2	0.007	5.78	100.5	1.5	0.29	0.0	0.00	0.41	0.15	2	224
10 ISL	15.04	15.04	33.080	24.484	344.2	0.034	5.78	100.5	1.5	0.29	0.0	0.00	0.40	0.15	10	
12 A	15.04	15.04	33.080	24.485	344.2	0.041	5.78	100.5	1.5	0.29	0.0	0.00	0.40	0.15	12	223
16	15.04	15.04	33.080	24.485	344.3	0.055	5.78	100.5	1.5	0.26	0.0	0.00	0.39	0.16	16	222
20 ISL	15.03	15.03	33.081	24.488	344.2	0.069	5.77	100.3	1.6	0.25	0.0	0.00	0.40	0.17	20	
23 A	15.03	15.03	33.083	24.489	344.1	0.079	5.77	100.3	1.6	0.25	0.0	0.00	0.40	0.17	23	221
30 ISL	14.98	14.98	33.084	24.501	343.2	0.103	5.78	100.4	1.5	0.25	0.0	0.00	0.42	0.16	30	
34 A	14.94	14.93	33.084	24.510	342.4	0.117	5.78	100.3	1.5	0.25	0.0	0.00	0.43	0.16	34	220
42 A	14.84	14.83	33.082	24.530	340.8	0.144	5.77	99.9	1.6	0.26	0.0	0.01	0.42	0.22	42	218
50 ISL	13.93	13.92	33.035	24.686	326.1	0.171	5.74	97.5	2.2	0.35	1.0	0.10	0.46	0.41	50	
53	13.50	13.49	33.017	24.759	319.1	0.181	5.73	96.5	2.6	0.39	1.6	0.13	0.46	0.48	53	217
62 A	12.51	12.50	32.996	24.938	302.2	0.209	5.57	91.9	3.9	0.52	3.8	0.09	0.33	0.48	62	216
69	12.39	12.38	33.018	24.979	298.6	0.230	5.51	90.7	4.1	0.56	4.5	0.06	0.35	0.35	69	215
75	12.31	12.30	33.135	25.085	288.6	0.247	5.03	82.7	6.4	0.78	8.0	0.03	0.35	0.40	75	214
85	11.37	11.36	33.131	25.256	272.4	0.275	5.13	82.6	7.1	0.81	9.0	0.02	0.15	0.19	85	213
95	10.65	10.64	33.194	25.433	255.7	0.302	4.90	77.7	9.9	0.99	12.1	0.01	0.09	0.13	95	212
100 ISL	10.45	10.44	33.261	25.520	247.5	0.314	4.65	73.5	11.7	1.11	14.0	0.01	0.07	0.10	100	
110	10.28	10.27	33.421	25.674	233.0	0.338	4.02	63.4	15.6	1.35	17.6	0.01	0.04	0.06	110	211
124	10.35	10.34	33.633	25.828	218.8	0.370	3.09	48.8	20.4	1.65	21.1	0.01	0.02	0.05	125	210
125 ISL	10.34	10.33	33.643	25.838	217.9	0.372	3.08	48.7	20.6	1.66	21.2	0.01	0.02	0.05	126	
146	9.99	9.97	33.784	26.007	202.2	0.416	2.80	43.9	23.6	1.77	23.0	0.01	0.00	0.03	147	209
150 ISL	9.98	9.96	33.809	26.029	200.2	0.424	2.74	43.0	24.1	1.79	23.2	0.01	0.00	0.03	151	
170	9.86	9.84	33.912	26.130	191.1	0.463	2.51	39.3	26.2	1.89	24.3	0.01	0.00	0.03	171	208
198	8.96	8.94	33.967	26.319	173.3	0.514	2.72	41.8	29.8	1.89	26.2	0.01	0.00	0.05	199	207
200 ISL	8.91	8.89	33.972	26.331	172.2	0.518	2.71	41.6	30.2	1.90	26.4	0.01			201	
229	8.35	8.33	34.042	26.473	159.1	0.566	2.40	36.4	36.6	2.06	29.2	0.00			230	206
250 ISL	8.02	7.99	34.068	26.543	152.7	0.599	2.16	32.5	40.8	2.17	30.7	0.00			251	
269	7.75	7.72	34.078	26.591	148.4	0.627	1.98	29.6	44.2	2.26	31.8	0.00			271	205
300 ISL	7.23	7.20	34.062	26.652	142.7	0.672	1.92	28.4	49.2	2.34	33.2	0.00			302	
318	6.99	6.96	34.055	26.680	140.2	0.698	1.88	27.6	51.7	2.39	33.9	0.00			320	204
376	6.95	6.91	34.149	26.760	133.6	0.777	1.12	16.4	57.7	2.65	36.0	0.00			378	203
400 ISL	6.70	6.66	34.158	26.801	129.8	0.809	0.96	14.0	61.8	2.73	37.0	0.00			403	
436	6.30	6.26	34.170	26.864	124.1	0.855	0.79	11.4	67.9	2.84	38.4	0.00			439	202
500 ISL	6.23	6.19	34.260	26.944	117.3	0.932	0.47	6.8	73.2	2.97	39.2	0.00			503	
515	6.21	6.16	34.281	26.964	115.7	0.949	0.40	5.8	74.5	3.00	39.4	0.00			518	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
32 5.4 N	120 38.2 W	09/01/05	1109	UTC	3826 m	210	15 kn			1014.9 mb	16.1 C	15.9 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.79	14.79	33.007	24.482	344.1	0.000	5.82	100.6	1.6	0.31	0.0	0.00	0.37	0.10	0	
1	14.79	14.79	33.007	24.482	344.1	0.003	5.82	100.6	1.6	0.31	0.0	0.00	0.37	0.10	1	220
10	14.78	14.78	33.010	24.487	344.0	0.034	5.82	100.6	1.7	0.29	0.0	0.00	0.33	0.13	10	219
20	14.78	14.78	33.012	24.488	344.1	0.069	5.80	100.3	1.6	0.28	0.0	0.00	0.35	0.13	20	218
30	14.77	14.77	33.023	24.499	343.3	0.103	5.82	100.6	1.6	0.27	0.0	0.01	0.37	0.14	30	217
40	14.75	14.74	33.042	24.519	341.8	0.137	5.81	100.4	1.6	0.27	0.0	0.01	0.38	0.16	40	216
50	13.75	13.74	33.056	24.739	321.0	0.171	5.72	96.9	2.5	0.38	1.4	0.12	0.35	0.36	50	215
60	13.49	13.48	33.039	24.779	317.5	0.203	5.71	96.2	2.6	0.40	1.8	0.12	0.32	0.31	60	214
70	12.32	12.31	32.982	24.964	300.0	0.233	5.59	91.8	3.9	0.54	4.0	0.04	0.23	0.28	70	213
75 ISL	12.01	12.00	33.030	25.060	290.9	0.248	5.47	89.3	4.7	0.61	5.3	0.03	0.19	0.23	75	
85	11.55	11.54	33.150	25.238	274.1	0.276	5.20	84.1	6.6	0.75	8.1	0.02	0.14	0.14	85	212
99	10.64	10.63	33.185	25.428	256.3	0.314	4.95	78.5	9.7	0.97	11.8	0.01	0.09	0.09	99	211
100 ISL	10.57	10.56	33.196	25.449	254.3	0.316	4.92	77.9	10.1	0.99	12.2	0.01	0.09	0.09	100	
119	9.50	9.49	33.464	25.838	217.5	0.361	4.23	65.5	17.6	1.39	18.8	0.00	0.01	0.02	120	210
125 ISL	9.39	9.38	33.536	25.912	210.6	0.374	4.03	62.3	19.3	1.47	20.1	0.00	0.01	0.02	126	
138	9.28	9.26	33.671	26.036	199.1	0.400	3.65	56.4	22.3	1.60	22.1	0.01	0.00	0.02	139	209
150 ISL	9.11	9.09	33.772	26.142	189.2	0.424	3.40	52.3	24.8	1.69	23.6	0.01	0.00	0.02	151	
169	8.86	8.84	33.888	26.273	177.1	0.458	3.12	47.8	28.1	1.79	25.3	0.00	0.00	0.01	170	208
199	8.65	8.63	33.966	26.367	168.7	0.510	2.89	44.1	31.3	1.87	26.8	0.00	0.00	0.01	200	207
200 ISL	8.64	8.62	33.969	26.371	168.4	0.512	2.87	43.8	31.5	1.88	26.9	0.00			201	
230	8.31	8.29	34.042	26.479	158.6	0.561	2.33	35.3	37.3	2.09	29.7	0.00			231	206
250 ISL	8.10	8.07	34.060	26.525	154.5	0.592	2.15	32.4	40.1	2.17	30.8	0.00			251	
267	7.92	7.89	34.067	26.557	151.6	0.618	2.04	30.6	42.3	2.23	31.5	0.00			269	205
300 ISL	7.47	7.44	34.085	26.637	144.4	0.667	1.74	25.8	48.2	2.39	33.4	0.00			302	
317	7.22	7.19	34.092	26.677	140.6	0.691	1.59	23.5	51.4	2.47	34.4	0.00			319	204
375	6.49	6.46	34.104	26.786	130.7	0.770	1.25	18.1	61.1	2.65	36.9	0.00			377	203
400 ISL	6.35	6.31	34.132	26.827	127.1	0.802	1.03	14.9	64.8	2.75	37.9	0.00			403	
436	6.20	6.16	34.176	26.881	122.4	0.847	0.72	10.4	69.8	2.88	39.1	0.00			439	202
500 ISL	5.78	5.74	34.209	26.961	115.3	0.923	0.51	7.3	78.1	2.99	40.6	0.00			503	
511	5.71	5.67	34.215	26.974	114.1	0.936	0.47	6.7	79.5	3.01	40.8	0.00			514	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
31 45.0 N	121 19.1 W	09/01/05	0513	UTC	3685 m	190	19 kn			1014.2 mb	16.1 C	15.5 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.78	14.78	33.010	24.486	343.7	0.000	5.84	101.0	1.5	0.37	0.0	0.01	0.31	0.12	0	
2	14.78	14.78	33.010	24.486	343.8	0.007	5.84	101.0	1.5	0.37	0.0	0.01	0.31	0.12	2	220
10 ISL	14.78	14.78	33.011	24.487	343.9	0.034	5.84	101.0	1.4	0.36	0.0	0.00	0.32	0.11	10	
15	14.78	14.78	33.012	24.488	344.0	0.052	5.84	101.0	1.4	0.35	0.0	0.00	0.32	0.11	15	219
20 ISL	14.78	14.78	33.015	24.491	343.9	0.069	5.84	101.0	1.4	0.34	0.0	0.00	0.32	0.11	20	
29	14.77	14.77	33.020	24.497	343.5	0.100	5.83	100.8	1.4	0.33	0.0	0.00	0.31	0.13	29	218
30 ISL	14.77	14.77	33.020	24.497	343.6	0.103	5.83	100.8	1.4	0.33	0.0	0.00	0.32	0.13	30	
45	14.73	14.72	33.024	24.509	342.8	0.155	5.83	100.7	1.5	0.33	0.0	0.01	0.39	0.16	45	217
50 ISL	14.48	14.47	33.034	24.570	337.2	0.172	5.78	99.3	1.7	0.36	0.4	0.08	0.37	0.20	50	
54	14.16	14.15	33.032	24.636	331.0	0.185	5.73	97.8	1.9	0.40	1.0	0.12	0.34	0.23	54	216
64	12.70	12.69	32.941	24.859	309.8	0.217	5.63	93.2	3.3	0.56	3.4	0.08	0.30	0.27	64	215
74	11.47	11.46	32.918	25.072	289.6	0.247	5.42	87.4	5.2	0.75	6.8	0.03	0.22	0.22	74	214
75 ISL	11.41	11.40	32.923	25.087	288.2	0.250	5.40	87.0	5.4	0.76	7.1	0.03	0.22	0.22	75	
84	11.06	11.05	32.983	25.197	278.0	0.275	5.20	83.1	6.8	0.88	9.3	0.03	0.18	0.20	84	213
93	10.65	10.64	33.044	25.316	266.7	0.300	5.00	79.3	8.8	1.01	11.6	0.02	0.14	0.19	93	212
100 ISL	10.37	10.36	33.162	25.457	253.5	0.318	4.89	77.1	10.3	1.07	12.8	0.01	0.09	0.13	100	
109	10.02	10.01	33.329 D	25.646	235.6	0.340	4.69	73.5	12.7	1.16	14.7	0.01	0.04	0.05	109	211
124	9.35	9.34	33.498	25.889	212.8	0.374	3.99	61.6	19.4	1.51	20.4	0.01	0.01	0.02	125	210
125 ISL	9.33	9.32	33.512	25.903	211.4	0.376	3.96	61.1	19.7	1.52	20.6	0.01	0.01	0.02	126	
142	9.16	9.14	33.725	26.097	193.3	0.410	3.51	54.1	23.9	1.67	23.1	0.01	0.00	0.02	143	209
150 ISL	9.12	9.10	33.781	26.147	188.7	0.426	3.40	52.3	24.8	1.70	23.6	0.01	0.00	0.02	151	
169	9.01	8.99	33.865	26.231	181.1	0.461	3.23	49.6	26.5	1.74	24.3	0.00	0.00	0.02	170	208
200 ISL	8.50	8.48	33.993	26.411	164.5	0.514	2.99	45.4	32.2	1.86	26.5	0.01	0.00	0.01	201	
201	8.48	8.46	33.996	26.417	164.0	0.516	2.98	45.3	32.4	1.86	26.6	0.01	0.00	0.01	202	207
228	8.16	8.14	34.035	26.496	156.8	0.559	2.64	39.8	37.0	1.99	28.6	0.00			229	206
250 ISL	7.84	7.82	34.051	26.556	151.4	0.593	2.37	35.5	41.2	2.12	30.3	0.00			251	
268	7.57	7.54	34.059	26.602	147.2	0.620	2.16	32.2	44.7	2.22	31.6	0.00			270	205
300 ISL	7.17	7.14	34.070	26.667	141.3	0.666	1.88	27.7	49.8	2.36	33.3	0.00			302	
318	6.99	6.96	34.079	26.699	138.5	0.691	1.72	25.3	52.5	2.43	34.2	0.00			320	204
377	6.68	6.65	34.157	26.803	129.3	0.770	0.98	14.3	61.8	2.71	37.1	0.00			379	203
400 ISL	6.51	6.47	34.176	26.841	126.0	0.800	0.81	11.8	65.5	2.79	38.0	0.00			402	
441	6.16	6.12	34.198	26.904	120.3	0.850	0.61	8.8	72.0	2.90	39.4	0.00			444	202
500 ISL	5.62	5.58	34.210	26.981	113.2	0.919	0.49	7.0	81.2	2.99	41.0	0.00			503	
513	5.50	5.46	34.213	26.998	111.6	0.934	0.46	6.5	83.2	3.01	41.4	0.00			516	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 25.1 N	121 59.1 W	08/01/05	2259	UTC	3929 m	180	15 kn	180 05 07	2	1012.1 mb	16.3 C	15.3 C	16m	8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.72	14.72	33.047	24.528	339.8	0.000	5.84	100.9	1.7	0.30	0.0	0.01	0.37	0.14	0	
2	14.72	14.72	33.047	24.528	339.8	0.007	5.84	100.9	1.7	0.30	0.0	0.01	0.37	0.14	2	220
9	14.72	14.72	33.045	24.526	340.1	0.031	5.85	101.0	1.6	0.30	0.0	0.01	0.37	0.14	9	219
10 ISL	14.72	14.72	33.044	24.526	340.2	0.034	5.85	101.0	1.6	0.30	0.0	0.01	0.37	0.14	10	
20	14.70	14.70	33.044	24.530	340.1	0.068	5.84	100.8	1.7	0.27	0.0	0.01	0.38	0.14	20	218
30 ISL	14.72	14.72	33.061	24.539	339.5	0.102	5.83	100.7	1.5	0.25	0.0	0.01	0.42	0.16	30	
31	14.72	14.72	33.063	24.541	339.4	0.105	5.83	100.7	1.5	0.25	0.0	0.01	0.43	0.16	31	217
41	14.72	14.71	33.084	24.557	338.1	0.139	5.81	100.4	1.5	0.25	0.0	0.01	0.47	0.20	41	216
49	14.66	14.65	33.081	24.568	337.3	0.166	5.80	100.1	1.6	0.25	0.1	0.02	0.42	0.20	49	215
50 ISL	14.48	14.47	33.066	24.595	334.8	0.170	5.79	99.5	1.7	0.27	0.3	0.03	0.41	0.21	50	
61	12.24	12.23	32.941	24.947	301.3	0.205	5.61	92.0	3.7	0.52	3.8	0.07	0.31	0.33	61	214
71	11.48	11.47	32.983	25.121	284.9	0.234	5.37	86.6	5.6	0.69	7.1	0.02	0.20	0.20	71	213
75 ISL	11.16	11.15	33.007	25.197	277.7	0.245	5.25	84.1	6.7	0.78	8.6	0.02	0.16	0.17	75	
84	10.48	10.47	33.088	25.380	260.5	0.269	4.97	78.5	9.5	0.99	12.1	0.02	0.10	0.11	84	212
99	9.74	9.73	33.321	25.687	231.5	0.306	4.45	69.3	14.8	1.28	17.0	0.01	0.04	0.04	99	211
100 ISL	9.71	9.70	33.333	25.701	230.2	0.309	4.41	68.6	15.1	1.30	17.3	0.01	0.04	0.04	100	
120	9.26	9.25	33.541	25.937	208.1	0.352	3.73	57.5	20.9	1.59	22.0	0.01	0.01	0.02	121	210
125 ISL	9.20	9.19	33.601	25.993	202.8	0.363	3.59	55.3	22.1	1.64	22.8	0.01	0.01	0.02	126	
141	9.07	9.05	33.776	26.151	188.1	0.394	3.23	49.7	25.4	1.74	24.6	0.01	0.00	0.02	142	209
150 ISL	8.98	8.96	33.842	26.217	182.0	0.411	3.12	47.9	26.8	1.77	25.2	0.01	0.00	0.02	151	
169	8.80	8.78	33.937	26.320	172.6	0.444	2.95	45.1	29.4	1.82	26.1	0.01	0.00	0.02	170	208
200	8.49	8.47	34.006	26.423	163.4	0.496	2.64	40.1	33.7	1.96	28.1	0.01	0.00	0.02	201	207
229	8.02	8.00	34.049	26.528	153.8	0.542	2.31	34.7	39.7	2.11	30.3	0.01			230	206
250 ISL	7.69	7.67	34.065	26.589	148.2	0.574	2.05	30.6	43.9	2.23	31.9	0.01			251	
268	7.43	7.40	34.073	26.632	144.2	0.600	1.85	27.5	47.4	2.33	33.1	0.01			270	205
300 ISL	6.99	6.96	34.076	26.696	138.4	0.646	1.63	23.9	52.8	2.46	34.7	0.01			302	
320	6.76	6.73	34.081	26.732	135.2	0.673	1.50	21.9	55.9	2.53	35.6	0.01			322	204
377	6.42	6.39	34.150	26.832	126.4	0.748	0.92	13.3	64.9	2.76	37.9	0.01			379	203
400 ISL	6.31	6.27	34.173	26.864	123.5	0.776	0.77	11.1	67.9	2.82	38.6	0.01			403	
437	6.11	6.07	34.202	26.913	119.3	0.821	0.59	8.5	72.4	2.90	39.5	0.01			440	202
500 ISL	5.65	5.61	34.223	26.988	112.6	0.894	0.44	6.3	81.1	3.01	41.0	0.01			503	
509	5.58	5.54	34.226	26.998	111.6	0.904	0.42	6.0	82.3	3.03	41.2	0.01			512	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 5.1 N	122 39.6 W	08/01/05	1743	UTC	4018 m	180	14 kn	340 05 06	2	1013.1 mb	16.9 C	16.1 C	20m	8/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.72	14.72	32.885	24.403	351.7	0.000	5.84	100.8	1.7	0.29	0.0	0.00	0.22	0.09	0	
2 A	14.72	14.72	32.885	24.403	351.7	0.007	5.84	100.8	1.7	0.29	0.0	0.00	0.22	0.09	2	223
10 ISL	14.72	14.72	32.885	24.403	351.9	0.035	5.83	100.6	1.8	0.28	0.0	0.00	0.23	0.10	10	
14 A	14.72	14.72	32.886	24.404	351.9	0.049	5.83	100.6	1.8	0.27	0.0	0.00	0.23	0.10	14	221
20 ISL	14.72	14.72	32.886	24.404	352.1	0.070	5.83	100.6	1.8	0.26	0.0	0.00	0.25	0.08	20	
27 A	14.71	14.71	32.886	24.406	352.1	0.095	5.84	100.7	1.7	0.25	0.0	0.00	0.28	0.07	27	220
30 ISL	14.68	14.68	32.898	24.422	350.7	0.106	5.84	100.7	1.7	0.25	0.0	0.00	0.32	0.08	30	
42 A	14.54	14.53	32.947	24.490	344.5	0.147	5.84	100.4	1.9	0.26	0.0	0.00	0.44	0.17	42	218
50 ISL	13.94	13.93	32.989	24.648	329.7	0.174	5.78	98.2	2.4	0.33	0.9	0.10	0.42	0.25	50	
52 A	13.77	13.76	32.996	24.688	325.9	0.181	5.76	97.5	2.5	0.35	1.1	0.12	0.41	0.27	52	216
64	13.12	13.11	32.939	24.775	317.9	0.219	5.77	96.4	3.0	0.41	1.7	0.09	0.39	0.34	64	215
75 ISL	12.06	12.05	33.033	25.053	291.6	0.253	5.38	87.9	5.0	0.62	5.8	0.02	0.20	0.20	75	
76 A	11.94	11.93	33.043	25.083	288.7	0.256	5.34	87.0	5.3	0.65	6.3	0.01	0.18	0.18	76	214
85	10.83	10.82	33.058	25.296	268.6	0.281	5.10	81.2	8.5	0.90	10.5	0.00	0.09	0.10	85	213
96	10.22	10.21	33.075	25.414	257.4	0.310	4.95	77.7	10.8	1.06	13.0	0.00	0.05	0.07	96	212
100 ISL	10.13	10.12	33.167	25.501	249.2	0.320	4.85	76.1	11.6	1.09	13.7	0.00	0.04	0.06	100	
109	10.01	10.00	33.401	25.704	230.1	0.342	4.62	72.4	13.6	1.15	15.3	0.00	0.03	0.03	109	211
125 ISL	9.55	9.54	33.549	25.896	212.1	0.377	4.28	66.4	17.2	1.33	18.2	0.00	0.01	0.02	126	
126	9.52	9.51	33.554	25.905	211.3	0.379	4.26	66.1	17.5	1.34	18.4	0.00	0.01	0.02	127	210
143	9.21	9.19	33.705	26.073	195.6	0.414	3.57	55.0	23.2	1.62	22.8	0.00	0.00	0.01	144	209
150 ISL	9.13	9.11	33.739	26.113	192.0	0.427	3.40	52.3	24.5	1.69	23.7	0.00	0.00	0.01	151	
169	8.98	8.96	33.811	26.193	184.7	0.463	3.12	47.9	27.0	1.79	25.1	0.00	0.00	0.02	170	208
198	8.72	8.70	33.967	26.357	169.7	0.514	2.99	45.7	30.7	1.83	26.2	0.00	0.00	0.02	199	207
200 ISL	8.69	8.67	33.974	26.367	168.8	0.518	2.96	45.2	31.1	1.84	26.4	0.00			201	
229	8.25	8.23	34.044	26.490	157.5	0.565	2.38	36.0	37.7	2.07	29.5	0.00			230	206
250 ISL	7.97	7.94	34.071	26.553	151.8	0.598	2.08	31.3	41.8	2.20	31.1	0.00			251	
267	7.75	7.72	34.082	26.594	148.1	0.623	1.89	28.3	44.8	2.29	32.2	0.00			268	205
300 ISL	7.30	7.27	34.080	26.657	142.4	0.671	1.71	25.3	49.7	2.40	33.8	0.00			302	
318	7.07	7.04	34.079	26.688	139.6	0.696	1.62	23.8	52.3	2.45	34.6	0.00			320	204
379	6.59	6.56	34.152	26.811	128.5	0.778	0.95	13.8	63.1	2.74	37.6	0.00			381	203
400 ISL	6.43	6.39	34.165	26.842	125.7	0.805	0.82	11.9	66.1	2.80	38.3	0.00			402	
435	6.18	6.14	34.187	26.892	121.3	0.848	0.66	9.5	70.7	2.88	39.2	0.00			438	202
500 ISL	5.88	5.84	34.266	26.993	112.3	0.924	0.37	5.3	79.1	3.03	40.5	0.00			503	
514	5.82	5.78	34.283	27.014	110.5	0.940	0.31	4.4	80.9	3.06	40.8	0.00			517	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 45.4 N	123 19.5 W	08/01/05	0846 UTC	4018 m	210 14 kn			1011.9 mb	16.5 C	14.9 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.00	16.00	33.133	24.313	360.2	0.000	5.66	100.4	1.3	0.28	0.0	0.00	0.13	0.04	0	
2	16.00	16.00	33.133	24.313	360.3	0.007	5.66	100.4	1.3	0.28	0.0	0.00	0.13	0.04	2	220
10 ISL	16.01	16.01	33.133	24.311	360.7	0.036	5.65	100.2	1.2	0.27	0.0	0.00	0.12	0.05	10	
16	16.01	16.01	33.133	24.311	360.9	0.058	5.65	100.2	1.2	0.26	0.0	0.00	0.12	0.05	16	219
20 ISL	16.01	16.01	33.135	24.313	360.9	0.072	5.65	100.2	1.2	0.26	0.0	0.00	0.12	0.05	20	
30 ISL	16.05	16.05	33.148	24.314	361.1	0.108	5.65	100.3	1.3	0.25	0.0	0.00	0.13	0.05	30	
31	16.06	16.06	33.150	24.313	361.1	0.112	5.65	100.3	1.3	0.25	0.0	0.00	0.13	0.05	31	218
45	16.24	16.23	33.228 D	24.333	359.8	0.162	5.62	100.2	1.2	0.22	0.0	0.00	0.13	0.04	45	217
50 ISL	16.29	16.28	33.246	24.336	359.7	0.180	5.62	100.3	1.3	0.22	0.0	0.00	0.13	0.04	50	
55	16.35	16.34	33.272	24.342	359.2	0.198	5.61	100.2	1.3	0.21	0.0	0.00	0.14	0.05	55	216
64	16.58	16.57	33.374	24.368	357.1	0.230	5.57	100.0	1.1	0.19	0.0	0.00	0.15	0.05	64	215
74	16.41	16.40	33.427	24.448	349.7	0.266	5.57	99.7	1.2	0.18	0.0	0.00	0.18	0.08	74	214
75 ISL	16.27	16.26	33.427	24.480	346.7	0.269	5.59	99.8	1.3	0.19	0.1	0.02	0.19	0.09	75	
85	14.44	14.43	33.371	24.840	312.5	0.302	5.71	98.2	2.3	0.25	0.7	0.14	0.25	0.19	85	213
95	12.80	12.79	33.207	25.047	292.8	0.333	5.43	90.2	4.0	0.49	4.4	0.04	0.17	0.15	95	212
100 ISL	12.18	12.17	33.183	25.147	283.3	0.347	5.29	86.7	5.2	0.61	6.3	0.03	0.13	0.13	100	
109	11.40	11.39	33.219	25.320	266.9	0.372	5.09	82.1	7.1	0.78	9.1	0.01	0.08	0.10	109	211
125	11.16	11.14	33.489	25.574	243.2	0.413	5.07	81.5	8.0	0.74	9.5	0.00	0.04	0.05	126	210
145	10.29	10.27	33.532	25.760	225.7	0.459	4.92	77.6	11.2	0.91	12.5	0.00	0.02	0.03	146	209
150 ISL	10.07	10.05	33.563	25.821	219.9	0.471	4.82	75.7	12.6	0.98	13.6	0.00	0.02	0.03	151	
170	9.36	9.34	33.710	26.054	198.1	0.512	4.37	67.6	18.4	1.26	18.1	0.00	0.00	0.01	171	208
200	9.01	8.99	33.896	26.256	179.4	0.569	3.83	58.9	24.2	1.49	21.7	0.00	0.00	0.01	201	207
229	8.71	8.69	33.983	26.371	168.9	0.619	3.12	47.6	30.0	1.75	25.4	0.00			230	206
250 ISL	8.36	8.33	34.019	26.454	161.3	0.654	2.79	42.3	34.6	1.90	27.5	0.00			251	
272	7.97	7.94	34.041	26.529	154.4	0.689	2.53	38.0	39.4	2.03	29.3	0.00			273	205
300 ISL	7.58	7.55	34.054	26.597	148.2	0.731	2.21	32.9	44.6	2.18	31.3	0.00			302	
318	7.34	7.31	34.057	26.633	144.9	0.758	2.03	30.1	47.7	2.27	32.5	0.00			320	204
377	6.57	6.54	34.065	26.745	134.7	0.840	1.57	22.8	58.0	2.52	35.6	0.00			379	203
400 ISL	6.30	6.26	34.068	26.783	131.2	0.871	1.41	20.4	62.0	2.60	36.7	0.00			402	
437	5.92	5.88	34.079	26.840	126.0	0.918	1.18	16.9	68.4	2.72	38.3	0.00			440	202
500 ISL	5.43	5.39	34.125	26.936	117.1	0.995	0.80	11.3	79.5	2.90	40.4	0.00			503	
511	5.35	5.31	34.133	26.952	115.7	1.008	0.73	10.3	81.4	2.93	40.8	0.00			514	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 25.0 N	123 59.9 W	08/01/05	0222 UTC	4238 m	260 15 kn			1009.7 mb	16.8 C	13.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.29	16.29	33.243	24.331	358.5	0.000	5.62	100.3	1.4	0.28	0.0	0.00	0.12	0.05	0	
2	16.29	16.29	33.243	24.332	358.5	0.007	5.62	100.3	1.4	0.28	0.0	0.00	0.12	0.05	2	220
10 ISL	16.30	16.30	33.244	24.330	358.9	0.036	5.63	100.5	1.4	0.27	0.0	0.00	0.12	0.04	10	
16	16.30	16.30	33.245	24.331	359.0	0.057	5.63	100.5	1.4	0.25	0.0	0.00	0.12	0.04	16	219
20 ISL	16.33	16.33	33.260	24.336	358.7	0.072	5.62	100.4	1.4	0.24	0.0	0.00	0.12	0.04	20	
29	16.41	16.41	33.295	24.345	358.1	0.104	5.60	100.2	1.4	0.23	0.0	0.00	0.13	0.04	29	218
30 ISL	16.41	16.41	33.296	24.346	358.0	0.108	5.60	100.2	1.4	0.23	0.0	0.00	0.13	0.04	30	
44	16.42	16.41	33.309	24.354	357.7	0.158	5.60	100.2	1.4	0.22	0.0	0.00	0.13	0.04	44	217
50 ISL	16.43	16.42	33.313	24.355	357.8	0.179	5.60	100.2	1.4	0.22	0.0	0.00	0.14	0.04	50	
61	16.44	16.43	33.320	24.359	357.8	0.219	5.60	100.3	1.5	0.21	0.0	0.00	0.15	0.05	61	216
75	16.65	16.64	33.399	24.371	357.1	0.269	5.57	100.2	1.4	0.20	0.0	0.00	0.17	0.07	75	215
84	16.81	16.80	33.528	24.433	351.5	0.300	5.55	100.2	1.5	0.18	0.0	0.00	0.22	0.13	84	214
94	15.20	15.19	33.453	24.740	322.4	0.334	5.65	98.8	2.2	0.23	0.3	0.13	0.26	0.22	94	213
100 ISL	14.61	14.60	33.467	24.878	309.4	0.353	5.57	96.2	2.6	0.26	0.8	0.12	0.23	0.21	100	
105	14.29	14.27	33.484	24.959	301.7	0.368	5.48	94.1	2.9	0.29	1.3	0.12	0.20	0.21	105	212
115	13.95	13.93	33.460	25.012	297.0	0.398	5.45	92.9	3.2	0.36	2.1	0.07	0.18	0.17	115	211
122	13.14	13.12	33.478	25.190	280.0	0.419	5.27	88.3	4.5	0.45	4.3	0.02	0.11	0.11	122	210
125 ISL	12.92	12.90	33.474	25.231	276.2	0.427	5.25	87.6	4.8	0.48	4.9	0.02	0.10	0.11	126	
137	12.28	12.26	33.442	25.330	266.9	0.459	5.18	85.2	6.0	0.59	6.6	0.01	0.07	0.09	138	209
150 ISL	11.48	11.46	33.438	25.476	253.1	0.493	5.09	82.3	7.8	0.72	8.8	0.01	0.05	0.06	151	
163	10.73	10.71	33.463	25.630	238.5	0.525	4.97	79.1	10.0	0.86	11.2	0.01	0.03	0.04	164	208
193	9.55	9.53	33.622	25.955	208.0	0.592	4.52	70.2	16.8	1.20	16.8	0.00	0.01	0.01	194	207
200 ISL	9.37	9.35	33.680	26.029	201.0	0.606	4.35	67.3	18.7	1.28	18.1	0.00			201	
226	8.90	8.88	33.882	26.263	179.2	0.656	3.74	57.3	25.3	1.54	22.2	0.00			227	206
250 ISL	8.64	8.61	33.970	26.372	169.2	0.698	3.43	52.3	29.3	1.67	24.2	0.00			251	
269	8.45	8.42	34.003	26.428	164.2	0.729	3.23	49.0	32.2	1.75	25.5	0.00			270	205
300 ISL	7.93	7.90	34.035	26.531	154.7	0.779	2.70	40.5	39.2	1.98	28.7	0.00			302	
318	7.60	7.57	34.042	26.585	149.7	0.806	2.40	35.7	43.5	2.12	30.6	0.00			320	204
377	6.73	6.70	34.052	26.714	137.8	0.891	1.77	25.8	55.4	2.43	34.6	0.00			379	203
400 ISL	6.43	6.39	34.060	26.760	133.5	0.922	1.53	22.2	60.2	2.55	36.0	0.00			402	
436	6.02	5.98	34.079	26.827	127.2	0.969	1.19	17.1	67.5	2.71	38.0	0.00			439	202
500 ISL	5.58	5.54	34.131	26.923	118.6	1.048	0.81	11.5	77.9	2.88	40.0	0.00			503	
521	5.44	5.40	34.149	26.954	115.7	1.072	0.69	9.8	81.3	2.94	40.7	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 91.7 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
33 14.9 N	117 28.1 W	20/01/05	1113 UTC	22 m	100 04 kn			1016.2 mb	14.3 C	12.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.81	14.81	32.609	24.171	373.8	0.000			0.2	0.48	2.8	0.14	2.37	0.98	0	
1	14.81	14.81	32.609	24.171	373.8	0.004			0.2	0.48	2.8	0.14	2.37	0.98	1	204
6	15.18	15.18	32.944	24.349	356.9	0.022			0.6	0.52	1.9	0.19	1.22	0.43	6	203
10 ISL	15.25	15.25	33.026	24.397	352.5	0.036			0.8	0.55	1.4	0.21	1.16	0.49	10	
11	15.27	15.27	33.037	24.401	352.1	0.040			0.8	0.56	1.3	0.21	1.14	0.50	11	202
16	15.26	15.26	33.074	24.432	349.3	0.057			0.7	0.61	1.1	0.22	1.15	0.42	16	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93.4 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 57.1 N	117 16.7 W	04/01/05	2140 UTC	19 m	300 07 kn	260 01 06	1	1010.7 mb	12.8 C	10.1 C		7/8	CU

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.00	15.00	32.647	24.159	374.9	0.000	5.76	99.8	4.4	0.49	0.8	0.07	1.04	0.42	0	
1	15.00	15.00	32.647	24.159	374.9	0.004	5.76	99.8	4.4	0.49	0.8	0.07	1.04	0.42	1	203
6	15.02	15.02	32.664	24.168	374.2	0.022	5.75	99.7	4.3	0.50	0.8	0.07	1.08	0.44	6	202
10 ISL	14.98	14.98	32.791	24.275	364.1	0.037	5.72	99.2	3.8	0.49	0.6	0.07	1.01	0.62	10	
12	14.96	14.96	32.854	24.328	359.2	0.044	5.71	99.0	3.5	0.49	0.5	0.07	0.97	0.71	12	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 57.6 N	117 18.3 W	04/01/05	1940 UTC	64 m	250 12 kn	250 01 05	1	1009.2 mb	12.0 C	10.1 C	9m	7/8	CB

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.28	15.28	32.980	24.355	356.2	0.000	5.77	100.8	2.2	0.36	0.1	0.00	0.61	0.25	0	
1 A	15.28	15.28	32.980	24.355	356.2	0.004	5.77	100.8	2.2	0.36	0.1	0.00	0.61	0.25	1	211
6 A	15.29	15.29	33.000	24.368	355.1	0.021	5.77	100.8	2.2	0.35	0.1	0.00	0.66	0.23	6	210
10 ISL	15.37	15.37	33.099	24.427	349.6	0.035	5.75	100.7	1.9	0.36	0.1	0.00	0.70	0.28	10	
12 A	15.40	15.40	33.152	24.461	346.4	0.042	5.74	100.6	1.8	0.36	0.1	0.00	0.72	0.31	12	208
12	15.40	15.40	33.157	24.465	346.1	0.042	5.75	100.8	1.7	0.34	0.0	0.00	0.70	0.34	12	209
19 A	15.32	15.32	33.195	24.512	341.8	0.066	5.72	100.1	1.9	0.36	0.2	0.02	0.80	0.34	19	206
19	15.31	15.31	33.196	24.515	341.5	0.066	5.72	100.1	1.9	0.36	0.1	0.02	0.79	0.30	19	207
20 ISL	15.30	15.30	33.194	24.516	341.5	0.070	5.71	99.9	1.9	0.36	0.2	0.02	0.79	0.33	20	
24 A	15.23	15.23	33.185	24.525	340.8	0.084	5.68	99.2	2.1	0.38	0.3	0.04	0.72	0.30	24	205
30 ISL	15.18	15.18	33.178	24.530	340.4	0.104	5.67	98.9	2.1	0.39	0.3	0.04	0.57	0.29	30	
34	15.16	15.15	33.178	24.535	340.1	0.118	5.68	99.1	2.1	0.39	0.3	0.04	0.43	0.26	34	203
34 A	15.16	15.15	33.177	24.534	340.2	0.118	5.67	98.9	2.1	0.40	0.3	0.04	0.47	0.28	34	204
44	15.11	15.10	33.187	24.553	338.7	0.152	5.61	97.7	2.5	0.42	0.5	0.06	0.32	0.22	44	202
50 ISL	14.98	14.97	33.212	24.600	334.3	0.172	5.53	96.1	2.9	0.45	1.0	0.14	0.27	0.26	50	
56	14.85	14.84	33.238	24.649	329.9	0.192	5.44	94.3	3.3	0.49	1.5	0.22	0.22	0.31	56	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 54.4 N	117 23.5 W	04/01/05	2317 UTC	556 m	300 07 kn	210 02 05	1	1011.7 mb	12.1 C	10.0 C	19m	6/8	CU

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.58	15.58	33.200	24.458	346.4	0.000	5.76	101.3	1.8	0.33	0.0	0.00	0.44	0.12	0	
2	15.58	15.58	33.200	24.458	346.4	0.007	5.76	101.3	1.8	0.33	0.0	0.00	0.44	0.12	2	223
10	15.59	15.59	33.198	24.455	347.0	0.035	5.75	101.2	1.7	0.33	0.0	0.00	0.36	0.13	10	221
10	15.59	15.59	33.201	24.457	346.8	0.035	5.75	101.2	1.7	0.34	0.0	0.00	0.41	0.07	10	222
20	15.61	15.61	33.214	24.463	346.5	0.069	5.76	101.4	1.8	0.33	0.0	0.00	0.40	0.19	20	220
30 ISL	15.64	15.64	33.242	24.478	345.4	0.104	5.75	101.3	1.8	0.34	0.0	0.00	0.56	0.25	30	
31	15.64	15.64	33.244	24.480	345.3	0.107	5.75	101.3	1.8	0.34	0.0	0.00	0.58	0.25	31	218
31	15.64	15.64	33.247	24.482	345.1	0.107	5.76	101.5	1.8	0.34	0.0	0.00	0.64	0.18	31	219
41	15.62	15.61	33.244	24.485	345.1	0.142	5.76	101.4	1.8	0.34	0.0	0.00	0.64	0.25	41	217
50	15.53	15.52	33.240	24.502	343.8	0.173	5.69	100.0	2.0	0.36	0.1	0.02	0.85	0.32	50	216
50	15.52	15.51	33.240	24.504	343.5	0.173	5.70	100.2	2.0	0.35	0.1	0.01	0.85	0.32	50	215
61	14.22	14.21	33.266	24.804	315.2	0.209	5.14	88.0	5.2	0.68	4.1	0.17	0.36	0.35	61	214
70	13.26	13.25	33.213	24.960	300.5	0.237	4.94	82.9	6.2	0.84	6.2	0.04	0.25	0.32	70	213
75 ISL	12.79	12.78	33.227	25.063	290.7	0.252	4.75	78.9	7.4	0.95	7.9	0.03	0.19	0.28	75	
85	12.08	12.07	33.295	25.253	272.9	0.280	4.32	70.7	10.2	1.16	11.5	0.01	0.10	0.20	85	212
99	11.68	11.67	33.395	25.405	258.7	0.317	3.78	61.4	13.6	1.39	14.8	0.01	0.06	0.13	99	211
100 ISL	11.66	11.65	33.400	25.413	257.9	0.320	3.76	61.1	13.8	1.40	14.9	0.01	0.06	0.13	100	
120	11.35	11.34	33.502	25.549	245.4	0.370	3.42	55.2	16.4	1.56	17.0	0.00	0.04	0.11	121	210
125 ISL	11.29	11.27	33.531	25.583	242.3	0.382	3.35	54.0	17.0	1.59	17.5	0.00	0.03	0.10	126	
139	11.11	11.09	33.624	25.688	232.6	0.415	3.13	50.3	18.7	1.69	18.8	0.00	0.02	0.08	140	209
150 ISL	10.87	10.85	33.729	25.813	221.0	0.440	2.87	45.9	21.0	1.80	20.4	0.00	0.01	0.06	151	
169	10.42	10.40	33.902	26.027	201.0	0.480	2.46	39.0	25.0	1.97	23.0	0.00	0.00	0.04	170	208
200	9.90	9.88	34.027	26.213	183.8	0.540	2.22	34.8	28.9	2.09	25.2	0.00	0.00	0.02	201	207
229	9.74	9.71	34.145	26.333	173.1	0.592	1.94	30.3	32.1	2.21	26.4	0.00			230	206
250 ISL	9.52	9.49	34.188	26.403	166.8	0.627	1.76	27.4	34.6	2.27	27.4	0.00			251	
269	9.27	9.24	34.208	26.460	161.7	0.659	1.62	25.1	36.9	2.33	28.4	0.00			270	205
300 ISL	8.80	8.77	34.220	26.544	154.0	0.708	1.46	22.4	41.0	2.44	29.9	0.00			302	
318	8.52	8.49	34.222	26.590	149.9	0.735	1.37	20.9	43.6	2.51	30.7	0.00			320	204
378	7.81	7.77	34.247	26.716	138.5	0.822	0.95	14.2	53.2	2.73	33.1	0.00			380	203
400 ISL	7.60	7.56	34.248	26.748	135.7	0.852	0.88	13.1	55.7	2.79	33.9	0.00			402	
437	7.27	7.23	34.249	26.796	131.5	0.901	0.78	11.5	59.8	2.87	35.1	0.00			440	202
500 ISL	6.70	6.65	34.281	26.900	122.1	0.981	0.50	7.3	69.1	3.04	37.5	0.00			503	
516	6.55	6.50	34.290	26.927	119.7	1.000	0.43	6.3	71.4	3.08	38.1	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 50.7 N	117 31.8 W	05/01/05	0256 UTC	845 m	260 08 kn			1014.9 mb	13.3 C	9.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.03	16.03	33.287	24.424	349.6	0.000	5.70	101.2	1.3	0.33	0.0	0.00	0.47	0.18	0	
1	16.03	16.03	33.287	24.424	349.6	0.003	5.70	101.2	1.3	0.33	0.0	0.00	0.47	0.18	1	223
10 ISL	16.03	16.03	33.286	24.424	349.9	0.035	5.70	101.2	1.3	0.33	0.0	0.00	0.49	0.17	10	
11	16.03	16.03	33.286	24.424	350.0	0.038	5.70	101.2	1.3	0.33	0.0	0.00	0.49	0.17	11	221
11	16.03	16.03	33.289	24.426	349.8	0.038	5.70	101.2	1.4	0.33	0.0	0.00	0.39	0.18	11	222
19	16.02	16.02	33.283	24.424	350.2	0.066	5.69	101.0	1.3	0.33	0.0	0.00	0.47	0.17	19	220
19	16.02	16.02	33.283	24.424	350.2	0.066	5.70	101.2	1.3	0.33	0.0	0.00	0.49	0.19	19	219
20 ISL	16.02	16.02	33.284	24.425	350.2	0.070	5.70	101.2	1.3	0.33	0.0	0.00	0.49	0.19	20	
29	15.97	15.97	33.277	24.431	349.9	0.101	5.70	101.1	1.4	0.33	0.0	0.00	0.44	0.20	29	218
30 ISL	15.95	15.95	33.276	24.435	349.5	0.105	5.70	101.0	1.4	0.33	0.0	0.00	0.47	0.22	30	
40	15.75	15.74	33.264	24.471	346.4	0.140	5.66	99.9	1.6	0.36	0.1	0.04	0.69	0.36	40	216
40	15.75	15.74	33.265	24.472	346.3	0.140	5.66	99.9	1.6	0.36	0.1	0.04	0.75	0.31	40	217
50	14.31	14.30	33.236	24.762	318.9	0.173	5.19	89.0	4.6	0.64	3.4	0.40	0.27	0.22	50	215
59	13.78	13.77	33.261	24.891	306.8	0.201	4.91	83.3	6.3	0.82	5.9	0.09	0.20	0.21	59	214
69	13.20	13.19	33.273	25.018	294.9	0.231	4.62	77.4	8.0	0.96	8.1	0.03	0.15	0.25	69	213
75 ISL	12.83	12.82	33.295	25.108	286.5	0.249	4.43	73.7	9.2	1.06	9.6	0.02	0.13	0.22	75	
84	12.36	12.35	33.335	25.230	275.0	0.274	4.18	68.9	10.8	1.19	11.6	0.01	0.10	0.16	84	212
99	12.04	12.03	33.377	25.324	266.4	0.315	3.97	65.0	12.2	1.29	13.2	0.01	0.08	0.14	99	211
100 ISL	12.02	12.01	33.382	25.332	265.7	0.317	3.95	64.6	12.3	1.30	13.3	0.01	0.08	0.14	100	
119	11.55	11.54	33.500	25.511	249.1	0.366	3.50	56.7	15.3	1.50	16.3	0.01	0.05	0.11	120	210
125 ISL	11.35	11.33	33.541	25.580	242.7	0.381	3.40	54.9	16.3	1.56	17.2	0.01	0.04	0.09	126	
139	10.92	10.90	33.634	25.730	228.6	0.414	3.20	51.2	18.6	1.68	19.2	0.00	0.02	0.06	140	209
150 ISL	10.82	10.80	33.688	25.790	223.2	0.439	3.03	48.4	19.8	1.75	20.1	0.00	0.02	0.06	151	
170	10.72	10.70	33.789	25.886	214.5	0.483	2.72	43.4	22.0	1.85	21.5	0.00	0.01	0.05	171	208
197	10.24	10.22	33.996	26.131	191.7	0.537	2.36	37.3	26.6	2.01	24.1	0.00	0.00	0.05	198	207
200 ISL	10.18	10.16	34.014	26.156	189.4	0.543	2.31	36.5	27.1	2.03	24.4	0.00			201	
228	9.68	9.65	34.139	26.338	172.5	0.594	1.94	30.3	32.0	2.18	26.7	0.00			229	206
250 ISL	9.35	9.32	34.174	26.420	165.1	0.631	1.80	27.9	34.9	2.26	28.0	0.00			251	
268	9.11	9.08	34.184	26.467	160.9	0.660	1.72	26.5	37.0	2.32	28.8	0.00			269	205
300 ISL	8.75	8.72	34.218	26.551	153.4	0.711	1.47	22.5	41.3	2.44	30.2	0.00			302	
318	8.56	8.53	34.233	26.592	149.7	0.738	1.32	20.1	43.8	2.50	30.9	0.00			320	204
379	7.76	7.72	34.247	26.724	137.8	0.825	0.94	14.1	52.9	2.71	33.6	0.00			381	203
400 ISL	7.50	7.46	34.246	26.760	134.5	0.854	0.86	12.8	56.0	2.78	34.5	0.00			402	
438	7.05	7.01	34.245	26.823	128.7	0.904	0.74	10.9	61.5	2.90	36.0	0.00			441	202
500 ISL	6.47	6.42	34.259	26.913	120.6	0.981	0.53	7.7	70.2	3.02	38.1	0.00			503	
518	6.30	6.25	34.264	26.939	118.2	1.003	0.47	6.8	72.7	3.06	38.7	0.00			521	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
32 41.2 N	117 52.7 W	05/01/05	0712 UTC	626 m	290 13 kn			1017.9 mb	13.9 C	10.1 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.60	15.60	33.215	24.465	345.7	0.000	5.76	101.4	1.1	0.34	0.0	0.00	0.65	0.27	0	
1	15.60	15.60	33.215	24.465	345.7	0.003	5.76	101.4	1.1	0.34	0.0	0.00	0.65	0.27	1	223
10	15.60	15.60	33.213	24.464	346.1	0.035	5.76	101.4	1.1	0.33	0.0	0.00	0.65	0.25	10	222
10	15.60	15.60	33.213	24.464	346.1	0.035	5.77	101.5	1.0	0.33	0.0	0.00	0.65	0.24	10	221
20	15.60	15.60	33.212	24.464	346.5	0.069	5.76	101.4	1.1	0.33	0.0	0.00	0.65	0.25	20	219
20	15.60	15.60	33.227	24.475	345.4	0.069	5.76	101.4	1.0	0.33	0.0	0.00	0.62	0.23	20	220
30	15.63	15.63	33.220	24.464	346.8	0.104	5.75	101.3	1.1	0.33	0.0	0.00	0.67	0.23	30	217
30	15.62	15.62	33.215	24.462	347.0	0.104	5.76	101.4	1.1	0.34	0.0	0.00	0.68	0.25	30	218
41	14.89	14.88	33.235	24.637	330.5	0.141	5.47	94.9	2.6	0.49	1.2	0.19	0.75	0.34	41	216
50	13.26	13.25	33.234	24.975	298.5	0.169	4.92	82.6	5.8	0.84	6.3	0.03	0.22	0.23	50	215
61	12.37	12.36	33.288	25.192	278.1	0.201	4.48	73.8	8.5	1.08	10.2	0.02	0.15	0.17	61	214
70	11.87	11.86	33.320	25.311	266.9	0.226	4.19	68.3	10.7	1.24	12.6	0.01	0.15	0.21	70	213
75 ISL	11.79	11.78	33.316	25.323	265.9	0.239	4.19	68.2	10.9	1.25	12.8	0.01	0.15	0.20	75	
84	11.70	11.69	33.321	25.344	264.1	0.263	4.18	67.9	11.1	1.26	13.1	0.01	0.15	0.19	84	212
99	11.07	11.06	33.475	25.578	242.1	0.301	3.63	58.2	15.2	1.51	16.9	0.00	0.08	0.10	99	211
100 ISL	11.02	11.01	33.477	25.589	241.1	0.303	3.63	58.2	15.3	1.52	17.0	0.00	0.08	0.10	100	
120	10.30	10.29	33.517	25.746	226.5	0.350	3.70	58.4	16.9	1.57	18.7	0.00	0.04	0.08	121	210
125 ISL	10.27	10.26	33.565	25.789	222.5	0.361	3.58	56.5	17.7	1.61	19.3	0.00	0.03	0.07	126	
140	10.20	10.18	33.718	25.920	210.4	0.394	3.19	50.3	20.5	1.74	21.1	0.00	0.01	0.05	141	209
150 ISL	9.85	9.83	33.764	26.015	201.5	0.414	3.17	49.6	22.4	1.80	22.3	0.00	0.01	0.04	151	
168	9.16	9.14	33.822	26.173	186.6	0.449	3.14	48.4	25.7	1.88	24.3	0.00	0.00	0.04	169	208
199	8.82	8.80	33.967	26.341	171.2	0.505	2.76	42.3	30.5	2.03	26.4	0.00	0.00	0.03	200	207
200 ISL	8.81	8.79	33.971	26.346	170.8	0.506	2.75	42.1	30.7	2.04	26.5	0.00			201	
229	8.50	8.48	34.048	26.455	160.9	0.554	2.39	36.3	35.6	2.19	28.6	0.00			230	206
250 ISL	8.24	8.21	34.078	26.518	155.2	0.588	2.17	32.8	39.1	2.28	30.0	0.00			251	
270	7.99	7.96	34.095	26.569	150.6	0.618	1.98	29.8	42.3	2.36	31.1	0.00			272	205
300 ISL	7.69	7.66	34.112	26.626	145.5	0.663	1.72	25.7	46.4	2.49	32.5	0.00			302	
319	7.53	7.50	34.124	26.659	142.6	0.690	1.56	23.2	49.0	2.57	33.2	0.00			321	204
376	7.16	7.12	34.208	26.778	132.1	0.768	0.95	14.0	57.7	2.83	35.4	0.00			378	203
400 ISL	7.08	7.04	34.224	26.802	130.2	0.800	0.84	12.4	59.5	2.88	35.8	0.00			403	
438	6.94	6.90	34.240	26.834	127.6	0.849	0.73	10.7	62.4	2.95	36.4	0.00			441	202
500 ISL	6.36	6.31	34.274	26.939	118.1	0.925	0.48	7.0	72.3	3.10	38.6	0.00			503	
516	6.21	6.16	34.283	26.965	115.6	0.944	0.41	5.9	74.9	3.14	39.2	0.00			519	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 30.7 N	118 12.6 W	05/01/05	1201 UTC	1678 m	320 08 kn			1019.7 mb	14.0 C	11.1 C			

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.42	15.42	33.222	24.510	341.4	0.000	5.74	100.7	2.1	0.38	0.0	0.01	0.48	0.22	0	
2	15.42	15.42	33.222	24.510	341.5	0.007	5.74	100.7	2.1	0.38	0.0	0.01	0.48	0.22	2	220
10	15.45	15.45	33.220	24.503	342.4	0.034	5.74	100.7	2.0	0.36	0.0	0.01	0.49	0.20	10	219
20	15.45	15.45	33.221	24.504	342.6	0.068	5.74	100.7	2.1	0.36	0.0	0.01	0.48	0.19	20	218
30	15.45	15.45	33.221	24.504	342.9	0.103	5.74	100.7	2.2	0.36	0.0	0.01	0.54	0.19	30	217
39	15.44	15.43	33.220	24.506	343.0	0.134	5.73	100.5	2.2	0.35	-0.1	0.12	0.54	0.16	39	216
49	14.88	14.87	33.196	24.610	333.4	0.167	5.52	95.7	2.7	0.44	0.8	0.09	0.66	0.43	49	215
50 ISL	14.71	14.70	33.191	24.642	330.3	0.171	5.48	94.7	3.0	0.47	1.2	0.09	0.64	0.42	50	
60	12.89	12.88	33.179	25.006	295.8	0.202	5.01	83.4	6.2	0.84	6.6	0.06	0.39	0.37	60	214
69	12.03	12.02	33.241	25.220	275.6	0.228	4.56	74.6	8.9	1.06	10.6	0.03	0.19	0.28	69	213
75 ISL	11.63	11.62	33.294	25.335	264.7	0.244	4.30	69.7	10.6	1.18	12.6	0.02	0.13	0.22	75	
85	11.15	11.14	33.381	25.490	250.1	0.270	3.96	63.6	13.2	1.35	15.2	0.01	0.09	0.14	85	212
100	10.64	10.63	33.478	25.656	234.6	0.306	3.73	59.3	16.0	1.53	18.0	0.01	0.05	0.10	100	211
120	10.15	10.14	33.620	25.852	216.4	0.351	3.43	54.0	19.2	1.66	20.5	0.01	0.02	0.06	121	210
125 ISL	9.94	9.93	33.641	25.904	211.5	0.362	3.41	53.4	20.2	1.69	21.2	0.01	0.01	0.05	126	
138	9.39	9.37	33.696	26.037	199.0	0.389	3.36	52.0	22.9	1.76	23.1	0.00	0.00	0.04	139	209
150 ISL	9.14	9.12	33.776	26.140	189.4	0.412	3.20	49.3	25.2	1.82	24.5	0.00	0.00	0.04	151	
169	8.94	8.92	33.901	26.270	177.4	0.447	2.90	44.5	28.6	1.93	26.3	0.00	0.00	0.03	170	208
198	8.64	8.62	34.011	26.404	165.2	0.496	2.54	38.7	33.6	2.11	28.3	0.00	0.00	0.03	199	207
200 ISL	8.63	8.61	34.018	26.411	164.6	0.500	2.51	38.3	33.9	2.12	28.4	0.00			201	
227	8.48	8.46	34.091	26.491	157.4	0.543	2.13	32.4	38.0	2.29	30.0	0.00			228	206
250 ISL	8.18	8.15	34.101	26.545	152.6	0.579	2.07	31.3	41.2	2.34	31.2	0.00			251	
268	7.89	7.86	34.096	26.584	149.1	0.606	2.04	30.6	43.8	2.37	32.2	0.00			270	205
300 ISL	7.37	7.34	34.106	26.667	141.4	0.652	1.64	24.3	50.1	2.53	34.4	0.00			302	
318	7.10	7.07	34.115	26.712	137.3	0.677	1.39	20.5	53.7	2.63	35.6	0.00			320	204
377	6.68	6.65	34.169	26.812	128.4	0.756	0.93	13.6	62.6	2.84	37.8	0.00			379	203
400 ISL	6.63	6.59	34.201	26.845	125.7	0.785	0.79	11.5	64.7	2.90	38.2	0.00			403	
437	6.58	6.54	34.249	26.890	122.0	0.831	0.60	8.7	67.6	2.98	38.6	0.00			440	202
500 ISL	6.33	6.28	34.284	26.951	116.9	0.906	0.42	6.1	73.7	3.10	39.8	0.00			503	
519	6.26	6.21	34.295	26.969	115.4	0.928	0.37	5.3	75.6	3.13	40.1	0.00			523	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 21.3 N	118 34.1 W	05/01/05	1728 UTC	1360 m	310 02 kn	320 02 07	1	1023.6 mb	17.0 C	12.0 C	21m	3/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.40	15.40	33.226	24.518	340.7	0.000	5.77	101.2	2.1	0.33	0.0	0.00	0.57	0.04	0	
2 A	15.40	15.40	33.226	24.518	340.7	0.007	5.77	101.2	2.1	0.33	0.0	0.00	0.57	0.04	2	222
10 ISL	15.36	15.36	33.224	24.526	340.2	0.034	5.77	101.1	2.2	0.33	0.0	0.00	0.61	0.11	10	
14 A	15.33	15.33	33.222	24.531	339.9	0.048	5.77	101.0	2.2	0.33	0.0	0.00	0.64	0.15	14	220
20 ISL	15.32	15.32	33.222	24.533	339.8	0.068	5.76	100.8	2.1	0.33	0.0	0.00	0.67	0.14	20	
22	15.32	15.32	33.222	24.533	339.9	0.075	5.76	100.8	2.1	0.33	0.0	0.00	0.68	0.13	22	219
29 A	15.32	15.32	33.221	24.533	340.2	0.099	5.76	100.8	2.1	0.34	0.0	0.00	0.67	0.13	29	218
30 ISL	15.25	15.25	33.216	24.544	339.1	0.102	5.75	100.5	2.2	0.35	0.1	0.01	0.71	0.18	30	
36	14.57	14.56	33.181	24.664	327.8	0.122	5.57	96.0	3.3	0.49	1.3	0.09	0.87	0.48	36	217
45 A	13.00	12.99	33.179	24.984	297.5	0.150	4.94	82.4	6.5	0.88	6.8	0.04	0.40	0.44	45	216
50 ISL	12.69	12.68	33.188	25.052	291.1	0.165	4.81	79.7	7.2	0.96	8.0	0.03	0.35	0.39	50	
57 A	12.46	12.45	33.211	25.115	285.4	0.185	4.69	77.4	8.0	1.02	9.2	0.02	0.28	0.31	57	215
68	11.70	11.69	33.301	25.328	265.2	0.215	4.24	68.9	11.2	1.23	12.9	0.01	0.13	0.15	68	214
75 ISL	11.34	11.33	33.307	25.398	258.7	0.234	4.25	68.5	11.8	1.27	13.8	0.01	0.11	0.14	75	
81 A	11.09	11.08	33.304	25.441	254.7	0.249	4.26	68.3	12.1	1.29	14.3	0.01	0.10	0.14	81	213
91	10.72	10.71	33.341	25.536	245.9	0.274	4.19	66.6	13.6	1.36	15.7	0.01	0.09	0.11	91	212
99	10.26	10.25	33.441	25.693	231.0	0.293	3.92	61.8	16.4	1.50	18.0	0.01	0.05	0.06	99	211
100 ISL	10.22	10.21	33.449	25.706	229.8	0.296	3.90	61.4	16.6	1.51	18.2	0.01	0.05	0.06	100	
119	9.73	9.72	33.591	25.899	211.8	0.337	3.60	56.1	20.3	1.66	20.8	0.00	0.02	0.05	120	210
125 ISL	9.57	9.56	33.659	25.979	204.3	0.350	3.46	53.8	21.9	1.72	21.8	0.00	0.01	0.05	126	
140	9.23	9.21	33.826	26.165	186.9	0.379	3.11	48.0	26.1	1.86	24.0	0.00	0.00	0.04	141	209
150 ISL	9.11	9.09	33.900	26.242	179.7	0.398	2.93	45.1	28.1	1.92	25.0	0.00	0.00	0.04	151	
170	8.96	8.94	34.002	26.346	170.2	0.433	2.62	40.2	31.6	2.03	26.4	0.00	0.00	0.03	171	208
199	8.72	8.70	34.089	26.452	160.7	0.481	2.19	33.5	36.5	2.20	28.5	0.00	0.00	0.03	200	207
200 ISL	8.71	8.69	34.091	26.456	160.4	0.482	2.18	33.3	36.6	2.20	28.6	0.00			201	
230	8.39	8.37	34.124	26.531	153.7	0.529	1.92	29.1	40.5	2.32	29.9	0.00			231	206
250 ISL	8.11	8.08	34.129	26.578	149.5	0.560	1.77	26.7	43.5	2.40	31.0	0.00			251	
269	7.89	7.86	34.135	26.615	146.2	0.588	1.64	24.6	46.2	2.47	31.9	0.00			271	205
300 ISL	7.85	7.82	34.177	26.654	143.0	0.633	1.38	20.7	48.7	2.57	32.5	0.00			302	
320	7.83	7.80	34.205	26.680	141.0	0.661	1.21	18.1	50.4	2.64	32.9	0.00			322	204
378	7.09	7.05	34.226	26.802	129.8	0.739	0.85	12.5	60.3	2.84	35.5	0.00			380	203
400 ISL	6.84	6.80	34.230	26.839	126.4	0.768	0.75	11.0	64.0	2.90	36.4	0.00			403	
436	6.49	6.45	34.239	26.893	121.5	0.812	0.61	8.9	69.7	2.99	37.8	0.00			439	202
500 ISL	6.09	6.05	34.284	26.981	113.7	0.888	0.40	5.8	77.7	3.11	39.4	0.00			503	
517	5.99	5.94	34.296	27.004	111.8	0.907	0.34	4.9	79.8	3.14	39.8	0.00			521	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 10.7 N	118 53.5 W	05/01/05	2039 UTC	1461 m	300 02 kn	300 03 07	1	1022.3 mb	14.0 C	11.1 C	23m	3/8	SC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.31	15.31	33.194	24.513	341.1	0.000	5.79	101.3	2.0	0.44	0.0	0.00	0.69	0.16	0	
2	15.31	15.31	33.194	24.513	341.2	0.007	5.79	101.3	2.0	0.44	0.0	0.00	0.69	0.16	2	220
10	15.27	15.27	33.192	24.521	340.7	0.034	5.79	101.2	2.0	0.44	0.0	0.00	0.63	0.23	10	219
20	15.19	15.19	33.191	24.538	339.4	0.068	5.79	101.0	2.0	0.43	0.0	0.00	0.73	0.28	20	218
30	15.17	15.17	33.191	24.542	339.3	0.102	5.75	100.3	2.0	0.43	0.1	0.00	0.80	0.29	30	217
41	14.88	14.87	33.197	24.610	333.1	0.139	5.65	98.0	2.6	0.50	0.9	0.07	0.59	0.28	41	216
50	14.43	14.42	33.179	24.693	325.5	0.169	5.49	94.3	3.5	0.60	2.2	0.13	0.44	0.36	50	215
61	13.27	13.26	33.161	24.917	304.3	0.203	5.17	86.7	5.3	0.80	5.1	0.09	0.43	0.46	61	214
71	12.34	12.33	33.151	25.091	287.9	0.233	4.98	81.9	6.8	0.94	7.7	0.04	0.25	0.31	71	213
75 ISL	11.93	11.92	33.187	25.197	277.9	0.244	4.78	78.0	8.3	1.05	9.7	0.03	0.20	0.25	75	
85	11.00	10.99	33.312	25.464	252.6	0.271	4.25	68.0	12.3	1.33	14.6	0.01	0.10	0.14	85	212
100	10.31	10.30	33.464	25.703	230.2	0.307	3.83	60.4	16.4	1.55	18.2	0.01	0.05	0.07	100	211
120	9.96	9.95	33.592	25.862	215.4	0.352	3.55	55.6	19.5	1.67	20.2	0.01	0.02	0.06	121	210
125 ISL	9.81	9.80	33.643	25.927	209.3	0.362	3.45	53.9	20.8	1.72	21.0	0.01	0.01	0.05	126	
139	9.40	9.38	33.788	26.108	192.3	0.390	3.16	49.0	24.6	1.84	23.3	0.00	0.00	0.04	140	209
150 ISL	9.26	9.24	33.857	26.185	185.2	0.411	3.01	46.5	26.4	1.89	24.2	0.00	0.00	0.03	151	
169	9.13	9.11	33.942	26.272	177.3	0.445	2.78	42.8	29.0	1.97	25.3	0.00	0.00	0.03	170	208
200 ISL	8.74	8.72	34.073	26.437	162.2	0.498	2.27	34.7	35.3	2.17	28.1	0.00	0.00	0.03	201	
201	8.73	8.71	34.077	26.442	161.7	0.500	2.25	34.4	35.5	2.18	28.2	0.00	0.00	0.03	202	207
230	8.75	8.73	34.209	26.542	152.8	0.545	1.54	23.6	40.6	2.43	29.8	0.00			231	206
250 ISL	8.28	8.25	34.176	26.589	148.5	0.575	1.60	24.2	44.0	2.46	31.1	0.00			251	
269	7.77	7.74	34.125	26.625	145.2	0.603	1.65	24.7	46.9	2.49	32.2	0.00			271	205
300 ISL	7.50	7.47	34.147	26.681	140.2	0.648	1.43	21.3	50.8	2.59	33.4	0.00			302	
319	7.42	7.39	34.173	26.713	137.4	0.674	1.25	18.6	53.0	2.66	33.9	0.00			321	204
378	6.95	6.91	34.196	26.797	130.1	0.753	0.94	13.8	60.2	2.82	35.7	0.00			380	203
400 ISL	6.76	6.72	34.209	26.834	126.9	0.781	0.81	11.8	63.5	2.89	36.5	0.00			403	
437	6.47	6.43	34.235	26.893	121.5	0.827	0.61	8.9	69.0	2.99	37.8	0.00			440	202
500 ISL	6.15	6.11	34.281	26.971	114.7	0.902	0.41	5.9	76.0	3.11	39.1	0.00			503	
512	6.09	6.04	34.290	26.986	113.5	0.915	0.37	5.3	77.3	3.13	39.4	0.00			515	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
32 0.8 N	119 13.9 W	06/01/05	0049 UTC	1587 m	030 01 kn	220 03 06	1	1021.9 mb	14.1 C	10.3 C		7/8	CC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.33	15.33	33.213	24.523	340.2	0.000	5.82	101.9	1.9	0.33	0.0	0.00	0.47	0.16	0	
2	15.33	15.33	33.213	24.523	340.2	0.007	5.82	101.9	1.9	0.33	0.0	0.00	0.47	0.16	2	220
9	15.30	15.30	33.211	24.529	339.9	0.031	5.82	101.8	1.9	0.33	0.0	0.00	0.47	0.10	9	219
10 ISL	15.29	15.29	33.211	24.531	339.7	0.034	5.82	101.8	1.9	0.33	0.0	0.00	0.48	0.11	10	
20	15.24	15.24	33.210	24.541	339.0	0.068	5.82	101.7	2.0	0.34	0.0	0.00	0.56	0.19	20	218
29	15.21	15.21	33.206	24.545	339.0	0.098	5.82	101.6	1.9	0.34	0.0	0.00	0.53	0.18	29	217
30 ISL	15.20	15.20	33.205	24.547	338.8	0.102	5.82	101.6	1.9	0.34	0.0	0.00	0.55	0.19	30	
40	15.07	15.06	33.191	24.564	337.4	0.136	5.84	101.7	2.1	0.41	0.0	0.00	0.76	0.30	40	216
50	14.43	14.42	33.190	24.701	324.7	0.169	5.61	96.4	2.8	0.49	1.4	0.11	0.79	0.43	50	215
60	12.63	12.62	33.181	25.058	290.8	0.200	4.93	81.6	6.8	0.95	8.0	0.12	0.60	0.54	60	214
70	11.69	11.68	33.232	25.276	270.2	0.228	4.54	73.7	9.6	1.23	11.9	0.04	0.26	0.34	70	212
75 ISL	11.48	11.47	33.244	25.324	265.8	0.241	4.45	71.9	10.2	1.30	12.8	0.03	0.22	0.28	75	
85	11.19	11.18	33.283	25.407	258.1	0.267	4.31	69.2	11.5	1.39	14.2	0.02	0.15	0.20	85	213
98	10.49	10.48	33.434	25.648	235.3	0.299	3.89	61.6	15.6	1.60	17.6	0.01	0.06	0.09	98	211
100 ISL	10.43	10.42	33.448	25.669	233.3	0.304	3.86	61.0	16.0	1.62	17.9	0.01	0.06	0.09	100	
118	10.06	10.05	33.564	25.823	219.0	0.345	3.61	56.7	18.8	1.76	19.9	0.01	0.03	0.06	119	210
125 ISL	9.87	9.86	33.634	25.910	210.9	0.360	3.46	54.1	20.6	1.81	21.0	0.01	0.02	0.05	126	
136	9.60	9.58	33.740	26.038	199.0	0.382	3.23	50.2	23.3	1.88	22.6	0.00	0.01	0.04	137	209
150 ISL	9.42	9.40	33.803	26.116	191.7	0.410	3.11	48.2	24.9	1.93	23.6	0.00	0.01	0.04	151	
169	9.27	9.25	33.863	26.188	185.3	0.445	2.97	45.9	26.7	2.00	24.5	0.00	0.00	0.03	170	208
199	8.95	8.93	34.048	26.384	167.2	0.498	2.38	36.6	33.3	2.23	27.4	0.00	0.00	0.03	200	207
200 ISL	8.93	8.91	34.050	26.389	166.8	0.500	2.37	36.4	33.5	2.24	27.5	0.00			201	
228	8.39	8.37	34.063	26.483	158.1	0.545	2.23	33.8	37.9	2.37	29.4	0.00			229	206
250 ISL	8.25	8.22	34.089	26.525	154.5	0.580	2.06	31.2	40.2	2.46	30.2	0.00			251	
268	8.17	8.14	34.111	26.555	152.0	0.607	1.89	28.5	42.1	2.54	30.8	0.00			270	205
300 ISL	7.74	7.71	34.136	26.638	144.4	0.655	1.56	23.3	47.9	2.69	32.6	0.00			302	
318	7.48	7.45	34.149	26.686	140.1	0.680	1.38	20.5	51.4	2.77	33.7	0.00			320	204
375	7.00	6.96	34.196	26.791	130.7	0.758	0.95	14.0	59.5	2.97	35.9	0.00			377	203
400 ISL	6.79	6.75	34.212	26.832	127.0	0.790	0.80	11.7	63.1	3.03	36.7	0.00			403	
436	6.52	6.48	34.235	26.886	122.2	0.835	0.63	9.2	68.2	3.10	37.7	0.00			439	202
500 ISL	6.17	6.13	34.283	26.970	114.9	0.911	0.40	5.8	75.9	3.23	39.2	0.00			503	
520	6.06	6.01	34.299	26.997	112.5	0.933	0.33	4.7	78.3	3.27	39.7	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
31 50.9 N	119 34.1 W	06/01/05	0443	UTC	1965 m	320	02 kn			1022.7 mb	13.2 C	10.6 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	14.94	14.94	33.130	24.544	338.2	0.000	5.81	100.9	1.1	0.34	0.0	0.00	0.33	0.12	0	
2	14.94	14.94	33.130	24.544	338.2	0.007	5.81	100.9	1.1	0.34	0.0	0.00	0.33	0.12	2	220
10 ISL	14.90	14.90	33.132	24.555	337.5	0.034	5.81	100.8	1.1	0.34	0.0	0.00	0.35	0.12	10	
11	14.89	14.89	33.133	24.558	337.2	0.037	5.81	100.8	1.1	0.34	0.0	0.00	0.35	0.12	11	219
20	14.87	14.87	33.136	24.565	336.8	0.067	5.81	100.7	1.1	0.34	0.0	0.00	0.37	0.14	20	218
29	14.83	14.83	33.138	24.575	336.1	0.098	5.79	100.3	1.2	0.35	0.1	0.01	0.44	0.17	29	217
30 ISL	14.79	14.79	33.143	24.588	334.9	0.101	5.77	99.9	1.3	0.37	0.3	0.03	0.45	0.19	30	
39	14.20	14.19	33.189	24.748	319.9	0.131	5.51	94.2	2.9	0.55	2.7	0.18	0.51	0.38	39	216
49	13.31	13.30	33.180	24.923	303.4	0.162	5.23	87.8	4.6	0.74	5.6	0.14	0.33	0.30	49	215
50 ISL	13.21	13.20	33.181	24.944	301.4	0.165	5.19	87.0	4.9	0.76	6.0	0.13	0.32	0.30	50	
59	12.37	12.36	33.204	25.126	284.3	0.191	4.84	79.7	7.1	0.96	9.1	0.05	0.25	0.26	59	214
70	11.91	11.90	33.231	25.234	274.2	0.222	4.63	75.5	8.8	1.09	11.2	0.03	0.18	0.22	70	213
75 ISL	11.39	11.38	33.223	25.324	265.7	0.235	4.66	75.2	9.4	1.13	12.1	0.02	0.15	0.19	75	
84	10.45	10.44	33.233	25.498	249.2	0.259	4.69	74.1	10.9	1.22	13.9	0.01	0.11	0.14	84	212
100	9.88	9.87	33.408	25.731	227.3	0.297	4.18	65.3	15.7	1.47	18.0	0.01	0.04	0.05	100	211
120	9.61	9.60	33.670	25.981	204.0	0.340	3.36	52.3	21.7	1.77	22.2	0.01	0.01	0.03	121	210
125 ISL	9.57	9.56	33.711	26.020	200.5	0.350	3.25	50.5	22.6	1.81	22.7	0.01	0.01	0.03	126	
141	9.48	9.46	33.814	26.115	191.7	0.381	3.00	46.6	24.7	1.88	23.9	0.00	0.00	0.02	142	209
150 ISL	9.41	9.39	33.870	26.171	186.6	0.398	2.87	44.5	26.1	1.93	24.6	0.00	0.00	0.02	151	
169	9.24	9.22	33.968	26.275	177.1	0.433	2.62	40.5	28.9	2.02	25.9	0.00	0.00	0.02	170	208
199	8.99	8.97	34.053	26.382	167.5	0.485	2.32	35.7	32.8	2.14	27.5	0.00	0.00	0.03	200	207
200 ISL	8.98	8.96	34.056	26.386	167.1	0.486	2.31	35.5	32.9	2.15	27.6	0.00			201	
228	8.76	8.74	34.124	26.474	159.2	0.532	1.98	30.3	36.8	2.29	29.0	0.00			229	206
250 ISL	8.61	8.58	34.162	26.528	154.5	0.566	1.76	26.8	39.6	2.38	29.9	0.00			251	
267	8.46	8.43	34.181	26.566	151.1	0.592	1.61	24.5	41.8	2.45	30.6	0.00			269	205
300 ISL	7.98	7.95	34.183	26.640	144.4	0.641	1.42	21.4	46.8	2.57	32.2	0.00			302	
317	7.71	7.68	34.179	26.676	141.1	0.665	1.33	19.9	49.5	2.63	33.1	0.00			319	204
376	7.03	6.99	34.200	26.790	130.9	0.746	0.95	14.0	59.1	2.84	35.8	0.00			378	203
400 ISL	6.83	6.79	34.213	26.827	127.5	0.777	0.81	11.9	62.5	2.91	36.6	0.00			403	
437	6.57	6.53	34.236	26.880	122.8	0.823	0.62	9.0	67.2	2.99	37.7	0.00			440	202
500 ISL	6.26	6.22	34.276	26.953	116.6	0.898	0.43	6.2	73.9	3.04	39.0	0.00			503	
521	6.16	6.11	34.290	26.977	114.5	0.923	0.36	5.2	76.2	3.06	39.5	0.00			525	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD	AMT	TYPE
31 30.6 N	120 14.6 W	06/01/05	1043	UTC	3928 m	350	05 kn			1020.6 mb	13.5 C	10.9 C				

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.00	15.00	33.148	24.545	338.1	0.000	5.81	101.0	1.4	0.33	0.0	0.00	0.38	0.15	0	
1	15.00	15.00	33.148	24.545	338.1	0.003	5.81	101.0	1.4	0.33	0.0	0.00	0.38	0.15	1	220
10 ISL	15.01	15.01	33.149	24.544	338.5	0.034	5.81	101.0	1.5	0.33	0.0	0.00	0.38	0.15	10	
15	15.01	15.01	33.149	24.544	338.6	0.051	5.81	101.0	1.5	0.33	0.0	0.00	0.38	0.15	15	219
20 ISL	15.01	15.01	33.148	24.544	338.8	0.068	5.80	100.8	1.5	0.33	0.0	0.00	0.40	0.16	20	
30	15.00	15.00	33.147 D	24.545	339.0	0.102	5.79	100.6	1.4	0.34	0.0	0.00	0.44	0.17	30	218
44	14.99	14.98	33.146	24.547	339.2	0.149	5.80	100.8	1.4	0.33	0.0	0.00	0.44	0.19	44	217
50 ISL	14.51	14.50	33.108	24.621	332.3	0.169	5.78	99.4	1.9	0.37	0.6	0.04	0.62	0.32	50	
54	14.04	14.03	33.089	24.705	324.4	0.182	5.76	98.1	2.2	0.44	1.0	0.06	0.70	0.40	54	216
64	12.45	12.44	33.137	25.059	290.8	0.213	5.04	83.1	6.2	0.89	8.1	0.04	0.30	0.30	64	215
75	11.68	11.67	33.187	25.243	273.5	0.244	4.67	75.8	8.7	1.11	11.6	0.02	0.17	0.22	75	214
85	11.05	11.04	33.267	25.420	256.8	0.271	4.37	70.0	11.5	1.28	14.4	0.02	0.10	0.13	85	213
94	10.55	10.54	33.405	25.615	238.4	0.293	3.91	62.0	15.1	1.49	17.8	0.01	0.05	0.07	94	212
100 ISL	10.29	10.28	33.487	25.724	228.1	0.307	3.69	58.2	17.1	1.59	19.4	0.01	0.03	0.05	100	
110	9.97	9.96	33.606	25.871	214.3	0.329	3.41	53.4	19.9	1.71	21.2	0.01	0.01	0.04	110	211
124	9.73	9.72	33.740	26.016	200.8	0.358	3.16	49.3	22.8	1.82	22.8	0.01	0.00	0.03	125	210
125 ISL	9.72	9.71	33.748	26.024	200.1	0.360	3.14	49.0	23.0	1.83	22.9	0.01	0.00	0.03	126	
145	9.55	9.53	33.882	26.157	187.8	0.399	2.81	43.7	26.2	1.95	24.6	0.01	0.00	0.03	146	209
150 ISL	9.52	9.50	33.906	26.181	185.7	0.408	2.75	42.7	26.8	1.97	24.9	0.01	0.00	0.03	151	
168	9.41	9.39	33.977	26.255	179.1	0.441	2.59	40.2	28.7	2.04	25.7	0.01	0.00	0.03	169	208
199	9.07	9.05	34.066	26.379	167.7	0.495	2.30	35.4	33.1	2.17	27.6	0.01	0.00	0.02	200	207
200 ISL	9.05	9.03	34.067	26.383	167.4	0.496	2.29	35.3	33.2	2.17	27.7	0.01			201	
228	8.59	8.57	34.092	26.475	159.0	0.542	2.13	32.5	37.3	2.26	29.2	0.00			229	206
250 ISL	8.28	8.25	34.123	26.547	152.4	0.576	1.88	28.5	41.3	2.38	30.6	0.00			251	
268	8.05	8.02	34.150	26.603	147.4	0.603	1.66	25.0	44.7	2.49	31.7	0.00			270	205
300 ISL	7.71	7.68	34.185	26.681	140.4	0.649	1.32	19.7	50.2	2.66	33.3	0.00			302	
317	7.55	7.52	34.197	26.714	137.5	0.673	1.17	17.4	52.9	2.73	34.1	0.00			319	204
377	6.92	6.88	34.200	26.805	129.4	0.753	0.91	13.4	60.5	2.88	36.2	0.00			379	203
400 ISL	6.76	6.72	34.216	26.839	126.3	0.783	0.79	11.5	63.8	2.97	37.0	0.00			403	
437	6.54	6.50	34.249	26.895	121.5	0.828	0.59	8.6	69.0	3.10	38.2	0.00			440	202
500 ISL	6.17	6.13	34.295	26.980	114.0	0.903	0.38	5.5	76.8	3.21	39.7	0.00			503	
520	6.05	6.00	34.310	27.007	111.5	0.925	0.31	4.5	79.3	3.25	40.2	0.00			523	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
31 10.6 N	120 56.0 W	06/01/05	1755	UTC	3878 m	080 02 kn	310 02 07	1	1020.0 mb	14.9 C	12.5 C	33m	2/8	AC

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.51	15.51	33.110	24.404	351.5	0.000	5.72	100.4	1.6	0.32	0.0	0.00	0.17	0.06	0	
3 A	15.51	15.51	33.110	24.405	351.6	0.011	5.72	100.4	1.6	0.32	0.0	0.00	0.17	0.06	3	223
10 ISL	15.49	15.49	33.109	24.408	351.4	0.035	5.74	100.7	1.6	0.31	0.0	0.00	0.17	0.06	10	
14	15.48	15.48	33.109	24.411	351.3	0.049	5.74	100.7	1.6	0.31	0.0	0.00	0.17	0.06	14	222
20 ISL	15.47	15.47	33.111	24.415	351.1	0.070	5.72	100.3	1.6	0.32	0.0	0.00	0.18	0.05	20	
22 A	15.46	15.46	33.112	24.418	350.9	0.077	5.71	100.1	1.6	0.32	0.0	0.00	0.19	0.05	22	221
30 ISL	15.08	15.08	33.018	24.429	350.1	0.105	5.76	100.2	1.7	0.33	0.0	0.00	0.22	0.07	30	
34	14.88	14.87	32.978	24.441	349.0	0.119	5.80	100.5	1.7	0.34	0.0	0.00	0.24	0.09	34	220
45 A	14.87	14.86	33.061	24.508	343.0	0.157	5.83	101.0	1.7	0.34	0.0	0.00	0.37	0.18	45	218
50	14.84	14.83	33.090	24.537	340.4	0.174	5.83	101.0	1.6	0.34	0.0	0.00	0.47	0.20	50	217
57	14.80	14.79	33.098	24.552	339.2	0.198	5.78	100.0	1.6	0.35	0.0	0.00	0.50	0.30	57	216
69 A	12.89	12.88	32.956	24.834	312.4	0.237	5.84	97.1	2.8	0.50	1.6	0.08	0.40	0.41	69	215
75 ISL	12.54	12.53	32.941	24.890	307.1	0.256	5.72	94.4	3.4	0.58	2.8	0.06	0.35	0.31	75	
78	12.43	12.42	32.939	24.910	305.3	0.265	5.65	93.0	3.7	0.62	3.4	0.04	0.33	0.26	78	214
88 A	11.81	11.80	32.923	25.014	295.5	0.295	5.51	89.5	4.7	0.74	5.5	0.04	0.29	0.33	88	213
100 ISL	10.83	10.82	33.017	25.264	271.9	0.329	5.08	80.8	8.3	1.04	10.7	0.02	0.15	0.24	100	
102	10.65	10.64	33.042	25.315	267.1	0.335	5.00	79.3	9.1	1.10	11.6	0.02	0.12	0.21	102	212
113	9.72	9.71	33.201	25.596	240.4	0.363	4.71	73.2	13.6	1.35	14.6	0.01	0.03	0.05	113	211
125 A	9.52	9.51	33.383	25.771	224.0	0.390	4.35	67.4	16.9	1.46	18.0	0.00	0.01	0.03	126	210
144	9.34	9.32	33.592	25.964	206.0	0.431	4.61	71.2	16.9	1.32	16.7	0.00	0.01	0.02	145	209
150 ISL	9.26	9.24	33.657	26.028	200.1	0.443	4.42	68.2	18.5	1.39	17.8	0.00	0.01	0.02	151	
169	8.99	8.97	33.834	26.210	183.1	0.480	3.63	55.7	24.9	1.71	22.5	0.00	0.00	0.03	170	208
199	8.60	8.58	33.973	26.380	167.4	0.532	3.03	46.2	31.0	1.95	25.8	0.00	0.00	0.02	200	207
200 ISL	8.59	8.57	33.976	26.384	167.1	0.534	3.01	45.8	31.2	1.96	25.9	0.00			201	
229	8.22	8.20	34.033	26.485	157.9	0.581	2.58	39.0	36.9	2.11	28.4	0.00			230	206
250 ISL	7.82	7.80	34.049	26.557	151.2	0.614	2.36	35.3	41.6	2.23	30.0	0.00			251	
269	7.46	7.43	34.055	26.614	146.0	0.642	2.18	32.4	45.7	2.34	31.4	0.00			270	205
300 ISL	7.06	7.03	34.068	26.680	140.0	0.686	1.85	27.2	51.3	2.50	33.3	0.00			302	
318	6.87	6.84	34.075	26.712	137.1	0.711	1.67	24.5	54.3	2.58	34.2	0.00			320	204
376	6.30	6.27	34.100	26.808	128.5	0.788	1.23	17.8	64.0	2.82	36.9	0.00			378	203
400 ISL	6.10	6.06	34.121	26.850	124.7	0.819	1.04	15.0	68.3	2.89	37.8	0.00			402	
437	5.84	5.80	34.157	26.911	119.1	0.864	0.77	11.0	74.6	2.99	39.1	0.00			440	202
500 ISL	5.55	5.51	34.209	26.989	112.4	0.937	0.50	7.1	82.4	3.11	40.5	0.00			503	
520	5.46	5.42	34.226	27.013	110.2	0.959	0.42	6.0	84.9	3.15	40.9	0.00			523	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
30 50.9 N	121 35.1 W	06/01/05	2324	UTC	4091 m	180 07 kn	210 02 09	1	1015.6 mb	15.0 C	12.8 C	34m	4/8	CS

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.27	16.27	33.205	24.307	360.8	0.000	5.64	100.6	1.6	0.29	0.0	0.00	0.11	0.04	0	
2	16.27	16.27	33.205	24.307	360.9	0.007	5.64	100.6	1.6	0.29	0.0	0.00	0.11	0.04	2	220
10 ISL	16.18	16.18	33.200	24.324	359.5	0.036	5.66	100.8	1.5	0.29	0.0	0.00	0.12	0.03	10	
15	16.11	16.11	33.196	24.337	358.4	0.054	5.67	100.8	1.5	0.29	0.0	0.00	0.12	0.03	15	219
20 ISL	16.08	16.08	33.192	24.341	358.2	0.072	5.67	100.7	1.5	0.29	0.0	0.00	0.12	0.04	20	
30	16.04	16.04	33.187	24.346	358.0	0.108	5.65	100.3	1.6	0.29	0.0	0.00	0.12	0.05	30	218
45	16.04	16.03	33.189	24.348	358.3	0.161	5.65	100.3	1.6	0.29	0.0	0.00	0.16	0.06	45	217
50 ISL	16.00	15.99	33.179	24.350	358.3	0.179	5.66	100.4	1.5	0.29	0.0	0.00	0.17	0.05	50	
55	15.96	15.95	33.170	24.352	358.2	0.197	5.67	100.5	1.5	0.29	0.0	0.00	0.18	0.04	55	216
65	14.96	14.95	33.132	24.544	340.2	0.232	5.79	100.5	2.1	0.36	0.2	0.04	0.38	0.23	65	215
75	14.07	14.06	33.092	24.701	325.3	0.265	5.77	98.4	2.7	0.42	1.0	0.07	0.32	0.26	75	214
83	12.98	12.97	33.046	24.886	307.8	0.291	5.63	93.8	3.5	0.56	2.9	0.07	0.33	0.23	83	213
94	12.42	12.41	33.084	25.025	294.8	0.324	5.39	88.8	4.8	0.71	5.5	0.02	0.24	0.26	94	212
100 ISL	12.08	12.07	33.183	25.166	281.5	0.341	5.26	86.1	5.9	0.78	6.9	0.02	0.18	0.20	100	
110	11.52	11.51	33.353	25.402	259.2	0.368	5.06	81.9	7.8	0.88	9.1	0.01	0.10	0.08	110	211
125	10.84	10.82	33.407	25.567	243.8	0.406	4.90	78.2	9.7	0.97	11.2	0.01	0.05	0.08	126	210
143	9.35	9.33	33.452	25.853	216.5	0.447	4.11	63.5	19.1	1.56	19.8	0.00	0.01	0.02	144	209
150 ISL	9.27	9.25	33.548	25.941	208.3	0.462	3.86	59.5	21.4	1.68	21.5	0.00	0.01	0.02	151	
170	9.05	9.03	33.758	26.141	189.7	0.502	3.32	51.0	25.9	1.85	24.1	0.00	0.00	0.02	171	208
200	8.77	8.75	33.964	26.347	170.7	0.556	3.06	46.8	30.2	1.90	25.6	0.00	0.00	0.02	201	207
230	8.44	8.42	34.018	26.440	162.3	0.606	2.73	41.4	34.5	2.05	27.6	0.00			231	206
250 ISL	8.13	8.10	34.041	26.505	156.3	0.638	2.51	37.8	38.6	2.17	29.2	0.00			251	
268	7.84	7.81	34.056	26.560	151.3	0.666	2.32	34.7	42.4	2.27	30.7	0.00			269	205
300 ISL	7.40	7.37	34.066	26.632	144.8	0.713	1.97	29.2	48.0	2.43	32.8	0.00			302	
318	7.18	7.15	34.070	26.666	141.7	0.739	1.77	26.1	50.9	2.52	33.8	0.00			320	204
377	6.63	6.60	34.119	26.780	131.5	0.819	1.16	16.9	61.0	2.80	36.7	0.00			379	203
400 ISL	6.38	6.34	34.125	26.817	128.0	0.849	1.03	14.9	65.0	2.86	37.6	0.00			402	
436	6.02	5.98	34.136	26.872	123.0	0.894	0.88	12.6	71.0	2.94	38.9	0.00			439	202
500 ISL	5.67	5.63	34.204	26.970	114.3	0.970	0.53	7.5	80.5	3.10	40.6	0.00			503	
521	5.56	5.52	34.226	27.001	111.5	0.994	0.41	5.8	83.6	3.15	41.1	0.00			524	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 31.0 N	122 15.3 W	07/01/05	0533 UTC	4224 m	180 21 kn			1013.1 mb	15.9 C	13.8 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.40	16.40	33.294	24.345	357.1	0.000	5.61	100.4	1.7	0.29	0.0	0.00	0.13	0.05	0	
2	16.40	16.40	33.294	24.346	357.2	0.007	5.61	100.4	1.7	0.29	0.0	0.00	0.13	0.05	2	220
10 ISL	16.40	16.40	33.293	24.345	357.5	0.036	5.60	100.2	1.8	0.28	0.0	0.00	0.14	0.04	10	
15	16.40	16.40	33.292	24.344	357.7	0.054	5.60	100.2	1.9	0.28	0.0	0.00	0.14	0.04	15	219
20 ISL	16.40	16.40	33.292	24.345	357.8	0.071	5.60	100.2	2.0	0.28	0.0	0.00	0.14	0.04	20	
30 ISL	16.40	16.40	33.291	24.344	358.2	0.107	5.61	100.4	2.2	0.28	0.0	0.00	0.14	0.05	30	
31	16.40	16.40	33.291	24.344	358.2	0.111	5.61	100.4	2.2	0.28	0.0	0.00	0.14	0.05	31	218
44	16.39	16.38	33.290	24.346	358.5	0.157	5.61	100.3	2.1	0.27	0.0	0.00	0.16	0.05	44	217
50 ISL	16.39	16.38	33.289	24.346	358.7	0.179	5.60	100.1	1.7	0.27	0.0	0.00	0.16	0.05	50	
54	16.39	16.38	33.289	24.346	358.8	0.193	5.60	100.1	1.5	0.27	0.0	0.00	0.16	0.05	54	216
65	16.34	16.33	33.287	24.356	358.2	0.233	5.61	100.2	1.6	0.27	0.0	0.00	0.20	0.08	65	215
75	15.18	15.17	33.392	24.697	326.0	0.267	5.74	100.3	2.2	0.29	0.1	0.05	0.27	0.22	75	214
84	14.66	14.65	33.448	24.852	311.3	0.296	5.69	98.4	2.6	0.31	0.4	0.14	0.27	0.23	84	213
96	13.73	13.72	33.482	25.073	290.5	0.332	5.46	92.6	3.5	0.43	2.4	0.04	0.19	0.17	96	212
100 ISL	13.43	13.42	33.466	25.122	285.9	0.343	5.41	91.2	3.8	0.48	3.2	0.03	0.17	0.16	100	
112	12.47	12.46	33.405	25.264	272.5	0.377	5.24	86.6	5.4	0.65	6.0	0.01	0.12	0.12	112	211
125 ISL	11.12	11.10	33.401	25.512	249.0	0.411	4.95	79.4	9.2	0.94	10.6	0.01	0.06	0.07	126	
127	10.93	10.91	33.405	25.549	245.5	0.416	4.90	78.3	9.8	0.98	11.3	0.01	0.05	0.06	128	210
144	10.17	10.15	33.467	25.729	228.5	0.456	4.67	73.4	13.3	1.17	14.5	0.00	0.02	0.04	145	209
150 ISL	9.95	9.93	33.507	25.798	222.1	0.469	4.59	71.9	14.6	1.23	15.5	0.00	0.01	0.03	151	
173	9.33	9.31	33.676	26.032	200.2	0.518	4.33	66.9	19.1	1.41	18.5	0.00	0.00	0.02	174	208
200 ISL	8.98	8.96	33.825	26.205	184.2	0.570	4.22	64.8	22.5	1.47	20.1	0.00	0.00	0.01	201	
203	8.95	8.93	33.839	26.221	182.8	0.575	4.20	64.4	22.9	1.48	20.3	0.00	0.00	0.01	204	207
227	8.67	8.65	33.938	26.342	171.6	0.618	3.85	58.7	27.1	1.62	22.5	0.00			228	206
250 ISL	8.28	8.25	33.991	26.444	162.2	0.656	3.38	51.1	32.9	1.82	25.4	0.00			251	
267	7.96	7.93	34.012	26.508	156.3	0.683	3.01	45.2	37.5	1.97	27.7	0.00			268	205
300 ISL	7.34	7.31	34.023	26.606	147.2	0.733	2.46	36.4	45.6	2.22	31.1	0.00			302	
318	7.02	6.99	34.022	26.650	143.1	0.760	2.21	32.5	49.7	2.34	32.6	0.00			320	204
374	6.29	6.26	34.035	26.758	133.2	0.837	1.68	24.3	60.2	2.60	35.8	0.00			376	203
400 ISL	6.05	6.02	34.047	26.798	129.5	0.871	1.48	21.3	64.6	2.69	37.0	0.00			402	
439	5.77	5.73	34.079	26.858	124.1	0.921	1.19	17.0	70.9	2.82	38.4	0.00			442	202
500 ISL	5.51	5.47	34.182	26.972	113.9	0.993	0.72	10.2	81.1	3.02	40.2	0.00			503	
515	5.44	5.40	34.208	27.001	111.3	1.010	0.60	8.5	83.6	3.07	40.6	0.00			518	201

RV NEW HORIZON CALCOFI CRUISE 0501 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT TYPE
30 11.1 N	122 55.1 W	07/01/05	1237 UTC	3969 m	210 27 kn			1007.0 mb	16.5 C	16.0 C		

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	15.60	15.60	33.067	24.351	356.5	0.000	5.71	100.4	1.8	0.24	0.0	0.00	0.17	0.06	0	
2	15.60	15.60	33.067	24.351	356.6	0.007	5.71	100.4	1.8	0.24	0.0	0.00	0.17	0.06	2	220
10 ISL	15.58	15.58	33.061	24.352	356.8	0.036	5.71	100.4	1.9	0.23	0.0	0.00	0.17	0.07	10	
14	15.58	15.58	33.059	24.350	357.1	0.050	5.71	100.4	1.9	0.23	0.0	0.00	0.17	0.07	14	219
20 ISL	15.61	15.61	33.068	24.351	357.2	0.071	5.71	100.4	1.9	0.23	0.0	0.00	0.17	0.07	20	
29	15.68	15.68	33.087	24.350	357.6	0.104	5.70	100.4	1.8	0.23	0.0	0.00	0.18	0.07	29	218
30 ISL	15.69	15.69	33.089	24.349	357.7	0.107	5.70	100.4	1.8	0.23	0.0	0.00	0.18	0.07	30	
45	15.77	15.76	33.137	24.369	356.3	0.161	5.68	100.2	1.7	0.21	0.0	0.00	0.18	0.07	45	217
50 ISL	15.94	15.93	33.199	24.379	355.5	0.178	5.66	100.3	1.7	0.21	0.0	0.00	0.19	0.08	50	
59	16.19	16.18	33.305	24.404	353.4	0.210	5.63	100.3	1.8	0.20	0.0	0.00	0.22	0.10	59	216
75	15.76	15.75	33.297	24.495	345.2	0.266	5.70	100.7	2.0	0.21	0.0	0.02	0.28	0.17	75	215
85	15.03	15.02	33.371	24.713	324.7	0.300	5.70	99.2	2.4	0.23	0.2	0.09	0.25	0.23	85	214
94	14.32	14.31	33.401	24.888	308.2	0.328	5.59	96.0	2.9	0.28	1.1	0.16	0.25	0.20	94	213
100 ISL	14.14	14.13	33.440	24.956	301.8	0.347	5.55	94.9	3.1	0.30	1.4	0.13	0.24	0.19	100	
104	14.03	14.02	33.464	24.998	298.0	0.359	5.52	94.2	3.3	0.31	1.7	0.09	0.23	0.18	104	212
114	13.28	13.26	33.491	25.172	281.6	0.387	5.38	90.4	4.0	0.38	3.3	0.02	0.14	0.16	114	211
125	12.42	12.40	33.473	25.327	266.9	0.418	5.23	86.3	5.7	0.53	6.0	0.01	0.09	0.10	126	210
140	11.23	11.21	33.471	25.547	246.0	0.456	5.11	82.2	8.4	0.74	9.4	0.01	0.04	0.08	141	209
150 ISL	10.53	10.51	33.486	25.683	233.2	0.480	4.98	78.9	10.8	0.88	11.8	0.01	0.02	0.06	151	
166	9.65	9.63	33.554	25.885	214.1	0.516	4.64	72.2	15.4	1.12	15.9	0.00	0.01	0.02	167	208
193	9.01	8.99	33.807	26.186	185.9	0.570	3.55	54.5	25.0	1.58	22.9	0.00	0.00	0.02	194	207
200 ISL	8.90	8.88	33.850	26.237	181.1	0.583	3.54	54.2	26.1	1.59	23.4	0.00			201	
229	8.50	8.48	33.971	26.394	166.6	0.633	3.51	53.3	30.1	1.64	24.3	0.00			230	206
250 ISL	8.20	8.17	34.025	26.482	158.5	0.667	2.90	43.8	35.8	1.87	27.4	0.00			251	
268	7.94	7.91	34.053	26.543	153.0	0.695	2.33	35.0	41.0	2.08	30.2	0.00			269	205
300 ISL	7.49	7.46	34.071	26.623	145.7	0.743	1.95	29.0	46.9	2.26	32.4	0.00			302	
317	7.27	7.24	34.075	26.657	142.6	0.768	1.84	27.2	49.6	2.33	33.1	0.00			319	204
381	6.60	6.57	34.130	26.792	130.3	0.855	1.10	16.0	62.0	2.65	36.8	0.00			383	203
400 ISL	6.43	6.39	34.138	26.821	127.7	0.879	0.98	14.2	65.0	2.70	37.5	0.00			402	
438	6.13	6.09	34.155	26.874	123.0	0.927	0.81	11.7	70.6	2.78	38.7	0.00			441	202
500 ISL	5.81	5.77	34.213	26.960	115.4	1.001	0.51	7.3	78.9	2.93	40.2	0.00			503	
515	5.73	5.69	34.227	26.981	113.5	1.018	0.44	6.3	80.9	2.97	40.6	0.00			518	201

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE
29 50.5 N	123 35.1 W	07/01/05	1930 UTC	4084 m	270 18 kn	240 05 06	1	1010.3 mb	16.9 C	15.5 C	37m	1/8	CU

DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRES db	SAMP
0 ISL	16.70	16.70	33.349	24.318	359.7	0.000	5.57	100.3	1.8	0.28	0.0	0.01	0.13	0.03	0	
4 A	16.70	16.70	33.349	24.319	359.8	0.014	5.57	100.3	1.8	0.28	0.0	0.01	0.13	0.03	4	223
10 ISL	16.70	16.70	33.348	24.318	360.1	0.036	5.57	100.3	1.9	0.26	0.0	0.01	0.14	0.03	10	
14	16.70	16.70	33.348	24.318	360.2	0.050	5.57	100.3	1.9	0.25	0.0	0.01	0.14	0.03	14	222
20 ISL	16.65	16.65	33.343	24.326	359.6	0.072	5.58	100.3	1.7	0.24	0.0	0.01	0.14	0.04	20	
25 A	16.60	16.60	33.339	24.335	358.9	0.090	5.59	100.4	1.6	0.24	0.0	0.01	0.14	0.04	25	221
30 ISL	16.56	16.56	33.335	24.341	358.5	0.108	5.59	100.3	1.6	0.24	0.0	0.01	0.14	0.04	30	
37	16.53	16.52	33.332	24.346	358.3	0.133	5.59	100.3	1.7	0.23	0.0	0.01	0.14	0.04	37	220
50 A	16.52	16.51	33.332	24.349	358.4	0.180	5.59	100.2	1.7	0.22	0.0	0.01	0.15	0.04	50	219
60	16.52	16.51	33.332	24.349	358.7	0.215	5.60	100.4	1.6	0.21	0.0	0.00	0.16	0.05	60	218
69	16.51	16.50	33.332	24.352	358.7	0.248	5.59	100.2	1.6	0.20	0.0	0.01	0.17	0.04	69	217
75 ISL	16.49	16.48	33.333	24.357	358.4	0.269	5.59	100.2	1.7	0.20	0.0	0.00	0.19	0.04	75	
77 A	16.49	16.48	33.333	24.358	358.5	0.276	5.59	100.2	1.7	0.20	0.0	0.00	0.19	0.04	77	216
83	15.75	15.74	33.355	24.542	341.0	0.297	5.67	100.2	1.9	0.20	0.0	0.01	0.29	0.16	83	215
88	15.12	15.11	33.386	24.705	325.5	0.314	5.74	100.1	2.3	0.22	0.1	0.05	0.34	0.26	88	214
98 A	13.82	13.81	33.211	24.845	312.2	0.346	5.52	93.7	3.2	0.39	2.0	0.11	0.31	0.24	98	213
100 ISL	13.74	13.73	33.244	24.887	308.3	0.352	5.50	93.2	3.3	0.39	2.1	0.10	0.30	0.23	100	
109	13.39	13.37	33.394	25.075	290.7	0.379	5.39	90.8	4.0	0.41	3.1	0.04	0.23	0.18	109	212
119	12.10	12.08	33.249	25.214	277.4	0.407	5.11	83.7	6.4	0.70	7.6	0.02	0.16	0.12	119	211
125 ISL	11.95	11.93	33.339	25.312	268.2	0.424	5.15	84.1	6.5	0.66	7.4	0.02	0.13	0.11	126	
130	11.87	11.85	33.432	25.399	260.0	0.437	5.19	84.7	6.5	0.62	7.1	0.02	0.10	0.10	131	210
141 A	10.84	10.82	33.433	25.587	242.2	0.465	5.00	79.8	9.7	0.84	10.7	0.01	0.05	0.06	142	209
150 ISL	10.30	10.28	33.440	25.686	232.8	0.486	4.82	76.0	12.0	0.99	13.1	0.01	0.03	0.04	151	
164	9.76	9.74	33.483	25.811	221.1	0.518	4.47	69.7	15.7	1.21	16.5	0.01	0.02	0.03	165	208
194	9.05	9.03	33.784	26.162	188.2	0.579	3.42	52.6	25.2	1.65	23.4	0.01	0.00	0.03	195	207
200 ISL	8.97	8.95	33.824	26.206	184.1	0.590	3.35	51.4	26.2	1.68	23.9	0.01			201	
228	8.69	8.67	33.955	26.353	170.7	0.640	3.15	48.1	30.0	1.77	25.4	0.01			229	206
250 ISL	8.42	8.39	34.020	26.445	162.1	0.677	2.74	41.6	34.7	1.92	27.6	0.01			251	
272	8.12	8.09	34.056	26.519	155.4	0.712	2.34	35.3	39.6	2.08	29.7	0.01			273	205
300 ISL	7.71	7.68	34.065	26.587	149.3	0.754	2.14	32.0	44.3	2.20	31.3	0.00			302	
319	7.43	7.40	34.062	26.625	145.8	0.782	2.05	30.4	47.2	2.27	32.1	0.00			321	204
379	6.71	6.68	34.088	26.745	134.9	0.866	1.50	21.9	57.7	2.54	35.4	0.00			381	203
400 ISL	6.53	6.49	34.106	26.783	131.4	0.894	1.29	18.7	61.3	2.63	36.4	0.00			402	
436	6.26	6.22	34.141	26.846	125.7	0.941	0.96	13.9	67.6	2.77	38.0	0.00			439	202
500 ISL	5.75	5.71	34.209	26.964	114.9	1.018	0.56	8.0	79.4	2.97	40.2	0.00			503	
516	5.62	5.58	34.227	26.995	112.1	1.036	0.46	6.5	82.4	3.02	40.7	0.00			519	201

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 43.6 N	121 33.2 W	18/01/05	1837 UTC	12 m		1215 - 1745 PST	1217 PST	1746 PST	785.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.32	33.007	24.581	6.03	103.3	2.8	0.25	0.4	0.03	1.96	0.55	77. A	23.6	20.6	22.1	0.21
8	14.25	33.009	24.598	6.04	103.3	2.9	0.24	0.4	0.03	2.09	0.57	36.	38.2	40.2	39.2	0.30
17	14.23	33.010	24.603	6.01	102.8	2.9	0.24	0.4	0.03	2.41	0.58	11.	29.9	30.2	30.0	0.19
25	14.21	33.013	24.610	5.98	102.2	2.9	0.26	0.5	0.03	2.90	0.47	4.1	13.0	13.6	13.3	0.16
33	13.95	33.101	24.732	5.58	94.9	3.4	0.41	2.2	0.22	0.76	0.40	1.5	1.6	1.7	1.7	0.08
40	13.43	33.158	24.882	5.35	90.0	4.6	0.55	4.2	0.27	0.33	0.28					
47	13.09	33.162	24.953	5.23	87.4	5.4	0.64	5.7	0.22	0.28	0.27	0.24	0.11	0.08	0.10	0.07

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.0 N	124 19.4 W	17/01/05	1817 UTC	21 m		1227 - 1759 PST	1227 PST	1801 PST	123.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.88	33.061	24.504	5.80	100.5	1.6	0.21	0.0	0.00	0.23	0.10	86. A	1.5	1.5	1.5	0.10
15	14.88	33.061	24.505	5.81	100.7	1.6	0.20	0.0	0.00	0.24	0.09	33.	2.7	2.7	2.7	0.07
30	14.80	33.055	24.518	5.81	100.5	1.5	0.21	0.0	0.00	0.29	0.12	11.	2.4	2.6	2.5	0.05
44	14.28	32.949	24.546	5.84	99.9	1.8	0.23	0.0	0.03	0.35	0.18	4.0	2.0	1.7	1.9	0.05
51	14.27	32.949	24.549	5.83	99.7	1.9	0.24	0.0	0.03	0.33	0.17					
57	14.28	32.964	24.558	5.84	99.9	1.9	0.24	0.0	0.04	0.33	0.19	1.6	0.62	0.53	0.58	0.10
68	13.99	32.972	24.625	5.88	100.0	1.9	0.24	0.0	0.03	0.29	0.16					
80	13.79	32.938	24.640	5.89	99.7	2.1	0.25	0.0	0.05	0.27	0.16	0.29	0.05	0.04	0.04	0.07

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.1 N	121 50.4 W	16/01/05	1752 UTC	12 m		1217 - 1755 PST	1217 PST	1755 PST	398.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	12.92	33.094	24.933	6.11	101.7	4.0	0.38	1.9	0.09	1.00	0.29	88. A	8.9	6.5	7.7	0.16
8	12.90	33.097	24.939	6.13	102.0	4.0	0.37	2.0	0.09	1.13	0.25	36.	21.0	21.2	21.1	0.21
13	12.81	33.188	25.028	6.10	101.4	5.1	0.44	3.2	0.13	1.02	0.31					
16	12.77	33.205	25.049	6.06	100.6	5.2	0.45	3.4	0.14	0.98	0.33	13.	13.7	14.0	13.9	0.16
25	12.77	33.207	25.051	6.00	99.6	5.3	0.47	3.7	0.16	1.04	0.36	4.1	7.8	8.0	7.9	0.11
32	12.75	33.213	25.059	5.93	98.4	5.4	0.50	4.0	0.17	0.75	0.38	1.7	2.0	2.4	2.2	0.07
39	12.74	33.221	25.068	5.88	97.6	5.5	0.51	4.2	0.18	0.53	0.33					
46	12.73	33.223	25.071	5.87	97.4	5.5	0.52	4.2	0.18	0.51	0.26	0.28	0.14	0.23	0.19	0.11

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.9 N	119 30.8 W	15/01/05	1750 UTC	5 m		1205 - 1738 PST	1208 PST	1738 PST	290.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.69	32.534	24.139	5.78	99.5	6.5	0.51	1.7	0.14	2.00	0.32	74. A	30.8	34.0	32.4	0.17
3	14.70	32.542	24.143	5.74	98.8	6.4	0.51	1.7	0.14	2.06	0.38	40.	55.5	46.2	50.8	0.21
7	14.72	32.564	24.156	5.71	98.3	6.2	0.44	1.7	0.14	1.53	0.29	12.	14.8	14.8	14.8	0.14
10	14.74	32.585	24.167	5.70	98.2	6.1	0.43	1.6	0.13	1.34	0.26	4.6	5.0	5.3	5.1	0.11
13	14.78	32.606	24.175	5.70	98.3	5.7	0.41	1.5	0.12	1.22	0.24	1.8	1.2	1.4	1.3	0.13
19	14.81	32.957	24.440	5.76	99.6	2.9	0.28	0.6	0.08	0.93	0.28	0.29	0.18	0.19	0.18	0.08

A) INCUBATION LIGHT INTENSITIES WERE 86, 37, 12, 4.0, 2.0, 0.0 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 14.8 N	121 26.7 W	14/01/05	1833 UTC	15 m		1215 - 1747 PST	1215 PST	1746 PST	340.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	13.42	33.071	24.816	5.96	100.3	3.2	0.34	1.2	0.09	0.92	0.15	81. A	5.2	4.5	4.8	0.10
10	13.36	33.070	24.827	5.96	100.1	3.1	0.34	1.2	0.09	0.98	0.21	36.	12.4	13.4	12.9	0.12
21	13.35	33.073	24.832	5.96	100.1	3.1	0.34	1.2	0.09	0.88	0.29	12.	10.1	11.0	10.5	0.12
32	13.34	33.070	24.832	5.94	99.7	3.1	0.34	1.3	0.09	0.77	0.28	3.8	6.2	6.2	6.2	0.09
40	12.60	33.109	25.008	5.49	90.8	5.7	0.60	5.4	0.12	0.36	0.19	1.7	1.2	1.0	1.1	0.06
48	11.78	33.158	25.201	5.03	81.8	8.4	0.86	9.6	0.08	0.22	0.09					
57	11.36	33.200	25.311	4.78	77.0	10.1	1.00	12.0	0.06	0.16	0.11	0.29	0.09	0.10	0.09	0.04

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 54.8 N	124 10.8 W	13/01/05	1748 UTC	25 m		1226 - 1755 PST	1226 PST	1758 PST	137.4 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	14.73	32.843	24.368	5.81	100.3	1.5	0.24	0.0	0.00	0.24	0.08	83. A	1.5	1.7	1.6	0.06
16	14.73	32.831 D	24.359	5.83	100.6	1.5	0.24	0.0	0.00	0.23	0.09	37.	3.1	3.3	3.2	0.05
25	14.72	32.831	24.362	5.82	100.4	1.5	0.24	0.0	0.00	0.23	0.09					
34	14.72	32.831	24.362	5.82	100.4	1.5	0.23	0.0	0.00	0.24	0.09	12.	2.6	2.3	2.4	0.04
43	14.72	32.831	24.362	5.82	100.4	1.5	0.23	0.0	0.00	0.23	0.10					
52	14.72	32.833	24.364	5.82	100.4	1.5	0.23	0.0	0.00	0.26	0.09	4.1	1.1	1.1	1.1	0.04
60	14.61	32.849	24.400	5.81	100.0	1.6	0.23	0.0	0.01	0.31	0.17					
66	14.46	32.864	24.444	5.82	99.9	1.7	0.24	0.0	0.02	0.30	0.16	1.7	0.53	0.46	0.49	0.03
77	14.30	32.871	24.483	5.85	100.1	1.7	0.25	0.0	0.02	0.29	0.16					
86	14.05	32.886	24.547	5.84	99.4	1.9	0.28	0.2	0.08	0.26	0.09					
96	13.24	32.920	24.738	5.81	97.2	2.5	0.38	1.5	0.11	0.23	0.14	0.28	0.07	0.08	0.07	0.03

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 19.3 N	119 39.9 W	11/01/05	1945 UTC	14 m		1210 - 1738 PST	1207 PST	1740 PST	202.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.66	33.117	24.594	5.80	100.1	2.1	0.27	0.4	0.04	0.72	0.32	52.	1.6	2.5	2.1	0.09
6	14.66	33.119	24.596	5.80	100.1	2.0	0.27	0.4	0.04	0.68	0.31					
10	14.65	33.118	24.598	5.80	100.1	2.0	0.26	0.4	0.04	0.71	0.37	33.	11.0	11.5	11.2	1.2
20	14.65	33.118	24.598	5.80	100.1	2.0	0.27	0.4	0.04	0.73	0.34	11.	7.2	8.6	7.9	0.08
29	14.61	33.122	24.610	5.77	99.5	2.2	0.27	0.5	0.04	0.69	0.33	4.2	3.8	4.0	3.9	0.08
37	14.40	33.140	24.668	5.64	96.8	2.7	0.34	1.6	0.06	0.46	0.26	1.7	1.0	0.83	0.93	0.05
46	14.24	33.133	24.697	5.58	95.5	3.2	0.38	2.1	0.07	0.44	0.25					
52	13.60	33.179	24.864	5.31	89.7	5.0	0.54	4.7	0.10	0.30	0.18	0.33	0.07	0.08	0.08	0.06

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 19.7 N	121 43.4 W	12/01/05	1753 UTC	13 m		1215 - 1750 PST	1215 PST	1753 PST	154.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	14.25	32.981	24.576	5.91	101.1	2.5	0.28	0.0	0.01	0.51	0.19	89. A	0.97	1.8	1.4	0.07
9	14.24	32.980	24.578	5.91	101.0	2.5	0.26	0.0	0.01	0.54	0.21	35.	8.2	7.3	7.8	0.07
18	14.24	32.979	24.577	5.90	100.9	2.5	0.26	0.0	0.01	0.53	0.19	12.	5.1	5.4	5.3	0.08
28	14.22	32.988	24.588	5.90	100.8	2.5	0.26	0.0	0.02	0.53	0.18	3.7	2.6	2.7	2.6	0.07
35	14.21	32.989	24.592	5.89	100.6	2.5	0.26	0.0	0.02	0.52	0.19	1.6	0.90	0.71	0.80	0.06
43	14.13	33.107	24.699	5.84	99.7	2.6	0.29	0.6	0.07	0.39	0.19					
48	13.78	33.137	24.795	5.68	96.3	3.0	0.39	1.8	0.17	0.30	0.18	0.35	0.09	0.10	0.09	0.04

A) INCUBATION LIGHT INTENSITIES WERE 86, 37, 12, 4.0, 2.0, 0.0 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 25.4 N	117 54.3 W	10/01/05	1734 UTC	17 m		1200 - 1735 PST	1200 PST	1734 PST	169.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.51	32.909	24.250	5.75	100.8	1.6	0.25	0.0	0.00	0.65	0.25	83. A	10.1	9.7	9.9	0.07
11	15.47	33.186	24.472	5.74	100.7	1.6	0.24	0.0	0.00	0.64	0.24	37.	6.2	6.0	6.1	0.06
24	15.42	33.195	24.490	5.72	100.3	1.6	0.23	0.0	0.00	0.63	0.26	11.	2.2	2.6	2.4	0.05
35	15.36	33.196	24.505	5.72	100.2	1.7	0.22	0.0	0.01	0.57	0.26	4.2	0.54	0.62	0.58	0.04
46	15.31	33.201	24.520	5.69	99.5	1.8	0.23	0.0	0.02	0.45	0.24	1.6	0.16	0.13	0.15	0.04
55	15.16	33.206	24.557	5.61	97.8	2.2	0.27	0.5	0.08	0.33	0.24					
65	13.62	33.210	24.885	5.09	86.0	5.2	0.60	4.9	0.03	0.22	0.30	0.28	0.02	0.02	0.02	0.04

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 25.1 N	119 57.1 W	09/01/05	1834 UTC	16 m		1208 - 1738 PST	1207 PST	1738 PST	89.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.05	33.079	24.481	5.78	100.5	1.5	0.29	0.0	0.00	0.41	0.15	83. A	5.1	4.9	5.0	0.12
12	15.04	33.080	24.485	5.78	100.5	1.5	0.29	0.0	0.00	0.40	0.15	32.	3.4	3.5	3.5	0.10
16	15.04	33.080	24.485	5.78	100.5	1.5	0.26	0.0	0.00	0.39	0.16					
23	15.03	33.083	24.489	5.77	100.3	1.6	0.25	0.0	0.00	0.40	0.17	11.	1.1	1.2	1.2	0.08
34	14.94	33.084	24.510	5.78	100.3	1.5	0.25	0.0	0.00	0.43	0.16	3.8	0.30	0.30	0.30	0.06
42	14.84	33.082	24.530	5.77	99.9	1.6	0.26	0.0	0.01	0.42	0.22	1.8	0.10	0.08	0.09	0.05
53	13.50	33.017	24.759	5.73	96.5	2.6	0.39	1.6	0.13	0.46	0.48					
62	12.51	32.996	24.938	5.57	91.9	3.9	0.52	3.8	0.09	0.33	0.48	0.26	0.01	0.02	0.02	0.03

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 5.1 N	122 39.6 W	08/01/05	1743 UTC	20 m		1215 - 1750 PST	1218 PST	1749 PST	90.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	14.72	32.885	24.403	5.84	100.8	1.7	0.29	0.0	0.00	0.22	0.09	86. A	3.1	3.2	3.2	0.07
14	14.72	32.886	24.404	5.83	100.6	1.8	0.27	0.0	0.00	0.23	0.10	34.	2.7	2.6	2.7	0.07
27	14.71	32.886	24.406	5.84	100.7	1.7	0.25	0.0	0.00	0.28	0.07	13.	1.3	1.3	1.3	0.06
42	14.54	32.947	24.490	5.84	100.4	1.9	0.26	0.0	0.00	0.44	0.17	4.0	0.60	0.63	0.62	0.05
52	13.77	32.996	24.688	5.76	97.5	2.5	0.35	1.1	0.12	0.41	0.27	1.8	0.30	0.25	0.27	0.04
64	13.12	32.939	24.775	5.77	96.4	3.0	0.41	1.7	0.09	0.39	0.34					
76	11.94	33.043	25.083	5.34	87.0	5.3	0.65	6.3	0.01	0.18	0.18	0.29	0.02	0.03	0.02	0.02

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.6 N	117 18.3 W	04/01/05	1940 UTC	9 m		1234 - 1725 PST	1154 PST	1736 PST	114.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.28	32.980	24.355	5.77	100.8	2.2	0.36	0.1	0.00	0.61	0.25	84. A	6.4	5.9	6.1	0.07
6	15.29	33.000	24.368	5.77	100.8	2.2	0.35	0.1	0.00	0.66	0.23	36.	7.7	7.9	7.8	0.09
12	15.40	33.152	24.461	5.74	100.6	1.8	0.36	0.1	0.00	0.72	0.31	13.	5.1	5.2	5.2	0.09
19	15.32	33.195	24.512	5.72	100.1	1.9	0.36	0.2	0.02	0.80	0.34	3.9	2.1	2.2	2.1	0.05
24	15.23	33.185	24.525	5.68	99.2	2.1	0.38	0.3	0.04	0.72	0.30	1.7	0.16	0.65	0.41	0.05
34	15.16	33.177	24.534	5.67	98.9	2.1	0.40	0.3	0.04	0.47	0.28	0.30	0.05	0.05	0.05	0.04

A) INCUBATION LIGHT INTENSITIES WERE 86, 37, 12, 4.0, 2.0, 0.0 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 21.3 N	118 34.1 W	05/01/05	1728 UTC	21 m		1155 - 1723 PST	1159 PST	1733 PST	343.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.40	33.226	24.518	5.77	101.2	2.1	0.33	0.0	0.00	0.57	0.04	86. A	2.7	3.4	3.0	0.10
14	15.33	33.222	24.531	5.77	101.0	2.2	0.33	0.0	0.00	0.64	0.15	36.	9.6	9.9	9.7	0.11
22	15.32	33.222	24.533	5.76	100.8	2.1	0.33	0.0	0.00	0.68	0.13					
29	15.32	33.221	24.533	5.76	100.8	2.1	0.34	0.0	0.00	0.67	0.13	12.	8.4	8.6	8.5	0.09
36	14.57	33.181	24.664	5.57	96.0	3.3	0.49	1.3	0.09	0.87	0.48					
45	13.00	33.179	24.984	4.94	82.4	6.5	0.88	6.8	0.04	0.40	0.44	3.7	2.7	2.8	2.7	0.04
57	12.46	33.211	25.115	4.69	77.4	8.0	1.02	9.2	0.02	0.28	0.31	1.6	1.0	0.95	0.99	0.05
68	11.70	33.301	25.328	4.24	68.9	11.2	1.23	12.9	0.01	0.13	0.15					
81	11.09	33.304	25.441	4.26	68.3	12.1	1.29	14.3	0.01	0.10	0.14	0.27	0.13	0.09	0.11	0.02

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 10.6 N	120 56.0 W	06/01/05	1755 UTC	33 m		1205 - 1740 PST	1210 PST	1747 PST	302.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	15.51	33.110	24.405	5.72	100.4	1.6	0.32	0.0	0.00	0.17	0.06	87. A	0.84	1.0	0.93	0.10
14	15.48	33.109	24.411	5.74	100.7	1.6	0.31	0.0	0.00	0.17	0.06					
22	15.46	33.112	24.418	5.71	100.1	1.6	0.32	0.0	0.00	0.19	0.05	36.	2.9	2.8	2.8	0.10
34	14.88	32.978	24.441	5.80	100.5	1.7	0.34	0.0	0.00	0.24	0.09					
45	14.87	33.061	24.508	5.83	101.0	1.7	0.34	0.0	0.00	0.37	0.18	12.	5.0	5.5	5.3	0.10
50	14.84	33.090	24.537	5.83	101.0	1.6	0.34	0.0	0.00	0.47	0.20					
57	14.80	33.098	24.552	5.78	100.0	1.6	0.35	0.0	0.00	0.50	0.30					
69	12.89	32.956	24.834	5.84	97.1	2.8	0.50	1.6	0.08	0.40	0.41	4.0	3.2	3.3	3.3	0.02
78	12.43	32.939	24.910	5.65	93.0	3.7	0.62	3.4	0.04	0.33	0.26					
88	11.81	32.923	25.014	5.51	89.5	4.7	0.74	5.5	0.04	0.29	0.33	1.7	1.3	1.3	1.3	0.04
102	10.65	33.042	25.315	5.00	79.3	9.1	1.10	11.6	0.02	0.12	0.21					
113	9.72	33.201	25.596	4.71	73.2	13.6	1.35	14.6	0.01	0.03	0.05					
125	9.52	33.383	25.771	4.35	67.4	16.9	1.46	18.0	0.00	0.01	0.03	0.30	0.01	0.01	0.01	0.02

RV NEW HORIZON — CALCOFI CRUISE 0501 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
29 50.5 N	123 35.1 W	07/01/05	1930 UTC	37 m		1230 - 1755 PST	1220 PST	1758 PST	123.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
4	16.70	33.349	24.319	5.57	100.3	1.8	0.28	0.0	0.01	0.13	0.03	85. A	0.55	0.53	0.54	0.08
14	16.70	33.348	24.318	5.57	100.3	1.9	0.25	0.0	0.01	0.14	0.03					
25	16.60	33.339	24.335	5.59	100.4	1.6	0.24	0.0	0.01	0.14	0.04	35.	1.6	1.7	1.6	0.09
37	16.53	33.332	24.346	5.59	100.3	1.7	0.23	0.0	0.01	0.14	0.04					
50	16.52	33.332	24.349	5.59	100.2	1.7	0.22	0.0	0.01	0.15	0.04	13.	1.3	1.1	1.2	0.08
60	16.52	33.332	24.349	5.60	100.4	1.6	0.21	0.0	0.00	0.16	0.05					
69	16.51	33.332	24.352	5.59	100.2	1.6	0.20	0.0	0.01	0.17	0.04					
77	16.49	33.333	24.358	5.59	100.2	1.7	0.20	0.0	0.00	0.19	0.04	4.1	0.78	0.76	0.77	0.05
83	15.75	33.355	24.542	5.67	100.2	1.9	0.20	0.0	0.01	0.29	0.16					
88	15.12	33.386	24.705	5.74	100.1	2.3	0.22	0.1	0.05	0.34	0.26					
98	13.82	33.211	24.845	5.52	93.7	3.2	0.39	2.0	0.11	0.31	0.24	1.7	0.83	0.99	0.91	0.03
109	13.39	33.394	25.075	5.39	90.8	4.0	0.41	3.1	0.04	0.23	0.18					
119	12.10	33.249	25.214	5.11	83.7	6.4	0.70	7.6	0.02	0.16	0.12					
130	11.87	33.432	25.399	5.19	84.7	6.5	0.62	7.1	0.02	0.10	0.10					
141	10.84	33.433	25.587	5.00	79.8	9.7	0.84	10.7	0.01	0.05	0.06	0.29	0.01	0.01	0.01	0.03

A) INCUBATION LIGHT INTENSITIES WERE 86, 37, 12, 4.0, 2.0, 0.0 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505mm

Line	Sta.	Latitude N	Longitude W	Date Mo/Day	Time (PST) Start	Time (PST) End	Water Volume Strained (m^3)	Max. Tow Depth (m)	Volume per 1000 m^3 Strained Total (cm^3)	Volume per 1000 m^3 Strained Small(cm^3)
77	49	35 06.1	120 47.3	1/18	2139	2145	142	50.3	7	7
77	51	35 01.4	120 55.4	1/18	1926	1947	410	217.2	183	183
77	55	34 53.5	121 11.4	1/18	1620	1641	452	207.0	53	53
77	60	34 44.2	121 34.0	1/18	1143	1204	434	210.3	48	48
77	70	34 23.6	122 15.2	1/18	0529	0550	444	207.3	27	27
77	80	34 03.4	122 56.7	1/17	2311	2332	442	210.2	84	84
77	90	33 44.1	123 39.5	1/17	1703	1725	525	197.2	29	29
77	100	33 22.6	124 19.0	1/17	0922	0944	447	208.0	36	36
80.0	50.5	34 27.7	120 29.2	1/15	2048	2050	48	11.6	83	83
80	51	34 27.0	120 31.9	1/15	2138	2144	127	56.4	24	24
80	60	34 09.5	121 10.5	1/16	0503	0524	413	206.9	48	48
80	70	33 49.7	121 50.7	1/16	1105	1126	430	206.2	23	23
80	80	33 29.5	122 33.2	1/16	1703	1725	460	216.3	98	98
80	90	33 09.8	123 14.7	1/16	2247	2309	462	208.0	755	755
80	100	32 49.5	123 55.5	1/17	0430	0451	431	215.0	411	411
81.7	43.5	34 24.2	119 48.1	1/15	1352	1354	41	11.2	48	48
82	47	34 16.0	120 01.7	1/15	1704	1725	444	205.2	29	29
83.3	39.4	34 15.5	119 19.5	1/15	0707	0709	41	14.1	73	73
83	40.6	34 13.7	119 25.2	1/15	0843	0846	55	20.3	128	128
83	42	34 10.9	119 31.6	1/15	1056	1107	245	102.8	33	33
83	51	33 52.5	120 08.5	1/15	0110	0118	169	64.9	53	53
83	55	33 44.5	120 25.5	1/14	2155	2216	431	207.4	121	121
83	60	33 35.2	120 45.4	1/14	1739	1801	430	209.0	47	47
83	70	33 15.3	121 27.0	1/14	1140	1202	480	206.9	37	37
83	80	32 55.1	122 08.4	1/14	0445	0506	448	209.7	208	208
83	90	32 34.6	122 49.3	1/13	2243	2304	441	208.9	315	315
83	100	32 14.9	123 29.3	1/13	1701	1723	440	207.5	441	441
83	110	31 55.7	124 13.0	1/13	1056	1117	505	201.8	476	420
85.4	35.8	34 00.7	118 50.1	1/19	1257	1259	45	12.8	22	22
87	33	33 56.6	118 29.6	1/10	2038	2043	108	41.1	74	74
87	35	33 49.6	118 37.8	1/10	2246	2308	431	210.6	74	37
87	40	33 39.3	118 59.2	1/11	0455	0517	456	221.3	57	57
87	45	33 28.8	119 19.9	1/11	0858	0920	551	180.5	22	22
87	50	33 18.9	119 40.9	1/11	1231	1238	190	56.8	42	42
87	90	32 00.6	122 25.2	1/12	1632	1654	489	208.4	63	63
87	100	31 40.4	123 04.6	1/12	2225	2248	496	220.9	77	77
87	110	31 19.8	123 44.6	1/13	0429	0451	446	209.8	101	101
86.8	32.4	33 53.3	118 26.3	1/10	1939	1941	41	14.1	98	98
88.5	30.2	33 40.3	118 05.5	1/10	1611	1613	42	14.1	24	24
90	27.7	33 29.5	117 44.8	1/10	1210	1212	42	14.5	47	47
90	28	33 29.2	117 45.9	1/10	1302	1307	112	39.0	107	107
90	30	33 25.2	117 54.0	1/10	0830	0852	431	209.2	23	23
90	35	33 15.5	118 14.2	1/10	0536	0554	358	174.2	36	36
90	37	33 11.2	118 22.6	1/10	0256	0317	436	197.0	46	46
90	45	32 54.3	118 55.4	1/09	2137	2159	416	214.4	106	106
90	53	32 37.6	119 27.3	1/09	1547	1608	472	207.8	25	25
90	60	32 25.4	119 56.7	1/09	0923	0945	497	206.9	12	12
90	70	32 05.1	120 37.8	1/09	0422	0444	450	217.7	64	64
90	80	31 44.4	121 19.0	1/08	2218	2238	424	210.3	57	57
90	90	31 23.7	121 58.7	1/08	1610	1630	435	207.4	32	32
90	100	31 04.5	122 38.9	1/08	0835	0855	449	190.1	20	20
90	110	30 44.7	123 18.7	1/08	0157	0217	455	196.7	15	15
90	120	30 24.9	124 00.8	1/07	1943	2004	478	198.0	29	29
91.7	26.4	33 14.5	117 27.6	1/20	0326	0328	46	11.0	108	108
93	26.7	32 57.4	117 18.3	1/04	1244	1252	167	70.1	36	36
93	28	32 54.5	117 24.1	1/04	1715	1735	403	210.7	55	55
93	30	32 50.5	117 31.8	1/04	2023	2043	426	192.8	23	23
93	40	32 30.9	118 13.5	1/05	0524	0544	413	202.1	27	27
93	45	32 20.9	118 33.3	1/05	0831	0851	426	200.8	33	33
93	50	32 16.0	118 54.6	1/05	1403	1424	452	198.8	51	51
93	55	32 00.6	119 15.1	1/05	1808	1828	441	199.4	77	77
93	60	31 50.5	119 34.5	1/05	2200	2220	425	202.0	42	42
93	70	31 31.0	120 15.3	1/06	0401	0421	418	201.7	67	67
93	80	31 10.6	120 55.4	1/06	0900	0920	419	202.7	38	38
93	90	30 50.7	121 35.3	1/06	1635	1655	401	209.1	30	30
93	100	30 30.3	122 14.0	1/06	2245	2305	430	216.8	28	28
93	110	30 10.4	122 55.3	1/07	0529	0549	445	196.7	25	25
93	120	29 49.7	123 35.7	1/07	1242	1302	434	202.0	25	25
93.4	26.4	32 57.0	117 16.7	1/04	1359	1401	49	13.7	102	102

FIGURES

Avifauna Observations

CalCOFI Cruise 0501

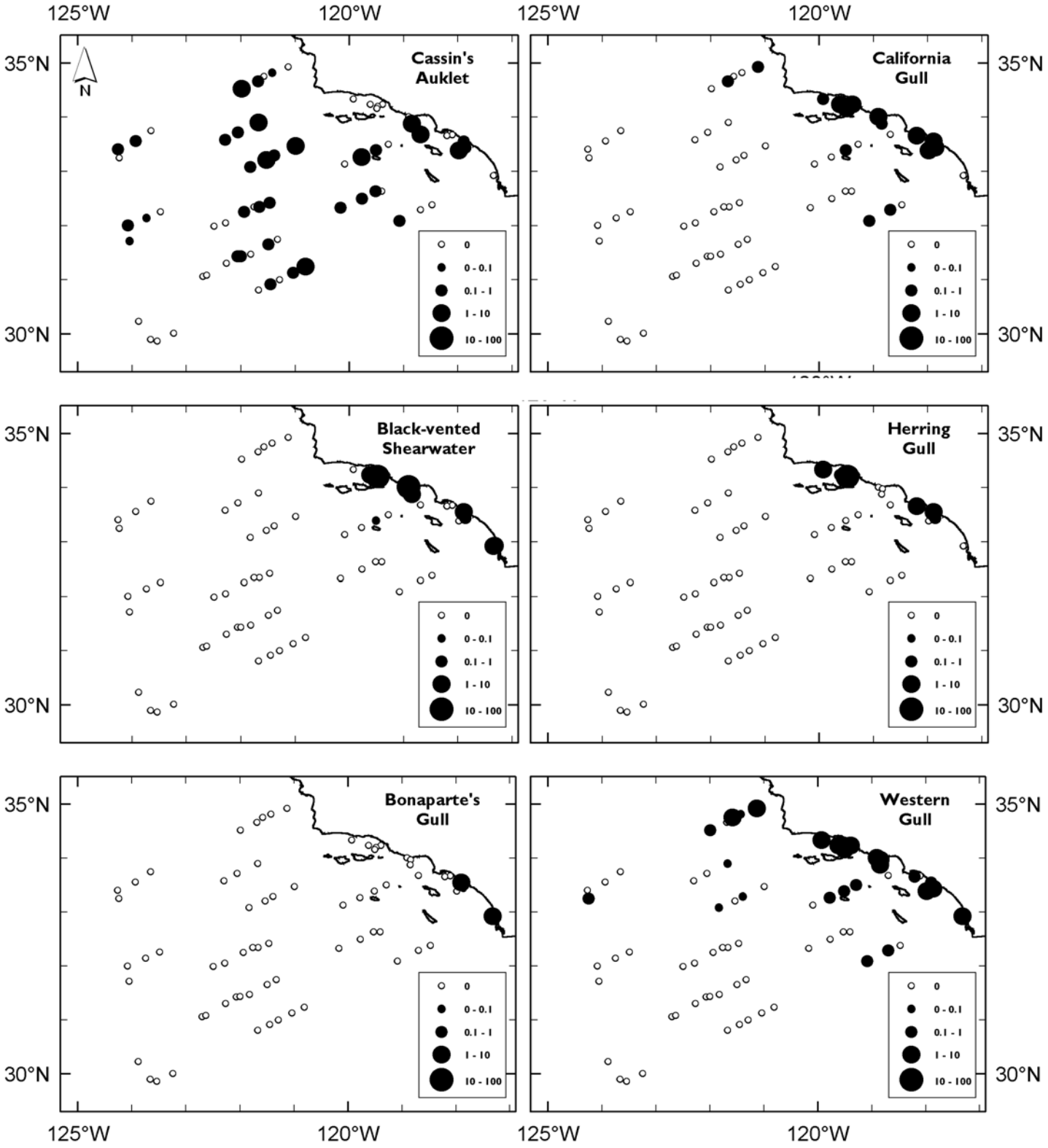
1a. Cassin's Auklet distribution.

1b. California Gull distribution.

1c. Black-vented Shearwater distribution.

1d. Herring Gull distribution.

1e. Bonaparte's Gull distribution

1f. Western Gull distribution.

CalCOFI Cruise 0501