UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 1501
15 January – 8 February 2015

CC Reference 16 - 01
20 May 2016

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093-0227

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

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CONTENTS

Introduction 4

Literature Cited 10

CalCOFI Cruise 1501

List of Figures 12

Personnel 23

Tabulated Rosette Cast Data 24

Tabulated Primary Productivity Data 63

INTRODUCTION

The data presented in this report were collected during cruise 1501* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV New Horizon. 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 Wildlife, 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 cruise were collected and processed by personnel of the Integrative Oceanography Division and the Southwest Fisheries Science Center. 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 3161-936) with a rosette was deployed at each station on this cruise. 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 515 meters, bottom depth permitting. Occasional stations have multiple bottles tripped at the same depth to provide more water for ancillary programs. Additional bottle depths also appear in combined hydrographic and primary productivity casts. 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 were 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 P152. 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 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.

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

Nutrient samples were analyzed at sea using a QuAAtro continuous flow analyzer (SEAL Analytical). Dissolved silicate, nitrate, and nitrite were analyzed using a modification of the method described by Armstrong (1967) and Gordon et al. (1992). Phosphate was measured with a modification of the Murphy and Riley (1962) protocol and ammonium is analyzed using a modified fluorometric method described by Kerouel and Aminot (1997). Samples were collected in 45ml high-density polypropylene screw top tubes which were acid washed and rinsed with sample three times prior to filling. Standardizations and cadmium-reduction coil efficiency determinations were performed at the beginning of every run. Drift and baseline corrections were performed in each run using a high standard and blank respectively inserted before and after sample sets. A sample of reference material for nutrients in seawater (RMNS), produced by KANSO technos (www.kanso.co.jp) was included in every run and those data were monitored throughout the cruise and available to adjust values for nitrate, nitrite, phosphate, and silicate if appropriate. A separate reference sample was used to monitor ammonium stability throughout the cruise. Samples not analyzed immediately after collection were refrigerated and run the following day.

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 minimum of 24 hours. Chlorophyll-*a* and phaeopigment 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. As determined by specific activity checks samples were inoculated with an average of 8.74 µCi for one half of the cruise and 8.08µCi for the remainder with ^{14}C as $NaHCO_3$ (200µl of stock solution) 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).

Avifauna Observations (Farallon Institute of Advanced Ecosystem Research)

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.

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 raw data are collected and archived for potential data processing ashore. The National Centers for Environmental Information (NCEI) in collaboration with the E.Firing Acoustic Doppler Current Profiler (ADCP) Laboratory at the University of Hawaii have established the Joint Archive for Shipboard ADCP (JASADCP). The JASADCP is responsible for the acquisition, review, documentation, archival, and distribution of shipboard ADCP data sets, data may be accessed through their website (http://ilikai.soest.hawaii.edu/sadcp/index.html). Shipboard ADCP data is acquired by University of Hawaii Data Acquisition System (UDHAS) and uses Common Ocean Data Access System (CODAS) processing to incrementally build a dataset of averaged, edited ocean velocities for each ADCP and ping type specified. Processed data and plots are served on the shipboard network, and daily status summaries are emailed and available online (http://currents.soest.hawaii.edu/uhdas_fromships.html).

3) 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. Measurements of particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen, taxon-specific phytoplankton pigments, flow-cytometric counts of bacteria and picoautotrophs and the determination of mesozooplankton size structure using a Laser Optical Plankton Counter are sampled for all CalCOFI stations. On CalCOFI lines 90 and 80 measurements also include microscopic counts of heterotrophic and autotrophic phytoplankton for biomass and abundance and mesozooplankton community structure sampled with the Planktonic Rate Processes in Oligotrophic Ocean Systems (PRPOOS) tow net. (M. Ohman, SIO)

4) Advanced Laser Fluorometer Analyzer (ALFA): Continuous underway analysis of phytoplankton pigment groups and variable fluorescence (F_v/F_m). ALFA, developed by A. Chekalyuk at Lamont-Doherty Earth Observatory, uses laser stimulated emission at 405 and 532 nm together with spectral deconvolution analysis to distinguish fluorescence from three types of phycoerythrin, chlorophyll-*a*, and chromophoric dissolved organic matter (CDOM). The ALFA is useful for differentiating the contribution of cyanobacteria and cryptophytes from other phytoplankton taxa present in natural phytoplankton assemblages, as well as for assessing phytoplankton photophysiological status. (R. Goericke, SIO)

5) Southern California Coastal Ocean Observing System (SCCOOS) Nearshore Observations: The objective of these observations is to extend CalCOFI time series to the nearshore. Nearshore observations consist of 7 stations at the ends and interspersed with current CalCOFI lines on the 20 m isobath with a standard set of CalCOFI hydrographic observations as well as a CalBOBL net tow, particulate organic carbon and nitrogen, dissolved organic carbon and nitrogen and taxon-specific phytoplankton pigments data. (R. Goericke, SIO)

6) Inorganic Carbon System: The CalCOFI group collected samples for the characterization of the inorganic carbon system at selected locations along the cruise track with 14 profile and 8 additional surface water stations. Total inorganic carbon and alkalinity will be measured which will allow the calculation of pH and pCO_2. The objectives of these measurements are first the long-term characterization of the inorganic carbon system and its

response to changing ocean climate and second measurements of pH in the coastal zone in order to monitor the impact of 'corrosive' waters on benthic ecosystems in the Southern California Bight. (R. Goericke, SIO)

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. (J. Hildebrand, SIO)

8) Microbial Diversity and Gene Expression: Samples suitable for purification of DNA and RNA from bacterial and microbial eukaryotic biomass are collected for molecular diversity assays targeted to various genetic marker loci (16S and 18S rRNA). DNA samples are collected at every station, in parallel with particulate organic matter (POM) samples, on Whatman GF/F filters. RNA samples are collected in parallel with primary productivity samples on 0.2 µM sterivex filters with a maximum filtration time of 30 min. Additional samples from the mixed layer, chlorophyll max, and two depths below the euphotic zone are collected along lines 80 and 90. (A. Allen, SIO and JCVI)

9) APEX Profiling Float: NAVOCEANO (Naval Oceanographic Office) maintains operational ocean circulation models worldwide. Ocean conditions in the Southern California region can be extracted from the global HYCOM (Hybrid Coordinate Model) or the RNCOM-SOCAL (Regional Navy Coastal Ocean Model for the Southern California area). Output from public domain versions of the various NAVOCEANO models are available at http://www.opc.ncep.noaa.gov/newNCOM/NCOM_currents.shtml. NAVOCEANO uses real-time temperature and temperature-salinity profile data in various ways: Profiles are 1) assimilated into model nowcasts to make them more realistic, 2) used to assess ocean model forecasts, 3) stored in historical observation databases such as the Master Oceanographic Observation Data Set (MOODS), and 4) used in the construction of ocean climatologies such as the Generalized Digital Environmental Model (GDEM). Profiling float data has become a primary source of profile data because it is so well-distributed spatially around the world, provides data on a continuing basis, provides salinity as well as temperature data, and is of high quality. Profiling float trajectories are used to assess the depiction of fronts and eddies in ocean models (e.g., positioning, size, and associated current velocities). NAVOCEANO provided three APEX profiling floats for deployment on this cruise at stations 93.3 45, 93.3 50, and 90.0 37.

10) Fukushima Water: Cesium-134 survey
Samples were collected for radioactive isotopes of cesium-137 and -134 analysis using the ratio of the two isotopes to distinguish cesium from the more recent Fukushima source over fallout from weapons testing. Twenty liters of unfiltered seawater was collected from the surface ocean into two 10L plastic sample containers and shipped to the Center for Marine and Environmental Radioactivity at the Woods Hole Oceanographic for analysis. Final radioactive cesium concentrations are reported in units of Bq per cubic meter where one Becquerel equals one disintegration per second. http://ourradioactiveocean.org/results.html (Mitchell SIO, Buesseler WHOI)

Fukushima/Cesium samples:
Samples were collected for cesium isotopes measurement as part of the monitoring of the Fukushima radioactivity plume along the California coast. Samples analyzed by ICP-MS. We will report results as the ratio 135Cs/137Cs, this ratio is a powerful tracer of the radiocesium present in the environment. Funds for this research are provided by anonymous donors. (Day, SIO)

11) The Global Drifter Program (GDP) is the principal component of the Global Surface Drifting Buoy Array, a branch of NOAA's Global Ocean Observing System (GOOS) and a scientific project of the Data Buoy Cooperation Panel (DBCP). The DBCP is an international program coordinating the use of autonomous data buoys to observe atmospheric and oceanographic conditions, over ocean areas where few other measurements are taken and a joint body of the World Meteorological Organization (WMO) and Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO). The overall objectives of the GDP are to: 1) maintain a near-operational ocean-observing network of at least 1250 Lagrangian drifters that, through the Argos and Iridium satellite systems, returns data of meteo-marine variables including near-surface ocean currents, sea surface temperature (SST), sea surface salinity (SSS), sea-level atmospheric pressure (SLP), sea-level winds (SLW) and subsurface temperature (Tz) and 2) to provide a data

processing system for the scientific use of the data. The GDP provides Surface Velocity Program (SVP) drifters drogued at 15 m depth to partners that have ongoing deployment opportunities such as CALCOFI. Data is available at http://gdp.ucsd.edu/calcofi and http://www.aoml.noaa.gov/phod/dac/dacdata.php. Ten drifters (ID # 139468-139477) were deployed on this cruise. (L.Centurioni, SIO)

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 1501

1. CalCOFI Cruise 1501 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.

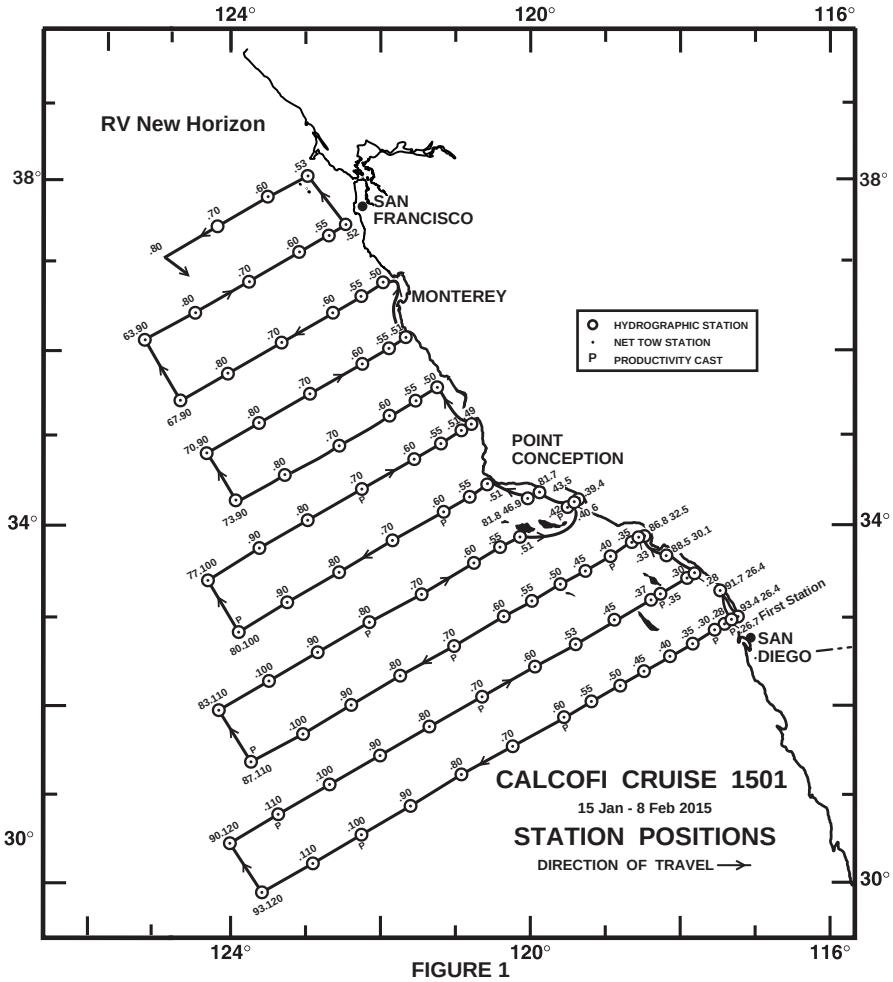
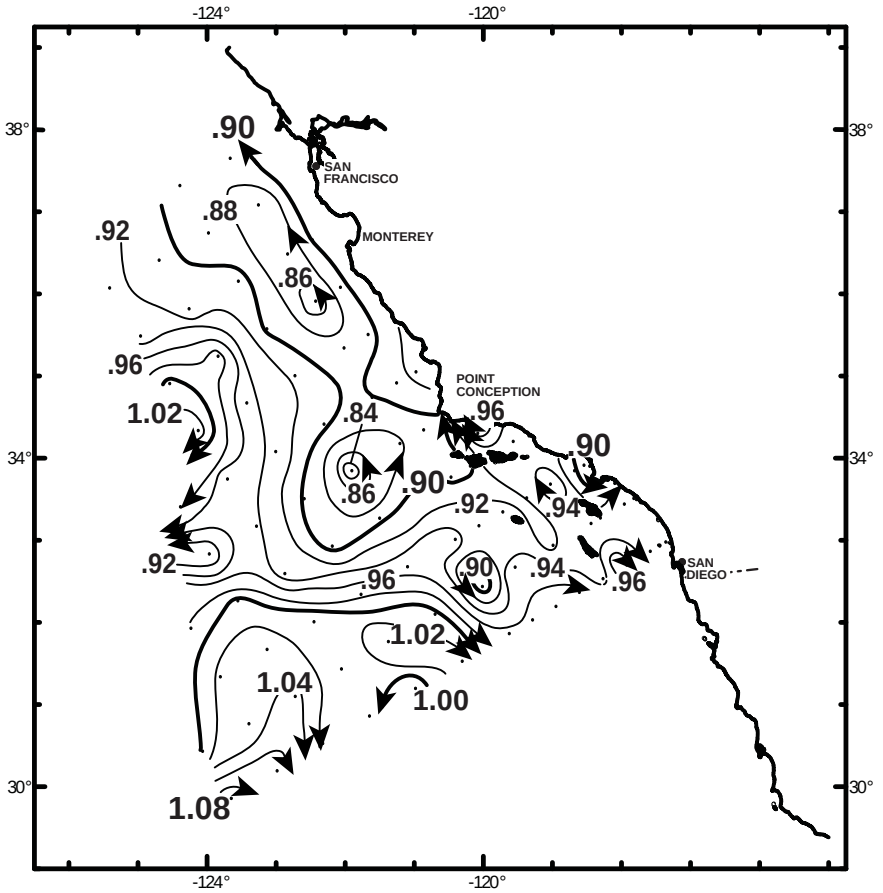


FIGURE 1



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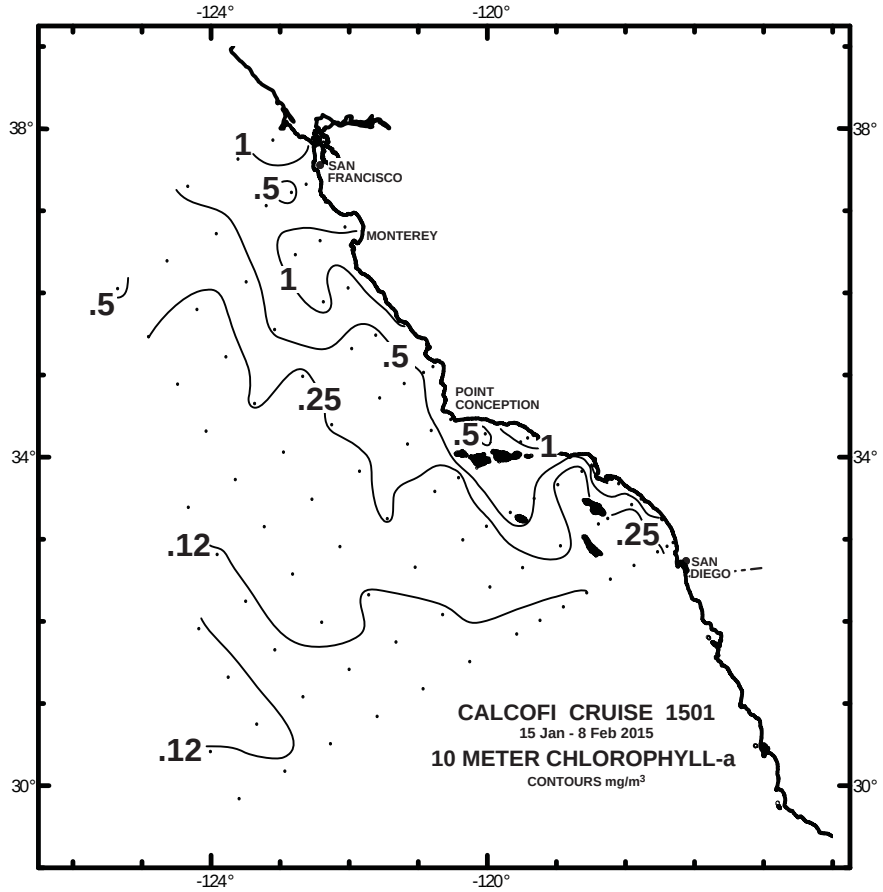

FIGURE 3A

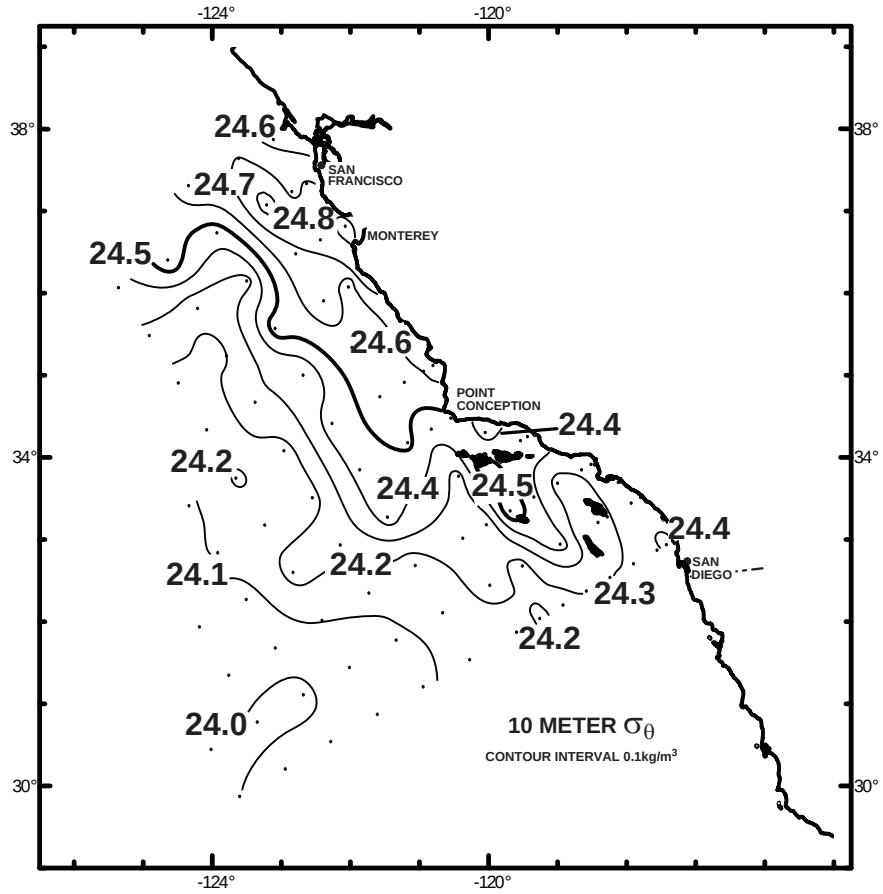

FIGURE 3B

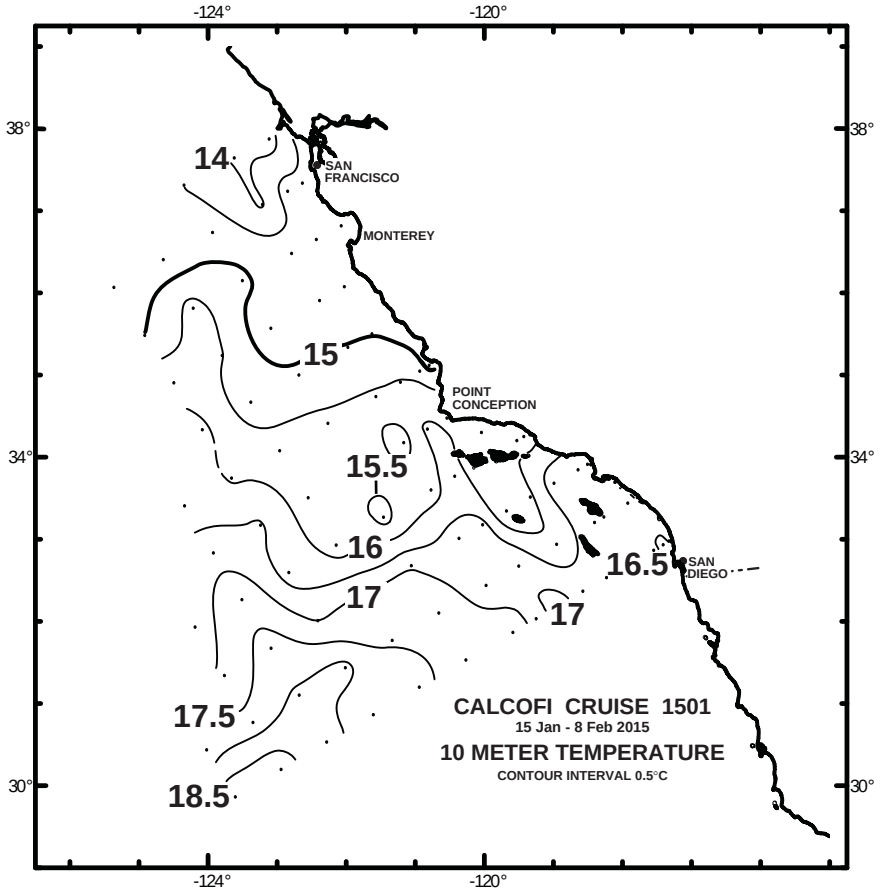

FIGURE 3C

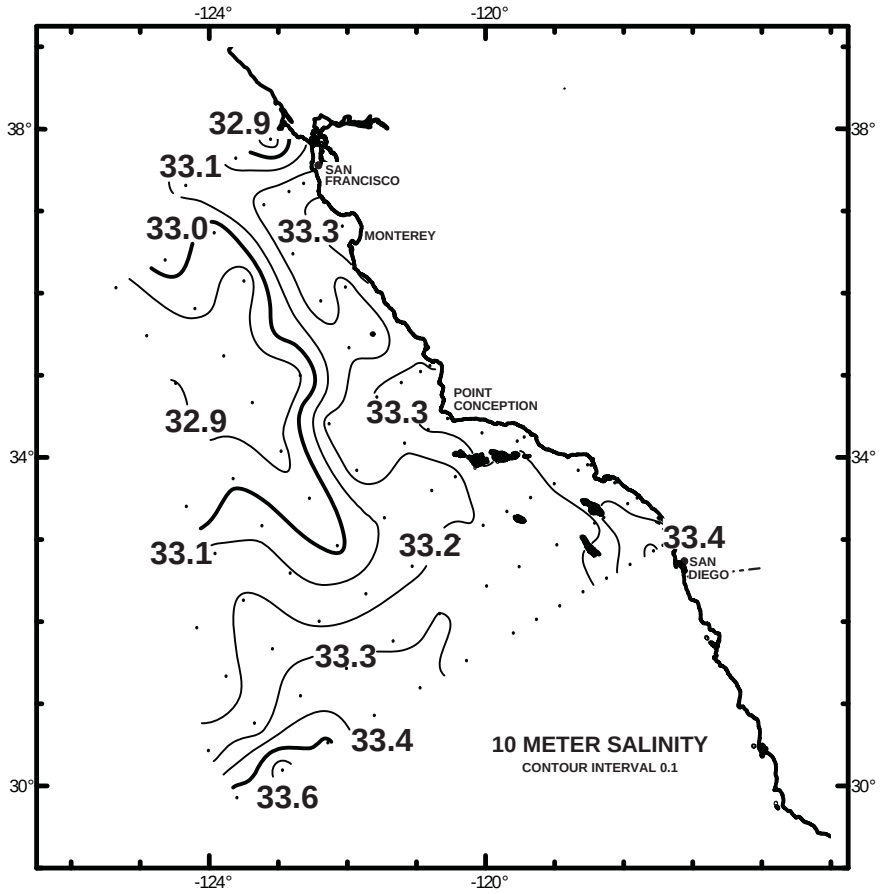

FIGURE 3D

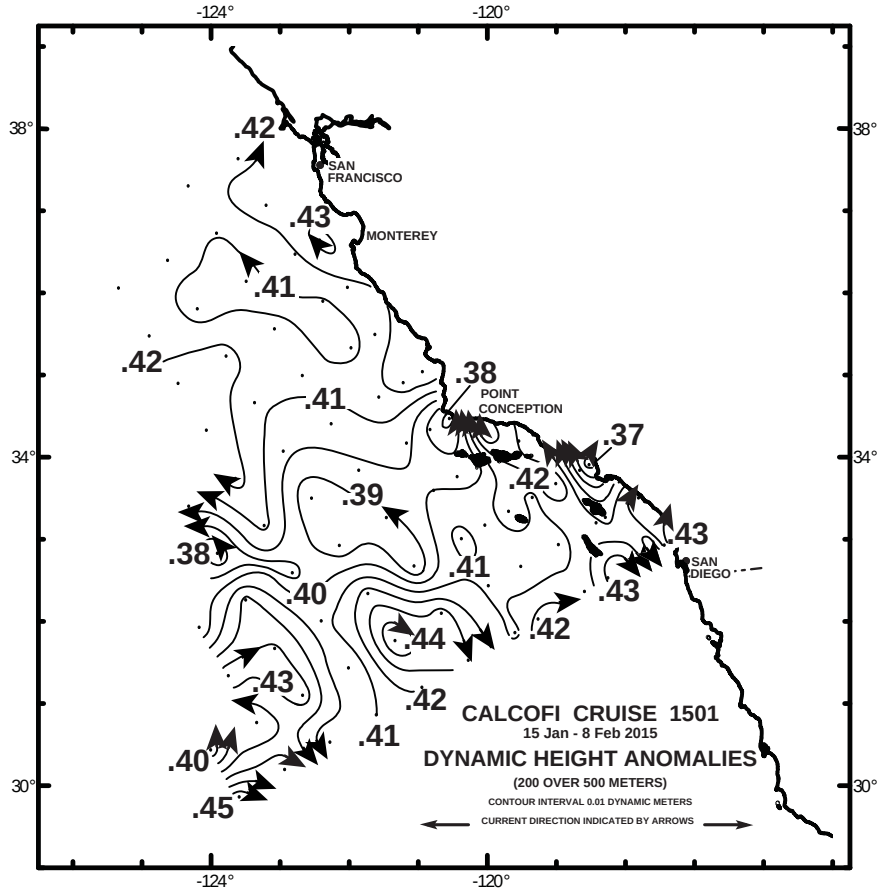

FIGURE 4A

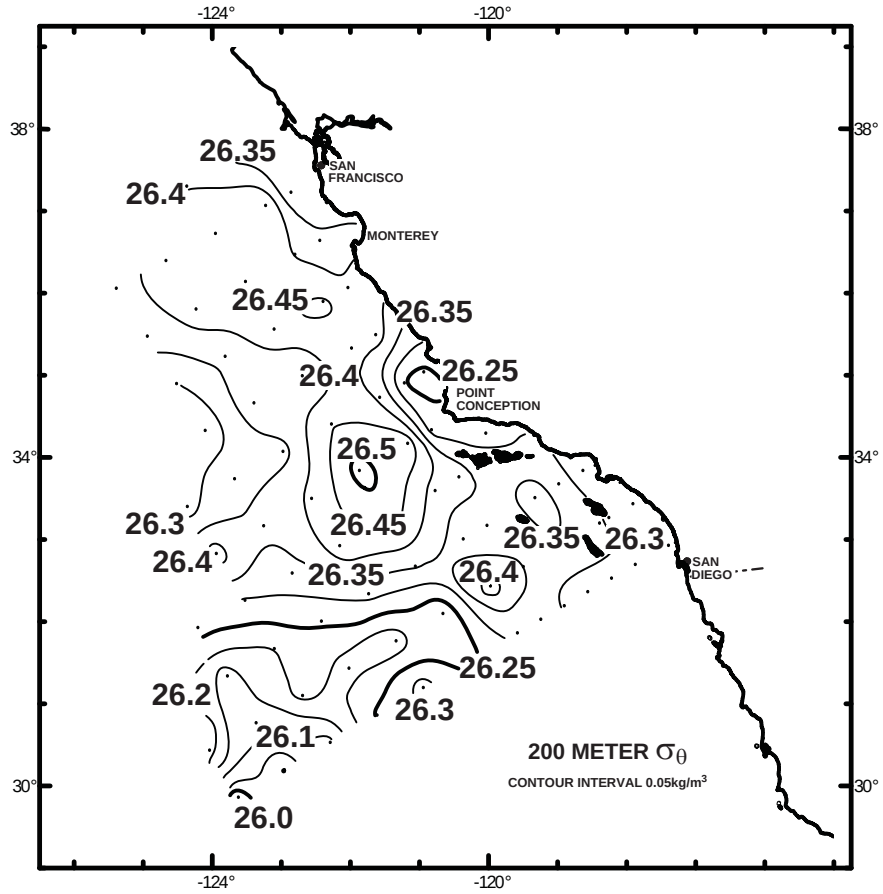

FIGURE 4B

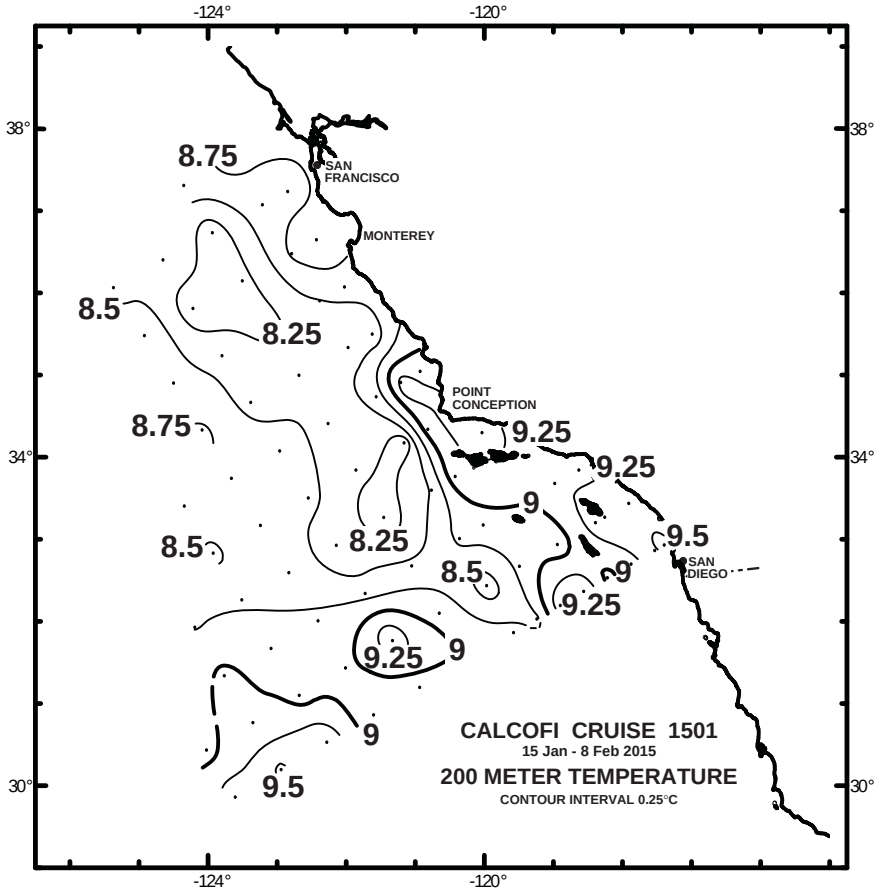

FIGURE 4C

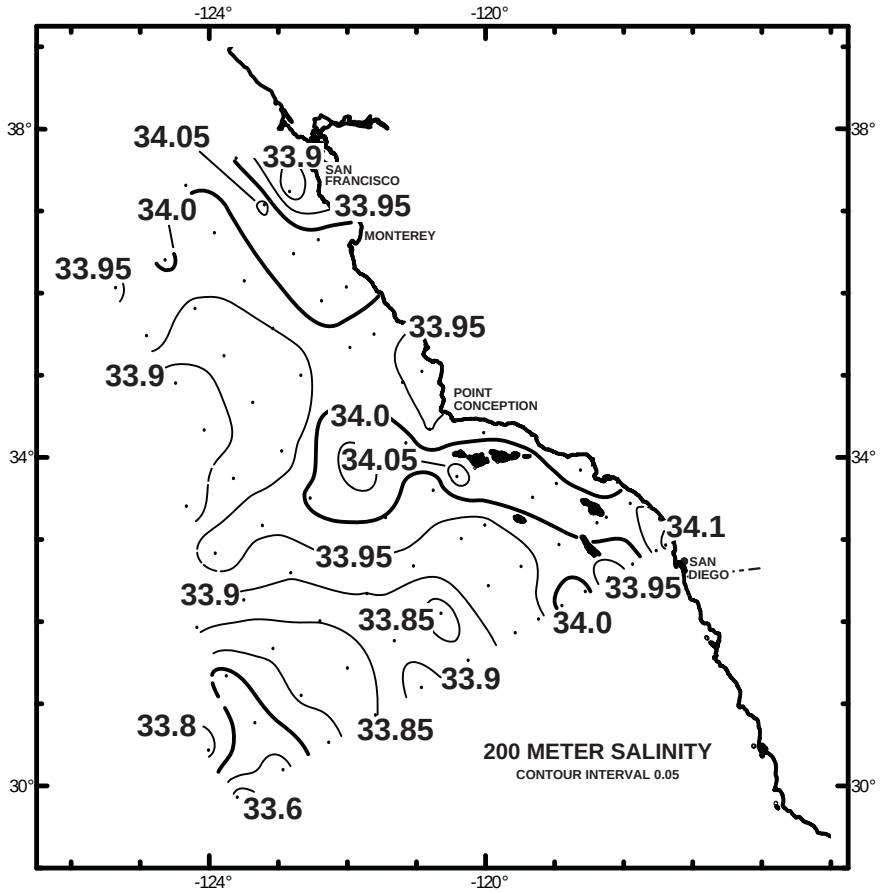

FIGURE 4D

CALCOFI CRUISE 1501

19 - 21 January 2015

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

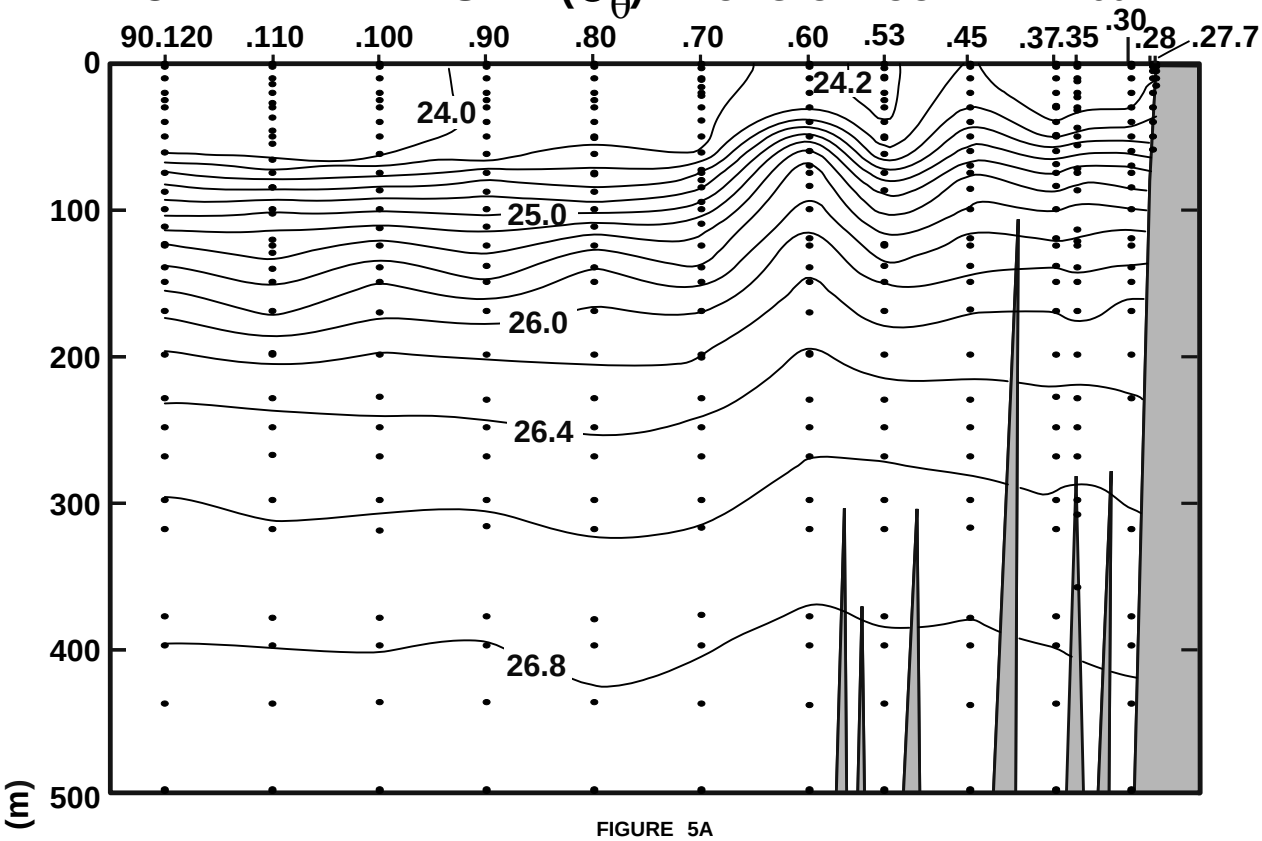

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

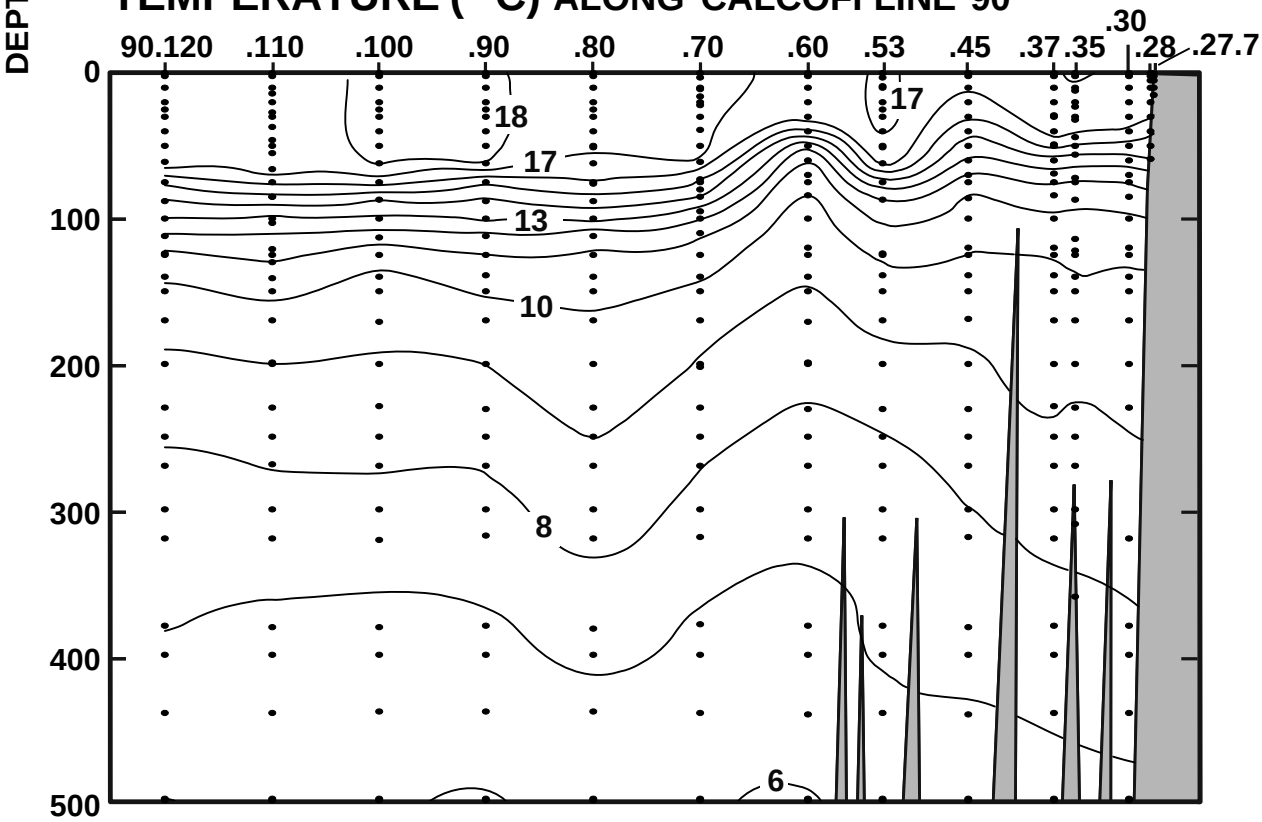

FIGURE 5B

CALCOFI CRUISE 1501

19 - 21 January 2015

SALINITY ALONG CALCOFI LINE 90

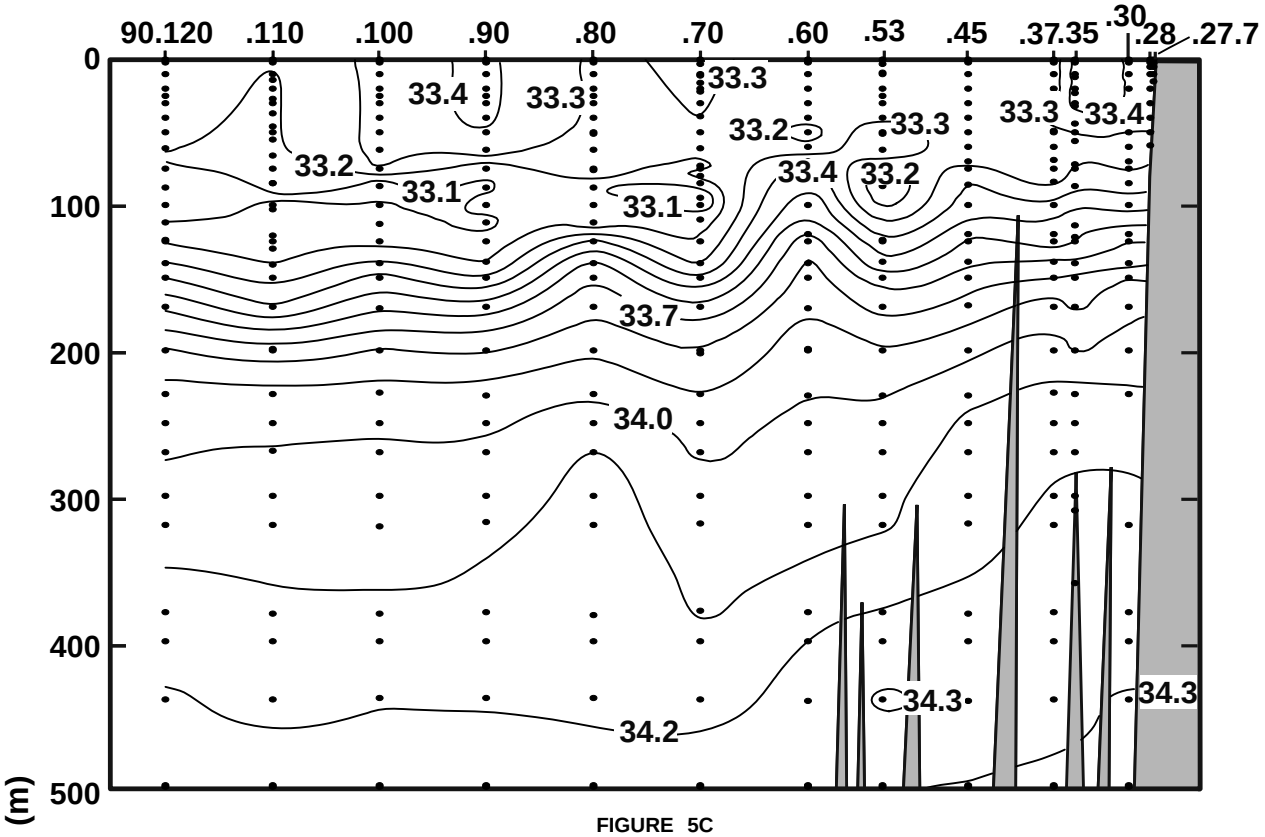

FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

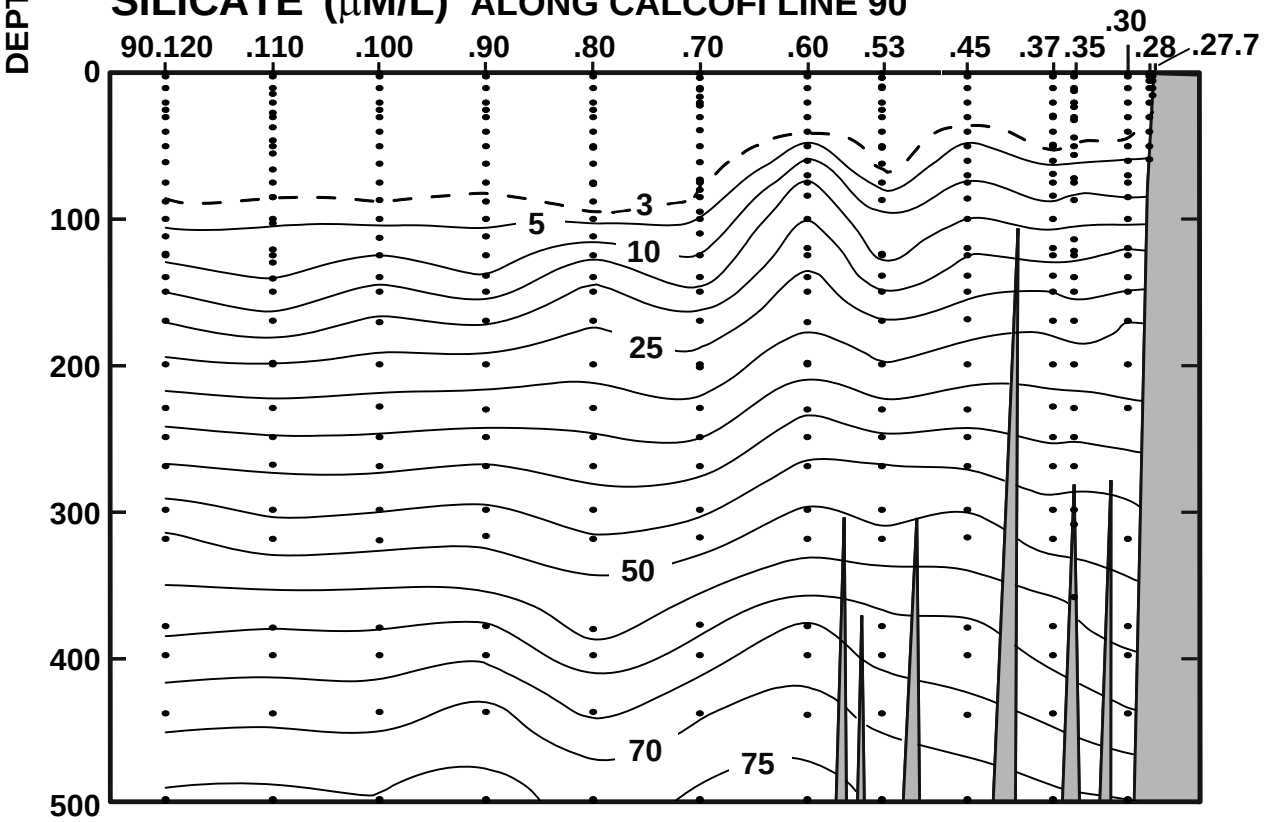

FIGURE 5D

CALCOFI CRUISE 1501

19 - 21 January 2015

NITRATE (μM/L) ALONG CALCOFI LINE 90

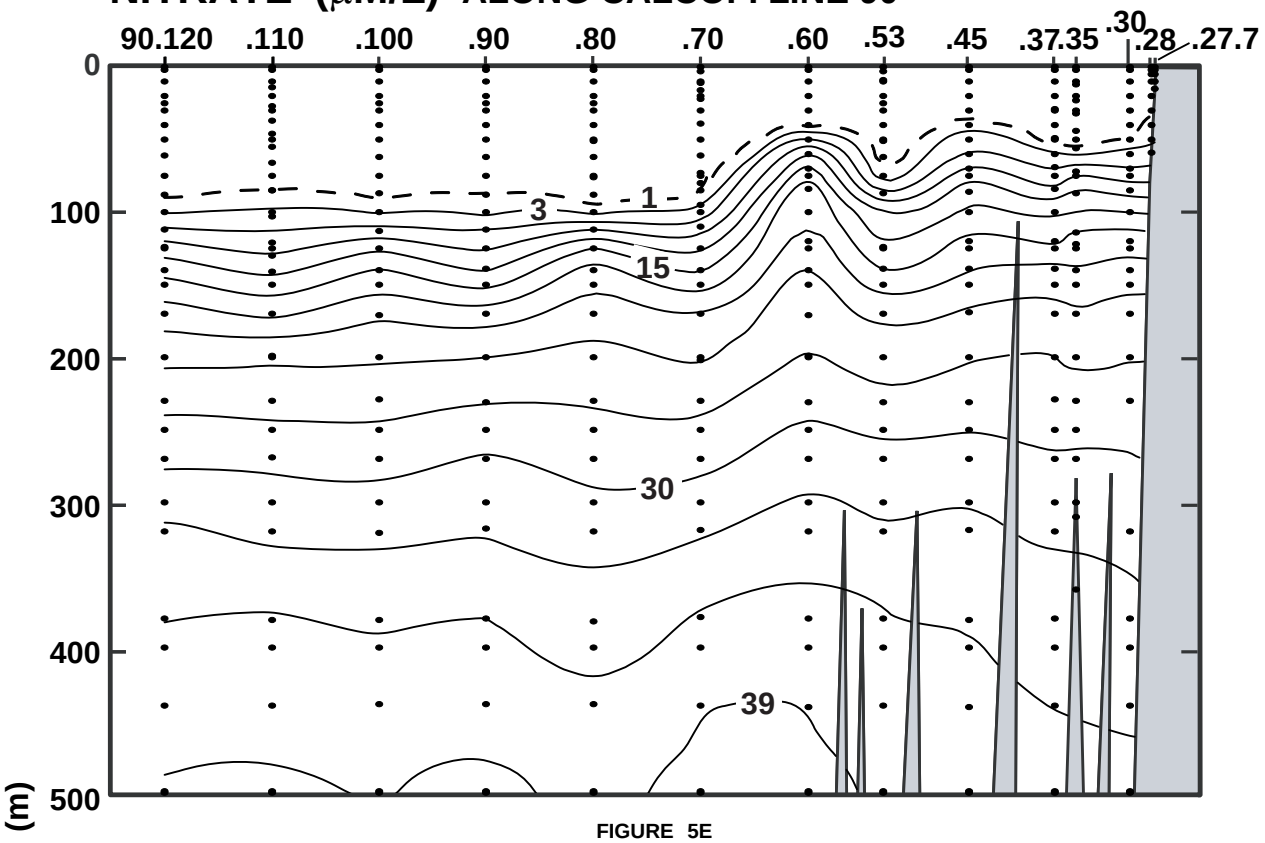

FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

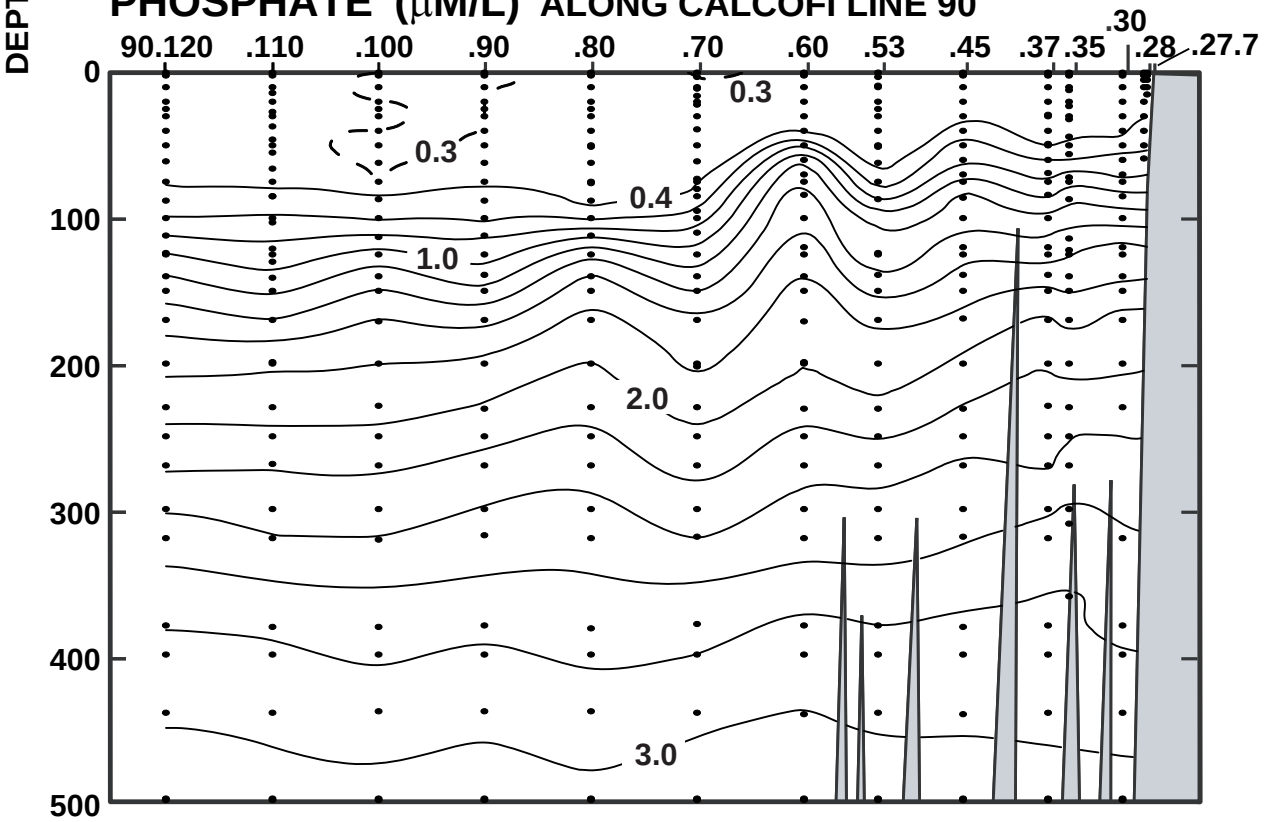

FIGURE 5F

CALCOFI CRUISE 1501

19 - 21 January 2015

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

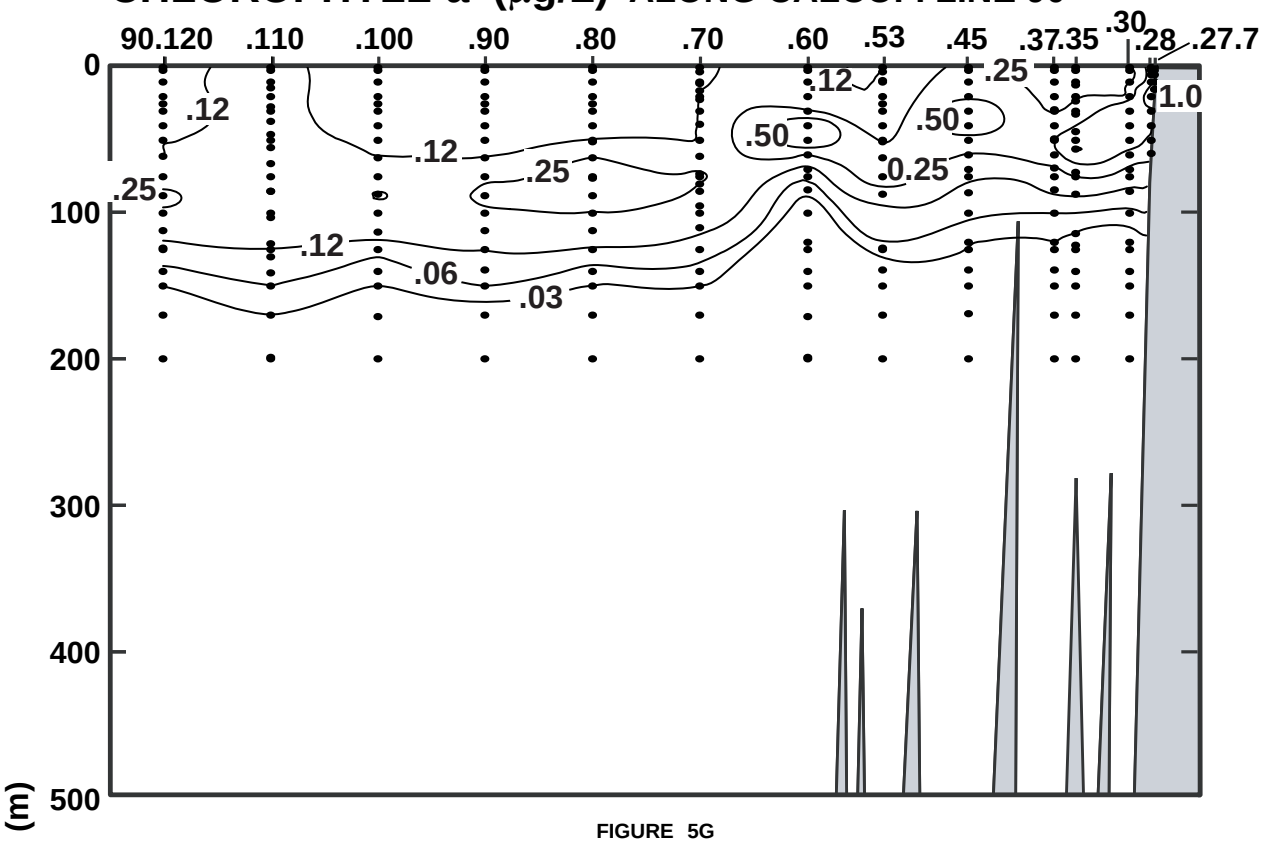

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

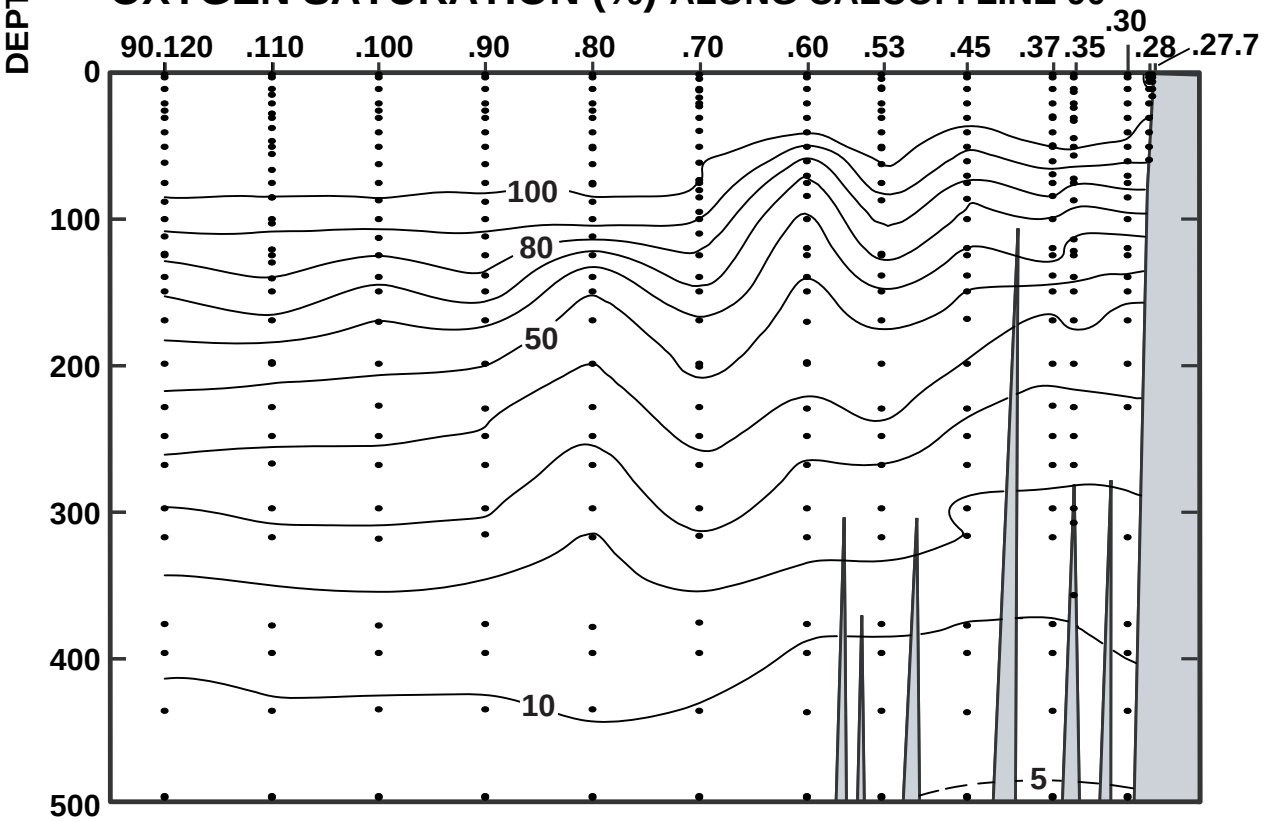

FIGURE 5H

CALCOFI CRUISE 1501

19 - 21 January 2015

OXYGEN (mL/L) ALONG CALCOFI LINE 90

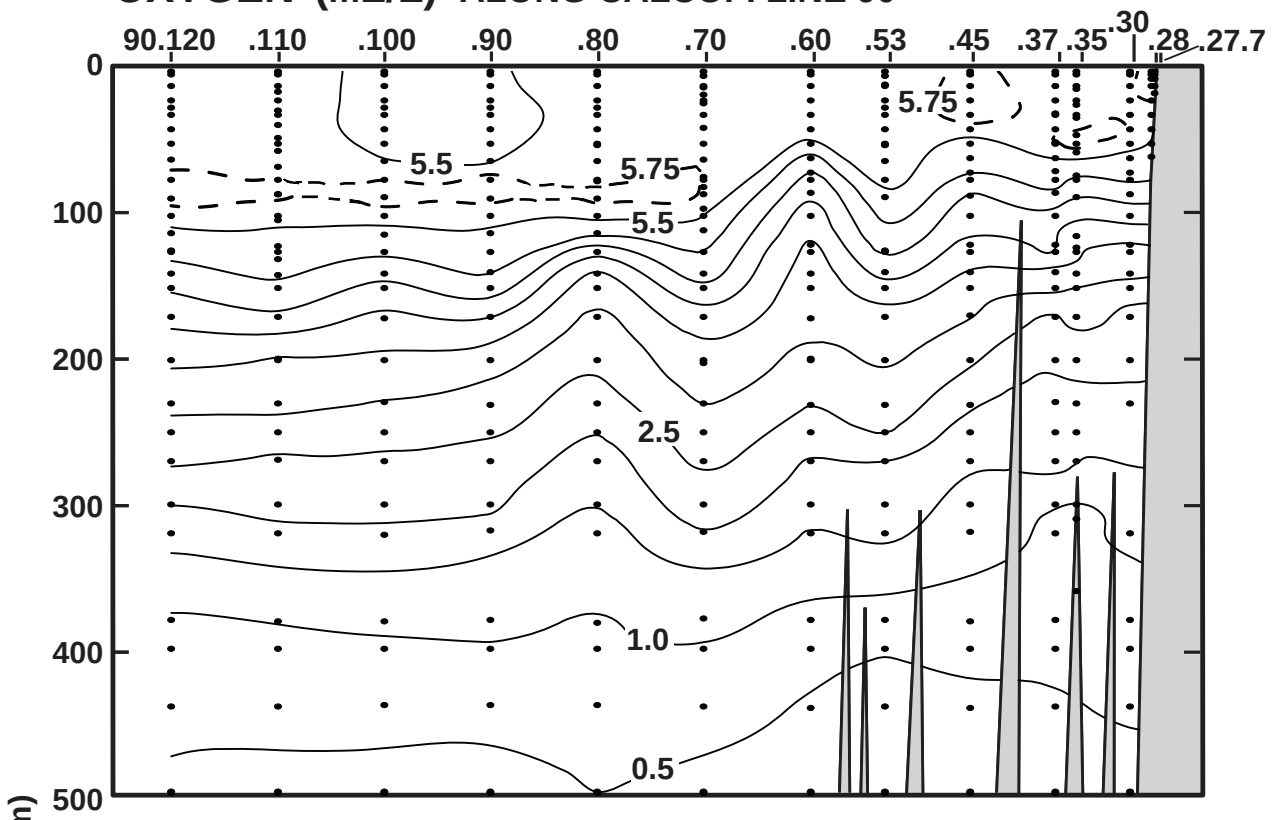

FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

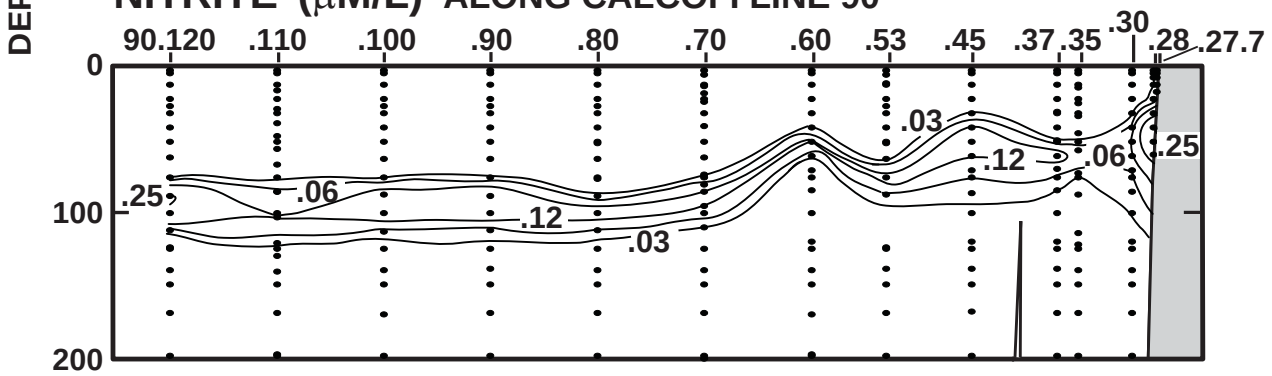

FIGURE 5J

PHAEOPIGMENTS (μg/L) ALONG CALCOFI LINE 90

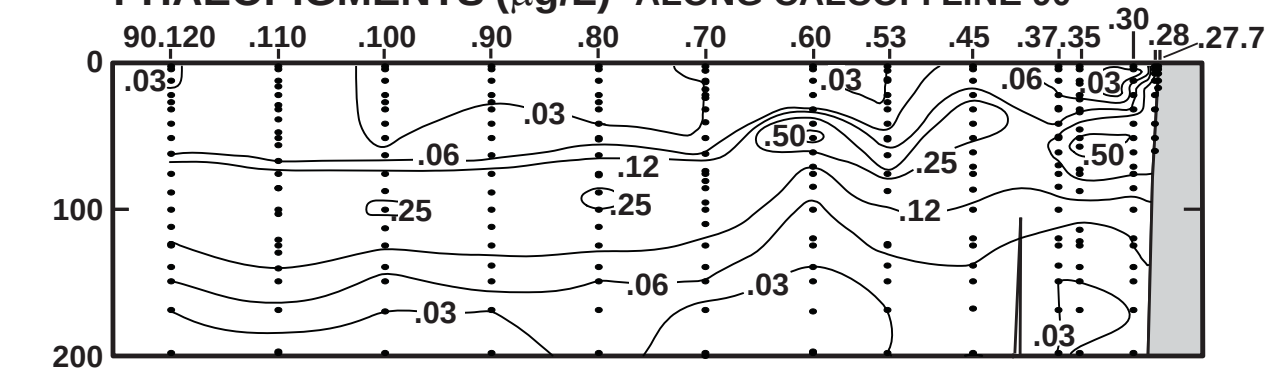

FIGURE 5K

PERSONNEL

CalCOFI Cruise 1501

SHIP'S CAPTAIN

Ian Lawrence, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Griffith, David (Chief Scientist)	Fisheries Biologist, NMFS	1,2
Alexander, Stacey	Volunteer	1
Breese, Dawn	Bird Observer, FIAER	1
Dominello, Talia	Acoustic Technician, SIO	1,2
Dovel, Shonna	Staff Research Associate, SIO	1
Ekern, Lindsey	Staff Research Associate, SIO	1,2
Faber, David	Staff Research Associate, SIO	1
Hays, Amy	Fishery Biologist, NMFS	1,2
Jorlie, Ralph	Staff Research Associate, SIO	1
Klemmedson, Angela	Scientific Aid, CDFW	1,2
Manion, Sue	Fisheries Biologist, NMFS	1,2
Meagher-Robinson, Kristin	Marine Mammal Observer, MPL	1,2
Overcash, Bryan	Fisheries Biologist, NMFS	1,2
Ratnam, Geetha	Volunteer	1
Rodgers-Wolgast, Jennifer	Staff Research Associate, SIO	1
Whitaker, Katherine	Marine Mammal Observer, MPL	1,2
Wilkinson, James	Programmer Analyst, SIO	1

Leg 1: San Diego to Monterey, California, 15-31 January, 2015
Leg 2: Monterey to San Diego, California, 31 January - 8 February, 2015

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 60 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
37 50.6 N	123 5.9 W	05/02/2015	0157	UTC	88 m	170 13 kn			1016.1 mb	13.9 C	12.8 C				098

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	13.80	13.80	32.659	24.420	350.0	0.000	6.78	295.4	114.6						1.48	0.24	0	
3	13.80	13.80	32.659	24.421	350.0	0.011	6.78	295.4	114.6						1.48	0.24	3	07
10	13.72	13.72	32.832 D	24.570	336.0	0.035	6.73	293.2	113.7						1.73	0.30	10	06
20	13.20	13.20	33.270 D	25.014	294.0	0.067	5.37	233.8	90.0						1.37	0.77	20	05
30 ISL	12.34 D	12.34	33.263 D	25.178	278.7	0.095	4.61	D200.6	D 75.8						1.06	0.77	30	
35	12.09	12.09	33.297 D	25.252	271.8	0.109	4.60	200.3	75.3						0.90	0.77	35	04
50	11.51	11.50	33.352 D	25.403	257.7	0.149	4.36	189.9	70.5						0.43	0.78	50	03
70	11.02	11.01	33.384 D	25.518	247.3	0.200	4.13	179.8	66.1						0.24	0.54	71	02
75 ISL	10.99 D	10.98	33.387 D	25.524	246.8	0.213	4.12	D179.3	D 65.9						0.24	0.52	76	
79	10.99	10.98	33.392	25.529	246.4	0.221	4.12	179.4	65.9						0.23	0.51	80	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 60 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
37 36.8 N	123 36.2 W	05/02/2015	0611	UTC	3279 m	160 14 kn			1015.2 mb	14.0 C	13.1 C				099

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	13.91	13.91	33.059	24.706	322.7	0.000	6.31	274.9	107.2						0.77	0.20	0	
2	13.91	13.91	33.059	24.706	322.8	0.007	6.31	274.9	107.2						0.77	0.20	2	12
10	13.91	13.90	33.059 D	24.708	322.9	0.033	6.30	274.5	107.0						0.73	0.17	10	11
20	13.87	13.87	33.065 D	24.721	322.0	0.065	6.29	274.1	106.8						0.84	0.26	20	10
30 ISL	13.61 D	13.60	33.137 D	24.831	311.8	0.097	6.12	D266.5	D103.3						0.79	0.43	30	
50	12.06	12.05	33.320 D	25.276	269.8	0.156	4.56	198.5	74.6						0.69	0.75	50	09
70	11.50	11.49	33.438 D	25.472	251.7	0.208	4.01	174.5	64.9						0.34	0.46	71	08
75 ISL	11.13 D	11.12	33.409 D	25.518	247.4	0.221	4.05	D176.3	D 65.0						0.31	0.44	76	
100	10.24	10.23	33.553	25.786	222.4	0.277	3.60	156.9	56.8						0.16	0.31	101	07
120	9.96	9.95	33.684 D	25.936	208.6	0.323	3.22	140.0	50.4						0.15	0.29	121	06
125 ISL	9.95 D	9.93	33.690 D	25.943	208.0	0.333	3.18	D138.3	D 49.8						0.14	0.28	126	
140	9.74	9.72	33.717 D	25.999	203.0	0.364	3.06	133.2	47.7						0.10	0.24	141	05
150 ISL	9.40 D	9.38	33.757 D	26.087	194.8	0.385	3.09	D134.3	D 47.8						0.09	0.22	151	
200	8.88	8.86	33.973 D	26.340	171.7	0.477	2.13	92.6	32.6						0.03	0.12	202	04
250 ISL	8.22 D	8.19	34.064 D	26.514	155.9	0.560	1.86	D 80.9	D 28.1								252	
270	7.96	7.93	34.073 D	26.560	151.8	0.591	1.68	73.1	25.2								272	03
300 ISL	7.43 D	7.40	34.079 D	26.642	144.2	0.635	1.53	D 66.4	D 22.6								303	
380	6.45	6.42	34.112 D	26.802	129.7	0.746	0.99	43.1	14.4								383	02
400 ISL	6.29 D	6.25	34.115 D	26.826	127.6	0.772	0.94	D 41.0	D 13.6								403	
500 ISL	5.71 D	5.67	34.182 D	26.953	116.4	0.895	0.53	D 23.0	D 7.5								504	
515	5.66	5.62	34.191	26.967	115.3	0.907	0.47	20.4	6.7								520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 60 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
37 16.9 N	124 19.8 W	05/02/2015	1252	UTC	3987 m	160 25 kn			1011.9 mb	15.1 C	14.0 C				100

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.47	14.47	33.192 D	24.692	324.1	0.000	5.90	D257.3	D101.6								0	
3	14.47	14.47	33.192 D	24.692	324.2	0.010	5.90	D257.3	D101.6								3	12
10	14.47	14.47	33.192 D	24.694	324.3	0.033	5.93	258.6	102.1						0.61	0.25	10	11
20	14.38	14.37	33.192 D	24.714	322.7	0.065	5.95	259.5	102.2						0.75	0.29	20	10
30 ISL	14.12 D	14.11	33.196 D	24.772	317.4	0.097	5.89	D256.5	D100.5						0.65	0.36	30	
50	12.02	12.01	33.200 D	25.191	278.0	0.158	4.99	217.4	81.6						0.44	0.51	50	09
70	10.30	10.29	33.333 D	25.602	239.1	0.210	4.36	190.0	68.8						0.06	0.14	71	08
75 ISL	10.08 D	10.07	33.350 D	25.654	234.3	0.222	4.31	D187.8	D 67.6						0.05	0.13	76	
99	9.78	9.77	33.548	25.860	215.3	0.272	3.68	160.0	57.3						0.03	0.08	100	07
100 ISL	9.77 D	9.76	33.563 D	25.873	214.1	0.278	3.61	D157.0	D 56.3						0.03	0.08	101	
120	9.66	9.64	33.725 D	26.019	200.6	0.320	3.14	136.8	49.0						0.02	0.08	121	06
125 ISL	9.53 D	9.51	33.763 D	26.070	195.9	0.330	3.00	D130.4	D 46.5						0.01	0.07	126	
140	9.13	9.11	33.822 D	26.181	185.6	0.359	2.98	129.6	45.9						0.01	0.05	141	05
150 ISL	9.21 D	9.19	33.889 D	26.221	182.1	0.377	2.57	D111.7	D 39.6						0.01	0.05	151	
200	8.69	8.67	34.008 D	26.397	166.3	0.465	2.15	93.6	32.9						0.01	0.06	202	04
250 ISL	8.19 D	8.16	34.075 D	26.527	154.6	0.546	1.81	D 78.8	D 27.4								252	
270	8.01	7.98	34.081 D	26.559	151.9	0.577	1.70	74.0	25.6								272	03
300 ISL	7.58 D	7.55	34.099 D	26.636	144.9	0.622	1.42	D 61.9	D 21.2								303	
379	6.94	6.90	34.173 D	26.786	131.6	0.732	0.76	33.0	11.1								382	02
400 ISL	6.74 D	6.71	34.186 D	26.823	128.3	0.760	0.65	D 28.4	D 9.6								403	
500 ISL	5.84 D	5.79	34.205 D	26.956	116.3	0.883	0.44	D 19.1	D 6.3								504	
515	5.69	5.64	34.209	26.978	114.3	0.893	0.43	18.7	6.1								520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 63.3 52

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
37 18.4 N	122 37.0 W	04/02/2015	2030	UTC	90 m	190 20 kn	160 03 05	2	1017.1 mb	14.0 C	13.0 C	11 m	8/8	ST	097

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.61	14.61	33.257	24.714	322.0	0.000	5.92	258.2	102.2						0.62	0.33	0	
2	14.61	14.61	33.257	24.714	322.1	0.006	5.92	258.2	102.2						0.62	0.33	2	07
10	14.61	14.61	33.257 D	24.714	322.3	0.033	5.93	258.3	102.3						0.61	0.33	10	06
20	14.54	14.53	33.258 D	24.731	321.1	0.065	5.92	258.2	102.1						0.68	0.33	20	05
30 ISL	14.34 D	14.33	33.264 D	24.777	316.9	0.097	5.84	D254.4	D100.2						0.62	0.39	30	
36	13.96	13.96	33.256 D	24.850	310.2	0.116	5.73	249.5	97.5						0.59	0.42	36	04
50	12.88	12.87	33.288 D	25.094	287.3	0.158	5.14	223.9	85.6						0.31	0.32	50	03
70	11.49	11.48	33.340 D	25.398	258.7	0.213	4.30	187.3	69.6						0.13	0.36	71	02
75 ISL	11.23 D	11.22	33.384 D	25.479	251.2	0.226	4.10	D178.4	D 65.9						0.13	0.43	76	
80	11.20	11.19	33.392	25.491	250.1	0.237	3.99	173.9	64.2						0.12	0.50	81	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 63.3 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
37 12.5 N	122 49.8 W	04/02/2015	1755	UTC	297 m	150 16 kn	280 04 12	2	1017.2 mb	14.0 C	13.0 C	14 m	8/8	ST	096

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.81	14.81	33.261	24.674	325.8	0.000	5.90	256.9	102.1						0.38	0.18	0	
2	14.81	14.81	33.261	24.674	325.8	0.007	5.90	256.9	102.1						0.38	0.18	2	11
10	14.80	14.80	33.260 D	24.675	326.1	0.033	5.91	257.6	102.4						0.38	0.18	10	10
20	14.76	14.76	33.257 D	24.681	325.8	0.066	5.88	256.4	101.8						0.41	0.22	20	09
30 ISL	14.75 D	14.74	33.257 D	24.685	325.7	0.098	5.88	D256.3	D101.8						0.45	0.29	30	
50 ISL	14.55 D	14.54	33.260 D	24.732	322.0	0.164	5.82	D253.7	D100.3						0.54	0.43	50	
51	14.54	14.53	33.263 D	24.736	321.5	0.167	5.83	253.9	100.4						0.55	0.43	51	08
70	12.82	12.81	33.283 D	25.102	287.1	0.225	4.96	216.1	82.5						0.13	0.18	71	07
75 ISL	12.51 D	12.50	33.292 D	25.171	280.7	0.240	4.81	D209.5	D 79.5						0.12	0.17	76	
100	10.73	10.72	33.376	25.563	243.7	0.303	4.26	185.5	67.8						0.05	0.13	101	06
120	10.17	10.16	33.539 D	25.787	222.7	0.352	3.78	164.5	59.5						0.03	0.09	121	05
125 ISL	9.92 D	9.90	33.581 D	25.862	215.7	0.364	3.68	D160.2	D 57.6						0.02	0.08	126	
140	9.11	9.10	33.586 D	25.999	202.8	0.395	3.76	163.6	57.8						0.01	0.06	141	04
150 ISL	9.02 D	9.01	33.659 D	26.070	196.2	0.415	3.60	D156.5	D 55.2						0.01	0.06	151	
200	8.61	8.58	33.867 D	26.300	175.4	0.509	3.12	135.6	47.4						0.01	0.06	202	03
250 ISL	8.24 D	8.22	34.033 D	26.486	158.6	0.593	2.01	D 87.6	D 30.4								252	
268	8.13	8.11	34.072 D	26.534	154.4	0.622	1.64	71.4	24.7								270	02
285	7.92	7.89	34.098	26.586	149.6	0.644	1.39	60.3	20.8								287	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 63.3 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
37 2.8 N	123 11.7 W	04/02/2015	1421	UTC	2528 m	130 05 kn			1016.2 mb	12.9 C	12.0 C				095

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	13.91	13.91	33.259	24.862	307.9	0.000	5.93	258.5	100.9						0.72	0.22	0	
3	13.91	13.91	33.259	24.862	308.0	0.009	5.93	258.5	100.9						0.72	0.22	3	12
10	13.90	13.90	33.258 D	24.863	308.1	0.031	5.94	258.7	101.0						0.81	0.27	10	11
20	13.86	13.86	33.256 D	24.870	307.8	0.062	5.93	258.6	100.8						0.85	0.34	20	10
30 ISL	13.62 D	13.61	33.331 D	24.979	297.7	0.093	5.61	D244.6	D 94.9						0.61	0.30	30	
50	10.57	10.57	33.215 D	25.464	251.9	0.148	4.70	204.5	74.4						0.12	0.23	50	09
70	9.92	9.91	33.352 D	25.682	231.5	0.197	4.32	188.1	67.5						0.06	0.16	71	08
75 ISL	9.82 D	9.81	33.391 D	25.729	227.1	0.208	4.22	D183.6	D 65.8						0.05	0.16	76	
99	9.33	9.31	33.532	25.921	209.4	0.258	3.84	167.0	59.2						0.02	0.12	100	07
100 ISL	9.30 D	9.29	33.536 D	25.928	208.8	0.263	3.86	D167.9	D 59.5						0.02	0.12	101	
120	9.13	9.11	33.714 D	26.096	193.2	0.304	3.53	153.6	54.3						0.02	0.12	121	06
125 ISL	9.38 D	9.36	33.840 D	26.154	187.8	0.313	2.78	D120.8	D 43.0						0.02	0.11	126	
139	9.32	9.30	33.879 D	26.195	184.3	0.340	2.60	113.1	40.2						0.02	0.09	140	05
150 ISL	9.02 D	9.00	33.918 D	26.273	177.0	0.360	2.57	D111.7	D 39.5						0.02	0.09	151	
200 ISL	8.59 D	8.57	34.066 D	26.457	160.5	0.445	1.86	D 80.9	D 28.4						0.01	0.06	202	
201	8.58	8.56	34.068 D	26.461	160.2	0.446	1.87	81.4	28.5						0.01	0.06	203	04
250 ISL	8.07 D	8.04	34.090 D	26.557	151.7	0.523	1.64	D 71.4	D 24.7								252	
270	7.92	7.89	34.099 D	26.587	149.2	0.554	1.57	68.3	23.6								272	03
300 ISL	7.67 D	7.64	34.101 D	26.626	145.9	0.598	1.49	D 64.9	D 22.3								303	
380	6.95	6.91	34.154 D	26.770	133.2	0.711	0.91	39.5	13.3								383	02
400 ISL	6.76 D	6.73	34.155 D	26.795	131.0	0.738	0.83	D 35.9	D 12.1								403	
500 ISL	6.24 D	6.19	34.217 D	26.915	120.7	0.865	0.47	D 20.3	D 6.7								504	
514	6.17	6.12	34.217	26.925	119.9	0.874	0.46	20.0	6.6								519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 63.3 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 42.4 N	123 55.0 W	04/02/2015	0838	UTC	3878 m	300 06 kn			1016.9 mb	14.0 C	13.0 C				094

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.70	14.70	32.934	24.445	347.6	0.000	5.90	257.0	101.7						0.23	0.06	0	
2	14.70	14.70	32.934	24.445	347.7	0.007	5.90	257.0	101.7						0.23	0.06	2	12
10	14.70	14.69	32.934 D	24.446	347.8	0.035	5.90	257.2	101.8						0.25	0.07	10	11
20 ISL	14.49 D	14.48	32.964 D	24.515	341.6	0.070	5.97	D260.3	D102.6						0.44	0.13	20	
21	14.52	14.52	32.947 D	24.494	343.6	0.074	5.96	259.9	102.5						0.46	0.14	21	10
30 ISL	14.26 D	14.26	33.016 D	24.602	333.6	0.104	5.96	D259.7	D101.9						0.45	0.24	30	
50	11.94	11.93	33.033 D	25.076	288.9	0.167	5.20	226.5	84.7						0.42	0.47	50	09
70	10.68	10.67	33.273 D	25.491	249.8	0.221	4.50	195.8	71.4						0.12	0.16	71	08
75 ISL	10.25 D	10.24	33.281 D	25.570	242.3	0.234	4.46	D194.0	D 70.1						0.10	0.15	76	
100	9.36	9.35	33.530 D	25.914	210.1	0.291	3.87	168.6	59.9						0.01	0.07	101	07
120	8.82	8.81	33.647 D	26.091	193.5	0.331	3.74	162.7	57.1						0.01	0.06	121	06
125 ISL	8.80 D	8.79	33.658 D	26.103	192.5	0.341	3.74	D162.7	D 57.1						0.01	0.06	126	
140	8.60	8.58	33.799 D	26.245	179.3	0.369	3.30	143.5	50.2						0.00	0.05	141	05
150 ISL	8.51 D	8.49	33.857 D	26.305	173.8	0.387	3.14	D136.8	D 47.8						0.00	0.05	151	
200	8.06	8.04	33.957 D	26.452	160.7	0.471	2.82	122.8	42.5						0.00	0.04	202	04
250 ISL	7.44 D	7.41	34.010 D	26.586	148.7	0.549	2.22	D 96.4	D 32.9								252	
272	7.18	7.15	34.009 D	26.621	145.6	0.582	2.09	90.8	30.8								274	03
300 ISL	6.95 D	6.93	34.028 D	26.667	141.5	0.622	1.83	D 79.8	D 26.9								302	
380	6.76	6.72	34.167 D	26.805	129.7	0.732	0.75	32.6	11.0								383	02
400 ISL	6.60 D	6.56	34.163 D	26.823	128.1	0.758	0.73	D 31.6	D 10.6								403	
500 ISL	5.90 D	5.86	34.224 D	26.963	115.8	0.881	0.41	D 17.7	D 5.8								504	
514	5.90	5.86	34.250	26.984	114.0	0.889	0.33	14.5	4.8								519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 63.3 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 22.6 N	124 37.8 W	04/02/2015	0311	UTC	4144 m	070 04 kn			1017.4 mb	13.2 C	12.9 C				093

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.54	14.54	33.052	24.569	335.8	0.000	6.09	265.5	104.8						0.40	0.10	0	
2	14.54	14.54	33.052	24.569	335.9	0.007	6.09	265.5	104.8						0.40	0.10	2	12
10	14.47	14.47	33.062 D	24.593	333.8	0.034	6.06	264.2	104.2						0.49	0.13	10	11
20	14.35	14.34	33.077 D	24.631	330.6	0.067	6.03	262.6	103.3						0.73	0.21	20	10
30 ISL	14.32 D	14.32	33.083 D	24.641	329.9	0.100	6.02	D262.3	D103.1						0.71	0.24	30	
50	14.24	14.23	33.111 D	24.682	326.6	0.167	5.88	256.4	100.6						0.66	0.32	50	09
71	11.33	11.32	33.192 D	25.313	266.8	0.229	4.86	211.6	78.2						0.20	0.25	72	08
75 ISL	10.89 D	10.88	33.196 D	25.395	259.1	0.240	4.75	D207.0 D	75.8						0.17	0.22	76	
100	9.81	9.79	33.448	25.777	223.2	0.299	3.99	173.7	62.2						0.02	0.07	101	07
120	9.29	9.27	33.555 D	25.945	207.5	0.344	3.76	163.8	58.1						0.01	0.06	121	06
125 ISL	9.00 D	8.99	33.575 D	26.006	201.7	0.355	3.82	D166.2 D	58.6						0.01	0.06	126	
140	9.05	9.03	33.778 D	26.159	187.6	0.384	3.00	130.7	46.2						0.00	0.04	141	05
150 ISL	9.06 D	9.04	33.849 D	26.213	182.7	0.403	2.75	D119.9 D	42.4						0.00	0.04	151	
200	8.55	8.52	34.018 D	26.427	163.3	0.490	2.12	92.2	32.2						0.00	0.03	202	04
250 ISL	8.15 D	8.13	34.090 D	26.544	153.0	0.570	1.68	D 73.2 D	25.4								252	
270	7.67	7.64	34.068 D	26.598	148.0	0.600	1.72	74.7	25.6								272	03
300 ISL	7.24 D	7.21	34.046 D	26.643	144.0	0.644	1.74	D 75.6 D	25.7								302	
380	6.65	6.62	34.130 D	26.790	131.0	0.755	0.96	41.6	14.0								383	02
400 ISL	6.56 D	6.52	34.147 D	26.816	128.8	0.782	0.81	D 35.4 D	11.8								403	
500 ISL	5.80 D	5.76	34.208 D	26.962	115.6	0.905	0.45	D 19.6 D	6.5								504	
515	5.70	5.66	34.205	26.973	114.8	0.915	0.44	19.3	6.3								520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 63.3 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 2.4 N	125 20.7 W	03/02/2015	2121	UTC	4544 m	100 03 kn	310 04 08	2	1018.5 mb	15.1 C	14.8 C	17 m	8/8	ST	092

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.77	14.77	32.794	24.322	359.3	0.000	5.90	257.3	101.9						0.39	0.12	0	
2	14.77	14.77	32.794	24.322	359.4	0.007	5.90	257.3	101.9						0.39	0.12	2	12
9	14.65	14.64	32.822 D	24.370	355.0	0.033	5.93	258.6	102.2						0.53	0.18	9	11
10 ISL	14.62 D	14.62	32.823 D	24.376	354.5	0.036	5.92	D258.0	D101.9						0.55	0.18	10	
20	14.62	14.62	32.850 D	24.398	352.8	0.072	5.93	258.5	102.1						0.77	0.23	20	10
30 ISL	14.48 D	14.48	32.854 D	24.431	349.9	0.107	5.95	D259.4	D102.2						0.82	0.27	30	
50	14.00	14.00	33.091 D	24.715	323.5	0.175	6.05	263.7	103.0						0.93	0.36	50	09
70	12.13	12.12	33.327 D	25.269	271.2	0.235	4.47	194.5	73.2						0.36	0.45	71	08
75 ISL	10.38 D	10.37	33.056 D	25.373	261.0	0.248	5.18	D225.7 D	81.7						0.31	0.39	76	
100 ISL	9.04 D	9.03	33.191 D	25.699	230.4	0.310	4.98	D216.6 D	76.2						0.04	0.08	101	
101	8.96	8.95	33.201	25.719	228.5	0.309	4.94	215.1	75.5						0.03	0.07	102	07
121	9.84	9.83	33.633 D	25.916	210.4	0.357	3.30	143.7	51.6						0.01	0.10	122	06
125 ISL	9.77 D	9.75	33.649 D	25.941	208.2	0.365	3.39	D147.7 D	53.0						0.01	0.10	126	
140	9.22	9.20	33.713 D	26.081	195.1	0.396	3.24	141.1	50.0						0.01	0.08	141	05
150 ISL	8.96 D	8.94	33.725 D	26.132	190.3	0.415	3.32	D144.5 D	50.9						0.01	0.08	151	
200	8.37	8.35	33.938 D	26.391	166.6	0.505	2.83	123.0	42.8						0.01	0.05	202	04
250 ISL	7.81 D	7.79	34.017 D	26.537	153.5	0.586	2.21	D 96.2 D	33.1								252	
270	7.67	7.65	34.038 D	26.574	150.3	0.617	1.98	86.2	29.6								272	03
300 ISL	7.38 D	7.35	34.049 D	26.626	145.7	0.661	1.75	D 76.2 D	26.0								302	
380	6.62	6.59	34.121 D	26.787	131.3	0.773	1.01	D 43.7 D	14.6								383	02
400 ISL	6.38 D	6.35	34.102 D	26.804	129.7	0.800	1.03	D 44.7 D	14.9								403	
500 ISL	5.52 D	5.48	34.145 D	26.947	116.7	0.924	0.62	D 27.1 D	8.8								504	
516	5.39	5.35	34.148	26.964	115.1	0.934	0.61	26.4	8.6								521	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 66.7 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 47.3 N	122 3.3 W	02/02/2015	1121	UTC	205 m	040 05 kn			1019.2 mb	14.2 C	11.8 C				086

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.46	14.46	33.389	24.846	309.5	0.000	5.95	259.4	102.5						1.00	0.64	0	
2	14.46	14.46	33.389	24.846	309.5	0.006	5.95	259.4	102.5						1.00	0.64	2	09
9	14.47	14.47	33.387 D	24.844	309.9	0.028	5.95	259.2	102.4						0.94	0.63	9	08
10 ISL	14.47 D	14.47	33.388 D	24.845	309.9	0.031	5.93	D258.4	D102.1						0.95	0.64	10	
20	14.44	14.44	33.394 D	24.856	309.1	0.063	5.95	259.2	102.4						1.06	0.72	20	07
30 ISL	14.34 D	14.33	33.404 D	24.886	306.6	0.093	5.84	D254.4	D100.3						0.80	0.59	30	
49	13.28	13.27	33.362 D	25.072	289.4	0.151	5.03	219.1	84.5						0.31	0.36	49	06
50 ISL	13.24 D	13.24	33.365 D	25.082	288.5	0.154	5.02	D218.9 D	84.3						0.30	0.35	50	
70	12.00	11.99	33.376 D	25.332	265.1	0.209	4.52	197.0	74.0						0.15	0.23	71	05
75 ISL	11.80 D	11.79	33.412 D	25.398	258.9	0.223	4.41	D192.1 D	71.8						0.13	0.23	76	
100	10.89	10.88	33.477	25.613	239.0	0.283	3.86	168.1	61.7						0.06	0.22	101	04
119	10.50	10.49	33.561 D	25.748	226.5	0.330	3.57	155.3	56.5						0.04	0.18	120	03
125 ISL	10.14 D	10.13	33.646 D	25.876	214.5	0.343	3.33	D145.1 D	52.4						0.04	0.16	126	
142	9.65	9.63	33.778 D	26.062	197.1	0.378	2.94	128.1	45.9						0.02	0.10	143	02
150 ISL	9.56 D	9.54	33.804 D	26.097	193.9	0.394	2.75	D119.8 D	42.8						0.02	0.10	151	
198	8.86	8.84	33.973	26.343	171.4	0.479	2.17	94.3	33.2						0.01	0.09	200	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 66.7 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 37.3 N	122 24.9 W	02/02/2015	1826	UTC	2587 m	340 12 kn	330 05 11	2	1020.0 mb	15.3 C	14.0 C	11 m	6/8	AS	087

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.65	14.65	33.281	24.723	321.1	0.000	5.96	259.6	102.9						1.29	0.51	0	
2	14.65	14.65	33.281	24.723	321.2	0.006	5.96	259.6	102.9						1.29	0.51	2	12
10	14.61	14.61	33.285 D	24.735	320.3	0.032	5.95	259.1	102.6						1.17	0.50	10	11
20	14.54	14.53	33.320 D	24.778	316.5	0.064	5.96	259.9	102.8						1.37	0.59	20	10
30 ISL	14.48 D	14.47	33.330 D	24.800	314.8	0.096	5.85	D254.9	D100.7						0.98	0.47	30	
50	11.93	11.92	33.332 D	25.310	266.6	0.155	4.64	201.9	75.7						0.20	0.22	50	09
70	11.07	11.06	33.517 D	25.612	238.4	0.206	3.89	169.6	62.5						0.06	0.14	71	08
75 ISL	10.87 D	10.86	33.543 D	25.667	233.2	0.218	3.85	D167.5	D 61.5						0.05	0.13	76	
100	10.34	10.32	33.591 D	25.800	221.2	0.275	3.60	156.9	56.9						0.03	0.09	101	07
120	9.99	9.97	33.667 D	25.918	210.3	0.318	3.32	144.6	52.1						0.02	0.09	121	06
125 ISL	9.86 D	9.85	33.735 D	25.993	203.3	0.329	3.18	D138.3	D 49.7						0.02	0.08	126	
140	9.53	9.51	33.826 D	26.119	191.5	0.359	2.82	122.7	43.8						0.01	0.07	141	05
150 ISL	9.41 D	9.39	33.871 D	26.174	186.5	0.378	2.59	D112.6	D 40.1						0.01	0.07	151	
200	8.97	8.95	34.019 D	26.362	169.6	0.468	2.04	88.9	31.4						0.01	0.07	202	04
250 ISL	8.52 D	8.49	34.092 D	26.491	158.3	0.550	1.69	D 73.4	D 25.7								252	
270	8.36	8.33	34.117 D	26.535	154.4	0.582	1.54	67.1	23.4								272	03
300 ISL	8.26 D	8.23	34.162 D	26.586	150.2	0.628	1.28	D 55.8	D 19.4								302	
379	7.54	7.50	34.186 D	26.712	139.2	0.743	0.95	41.3	14.1								382	02
400 ISL	7.28 D	7.24	34.193 D	26.755	135.2	0.772	0.85	D 36.8	D 12.5								403	
500 ISL	6.20 D	6.15	34.212 D	26.916	120.5	0.901	0.48	D 21.1	D 7.0								504	
515	6.10	6.05	34.222	26.937	118.6	0.911	0.43	18.9	6.3								520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 66.7 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 27.1 N	122 46.4 W	02/02/2015	2208	UTC	2924 m	350 06 kn	330 03 06	1	1017.9 mb	14.9 C	13.8 C	09 m	2/8	CS	088

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.81	14.81	33.260	24.673	325.9	0.000	5.98	260.6	103.6						1.31	0.43	0	
2	14.81	14.81	33.260	24.673	326.0	0.007	5.98	260.6	103.6						1.31	0.43	2	12
9	14.80	14.79	33.257 D	24.674	326.1	0.029	5.98	260.7	103.6						1.32	0.43	9	11
10 ISL	14.76 D	14.76	33.258 D	24.683	325.3	0.033	5.98	D260.8	D103.6						1.32	0.44	10	
20	14.67	14.67	33.256 D	24.700	324.0	0.065	5.97	260.3	103.2						1.35	0.57	20	10
30 ISL	14.63 D	14.63	33.277 D	24.726	321.8	0.098	5.85	D254.9	D101.0						0.95	0.45	30	
50	11.39	11.38	33.248 D	25.344	263.3	0.153	4.70	204.8	75.9						0.16	0.22	50	09
70	10.89	10.88	33.417 D	25.565	242.7	0.204	4.18	181.9	66.7						0.08	0.16	71	08
75 ISL	10.62 D	10.61	33.470 D	25.655	234.4	0.220	4.11	D178.8	D 65.2						0.08	0.15	76	
99	10.08	10.06	33.529	25.795	221.5	0.271	3.78	164.6	59.4						0.03	0.11	100	07
100 ISL	10.06 D	10.04	33.546 D	25.812	219.9	0.278	3.75	D163.4	D 58.9						0.03	0.11	101	
119	9.77	9.75	33.654 D	25.945	207.7	0.314	3.38	147.1	52.8						0.03	0.10	120	06
125 ISL	9.68 D	9.66	33.711 D	26.004	202.1	0.331	3.26	D141.9	D 50.8						0.02	0.10	126	
140	9.38	9.37	33.808 D	26.129	190.6	0.356	2.86	124.6	44.3						0.02	0.09	141	05
150 ISL	9.33 D	9.31	33.860 D	26.179	186.1	0.380	2.74	D119.0	D 42.3						0.02	0.08	151	
200	8.79	8.77	34.027 D	26.396	166.3	0.463	2.06	89.8	31.6						0.01	0.08	202	04
250 ISL	8.04 D	8.01	34.060 D	26.538	153.5	0.549	1.97	D 85.5	D 29.6								252	
270	7.80	7.78	34.082 D	26.590	148.9	0.573	1.71	74.3	25.6								272	03
300 ISL	7.40 D	7.37	34.090 D	26.654	143.1	0.624	1.48	D 64.2	D 21.9								302	
380	6.49	6.46	34.122 D	26.805	129.5	0.726	0.90	39.1	13.1								383	02
400 ISL	6.36 D	6.33	34.142 D	26.837	126.6	0.760	0.81	D 35.4	D 11.8								403	
500 ISL	5.90 D	5.86	34.228 D	26.966	115.4	0.882	0.43	D 18.6	D 6.1								504	
516	5.77	5.72	34.227	26.982	114.0	0.892	0.41	17.9	5.9								521	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 66.7 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 7.3 N	123 29.1 W	03/02/2015	0358	UTC	3562 m	330 15 kn			1019.3 mb	14.1 C	14.0 C				089

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.14	15.14	32.830	24.270	364.3	0.000	5.78	D251.9	D100.5						0.24	0.07	0	
2	15.14	15.14	32.830	24.270	364.4	0.007	5.78	D251.9	D100.5						0.24	0.07	2	12
10	15.14	15.14	32.828 D	24.269	364.7	0.037	5.81	253.3	101.1						0.29	0.05	10	11
20	15.10	15.10	32.828 D	24.278	364.2	0.073	5.82	253.7	101.1						0.26	0.08	20	10
30 ISL	15.03 D	15.03	32.840 D	24.303	362.1	0.110	5.80	D252.8	D100.6						0.35	0.17	30	
50	14.04	14.03	33.077 D	24.697	325.2	0.179	5.66	246.5	96.4						0.54	0.34	50	09
70	10.58	10.57	33.063 D	25.343	263.8	0.239	5.01	218.0	79.3						0.12	0.11	71	08
75 ISL	10.11 D	10.10	33.080 D	25.439	254.8	0.252	5.01	D218.2	D 78.5						0.10	0.10	76	
100	9.49	9.48	33.311	25.721	228.4	0.309	4.55	197.9	70.4						0.03	0.06	101	07
120	9.53	9.52	33.597 D	25.940	208.1	0.355	3.61	157.0	56.0						0.01	0.03	121	06
125 ISL	9.51 D	9.49	33.632 D	25.971	205.3	0.366	3.43	D149.4	D 53.3						0.01	0.03	126	
140	8.99	8.98	33.695 D	26.102	193.0	0.396	3.42	148.7	52.4						0.00	0.02	141	05
150 ISL	8.91 D	8.89	33.805 D	26.203	183.6	0.415	3.07	D133.7	D 47.1						0.00	0.02	151	
200 ISL	8.18 D	8.16	33.973 D	26.447	161.2	0.502	2.60	D113.0	D 39.2						0.00	0.02	202	
201	8.17	8.15	33.974 D	26.449	161.1	0.504	2.62	113.8	39.5						0.00	0.02	203	04
250 ISL	7.71 D	7.69	34.038 D	26.569	150.4	0.580	1.96	D 85.4	D 29.3								252	
270	7.41	7.38	34.040 D	26.613	146.4	0.610	1.87	81.1	27.7								272	03
300 ISL	6.83 D	6.80	34.024 D	26.680	140.2	0.654	1.75	D 76.3	D 25.7								302	
380	6.29	6.26	34.091 D	26.807	129.1	0.763	1.02	44.2	14.7								383	02
400 ISL	6.14 D	6.10	34.099 D	26.832	126.8	0.788	0.92	D 39.8	D 13.2								403	
500 ISL	5.32 D	5.28	34.184 D	27.001	111.4	0.909	0.43	D 18.7	D 6.1								504	
516	5.27	5.23	34.198	27.018	109.9	0.921	0.42	18.3	5.9								521	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 66.7 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 47.2 N	124 11.8 W	03/02/2015	0951	UTC	3952 m	340 12 kn			1018.5 mb	14.2 C	13.8 C				090

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.73	15.73	32.916	24.207	370.3	0.000	5.73	249.6	100.8						0.17	0.05	0	
2	15.73	15.73	32.916	24.208	370.3	0.007	5.73	249.6	100.8						0.17	0.05	2	12
10	15.73	15.73	32.916 D	24.207	370.6	0.037	5.72	249.5	100.8						0.16	0.05	10	11
20	15.04	15.04	32.910 D	24.354	357.0	0.074	5.80	252.9	100.8						0.17	0.05	20	10
30 ISL	14.73 D	14.72	32.899 D	24.414	351.6	0.110	5.85	D255.0	D100.9						0.25	0.17	30	
50	12.22	12.21	32.905 D	24.925	303.3	0.176	5.54	241.5	90.8						0.42	0.42	50	09
69	10.99	10.98	32.995 D	25.219	275.7	0.231	5.19	226.2	82.9						0.16	0.16	70	08
75 ISL	10.31 D	10.30	33.022 D	25.359	262.4	0.247	5.19	D226.1 D	81.7						0.13	0.13	76	
100	9.62	9.61	33.442	25.803	220.7	0.304	4.24	184.5	65.8						0.01	0.04	101	07
120	8.99	8.97	33.569 D	26.004	201.8	0.351	3.90	169.8	59.8						0.00	0.04	121	06
125 ISL	8.99 D	8.97	33.600 D	26.029	199.6	0.361	3.81	D165.6 D	58.3						0.00	0.04	126	
140	8.81	8.79	33.701 D	26.136	189.7	0.390	3.51	152.9	53.7						0.00	0.04	141	05
150 ISL	8.57 D	8.55	33.722 D	26.190	184.8	0.409	3.59	D156.2 D	54.6						0.00	0.04	151	
200	8.02	8.00	33.937 D	26.441	161.7	0.497	2.90	126.3	43.6						0.00	0.04	202	04
250 ISL	7.32 D	7.29	34.001 D	26.595	147.7	0.575	2.20	D 95.7 D	32.6								252	
271	7.03	7.00	34.001 D	26.635	144.1	0.606	2.10	91.1	30.8								273	03
300 ISL	6.83 D	6.81	34.037 D	26.691	139.2	0.647	1.62	D 70.6 D	23.7								302	
381	6.19	6.16	34.092 D	26.820	127.7	0.756	1.03	44.8	14.9								384	02
400 ISL	6.15 D	6.11	34.121 D	26.849	125.3	0.780	0.83	D 36.1 D	12.0								403	
500 ISL	5.58 D	5.54	34.198 D	26.982	113.5	0.901	0.44	D 19.2 D	6.3								504	
520	5.35	5.30	34.190	27.003	111.5	0.915	0.44	19.1	6.2								525	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 66.7 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 27.4 N	124 53.9 W	03/02/2015	1533	UTC	4389 m	030 05 kn	280 04 10	2	1018.6 mb	14.1 C	13.1 C	26 m	8/8	ST	091

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.98	14.98	32.792	24.275	363.8	0.000	5.83	D254.1	D101.0						0.24	0.07	0	
10	14.98	14.98	32.792	24.276	364.1	0.036	5.83	D254.1	D101.0						0.24	0.07	10	12
20	14.99	14.98	32.791 D	24.274	364.5	0.073	5.84	D254.6	D101.2						0.23	0.08	20	11
30 ISL	14.86 D	14.86	32.799 D	24.308	361.6	0.110	5.86	D255.7	D101.4						0.33	0.17	30	
50	13.69	13.68	33.028 D	24.731	321.9	0.179	5.71	248.8	96.5						0.51	0.36	50	10
70	11.25	11.24	32.900 D	25.099	287.1	0.240	5.38	234.6	86.4						0.16	0.14	71	09
75 ISL	11.03 D	11.02	32.944 D	25.173	280.2	0.255	5.35	D233.2 D	85.5						0.14	0.13	76	
100	9.41	9.40	33.102 D	25.570	242.7	0.321	5.05	219.7	77.9						0.03	0.06	101	08
120	9.57	9.56	33.506	25.862	215.5	0.362	3.81	165.8	59.1						0.01	0.05	121	07
125 ISL	9.41 D	9.40	33.558 D	25.929	209.2	0.377	3.69	D160.5 D	57.0						0.01	0.04	126	
140	9.13	9.11	33.732 D	26.111	192.2	0.408	3.10	135.0	47.7						0.00	0.04	141	06
150 ISL	9.05 D	9.03	33.810 D	26.184	185.5	0.427	2.96	D128.6 D	45.4						0.00	0.04	151	
197	8.76	8.74	33.984 D	26.367	169.0	0.511	2.28	99.0	34.8						0.00	0.03	199	04
199	8.75	8.73	33.991 D	26.374	168.4	0.514	2.25	97.7	34.3						0.00	0.03	201	05
200 ISL	8.75 D	8.73	33.994 D	26.376	168.2	0.516	2.22	D 96.6 D	33.9								202	
250 ISL	8.17 D	8.14	34.101 D	26.551	152.4	0.597	1.50	D 65.4 D	22.7								252	
270	7.87	7.85	34.100 D	26.594	148.6	0.627	1.51	65.8	22.7								272	03
300 ISL	7.38 D	7.36	34.088 D	26.655	143.0	0.671	1.44	D 62.6 D	21.4								302	
380	6.27	6.24	34.081 D	26.801	129.6	0.781	1.10	47.9	15.9								383	02
400 ISL	6.21 D	6.18	34.132 D	26.849	125.4	0.807	0.79	D 34.2 D	11.3								403	
500 ISL	5.56 D	5.52	34.180 D	26.969	114.7	0.928	0.47	D 20.6 D	6.7								504	
515	5.49	5.45	34.188	26.984	113.4	0.939	0.45	19.4	6.3								519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 70 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 10.8 N	121 43.8 W	02/02/2015	0527	UTC	270 m	150 02 kn			1019.0 mb	14.1 C	12.9 C				085

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.58	14.58	33.338 D	24.782	315.5	0.000	6.02	D262.3	D103.9								0	
2	14.58	14.58	33.338 D	24.782	315.6	0.006	6.02	D262.3	D103.9								2	16
10	14.51	14.50	33.331	24.793	314.8	0.032	5.98	260.5	103.0	3.9	0.42	0.6	0.08	0.05	1.48	0.73	10	15
20	14.17	14.17	33.346	24.875	307.3	0.063	5.60	243.8	95.7	4.9	0.56	2.4	0.26	0.13	1.16	0.60	20	14
30	13.89	13.89	33.363	24.947	300.8	0.093	5.30	231.1	90.3	6.3	0.69	4.3	0.45	0.16	0.68	0.46	30	13
40	13.47	13.47	33.374	25.042	292.0	0.123	5.09	221.7	85.8	7.6	0.80	5.9	0.44	0.07	0.40	0.35	40	12
50	12.78	12.77	33.387	25.190	278.2	0.151	4.80	208.9	79.7	9.6	0.95	8.7	0.16	0.03	0.17	0.20	50	11
60	12.24	12.23	33.417	25.318	266.2	0.178	4.56	198.5	74.9	11.5	1.07	10.5	0.19	0.03	0.14	0.20	61	10
70	12.03	12.03	33.412	25.354	263.1	0.205	4.52	196.9	74.0	12.0	1.10	11.3	0.11	0.04	0.12	0.19	71	09
75 ISL	11.77 D	11.76	33.449 D	25.432	255.7	0.219	4.43	D193.0 D	72.1	12.8	1.16	12.3	0.09	0.05	0.10	0.17	76	
84	11.33	11.32	33.443	25.508	248.6	0.241	4.20	183.1	67.8	14.3	1.28	14.1	0.06	0.06	0.07	0.15	85	08
100	10.80	10.79	33.533	25.674	233.2	0.279	3.85	167.7	61.4	17.7	1.46	16.9	0.07	0.03	0.06	0.13	101	07
120	9.81	9.80	33.746	26.009	201.7	0.323	3.02	131.5	47.2	25.7	1.81	22.4	0.05	0.01	0.02	0.09	121	06
125 ISL	9.79 D	9.78	33.758 D	26.022	200.5	0.335	3.02	D131.2 D	47.1	26.6	1.86	23.1	0.04	0.02	0.02	0.09	126	
140	9.28	9.26	33.863	26.189	184.9	0.361	2.71	118.0	41.9	29.6	2.00	25.2	0.02	0.03	0.01	0.07	141	05
150 ISL	9.16 D	9.14	33.914 D	26.248	179.5	0.382	2.49	D108.2 D	38.3	31.2	2.06	26.0	0.02	0.03	0.01	0.07	151	
170	8.83	8.81	33.969	26.343	170.7	0.415	2.27	98.7	34.7	34.5	2.19	27.4	0.03	0.04	0.01	0.07	171	04
200	8.61	8.59	34.042 D	26.436	162.5	0.468	1.88	D 81.9 D	28.7								202	03
230	8.34	8.32	34.078 D	26.506	156.4	0.516	1.66	D 72.1 D	25.1								232	02
250 ISL	8.23 D	8.20	34.096 D	26.538	153.7	0.547	1.56	D 68.0 D	23.6	45.0	2.46	31.0	0.05	0.02			252	
251	8.23	8.20	34.095	26.537	153.8	0.545	1.55	67.4	23.4	45.1	2.46	31.0	0.06	0.02			253	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 70 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
36 2.9 N	122 0.6 W	02/02/2015	0202	UTC	1298 m	330 06 kn			1018.3 mb	14.5 C	13.5 C				084

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.02	15.02	33.145	24.539	338.7	0.000	5.92	258.1	103.0	2.0	0.36	0.1	0.01	0.06	0.49	0.16	0	
2	15.02	15.02	33.145	24.539	338.8	0.007	5.92	258.1	103.0	2.0	0.36	0.1	0.01	0.06	0.49	0.16	2	20
10	14.97	14.97	33.145	24.550	338.0	0.034	5.91	257.4	102.6	1.9	0.36	0.0	0.01	0.02	0.50	0.14	10	19
20	14.94	14.94	33.160	24.568	336.6	0.068	5.89	256.8	102.3	1.9	0.37	0.1	0.01	0.05	0.57	0.19	20	18
30	14.87	14.87	33.171	24.592	334.6	0.101	5.85	254.9	101.4	1.9	0.36	0.1	0.02	0.03	0.64	0.33	30	17
40	14.30	14.30	33.177	24.718	322.9	0.134	5.60	244.2	96.0	3.6	0.56	2.6	0.10	0.03	0.63	0.39	40	16
50	11.92	11.92	33.179	25.192	277.8	0.164	5.04	219.6	82.2	7.9	0.96	9.0	0.05	0.02	0.28	0.25	50	15
60	11.23	11.22	33.206	25.340	263.9	0.191	4.78	208.0	76.8	10.5	1.15	12.2	0.04	0.04	0.18	0.19	61	14
70	10.71	10.70	33.250	25.468	252.0	0.217	4.62	201.1	73.4	12.4	1.27	14.1	0.03	0.01	0.12	0.15	71	13
75 ISL	10.40 D	10.39	33.268 D	25.535	245.7	0.231	4.63	D201.5 D	73.0	13.4	1.32	15.0	0.03	0.01	0.10	0.14	76	
85	9.99	9.98	33.316	25.642	235.7	0.253	4.40	191.4	68.8	15.6	1.41	16.8	0.02	0.01	0.06	0.11	86	12
100	9.67	9.66	33.451	25.801	220.8	0.288	4.02	174.9	62.5	18.5	1.55	19.2	0.02	0.02	0.04	0.08	101	11
120	9.24	9.22	33.553	25.952	206.8	0.330	3.81	165.9	58.7	21.6	1.68	21.1	0.02	0.04	0.01	0.05	121	10
125 ISL	9.30 D	9.29	33.667 D	26.031	199.5	0.343	3.46	D150.6 D	53.4	22.7	1.73	21.9	0.02	0.04	0.01	0.06	126	
139	9.20	9.18	33.755	26.117	191.6	0.368	3.12	136.0	48.2	26.0	1.86	24.1	0.02	0.03	0.02	0.07	140	09
150 ISL	9.11 D	9.09	33.802 D	26.169	186.9	0.391	3.04	D132.4 D	46.8	28.1	1.92	25.1	0.02	0.02	0.01	0.06	151	
170	8.84	8.82	33.941	26.320	172.9	0.425	2.60	113.2	39.8	31.8	2.04	26.8	0.02	0.01	0.00	0.05	171	08
200	8.62	8.60	33.998	26.400	165.9	0.476	2.38	103.6	36.3	35.1	2.13	28.0	0.02	0.00	0.00	0.04	202	07
230	8.34	8.31	34.034	26.472	159.6	0.525	2.15	93.4	32.5	38.4	2.23	29.3	0.02	0.01			232	06
250 ISL	8.08 D	8.05	34.057 D	26.530	154.3	0.559	1.98	D 86.0 D	29.8	42.1	2.35	30.5	0.01	0.01			252	
270	7.95	7.92	34.107	26.588	149.1	0.586	1.59	69.0	23.8	45.9	2.46	31.7	0.01	0.01			272	05
300 ISL	7.70 D	7.67	34.138 D	26.650	143.7	0.633	1.33	D 57.8 D	19.9	50.4	2.60	33.0	0.01	0.00			302	
320	7.63	7.60	34.183	26.695	139.7	0.658	0.99	43.2	14.8	53.4	2.70	33.8	0.01	0.00			323	04
379	7.13	7.09	34.179	26.765	133.8	0.739	0.84	36.4	12.3	60.7	2.84	36.1	0.01	0.00			382	03
400 ISL	6.83 D	6.79	34.193 D	26.817	129.0	0.771	0.71	D 30.9 D	10.4	64.5	2.90	36.7	0.01	0.00			403	
440	6.39	6.35	34.206	26.885	122.7	0.817	0.53	23.2	7.7	71.9	3.00	38.0	0.01	0.01			444	02
500 ISL	6.00 D	5.95	34.232 D	26.958	116.3	0.894	0.45	D 19.4 D	6.4	78.6	3.08	39.5	0.01	0.02			504	
515	5.90	5.86	34.239	26.974	114.9	0.906	0.49	21.1	7.0	80.3	3.10	39.9	0.01	0.02			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 70 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 52.8 N	122 22.1 W	01/02/2015	2156	UTC	3055 m	330 07 kn	310 03 06	1	1019.0 mb	15.0 C	13.8 C	09 m	6/8	SC	083

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.84	14.84	33.291	24.691	324.2	0.000	5.97	260.3	103.6	2.1	0.39	0.1	0.02	0.02	1.25	0.39	0	
2	14.84	14.83	33.291	24.691	324.3	0.007	5.97	260.3	103.6	2.1	0.39	0.1	0.02	0.02	1.25	0.39	2	20
10	14.80	14.80	33.289	24.697	323.9	0.032	5.96	259.6	103.2	2.1	0.37	0.0	0.02	0.02	1.23	0.39	10	19
19	14.70	14.70	33.289	24.720	322.1	0.062	5.92	257.9	102.3	2.1	0.37	0.1	0.02	0.04	1.39	0.51	19	18
20 ISL	14.71 D	14.71	33.289 D	24.717	322.4	0.065	5.89	D256.6 D	101.8	2.6	0.42	0.7	0.03	0.04	1.32	0.50	20	
30	12.82	12.82	33.259	25.082	287.9	0.095	5.09	221.5	84.6	6.9	0.87	7.1	0.12	0.04	0.58	0.41	30	17
40	11.26	11.26	33.216	25.342	263.3	0.123	4.81	209.6	77.4	11.0	1.15	11.8	0.04	0.02	0.24	0.29	40	16
50	10.62	10.61	33.318 D	25.536	245.1	0.149	4.56	198.6	72.4	13.2	1.33	14.8	0.03	0.03	0.14	0.19	50	15
60	10.28	10.28	33.349	25.618	237.4	0.172	4.34	189.1	68.4	15.1	1.39	16.4	0.03	0.02	0.11	0.29	61	14
70	9.84	9.84	33.361	25.702	229.6	0.196	4.28	186.4	66.8	16.5	1.48	17.6	0.02	0.04	0.05	0.11	71	13
75 ISL	9.73 D	9.72	33.422 D	25.769	223.3	0.209	4.16	D181.3 D	64.8	17.9	1.54	18.7	0.02	0.03	0.04	0.10	76	
85	9.54	9.53	33.544	25.894	211.6	0.229	3.73	162.5	57.9	20.7	1.65	20.8	0.02	0.02	0.02	0.07	86	12
100	9.47	9.46	33.695	26.025	199.6	0.260	3.30	143.6	51.2	23.8	1.78	22.5	0.02	0.10	0.01	0.05	101	11
120	9.44	9.43	33.838	26.142	189.0	0.298	2.85	124.0	44.2	27.1	1.91	24.2	0.02	0.02	0.01	0.06	121	10
125 ISL	9.42 D	9.41	33.860 D	26.163	187.1	0.310	2.77	D120.6 D	43.0	27.7	1.93	24.5	0.02	0.02	0.01	0.06	126	
140	9.26	9.24	33.897	26.218	182.1	0.336	2.62	114.2	40.5	29.4	2.00	25.4	0.01	0.02	0.01	0.06	141	09
150 ISL	9.25 D	9.23	33.945 D	26.258	178.5	0.356	2.45	D106.7 D	37.9	30.9	2.05	26.1	0.01	0.02	0.01	0.06	151	
170	9.01	8.99	34.012	26.350	170.2	0.389	2.17	94.3	33.3	33.9	2.16	27.4	0.01	0.02	0.01	0.05	171	08
200	8.49	8.47	34.047	26.458	160.4	0.438	2.04	88.6	31.0	37.7	2.23	29.0	0.01	0.02	0.00	0.04	202	07
230	8.13	8.10	34.067	26.530	154.0	0.485	1.91	82.9	28.7	41.9	2.33	30.5	0.01	0.02			232	06
250 ISL	7.89 D	7.86	34.102 D	26.593	148.3	0.519	1.61	D 69.8 D	24.1	45.5	2.45	31.7	0.01	0.02			252	
270	7.73	7.70	34.129	26.638	144.3	0.545	1.35	58.9	20.2	49.0	2.56	32.9	0.01	0.02			272	05
300 ISL	7.42 D	7.39	34.135 D	26.687	139.9	0.591	1.20	D 52.0 D	17.8	53.4	2.65	34.3	0.01	0.03			302	
322	7.17	7.14	34.149	26.733	135.8	0.618	1.02	44.4	15.1	56.5	2.72	35.3	0.01	0.03			325	04
380	6.76	6.72	34.169	26.806	129.6	0.695	0.78	34.1	11.5	63.2	2.87	37.0	0.01	0.02			383	03
400 ISL	6.62 D	6.58	34.183 D	26.837	126.9	0.726	0.70	D 30.3 D	10.1	65.9	2.92	37.6	0.01	0.02			403	
440	6.32	6.28	34.217	26.903	121.0	0.770	0.51	22.3	7.4	71.2	3.01	38.6	0.01	0.01			444	02
500 ISL	5.96 D	5.92	34.239 D	26.967	115.4	0.847	0.39	D 17.1 D	5.6	77.3	3.08	39.8	0.01	0.02			504	
515	5.90	5.86	34.243	26.978	114.5	0.858	0.37	16.3	5.4	78.9	3.10	40.1	0.01	0.02			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 70 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 32.6 N	123 4.4 W	01/02/2015	1541	UTC	3821 m	330 15 kn	340 03 06	1	1019.1 mb	14.8 C	12.7 C	16 m	7/8	SC	082

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.44	14.44	33.004	24.553	337.3	0.000	5.90	257.1	101.3	2.2	0.37	0.1	0.03	0.01	0.55	0.18	0	
2	14.44	14.44	33.004	24.553	337.4	0.007	5.90	257.1	101.3	2.2	0.37	0.1	0.03	0.01	0.55	0.18	2	20
10	14.44	14.44	33.007	24.556	337.4	0.034	5.90	257.3	101.4	2.2	0.37	0.1	0.03	0.01	0.55	0.17	10	19
20	14.40	14.40	33.064	24.609	332.6	0.067	5.91	257.4	101.4	2.2	0.37	0.1	0.04	0.03	0.64	0.21	20	18
30	14.29	14.28	33.182	24.725	321.9	0.100	5.85	254.9	100.2	2.4	0.39	0.4	0.13	0.17	0.35	0.25	30	17
40	14.54	14.53	33.313	24.773	317.6	0.132	5.89	256.7	101.5	2.3	0.38	0.2	0.09	0.05	0.75	0.39	40	16
50	14.43	14.43	33.322	24.803	315.1	0.164	5.87	255.7	100.9	2.5	0.40	0.5	0.12	0.07	0.69	0.41	50	15
60	11.83	11.82	32.924	25.012	295.2	0.194	5.49	239.0	89.1	5.7	0.79	6.1	0.11	0.01	0.24	0.32	60	14
70	10.78	10.78	32.994	25.255	272.2	0.222	5.19	226.0	82.4	9.0	1.06	10.6	0.04	0.01	0.16	0.19	71	13
75 ISL	10.67 D	10.66	33.114 D	25.369	261.5	0.237	5.03	D218.9 D	79.7	10.5	1.15	12.2	0.03	0.00	0.13	0.15	76	
85	9.88	9.87	33.201	25.570	242.5	0.261	4.72	205.3	73.6	13.5	1.34	15.2	0.03	0.00	0.07	0.09	86	12
100	9.41	9.40	33.312	25.735	227.1	0.296	4.51	196.3	69.7	17.2	1.47	17.7	0.02	0.01	0.02	0.04	101	11
120	9.04	9.02	33.501	25.943	207.6	0.340	4.06	176.8	62.3	21.6	1.64	20.7	0.02	0.01	0.01	0.03	121	10
125 ISL	8.93 D	8.91	33.557 D	26.004	201.9	0.352	4.00	D174.1 D	61.2	22.8	1.68	21.4	0.02	0.00	0.00	0.03	126	
140	8.80	8.79	33.706	26.142	189.2	0.380	3.45	150.1	52.7	26.2	1.81	23.7	0.01	0.00	0.00	0.03	141	09
150 ISL	8.76 D	8.74	33.763 D	26.192	184.6	0.400	3.31	D144.2 D	50.6	28.0	1.87	24.6	0.01	0.00	0.00	0.03	151	
170	8.59	8.58	33.871	26.304	174.4	0.434	2.89	125.9	44.1	31.5	1.98	26.5	0.02	0.01	0.00	0.02	171	08
200	8.14	8.12	33.950	26.435	162.4	0.485	2.82	122.9	42.6	35.3	2.04	27.6	0.02	0.00	0.00	0.02	202	07
230	7.75	7.73	33.973	26.510	155.6	0.532	2.65	115.3	39.6	40.0	2.13	29.1	0.02	0.01			232	06
250 ISL	7.51 D	7.49	33.991 D	26.559	151.2	0.566	2.39	D104.1 D	35.6	43.4	2.23	30.4	0.02	0.00			252	
270	7.33	7.30	34.001	26.594	148.2	0.593	2.18	94.7	32.2	46.7	2.33	31.7	0.02	0.00			272	05
300 ISL	7.08 D	7.05	34.034 D	26.655	142.7	0.640	1.73	D 75.3 D	25.5	51.7	2.48	33.6	0.02	0.00			302	
320	6.88	6.85	34.042	26.689	139.7	0.665	1.56	67.7	22.8	55.1	2.58	34.8	0.01	0.00			323	04
380	6.13	6.09	34.063	26.805	129.1	0.746	1.15	50.2	16.6	66.3	2.80	37.7	0.01	0.02			383	03
400 ISL	6.11 D	6.07	34.101 D	26.837	126.3	0.776	0.93	D 40.4 D	13.4	69.1	2.87	38.3	0.01	0.00			403	
440	6.03	5.99	34.173	26.906	120.4	0.820	0.56	24.5	8.1	74.6	3.00	39.3	0.01	0.00			444	02
500 ISL	5.82 D	5.78	34.234 D	26.980	114.0	0.896	0.37	D 16.1 D	5.3	81.5	3.12	40.2	0.01	0.00			504	
514	5.71	5.66	34.238	26.998	112.4	0.907	0.36	15.7	5.1	83.1	3.15	40.4	0.01	0.00			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 70 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 12.7 N	123 46.7 W	01/02/2015	0853 UTC	4070 m	340 11 kn			1018.0 mb	15.1 C	13.8 C				081

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.51	15.51	32.819	24.181	372.8	0.000	5.79	252.6	101.5	1.6	0.34	0.0	0.01	0.00	0.21	0.06	0	
3	15.51	15.51	32.819	24.181	372.9	0.011	5.79	252.6	101.5	1.6	0.34	0.0	0.01	0.00	0.21	0.06	3	20
10	15.52	15.52	32.829	24.186	372.6	0.037	5.75	250.7	100.8	1.6	0.33	0.0	0.02	0.01	0.19	0.06	10	19
20 ISL	15.51 D	15.51	32.825 D	24.187	372.9	0.075	5.77	D251.7	D101.2	1.6	0.32	0.0	0.02	0.01	0.19	0.07	20	
26	15.48	15.48	32.815	24.186	373.2	0.097	5.77	251.7	101.1	1.6	0.31	0.0	0.01	0.01	0.19	0.07	26	18
30 ISL	15.48 D	15.48	32.818 D	24.188	373.2	0.113	5.80	D252.7	D101.5	1.6	0.31	0.0	0.01	0.01	0.20	0.07	30	
39	15.46	15.46	32.813	24.189	373.3	0.146	5.76	251.3	100.9	1.6	0.30	0.0	0.01	0.02	0.21	0.07	39	17
50 ISL	15.38 D	15.38	32.817 D	24.210	371.7	0.188	5.78	D252.0	D101.0	1.6	0.29	0.0	0.01	0.03	0.23	0.07	50	
51	15.30	15.29	32.812	24.225	370.3	0.190	5.77	251.7	100.7	1.6	0.29	0.0	0.01	0.03	0.23	0.07	51	16
62	14.59	14.58	32.857	24.413	352.7	0.230	5.86	255.5	100.8	2.1	0.31	0.1	0.10	0.02	0.55	0.27	63	15
74	14.23	14.22	32.977	24.582	336.9	0.271	5.73	249.8	97.9	2.8	0.39	1.0	0.42	0.01	0.27	0.18	75	14
75 ISL	14.21 D	14.20	32.985 D	24.592	336.0	0.277	5.76	D250.9	D 98.3	2.9	0.40	1.2	0.40	0.00	0.26	0.18	76	
85	13.14	13.13	32.912	24.753	320.7	0.308	5.67	247.2	94.8	3.9	0.52	3.0	0.15	0.00	0.18	0.18	86	13
100	11.10	11.09	32.906	25.132	284.7	0.353	5.38	234.3	86.0	7.7	0.85	8.8	0.02	0.00	0.10	0.13	101	12
113	10.07	10.06	33.160	25.508	249.0	0.388	4.92	214.4	77.1	12.3	1.15	14.4	0.03	0.00	0.05	0.07	114	11
124	9.66	9.65	33.253	25.649	235.8	0.415	4.69	204.4	72.9	14.7	1.47	16.4	0.02	0.01	0.03	0.05	125	10
125 ISL	9.63 D	9.61	33.286 D	25.680	232.9	0.418	4.63	D201.7	D 71.9	15.0	1.48	16.6	0.02	0.01	0.03	0.05	126	
139	9.24	9.23	33.446	25.868	215.2	0.448	4.18	181.8	64.3	19.4	1.67	19.7	0.02	0.02	0.02	0.03	140	09
150 ISL	9.12 D	9.10	33.582 D	25.995	203.4	0.473	3.92	D170.7	D 60.3	21.9	1.75	21.3	0.02	0.02	0.01	0.02	151	
170	8.78	8.76	33.755	26.184	185.8	0.511	3.48	151.6	53.2	26.5	1.90	24.3	0.02	0.01	0.00	0.02	171	08
199	8.46	8.44	33.896	26.344	171.1	0.562	3.10	134.8	47.0	31.1	2.01	26.2	0.01	0.00	0.00	0.02	201	07
200 ISL	8.45 D	8.43	33.908 D	26.355	170.1	0.566	3.10	D134.9	D 47.1	31.2	2.01	26.2	0.01	0.00			202	
231	8.15	8.12	33.946	26.431	163.3	0.616	3.03	131.9	45.7	34.0	2.04	27.0	0.01	0.00			233	06
250 ISL	7.96 D	7.93	33.975 D	26.483	158.7	0.649	2.99	D130.0	D 44.9	37.8	2.15	28.7	0.02	0.00			252	
271	7.68	7.66	34.001	26.544	153.2	0.679	2.38	103.7	35.6	42.1	2.28	30.5	0.02	0.00			273	05
300 ISL	7.29 D	7.26	34.009 D	26.606	147.5	0.725	2.20	D 95.9	D 32.6	47.2	2.42	32.4	0.01	0.00			302	
320	7.10	7.07	34.030	26.649	143.7	0.752	1.83	79.7	27.0	50.6	2.51	33.7	0.01	0.00			323	04
382	6.52	6.49	34.068	26.758	133.9	0.838	1.25	54.2	18.1	60.9	2.77	36.8	0.01	0.00			385	03
400 ISL	6.36 D	6.32	34.081 D	26.789	131.1	0.865	1.13	D 49.0	D 16.3	63.9	2.83	37.5	0.01	0.00			403	
441	6.00	5.96	34.106	26.856	125.0	0.914	0.84	36.4	12.0	70.6	2.96	39.2	0.01	0.01			445	02
500 ISL	5.61 D	5.57	34.147 D	26.937	117.8	0.991	0.61	D 26.6	D 8.7	78.6	3.06	40.4	0.02	0.00			504	
515	5.56	5.51	34.169	26.961	115.6	1.003	0.54	23.7	7.7	80.6	3.08	40.7	0.02	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 70 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 52.8 N	124 28.6 W	01/02/2015	0243 UTC	4317 m	340 15 kn			1016.8 mb	14.8 C	13.4 C				080

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.90	15.90	32.901	24.157	375.0	0.000	5.72	249.5	101.1	1.6	0.35	0.0	0.02	0.05	0.19	0.06	0	
3	15.90	15.90	32.901	24.158	375.1	0.011	5.72	249.5	101.1	1.6	0.35	0.0	0.02	0.05	0.19	0.06	3	20
10	15.90	15.90	32.904	24.160	375.1	0.038	5.72	249.5	101.1	1.6	0.35	0.1	0.01	0.07	0.18	0.06	10	19
20 ISL	15.86 D	15.86	32.896 D	24.163	375.2	0.075	5.72	D249.2	D100.9	1.6	0.36	0.1	0.01	0.08	0.19	0.05	20	
25	15.76	15.76	32.891	24.182	373.6	0.094	5.72	249.5	100.8	1.6	0.36	0.1	0.01	0.09	0.19	0.05	25	18
30 ISL	15.69 D	15.69	32.867 D	24.178	374.1	0.113	5.72	D249.4	D100.6	1.6	0.36	0.1	0.01	0.07	0.19	0.05	30	
40	15.64	15.64	32.862	24.186	373.6	0.150	5.75	250.8	101.1	1.6	0.35	0.1	0.01	0.03	0.20	0.06	40	17
50	15.60	15.59	32.848	24.187	373.9	0.187	5.75	250.9	101.0	1.6	0.35	0.1	0.02	0.04	0.22	0.07	50	16
62	15.28	15.27	32.835	24.248	368.5	0.232	5.77	251.4	100.6	1.6	0.34	0.0	0.03	0.03	0.27	0.10	63	15
75	14.35	14.34	32.832	24.444	350.1	0.278	5.77	251.7	98.8	2.4	0.50	0.6	0.25	0.08	0.35	0.26	76	14
88	12.64	12.63	32.861	24.812	315.2	0.322	5.66	246.4	93.4	4.2	0.65	3.7	0.05	0.01	0.16	0.17	89	13
100	11.26	11.25	32.892	25.093	288.4	0.358	5.43	236.4	87.1	7.6	0.94	8.7	0.03	0.02	0.09	0.09	101	12
113	10.38	10.37	32.993	25.325	266.5	0.394	5.25	228.8	82.7	10.7	1.16	12.4	0.02	0.03	0.06	0.07	114	11
124	10.17	10.15	33.179	25.508	249.4	0.422	4.88	212.5	76.6	12.2	1.28	14.5	0.02	0.05	0.05	0.06	125	10
125 ISL	10.07 D	10.05	33.199 D	25.540	246.2	0.427	4.90	D213.6	D 76.8	12.5	1.29	14.6	0.02	0.05	0.05	0.06	126	
140	9.36	9.35	33.274	25.714	229.9	0.461	4.67	203.2	72.0	16.4	1.44	17.5	0.02	0.04	0.02	0.03	141	09
150 ISL	8.87 D	8.86	33.394 D	25.886	213.6	0.485	4.40	D191.5	D 67.2	19.0	1.55	19.3	0.02	0.04	0.02	0.03	151	
170	8.89	8.87	33.622	26.062	197.4	0.524	3.64	158.2	55.6	24.3	1.77	23.1	0.01	0.04	0.00	0.02	171	08
200	8.54	8.52	33.854	26.299	175.4	0.580	3.08	133.9	46.8	30.4	1.94	26.2	0.01	0.02	0.00	0.02	202	07
230	8.14	8.12	33.951	26.436	162.8	0.631	3.12	135.6	47.0	33.7	1.94	26.8	0.01	0.03			232	06
250 ISL	7.94 D	7.92	33.969 D	26.480	159.0	0.665	3.29	D143.0	D 49.3	36.7	2.03	27.8	0.01	0.04			252	
270	7.68	7.65	33.982	26.530	154.5	0.694	2.80	121.9	41.8	39.6	2.12	28.9	0.01	0.05			272	05
300 ISL	7.26 D	7.23	33.994 D	26.598	148.2	0.743	2.38	D103.5	D 35.2	45.8	2.30	31.4	0.00	0.03			302	
319	7.04	7.01	34.014	26.645	144.0	0.767	1.98	86.0	29.1	49.7	2.42	33.0	0.00	0.02			322	04
380	6.49	6.46	34.056	26.752	134.4	0.852	1.32	57.3	19.1	60.7	2.71	36.9	0.01	0.05			383	03
400 ISL	6.25 D	6.21	34.062 D	26.789	131.0	0.883	1.20	D 52.2	D 17.3	64.0	2.77	37.6	0.01	0.05			403	
440	5.90	5.86	34.076	26.845	125.9	0.930	1.03	44.9	14.8	70.4	2.88	39.0	0.01	0.06			444	02
500 ISL	5.45 D	5.40	34.127 D	26.941	117.2	1.008	0.68	D 29.6	D 9.6	79.9	3.03	40.7	0.01	0.04			504	
516	5.45	5.40	34.157	26.965	115.1	1.021	0.55	24.0	7.8	82.5	3.07	41.1	0.01	0.04			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 73.3 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 38.6 N	121 15.3 W	30/01/2015	1723 UTC	31 m	100 03 kn	280 03 05	0	1014.0 mb	15.1 C	15.0 C	10 m	0/8		074

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.79	14.79	33.282	24.694	323.9	0.000	5.89	256.5	101.9	2.8	0.43	0.4	0.07	0.14	1.34	0.47	0	
2	14.79	14.78	33.282	24.695	323.9	0.007	5.89	256.5	101.9	2.8	0.43	0.4	0.07	0.14	1.34	0.47	2	06
4	14.79	14.79	33.278	24.691	324.3	0.013	5.90	257.2	102.2	2.8	0.42	0.4	0.06	0.11	1.18	0.42	4	05
10	14.75	14.75	33.284	24.704	323.3	0.032	5.85	255.0	101.3	2.9	0.44	0.5	0.08	0.12	1.09	0.45	10	04
15	14.61	14.61	33.304	24.750	319.1	0.049	5.81	253.2	100.3	3.5	0.48	0.9	0.12	0.29	1.05	0.53	15	03
20	14.38	14.38	33.322	24.812	313.3	0.064	5.54	241.5	95.2	4.8	0.58	2.1	0.19	0.45	0.71	0.53	20	02
25	14.26	14.25	33.331	24.847	310.2	0.080	5.45	237.7	93.5	5.6	0.64	2.8	0.22	0.50	0.70	0.45	25	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 28.5 N	121 36.6 W	30/01/2015	2044 UTC	992 m	320 17 kn	320 04 06	1	1013.0 mb	14.9 C	13.5 C	16 m	7/8	ST	075

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.99	14.99	33.091	24.503	342.1	0.000	5.92	258.2	102.9	2.0	0.38	0.0	0.03	0.08	0.38	0.12	0	
2	14.99	14.99	33.091	24.503	342.2	0.007	5.92	258.2	102.9	2.0	0.38	0.0	0.03	0.08	0.38	0.12	2	20
10	14.99	14.99	33.085	24.500	342.7	0.034	5.91	257.8	102.7	1.9	0.38	0.0	0.03	0.06	0.37	0.12	10	19
20	14.99	14.99	33.089	24.502	342.8	0.069	5.90	257.0	102.4	1.9	0.36	0.0	0.03	0.07	0.37	0.12	20	18
29	14.93	14.93	33.092	24.518	341.6	0.099	5.89	256.9	102.3	2.0	0.37	0.1	0.03	0.07	0.46	0.15	29	17
30 ISL	14.88 D	14.87	33.109 D	24.544	339.2	0.104	5.81	D253.4	D100.8	2.1	0.39	0.3	0.04	0.07	0.49	0.20	30	
40	13.68	13.68	33.117	24.800	315.0	0.136	5.62	244.8	95.0	3.9	0.60	2.8	0.14	0.08	0.80	0.67	40	16
49	11.76	11.75	33.156	25.205	276.5	0.162	4.96	216.2	80.6	8.8	1.07	10.3	0.05	0.12	0.27	0.30	49	15
50 ISL	11.70 D	11.70	33.164 D	25.222	275.0	0.166	4.93	D214.9	D 80.1	9.0	1.08	10.5	0.05	0.11	0.26	0.30	50	
60	11.14	11.13	33.201	25.353	262.7	0.192	4.79	208.7	76.8	10.4	1.17	12.2	0.04	0.01	0.20	0.24	60	14
69	10.47	10.46	33.243	25.504	248.5	0.215	4.65	202.5	73.5	12.9	1.31	14.8	0.02	0.07	0.11	0.14	70	13
75 ISL	10.30 D	10.29	33.260 D	25.546	244.6	0.231	4.63	D201.8	D 73.0	13.4	1.32	15.1	0.02	0.07	0.10	0.13	76	
86	10.30	10.29	33.300	25.578	241.8	0.256	4.46	194.4	70.3	14.2	1.35	15.7	0.03	0.07	0.09	0.11	87	12
100	10.02	10.00	33.488	25.773	223.6	0.289	3.89	169.4	61.0	18.2	1.54	18.7	0.02	0.01	0.03	0.06	101	11
120	9.42	9.41	33.603	25.961	206.0	0.332	3.55	154.4	54.9	22.0	1.70	21.3	0.02	0.07	0.01	0.04	121	10
125 ISL	9.24 D	9.22	33.630 D	26.012	201.3	0.344	3.65	D158.7	D 56.2	23.3	1.74	22.1	0.02	0.07	0.01	0.04	126	
140	8.87	8.85	33.775	26.185	185.1	0.371	3.29	143.0	50.3	27.3	1.86	24.3	0.01	0.08	0.01	0.04	141	09
150 ISL	8.83 D	8.81	33.800 D	26.211	182.8	0.392	3.24	D141.1	D 49.6	28.5	1.89	24.9	0.01	0.07	0.01	0.04	151	
171	8.59	8.57	33.890	26.319	173.0	0.427	3.00	130.5	45.7	31.0	1.95	26.1	0.01	0.04	0.00	0.04	172	08
199	8.31	8.29	33.972	26.426	163.3	0.474	2.63	114.6	39.9	35.8	2.08	27.9	0.01	0.06	0.01	0.04	201	07
200 ISL	8.30 D	8.28	33.977 D	26.432	162.7	0.478	2.63	D114.4	D 39.8	35.9	2.08	27.9	0.01	0.06			202	
230	8.09	8.07	34.012	26.492	157.5	0.524	2.30	99.9	34.6	39.0	2.21	29.3	0.02	0.04			232	06
250 ISL	7.84 D	7.81	34.033 D	26.546	152.6	0.558	2.09	D 90.8	D 31.3	43.1	2.33	30.7	0.02	0.00			252	
270	7.68	7.66	34.078	26.604	147.4	0.584	1.71	74.2	25.5	47.1	2.44	32.0	0.02	0.00			272	05
300 ISL	7.50 D	7.47	34.114 D	26.659	142.7	0.632	1.35	D 58.5	D 20.0	50.3	2.59	32.8	0.02	0.00			302	
321	7.63	7.60	34.165	26.682	141.0	0.657	1.11	48.1	16.5	52.6	2.69	33.4	0.02	0.10			324	04
380	7.09	7.06	34.229	26.808	129.7	0.737	0.67	29.0	9.8	62.2	2.89	35.8	0.01	0.02			383	03
400 ISL	6.85 D	6.81	34.211 D	26.828	127.9	0.768	0.65	D 28.2	D 9.5	65.3	2.93	36.4	0.01	0.03			403	
440	6.49	6.45	34.232	26.894	122.0	0.813	0.49	21.2	7.1	71.5	3.01	37.7	0.01	0.04			444	02
500 ISL	6.15 D	6.10	34.258 D	26.959	116.4	0.891	0.37	D 16.1	D 5.3	76.8	3.08	38.8	0.01	0.02			504	
515	6.08	6.03	34.260	26.970	115.5	0.902	0.37	16.2	5.4	78.2	3.10	39.1	0.01	0.02			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 18.7 N	121 57.5 W	31/01/2015	0038 UTC	2353 m	330 19 kn	320 06 05	2	1012.0 mb	14.8 C	13.1 C		8/8	ST	076

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.00	15.00	33.183	24.572	335.5	0.000	5.96	259.7	103.6	1.8	0.35	0.0	0.01	0.04	0.36	0.10	0	
2	15.00	15.00	33.183	24.573	335.5	0.007	5.96	259.7	103.6	1.8	0.35	0.0	0.01	0.04	0.36	0.10	2	20
10	15.00	15.00	33.185	24.573	335.7	0.034	5.91	257.8	102.8	1.8	0.36	0.0	0.01	0.03	0.34	0.09	10	19
20	14.95	14.95	33.194	24.592	334.3	0.067	5.91	257.8	102.7	1.8	0.34	0.0	0.00	0.04	0.35	0.10	20	18
30	14.63	14.63	33.375	24.801	314.7	0.100	5.97	260.3	103.2	2.2	0.36	0.0	0.02	0.06	0.93	0.53	30	17
40	14.40	14.39	33.370	24.848	310.6	0.131	5.79	252.3	99.5	2.9	0.42	0.7	0.17	0.09	0.94	0.69	40	16
50	14.09	14.09	33.381	24.920	303.9	0.162	5.48	238.7	93.6	4.5	0.55	2.7	0.30	0.02	0.61	0.52	50	15
60	12.69	12.68	33.275	25.121	284.9	0.191	5.02	218.5	83.2	7.5	0.87	8.0	0.21	0.02	0.30	0.35	60	14
70	11.41	11.40	33.249	25.342	264.1	0.218	4.78	208.3	77.2	10.0	1.08	11.4	0.07	0.03	0.17	0.25	71	13
75 ISL	11.06 D	11.05	33.290 D	25.437	255.1	0.232	4.62	D201.1	D 74.0	11.9	1.19	13.1	0.05	0.03	0.13	0.21	76	
84	10.83	10.82	33.386	25.552	244.3	0.254	4.25	185.2	67.8	15.3	1.38	16.4	0.03	0.03	0.07	0.14	85	12
100	9.81	9.80	33.396	25.735	227.1	0.292	4.24	184.7	66.2	15.4	1.38	16.4	0.02	0.05	0.06	0.14	101	11
120	9.38	9.37	33.550	25.926	209.3	0.335	3.78	164.4	58.4	21.2	1.65	21.0	0.02	0.01	0.02	0.08	121	10
125 ISL	9.34 D	9.32	33.632 D	25.998	202.7	0.347	3.54	D153.9	D 54.6	22.2	1.69	21.7	0.02	0.01	0.02	0.08	126	
140	9.12	9.10	33.718	26.101	193.2	0.375	3.24	141.0	49.8	25.1	1.80	23.5	0.02	0.01	0.01	0.07	141	09
150 ISL	9.03 D	9.01	33.781 D	26.165	187.3	0.396	3.17	D137.8	D 48.6	26.8	1.84	24.3	0.02	0.01	0.01	0.06	151	
170	8.64	8.62	33.865	26.292	175.5	0.431	3.06	133.3	46.7	30.2	1.93	25.9	0.01	0.02	0.00	0.04	171	08
200	8.33	8.31	33.971	26.422	163.6	0.482	2.58	112.3	39.1	35.8	2.10	28.3	0.01	0.01	0.01	0.04	202	07
230	7.82	7.80	33.991	26.515	155.2	0.530	2.46	106.9	36.8	40.4	2.17	29.7	0.01	0.00			232	06
250 ISL	7.56 D	7.53	34.009 D	26.567	150.5	0.562	2.23	D 97.2	D 33.2	44.3	2.32	31.3	0.00	0.00			252	
270	7.47	7.44	34.062 D	26.622	145.6	0.592	1.67	72.4	24.7	48.2	2.47	33.0	0.00	0.02			272	05
300 ISL	7.15 D	7.12	34.074 D	26.677	140.7	0.635	1.45	D 63.0	D 21.4	52.9	2.56	34.3	0.00	0.01			302	
320	6.91	6.88	34.076	26.711	137.6	0.661	1.34	58.4	19.7	56.1	2.62	35.3	0.00	0.01			323	04
380	6.26	6.22	34.100	26.817	128.0	0.741	0.94	40.8	13.5	66.5	2.84	38.1	0.00	0.01			383	03
400 ISL	6.19 D	6.15	34.143 D	26.861	124.1	0.769	0.72	D 31.2	D 10.4	69.5	2.89	38.6	0.00	0.04			403	
440	5.90	5.86	34.157	26.909	119.9	0.816	0.61	26.5	8.7	75.4	2.98	39.6	0.00	0.11			444	02
500 ISL	5.51 D	5.47	34.177 D	26.973	114.2	0.889	0.49	D 21.4	D 7.0	81.9	3.07	40.7	0.01	0.05			504	
514	5.48	5.44	34.190	26.987	113.1	0.902	0.46	19.8	6.5	83.4	3.09	41.0	0.01	0.04			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 58.5 N	122 40.0 W	31/01/2015	0701	UTC	4061 m	330 18 kn			1013.0 mb	14.5 C	13.1 C				077

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.12	15.12	32.838	24.280	363.3	0.000	5.81	253.5	101.1	1.7	0.35	0.0	0.01	0.02	0.23	0.06	0	
2	15.12	15.12	32.838	24.280	363.4	0.007	5.81	253.5	101.1	1.7	0.35	0.0	0.01	0.02	0.23	0.06	2	20
10	15.12	15.12	32.843	24.284	363.3	0.036	5.81	253.2	101.0	1.7	0.35	0.0	0.00	0.03	0.21	0.07	10	19
20	15.10	15.09	32.839	24.288	363.2	0.073	5.81	253.5	101.0	1.7	0.36	0.0	0.00	0.09	0.24	0.05	20	18
30	14.58	14.58	32.896	24.443	348.8	0.108	5.86	255.6	100.9	2.0	0.37	0.1	0.03	0.03	0.51	0.18	30	17
40	13.64	13.64	32.964	24.690	325.5	0.142	5.76	251.0	97.3	3.1	0.50	1.6	0.28	0.00	0.59	0.40	40	16
48	12.39	12.38	32.866	24.862	309.2	0.167	5.63	245.3	92.5	4.8	0.69	4.6	0.07	0.06	0.35	0.32	48	15
50 ISL	12.23 D	12.23	32.865 D	24.890	306.6	0.175	5.56	D242.1 D	91.0	5.2	0.73	5.3	0.07	0.05	0.32	0.30	50	
60	11.07	11.06	32.945	25.166	280.5	0.203	5.31	231.1	84.8	7.5	0.94	8.7	0.04	0.01	0.18	0.18	60	14
68	10.62	10.61	32.977	25.270	270.7	0.225	5.24	228.2	82.9	9.6	1.08	11.1	0.04	0.02	0.11	0.11	69	13
75 ISL	10.56 D	10.55	33.138 D	25.406	257.9	0.245	5.04	D219.5 D	79.8	10.7	1.15	12.3	0.04	0.03	0.10	0.10	76	
85	10.28	10.27	33.156	25.468	252.2	0.269	4.86	211.5	76.4	12.1	1.26	14.1	0.04	0.04	0.08	0.08	86	12
100	9.64	9.63	33.287	25.678	232.5	0.306	4.65	202.6	72.3	15.1	1.37	16.4	0.03	0.01	0.04	0.06	101	11
120	9.48	9.47	33.472	25.849	216.7	0.351	4.06	176.9	62.9	19.2	1.57	19.6	0.03	0.02	0.02	0.03	121	10
125 ISL	9.43 D	9.41	33.579 D	25.942	208.0	0.363	3.93	D171.1 D	60.9	20.5	1.63	20.5	0.03	0.02	0.01	0.03	126	
140	9.10	9.09	33.664	26.061	196.9	0.392	3.46	150.7	53.3	24.5	1.81	22.9	0.02	0.01	0.00	0.03	141	09
150 ISL	8.99 D	8.97	33.723 D	26.125	191.0	0.413	3.34	D145.5 D	51.3	25.8	1.85	23.8	0.02	0.01	0.00	0.03	151	
171	8.92	8.90	33.836	26.226	181.9	0.451	2.97	129.2	45.5	28.6	1.92	25.5	0.02	0.01	0.00	0.02	172	08
200 ISL	8.50 D	8.48	33.917 D	26.355	170.1	0.505	2.86	D124.5 D	43.5	32.3	1.98	26.9	0.02	0.02	0.00	0.02	202	
201	8.50	8.48	33.911	26.350	170.5	0.503	2.87	124.8	43.6	32.4	1.98	26.9	0.02	0.02	0.00	0.02	203	07
228	8.10	8.08	33.981	26.465	160.0	0.548	2.55	110.8	38.4	37.4	2.12	28.8	0.02	0.02			230	06
250 ISL	7.83 D	7.81	34.002 D	26.522	154.9	0.586	2.36	D102.6 D	35.3	40.8	2.22	30.0	0.02	0.00			252	
271	7.54	7.51	34.016	26.576	150.0	0.615	2.14	93.2	31.9	44.1	2.31	31.1	0.02	0.00			273	05
300 ISL	7.17 D	7.14	34.045 D	26.651	143.2	0.661	1.69	D 73.7 D	25.0	49.6	2.45	33.0	0.02	0.00			302	
320	6.91	6.88	34.037	26.681	140.5	0.686	1.64	71.4	24.1	53.5	2.55	34.2	0.02	0.00			323	04
380	6.14	6.11	34.065	26.805	129.1	0.767	1.12	48.8	16.1	66.2	2.80	37.9	0.01	0.04			383	03
400 ISL	6.09 D	6.05	34.104 D	26.843	125.8	0.797	0.92	D 40.0 D	13.2	69.5	2.86	38.5	0.01	0.00			403	
440	5.85	5.81	34.153	26.912	119.6	0.842	0.61	26.4	8.7	75.9	2.99	39.8	0.01	0.00			444	02
500 ISL	5.56 D	5.52	34.200 D	26.985	113.2	0.917	0.42	D 18.4 D	6.0	82.6	3.09	40.6	0.01	0.00			504	
515	5.56	5.51	34.224	27.005	111.5	0.928	0.38	16.7	5.4	84.3	3.12	40.8	0.01	0.01			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 38.7 N	123 21.8 W	31/01/2015	1323	UTC	4157 m	330 23 kn			1013.0 mb	14.9 C	13.7 C				078

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.03	15.03	32.861	24.316	359.9	0.000	5.83	254.2	101.3	1.7	0.35	0.1	0.01	0.07	0.27	0.08	0	
3	15.03	15.03	32.861	24.317	360.0	0.011	5.83	254.2	101.2	1.7	0.35	0.1	0.01	0.07	0.27	0.08	3	20
10	15.05	15.05	32.852	24.307	361.1	0.036	5.81	253.5	101.0	1.7	0.37	0.1	0.01	0.03	0.26	0.08	10	19
20	15.05	15.05	32.853	24.309	361.3	0.072	5.82	253.9	101.1	1.6	0.35	0.1	0.01	0.01	0.26	0.08	20	18
30	15.05	15.04	32.853	24.310	361.4	0.108	5.82	253.6	101.0	1.6	0.35	0.1	0.03	0.04	0.27	0.07	30	17
40	14.89	14.88	32.879	24.364	356.6	0.144	5.84	254.7	101.1	1.8	0.38	0.1	0.04	0.06	0.44	0.15	40	16
50	13.65	13.65	32.998	24.714	323.5	0.178	5.77	251.3	97.4	2.8	0.49	1.4	0.27	0.04	0.72	0.41	50	15
60	12.52	12.51	32.935	24.891	306.8	0.210	5.53	240.8	91.1	5.1	0.74	5.3	0.10	0.04	0.26	0.27	60	14
70	11.43	11.42	32.928	25.089	288.1	0.239	5.33	232.3	85.9	7.4	0.93	8.5	0.05	0.02	0.18	0.23	71	13
75 ISL	11.21 D	11.20	33.031 D	25.209	276.8	0.255	5.22	D227.4 D	83.8	8.4	1.01	9.8	0.04	0.03	0.16	0.19	76	
84	10.69	10.68	33.076	25.337	264.8	0.278	5.00	217.6	79.3	10.2	1.15	12.2	0.04	0.04	0.12	0.12	85	12
100	10.02	10.01	33.108	25.476	251.8	0.319	4.94	215.3	77.3	12.5	1.24	14.1	0.03	0.00	0.07	0.08	101	11
120	9.50	9.48	33.308	25.719	229.1	0.367	4.58	199.2	70.8	15.7	1.40	16.9	0.03	0.01	0.04	0.05	121	10
125 ISL	9.41 D	9.40	33.337 D	25.755	225.7	0.381	4.53	D197.0 D	69.9	17.0	1.44	17.5	0.03	0.02	0.03	0.05	126	
140	9.13	9.11	33.421	25.867	215.3	0.412	4.28	186.2	65.7	20.9	1.54	19.5	0.03	0.03	0.01	0.03	141	09
150 ISL	9.13 D	9.11	33.533 D	25.955	207.2	0.435	3.98	D173.3 D	61.2	22.8	1.63	21.0	0.03	0.00	0.01	0.03	151	
170	8.79	8.77	33.728	26.162	187.9	0.473	3.43	149.3	52.4	26.6	1.80	24.0	0.03	0.00	0.00	0.02	171	08
199	8.36	8.34	33.932	26.388	166.9	0.524	2.89	125.9	43.8	32.7	1.98	26.8	0.02	0.02	0.00	0.02	201	07
200 ISL	8.40 D	8.37	33.949 D	26.396	166.2	0.528	2.85	D123.8 D	43.2	33.0	1.99	26.9	0.02	0.02			202	
230	7.98	7.95	34.002	26.501	156.6	0.574	2.34	101.8	35.2	39.8	2.19	29.7	0.02	0.02			232	06
250 ISL	7.79 D	7.77	34.027 D	26.548	152.5	0.608	2.09	D 90.8 D	31.2	42.8	2.27	30.8	0.02	0.00			252	
270	7.55	7.52	34.034	26.589	148.8	0.636	1.96	85.2	29.1	45.8	2.35	31.9	0.02	0.00			272	05
300 ISL	7.10 D	7.08	34.064 D	26.675	140.9	0.682	1.65	D 71.8 D	24.3	51.5	2.51	33.7	0.02	0.00			302	
320	7.02	6.99	34.092	26.709	137.9	0.707	1.32	57.5	19.4	55.3	2.62	34.8	0.02	0.00			323	04
380	6.35	6.32	34.104	26.808	129.0	0.787	0.99	43.1	14.3	64.1	2.79	37.3	0.01	0.01			383	03
400 ISL	6.32 D	6.28	34.121 D	26.826	127.5	0.817	0.86	D 37.5 D	12.5	66.6	2.83	37.7	0.01	0.00			403	
439	6.10	6.06	34.146	26.875	123.3	0.862	0.69	30.1	9.9	71.5	2.92	38.4	0.02	0.00			443	02
500 ISL	5.79 D	5.74	34.195 D	26.954	116.4	0.940	0.47	D 20.3 D	6.7	79.2	3.03	40.0	0.02	0.00			504	
517	5.69	5.65	34.206	26.975	114.6	0.954	0.42	18.4	6.0	81.4	3.06	40.4	0.02	0.00			521	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 73.3 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 18.6 N	124 3.9 W	31/01/2015	1947	UTC	3191 m	340 21 kn	360 05 08	2	1016.0 mb	16.1 C	13.9 C	28 m	5/8	SC	079

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.09	16.09	32.872	24.091	381.3	0.000	5.70	248.4	101.0	1.4	0.42	0.1	0.01	0.12	0.22	0.04	0	
3	16.09	16.09	32.872	24.092	381.4	0.011	5.70	248.4	101.0	1.4	0.42	0.1	0.01	0.12	0.22	0.04	3	20
10	16.10	16.10	32.879	24.096	381.2	0.038	5.67	247.4	100.6	1.4	0.34	0.1	0.01	0.03	0.21	0.04	10	19
20 ISL	16.10 D	16.09	32.873 D	24.092	381.9	0.077	5.65	D246.4	D100.2	1.4	0.35	0.1	0.01	0.04	0.21	0.04	20	
25	16.09	16.09	32.876	24.097	381.7	0.095	5.64	D245.8	D100.0	1.4	0.35	0.1	0.01	0.05	0.21	0.04	25	18
30 ISL	16.09 D	16.09	32.873 D	24.094	382.1	0.115	5.66	D246.8	D100.4	1.4	0.35	0.1	0.01	0.05	0.20	0.05	30	
40	16.09	16.09	32.872	24.094	382.5	0.153	5.67	247.4	100.6	1.4	0.35	0.1	0.01	0.06	0.19	0.07	40	17
50 ISL	16.09 D	16.08	32.871 D	24.096	382.7	0.193	5.63	D245.5	D 99.8	1.4	0.35	0.1	0.01	0.02	0.20	0.06	50	
51	16.09	16.08	32.871	24.096	382.7	0.195	5.67	247.2	100.5	1.4	0.35	0.1	0.01	0.02	0.20	0.06	51	16
62	16.01	16.00	32.873 D	24.116	381.1	0.239	5.66	246.8	100.2	1.4	0.34	0.0	0.01	0.04	0.22	0.06	63	15
74	15.32	15.30	32.854	24.255	368.2	0.282	5.75	250.8	100.4	1.9	0.40	0.2	0.07	0.08	0.41	0.26	75	14
75 ISL	15.34 D	15.33	32.852 D	24.248	368.9	0.288	5.70	D248.5	D 99.6	2.0	0.41	0.3	0.07	0.08	0.41	0.26	76	
88	13.71	13.69	32.877	24.613	334.3	0.331	5.79	252.5	97.9	3.2	0.52	1.5	0.18	0.03	0.33	0.34	89	13
98	12.46	12.45	32.895	24.873	309.6	0.363	5.63	245.2	92.6	4.8	0.71	4.7	0.03	0.03	0.21	0.28	99	12
100 ISL	12.18 D	12.17	32.915 D	24.941	303.1	0.372	5.51	D240.2	D 90.2	5.2	0.74	5.3	0.03	0.03	0.20	0.26	101	
112	11.07	11.06	33.011	25.219	276.7	0.404	5.32	231.7	85.1	7.5	0.95	9.1	0.02	0.02	0.12	0.15	113	11
125 ISL	10.43 D	10.41	33.053 D	25.366	262.9	0.442	5.15	D224.3	D 81.2	9.8	1.11	11.9	0.02	0.02	0.10	0.12	126	
127	10.33	10.31	33.051	25.381	261.5	0.445	5.22	227.4	82.2	10.2	1.14	12.3	0.02	0.02	0.09	0.12	128	10
140	9.50	9.48	33.176	25.616	239.3	0.477	4.90	213.5	75.8	13.9	1.33	15.7	0.02	0.05	0.05	0.07	141	09
150 ISL	9.24 D	9.23	33.362 D	25.803	221.7	0.503	4.59	D199.8	D 70.7	16.8	1.45	17.8	0.02	0.05	0.03	0.05	151	
169	8.96	8.94	33.551	25.996	203.7	0.541	3.93	171.1	60.2	22.4	1.68	21.8	0.01	0.05	0.01	0.02	170	08
200 ISL	8.78 D	8.75	33.851 D	26.260	179.2	0.604	3.05	D132.6	D 46.6	28.8	1.91	25.6	0.01	0.04	0.00	0.02	202	
202	8.73	8.71	33.847	26.265	178.8	0.605	3.06	133.3	46.8	29.2	1.92	25.8	0.01	0.04	0.00	0.02	204	07
232	8.29	8.26	33.969	26.429	163.6	0.656	2.66	115.9	40.3	35.3	2.09	28.3	0.01	0.04			234	06
250 ISL	8.00 D	7.97	33.999 D	26.495	157.5	0.688	2.49	D108.3	D 37.4	38.5	2.17	29.4	0.01	0.04			252	
271	7.74	7.72	34.012	26.544	153.2	0.718	2.27	98.5	33.8	42.2	2.26	30.8	0.01	0.03			273	05
300 ISL	7.39 D	7.36	34.045 D	26.620	146.2	0.765	1.83	D 79.5	D 27.1	47.1	2.40	32.5	0.01	0.03			302	
321	7.20	7.17	34.050	26.651	143.6	0.792	1.69	73.4	24.9	50.6	2.50	33.7	0.01	0.03			324	04
378	6.63	6.60	34.067	26.743	135.4	0.871	1.31	57.1	19.1	59.2	2.69	36.3	0.01	0.01			381	03
400 ISL	6.59 D	6.55	34.109 D	26.783	132.0	0.905	1.01	D 43.8	D 14.7	62.3	2.77	37.2	0.01	0.02			403	
439	6.37	6.33	34.149	26.843	126.6	0.951	0.74	32.2	10.7	67.8	2.92	38.6	0.01	0.04			443	02
500 ISL	5.97 D	5.93	34.201 D	26.936	118.4	1.031	0.46	D 19.8	D 6.5	76.6	3.05	40.1	0.02	0.06			504	
515	5.85	5.80	34.207	26.956	116.5	1.044	0.44	19.3	6.3	78.8	3.08	40.4	0.03	0.06			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 76.7 49

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 5.6 N	120 46.9 W	30/01/2015	1157	UTC	71 m	120 02 kn			1014.0 mb	14.2 C	12.8 C				073

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	14.89	14.89	33.300	24.686	324.6	0.000	5.92	D258.2	D102.8	2.2	0.37	0.2	0.04	0.03	0.69	0.20	0	
2	14.89	14.89	33.300	24.686	324.7	0.007	5.92	D258.2	D102.8	2.2	0.37	0.2	0.04	0.03	0.69	0.20	2	09
5	14.90	14.89	33.295	24.682	325.2	0.016	5.88	256.5	102.2	2.1	0.35	0.1	0.03	0.03	0.65	0.20	5	08
10	14.79	14.79	33.296	24.704	323.3	0.032	5.83	254.2	101.1	2.3	0.37	0.3	0.06	0.03	0.69	0.32	10	06
10	14.79	14.79	33.295	24.704	323.3	0.032											10	07
20	14.77	14.77	33.294	24.708	323.2	0.065	5.82	253.7	100.8	2.4	0.39	0.4	0.07	0.05	0.74	0.31	20	05
30	14.73	14.72	33.295	24.719	322.6	0.097	5.79	252.5	100.2	2.5	0.40	0.6	0.09	0.05	0.74	0.30	30	04
40	14.68	14.67	33.301	24.735	321.3	0.129	5.76	251.0	99.6	2.8	0.41	0.8	0.11	0.04	0.77	0.30	40	03
50	14.19	14.18	33.310	24.845	311.1	0.161	5.55	241.7	94.9	4.0	0.51	2.2	0.20	0.07	0.59	0.31	50	02
62	13.33	13.32	33.370	25.069	290.1	0.197	4.93	214.6	82.9	9.7	0.88	7.0	0.33	0.18	0.38	0.34	63	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 76.7 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 1.3 N	120 55.1 W	30/01/2015	0934	UTC	235 m	040 01 kn			1015.0 mb	15.2 C	14.3 C				072

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.34	15.34	33.316	24.601	332.8	0.000	5.89	256.6	103.1	2.0	0.34	0.0	0.01	0.12	0.51	0.09	0	
2	15.34	15.34	33.316	24.601	332.8	0.007	5.89	256.6	103.1	2.0	0.34	0.0	0.01	0.12	0.51	0.09	2	16
10	15.36	15.35	33.316	24.598	333.4	0.033	5.87	255.7	102.8	1.9	0.34	0.0	0.01	0.03	0.51	0.15	10	14
10	15.36	15.35	33.315	24.597	333.5	0.032											10	15
20	15.30	15.30	33.318	24.611	332.5	0.067	5.85	254.8	102.3	2.0	0.34	0.0	0.02	0.01	0.80	0.15	20	13
30	15.13	15.13	33.317	24.649	329.2	0.100	5.79	252.5	101.1	2.2	0.36	0.1	0.04	0.06	0.87	0.38	30	12
40	14.03	14.02	33.268	24.846	310.7	0.132	5.56	242.1	94.7	3.9	0.54	2.5	0.21	0.06	0.47	0.29	40	11
50	13.19	13.18	33.227	24.985	297.7	0.162	5.38	234.6	90.2	5.2	0.67	4.5	0.25	0.02	0.34	0.30	50	10
60	12.14	12.13	33.233	25.195	277.9	0.191	4.96	216.1	81.3	8.5	0.96	9.4	0.08	0.06	0.21	0.22	60	09
70	11.50	11.49	33.255	25.330	265.3	0.218	4.78	208.4	77.4	10.1	1.07	11.4	0.06	0.02	0.16	0.17	71	08
75 ISL	10.96 D	10.95	33.289 D	25.454	253.5	0.216	4.75	D207.0	D 76.0	11.1	1.14	12.5	0.06	0.02	0.14	0.16	76	
85	10.72	10.71	33.332	25.529	246.5	0.256	4.47	194.4	71.0	13.3	1.27	14.7	0.04	0.01	0.10	0.14	86	07
100	10.40	10.39	33.428	25.660	234.4	0.292	4.16	181.1	65.8	15.8	1.38	16.7	0.03	0.01	0.06	0.11	101	06
120	9.99	9.98	33.551	25.827	219.0	0.338	3.77	164.0	59.1	19.3	1.55	19.4	0.02	0.00	0.04	0.07	121	05
125 ISL	9.97 D	9.96	33.576 D	25.850	216.9	0.334	3.79	D164.9	D 59.3	20.4	1.59	20.1	0.03	0.00	0.03	0.08	126	
140	9.66	9.65	33.691	25.991	203.7	0.380	3.34	145.2	51.9	23.6	1.72	22.1	0.03	0.03	0.02	0.08	141	04
150 ISL	9.70 D	9.68	33.744 D	26.028	200.5	0.386	3.14	D136.6	D 48.9	24.9	1.78	22.9	0.03	0.02	0.02	0.07	151	
170	9.38	9.36	33.823	26.143	190.0	0.439	2.89	126.0	44.8	27.6	1.89	24.4	0.03	0.01	0.01	0.07	171	03
200	9.18	9.15	33.904	26.239	181.4	0.495	2.63	114.4	40.6	30.6	2.00	25.4	0.04	0.00	0.01	0.07	202	02
229	8.87	8.84	34.000	26.364	170.1	0.546	2.16	94.1	33.1	36.8	2.22	28.0	0.06	0.07			231	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 53.3 N	121 11.9 W	30/01/2015	0558 UTC	567 m	340 17 kn			1016.0 mb	15.1 C	14.3 C				071

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.53	15.53	33.320	24.561	336.6	0.000	5.84	254.5	102.7	2.1	0.38	0.0	0.01	0.07	0.28	0.08	0	
2	15.53	15.53	33.320	24.561	336.6	0.007	5.84	254.5	102.7	2.1	0.38	0.0	0.01	0.07	0.28	0.08	2	21
10	15.53	15.53	33.325	24.565	336.5	0.034	5.84	254.4	102.6	2.1	0.35	0.0	0.01	0.05	0.28	0.08	10	19
10	15.53	15.53	33.320	24.562	336.9	0.033											10	20
20	15.33	15.33	33.365	24.642	329.5	0.067	5.86	255.4	102.7	2.2	0.36	0.0	0.02	0.05	0.45	0.15	20	18
30	15.06	15.05	33.361	24.699	324.5	0.100	5.71	248.9	99.5	3.0	0.43	0.5	0.13	0.12	0.81	0.35	30	17
40	14.45	14.44	33.341	24.814	313.7	0.132	5.50	239.5	94.6	4.1	0.51	1.9	0.26	0.07	0.72	0.35	40	16
50 ISL	13.01 D	13.00	33.240 D	25.030	293.3	0.147	5.29	D230.5 D	88.3	5.8	0.74	5.2	0.26	0.05	0.48	0.30	50	
51	12.88	12.88	33.237	25.054	291.1	0.165	5.28	229.9	87.9	5.9	0.76	5.5	0.26	0.05	0.45	0.30	51	15
60	12.19	12.18	33.254	25.202	277.2	0.190	5.03	219.1	82.5	7.9	0.91	8.4	0.14	0.06	0.32	0.24	60	14
70	11.45	11.44	33.386	25.442	254.6	0.217	4.47	194.8	72.3	11.7	1.20	12.9	0.05	0.04	0.15	0.17	71	13
75 ISL	11.22 D	11.21	33.401 D	25.495	249.6	0.215	4.38	D190.8 D	70.5	12.6	1.25	13.7	0.04	0.05	0.13	0.15	76	
85	10.56	10.55	33.411	25.619	238.0	0.254	4.28	186.3	67.8	14.3	1.34	15.2	0.03	0.06	0.09	0.12	86	12
100 ISL	10.35 D	10.34	33.558 D	25.770	223.9	0.274	3.78	D164.8 D	59.8	18.0	1.51	18.4	0.02	0.02	0.04	0.09	101	
101	10.34	10.33	33.575	25.786	222.4	0.291	3.75	163.4	59.3	18.2	1.52	18.6	0.02	0.02	0.04	0.08	102	11
120	9.97	9.95	33.636	25.898	212.2	0.332	3.57	155.3	55.9	20.6	1.62	20.3	0.03	0.04	0.03	0.06	121	10
125 ISL	9.93 D	9.91	33.674 D	25.934	208.9	0.328	3.42	D149.0 D	53.6	21.9	1.69	21.1	0.02	0.04	0.03	0.07	126	
139	9.67	9.65	33.788	26.066	196.6	0.371	2.95	128.5	46.0	25.6	1.87	23.4	0.02	0.05	0.02	0.07	140	09
150 ISL	9.58 D	9.56	33.836 D	26.119	191.8	0.378	2.81	D122.3 D	43.7	26.2	1.90	23.8	0.02	0.05	0.02	0.07	151	
170	9.52	9.50	33.870	26.157	188.7	0.431	2.69	117.0	41.8	27.3	1.96	24.5	0.02	0.04	0.01	0.06	171	08
200	9.34	9.32	33.953	26.251	180.3	0.486	2.37	103.1	36.7	31.0	2.07	26.2	0.02	0.04	0.01	0.06	202	07
230	8.93	8.91	34.027	26.375	169.1	0.538	2.15	93.6	33.0	34.8	2.17	27.9	0.02	0.01			232	06
250 ISL	8.73 D	8.70	34.099 D	26.464	161.0	0.558	1.79	D 77.7 D	27.3	38.1	2.28	29.1	0.01	0.02			252	
269	8.60	8.57	34.133	26.511	156.9	0.602	1.62	70.6	24.8	41.1	2.39	30.2	0.01	0.03			271	05
300 ISL	8.37 D	8.34	34.168 D	26.575	151.3	0.637	1.34	D 58.5 D	20.4	44.3	2.47	31.3	0.01	0.03			302	
320	8.21	8.18	34.171	26.602	149.1	0.680	1.29	56.2	19.5	46.4	2.52	32.0	0.01	0.03			323	04
378	7.75	7.71	34.219	26.709	139.6	0.764	0.90	39.3	13.5	53.7	2.73	34.2	0.01	0.04			381	03
400 ISL	7.63 D	7.59	34.219 D	26.727	138.3	0.783	0.84	D 36.4 D	12.5	57.6	2.78	35.0	0.02	0.03			403	
441	6.96	6.92	34.205	26.809	130.5	0.849	0.68	29.5	9.9	64.8	2.88	36.4	0.03	0.02			445	02
500 ISL	6.45 D	6.40	34.219 D	26.890	123.3	0.913	0.52	D 22.6 D	7.6	72.0	3.00	38.1	0.02	0.06			504	
514	6.33	6.28	34.224	26.910	121.5	0.941	0.48	20.8	6.9	73.8	3.03	38.6	0.01	0.07			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 42.8 N	121 33.2 W	30/01/2015	0147 UTC	993 m	330 21 kn			1016.0 mb	16.0 C	14.5 C				070

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.59	15.59	33.310	24.541	338.5	0.000	5.90	257.0	103.8	2.2	0.34	0.1	0.02	0.06	0.30	0.08	0	
2	15.59	15.59	33.310	24.541	338.5	0.007	5.90	257.0	103.8	2.2	0.34	0.1	0.02	0.06	0.30	0.08	2	20
10	15.56	15.56	33.316	24.553	337.7	0.034	5.90	257.2	103.8	2.2	0.33	0.0	0.02	0.03	0.29	0.09	10	19
20	15.42	15.42	33.348	24.609	332.6	0.067	5.92	258.0	103.9	2.3	0.34	0.1	0.02	0.05	0.42	0.17	20	18
30	15.25	15.25	33.370	24.663	327.8	0.100	5.92	257.9	103.5	2.6	0.35	0.1	0.03	0.04	0.65	0.21	30	17
40	14.70	14.69	33.329	24.752	319.7	0.133	5.77	251.4	99.8	3.1	0.43	0.7	0.14	0.07	1.09	0.41	40	16
50	12.97	12.96	33.242	25.041	292.3	0.163	5.38	234.4	89.7	5.4	0.69	4.7	0.25	0.06	0.54	0.39	50	15
60	12.27	12.26	33.200	25.144	282.8	0.192	5.19	226.1	85.3	7.3	0.88	7.6	0.14	0.05	0.28	0.33	60	14
70	11.23	11.22	33.218	25.351	263.2	0.219	4.90	213.3	78.7	9.9	1.09	11.4	0.05	0.04	0.18	0.25	71	13
75 ISL	10.91 D	10.90	33.275 D	25.452	253.7	0.234	4.73	D206.1 D	75.6	11.3	1.17	12.8	0.05	0.04	0.15	0.21	76	
85	10.41	10.40	33.343	25.593	240.4	0.257	4.46	194.3	70.5	14.1	1.33	15.6	0.03	0.04	0.08	0.13	86	12
100	9.88	9.87	33.506	25.810	220.0	0.292	3.97	172.9	62.1	18.5	1.53	19.1	0.02	0.03	0.03	0.07	101	11
120	9.57	9.56	33.646	25.970	205.2	0.334	3.58	156.0	55.7	22.3	1.70	21.6	0.02	0.05	0.01	0.05	121	10
125 ISL	9.56 D	9.55	33.704 D	26.018	200.9	0.346	3.42	D148.7 D	53.1	23.0	1.73	22.1	0.02	0.06	0.01	0.05	126	
140	9.40	9.38	33.756	26.086	194.6	0.374	3.21	139.8	49.7	25.2	1.80	23.4	0.02	0.07	0.01	0.06	141	09
150 ISL	9.15 D	9.13	33.837 D	26.189	185.0	0.395	3.13	D136.0 D	48.2	26.7	1.85	24.2	0.02	0.06	0.01	0.05	151	
170	8.86	8.84	33.888	26.276	177.1	0.430	2.82	122.8	43.2	29.8	1.95	25.8	0.02	0.04	0.00	0.04	171	08
200	8.65	8.63	33.989	26.388	167.1	0.481	2.50	108.7	38.1	34.4	2.08	27.6	0.02	0.03	0.00	0.03	202	07
230	8.46	8.44	34.084	26.492	157.7	0.530	1.89	82.2	28.7	40.0	2.31	29.9	0.02	0.02			232	06
250 ISL	8.33 D	8.31	34.114 D	26.536	153.9	0.564	1.78	D 77.2 D	26.9	43.1	2.39	31.0	0.02	0.03			252	
270	7.85	7.82	34.104	26.600	147.9	0.592	1.62	70.6	24.3	46.2	2.46	32.0	0.01	0.03			272	05
300 ISL	7.71 D	7.68	34.132 D	26.644	144.3	0.639	1.40	D 60.9 D	20.9	50.5	2.56	33.5	0.01	0.03			302	
320	7.40	7.37	34.147	26.699	139.2	0.664	1.22	52.9	18.0	53.3	2.63	34.5	0.01	0.03			323	04
380	7.11	7.07	34.197	26.782	132.2	0.745	0.83	36.0	12.2	60.3	2.82	36.3	0.01	0.03			383	03
400 ISL	6.85 D	6.81	34.204 D	26.823	128.4	0.776	0.71	D 30.9 D	10.4	62.6	2.86	36.7	0.01	0.03			403	
441	6.72	6.68	34.243	26.871	124.5	0.823	0.55	23.9	8.0	67.2	2.95	37.7	0.01	0.03			445	02
500 ISL	6.29 D	6.25	34.275 D	26.955	117.0	0.900	0.35	D 15.3 D	5.1	74.8	3.06	39.2	0.01	0.03			504	
513	6.20	6.15	34.281	26.971	115.5	0.909	0.34	14.8	4.9	76.5	3.09	39.5	0.01	0.03			517	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY STA-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 23.3 N	122 14.8 W	29/01/2015	1913		4019 m	350 15 kn	010 04 06	1	1019.0 mb	16.2 C	14.8 C	19 m	6/8	SC	069

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.75	15.75	33.253	24.460	346.2	0.000	5.83	254.3	103.0	1.9	0.34	0.1	0.01	0.05	0.25	0.06	0	
2 A	15.75	15.75	33.253	24.461	346.2	0.007	5.83	254.3	103.0	1.9	0.34	0.1	0.01	0.05	0.25	0.06	2	24
10	15.74	15.74	33.252	24.463	346.2	0.035	5.85	254.8	103.2	1.9	0.33	0.1	0.01	0.07	0.26	0.06	10	22
10	15.74	15.74	33.252	24.464	346.2	0.034											10	23
13 A	15.73	15.73	33.251	24.465	346.2	0.045	5.83	254.3	103.0	1.8	0.33	0.1	0.01	0.02	0.26	0.05	13	21
17 A	15.72	15.71	33.252	24.469	346.0	0.059	5.87	256.1	103.6	1.9	0.34	0.1	0.01	0.07	0.27	0.06	17	20
20 ISL	15.72 D	15.72	33.258 D	24.473	345.7	0.064	5.87	256.0	103.6	1.9	0.34	0.1	0.01	0.07	0.29	0.07	20	
30 ISL	15.68 D	15.68	33.285 D	24.503	343.2	0.099	5.87	255.7	103.4	2.0	0.33	0.1	0.01	0.08	0.35	0.10	30	
32 A	15.63	15.63	33.293	24.520	341.6	0.110	5.86	255.6	103.3	2.0	0.33	0.1	0.01	0.08	0.37	0.11	32	19
40	15.51	15.50	33.326	24.573	336.8	0.138	5.91	257.4	103.8	2.2	0.34	0.0	0.03	0.05	0.48	0.16	40	18
50 ISL	15.40 D	15.39	33.299 D	24.578	336.6	0.167	5.90	257.0	103.4	2.1	0.35	0.0	0.03	0.07	0.57	0.23	50	
51	15.36	15.35	33.300	24.588	335.7	0.175	5.90	257.0	103.3	2.1	0.35	0.0	0.03	0.07	0.58	0.23	51	17
60 A	14.84	14.84	33.281	24.685	326.7	0.204	5.88	256.3	102.0	2.1	0.37	0.1	0.05	0.17	0.81	0.39	60	16
70 A	12.44	12.43	33.163	25.083	288.8	0.235	5.33	232.2	87.9	6.3	0.81	6.5	0.14	0.03	0.38	0.37	71	15
75 ISL	12.12 D	12.11	33.146 D	25.131	284.3	0.247	5.23	D227.7 D	85.6	7.9	0.94	8.8	0.10	0.05	0.29	0.30	76	
78	11.38	11.37	33.127	25.253	272.8	0.258	5.11	222.7	82.4	8.8	1.01	10.1	0.08	0.06	0.24	0.26	79	14
86	10.49	10.48	33.257	25.511	248.2	0.279	4.68	204.0	74.1	12.3	1.23	14.0	0.05	0.04	0.14	0.15	87	13
95	10.26	10.25	33.341	25.617	238.3	0.301	4.48	194.9	70.5	14.2	1.33	15.7	0.05	0.03	0.08	0.10	96	12
100 ISL	10.14 D	10.12	33.427 D	25.705	230.1	0.309	4.17	D181.5 D	65.5	15.6	1.39	16.8	0.05	0.03	0.07	0.09	101	
110	9.81	9.80	33.503	25.819	219.4	0.335	4.01	174.7	62.6	18.4	1.52	18.9	0.04	0.03	0.03	0.06	111	11
125	9.63	9.61	33.709	26.011	201.5	0.367	3.38	147.0	52.5	22.9	1.73	22.1	0.04	0.00	0.01	0.04	126	10
140	9.29	9.27	33.792	26.132	190.3	0.396	3.19	138.8	49.3	25.6	1.81	23.8	0.04	0.03	0.01	0.05	141	09
150 ISL	9.05 D	9.03	33.790 D	26.168	186.9	0.412	3.25	D141.6 D	50.0	26.6	1.83	24.2	0.04	0.04	0.01	0.04	151	
170	8.80	8.78	33.854	26.258	178.7	0.451	3.19	138.7	48.7	28.6	1.87	25.0	0.04	0.06	0.00	0.03	171	08
200	8.45	8.43	34.023	26.446	161.5	0.502	2.32	101.0	35.3	36.8	2.17	28.6	0.04	0.09	0.00	0.02	202	07
230	8.13	8.11	34.067	26.529	154.0	0.550	1.94	84.3	29.2	41.3	2.32	30.5	0.04	0.05			232	06
250 ISL	7.88 D	7.85	34.074 D	26.572	150.2	0.579	1.81	D 78.8 D	27.2	44.0	2.38	31.5	0.02	0.03			252	
270	7.79	7.77	34.096	26.603	147.7	0.610	1.65	71.7	24.7	46.6	2.43	32.5	0.01	0.01			272	05
300 ISL	7.51 D	7.48	34.131 D	26.671	141.6	0.652	1.30	D 56.5 D	19.3	51.2	2.56	33.9	0.01	0.03			302	
320	7.35	7.32	34.149	26.708	138.3	0.681	1.15	50.1	17.1	54.3	2.64	34.8	0.01	0.04			323	04
380	7.02	6.98	34.218	26.811	129.4	0.761	0.67	28.9	9.8	62.7	2.87	36.6	0.01	0.06			383	03
400 ISL	6.87 D	6.84	34.235 D	26.844	126.5	0.788	0.57	D 24.8 D	8.4	65.1	2.91	37.1	0.01	0.06			403	
440	6.59	6.55	34.259	26.901	121.5	0.837	0.46	20.0	6.7	69.9	3.00	38.2	0.01	0.05			444	02
500 ISL	6.19 D	6.14	34.286 D	26.976	114.9	0.909	0.34	D 14.6 D	4.8	77.2	3.08	39.6	0.01	0.06			504	
516	6.05	6.01	34.295	27.000	112.6	0.926	0.33	14.2	4.7	79.1	3.10	39.9	0.01	0.06			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 3.3 N	122 56.7 W	29/01/2015	1245		4232 m	360 22 kn			1018.0 mb	15.1 C	13.8 C				068

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.82	15.82	32.865	24.148	376.0	0.000	5.80	252.9	102.3	1.4	0.34	0.0	0.01	0.01	0.16	0.04	0	
2	15.82	15.82	32.865	24.148	376.0	0.008	5.80	252.9	102.3	1.4	0.34	0.0	0.01	0.01	0.16	0.04	2	21
10	15.81	15.81	32.867	24.151	376.0	0.038	5.78	252.1	101.9	1.4	0.34	0.0	0.01	0.00	0.17	0.04	10	20
20	15.82	15.82	32.866	24.149	376.5	0.075	5.79	252.3	102.0	1.4	0.33	0.0	0.01	0.00	0.16	0.04	20	19
30	15.82	15.81	32.872	24.155	376.3	0.113	5.79	252.6	102.2	1.4	0.33	0.0	0.01	0.00	0.17	0.04	30	18
40	15.86	15.85	32.946	24.204	372.0	0.150	5.80	252.8	102.4	1.5	0.33	0.0	0.01	0.00	0.23	0.07	40	17
50 ISL	15.69 D	15.68	33.007 D	24.289	364.2	0.173	5.74	D250.4 D	101.1	1.6	0.34	0.0	0.02	0.00	0.39	0.22	50	
51	15.56	15.55	33.001	24.313	361.9	0.191	5.78	251.8	101.4	1.7	0.34	0.0	0.02	0.00	0.41	0.24	51	15
60	14.63	14.62	33.117	24.604	334.4	0.222	5.74	250.3	99.1	2.5	0.45	0.9	0.28	0.00	0.44	0.36	60	14
70	13.27	13.26	33.050	24.834	312.7	0.255	5.64	245.8	94.5	4.1	0.63	3.5	0.15	0.00	0.22	0.27	71	13
75 ISL	12.36 D	12.35	32.968 D	24.947	301.9	0.255	5.55	D241.7 D	91.2	5.6	0.76	5.8	0.11	0.00	0.19	0.23	76	
85	11.08	11.07	33.048	25.246	273.5	0.298	5.23	227.7	83.6	8.4	1.03	10.2	0.03	0.00	0.14	0.15	86	12
100	9.78	9.77	33.144	25.544	245.3	0.337	4.88	212.4	75.9	13.2	1.32	15.1	0.02	0.00	0.07	0.08	101	11
120	9.67	9.65	33.549	25.879	213.9	0.383	3.83	166.8	59.6	19.8	1.59	20.2	0.01	0.00	0.01	0.04	121	10
125 ISL	9.69 D	9.67	33.595 D	25.912	210.9	0.378	3.67	D159.6 D	57.1	20.6	1.63	20.7	0.01	0.00	0.01	0.04	126	
140	9.53	9.51	33.672	25.999	202.9	0.425	3.39	147.7	52.7	22.9	1.74	22.3	0.02	0.00	0.00	0.04	141	09
150 ISL	9.42 D	9.40	33.725 D	26.058	197.5	0.430	3.28	D142.6 D	50.8	24.2	1.78	23.0	0.01	0.00	0.00	0.03	151	
169	9.03	9.01	33.795	26.176	186.6	0.481	3.22	140.1	49.5	26.7	1.85	24.2	0.01	0.01	0.00	0.03	170	08
200	8.60	8.58	33.909	26.333	172.2	0.537	2.98	129.7	45.4	31.1	1.93	26.2	0.01	0.00	0.00	0.02	202	07
230	8.16	8.14	33.985	26.460	160.6	0.587	2.60	113.3	39.3	36.4	2.10	28.3	0.01	0.00			232	06
250 ISL	8.10 D	8.07	34.023 D	26.500	157.2	0.605	2.31	D100.5 D	34.8	39.9	2.21	29.6	0.01	0.00			252	
270	7.79	7.76	34.039	26.558	151.9	0.650	2.05	89.1	30.6	43.3	2.31	30.9	0.01	0.00			272	05
300 ISL	7.41 D	7.38	34.070 D	26.638	144.6	0.680	1.65	D 71.7 D	24.4	49.0	2.46	33.0	0.01	0.00			302	
320	6.97	6.94	34.059	26.690	139.7	0.723	1.51	65.8	22.2	52.9	2.56	34.4	0.01	0.00			323	04
380	6.37	6.33	34.081	26.788	130.9	0.804	1.07	46.6	15.5	63.9	2.77	37.4	0.01	0.00			383	03
400 ISL	6.26 D	6.23	34.108 D	26.823	127.8	0.817	0.92	D 39.9 D	13.3	66.5	2.83	37.9	0.01	0.00			403	
440	6.09	6.05	34.146	26.877	123.2	0.881	0.70	30.6	10.1	71.6	2.94	38.9	0.01	0.00			444	02
500 ISL	6.01 D	5.97	34.244 D	26.964	115.7	0.940	0.39	D 16.9 D	5.6	77.5	3.06	39.6	0.01	0.00			504	
516	5.92	5.87	34.252	26.983	114.1	0.971	0.36	15.6	5.1	79.0	3.09	39.8	0.01	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 76.7 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 43.3 N	123 38.5 W	29/01/2015	0616	UTC	4314 m	010 07 kn			1020.0 mb	15.8 C	14.6 C				067

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.93	15.93	32.985	24.216	369.5	0.000	5.83	D254.3	D103.2	1.6	0.34	0.2	0.01	0.04	0.18	0.05	0	
2	15.93	15.92	32.985	24.216	369.5	0.007	5.83	D254.3	D103.2	1.6	0.34	0.2	0.01	0.04	0.18	0.05	2	20
10	15.93	15.93	32.987	24.218	369.6	0.037	5.80	252.8	102.6	1.6	0.35	0.1	0.01	0.05	0.18	0.04	10	19
20	15.96	15.96	33.032	24.245	367.4	0.074	5.78	252.0	102.3	1.6	0.33	0.0	0.01	0.03	0.18	0.05	20	18
30	15.91	15.90	33.115	24.322	360.4	0.110	5.80	252.9	102.6	1.7	0.33	0.0	0.01	0.02	0.26	0.09	30	17
40	15.86	15.86	33.140	24.351	358.0	0.146	5.78	252.1	102.2	1.7	0.33	0.0	0.01	0.04	0.29	0.10	40	16
50	15.41	15.40	33.193	24.494	344.6	0.181	5.78	252.1	101.4	1.9	0.35	0.1	0.03	0.03	0.82	0.18	50	15
60	14.03	14.02	33.244	24.828	313.0	0.214	5.58	243.0	95.1	3.9	0.58	3.1	0.20	0.03	0.47	0.36	60	14
70	11.95	11.94	33.127	25.147	282.7	0.244	5.32	231.9	86.8	7.2	0.87	7.9	0.04	0.02	0.22	0.29	71	13
75 ISL	11.50 D	11.49	33.142 D	25.242	273.7	0.260	5.22	D227.5 D	84.4	8.3	0.95	9.2	0.04	0.02	0.20	0.26	76	
85	10.83	10.81	33.202 D	25.411	257.8	0.287	5.07	D220.9 D	80.8								86	12
100	10.53	10.52	33.333	25.564	243.5	0.322	4.45	193.8	70.5	13.5	1.33	15.6	0.02	0.01	0.09	0.12	101	11
120	9.90	9.88	33.501	25.804	221.1	0.369	3.92	170.5	61.2	18.3	1.57	19.5	0.02	0.05	0.03	0.06	121	10
125 ISL	9.67 D	9.66	33.573 D	25.897	212.3	0.382	3.77	D164.0 D	58.6	19.5	1.61	20.2	0.02	0.04	0.03	0.05	126	
140	9.30	9.29	33.645	26.015	201.4	0.411	3.56	155.0	55.0	22.8	1.72	22.2	0.02	0.02	0.01	0.03	141	09
150 ISL	9.20 D	9.18	33.760 D	26.121	191.5	0.433	3.27	D142.3 D	50.4	24.7	1.79	23.3	0.01	0.02	0.01	0.03	151	
170	8.99	8.97	33.841	26.218	182.7	0.468	2.93	127.6	45.0	28.4	1.92	25.4	0.01	0.01	0.00	0.03	171	08
200	8.70	8.68	33.942	26.344	171.2	0.521	2.65	115.5	40.5	32.3	2.05	27.1	0.01	0.02	0.00	0.03	202	07
229	8.21	8.19	33.988	26.454	161.1	0.570	2.62	114.0	39.6	36.3	2.08	28.3	0.01	0.02			231	06
250 ISL	8.14 D	8.12	34.030 D	26.498	157.3	0.606	2.28	D 99.1 D	34.3	39.7	2.22	29.5	0.01	0.03			252	
269	7.97	7.94	34.065	26.553	152.5	0.632	1.91	83.1	28.7	42.6	2.34	30.5	0.01	0.04			271	05
300 ISL	7.47 D	7.44	34.064 D	26.624	146.0	0.682	1.74	D 75.8 D	25.9	48.0	2.46	32.5	0.01	0.03			302	
320	7.29	7.26	34.091	26.671	141.7	0.707	1.44	62.7	21.3	51.4	2.54	33.8	0.01	0.02			323	04
381	6.57	6.54	34.099	26.776	132.2	0.791	1.09	47.4	15.8	62.0	2.74	36.9	0.01	0.00			384	03
400 ISL	6.39 D	6.36	34.101 D	26.802	130.0	0.821	1.02	D 44.2 D	14.7	64.0	2.81	37.2	0.01	0.00			403	
441	6.48	6.44	34.200	26.869	124.4	0.867	0.59	25.4	8.5	68.3	2.96	38.0	0.01	0.02			445	02
500 ISL	5.74 D	5.70	34.177 D	26.946	117.1	0.945	0.56	D 24.1 D	7.9	78.7	3.04	40.1	0.01	0.01			504	
517	5.56	5.52	34.188	26.976	114.3	0.958	0.48	20.9	6.8	81.6	3.06	40.8	0.01	0.01			521	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 76.7 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 23.1 N	124 19.3 W	28/01/2015	2349	UTC	4587 m	010 11 kn	020 03 05	1	1020.0 mb	16.9 C	15.0 C	28 m	6/8	AC	066

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.33	16.33	32.857	24.025	387.6	0.000	5.73	249.7	102.0	1.4	0.33	0.0	0.01	0.03	0.14	0.03	0	
2	16.33	16.33	32.857	24.025	387.7	0.008	5.73	249.7	102.0	1.4	0.33	0.0	0.01	0.03	0.14	0.03	2	21
10	16.18	16.17	32.853	24.058	384.8	0.039	5.73	249.9	101.8	1.4	0.34	0.3	0.01	0.08	0.14	0.03	10	20
20 ISL	15.79 D	15.79	32.843 D	24.137	377.6	0.062	5.73	D250.0 D	101.0	1.5	0.34	0.2	0.01	0.05	0.17	0.04	20	
25	16.01	16.00	32.945	24.169	374.8	0.095	5.76	251.0	102.0	1.5	0.34	0.1	0.01	0.04	0.18	0.04	25	18
30 ISL	16.02 D	16.02	32.966 D	24.181	373.8	0.090	5.76	251.0	102.0	1.5	0.34	0.1	0.01	0.04	0.20	0.05	30	
40	15.92	15.92	32.966	24.204	371.9	0.151	5.76	251.2	101.9	1.5	0.33	0.1	0.01	0.05	0.23	0.07	40	17
50 ISL	15.88 D	15.87	32.959 D	24.209	371.8	0.165	5.76	251.1	101.7	1.5	0.33	0.1	0.01	0.03	0.28	0.10	50	
51	15.88	15.87	32.962	24.212	371.6	0.192	5.76	251.1	101.7	1.5	0.33	0.1	0.01	0.03	0.29	0.11	51	16
62	15.78	15.77	32.999	24.264	367.0	0.233	5.78	252.1	102.0	1.6	0.33	0.0	0.01	0.02	0.38	0.14	63	15
75	14.74	14.73	33.024	24.510	343.8	0.279	5.73	249.7	99.0	2.5	0.44	0.8	0.20	0.01	0.52	0.42	76	14
86	14.26	14.25	33.237	24.776	318.8	0.316	5.60	244.0	95.9	3.4	0.54	2.4	0.31	0.01	0.32	0.29	87	13
100	11.62	11.61	32.931	25.058	291.9	0.358	5.47	238.3	88.5	6.8	0.88	7.8	0.03	0.01	0.15	0.18	101	12
112	10.70	10.69	33.028	25.298	269.2	0.392	5.16	224.9	81.9	9.7	1.10	11.7	0.02	0.00	0.11	0.12	113	11
125	10.22	10.21	33.165	25.487	251.4	0.426	4.89	213.0	76.8	12.4	1.27	14.4	0.02	0.02	0.07	0.09	126	10
140	9.67	9.65	33.308	25.691	232.2	0.462	4.51	196.2	70.0	15.8	1.45	17.4	0.02	0.01	0.03	0.05	141	09
150 ISL	9.23 D	9.22	33.438 D	25.863	215.9	0.462	4.21	D183.1 D	64.8	18.6	1.56	19.2	0.02	0.00	0.02	0.04	151	
170	9.07	9.05	33.648	26.055	198.2	0.526	3.56	155.1	54.8	24.1	1.77	22.8	0.01	0.00	0.00	0.02	171	08
200	8.70	8.68	33.849	26.270	178.2	0.583	3.17	138.0	48.4	29.2	1.87	25.5	0.01	0.01	0.00	0.02	202	07
230	8.32	8.30	33.951	26.410	165.4	0.634	2.92	126.9	44.1	33.7	1.98	27.2	0.01	0.01			232	06
250 ISL	8.00 D	7.97	33.985 D	26.485	158.5	0.645	2.65	D115.3 D	39.8	37.5	2.11	28.7	0.01	0.02			252	
270	7.97	7.94	34.033	26.528	154.8	0.698	2.19	95.2	32.9	41.3	2.24	30.2	0.01	0.02			272	05
300 ISL	7.76 D	7.73	34.082 D	26.597	148.7	0.722	1.75	D 76.1 D	26.2	46.1	2.44	32.1	0.01	0.06			302	
319	7.68	7.65	34.123	26.641	144.9	0.771	1.39	60.4	20.7	49.1	2.56	33.2	0.01	0.09			322	04
380	7.01	6.98	34.160	26.765	133.7	0.856	0.91	39.5	13.3	59.3	2.80	36.2	0.01	0.11			383	03
400 ISL	6.50 D	6.46	34.124 D	26.806	129.7	0.862	0.86	D 37.3 D	12.5	62.5	2.85	36.9	0.01	0.08			403	
440	6.39	6.35	34.181	26.866	124.5	0.932	0.64	27.7	9.2	69.0	2.95	38.4	0.01	0.03			444	02
500 ISL	6.06 D	6.01	34.230 D	26.948	117.3	0.987	0.43	D 18.6 D	6.2	76.3	3.05	39.8	0.01	0.05			504	
515	5.88	5.84	34.218	26.961	116.1	1.023	0.44	19.1	6.3	78.1	3.07	40.1	0.01	0.05			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 27.1 N	120 31.5 W	27/01/2015	0734	UTC	72 m	100 16 kn			1017.0 mb	15.9 C	15.0 C				059

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.88	15.88	33.318	24.483	344.1	0.000	5.75	250.6	101.8	2.9	0.39	0.3	0.07	0.15	0.91	0.33	0	
2	15.88	15.88	33.318	24.483	344.1	0.007	5.75	250.6	101.8	2.9	0.39	0.3	0.07	0.15	0.91	0.33	2	09
5	15.88	15.88	33.319	24.483	344.2	0.017	5.75	250.8	101.9	2.9	0.38	0.3	0.06	0.10	0.90	0.34	5	08
10	15.87	15.87	33.321	24.487	344.0	0.034	5.76	251.0	101.9	2.8	0.38	0.3	0.06	0.10	0.89	0.30	10	06
10	15.87	15.87	33.319	24.486	344.1	0.033											10	07
20	15.75	15.75	33.325	24.517	341.4	0.069	5.77	251.6	102.0	2.9	0.39	0.3	0.06	0.10	0.92	0.33	20	05
30	15.00	15.00	33.353	24.705	323.9	0.102	5.53	240.8	96.2	4.5	0.53	1.7	0.22	0.17	0.65	0.39	30	04
40	14.28	14.27	33.314	24.829	312.3	0.134	5.36	233.5	91.9	5.4	0.64	3.5	0.32	0.05	0.48	0.35	40	03
50	13.74	13.74	33.369	24.984	297.9	0.164	5.04	219.5	85.4	7.8	0.81	5.6	0.35	0.10	0.34	0.29	50	02
60	13.70	13.69	33.367	24.991	297.4	0.194	5.02	218.6	85.0	8.2	0.81	6.2	0.33	0.13	0.33	0.32	60	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 19.1 N	120 48.4 W	27/01/2015	1041 UTC	1737 m	110 11 kn			1018.0 mb	16.5 C	14.9 C				060

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.12	16.12	33.307	24.419	350.1	0.000	5.81	253.2	103.3	2.0	0.33	0.1	0.01	0.00	0.36	0.11	0	
3	16.12	16.12	33.307	24.419	350.2	0.011	5.81	253.2	103.3	2.0	0.33	0.1	0.01	0.00	0.36	0.11	3	24
10	16.12	16.12	33.309	24.422	350.2	0.035	5.80	252.7	103.1	2.0	0.32	0.0	0.01	0.00	0.37	0.12	10	21
10	16.12	16.12	33.308	24.421	350.3	0.035											10	23
10	16.12	16.12	33.309	24.422	350.2	0.034											10	22
20 ISL	15.60 D	15.60	33.355 D	24.573	336.1	0.069	5.92	258.0	104.3	2.4	0.34	0.0	0.02	0.00	0.63	0.23	20	
21	15.56	15.56	33.359	24.586	334.9	0.073	5.93	258.5	104.4	2.4	0.34	0.0	0.02	0.01	0.66	0.24	21	20
30	15.23	15.23	33.335	24.641	330.0	0.103	5.72	249.5	100.1	3.1	0.42	0.6	0.13	0.01	1.13	0.43	30	18
30	15.23	15.23	33.346	24.650	329.2	0.102											30	19
40	15.05	15.04	33.335	24.682	326.4	0.135	5.62	245.0	97.9	3.5	0.46	1.2	0.23	0.03	0.99	0.45	40	16
50	14.48	14.47	33.317	24.789	316.4	0.167	5.55	241.8	95.5	3.8	0.51	2.0	0.35	0.01	0.76	0.37	50	15
61	13.47	13.47	33.278	24.969	299.6	0.201	5.12	223.3	86.4	6.8	0.76	5.5	0.23	0.00	0.29	0.26	61	14
69	13.21	13.20	33.323	25.058	291.3	0.225	4.97	216.6	83.4	8.0	0.84	6.9	0.23	0.00	0.23	0.20	70	13
75 ISL	12.36 D	12.35	33.351 D	25.244	273.7	0.193	4.72	D205.5 D	77.7	9.5	0.96	8.9	0.16	0.00	0.18	0.17	76	
85	11.61	11.60	33.371	25.400	258.9	0.269	4.49	195.4	72.8	12.0	1.16	12.4	0.04	0.00	0.10	0.12	86	12
100	10.22	10.20	33.434 D	25.697	230.8	0.257	4.27	186.1	67.3	15.8	1.40	16.6	0.03	0.00	0.05	0.08	101	11
119	9.90	9.89	33.563	25.852	216.5	0.348	3.81	165.8	59.6	19.4	1.57	19.4	0.02	0.00	0.03	0.07	120	10
125 ISL	9.68 D	9.67	33.580 D	25.902	211.9	0.313	3.82	D166.5 D	59.5	20.3	1.61	19.9	0.02	0.00	0.03	0.07	126	
140	9.75	9.73	33.685	25.973	205.5	0.392	3.41	148.3	53.2	22.4	1.70	21.3	0.02	0.01	0.02	0.06	141	09
150 ISL	9.65 D	9.63	33.718 D	26.015	201.7	0.365	3.32	D144.6 D	51.7	24.2	1.78	22.4	0.02	0.01	0.02	0.06	151	
170	9.50	9.48	33.858	26.150	189.3	0.451	2.72	118.3	42.2	27.9	1.95	24.4	0.02	0.01	0.01	0.05	171	08
200	9.12	9.10	33.945	26.280	177.5	0.506	2.48	108.0	38.3	31.2	2.04	26.0	0.02	0.00	0.01	0.04	202	07
230	8.86	8.83	34.057	26.410	165.7	0.558	2.07	90.2	31.8	36.1	2.21	28.1	0.02	0.00			232	06
250 ISL	8.82 D	8.79	34.098 D	26.450	162.4	0.544	1.71	D 74.4 D	26.2	38.6	2.29	29.0	0.02	0.00			252	
270	8.51	8.49	34.119	26.513	156.6	0.622	1.68	73.0	25.5	41.1	2.37	29.9	0.02	0.00			272	05
300 ISL	8.06 D	8.03	34.131 D	26.592	149.4	0.623	1.52	D 66.1 D	22.9	45.2	2.49	31.3	0.02	0.00			302	
320	7.99	7.96	34.171	26.634	145.8	0.698	1.27	55.2	19.1	47.9	2.57	32.1	0.02	0.00			323	04
380	7.64	7.60	34.221	26.726	138.0	0.783	0.85	37.1	12.7	54.8	2.75	34.0	0.01	0.00			383	03
400 ISL	7.32 D	7.28	34.212 D	26.764	134.4	0.766	0.81	D 35.2 D	12.0	57.6	2.80	34.8	0.01	0.00			403	
440	6.90	6.86	34.231	26.838	127.8	0.862	0.64	27.9	9.4	63.3	2.90	36.4	0.01	0.00			444	02
500 ISL	6.38 D	6.34	34.252 D	26.924	120.0	0.893	0.41	D 18.0 D	6.0	73.6	3.04	38.1	0.01	0.00			504	
515	6.25	6.21	34.258	26.946	118.0	0.954	0.38	16.5	5.5	76.1	3.07	38.6	0.01	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 9.2 N	121 9.0 W	27/01/2015	1618 UTC	2168 m	100 14 kn	100 04 08	1	1021.0 mb	16.7 C	15.2 C	17 m	4/8	SC	061

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.35	15.35	33.217	24.523	340.2	0.000	5.89	256.8	103.1	2.0	0.34	0.0	0.01	0.01	0.32	0.10	0	
2 A	15.35	15.34	33.217	24.524	340.2	0.007	5.89	256.8	103.1	2.0	0.34	0.0	0.01	0.01	0.32	0.10	2	24
10 ISL	15.33 D	15.33	33.215 D	24.525	340.3	0.034	5.89	D256.6 D	103.0	2.0	0.33	0.0	0.01	0.01	0.35	0.10	10	
12 A	15.26	15.26	33.209	24.537	339.2	0.041	5.90	257.3	103.2	2.0	0.33	0.0	0.01	0.01	0.35	0.10	12	22
12	15.26	15.26	33.213	24.540	339.0	0.041											12	23
16 A	15.16	15.15	33.194	24.548	338.3	0.054	5.92	258.1	103.3	2.0	0.34	0.1	0.01	0.01	0.43	0.15	16	21
20 ISL	15.12 D	15.11	33.190 D	24.554	337.9	0.062	5.94	D259.0 D	103.6	2.0	0.35	0.1	0.01	0.01	0.52	0.21	20	
22	15.19	15.19	33.197	24.543	339.0	0.075	5.90	257.1	103.0	2.0	0.36	0.1	0.02	0.01	0.56	0.24	22	20
29 A	14.72	14.72	33.203	24.649	329.1	0.098	5.81	253.2	100.4	2.3	0.39	0.3	0.09	0.04	0.70	0.40	29	18
29	14.72	14.72	33.204	24.650	329.0	0.098											29	19
30 ISL	14.70 D	14.70	33.167 D	24.626	331.3	0.094	5.78	D252.1 D	99.9	2.4	0.41	0.5	0.11	0.04	0.70	0.41	30	
37	14.13	14.12	33.172	24.751	319.6	0.124	5.72	249.1	97.6	3.2	0.51	1.9	0.22	0.02	0.68	0.47	37	17
45	12.78	12.77	33.126	24.988	297.2	0.149	5.41	235.6	89.7	5.6	0.76	5.7	0.13	0.02	0.65	0.33	45	16
50 ISL	12.34 D	12.33	33.164 D	25.102	286.5	0.156	5.37	D234.0 D	88.4	6.8	0.86	7.3	0.10	0.04	0.49	0.32	50	
55 A	11.96	11.95	33.162	25.173	279.8	0.178	5.10	222.0	83.2	7.9	0.96	9.0	0.07	0.06	0.33	0.31	55	15
63 A	11.20	11.19	33.192	25.335	264.5	0.199	4.87	212.0	78.2	9.8	1.10	11.4	0.04	0.02	0.22	0.24	64	14
74	10.59	10.58	33.238	25.480	250.9	0.228	4.71	205.1	74.6	12.4	1.25	14.1	0.03	0.00	0.12	0.13	75	13
75 ISL	10.53 D	10.52	33.242 D	25.494	249.6	0.224	4.74	D206.2 D	75.0	12.4	1.25	14.1	0.02	0.00	0.12	0.13	76	
84	10.30	10.29	33.252	25.540	245.4	0.252	4.69	204.4	73.9	13.1	1.28	14.8	0.02	0.02	0.09	0.10	85	12
100	9.80	9.79	33.458	25.785	222.4	0.290	4.18	182.1	65.2	17.2	1.47	18.0	0.02	0.01	0.05	0.06	101	11
120	9.33	9.31	33.659	26.021	200.4	0.332	3.61	156.9	55.7	22.9	1.69	21.9	0.02	0.01	0.01	0.04	121	10
125 ISL	9.33 D	9.31	33.685 D	26.041	198.5	0.336	3.59	D156.1 D	55.5	23.5	1.71	22.3	0.02	0.01	0.01	0.03	126	
140	9.06	9.04	33.754	26.138	189.6	0.371	3.42	148.6	52.5	25.4	1.76	23.3	0.02	0.01	0.00	0.03	141	09
150 ISL	8.96 D	8.95	33.797 D	26.187	185.1	0.384	3.34	D145.5 D	51.3	27.9	1.84	24.5	0.01	0.01	0.00	0.03	151	
170	8.54	8.52	33.940	26.365	168.5	0.425	2.77	120.4	42.1	32.8	1.99	26.7	0.01	0.01	0.00	0.03	171	08
200	8.15	8.13	34.022	26.489	157.2	0.474	2.24	97.5	33.8	39.2	2.19	29.3	0.01	0.00	0.01	0.02	202	07
229	7.92	7.90	34.054	26.550	152.0	0.519	1.96	85.2	29.4	43.0	2.31	30.8	0.01	0.02			231	06
250 ISL	7.78 D	7.76	34.067 D	26.581	149.4	0.546	1.83	D 79.6 D	27.4	45.2	2.38	31.4	0.01	0.02			252	
270	7.70	7.67	34.090	26.611	146.8	0.580	1.63	71.1	24.4	47.3	2.44	32.1	0.01	0.02			272	05
300 ISL	7.57 D	7.54	34.149 D	26.677	141.1	0.620	1.24	D 54.1 D	18.5	51.0	2.52	33.1	0.01	0.04			302	
320	7.45	7.42	34.160	26.704	138.8	0.652	1.13	49.0	16.7	53.6	2.57	33.8	0.01	0.06			323	04
382	7.06	7.02	34.201	26.792	131.3	0.735	0.77	33.6	11.4	61.7	2.83	35.7	0.01	0.00			385	03
400 ISL	6.87 D	6.83	34.243 D	26.851	125.8	0.756	0.59	D 25.4 D	8.6	64.5	2.87	36.3	0.01	0.00			403	
439	6.61	6.57	34.272	26.909	120.7	0.807	0.44	19.0	6.4	70.6	2.97	37.6	0.01	0.00			443	02
500 ISL	6.19 D	6.15	34.291 D	26.979	114.6	0.876	0.33	D 14.3 D	4.8	77.2	3.07	39.1	0.01	0.00			504	
515	6.07	6.02	34.295	26.999	112.8	0.896	0.32	13.7	4.6	78.9	3.10	39.4	0.01	0.01			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 49.4 N	121 50.7 W	27/01/2015	2141	UTC	3624 m	190 04 kn	120 03 07	1	1021.0 mb	16.9 C	16.1 C	26 m	4/8	SC	062

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.03	16.03	33.260	24.404	351.5	0.000	5.81	253.3	103.1	1.8	0.33	0.0	0.01	0.03	0.19	0.04	0	
2	16.03	16.03	33.260	24.404	351.6	0.007	5.81	253.3	103.1	1.8	0.33	0.0	0.01	0.03	0.19	0.04	2	22
10	15.87	15.87	33.255	24.436	348.8	0.035	5.80	253.0	102.7	1.8	0.33	0.0	0.01	0.02	0.21	0.04	10	20
10	15.87	15.87	33.255	24.436	348.8	0.034											10	21
20	15.66	15.65	33.270	24.496	343.4	0.070	5.82	253.6	102.5	1.8	0.32	0.0	0.01	0.01	0.27	0.07	20	19
30	15.29	15.29	33.272	24.580	335.8	0.104	5.91	257.6	103.4	1.9	0.34	0.0	0.01	0.01	0.54	0.22	30	18
41	14.96	14.95	33.281	24.659	328.6	0.140	5.81	253.4	101.0	2.3	0.39	0.3	0.09	0.03	1.22	0.60	41	16
41	14.96	14.95	33.282	24.660	328.5	0.140											41	17
50	13.38	13.37	33.263	24.975	298.7	0.168	5.59	243.6	94.1	3.7	0.57	2.4	0.29	0.07	0.67	0.44	50	15
60	11.02	11.01	33.198	25.372	260.9	0.196	4.90	213.5	78.4	10.3	1.13	12.1	0.03	0.02	0.18	0.23	60	14
71	10.50	10.49	33.222	25.482	250.6	0.224	4.80	208.9	75.9	11.7	1.23	13.7	0.03	0.03	0.14	0.20	72	13
75 ISL	10.45 D	10.44	33.312 D	25.561	243.2	0.204	4.53	D197.4 D	71.7	12.7	1.28	14.5	0.03	0.03	0.12	0.17	76	
85	10.03	10.02	33.361	25.670	233.0	0.258	4.39	191.2	68.8	15.0	1.40	16.6	0.02	0.03	0.07	0.10	86	12
100	9.47	9.46	33.613	25.961	205.6	0.291	3.59	156.2	55.6	21.9	1.68	21.8	0.01	0.00	0.01	0.05	101	11
121	9.16	9.14	33.781	26.143	188.8	0.333	3.14	136.6	48.4	26.4	1.86	24.3	0.01	0.01	0.01	0.05	122	10
125 ISL	9.10 D	9.09	33.844 D	26.201	183.3	0.309	3.01	D130.9 D	46.3	27.4	1.89	24.8	0.01	0.01	0.01	0.05	126	
139	8.89	8.87	33.927	26.301	174.1	0.365	2.68	116.5	41.1	31.3	2.00	26.5	0.01	0.02	0.01	0.05	140	09
150 ISL	8.85 D	8.84	33.950 D	26.324	172.1	0.353	2.63	D114.4 D	40.3	32.6	2.04	27.0	0.01	0.02	0.01	0.05	151	
170	8.57	8.56	33.991	26.400	165.2	0.418	2.45	106.8	37.4	34.9	2.11	28.0	0.01	0.01	0.01	0.05	171	08
199	8.42	8.40	34.102	26.511	155.3	0.465	1.79	77.7	27.1	40.3	2.34	30.0	0.01	0.02	0.01	0.04	201	07
200 ISL	8.32 D	8.30	34.096 D	26.522	154.2	0.435	1.77	D 76.9 D	26.8	40.5	2.34	30.1	0.01	0.02			202	
230	7.87	7.84	34.097	26.592	148.0	0.511	1.64	71.5	24.7	45.8	2.44	32.1	0.01	0.02			232	06
250 ISL	7.67 D	7.64	34.109 D	26.631	144.6	0.511	1.51	D 65.6 D	22.5	48.2	2.51	32.8	0.01	0.02			252	
270	7.60	7.58	34.130	26.656	142.5	0.569	1.35	58.6	20.1	50.5	2.57	33.5	0.01	0.01			272	05
300 ISL	7.42 D	7.39	34.144 D	26.695	139.3	0.582	1.18	D 51.2 D	17.5	53.5	2.67	34.2	0.01	0.01			302	
320	7.49	7.46	34.206	26.734	136.0	0.639	0.87	37.9	13.0	55.4	2.74	34.6	0.01	0.01			323	04
380	6.42	6.39	34.173	26.853	124.8	0.717	0.72	31.3	10.4	67.2	2.89	38.2	0.01	0.01			383	03
400 ISL	6.26 D	6.23	34.167 D	26.870	123.4	0.714	0.65	D 28.1 D	9.3	70.6	2.94	38.9	0.01	0.00			403	
441	5.87	5.83	34.211	26.955	115.5	0.790	0.47	20.4	6.7	77.5	3.04	40.1	0.01	0.00			445	02
500 ISL	5.68 D	5.64	34.238 D	27.001	111.8	0.832	0.34	D 14.8 D	4.9	82.1	3.13	40.8	0.01	0.00			504	
516	5.71	5.67	34.264	27.018	110.5	0.875	0.31	13.3	4.4	83.3	3.15	40.9	0.01	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.0 N	122 32.0 W	28/01/2015	0353	UTC	3979 m	050 03 kn			1021.0 mb	16.0 C	15.1 C				063

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.96	15.96	32.896	24.139	376.8	0.000	5.77	251.4	102.0	1.5	0.33	0.0	0.01	0.00	0.14	0.04	0	
2	15.96	15.96	32.896	24.139	376.8	0.008	5.77	251.4	102.0	1.5	0.33	0.0	0.01	0.00	0.14	0.04	2	22
10	15.83	15.82	32.887	24.164	374.8	0.038	5.76	D251.4 D	101.7	1.5	0.34	0.0	0.01	0.01	0.14	0.04	10	20
10	15.83	15.82	32.897	24.171	374.1	0.036											10	21
20	15.59	15.59	32.889	24.218	370.0	0.075	5.80	252.8	101.8	1.5	0.33	0.0	0.01	0.00	0.19	0.07	20	19
30	15.24	15.23	32.930	24.328	359.8	0.111	5.84	254.5	101.8	1.7	0.35	0.0	0.01	0.00	0.35	0.14	30	18
40	15.01	15.01	33.000	24.431	350.3	0.147	5.84	254.7	101.5	2.0	0.37	0.2	0.05	0.01	0.45	0.18	40	16
40	15.01	15.01	32.999	24.430	350.4	0.148											40	17
50	14.21	14.20	33.150	24.719	323.1	0.181	5.76	251.1	98.5	2.8	0.49	1.4	0.67	0.00	0.31	0.22	50	15
60	13.89	13.88	33.167	24.797	315.9	0.213	5.64	246.0	95.9	3.5	0.54	2.5	0.52	0.00	0.19	0.16	60	14
70	11.29	11.28	33.049	25.208	276.8	0.242	5.31	231.1	85.3	7.5	0.93	8.7	0.03	0.00	0.15	0.19	71	13
75 ISL	11.25 D	11.24	33.100 D	25.256	272.3	0.221	5.14	D223.8 D	82.5	8.5	1.01	9.9	0.03	0.00	0.16	0.19	76	
85	10.66	10.65	33.182	25.423	256.6	0.282	4.89	213.1	77.7	10.5	1.16	12.5	0.03	0.01	0.17	0.19	86	12
100	10.04	10.02	33.332	25.648	235.5	0.319	4.42	192.6	69.3	14.7	1.39	16.5	0.02	0.01	0.08	0.09	101	11
120	9.62	9.61	33.550	25.888	213.1	0.364	3.81	165.9	59.2	20.2	1.61	20.4	0.02	0.00	0.02	0.04	121	10
125 ISL	9.50 D	9.48	33.604 D	25.950	207.2	0.339	3.73	D162.5 D	57.9	21.2	1.66	21.2	0.01	0.00	0.01	0.04	126	
140	9.32	9.30	33.701	26.056	197.5	0.405	3.29	143.1	50.8	24.3	1.81	23.4	0.01	0.00	0.00	0.03	141	09
150 ISL	9.22 D	9.20	33.761 D	26.119	191.7	0.389	3.19	D138.7 D	49.2	26.0	1.87	24.3	0.01	0.00	0.00	0.03	151	
170	9.14	9.12	33.893	26.236	181.0	0.462	2.70	117.3	41.5	29.3	1.99	25.9	0.01	0.00	0.00	0.03	171	08
200	8.60	8.58	34.015	26.416	164.4	0.513	2.33	101.4	35.5	35.2	2.15	28.4	0.01	0.00	0.01	0.02	202	07
230	8.36	8.33	34.053	26.484	158.5	0.562	2.06	89.6	31.2	39.0	2.27	29.7	0.01	0.01			232	06
250 ISL	8.03 D	8.00	34.076 D	26.551	152.3	0.559	1.82	D 79.3 D	27.4	42.6	2.37	31.0	0.01	0.00			252	
270	7.81	7.78	34.099 D	26.603	147.7	0.589	1.61	69.9	24.1	46.1	2.46	32.2	0.01	0.00			272	05
300 ISL	7.53 D	7.50	34.124 D	26.663	142.3	0.633	1.31	D 56.9 D	19.4	50.2	2.56	33.5	0.01	0.00			302	
320	7.36	7.33	34.126 D	26.688	140.2	0.662	1.25	54.2	18.5	53.0	2.63	34.3	0.01	0.00			323	04
380	6.88	6.85	34.176 D	26.796	130.7	0.744	0.80	34.9	11.8	61.6	2.84	36.6	0.01	0.00			383	03
400 ISL	6.75 D	6.71	34.185 D	26.821	128.5	0.770	0.71	D 30.8 D	10.3	64.1	2.88	37.1	0.01	0.00			403	
440	6.45	6.41	34.203	26.876	123.7	0.874	0.59	25.5	8.5	68.9	2.95	38.2	0.01	0.00			444	02
500 ISL	6.17 D	6.12	34.275 D	26.970	115.4	0.893	0.33	D 14.2 D	4.7	75.7	3.08	39.0	0.01	0.00			504	
515	6.12	6.08	34.286	26.984	114.2	0.963	0.32	13.9	4.6	77.4	3.11	39.2	0.01	0.01			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; SECONDARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 9.0 N	123 13.4 W	28/01/2015	1113	UTC	4295 m	020 05 kn			1021.0 mb	16.5 C	15.0 C				064

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.40	16.40	33.001 D	24.121	378.5	0.000	5.68	D247.7	D101.4								0	
2	16.40	16.40	33.001 D	24.121	378.6	0.008	5.68	D247.7	D101.4								2	20
10	16.57	16.57	33.079 D	24.142	376.9	0.038	5.70	D248.7	D102.2								10	19
20 ISL	16.20 D	16.20	33.044 D	24.200	371.6	0.076	5.71	D249.1	D101.6								20	
24	16.05	16.05	33.065 D	24.251	367.0	0.091	5.76	D251.3	D102.3								24	18
30 ISL	15.99 D	15.99	33.078 D	24.274	365.0	0.113	5.76	D251.1	D102.0								30	
40	15.84	15.84	33.155 D	24.368	356.3	0.149	5.78	D252.0	D102.2								40	17
50	15.61	15.61	33.188 D	24.444	349.4	0.185	5.71	D248.7	D100.4								50	16
62	14.72	14.71	33.110 D	24.580	336.8	0.226	5.70	248.2	98.4								63	15
75 ISL	12.14 D	12.13	32.993 D	25.009	296.0	0.267	5.29	D230.4	D 86.5								76	
76	11.81	11.80	33.023 D	25.093	287.9	0.271	5.24	D228.3	D 85.1								77	14
88	10.94	10.93	33.179 D	25.372	261.5	0.304	4.81	D209.7	D 76.9								89	13
100	10.82	10.81	33.349 D	25.526	247.2	0.334	4.39	D191.2	D 70.0								101	12
112	10.56	10.55	33.401 D	25.613	239.2	0.364	4.20	D182.8	D 66.6								113	11
125 ISL	9.86 D	9.85	33.476 D	25.790	222.5	0.394	3.96	D172.5	D 61.9								126	
126	9.81	9.79	33.487 D	25.808	220.8	0.396	3.95	D172.1	D 61.7								127	10
140	9.51	9.50	33.581 D	25.930	209.5	0.426	3.67	D159.8	D 56.9								141	09
150 ISL	9.39 D	9.37	33.656 D	26.009	202.1	0.447	3.40	D148.1	D 52.7								151	
170	9.18	9.16	33.826 D	26.177	186.6	0.487	2.93	D127.7	D 45.2								171	08
200 ISL	8.71 D	8.69	33.957 D	26.353	170.4	0.540	2.60	D113.0	D 39.7								202	
201	8.70	8.68	33.960 D	26.357	170.0	0.542	2.58	D112.4	D 39.4								203	07
230	8.09	8.07	33.993	26.476	159.0	0.589	2.50	108.8	37.7	38.3	2.15	29.3	0.01	0.02			232	06
250 ISL	7.80 D	7.77	34.000 D	26.526	154.5	0.622	2.42	D105.1	D 36.1	42.5	2.26	30.7	0.01	0.02			252	
271	7.46	7.43	34.022	26.592	148.5	0.652	2.02	88.0	30.0	46.9	2.38	32.2	0.01	0.01			273	05
300 ISL	7.23 D	7.20	34.078 D	26.669	141.5	0.697	1.54	D 66.9	D 22.7	51.9	2.53	33.9	0.01	0.01			302	
320	7.08	7.05	34.091	26.700	138.9	0.723	1.34	58.2	19.7	55.3	2.63	35.1	0.01	0.01			323	04
381	6.61	6.57	34.145	26.808	129.3	0.804	0.86	37.6	12.6	63.4	2.85	37.4	0.01	0.00			384	03
400 ISL	6.43 D	6.39	34.138 D	26.826	127.7	0.833	0.80	D 35.0	D 11.7	66.9	2.90	38.0	0.01	0.00			403	
440	6.11	6.07	34.204	26.920	119.2	0.878	0.53	23.1	7.6	74.1	3.02	39.2	0.01	0.00			444	02
500 ISL	5.66 D	5.61	34.242 D	27.007	111.3	0.953	0.35	D 15.2	D 5.0	82.5	3.12	40.7	0.01	0.00			504	
515	5.60	5.56	34.257	27.026	109.7	0.963	0.35	15.3	5.0	84.6	3.14	41.0	0.01	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 48.8 N	123 54.3 W	28/01/2015	1739	UTC	4366 m	040 06 kn	270 03 12	1	1022.0 mb	16.0 C	14.8 C	31 m	5/8	SC	065

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.85	16.85	33.144	24.127	377.9	0.000	5.63	245.4	101.5	1.7	0.31	0.0	0.01	0.02	0.11	0.02	0	
2 A	16.85	16.84	33.144	24.127	378.0	0.008	5.63	245.4	101.5	1.7	0.31	0.0	0.01	0.02	0.11	0.02	2	23
10 ISL	16.84 D	16.84	33.144 D	24.129	378.1	0.038	5.63	245.6	101.6	1.8	0.33	0.0	0.01	0.04	0.11	0.03	10	
12	16.84	16.84	33.145	24.130	378.1	0.045	5.63	245.7	101.6	1.8	0.33	0.0	0.01	0.05	0.11	0.04	12	21
12	16.84	16.84	33.145	24.131	378.0	0.045											12	22
20 ISL	16.77 D	16.77	33.153 D	24.153	376.2	0.061	5.68	247.6	102.2	1.8	0.32	0.0	0.01	0.00	0.13	0.03	20	
22 A	16.67	16.67	33.149	24.172	374.4	0.083	5.69	248.1	102.3	1.8	0.32	0.0	0.01	0.00	0.13	0.03	22	20
30 A	16.26	16.25	33.128	24.253	367.0	0.113	5.70	248.5	101.6	1.7	0.34	0.0	0.01	0.01	0.15	0.04	30	19
42	15.86	15.85	33.123	24.340	359.1	0.156	5.80	253.0	102.6	1.7	0.34	0.0	0.01	0.01	0.20	0.06	42	18
50 ISL	15.79 D	15.79	33.176 D	24.395	354.1	0.171	5.80	253.0	102.5	1.7	0.33	0.0	0.01	0.01	0.25	0.10	50	
53 A	15.77	15.77	33.180	24.404	353.4	0.196	5.81	253.1	102.5	1.8	0.33	0.0	0.01	0.01	0.27	0.12	53	16
53	15.77	15.77	33.180	24.404	353.4	0.196											53	17
68	14.30	14.29	33.176	24.720	323.6	0.246	5.63	245.5	96.5	3.2	0.52	2.0	0.21	0.03	0.58	0.33	69	15
75 ISL	12.88 D	12.87	33.066 D	24.923	304.2	0.229	5.45	D237.3	D 90.5	4.8	0.69	4.7	0.13	0.03	0.49	0.33	76	
83	11.59	11.58	33.067	25.168	280.9	0.291	5.30	230.9	85.8	6.6	0.88	7.7	0.04	0.02	0.38	0.31	84	14
99 A	10.47	10.46	33.266	25.523	247.4	0.334	4.66	202.9	73.7	12.6	1.29	14.8	0.02	0.01	0.10	0.11	100	13
100 ISL	10.46 D	10.45	33.302 D	25.552	244.7	0.297	4.57	D199.2	D 72.3	13.0	1.31	15.0	0.02	0.01	0.09	0.10	101	
107	10.16	10.14	33.393	25.676	233.0	0.353	4.31	187.7	67.7	15.2	1.41	17.0	0.02	0.01	0.05	0.07	108	12
115 A	9.62	9.61	33.386	25.759	225.1	0.371	4.30	187.4	66.8	17.1	1.48	18.2	0.01	0.01	0.03	0.05	116	11
125 ISL	9.65 D	9.64	33.525 D	25.863	215.5	0.354	3.95	D171.7	D 61.4	19.3	1.59	19.9	0.01	0.02	0.01	0.04	126	
128	9.63	9.61	33.528	25.870	215.0	0.400	3.85	167.7	59.9	19.9	1.62	20.4	0.01	0.02	0.01	0.03	129	10
140	9.22	9.21	33.664	26.042	198.8	0.425	3.50	152.3	54.0	23.7	1.74	22.6	0.01	0.01	0.00	0.03	141	09
150 ISL	9.09 D	9.07	33.804 D	26.173	186.5	0.405	3.25	D141.2	D 49.9	26.2	1.83	23.9	0.01	0.02	0.00	0.03	151	
170	8.78	8.77	33.922	26.314	173.5	0.481	2.75	119.5	42.0	31.2	2.00	26.6	0.01	0.05	0.00	0.02	171	08
200	8.43	8.41	34.000	26.431	162.9	0.531	2.48	108.1	37.7	35.7	2.10	28.1	0.01	0.01	0.00	0.02	202	07
230	7.80	7.78	33.997	26.523	154.5	0.579	2.51	109.1	37.5	40.2	2.15	29.6	0.01	0.00			232	06
250 ISL	7.51 D	7.49	34.007 D	26.572	150.0	0.571	2.31	D100.4	D 34.3	43.6	2.24	30.7	0.01	0.00			252	
270	7.29	7.27	34.014	26.609	146.7	0.639	2.11	91.9	31.2	47.0	2.33	31.9	0.01	0.01			272	05
300 ISL	6.96 D	6.93	34.035 D	26.672	141.1	0.644	1.75	D 76.2	D 25.7	52.5	2.47	33.8	0.01	0.02			302	
320	6.70	6.67	34.039	26.710	137.6	0.710	1.58	68.9	23.1	56.2	2.57	35.1	0.01	0.02			323	04
379	6.19	6.15	34.075	26.807	128.9	0.789	1.11	48.4	16.0	66.0	2.78	37.7	0.01	0.01			382	03
400 ISL	6.01 D	5.97	34.094 D	26.845	125.5	0.778	0.98	D 42.7	D 14.1	69.0	2.84	38.3	0.01	0.01			403	
440	5.87	5.83	34.154	26.910	119.7	0.864	0.66	28.8	9.5	74.8	2.96	39.5	0.01	0.01			444	02
500 ISL	5.59 D	5.55	34.215 D	26.993	112.5	0.898	0.41	D 17.8	D 5.8	82.0	3.09	40.6	0.01	0.03			504	
515	5.54	5.50	34.224	27.007	111.3	0.951	0.38	D 16.6	D 5.4	83.7	3.12	40.9	0.01	0.03			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 81.7 43.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 24.2 N	119 48.1 W	27/01/2015	0029	UTC	21 m	090 18 kn			1015.0 mb	19.9 C	14.7 C				057

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.38	16.38	33.332	24.379	353.9	0.000	5.81	253.3	103.9	3.0	0.38	0.1	0.04	0.09	0.71	0.35	0	
2	16.38	16.38	33.332	24.379	354.0	0.007	5.81	253.3	103.9	3.0	0.38	0.1	0.04	0.09	0.71	0.35	2	04
5	16.37	16.37	33.330	24.380	354.0	0.018	5.81	253.5	104.0	3.0	0.39	0.1	0.03	0.03	0.87	0.42	5	03
10	16.17	16.16	33.329	24.426	349.8	0.035	5.79	252.3	103.1	3.1	0.39	0.0	0.05	0.03	1.17	0.63	10	02
14	16.13	16.13	33.328	24.434	349.2	0.049	5.76	251.0	102.5	3.1	0.41	0.1	0.05	0.07	1.35	0.70	14	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 81.8 46.9

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 16.6 N	120 1.5 W	27/01/2015	0236	UTC	583 m	100 12 kn			1016.0 mb	18.0 C	16.0 C				058

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.36	16.36	33.311	24.367	355.0	0.000	5.80	253.0	103.8	1.9	0.31	0.0	0.01	0.01	0.31	0.07	0	
2	16.36	16.36	33.311	24.368	355.1	0.007	5.80	253.0	103.8	1.9	0.31	0.0	0.01	0.01	0.31	0.07	2	24
10	16.35	16.35	33.304	24.365	355.6	0.036	5.80	252.8	103.6	1.9	0.31	0.1	0.01	0.01	0.31	0.07	10	23
20	16.28	16.28	33.295	24.374	355.1	0.071	5.80	252.9	103.5	1.9	0.32	0.1	0.01	0.00	0.32	0.08	20	22
30	16.19	16.19	33.288	24.391	353.8	0.106	5.81	253.2	103.4	2.0	0.32	0.0	0.01	0.00	0.36	0.12	30	21
40	15.90	15.89	33.381	24.530	341.0	0.141	5.81	253.2	102.9	2.3	0.33	0.1	0.01	0.00	0.39	0.18	40	20
50	15.64	15.63	33.383	24.589	335.6	0.175	5.50	239.7	97.0	3.3	0.45	1.0	0.52	0.00	0.57	0.33	50	19
60	14.50	14.49	33.322	24.790	316.7	0.208	5.39	234.7	92.8	4.3	0.57	2.9	0.25	0.00	0.38	0.28	60	18
70	13.24	13.23	33.294	25.027	294.3	0.238	5.05	220.0	84.7	6.6	0.79	6.2	0.05	0.00	0.26	0.24	71	17
75 ISL	12.91 D	12.89	33.290 D	25.092	288.3	0.255	4.97	D216.4 D	82.7	7.3	0.85	7.0	0.04	0.00	0.23	0.22	76	
85	12.10	12.09	33.321	25.270	271.4	0.280	4.85	211.2	79.5	8.7	0.96	8.7	0.03	0.01	0.16	0.17	86	16
100	10.99	10.97	33.404	25.540	246.0	0.319	4.43	192.8	70.9	12.6	1.22	13.6	0.02	0.01	0.07	0.10	101	15
120	10.44	10.42	33.601	25.791	222.5	0.366	3.58	156.0	56.7	18.9	1.56	18.6	0.02	0.03	0.03	0.08	121	14
125 ISL	10.38 D	10.37	33.625 D	25.819	219.9	0.380	3.50	D152.4 D	55.4	19.6	1.60	19.2	0.02	0.03	0.03	0.08	126	
140	10.15	10.13	33.692	25.911	211.5	0.410	3.25	141.6	51.2	21.7	1.70	20.7	0.01	0.01	0.02	0.06	141	13
150 ISL	10.05 D	10.03	33.737 D	25.963	206.7	0.434	3.07	D133.8 D	48.3	23.6	1.79	21.9	0.01	0.00	0.01	0.06	151	
170	9.72	9.70	33.858	26.114	192.8	0.470	2.61	113.6	40.7	27.3	1.96	24.3	0.01	0.00	0.01	0.06	171	12
200	9.39	9.37	33.990	26.272	178.4	0.526	2.03	88.1	31.4	33.2	2.16	26.8	0.02	0.01	0.01	0.05	202	11
231	9.15	9.13	34.084	26.385	168.3	0.580	1.57	68.2	24.2	38.1	2.34	28.7	0.02	0.01			233	10
250 ISL	8.88 D	8.85	34.136 D	26.469	160.6	0.616	1.18	D 51.3 D	18.1	41.8	2.44	29.8	0.02	0.00			252	
269	8.69	8.66	34.151	26.511	156.9	0.641	1.09	47.6	16.7	45.4	2.54	30.9	0.01	0.00			271	09
300 ISL	8.39 D	8.36	34.183 D	26.584	150.5	0.694	0.66	D 28.8 D	10.1	51.7	2.68	32.0	0.01	0.00			302	
321	8.14	8.11	34.199	26.634	146.0	0.720	0.61	26.6	9.2	55.9	2.78	32.8	0.01	0.04			324	08
380	7.61	7.58	34.213	26.723	138.2	0.804	0.39	17.1	5.9	65.1	2.94	33.2	0.01	0.00			383	07
400 ISL	7.35 D	7.31	34.219 D	26.766	134.3	0.838	0.30	D 13.2 D	4.5	71.7	3.03	32.4	0.01	0.00			403	
440	6.83	6.79	34.233	26.849	126.6	0.884	0.17	7.2	2.4	85.0	3.22	30.7	0.02	0.00			444	06
479	6.68	6.64	34.244	26.878	124.4	0.933	0.10	4.2	1.4	94.9	3.39	26.9	0.01	0.00			483	05
500 ISL	6.64 D	6.60	34.246 D	26.886	123.9	0.966	0.05	D 2.1 D	0.7	103.4	3.62	21.0	0.09	0.00			504	
515	6.62	6.57	34.249	26.891	123.7	0.977	0.05	2.0	0.7	109.5	3.79	16.9	0.14	0.01			519	04
535	6.61	6.56	34.249	26.893	123.8	1.002	0.01	0.5	0.2	115.8	3.96	13.1	0.21	0.00			540	03
564	6.61	6.56	34.249	26.894	124.2	1.038	0.01	0.6	0.2	117.1	4.00	12.0	0.32	0.01			569	02
568	6.61	6.56	34.251	26.896	124.1	1.043	0.02	0.8	0.3	116.7	3.98	11.8	0.31	0.01			573	01

A) SANTA BARBARA BASIN STATION.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 83.3 39.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 15.5 N	119 19.4 W	26/01/2015	2127	UTC	19 m	200 04 kn	270 01 01	1	1013.0 mb	18.5 C	16.2 C		7/8	ST	056

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.21	16.21	33.331	24.419	350.1	0.000	5.73	249.9	102.2	4.0	0.55	0.1	0.09	0.13	1.47	0.67	0	
2	16.21	16.21	33.331	24.419	350.2	0.007	5.73	249.9	102.2	4.0	0.55	0.1	0.09	0.13	1.47	0.67	2	05
5	16.00	16.00	33.332	24.467	345.7	0.017	5.78	251.8	102.5	4.2	0.56	0.1	0.13	0.18	1.94	0.82	5	04
10	15.82	15.82	33.341	24.513	341.5	0.035	5.54	241.5	98.0	4.8	0.61	0.3	0.21	0.47	1.42	0.64	10	02
10	15.82	15.82	33.333	24.508	342.0	0.034											10	03
15	15.75	15.75	33.343	24.531	340.0	0.052	5.52	240.6	97.5	4.3	0.61	0.2	0.18	0.80	0.92	0.58	15	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 13.6 N	119 24.7 W	26/01/2015	2002	UTC	33 m	020 04 kn	240 01 01	1	1014.0 mb	19.1 C	17.1 C	09 m	7/8	ST	055

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.80	15.80	33.297	24.483	344.0	0.000	5.85	254.8	103.4	2.4	0.37	0.1	0.04	0.07	1.21	0.25	0	
2	15.80	15.80	33.297	24.483	344.1	0.007	5.85	254.8	103.4	2.4	0.37	0.1	0.04	0.07	1.21	0.25	2	06
5	15.77	15.76	33.308	24.500	342.5	0.017	5.85	255.0	103.3	2.3	0.36	0.1	0.03	0.09	1.06	0.31	5	05
10	15.73	15.73	33.292 D	24.496	343.1	0.035	5.85	254.8	103.2	2.4	0.35	0.1	0.04	0.09	1.05	0.29	10	03
10	15.73	15.73	33.301	24.503	342.4	0.034											10	04
20	15.64	15.64	33.291	24.516	341.5	0.069	5.77	251.4	101.6	2.5	0.38	0.3	0.06	0.23	1.08	0.39	20	02
25	15.64	15.63	33.300	24.524	340.9	0.086	5.70	248.3	100.4	2.8	0.41	0.4	0.10	0.43	1.11	0.41	25	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 83.3 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 10.7 N	119 30.8 W	26/01/2015	1806	UTC	143 m	360 02 kn	270 04 07	1	1015.0 mb	18.6 C	15.2 C	09 m	6/8	SC	054

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.98	15.98	33.310	24.453	346.9	0.000	5.78	252.0	102.6	2.6	0.41	0.1	0.06	0.12	1.10	0.46	0	
2 A	15.98	15.98	33.310	24.453	346.9	0.007	5.78	252.0	102.6	2.6	0.41	0.1	0.06	0.12	1.10	0.46	2	17
6 A	15.93	15.93	33.306	24.462	346.2	0.021	5.81	253.1	102.9	2.6	0.40	0.1	0.06	0.08	1.12	0.46	6	16
9 A	15.90	15.90	33.305	24.469	345.7	0.031	5.78	252.1	102.4	2.6	0.40	0.2	0.06	0.11	1.04	0.44	9	13
9	15.90	15.90	33.303	24.467	345.8	0.032											9	15
9	15.90	15.90	33.324	24.483	344.3	0.031											9	14
10 ISL	15.87 D	15.87	33.304 D	24.474	345.2	0.033	5.75	D250.5 D	101.7	2.6	0.40	0.2	0.06	0.11	1.01	0.42	10	
15 A	15.77	15.77	33.297	24.492	343.7	0.052	5.74	250.1	101.4	2.4	0.39	0.2	0.07	0.11	0.83	0.33	15	12
20 ISL	15.70 D	15.69	33.292 D	24.504	342.7	0.068	5.73	D250.0 D	101.2	2.4	0.38	0.3	0.08	0.10	0.74	0.28	20	
22	15.69	15.69	33.292	24.506	342.6	0.076	5.73	249.7	101.0	2.4	0.37	0.4	0.08	0.10	0.71	0.26	22	11
28 A	15.66	15.65	33.295	24.516	341.8	0.096	5.71	248.7	100.6	2.7	0.39	0.6	0.13	0.14	0.78	0.29	28	10
30 ISL	15.64 D	15.64	33.294 D	24.519	341.6	0.102	5.70	D248.3 D	100.4	2.6	0.40	0.6	0.13	0.13	0.77	0.28	30	
33 A	15.62	15.61	33.294	24.525	341.2	0.113	5.71	249.0	100.6	2.6	0.42	0.6	0.14	0.11	0.74	0.27	33	09
42	15.53	15.52	33.297	24.547	339.3	0.144	5.67	247.2	99.7	2.9	0.42	0.9	0.19	0.11	0.72	0.27	42	08
50	15.27	15.26	33.299	24.606	334.0	0.171	5.66	246.7	99.0	3.0	0.42	1.1	0.16	0.17	0.65	0.26	50	07
60	13.41	13.40	33.252	24.961	300.3	0.203	5.32	231.9	89.6	5.5	0.72	4.9	0.29	0.04	0.27	0.22	60	06
70	11.81	11.80	33.306	25.313	266.9	0.231	4.83	210.2	78.6	9.7	1.03	10.5	0.07	0.01	0.13	0.14	71	05
75 ISL	11.76 D	11.75	33.361 D	25.366	262.0	0.244	4.70	D204.6 D	76.4	11.2	1.12	11.9	0.05	0.01	0.10	0.12	76	
84	10.96	10.95	33.448	25.579	241.8	0.267	4.29	186.7	68.6	13.7	1.27	14.4	0.03	0.02	0.06	0.09	85	04
100	10.61	10.59	33.507	25.687	231.9	0.305	4.05	176.3	64.3	16.0	1.38	16.3	0.02	0.02	0.04	0.08	101	03
120	10.17	10.16	33.602	25.836	218.1	0.350	3.70	161.2	58.3	19.0	1.53	18.7	0.03	0.02	0.03	0.06	121	02
125 ISL	9.97 D	9.96	33.676 D	25.928	209.5	0.361	3.66	D159.5 D	57.4	20.8	1.61	19.8	0.03	0.03	0.03	0.06	126	
140	9.69	9.67	33.817	26.086	194.8	0.391	2.95	128.4	46.0	25.9	1.85	23.1	0.03	0.04	0.01	0.06	141	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 83.3 51

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 52.8 N	120 8.0 W	26/01/2015	1203	UTC	93 m	320 06 kn			1013.0 mb	17.2 C	13.4 C				053

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.64	15.64	33.280	24.508	341.7	0.000	5.84	254.4	102.9	2.3	0.36	0.2	0.03	0.02	0.80	0.20	0	
2	15.64	15.64	33.280	24.508	341.7	0.007	5.84	254.4	102.9	2.3	0.36	0.2	0.03	0.02	0.80	0.20	2	10
10	15.64	15.64	33.301	24.523	340.6	0.034	5.83	254.2	102.8	2.3	0.36	0.2	0.02	0.01	0.81	0.20	10	08
10	15.64	15.64	33.295	24.518	341.0	0.034											10	09
20	15.63	15.63	33.301	24.527	340.5	0.068	5.81	253.4	102.4	2.3	0.36	0.2	0.03	0.02	0.88	0.21	20	07
30	15.60	15.60	33.302	24.533	340.3	0.102	5.82	253.7	102.5	2.4	0.35	0.2	0.03	0.01	0.95	0.25	30	06
40	14.93	14.92	33.310	24.688	325.8	0.135	5.66	246.5	98.3	3.6	0.45	1.4	0.07	0.05	1.07	0.34	40	05
50	14.39	14.39	33.307	24.800	315.4	0.167	5.44	237.1	93.5	5.3	0.58	3.4	0.11	0.09	0.74	0.30	50	04
60	14.14	14.13	33.309	24.856	310.4	0.199	5.36	233.7	91.7	5.7	0.63	4.1	0.13	0.06	0.70	0.30	60	03
70	13.84	13.83	33.318	24.926	304.0	0.229	5.34	232.6	90.7	5.9	0.65	4.3	0.14	0.07	0.72	0.30	71	02
75 ISL	12.96 D	12.95	33.392 D	25.160	281.8	0.215	5.00	D217.6 D	83.4	7.2	0.74	5.7	0.14	0.07	0.64	0.28	76	
87	12.81	12.80	33.397	25.194	278.8	0.278	4.78	208.4	79.6	10.2	0.95	9.1	0.14	0.07	0.43	0.23	88	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 83.3 55

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 44.7 N	120 24.7 W	26/01/2015	0816	UTC	976 m	030 05 kn			1015.0 mb	17.2 C	14.9 C				052

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.50	16.50	33.176	24.233	367.8	0.000	5.68	247.5	101.7	1.7	0.33	0.1	0.01	0.02	0.13	0.03	0	
2	16.50	16.50	33.176	24.233	367.9	0.007	5.68	247.5	101.7	1.7	0.33	0.1	0.01	0.02	0.13	0.03	2	21
10	16.34	16.34	33.166	24.263	365.4	0.037	5.70	248.6	101.8	1.8	0.33	0.1	0.01	0.07	0.14	0.04	10	19
10	16.34	16.34	33.183	24.276	364.1	0.036											10	20
20	16.23	16.23	33.170	24.291	363.1	0.073	5.72	249.4	101.9	1.8	0.33	0.1	0.01	0.02	0.16	0.05	20	18
30	15.83	15.83	33.180	24.388	354.1	0.109	5.78	251.8	102.1	1.9	0.34	0.1	0.01	0.03	0.28	0.09	30	17
40	14.42	14.42	33.120	24.649	329.4	0.143	5.79	252.4	99.5	3.2	0.47	1.4	0.07	0.00	0.45	0.25	40	16
50	12.57	12.56	33.111	25.016	294.6	0.174	5.54	241.4	91.6	5.3	0.72	4.8	0.08	0.06	0.40	0.32	50	15
59	12.08	12.08	33.123	25.119	285.1	0.201	5.52	240.3	90.2	5.4	0.71	4.9	0.07	0.01	0.39	0.27	59	14
70	10.89	10.88	33.148	25.357	262.6	0.231	5.22	227.5	83.3	8.5	0.97	9.7	0.03	0.01	0.19	0.22	71	13
75 ISL	10.97 D	10.96	33.269 D	25.436	255.2	0.227	4.91	D213.7 D	78.5	10.5	1.08	11.5	0.03	0.01	0.16	0.18	76	
85	10.91	10.90	33.470	25.604	239.5	0.268	4.15	180.9	66.4	14.4	1.31	15.1	0.03	0.02	0.09	0.10	86	12
100	10.43	10.42	33.577	25.772	223.8	0.303	3.72	162.0	58.9	17.7	1.49	17.8	0.03	0.00	0.04	0.07	101	11
119	10.16	10.14	33.685	25.904	211.7	0.345	3.32	144.5	52.3	21.4	1.68	20.4	0.03	0.00	0.02	0.05	120	10
125 ISL	10.09 D	10.08	33.707 D	25.932	209.2	0.340	3.28	D143.0 D	51.6	21.9	1.70	20.7	0.02	0.00	0.02	0.05	126	
141	10.01	9.99	33.739	25.971	205.8	0.390	3.12	135.9	49.0	23.2	1.75	21.5	0.02	0.01	0.02	0.05	142	09
150 ISL	9.86 D	9.84	33.797 D	26.043	199.1	0.392	3.00	D130.5 D	46.9	25.6	1.86	22.8	0.02	0.02	0.02	0.05	151	
170	9.42	9.40	33.975	26.254	179.4	0.446	2.31	100.6	35.9	30.9	2.10	25.7	0.02	0.03	0.01	0.05	171	08
200	9.17	9.15	34.088	26.384	167.7	0.498	1.86	80.9	28.7	35.4	2.26	27.7	0.02	0.01	0.00	0.04	202	07
230	8.84	8.82	34.169	26.501	157.1	0.547	1.47	63.9	22.5	40.2	2.44	29.7	0.02	0.02			232	06
250 ISL	8.30 D	8.27	34.124 D	26.549	152.6	0.563	1.67	D 72.6 D	25.3	43.4	2.50	30.6	0.01	0.02			252	
270	8.21	8.18	34.187	26.613	147.0	0.607	1.24	54.1	18.8	46.6	2.55	31.6	0.01	0.02			272	05
300 ISL	8.04 D	8.00	34.219 D	26.665	142.6	0.637	1.01	D 43.9 D	15.2	52.1	2.68	33.2	0.01	0.02			302	
320	7.59	7.56	34.240	26.746	135.0	0.678	0.82	35.5	12.2	55.8	2.77	34.2	0.01	0.02			323	04
381	7.19	7.15	34.255	26.816	129.1	0.759	0.63	27.6	9.4	61.3	2.87	35.7	0.01	0.02			384	03
400 ISL	7.04 D	7.00	34.258 D	26.840	127.1	0.771	0.57	D 24.6 D	8.3	63.3	2.91	36.2	0.01	0.02			403	
440	6.75	6.71	34.267	26.887	123.0	0.833	0.50	21.8	7.3	67.5	2.99	37.3	0.01	0.01			444	02
500 ISL	6.31 D	6.27	34.278 D	26.953	117.2	0.895	0.37	D 16.3 D	5.4	74.6	3.10	38.8	0.01	0.02			504	
514	6.24	6.19	34.277	26.963	116.4	0.922	0.34	14.7	4.9	76.3	3.12	39.1	0.01	0.02			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 83.3 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 34.7 N	120 45.3 W	26/01/2015	0422	UTC	1376 m	060 03 kn			1015.0 mb	16.9 C	15.6 C				051

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.06	16.06	33.127	24.294	362.0	0.000	5.80	252.8	103.0	1.8	0.35	0.0	0.01	0.03	0.18	0.04	0	
2	16.06	16.06	33.127	24.294	362.1	0.007	5.80	252.8	103.0	1.8	0.35	0.0	0.01	0.03	0.18	0.04	2	21
10	15.73	15.73	33.120	24.363	355.8	0.036	5.81	253.2	102.4	1.9	0.35	0.0	0.01	0.03	0.20	0.05	10	19
10	15.73	15.73	33.129	24.370	355.1	0.036											10	20
20 ISL	15.58 D	15.58	33.103 D	24.385	354.1	0.054	5.81	253.5	102.2	1.9	0.36	0.0	0.02	0.02	0.28	0.09	20	
25	15.50	15.50	33.104	24.403	352.5	0.089	5.82	253.6	102.1	1.9	0.36	0.0	0.02	0.02	0.32	0.11	25	18
30 ISL	15.47 D	15.46	33.087 D	24.398	353.1	0.090	5.82	253.7	102.1	1.9	0.36	0.0	0.02	0.02	0.33	0.13	30	
39	15.35	15.34	33.102	24.436	349.8	0.138	5.83	253.9	101.9	1.9	0.36	0.0	0.02	0.03	0.36	0.16	39	17
50	14.33	14.32	33.194	24.727	322.4	0.175	5.79	252.2	99.2	2.6	0.46	0.8	0.17	0.06	0.67	0.52	50	16
62	12.66	12.65	33.131	25.016	295.1	0.212	5.42	236.2	89.8	5.5	0.76	5.4	0.14	0.02	0.34	0.40	63	15
75	11.66	11.65	33.159	25.226	275.2	0.249	5.08	221.3	82.4	8.4	1.02	9.8	0.05	0.02	0.19	0.25	76	14
87	11.02	11.01	33.289	25.443	254.8	0.281	4.58	199.5	73.3	11.9	1.21	13.4	0.04	0.00	0.11	0.14	88	13
100	10.49	10.48	33.455	25.666	233.9	0.313	4.06	176.7	64.3	15.6	1.41	16.5	0.03	0.00	0.06	0.10	101	12
112	10.01	9.99	33.545	25.819	219.5	0.340	3.79	164.9	59.4	18.5	1.57	18.8	0.03	0.02	0.03	0.08	113	11
124	9.69	9.67	33.565	25.889	213.1	0.366	3.76	163.6	58.5	20.1	1.64	20.0	0.02	0.02	0.02	0.06	125	10
125 ISL	9.76 D	9.75	33.569 D	25.880	214.0	0.353	3.70	D161.3 D	57.8	20.3	1.65	20.2	0.02	0.02	0.02	0.06	126	
140	9.40	9.38	33.712	26.050	198.0	0.399	3.27	142.2	50.6	24.4	1.82	22.9	0.02	0.04	0.01	0.05	141	09
150 ISL	9.10 D	9.08	33.775 D	26.149	188.8	0.403	3.39	D147.7 D	52.2	25.8	1.85	23.6	0.02	0.03	0.01	0.05	151	
171	8.87	8.85	33.867	26.258	178.9	0.457	3.07	133.6	47.0	28.8	1.92	25.0	0.02	0.02	0.01	0.04	172	08
200	8.52	8.50	33.951	26.379	167.8	0.508	2.85	124.0	43.3	32.8	2.00	26.5	0.02	0.00	0.00	0.03	202	07
231	8.11	8.09	34.003	26.482	158.5	0.558	2.50	108.8	37.7	38.0	2.14	28.6	0.02	0.00			233	06
250 ISL	7.79 D	7.77	34.007 D	26.532	154.0	0.574	2.45	D106.6 D	36.6	41.8	2.23	29.9	0.02	0.00			252	
271	7.41	7.39	34.023	26.599	147.7	0.619	2.11	91.8	31.3	46.1	2.33	31.4	0.02	0.00			273	05
300 ISL	7.10 D	7.07	34.048 D	26.664	141.9	0.648	1.70	D 74.0 D	25.0	51.0	2.48	33.1	0.02	0.00			302	
320	6.92	6.89	34.053	26.692	139.4	0.690	1.63	70.7	23.8	54.3	2.58	34.3	0.02	0.01			323	04
380	6.52	6.49	34.111	26.792	130.7	0.771	1.03	44.7	14.9	63.4	2.80	36.9	0.01	0.00			383	03
400 ISL	6.52 D	6.48	34.142 D	26.817	128.6	0.784	0.83	D 36.3 D	12.1	65.5	2.86	37.3	0.01	0.00			403	
440	6.32	6.28	34.163	26.861	124.9	0.848	0.65	28.1	9.3	69.7	2.98	38.2	0.01	0.02			444	02
500 ISL	6.09 D	6.04	34.242 D	26.954	116.8	0.908	0.40	D 17.5 D	5.8	75.9	3.06	39.1	0.01	0.01			504	
515	5.99	5.95	34.243	26.967	115.7	0.938	0.41	17.7	5.8	77.5	3.08	39.4	0.01	0.01			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 14.8 N	121 26.6 W	25/01/2015	2234		3800 m	060 04 kn	330 02 06	1	1013.0 mb	18.0 C	17.3 C	22 m	3/8	AC	050

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.47	15.47	33.101	24.407	351.2	0.000	5.88	256.1	103.1	1.9	0.36	0.1	0.01	0.02	0.30	0.02	0	
2	15.47	15.47	33.101	24.407	351.3	0.007	5.88	256.1	103.1	1.9	0.36	0.1	0.01	0.02	0.30	0.02	2	21
10	15.26	15.26	33.107	24.458	346.7	0.035	5.90	257.0	103.0	1.8	0.36	0.1	0.01	0.03	0.26	0.06	10	19
10	15.26	15.26	33.109	24.460	346.6	0.034											10	20
20	15.17	15.16	33.107	24.479	345.1	0.070	5.90	257.2	102.9	1.8	0.36	0.1	0.01	0.10	0.30	0.08	20	18
29	15.13	15.12	33.120	24.498	343.6	0.101	5.91	257.6	103.0	1.8	0.36	0.0	0.01	0.02	0.37	0.14	29	17
30 ISL	15.12 D	15.11	33.120 D	24.500	343.4	0.087	5.91	D257.5	D102.9	1.9	0.36	0.1	0.01	0.02	0.41	0.16	30	
40	14.89	14.88	33.140	24.566	337.4	0.138	5.88	256.3	102.0	2.2	0.39	0.2	0.07	0.04	0.73	0.35	40	16
50	14.10	14.09	33.097	24.700	324.9	0.171	5.74	250.3	98.0	3.1	0.51	1.5	0.32	0.04	0.67	0.31	50	15
60	13.32	13.31	33.118	24.876	308.4	0.203	5.54	241.2	92.9	4.4	0.65	3.7	0.24	0.03	0.43	0.27	60	14
70	12.32	12.31	33.136	25.084	288.7	0.233	5.28	230.1	86.8	6.7	0.85	7.1	0.09	0.02	0.26	0.28	71	13
75 ISL	12.11 D	12.10	33.283 D	25.240	274.0	0.231	4.98	D217.0 D	81.6	8.4	0.98	9.1	0.07	0.02	0.22	0.24	76	
84	11.12	11.11	33.293	25.429	256.1	0.271	4.67	203.6	75.0	11.4	1.20	12.7	0.04	0.02	0.15	0.17	85	12
100	10.36	10.35	33.244	25.525	247.2	0.311	4.74	206.3	74.7	12.6	1.28	14.3	0.03	0.00	0.08	0.13	101	11
120	9.88	9.86	33.463	25.778	223.6	0.358	4.04	176.0	63.2	17.0	1.52	18.1	0.02	0.03	0.03	0.06	121	10
125 ISL	9.69 D	9.67	33.514 D	25.849	216.9	0.354	3.96	D172.5 D	61.7	18.2	1.55	18.7	0.02	0.03	0.03	0.06	126	
140	9.04	9.02	33.576	26.002	202.5	0.401	4.01	174.6	61.6	21.5	1.63	20.6	0.02	0.03	0.01	0.04	141	09
150 ISL	8.88 D	8.86	33.657 D	26.090	194.3	0.406	3.81	D165.7 D	58.3	24.3	1.73	22.2	0.02	0.04	0.01	0.03	151	
170	8.60	8.58	33.858	26.292	175.5	0.458	3.16	137.4	48.1	29.8	1.93	25.4	0.02	0.06	0.00	0.02	171	08
200	8.06	8.04	33.997	26.483	157.7	0.508	2.67	116.3	40.3	37.2	2.10	28.1	0.01	0.01	0.00	0.02	202	07
231	7.75	7.73	34.025	26.551	151.8	0.556	2.28	99.1	34.1	42.4	2.28	30.2	0.01	0.02			233	06
250 ISL	7.39 D	7.37	34.016 D	26.597	147.6	0.572	2.17	D 94.3 D	32.1	45.7	2.36	31.3	0.01	0.02			252	
271	7.28	7.25	34.060	26.647	143.2	0.614	1.84	80.1	27.2	49.2	2.45	32.5	0.01	0.02			273	05
300 ISL	7.07 D	7.04	34.082 D	26.693	139.1	0.644	1.48	D 64.2 D	21.7	54.2	2.61	34.2	0.01	0.00			302	
320	6.89	6.86	34.117	26.746	134.4	0.683	1.19	51.8	17.4	57.6	2.72	35.4	0.01	0.00			323	04
381	6.30	6.26	34.139	26.843	125.6	0.762	0.89	38.6	12.8	66.7	2.88	37.6	0.01	0.03			384	03
400 ISL	6.20 D	6.16	34.143 D	26.860	124.3	0.776	0.74	D 32.3 D	10.7	69.1	2.92	38.0	0.01	0.02			403	
440	5.97	5.93	34.200	26.933	117.7	0.834	0.56	24.2	8.0	74.1	3.01	38.9	0.01	0.01			444	02
500 ISL	5.71 D	5.66	34.228 D	26.990	112.9	0.896	0.39	D 17.0 D	5.6	82.1	3.10	40.2	0.01	0.02			504	
515	5.56	5.51	34.242	27.019	110.2	0.919	0.38	16.6	5.4	84.1	3.12	40.6	0.01	0.02			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 54.5 N	122 7.7 W	25/01/2015	1716		4184 m	360 12 kn	010 03 06	1	1016.0 mb	19.1 C	16.7 C	25 m	1/8	CS	049

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.70	15.70	32.970	24.255	365.7	0.000	5.75	250.9	101.3	1.6	0.34	0.1	0.01	0.01	0.19	0.09	0	
2 A	15.70	15.70	32.970	24.255	365.8	0.007	5.75	250.9	101.3	1.6	0.34	0.1	0.01	0.01	0.19	0.09	2	24
10	15.68	15.68	32.970	24.261	365.6	0.037	5.76	251.2	101.4	1.6	0.34	0.1	0.01	0.01	0.20	0.07	10	21
10	15.68	15.68	32.971	24.261	365.5	0.037											10	23
10	15.68	15.68	32.982	24.270	364.7	0.037											10	22
18 A	15.68	15.67	32.970	24.261	365.8	0.066	5.77	251.7	101.6	1.6	0.35	0.0	0.01	0.02	0.20	0.07	18	20
20 ISL	15.68 D	15.67	32.973 D	24.264	365.6	0.073	5.77	251.5	101.5	1.6	0.35	0.0	0.01	0.02	0.20	0.07	20	
25 A	15.67	15.67	32.981	24.271	365.1	0.092	5.76	251.2	101.4	1.6	0.35	0.0	0.01	0.01	0.20	0.07	25	19
30 ISL	15.67 D	15.67	32.978 D	24.269	365.4	0.110	5.77	251.8	101.6	1.6	0.34	0.0	0.01	0.01	0.21	0.07	30	
33	15.67	15.66	32.976	24.269	365.5	0.121	5.78	252.1	101.7	1.6	0.34	0.0	0.01	0.01	0.21	0.07	33	18
43 A	15.52	15.52	32.971	24.297	363.1	0.157	5.76	251.2	101.1	1.7	0.35	0.1	0.02	0.02	0.29	0.13	43	17
50 ISL	13.87 D	13.86	32.996 D	24.669	327.8	0.169	5.72	D249.2 D	97.0	3.0	0.51	1.7	0.07	0.02	0.35	0.23	50	
55	12.78	12.77	32.982	24.878	308.0	0.197	5.71	248.6	94.6	4.0	0.62	3.0	0.11	0.02	0.39	0.30	55	15
55	12.78	12.77	32.968	24.867	309.0	0.198											55	16
67	11.36	11.35	32.939	25.110	286.0	0.233	5.48	238.9	88.2	7.1	0.91	8.1	0.05	0.01	0.24	0.26	68	14
75 ISL	10.71 D	10.70	32.992 D	25.267	271.2	0.224	5.32	D231.8 D	84.4	8.8	1.03	10.2	0.04	0.01	0.17	0.19	76	
80 A	10.11	10.10	33.019	25.391	259.4	0.269	5.34	232.4	83.6	9.9	1.10	11.4	0.03	0.01	0.13	0.14	81	13
93 A	9.56	9.55	33.296	25.698	230.5	0.300	4.79	208.3	74.2	14.7	1.32	15.6	0.02	0.01	0.04	0.05	94	12
100 ISL	9.48 D	9.47	33.366 D	25.766	224.1	0.316	4.61	200.8	71.4	16.0	1.38	16.6	0.02	0.02	0.03	0.04	101	
106	9.42	9.40	33.426	25.824	218.8	0.330	4.47	194.4	69.0	17.1	1.43	17.5	0.02	0.02	0.02	0.04	107	11
125	9.26	9.25	33.665	26.036	199.0	0.369	3.50	152.3	54.0	23.7	1.76	22.5	0.02	0.02	0.01	0.03	126	10
141	9.11	9.10	33.735	26.115	191.9	0.401	3.26	141.7	50.1	25.5	1.84	23.7	0.01	0.01	0.00	0.02	142	09
150 ISL	8.91 D	8.90	33.790 D	26.190	184.9	0.387	3.21	D139.6 D	49.2	27.3	1.88	24.5	0.01	0.00	0.00	0.02	151	
170	8.55	8.54	33.904	26.336	171.3	0.453	2.97	129.3	45.2	31.2	1.97	26.2	0.01	0.00	0.00	0.02	171	08
200	8.25	8.23	33.974	26.437	162.2	0.503	2.61	113.6	39.4	35.9	2.11	28.2	0.01	0.02	0.00	0.02	202	07
230	8.22	8.20	34.059	26.509	156.0	0.551	2.16	94.1	32.7	39.2	2.25	29.3	0.01	0.00			232	06
250 ISL	7.99 D	7.97	34.073 D	26.555	151.9	0.553	1.90	D 82.7 D	28.6	42.9	2.34	30.6	0.01	0.00			252	
270	7.62	7.59	34.074	26.610	146.8	0.612	1.80	78.3	26.8	46.6	2.43	31.9	0.01	0.00			272	05
300 ISL	7.75 D	7.72	34.160 D	26.659	142.8	0.627	1.23	D 53.4 D	18.4	50.6	2.59	33.1	0.01	0.00			302	
320	7.56	7.53	34.179	26.702	139.0	0.684	1.02	44.5	15.3	53.3	2.70	33.9	0.01	0.00			323	04
379	7.02	6.98	34.210	26.804	130.0	0.763	0.70	30.6	10.3	62.1	2.89	36.1	0.01	0.00			382	03
400 ISL	6.39 D	6.35	34.140 D	26.833	127.0	0.763	0.80	D 34.8 D	11.6	65.1	2.93	36.7	0.01	0.00			403	
440	6.48	6.44	34.238	26.900	121.5	0.838	0.47	20.4	6.8	71.0	3.02	38.0	0.01	0.00			444	02
500 ISL	6.06 D	6.01	34.262 D	26.974	114.9	0.885	0.35	D 15.3 D	5.1	77.7	3.12	39.3	0.01	0.00			504	
515	5.99	5.95	34.267	26.986	113.9	0.926	0.34	14.6	4.8	79.4	3.14	39.6	0.01	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 34.5 N	122 48.8 W	25/01/2015	1050 UTC	4326 m	030 07 kn			1016.0 mb	16.7 C	14.6 C				048

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.24	16.24	33.113	24.244	366.8	0.000	5.69	248.2	101.4	1.6	0.33	0.0	0.01	0.01	0.14	0.04	0	
2	16.24	16.24	33.113	24.244	366.8	0.007	5.69	248.2	101.4	1.6	0.33	0.0	0.01	0.01	0.14	0.04	2	21
10	16.24	16.23	33.108	24.240	367.5	0.037	5.71	248.9	101.7	1.6	0.35	0.0	0.01	0.04	0.14	0.04	10	19
10	16.24	16.23	33.106	24.239	367.6	0.037											10	20
20 ISL	16.19 D	16.19	33.108 D	24.251	366.8	0.041	5.69	D248.3	D101.3	1.6	0.34	0.0	0.01	0.04	0.14	0.04	20	
25	16.18	16.17	33.106	24.254	366.8	0.092	5.71	248.9	101.5	1.6	0.34	0.0	0.01	0.04	0.14	0.04	25	18
30 ISL	16.13 D	16.12	33.115 D	24.273	365.1	0.078	5.70	D248.3	D101.2	1.6	0.34	0.0	0.01	0.04	0.16	0.04	30	
39	16.04	16.04	33.146	24.316	361.3	0.143	5.74	250.4	101.9	1.6	0.33	0.0	0.01	0.04	0.19	0.05	39	17
50	15.76	15.76	33.139	24.373	356.2	0.182	5.74	250.3	101.3	1.8	0.35	0.0	0.02	0.05	0.38	0.18	50	16
61	15.60	15.59	33.202	24.459	348.4	0.221	5.73	249.9	100.9	1.8	0.35	0.0	0.03	0.05	0.42	0.22	61	15
75	12.97	12.96	33.056	24.898	306.6	0.267	5.48	238.9	91.3	4.9	0.71	5.0	0.10	0.03	0.37	0.36	76	14
88	11.33	11.32	33.086	25.231	275.0	0.305	5.18	225.7	83.4	8.3	1.02	10.1	0.03	0.01	0.17	0.22	89	13
100	10.38	10.36	33.220	25.503	249.3	0.336	4.97	216.6	78.5	10.2	1.09	12.0	0.02	0.02	0.09	0.09	101	12
112	10.00	9.99	33.259	25.598	240.5	0.366	4.82	210.0	75.5	12.7	1.23	14.3	0.02	0.01	0.06	0.07	113	11
125	9.75	9.73	33.409 D	25.757	225.7	0.365	4.49	195.5	69.9	15.6	1.37	16.8	0.02	0.03	0.03	0.05	126	10
140	9.44	9.42	33.574 D	25.937	208.8	0.398	4.05	176.3	62.7	18.8	1.54	19.5	0.01	0.04	0.02	0.06	141	09
150 ISL	9.28 D	9.26	33.652 D	26.023	200.8	0.418	3.83	D166.6	D 59.1	21.5	1.64	21.1	0.01	0.03	0.01	0.05	151	
170	8.93	8.91	33.794	26.191	185.2	0.488	3.29	143.3	50.5	26.7	1.83	24.4	0.01	0.02	0.00	0.02	171	08
200	8.59	8.57	33.906	26.333	172.3	0.542	2.99	130.1	45.5	30.9	1.93	26.2	0.01	0.01	0.00	0.02	202	07
230	8.15	8.13	33.965	26.446	161.9	0.592	2.94	128.0	44.3	35.0	1.99	27.2	0.01	0.01			232	06
250 ISL	7.86 D	7.83	33.985 D	26.505	156.5	0.593	2.78	D120.9	D 41.6	38.4	2.08	28.4	0.01	0.02			252	
270	7.62	7.59	33.990	26.544	153.1	0.655	2.52	109.6	37.5	41.8	2.17	29.7	0.01	0.02			272	05
300 ISL	7.31 D	7.28	34.025 D	26.617	146.5	0.670	2.04	D 88.8	D 30.2	47.5	2.34	31.8	0.01	0.00			302	
321	7.05	7.02	34.023	26.650	143.5	0.730	1.85	80.6	27.2	51.4	2.46	33.4	0.01	0.00			324	04
380	6.64	6.61	34.156	26.812	128.9	0.811	0.84	36.4	12.2	62.4	2.83	36.8	0.01	0.01			383	03
400 ISL	6.77 D	6.73	34.208 D	26.836	127.1	0.807	0.66	D 28.6	D 9.6	66.2	2.87	37.6	0.01	0.01			403	
440	5.96	5.92	34.144	26.890	121.7	0.887	0.67	29.1	9.6	73.9	2.96	39.3	0.01	0.01			444	02
500 ISL	5.74 D	5.70	34.227 D	26.985	113.5	0.928	0.38	D 16.4	D 5.4	80.0	3.08	39.9	0.01	0.01			504	
516	5.78	5.74	34.255	27.002	112.1	0.976	0.34	14.9	4.9	81.6	3.11	40.1	0.01	0.01			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 14.7 N	123 29.5 W	25/01/2015	0420 UTC	4162 m	360 08 kn			1017.0 mb	16.1 C	15.2 C				047

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.40	17.40	33.221	24.056	384.7	0.000	5.57	242.9	101.5	1.8	0.31	0.3	0.01	0.08	0.11	0.03	0	
2	17.40	17.40	33.221	24.056	384.8	0.008	5.57	242.9	101.5	1.8	0.31	0.3	0.01	0.08	0.11	0.03	2	21
10	17.40	17.39	33.219	24.056	385.1	0.039	5.56	242.3	101.3	1.8	0.31	0.0	0.01	0.02	0.11	0.03	10	19
10	17.40	17.39	33.220	24.056	385.1	0.037											10	20
20 ISL	17.39 D	17.38	33.225 D	24.064	384.7	0.058	5.52	D240.9	D100.7	1.8	0.32	0.1	0.01	0.03	0.11	0.04	20	
25	17.38	17.38	33.237	24.074	384.0	0.096	5.54	241.7	101.0	1.8	0.32	0.1	0.01	0.04	0.11	0.04	25	18
30 ISL	17.38 D	17.38	33.226 D	24.066	384.9	0.097	5.53	D241.3	D100.9	1.8	0.31	0.1	0.01	0.04	0.12	0.04	30	
41	17.38	17.37	33.221	24.064	385.5	0.158	5.54	241.6	101.0	1.8	0.30	0.0	0.01	0.04	0.14	0.04	41	17
50	17.38	17.37	33.223	24.066	385.6	0.192	5.55	242.2	101.2	1.8	0.31	0.0	0.01	0.08	0.14	0.05	50	16
62	17.36	17.35	33.222	24.071	385.6	0.239	5.55	241.8	101.0	1.8	0.31	0.0	0.01	0.05	0.16	0.05	62	15
75	16.18	16.17	33.082	24.238	370.0	0.288	5.70	248.7	101.4	1.6	0.33	0.1	0.01	0.03	0.32	0.13	76	14
87	14.74	14.72	33.022	24.510	344.2	0.331	5.92	257.9	102.2	2.2	0.36	0.1	0.04	0.05	0.30	0.15	88	13
99	13.34	13.33	32.971	24.760	320.6	0.371	5.82	253.5	97.6	3.3	0.50	1.3	0.27	0.03	0.25	0.18	100	12
100 ISL	13.13 D	13.11	33.009 D	24.832	313.7	0.357	5.70	D248.4	D 95.2	3.5	0.52	1.7	0.25	0.03	0.24	0.18	101	
112	11.54	11.52	32.997	25.124	285.8	0.410	5.49	239.3	88.7	6.0	0.81	6.3	0.03	0.04	0.15	0.17	113	11
125	10.48	10.46	33.051	25.355	264.0	0.446	5.34	232.8	84.4	8.2	0.98	9.4	0.02	0.03	0.10	0.11	126	10
140	9.76	9.75	33.156	25.557	244.9	0.484	5.12	223.1	79.7	11.5	1.16	12.5	0.02	0.04	0.06	0.07	141	09
150 ISL	9.50 D	9.49	33.282 D	25.698	231.6	0.491	4.91	D213.8	D 76.0	14.3	1.29	14.6	0.02	0.04	0.04	0.06	151	
169	9.33	9.32	33.602 D	25.977	205.6	0.533	4.05	176.3	62.6	19.5	1.55	18.6	0.01	0.03	0.01	0.04	170	08
200	8.70	8.68	33.880 D	26.296	175.8	0.592	3.37	146.6	51.4	27.4	1.80	22.9	0.01	0.03	0.00	0.02	202	07
230	8.33	8.31	33.938	26.398	166.5	0.660	3.26	142.0	49.4	31.7	1.86	24.1	0.01	0.04			232	06
250 ISL	7.98 D	7.96	33.981 D	26.484	158.6	0.676	3.02	D131.5	D 45.4	35.4	1.96	25.4	0.01	0.03			252	
270	7.75	7.73	33.977	26.515	155.9	0.724	2.84	123.5	42.4	39.1	2.06	26.8	0.01	0.02			272	05
300 ISL	7.22 D	7.19	34.012 D	26.618	146.4	0.754	2.31	D100.4	D 34.1	45.9	2.28	29.4	0.01	0.03			302	
320	6.96	6.93	34.010	26.652	143.3	0.798	1.96	85.2	28.7	50.4	2.42	31.1	0.01	0.03			323	04
381	6.41	6.38	34.050	26.759	133.7	0.883	1.33	57.7	19.2	61.4	2.69	34.4	0.01	0.02			384	03
400 ISL	6.39 D	6.35	34.107 D	26.807	129.4	0.892	0.99	D 42.9	D 14.3	64.3	2.77	35.1	0.01	0.03			403	
441	6.13	6.09	34.135	26.863	124.5	0.961	0.73	31.6	10.5	70.5	2.93	36.6	0.01	0.04			445	02
500 ISL	5.84 D	5.80	34.220 D	26.967	115.3	1.016	0.52	22.4	7.4	79.7	3.06	37.8	0.01	0.06			504	
516	5.60	5.56	34.211	26.989	113.1	1.050	0.46	20.0	6.5	82.2	3.10	38.2	0.01	0.06			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 83.3 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 54.7 N	124 10.2 W	24/01/2015	2224 UTC	4212 m	030 07 kn	340 05 05	0	1017.0 mb	16.1 C	15.0 C	33 m	0/8		046

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.70	16.70	33.029	24.074	383.0	0.000	5.63	245.7	101.2	1.5	0.32	0.0	0.01	0.02	0.15	0.04	0	
2	16.70	16.70	33.029	24.074	383.1	0.008	5.63	245.7	101.2	1.5	0.32	0.0	0.01	0.02	0.15	0.04	2	21
10	16.76	16.76	33.042	24.070	383.7	0.038	5.65	246.5	101.7	1.5	0.32	0.0	0.01	0.02	0.16	0.04	10	19
10	16.76	16.76	33.047	24.074	383.4	0.037											10	20
20 ISL	16.79 D	16.78	33.040 D	24.063	384.8	0.077	5.66	D246.7	D101.8	1.5	0.33	0.0	0.01	0.03	0.15	0.05	20	
25	16.61	16.61	33.039	24.104	381.1	0.096	5.66	246.7	101.4	1.5	0.34	0.0	0.01	0.04	0.15	0.05	25	18
30 ISL	16.58 D	16.58	33.026 D	24.100	381.6	0.081	5.66	D246.8	D101.4	1.5	0.34	0.0	0.00	0.04	0.15	0.05	30	
41	16.59	16.59	33.029	24.100	381.9	0.157	5.67	247.2	101.6	1.5	0.33	0.0	0.00	0.03	0.17	0.05	41	17
50	16.36	16.35	33.083	24.197	373.0	0.191	5.70	248.3	101.7	1.6	0.35	0.0	0.01	0.10	0.22	0.07	50	16
62	15.99	15.98	33.066	24.268	366.7	0.235	5.74	250.1	101.6	1.5	0.34	0.0	0.01	0.08	0.31	0.10	62	15
74	15.80	15.79	33.124	24.356	358.6	0.279	5.75	250.6	101.5	1.6	0.34	0.0	0.01	0.05	0.38	0.17	75	14
75 ISL	15.67 D	15.66	33.142 D	24.398	354.7	0.250	5.76	D251.1	D101.4	1.8	0.36	0.2	0.02	0.06	0.37	0.18	76	
87	13.16	13.15	32.936	24.767	319.5	0.323	5.77	251.5	96.5	3.6	0.59	2.2	0.20	0.12	0.28	0.31	88	13
100	11.97	11.96	32.961	25.017	295.8	0.363	5.55	241.8	90.5	5.8	0.80	6.0	0.05	0.04	0.20	0.23	101	12
112	11.43	11.42	33.049	25.184	280.2	0.398	5.29	230.5	85.3	7.6	0.95	8.6	0.02	0.02	0.12	0.15	113	11
125	10.61	10.59	33.156	25.415	258.3	0.433	4.98	217.0	79.0	10.6	1.16	12.2	0.02	0.02	0.09	0.12	126	10
141	9.94	9.92	33.305	25.644	236.7	0.472	4.63	201.6	72.4	14.2	1.33	15.1	0.01	0.02	0.04	0.07	142	09
150 ISL	9.48 D	9.46	33.398 D	25.793	222.6	0.461	4.57	D198.9	D 70.7	16.9	1.44	17.0	0.01	0.02	0.03	0.06	151	
170	9.17	9.15	33.644	26.036	200.0	0.535	3.68	160.3	56.7	23.0	1.70	21.1	0.01	0.02	0.01	0.02	171	08
200	8.73	8.71	33.861	26.275	177.8	0.592	3.28	142.7	50.1	28.6	1.86	23.7	0.01	0.02	0.00	0.02	202	07
229	8.27	8.25	33.962	26.425	163.9	0.641	2.94	127.8	44.4	34.2	1.99	26.0	0.01	0.02			231	06
250 ISL	7.96 D	7.93	33.986 D	26.491	157.9	0.645	2.76	D120.0	D 41.4	38.5	2.11	27.5	0.01	0.02			252	
270	7.62	7.59	34.009	26.559	151.6	0.706	2.38	103.3	35.4	42.5	2.23	29.0	0.01	0.02			272	05
300 ISL	7.24 D	7.21	34.028 D	26.629	145.3	0.722	1.98	D 85.9	D 29.2	48.6	2.39	31.0	0.01	0.01			302	
321	6.95	6.92	34.043	26.681	140.6	0.781	1.71	74.4	25.1	52.9	2.51	32.4	0.01	0.01			324	04
380	6.36	6.33	34.087	26.794	130.3	0.861	1.17	50.8	16.9	63.5	2.76	35.3	0.01	0.02			383	03
400 ISL	6.26 D	6.22	34.099 D	26.817	128.4	0.859	0.97	D 42.4	D 14.1	66.8	2.83	36.0	0.01	0.02			403	
442	5.89	5.85	34.127	26.886	122.1	0.939	0.75	32.4	10.7	73.7	2.97	37.5	0.01	0.01			446	02
500 ISL	5.53 D	5.49	34.158 D	26.956	115.9	0.982	0.60	D 25.9	D 8.5	81.1	3.06	38.5	0.01	0.01			504	
516	5.42	5.38	34.173	26.981	113.6	1.026	0.57	24.9	8.1	83.2	3.09	38.8	0.01	0.01			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 33

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 53.4 N	118 29.4 W	22/01/2015	1118 UTC	54 m	080 06 kn			1019.0 mb	17.1 C	13.9 C				034

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.67	16.67	33.314	24.298	361.6	0.000	5.68	247.7	102.2	1.9	0.32	0.0	0.01	0.00	0.21	0.06	0	
2	16.67	16.67	33.314	24.299	361.6	0.007	5.68	247.7	102.2	1.9	0.32	0.0	0.01	0.00	0.21	0.06	2	08
5	16.67	16.67	33.300	24.288	362.8	0.018	5.67	247.2	102.0	1.9	0.32	0.0	0.01	0.00	0.21	0.06	5	07
10	16.63	16.63	33.299	24.298	362.0	0.036	5.67	247.2	101.9	1.9	0.32	0.0	0.01	0.00	0.22	0.05	10	05
10	16.63	16.63	33.300	24.298	362.0	0.037											10	06
20	16.08	16.08	33.342	24.456	347.3	0.072	5.68	247.7	101.1	2.8	0.37	0.4	0.24	0.17	0.93	0.37	20	04
30	16.09	16.08	33.356	24.466	346.7	0.106	5.48	239.0	97.5	3.8	0.47	0.9	0.50	0.40	1.07	0.47	30	03
40	15.02	15.02	33.338	24.689	325.7	0.140	5.19	226.1	90.3	5.4	0.63	2.9	0.87	0.35	0.62	0.53	40	02
50	14.62	14.61	33.342	24.780	317.4	0.172	4.90	213.6	84.6	7.5	0.83	4.5	0.92	0.68	0.55	0.57	50	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 49.4 N	118 37.6 W	22/01/2015	1321 UTC	644 m	080 04 kn			1019.0 mb	17.1 C	14.0 C				035

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.76	16.76	33.358	24.310	360.5	0.000	5.65	246.5	101.9	2.0	0.32	0.1	0.01	0.01	0.21	0.06	0	
2	16.76	16.76	33.358	24.310	360.5	0.007	5.65	246.5	101.9	2.0	0.32	0.1	0.01	0.01	0.21	0.06	2	22
10	16.77	16.76	33.358	24.311	360.7	0.036	5.66	246.6	101.9	1.9	0.32	0.0	0.01	0.02	0.22	0.05	10	20
10	16.77	16.76	33.356	24.309	360.9	0.037											10	21
20	16.75	16.75	33.355	24.313	361.0	0.072	5.66	246.7	101.9	1.9	0.32	0.0	0.01	0.01	0.21	0.05	20	19
30	16.28	16.28	33.363	24.427	350.4	0.108	5.72	249.2	102.0	2.2	0.34	0.0	0.01	0.00	0.33	0.15	30	18
40	15.65	15.64	33.310	24.530	340.9	0.142	5.73	249.9	101.0	2.5	0.37	0.1	0.03	0.01	0.76	0.38	40	17
50	14.73	14.73	33.234	24.672	327.7	0.176	5.67	247.2	98.1	2.9	0.45	1.0	0.18	0.01	0.50	0.37	50	16
60	13.87	13.86	33.278	24.888	307.3	0.208	5.28	230.1	89.8	5.2	0.66	4.7	0.17	0.00	0.25	0.28	60	15
70	12.79	12.78	33.287	25.112	286.1	0.237	4.99	217.5	83.0	7.2	0.85	7.3	0.05	0.00	0.19	0.24	71	14
75 ISL	12.35 D	12.34	33.317 D	25.220	275.9	0.235	4.87	212.2	80.2	8.1	0.92	8.6	0.04	0.00	0.17	0.21	76	
85	11.70	11.68	33.355	25.373	261.6	0.278	4.63	201.6	75.2	9.9	1.07	11.3	0.02	0.02	0.12	0.16	86	13
100	11.06	11.05	33.445	25.558	244.2	0.316	4.23	184.1	67.8	13.2	1.26	14.4	0.02	0.00	0.06	0.10	101	12
120	10.29	10.28	33.538	25.766	224.8	0.363	3.90	169.9	61.6	16.7	1.44	17.5	0.01	0.00	0.03	0.07	121	11
125 ISL	10.17 D	10.15	33.583 D	25.823	219.5	0.358	3.82	166.4	60.1	17.6	1.48	18.0	0.01	0.00	0.03	0.06	126	
139	9.96	9.95	33.644	25.905	212.0	0.404	3.59	156.3	56.3	20.1	1.59	19.4	0.01	0.00	0.01	0.04	140	10
150 ISL	9.82 D	9.80	33.746 D	26.010	202.3	0.412	3.40	D147.9	D 53.1	22.2	1.68	20.9	0.01	0.00	0.01	0.04	151	
170	9.54	9.52	33.842	26.132	191.1	0.467	2.97	129.2	46.2	26.1	1.85	23.6	0.01	0.00	0.00	0.03	171	09
200	9.16	9.14	33.950	26.277	177.8	0.522	2.62	113.9	40.4	30.2	2.00	25.7	0.01	0.00	0.01	0.03	202	08
230	8.94	8.92	34.079	26.414	165.4	0.574	1.99	86.8	30.6	36.3	2.23	28.3	0.02	0.00			232	07
250 ISL	8.96 D	8.93	34.128 D	26.451	162.4	0.591	1.73	D 75.4	D 26.7	38.3	2.33	29.0	0.01	0.00			252	
270	8.86	8.83	34.173	26.502	157.9	0.639	1.47	64.1	22.6	40.4	2.42	29.8	0.01	0.02			272	06
300 ISL	8.74 D	8.71	34.213 D	26.553	153.6	0.670	1.22	D 52.9	D 18.6	43.9	2.53	30.9	0.01	0.10			302	
320	8.52	8.48	34.229	26.601	149.3	0.716	1.04	45.3	15.9	46.3	2.61	31.7	0.01	0.15			323	05
379	7.92	7.88	34.259	26.715	139.3	0.801	0.76	32.9	11.4	53.9	2.77	34.0	0.01	0.03			382	04
400 ISL	7.69 D	7.65	34.270 D	26.758	135.4	0.815	0.63	D 27.2	D 9.4	56.7	2.82	34.5	0.01	0.00			403	
440	7.27	7.23	34.277	26.823	129.6	0.883	0.50	21.8	7.4	61.9	2.92	35.5	0.01	0.00			444	03
500 ISL	6.71 D	6.66	34.306 D	26.925	120.3	0.905	0.31	D 13.3	D 4.5	72.4	3.06	37.5	0.01	0.00			504	
515	6.54	6.49	34.308	26.948	118.2	0.976	0.28	12.1	4.1	75.0	3.09	38.1	0.01	0.01			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 39.6 N	118 58.5 W	22/01/2015	1749 UTC	758 m	090 08 kn	190 02 06	1	1021.0 mb	19.9 C	15.5 C	31 m	4/8	CS	036

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.88	16.88	33.321	24.254	365.8	0.000	5.67	247.1	102.4	1.9	0.32	0.0	0.01	0.06	0.16	0.04	0	
2 A	16.88	16.88	33.321	24.254	365.9	0.007	5.67	247.1	102.4	1.9	0.32	0.0	0.01	0.06	0.16	0.04	2	24
10 ISL	16.84 D	16.84	33.315 D	24.260	365.6	0.037	6.56	D286.1	D118.4	1.9	0.32	0.0	0.01	0.05	0.18	0.04	10	
12	16.84	16.84	33.323	24.267	365.0	0.044	5.68	247.8	102.6	1.9	0.32	0.0	0.01	0.05	0.18	0.05	12	23
20 ISL	16.83 D	16.82	33.318 D	24.266	365.4	0.073	6.56	D285.8	D118.3	1.9	0.33	0.0	0.01	0.08	0.19	0.05	20	
22 A	16.83	16.83	33.326	24.272	365.0	0.080	5.66	246.8	102.2	1.9	0.33	0.0	0.01	0.09	0.20	0.05	22	22
30 A	16.72	16.72	33.355	24.320	360.6	0.109	5.66	247.0	102.0	2.0	0.33	0.0	0.01	0.10	0.24	0.07	30	21
42	15.64	15.63	33.287	24.515	342.4	0.152	5.77	251.6	101.7	2.3	0.37	0.0	0.02	0.07	0.58	0.29	42	20
50 ISL	14.84 D	14.83	33.283 D	24.687	326.2	0.180	6.53	D284.7	D113.3	3.0	0.46	1.1	0.13	0.05	0.54	0.30	50	
52 A	14.80	14.79	33.284	24.696	325.4	0.185	5.64	245.9	97.8	3.2	0.48	1.3	0.15	0.05	0.53	0.30	52	19
68	12.27	12.26	33.255	25.187	278.9	0.233	5.11	222.6	84.0	7.7	0.88	8.2	0.08	0.03	0.18	0.17	69	18
75 ISL	12.19 D	12.18	33.248 D	25.198	278.0	0.255	5.91	D257.5	D 97.0	8.4	0.94	9.1	0.07	0.04	0.16	0.17	76	
83	11.70	11.69	33.258	25.296	268.8	0.274	4.94	215.3	80.3	9.2	1.00	10.2	0.05	0.05	0.15	0.16	84	17
99 A	11.01	10.99	33.315	25.467	252.8	0.316	4.68	203.9	74.9	11.6	1.15	12.7	0.03	0.03	0.11	0.13	100	16
100 ISL	10.96 D	10.95	33.318 D	25.477	251.9	0.321	5.43	D236.3	D 86.8	11.8	1.16	12.9	0.03	0.03	0.11	0.13	101	
115 A	10.62	10.61	33.463	25.651	235.7	0.355	4.22	183.8	67.0	15.1	1.33	15.9	0.03	0.05	0.07	0.10	116	15
125 ISL	10.27 D	10.26	33.508 D	25.746	226.8	0.381	4.72	D205.7	D 74.5	16.6	1.42	17.2	0.03	0.04	0.05	0.08	126	
128	10.23	10.22	33.513	25.757	225.8	0.385	4.04	176.0	63.7	17.0	1.45	17.6	0.03	0.04	0.05	0.07	129	14
140	9.96	9.94	33.592	25.866	215.7	0.411	3.81	166.0	59.7	19.2	1.55	19.0	0.03	0.05	0.03	0.06	141	13
150 ISL	9.80 D	9.78	33.716 D	25.989	204.2	0.436	3.99	D173.9	D 62.4	22.0	1.67	20.8	0.03	0.04	0.02	0.06	151	
170	9.50	9.48	33.865	26.155	188.9	0.472	2.78	120.8	43.1	27.5	1.92	24.3	0.03	0.03	0.01	0.06	171	12
200	9.23	9.21	34.018	26.319	173.8	0.527	2.16	94.0	33.4	33.0	2.15	26.5	0.03	0.02	0.01	0.05	202	11
230	8.96	8.93	34.145	26.463	160.8	0.577	1.59	69.4	24.5	39.0	2.37	29.1	0.03	0.04			232	10
250 ISL	8.90 D	8.87	34.185 D	26.505	157.2	0.613	1.60	D 69.4	D 24.5	40.9	2.44	29.7	0.02	0.05			252	
269	8.73	8.70	34.208	26.551	153.2	0.638	1.24	53.8	18.9	42.7	2.51	30.3	0.02	0.06			271	09
300 ISL	8.52 D	8.49	34.226 D	26.597	149.3	0.690	1.26	D 54.9	D 19.2	46.1	2.59	31.5	0.02	0.05			302	
321	8.27	8.23	34.243	26.649	144.6	0.716	0.93	40.3	14.0	48.4	2.64	32.3	0.02	0.05			324	08
380	7.68	7.64	34.259	26.750	135.8	0.798	0.67	29.1	10.0	56.0	2.81	34.5	0.02	0.04			383	07
400 ISL	7.56 D	7.52	34.268 D	26.775	133.7	0.832	0.67	D 29.1	D 10.0	58.7	2.86	35.0	0.02	0.03			403	
440	7.13	7.08	34.300	26.862	125.8	0.877	0.43	18.8	6.4	64.0	2.97	36.1	0.02	0.02			444	06
500 ISL	6.60 D	6.55	34.312 D	26.943	118.5	0.959	0.30	D 13.2	D 4.4	73.7	3.01	37.4	0.01	0.03			504	
514	6.43	6.39	34.318	26.970	116.0	0.967	0.26	11.4	3.8	76.0	3.02	37.8	0.01	0.03			518	05
599	5.86	5.81	34.352	27.071	107.0	1.062	0.18	7.9	2.6	86.8	3.20	39.1	0.01	0.03			604	04
600 ISL	5.85 D	5.80	34.354 D	27.075	106.6	1.072	0.17	D 7.5	D 2.5	86.9	3.20	39.0	0.01	0.03			605	
691	5.50	5.44	34.380	27.139	101.3	1.157	0.12	5.4	1.8	97.6	3.29	38.0	0.01	0.04			697	03
700 ISL	5.46 D	5.40	34.382 D	27.146	100.7	1.177	0.09	D 3.7	D 1.2	98.6	3.30	37.5	0.01	0.04			706	
772	5.34	5.28	34.391	27.168	99.5	1.239	0.07	3.2	1.1	106.2	3.39	33.9	0.02	0.06			779	02
779	5.35	5.29	34.389 D	27.166	99.8	1.257	0.05	D 2.2	D 0.7								786	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 45

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.5 N	119 19.1 W	22/01/2015	2220 UTC	1632 m	140 02 kn	310 02 06	1	1021.0 mb	19.2 C	16.0 C	21 m	6/8	ST	037

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.44	16.44	33.253	24.305	361.0	0.000	5.68	247.7	101.7	1.8	0.33	0.0	0.01	0.04	0.17	0.04	0	
2	16.44	16.44	33.253	24.305	361.1	0.007	5.68	247.7	101.7	0.0	0.00	0.0	0.00	0.04	0.17	0.04	2	21
9	15.91	15.91	33.256	24.429	349.5	0.032	5.85	255.1	103.6	1.9	0.34	0.0	0.01	0.03	0.49	0.17	9	19
10 ISL	15.91 D	15.90	33.248 D	24.423	350.1	0.036	5.88	D256.4	D104.2	1.9	0.34	0.0	0.01	0.03	0.50	0.17	10	
10	15.91	15.90	33.252	24.426	349.8	0.034											10	20
20	15.85	15.85	33.260	24.445	348.4	0.071	5.85	255.2	103.6	1.9	0.34	0.0	0.01	0.03	0.64	0.22	20	18
30	15.77	15.76	33.277	24.478	345.5	0.105	5.84	254.4	103.1	1.9	0.35	0.0	0.01	0.05	0.79	0.28	30	17
40	15.42	15.42	33.291	24.565	337.5	0.139	5.82	253.9	102.2	2.2	0.35	0.1	0.03	0.03	0.82	0.26	40	16
50	14.83	14.83	33.283	24.689	326.1	0.173	5.72	249.1	99.1	3.0	0.42	1.2	0.10	0.03	0.68	0.31	50	15
60	13.62	13.61	33.254	24.921	304.1	0.204	5.54	241.3	93.6						0.55	0.34	60	14
70	12.85	12.84	33.274 D	25.089	288.3	0.218	5.18	225.8	86.3	7.1	0.80	6.9	0.16	0.01	0.28	0.22	71	13
75 ISL	12.80 D	12.79	33.279 D	25.103	287.1	0.233	5.10	222.0	84.7	7.7	0.85	7.7	0.13	0.00	0.24	0.21	76	
85	11.72	11.71	33.308	25.332	265.4	0.276	4.93	214.5	80.0	9.1	0.95	9.4	0.08	0.00	0.15	0.17	86	12
99	10.55	10.54	33.443	25.647	235.7	0.311	4.36	189.8	69.1	14.5	1.28	14.9	0.03	0.01	0.07	0.11	100	11
100 ISL	10.44 D	10.43	33.483 D	25.696	231.0	0.298	4.32	187.9	68.3	14.9	1.30	15.2	0.03	0.00	0.07	0.11	101	
120	9.72	9.70	33.684	25.976	204.7	0.357	3.45	150.1	53.8	22.4	1.68	21.4	0.02	0.00	0.02	0.06	121	10
125 ISL	9.67 D	9.66	33.704 D	25.999	202.6	0.352	3.41	D148.2	D 53.0	22.9	1.70	21.7	0.02	0.00	0.01	0.05	126	
140	9.58	9.56	33.749	26.050	198.1	0.398	3.22	140.1	50.1	24.5	1.77	22.6	0.02	0.00	0.01	0.05	141	09
150 ISL	9.52 D	9.51	33.759 D	26.068	196.6	0.402	2.97	129.4	46.2	26.3	1.85	23.5	0.02	0.00	0.01	0.05	151	
170	9.41	9.39	33.959	26.244	180.4	0.454	2.48	107.9	38.5	30.0	2.02	25.4	0.02	0.01	0.00	0.04	171	08
200	9.02	9.00	34.057	26.384	167.6	0.507	2.03	88.2	31.2	35.3	2.15	27.8	0.01	0.00	0.00	0.04	202	07
230	8.94	8.91	34.151	26.472	159.9	0.556	1.59	69.2	24.5	38.8	2.36	29.3	0.02	0.00			232	06
250 ISL	8.77 D	8.74	34.179 D	26.520	155.7	0.574	1.40	D 60.9	D 21.4	41.5	2.43	30.1	0.01	0.00			252	
269	8.53	8.50	34.195	26.570	151.2	0.617	1.27	55.2	19.3	44.2	2.50	31.0	0.01	0.00			271	05
300 ISL	8.28 D	8.25	34.234 D	26.640	145.1	0.650	0.95	D 41.1	D 14.3	48.0	2.61	32.2	0.01	0.00			302	
320	8.09	8.05	34.242	26.676	142.0	0.691	0.87	38.0	13.2	50.5	2.68	32.9	0.01	0.01			323	04
380	7.56	7.52	34.286	26.789	132.0	0.774	0.64	27.6	9.5	58.0	2.82	34.8	0.01	0.01			383	03
400 ISL	7.42 D	7.38	34.273 D	26.799	131.2	0.789	0.55	D 23.9	D 8.2	60.4	2.86	35.3	0.01	0.00			403	
440	7.02	6.98	34.290	26.869	125.0	0.851	0.44	19.1	6.5	65.2	2.94	36.3	0.01	0.00			444	02
500 ISL	6.57 D	6.52	34.312 D	26.948	118.0	0.914	0.29	D 12.8	D 4.3	73.5	3.06	37.8	0.01	0.00			504	
515	6.47	6.42	34.323	26.970	116.1	0.941	0.28	12.0	4.0	75.6	3.09	38.2	0.01	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 50

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 19.4 N	119 39.8 W	23/01/2015	0225 UTC	78 m	040 02 kn			1022.0 mb	16.3 C	15.0 C				038

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	15.64	15.64	33.319	24.537	338.8	0.000	5.85	255.0	103.1	2.2	0.35	0.1	0.02	0.03	0.48	0.14	0	
2	15.64	15.63	33.319	24.537	338.9	0.007	5.85	255.0	103.1	2.2	0.35	0.1	0.02	0.03	0.48	0.14	2	10
5	15.60	15.60	33.318	24.545	338.3	0.017	5.85	255.1	103.1	2.3	0.35	0.1	0.01	0.02	0.55	0.16	5	09
10	15.40	15.40	33.316	24.588	334.4	0.034	5.88	256.1	103.1	2.4	0.35	0.1	0.02	0.02	0.68	0.19	10	07
10	15.40	15.40	33.316	24.588	334.4	0.034											10	08
20	15.08	15.07	33.311	24.656	328.2	0.067	5.79	252.4	100.9	2.8	0.39	0.6	0.05	0.03	0.79	0.24	20	06
30	13.63	13.63	33.277	24.934	302.0	0.098	5.38	234.6	91.1	5.5	0.67	4.7	0.18	0.02	0.45	0.29	30	05
40	13.05	13.04	33.263	25.041	292.0	0.128	5.28	229.8	88.1	6.5	0.76	6.1	0.20	0.04	0.37	0.28	40	04
50	13.06	13.06	33.261	25.037	292.7	0.157	5.27	229.5	88.0	6.6	0.76	6.1	0.20	0.04	0.37	0.32	50	03
60	12.97	12.96	33.266	25.060	290.8	0.187	5.26	229.0	87.7	6.7	0.77	6.2	0.21	0.04	0.33	0.27	60	02
70	12.38	12.37	33.290	25.192	278.4	0.215	5.06	220.3	83.3	8.5	0.88	8.2	0.18	0.07	0.25	0.24	71	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 9.3 N	120 0.5 W	23/01/2015	0549 UTC	1195 m	350 02 kn			1023.0 mb	16.1 C	15.0 C				039

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.80	16.80	33.207	24.187	372.2	0.000	5.65	246.3	101.8	1.7	0.33	0.0	0.01	0.02	0.12	0.04	0	
2	16.80	16.80	33.207	24.187	372.3	0.007	5.65	246.3	101.8	1.7	0.33	0.0	0.01	0.02	0.12	0.04	2	21
10	16.66	16.66	33.199	24.214	370.0	0.037	5.65	246.2	101.5	1.7	0.32	0.0	0.01	0.03	0.12	0.04	10	19
10	16.66	16.66	33.200	24.215	369.9	0.036											10	20
20 ISL	16.62 D	16.61	33.196 D	24.222	369.6	0.056	5.63	D245.5	D101.1	1.7	0.32	0.0	0.01	0.04	0.13	0.04	20	
25	16.63	16.63	33.210	24.229	369.1	0.093	5.63	245.4	101.1	1.7	0.32	0.1	0.01	0.04	0.13	0.04	25	18
30 ISL	16.61 D	16.61	33.200 D	24.227	369.5	0.093	5.66	D246.7	D101.6	1.7	0.32	0.0	0.01	0.04	0.15	0.04	30	
40	16.52	16.51	33.191	24.243	368.3	0.148	5.65	246.4	101.2	1.7	0.32	0.0	0.01	0.04	0.17	0.05	40	17
50	16.27	16.26	33.201	24.307	362.5	0.184	5.68	247.8	101.4	1.8	0.34	0.1	0.02	0.02	0.26	0.12	50	16
62	13.92	13.91	33.159	24.787	317.0	0.225	5.79	252.3	98.4	3.0	0.44	0.8	0.12	0.05	0.44	0.28	63	15
75	12.65	12.64	33.125	25.014	295.6	0.265	5.52	240.5	91.4	5.6	0.71	5.0	0.12	0.02	0.32	0.27	76	14
87	11.59	11.58	33.131	25.218	276.3	0.299	5.36	233.4	86.7	7.0	0.84	7.1	0.10	0.03	0.22	0.26	88	13
100	10.92	10.91	33.253	25.435	255.9	0.334	4.87	212.2	77.8	10.8	1.12	12.0	0.05	0.05	0.13	0.15	101	12
112	10.03	10.01	33.503	25.783	222.9	0.363	4.13	179.9	64.8	16.9	1.41	17.4	0.03	0.02	0.04	0.07	113	11
124	9.81	9.79	33.581	25.882	213.8	0.389	3.90	169.8	60.9	19.5	1.53	19.4	0.03	0.01	0.02	0.05	125	10
125 ISL	9.82 D	9.81	33.586 D	25.882	213.8	0.375	3.89	D169.4	D 60.8	19.7	1.54	19.5	0.03	0.01	0.02	0.05	126	
140	9.45	9.43	33.711 D	26.042	198.9	0.406	3.57	155.5	55.4	22.8	1.67	21.5	0.04	0.01	0.01	0.04	141	09
150 ISL	9.26 D	9.25	33.799 D	26.141	189.6	0.425	3.23	D140.7	D 49.9	24.6	1.74	22.5	0.03	0.01	0.01	0.04	151	
170	9.21	9.19	33.839	26.183	186.1	0.479	2.97	129.4	45.9	28.1	1.89	24.4	0.03	0.02	0.01	0.03	171	08
200	8.88	8.86	33.929	26.305	175.0	0.533	2.74	119.3	42.0	31.7	2.00	26.1	0.02	0.00	0.00	0.03	202	07
230	8.43	8.41	34.010	26.439	162.8	0.584	2.42	105.3	36.7	36.9	2.15	28.3	0.02	0.01			232	06
250 ISL	8.23 D	8.21	34.041 D	26.493	157.9	0.601	2.21	D 96.2	D 33.4	40.0	2.25	29.5	0.02	0.01			252	
270	8.10	8.07	34.072	26.539	153.9	0.647	1.94	84.3	29.2	43.1	2.34	30.7	0.02	0.01			272	05
300 ISL	7.73 D	7.70	34.151 D	26.656	143.2	0.677	1.30	D 56.5	D 19.4	49.3	2.51	32.8	0.02	0.00			302	
320	7.42	7.39	34.131	26.684	140.6	0.721	1.31	56.9	19.4	53.5	2.63	34.2	0.02	0.00			323	04
380	6.98	6.94	34.193	26.796	130.8	0.802	0.83	36.3	12.3	61.6	2.84	36.3	0.01	0.01			383	03
400 ISL	7.07 D	7.03	34.240 D	26.821	128.8	0.814	0.66	D 28.5	D 9.7	63.9	2.89	36.6	0.01	0.01			403	
440	6.76	6.72	34.277	26.893	122.5	0.879	0.50	21.5	7.2	68.6	2.98	37.3	0.01	0.01			444	02
500 ISL	6.43 D	6.38	34.294 D	26.952	117.5	0.937	0.37	D 16.0	D 5.3	74.7	3.07	38.7	0.01	0.01			504	
515	6.31	6.26	34.300	26.973	115.6	0.968	0.34	14.8	4.9	76.3	3.09	39.0	0.02	0.01			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 59.4 N	120 21.0 W	23/01/2015	0945 UTC	718 m	350 06 kn			1023.0 mb	17.0 C	14.4 C				040

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.79	16.79	33.251	24.223	368.8	0.000	5.64	245.8	101.6	1.8	0.33	0.0	0.01	0.00	0.14	0.04	0	
2	16.79	16.79	33.251	24.223	368.9	0.007	5.64	245.8	101.6	1.8	0.33	0.0	0.01	0.00	0.14	0.04	2	21
10	16.80	16.79	33.249	24.220	369.4	0.037	5.64	D245.8	D101.6								10	20
20	16.80	16.79	33.248	24.220	369.8	0.074	5.62	245.2	101.4	1.8	0.32	0.0	0.01	0.00	0.14	0.04	20	18
20	16.80	16.79	33.252	24.223	369.5	0.073				1.8	0.33	0.0	0.01	0.03	0.14	0.04	20	19
29	16.73	16.73	33.243	24.231	369.1	0.107	5.64	246.0	101.6	1.9	0.32	0.1	0.01	0.01	0.15	0.04	29	17
30 ISL	16.72 D	16.71	33.242 D	24.235	368.8	0.095	5.68	D247.7	D102.2	1.9	0.32	0.0	0.01	0.01	0.15	0.04	30	
40	16.31	16.30	33.233	24.323	360.7	0.147	5.69	248.1	101.6	1.9	0.33	0.0	0.01	0.03	0.22	0.07	40	16
50	15.38	15.37	33.292	24.577	336.7	0.182	5.74	250.0	100.5	2.5	0.38	0.3	0.09	0.02	0.92	0.49	50	15
60	14.03	14.02	33.252	24.834	312.5	0.215	5.45	237.4	92.9	4.4	0.59	3.3	0.32	0.00	0.26	0.23	60	14
69	12.44	12.43	33.162	25.081	289.0	0.242	5.36	233.7	88.4	6.1	0.76	6.0	0.13	0.01	0.22	0.23	70	13
75 ISL	11.83 D	11.82	33.178 D	25.209	276.9	0.244	5.32	D231.6	D 86.5	7.1	0.84	7.4	0.09	0.00	0.19	0.20	76	
85	11.35	11.34	33.197	25.313	267.2	0.286	5.08	221.3	81.9	8.9	0.98	9.6	0.04	0.00	0.15	0.16	86	12
100 ISL	11.15 D	11.14	33.213 D	25.361	262.9	0.311	5.06	D220.2	D 81.1	9.4	1.02	10.6	0.04	0.00	0.13	0.16	101	
101	11.12	11.10	33.214	25.369	262.2	0.328	5.01	218.1	80.3	9.5	1.02	10.6	0.04	0.00	0.13	0.16	102	11
120	10.14	10.12	33.418	25.699	231.1	0.375	4.37	190.3	68.7	15.2	1.35	16.2	0.02	0.00	0.05	0.07	121	10
125 ISL	9.98 D	9.97	33.505 D	25.792	222.3	0.372	4.19	D182.3	D 65.6	16.3	1.39	16.9	0.02	0.00	0.04	0.07	126	
140	9.40	9.38	33.726 D	26.062	196.9	0.404	3.51	D152.6	D 54.3								141	09
150 ISL	9.36 D	9.35	33.750 D	26.087	194.8	0.424	3.44	D149.6	D 53.2	21.7	1.61	20.4	0.02	0.00	0.02	0.05	151	
170	9.25	9.23	33.787	26.135	190.6	0.478	3.28	142.9	50.7	25.9	1.79	23.2	0.02	0.01	0.01	0.03	171	08
200	8.82	8.80	33.939	26.323	173.3	0.532	2.71	117.8	41.4	32.1	2.00	26.3	0.02	0.00	0.00	0.03	202	07
230	8.67	8.64	33.989	26.387	167.8	0.584	2.47	107.3	37.6	34.8	2.09	27.5	0.02	0.00			232	06
250 ISL	8.50 D	8.47	34.054 D	26.464	160.8	0.602	2.13	D 92.5	D 32.3	38.2	2.20	28.8	0.02	0.00			252	
270	8.29	8.26	34.091	26.525	155.3	0.648	1.86	80.8	28.1	41.6	2.31	30.1	0.01	0.00			272	05
300 ISL	8.09 D	8.06	34.117 D	26.576	151.0	0.680	1.65	D 71.9	D 24.9	45.3	2.41	31.3	0.01	0.00			302	
320	7.79	7.75	34.113	26.618	147.1	0.724	1.56	67.7	23.3	47.7	2.47	32.1	0.01	0.00			323	04
380	7.35	7.31	34.233	26.777	132.9	0.808	0.78	33.7	11.5	58.2	2.79	35.1	0.01	0.00			383	03
400 ISL	7.14 D	7.10	34.231 D	26.804	130.5	0.822	0.69	D 30.0	D 10.2	60.4	2.83	35.7	0.01	0.00			403	
440	6.94	6.90	34.254	26.851	126.6	0.886	0.56	24.4	8.3	64.7	2.90	36.7	0.01	0.00			444	02
500 ISL	6.29 D	6.24	34.285 D	26.963	116.2	0.947	0.36	D 15.8	D 5.3	73.7	2.96	38.6	0.01	0.00			504	
516	6.26	6.21	34.286	26.968	116.0	0.978	0.36	15.4	5.1	76.1	2.98	39.2	0.01	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 39.5 N	121 2.4 W	23/01/2015	1711	UTC	3791 m	360 09 kn	320 03 06	0	1023.0 mb	17.1 C	15.8 C	31 m	0/8		041

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.98	16.98	33.174	24.119	378.7	0.000	5.59	243.6	101.0	1.8	0.35	0.0	0.02	0.09	0.13	0.04	0	
2 A	16.98	16.98	33.174	24.119	378.8	0.008	5.59	243.6	101.0	1.8	0.35	0.0	0.02	0.09	0.13	0.04	2	24
10 ISL	16.97 D	16.97	33.170 D	24.119	379.1	0.038	5.59	D243.8	D101.1	1.7	0.34	0.0	0.01	0.09	0.13	0.04	10	
12	16.97	16.97	33.172	24.121	379.0	0.046	5.58	243.5	100.9	1.7	0.34	0.0	0.01	0.09	0.13	0.04	12	21
12	16.97	16.97	33.173	24.121	378.9	0.045											12	23
12	16.97	16.97	33.173	24.122	378.9	0.046											12	22
20 ISL	16.97 D	16.97	33.170 D	24.120	379.4	0.061	5.55	D242.1	D100.4	1.8	0.33	0.1	0.01	0.04	0.14	0.04	20	
21 A	16.97	16.96	33.174	24.124	379.0	0.080	5.59	243.9	101.1	1.8	0.33	0.1	0.01	0.03	0.14	0.04	21	20
30 A	16.97	16.96	33.175	24.125	379.3	0.114	5.59	243.7	101.0	1.7	0.32	0.0	0.01	0.04	0.13	0.04	30	19
42	16.96	16.96	33.172	24.125	379.7	0.159	5.60	244.2	101.2	1.7	0.34	0.0	0.01	0.08	0.14	0.04	42	18
50 ISL	16.97 D	16.96	33.169 D	24.122	380.2	0.176	5.58	D243.4	D100.9	1.7	0.33	0.0	0.01	0.06	0.14	0.04	50	
53 A	16.94	16.94	33.173	24.130	379.6	0.201	5.60	244.1	101.1	1.7	0.32	0.0	0.01	0.05	0.14	0.05	53	17
68	15.81	15.80	33.157	24.378	356.3	0.256	5.77	251.4	101.9	2.0	0.35	0.0	0.01	0.05	0.25	0.16	69	16
75 ISL	14.62 D	14.61	33.132 D	24.619	333.5	0.280	5.78	251.8	99.6	2.6	0.41	0.5	0.08	0.03	0.27	0.18	76	
83	13.43	13.42	33.103	24.842	312.3	0.306	5.79	252.2	97.4	3.4	0.48	1.1	0.17	0.01	0.29	0.19	84	14
83	13.43	13.42	33.100	24.840	312.5	0.306											84	15
99 A	11.71	11.70	33.173	25.229	275.6	0.353	5.44	236.9	88.3	5.8	0.74	5.6	0.07	0.02	0.22	0.17	100	13
100 ISL	11.91 D	11.89	33.181 D	25.199	278.5	0.318	5.38	D234.3	D 87.7	6.1	0.77	6.1	0.06	0.02	0.21	0.17	101	
106	11.08	11.07	33.163	25.336	265.5	0.372	5.25	228.7	84.1	7.9	0.92	9.0	0.03	0.03	0.15	0.14	107	12
115 A	10.42	10.40	33.194	25.476	252.3	0.396	5.06	220.2	79.8	10.4	1.08	11.8	0.02	0.04	0.09	0.10	116	11
125 ISL	10.24 D	10.23	33.267 D	25.564	244.1	0.383	4.87	D211.9	D 76.6	11.8	1.16	13.4	0.02	0.02	0.06	0.08	126	
128	10.15	10.13	33.283	25.592	241.4	0.428	4.81	209.3	75.5	12.2	1.19	13.9	0.02	0.02	0.05	0.08	129	10
140	9.66	9.64	33.448	25.802	221.6	0.455	4.26	185.5	66.2	17.2	1.44	18.0	0.02	0.02	0.02	0.04	141	09
150 ISL	9.61 D	9.60	33.538 D	25.881	214.4	0.440	4.01	D174.5	D 62.3	19.6	1.54	19.6	0.01	0.02	0.02	0.03	151	
170	9.02	9.00	33.717	26.116	192.3	0.518	3.51	152.7	53.9	24.4	1.73	22.8	0.01	0.01	0.00	0.02	171	08
200	8.55	8.53	33.929	26.356	170.0	0.572	3.00	130.5	45.6	31.3	1.92	26.0	0.01	0.02	0.00	0.02	202	07
230	8.14	8.12	33.977	26.457	160.9	0.622	2.78	120.8	41.9	35.9	2.01	27.6	0.01	0.03			232	06
250 ISL	7.94 D	7.91	34.006 D	26.511	156.1	0.617	2.47	D107.6	D 37.1	40.1	2.14	29.3	0.01	0.03			252	
269	7.56	7.53	34.016	26.573	150.3	0.683	2.25	97.7	33.4	44.0	2.27	30.8	0.01	0.03			271	05
300 ISL	7.29 D	7.26	34.056 D	26.643	144.0	0.693	1.74	D 75.8	D 25.8	50.4	2.45	33.1	0.01	0.02			302	
319	7.03	7.00	34.076	26.696	139.2	0.755	1.48	64.5	21.8	54.2	2.56	34.4	0.01	0.02			322	04
380	6.51	6.48	34.122	26.803	129.7	0.837	0.98	42.8	14.3	64.0	2.77	37.1	0.01	0.00			383	03
400 ISL	6.35 D	6.32	34.146 D	26.842	126.1	0.828	0.77	D 33.6	D 11.2	66.7	2.83	37.6	0.01	0.00			403	
440	6.17	6.13	34.182	26.895	121.5	0.913	0.58	25.4	8.4	72.2	2.94	38.7	0.01	0.01			444	02
500 ISL	5.81 D	5.76	34.226 D	26.976	114.4	0.950	0.41	D 17.8	D 5.9	80.2	3.05	40.0	0.01	0.00			504	
515	5.67	5.63	34.236	27.000	112.1	1.000	0.38	16.4	5.4	82.2	3.08	40.4	0.01	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 19.4 N	121 42.7 W	23/01/2015	2224	UTC	4031 m	030 09 kn	330 03 07	0	1021.0 mb	15.9 C	14.9 C	35 m	0/8		042

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.07	17.07	33.164	24.091	381.3	0.000	5.59	243.9	101.3	1.8	0.33	0.0	0.01	0.05	0.11	0.03	0	
2	17.07	17.06	33.164	24.091	381.4	0.008	5.59	243.9	101.3	1.8	0.33	0.0	0.01	0.05	0.11	0.03	2	21
10	17.01	17.01	33.164	24.105	380.4	0.038	5.60	244.4	101.4	1.8	0.34	0.0	0.01	0.07	0.11	0.03	10	19
10	17.01	17.01	33.163	24.105	380.4	0.038											10	20
20 ISL	16.97 D	16.96	33.162 D	24.115	379.9	0.058	5.61	244.4	101.3	1.7	0.33	0.0	0.01	0.04	0.12	0.03	20	
25	16.96	16.96	33.166	24.118	379.7	0.095	5.61	244.5	101.3	1.7	0.32	0.0	0.01	0.03	0.12	0.03	25	18
30 ISL	16.96 D	16.96	33.162 D	24.116	380.1	0.096	5.61	244.5	101.3	1.7	0.33	0.0	0.01	0.04	0.12	0.04	30	
40	16.95	16.95	33.167	24.123	379.8	0.152	5.61	244.6	101.4	1.7	0.34	0.0	0.01	0.06	0.13	0.04	40	17
50	16.90	16.89	33.159	24.129	379.6	0.190	5.63	245.4	101.6	1.8	0.33	0.0	0.01	0.03	0.15	0.04	50	16
62	15.09	15.08	33.059	24.461	348.2	0.234	5.83	254.0	101.4	2.0	0.35	0.0	0.01	0.02	0.27	0.15	62	15
75	14.02	14.01	33.051	24.683	327.3	0.278	5.73	249.7	97.5	3.1	0.49	1.4	0.19	0.02	0.36	0.19	76	14
87	13.09	13.08	33.003	24.834	313.2	0.316	5.73	249.7	95.7	3.9	0.57	2.5	0.16	0.03	0.33	0.22	88	13
100	11.55	11.54	33.058	25.170	281.2	0.355	5.30	231.0	85.7	7.1	0.92	8.5	0.03	0.03	0.21	0.24	101	12
112	11.03	11.02	33.265	25.424	257.3	0.387	4.69	204.4	75.1	11.1	1.23	13.5	0.02	0.08	0.12	0.17	113	11
124	10.12	10.10	33.282	25.596	241.0	0.417	4.78	208.2	75.0	12.6	1.23	14.2	0.02	0.06	0.06	0.08	125	10
125 ISL	10.09 D	10.08	33.291 D	25.607	239.9	0.403	4.78	D207.9	D 74.9	12.8	1.25	14.4	0.02	0.06	0.06	0.08	126	
141	9.74	9.73	33.468	25.804	221.5	0.456	4.17	181.6	65.0	17.3	1.49	18.4	0.02	0.06	0.03	0.05	142	09
150 ISL	9.41 D	9.39	33.546 D	25.920	210.6	0.460	4.26	D185.4	D 65.9	19.5	1.56	19.6	0.01	0.05	0.02	0.04	151	
170	8.99	8.97	33.744	26.142	189.8	0.516	3.71	161.6	57.0	24.3	1.71	22.3	0.01	0.03	0.00	0.03	171	08
200 ISL	8.64 D	8.62	33.899 D	26.319	173.6	0.555	2.98	D129.5	D 45.4	30.7	1.94	26.1	0.01	0.04	0.00	0.02	202	
201	8.63	8.61	33.902	26.324	173.2	0.572	2.98	129.5	45.3	30.9	1.95	26.2	0.01	0.04	0.00	0.02	203	07
230	8.26	8.24	33.979	26.440	162.5	0.621	2.76	120.2	41.8	35.1	2.02	27.5	0.01	0.01			232	06
250 ISL	8.19 D	8.17	34.033 D	26.494	157.8	0.638	2.21	D 96.3	D 33.4	38.8	2.22	29.1	0.01	0.02			252	
270	8.33	8.30	34.121	26.543	153.7	0.683	1.63	70.8	24.7	42.5	2.41	30.7	0.01	0.02			272	05
300 ISL	7.86 D	7.83	34.118 D	26.611	147.5	0.715	1.51	D 65.6	D 22.6	46.8	2.49	32.1	0.01	0.03			302	
320	7.46	7.43	34.096	26.652	143.7	0.758	1.51	65.6	22.4	49.7	2.54	33.0	0.01	0.03			323	04
380	6.98	6.94	34.157	26.768	133.4	0.841	0.94	41.1	13.9	59.3	2.78	36.0	0.01	0.10			383	03
400 ISL	6.71 D	6.67	34.143 D	26.793	131.1	0.855	0.89	D 38.8	D 13.0	62.7	2.82	36.9	0.01	0.07			403	
440	6.11	6.07	34.116	26.851	125.6	0.919	0.83	35.9	11.9	69.6	2.91	38.8	0.01	0.02			444	02
500 ISL	5.90 D	5.86	34.217 D	26.957	116.2	0.980	0.45	D 19.7	D 6.5	78.5	3.07	40.2	0.01	0.05			504	
515	5.74	5.69	34.227	26.986	113.6	1.009	0.41	18.0	5.9	80.8	3.11	40.5	0.02	0.06			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 59.4 N	122 23.5 W	24/01/2015	0421		4123 m	010 13 kn			1022.0 mb	15.4 C	14.1 C				043

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.97	16.97	33.144	24.098	380.7	0.000	5.62	245.0	101.6	1.7	0.35	0.1	0.01	0.06	0.12	0.04	0	
2	16.97	16.97	33.144	24.098	380.7	0.008	5.62	245.0	101.6	1.7	0.35	0.1	0.01	0.06	0.12	0.04	2	21
10	16.98	16.97	33.148	24.101	380.8	0.038	5.61	244.5	101.3	1.7	0.33	0.1	0.01	0.08	0.12	0.04	10	19
10	16.98	16.97	33.144	24.097	381.2	0.039											10	20
20 ISL	16.98 D	16.97	33.148 D	24.101	381.1	0.058	5.60	244.2	101.2	1.7	0.34	0.1	0.01	0.08	0.12	0.04	20	
25	16.98	16.97	33.143	24.098	381.6	0.095	5.60	244.0	101.1	1.7	0.34	0.1	0.01	0.08	0.12	0.04	25	18
30 ISL	16.98 D	16.97	33.148 D	24.102	381.4	0.096	5.60	244.0	101.2	1.7	0.34	0.0	0.01	0.07	0.14	0.04	30	
40	16.83	16.83	33.132	24.124	379.7	0.153	5.60	244.1	100.9	1.7	0.33	0.0	0.01	0.06	0.16	0.05	40	17
50	16.56	16.55	33.095	24.160	376.6	0.190	5.65	246.3	101.2	1.6	0.32	0.0	0.01	0.04	0.22	0.07	50	16
62	16.35	16.34	33.071	24.191	374.0	0.235	5.67	247.2	101.2	1.6	0.35	0.1	0.01	0.10	0.23	0.10	62	15
74	15.99	15.98	33.066	24.269	366.9	0.280	5.73	249.8	101.5	1.7	0.34	0.0	0.01	0.05	0.24	0.10	75	14
75 ISL	16.01 D	16.00	33.081 D	24.277	366.3	0.266	5.67	D247.2	D100.5	1.8	0.34	0.0	0.02	0.05	0.24	0.10	76	
86	14.70	14.69	33.080	24.563	339.2	0.322	5.88	256.2	101.5	2.5	0.36	0.1	0.05	0.07	0.21	0.16	87	13
100	13.85	13.83	33.105	24.761	320.6	0.369	5.79	252.3	98.2	3.3	0.46	0.7	0.20	0.07	0.23	0.21	101	12
112	12.21	12.20	33.079	25.064	291.8	0.405	5.53	240.8	90.6	5.2	0.69	4.6	0.08	0.03	0.21	0.17	113	11
125	11.46	11.44	33.161	25.267	272.6	0.442	5.25	228.6	84.7	7.3	0.91	8.4	0.02	0.06	0.14	0.13	126	10
140	10.67	10.65	33.220	25.454	255.0	0.482	4.99	217.3	79.2	9.7	1.07	11.5	0.02	0.17	0.10	0.10	141	09
150 ISL	10.20 D	10.18	33.358 D	25.642	237.2	0.490	4.57	D198.8 D	71.8	12.9	1.22	14.1	0.02	0.12	0.07	0.08	151	
170	9.27	9.25	33.581	25.970	206.2	0.551	4.14	180.3	63.9	19.5	1.51	19.4	0.02	0.03	0.01	0.03	171	08
200	8.78	8.76	33.852	26.260	179.2	0.609	3.62	157.5	55.3	26.6	1.72	23.2	0.01	0.02	0.00	0.02	202	07
230	8.29	8.27	33.947	26.411	165.3	0.660	3.04	132.1	45.9	32.6	1.95	26.4	0.01	0.02			232	06
250 ISL	8.12 D	8.09	33.974 D	26.458	161.1	0.677	2.82	D122.7 D	42.5	36.0	2.05	27.8	0.01	0.03			252	
270	7.87	7.84	33.996	26.513	156.2	0.725	2.58	112.3	38.7	39.4	2.14	29.2	0.01	0.03			272	05
300 ISL	7.47 D	7.44	34.037 D	26.604	147.9	0.755	1.95	D 85.0 D	29.0	45.8	2.34	31.7	0.01	0.04			302	
319	7.27	7.24	34.051	26.642	144.4	0.798	1.76	76.3	25.9	49.9	2.46	33.2	0.01	0.05			322	04
380	6.78	6.75	34.118	26.763	133.6	0.883	1.01	44.1	14.8	60.4	2.76	36.5	0.01	0.02			383	03
400 ISL	6.57 D	6.53	34.134 D	26.804	129.9	0.895	0.86	D 37.6 D	12.6	63.5	2.82	37.2	0.01	0.03			403	
440	6.31	6.27	34.169	26.866	124.4	0.960	0.66	28.5	9.5	69.6	2.93	38.6	0.01	0.06			444	02
500 ISL	5.87 D	5.83	34.220 D	26.963	115.7	1.019	0.42	D 18.1 D	5.9	77.5	3.07	40.0	0.01	0.12			504	
513	5.85	5.81	34.229	26.973	114.9	1.047	0.39	D 16.9 D	5.6	79.2	3.10	40.3	0.02	0.13			517	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 39.3 N	123 4.2 W	24/01/2015	1008		4157 m	020 08 kn			1020.0 mb	17.0 C	14.8 C				044

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.73	17.73	33.291	24.030	387.2	0.000	5.52	240.6	101.3	2.0	0.32	0.1	0.01	0.04	0.11	0.02	0	
2	17.73	17.73	33.291	24.031	387.2	0.008	5.52	240.6	101.3	2.0	0.32	0.1	0.01	0.04	0.11	0.02	2	21
10	17.74	17.74	33.292	24.029	387.6	0.039	5.52	240.5	101.3	2.0	0.31	0.0	0.01	0.02	0.11	0.03	10	19
10	17.74	17.74	33.291	24.028	387.7	0.039											10	20
20 ISL	17.74 D	17.73	33.290 D	24.029	388.0	0.059	5.51	240.5	101.2	2.0	0.32	0.0	0.01	0.03	0.11	0.03	20	
25	17.74	17.73	33.291	24.031	388.1	0.097	5.51	240.5	101.2	2.0	0.32	0.0	0.01	0.04	0.11	0.03	25	18
30 ISL	17.74 D	17.73	33.291 D	24.031	388.3	0.098	5.49	D239.6	D100.9	2.0	0.32	0.0	0.01	0.04	0.11	0.03	30	
40	17.75	17.74	33.290	24.028	388.9	0.155	5.52	240.7	101.3	2.0	0.31	0.0	0.01	0.03	0.11	0.03	40	17
50	17.72	17.71	33.291	24.037	388.4	0.194	5.51	240.2	101.1	2.0	0.32	0.0	0.01	0.00	0.10	0.03	50	16
62	17.56	17.55	33.257	24.049	387.7	0.241	5.53	241.1	101.1	1.9	0.33	0.0	0.01	0.07	0.13	0.05	62	15
75	16.62	16.60	33.199	24.228	371.0	0.290	5.59	243.9	100.4	1.9	0.32	0.0	0.01	0.00	0.19	0.09	76	14
87	14.36	14.35	33.041	24.605	335.2	0.332	5.91	257.4	101.2	2.7	0.40	0.2	0.06	0.03	0.24	0.17	88	13
100	13.37	13.36	33.033	24.801	316.6	0.375	5.76	251.1	96.8	3.6	0.51	1.5	0.30	0.01	0.23	0.19	101	12
112	12.50	12.48	33.027	24.969	300.9	0.412	5.59	243.4	92.1	4.7	0.66	4.0	0.11	0.00	0.24	0.21	113	11
125	11.13	11.11	33.075	25.260	273.2	0.449	5.34	232.5	85.5	7.2	0.90	8.5	0.02	0.00	0.15	0.15	126	10
141	10.29	10.27	33.191	25.497	250.8	0.491	5.01	218.1	78.8	10.8	1.12	12.5	0.02	0.01	0.07	0.09	142	09
150 ISL	9.94 D	9.93	33.303 D	25.643	237.1	0.497	4.76	D207.1 D	74.4	13.2	1.24	14.6	0.02	0.00	0.06	0.07	151	
171	9.61	9.59	33.520	25.868	216.1	0.561	4.03	175.6	62.7	18.8	1.51	19.4	0.01	0.00	0.02	0.04	172	08
200	8.95	8.93	33.806 D	26.199	185.1	0.604	3.44	149.9	52.8	26.2	1.76	23.6	0.01	0.00	0.00	0.02	202	07
231	8.50	8.48	33.944	26.376	168.7	0.674	2.80	121.6	42.5	32.9	1.99	27.0	0.01	0.00			233	06
250 ISL	8.26 D	8.23	33.993 D	26.452	161.8	0.690	2.61	D113.3 D	39.4	36.0	2.07	28.1	0.01	0.00			252	
270	7.98	7.95	34.001	26.501	157.3	0.737	2.46	106.9	36.9	39.3	2.15	29.2	0.01	0.00			272	05
300 ISL	7.57 D	7.54	34.045 D	26.595	148.8	0.769	1.90	D 82.7 D	28.3	45.3	2.34	31.5	0.01	0.00			302	
320	7.39	7.36	34.058	26.631	145.6	0.813	1.64	71.4	24.3	49.2	2.47	33.1	0.01	0.01			323	04
382	6.84	6.81	34.107	26.746	135.3	0.900	1.07	46.5	15.7	59.1	2.73	36.2	0.01	0.00			385	03
400 ISL	6.73 D	6.69	34.127 D	26.778	132.5	0.910	0.93	D 40.4 D	13.6								403	
442	6.33	6.29	34.160 D	26.858	125.3	0.965	0.68	D 29.7 D	9.9								446	02
500 ISL	5.93 D	5.89	34.215 D	26.952	116.8	1.036	0.45	D 19.5 D	6.4								504	
515	5.73	5.68	34.209 D	26.973	114.8	1.053	0.42	D 18.1 D	5.9								519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 19.4 N	123 44.7 W	24/01/2015	1645 UTC	4014 m	010 16 kn	320 04 04	1	1019.0 mb	18.0 C	16.8 C	27 m	2/8	CS	045

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.07	17.07	33.146	24.077	382.7	0.000	5.60	244.0	101.3	1.7	0.31	0.0	0.01	0.01	0.10	0.03	0	
2 A	17.07	17.07	33.146	24.077	382.8	0.008	5.60	244.0	101.3	1.7	0.31	0.0	0.01	0.01	0.10	0.03	2	24
10	17.07	17.07	33.143	24.075	383.2	0.038	5.59	243.6	101.2	1.7	0.32	0.0	0.01	0.02	0.11	0.03	10	22
10	17.07	17.07	33.141	24.074	383.4	0.040											10	23
19 A	17.07	17.06	33.137	24.071	383.9	0.073	5.59	243.9	101.3	1.7	0.31	0.0	0.01	0.01	0.11	0.03	19	21
20 ISL	17.07 D	17.06	33.133 D	24.068	384.3	0.060	5.59	243.8	101.2	1.7	0.31	0.0	0.01	0.01	0.11	0.03	20	
26 A	17.06	17.06	33.143	24.078	383.6	0.100	5.59	243.6	101.1	1.7	0.32	0.0	0.01	0.01	0.11	0.03	26	20
30 ISL	17.06 D	17.06	33.133 D	24.070	384.4	0.099	5.59	243.7	101.2	1.7	0.32	0.0	0.01	0.01	0.11	0.03	30	
36	17.06	17.06	33.143	24.078	383.9	0.138	5.59	244.0	101.3	1.7	0.32	0.0	0.01	0.01	0.10	0.03	36	19
46 A	17.05	17.04	33.151	24.089	383.2	0.176	5.59	243.7	101.1	1.7	0.31	0.0	0.01	0.01	0.11	0.03	46	18
50 ISL	17.04 D	17.03	33.128 D	24.073	385.0	0.177	5.55	D242.2	D100.5	1.7	0.31	0.0	0.01	0.00	0.12	0.04	50	
59	16.94	16.93	33.131	24.100	382.7	0.226	5.60	244.1	101.1	1.7	0.30	0.0	0.01	0.00	0.13	0.04	59	17
72	16.36	16.34	33.056	24.178	375.6	0.275	5.67	247.2	101.1	1.6	0.35	0.0	0.01	0.04	0.19	0.15	73	16
75 ISL	16.07 D	16.06	33.038 D	24.228	370.9	0.272	5.70	D248.5	D101.1	1.8	0.35	0.0	0.02	0.04	0.21	0.17	76	
85	15.06	15.05	33.019	24.438	351.1	0.324											86	15
86 A	14.89	14.87	33.020	24.477	347.4	0.326	5.85	255.1	101.4	2.3	0.36	0.1	0.03	0.04	0.27	0.22	87	14
93	14.05	14.03	32.987	24.628	333.1	0.350	5.87	255.9	100.0	2.8	0.42	0.4	0.20	0.04	0.27	0.20	94	13
100 A	13.11	13.10	32.990	24.820	314.8	0.373	5.75	250.4	96.0	3.6	0.51	1.7	0.25	0.01	0.24	0.19	101	12
112	12.19	12.17	33.043	25.040	294.1	0.409	5.59	243.7	91.6	4.7	0.62	3.8	0.07	0.00	0.18	0.15	113	11
125	11.02	11.00	33.031	25.245	274.6	0.446	5.44	237.1	86.9	7.0	0.85	7.8	0.03	0.00	0.11	0.12	126	10
139	11.18	11.16	33.350	25.466	254.0	0.483	5.17	225.3	83.1	8.0	0.83	8.6	0.02	0.01	0.06	0.07	140	09
150 ISL	10.71 D	10.69	33.408 D	25.594	242.0	0.478	5.10	D221.9	D 81.0	10.4	0.98	11.1	0.02	0.01	0.05	0.06	151	
170	9.79	9.77	33.448	25.781	224.4	0.557	4.62	201.0	72.0	14.8	1.26	15.6	0.02	0.01	0.02	0.03	171	08
200 ISL	9.07 D	9.05	33.735 D	26.123	192.3	0.588	3.53	D153.6	D 54.3	24.3	1.72	22.8	0.01	0.01	0.00	0.02	202	
201	9.04	9.02	33.727	26.121	192.5	0.622	3.52	153.4	54.1	24.6	1.74	23.1	0.01	0.01	0.00	0.02	203	07
229	8.62	8.60	33.900	26.324	173.7	0.673	3.24	140.9	49.3	29.5	1.84	25.0	0.01	0.00			231	06
250 ISL	8.33 D	8.30	33.959 D	26.415	165.4	0.677	2.96	D128.8	D 44.8	33.8	1.96	26.9	0.01	0.00			252	
270	8.00	7.97	33.989	26.488	158.6	0.742	2.64	114.6	39.6	37.8	2.08	28.7	0.01	0.00			272	05
300 ISL	7.66 D	7.63	34.021 D	26.563	151.9	0.757	2.12	D 92.3	D 31.7	43.4	2.25	30.9	0.01	0.00			302	
320	7.36	7.33	34.033	26.617	146.9	0.818	1.97	85.7	29.2	47.1	2.37	32.4	0.01	0.00			323	04
380	6.75	6.71	34.090	26.746	135.2	0.903	1.22	53.2	17.9	59.0	2.68	36.0	0.01	0.00			383	03
400 ISL	6.64 D	6.60	34.107 D	26.773	132.9	0.899	1.05	D 45.8	D 15.4	62.2	2.75	36.8	0.01	0.00			403	
439	6.28	6.24	34.138	26.846	126.3	0.980	0.81	35.4	11.8	68.5	2.89	38.2	0.01	0.00			443	02
500 ISL	5.91 D	5.86	34.167 D	26.917	120.0	1.026	0.63	D 27.3	D 9.0	75.5	2.99	39.5	0.01	0.00			504	
515	5.83	5.78	34.180	26.938	118.2	1.073	0.58	25.2	8.3	77.3	3.01	39.8	0.01	0.00			519	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.8 32.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 53.3 N	118 26.7 W	22/01/2015	1022 UTC	25 m	040 04 kn			1018.0 mb	17.7 C	13.7 C				033

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.83	16.83	33.298	24.250	366.2	0.000	6.22	271.0	112.1	3.4	0.31	0.2	0.46	0.04	2.21	0.99	0	
2	16.83	16.83	33.298	24.250	366.3	0.007	6.22	271.0	112.1	3.4	0.31	0.2	0.46	0.04	2.21	0.99	2	05
5	16.82	16.82	33.298	24.252	366.2	0.018	6.22	271.2	112.2	3.4	0.31	0.2	0.52	0.03	2.21	1.00	5	04
10	16.51	16.51	33.325	24.345	357.5	0.036	5.96	259.7	106.8	2.8	0.32	0.2	0.38	0.07	2.42	0.68	10	03
15	16.06	16.06	33.338	24.457	347.0	0.054	5.70	248.4	101.3	2.7	0.37	0.4	0.19	0.12	1.01	0.41	15	02
20	15.51	15.51	33.340	24.582	335.3	0.071	5.39	234.9	94.8	3.9	0.51	1.6	0.79	0.15	0.82	0.61	20	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 88.5 30.1

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 40.3 N	118 5.7 W	22/01/2015	0703 UTC	20 m	340 03 kn			1018.0 mb	16.6 C	14.9 C				032

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.40	16.40	33.290	24.341	357.5	0.000	6.04	263.2	108.0	2.2	0.28	0.1	0.01	0.04	0.86	0.13	0	
2	16.40	16.40	33.290	24.341	357.6	0.007	6.04	263.2	108.0	2.2	0.28	0.1	0.01	0.04	0.86	0.13	2	04
5	16.41	16.41	33.303	24.350	356.9	0.018	6.01	261.9	107.5	1.9	0.28	0.0	0.01	0.04	0.78	0.13	5	03
10	16.43	16.42	33.348	24.382	354.0	0.036	5.86	255.6	105.0	2.4	0.29	0.1	0.01	0.04	0.71	0.17	10	02
15	16.43	16.43	33.366	24.395	352.9	0.053	5.66	246.9	101.4	2.8	0.34	0.1	0.02	0.07	0.94	0.25	15	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 27.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.7 N	117 44.9 W	22/01/2015	0433 UTC	20 m	040 03 kn			1016.0 mb	15.5 C	13.9 C				031

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.49	16.49	33.319	24.345	357.2	0.000	5.95	259.2	106.6	2.7	0.31	0.2	0.04	0.17	0.87	0.34	0	
2	16.49	16.48	33.319	24.345	357.2	0.007	5.95	259.2	106.6	2.7	0.31	0.2	0.04	0.17	0.87	0.34	2	04
5	16.46	16.46	33.333	24.363	355.7	0.018	5.93	258.7	106.3	2.5	0.30	0.2	0.04	0.21	1.00	0.36	5	03
10	16.37	16.37	33.342	24.389	353.3	0.036	5.88	256.4	105.2	2.4	0.31	0.1	0.04	0.36	1.26	0.47	10	02
15	16.35	16.34	33.385	24.429	349.7	0.053	5.81	253.3	103.9	2.5	0.32	0.1	0.05	0.41	1.34	0.55	15	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.2 N	117 46.2 W	22/01/2015	0255 UTC	63 m	300 08 kn			1015.0 mb	17.1 C	15.3 C				030

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.54	16.54	33.348	24.356	356.1	0.000	5.89	256.6	105.6	2.4	0.30	0.1	0.01	0.06	0.65	0.13	0	
2	16.54	16.53	33.348	24.356	356.2	0.007	5.89	256.6	105.6	2.4	0.30	0.1	0.01	0.06	0.65	0.13	2	08
5	16.53	16.53	33.363	24.370	355.0	0.018	5.88	256.5	105.6	2.4	0.29	0.1	0.01	0.02	0.59	0.14	5	07
10	16.43	16.43	33.368	24.395	352.7	0.036	5.89	256.6	105.4	2.4	0.32	0.5	0.01	0.09	0.61	0.17	10	06
20	16.27	16.27	33.379	24.442	348.6	0.071	5.77	251.6	103.0	2.7	0.32	1.0	0.03	0.19	1.39	0.44	20	05
30	16.06	16.06	33.379	24.490	344.4	0.105	5.59	243.6	99.4	3.1	0.39	0.8	0.19	0.58	0.90	0.43	30	04
40	15.09	15.09	33.328	24.667	327.8	0.139	5.50	239.5	95.8	3.8	0.51	1.9	0.52	0.59	0.48	0.37	40	03
50	14.63	14.62	33.296	24.742	321.0	0.171	5.46	238.0	94.3	4.3	0.56	2.6	0.46	0.22	0.41	0.42	50	02
59	14.10	14.10	33.284	24.844	311.5	0.200	5.35	233.2	91.4	5.0	0.65	4.0	0.36	0.30	0.32	0.38	59	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 25.1 N	117 54.4 W	21/01/2015	2308	UTC	618 m	300 10 kn	290 01 08	1	1014.0 mb	17.0 C	15.0 C	26 m	0/8		029

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.90	16.90	33.389	24.302	361.2	0.000	5.67	247.4	102.6	2.0	0.34	0.1	0.01	0.18	0.21	0.04	0	
2	16.90	16.90	33.389	24.303	361.3	0.007	5.67	247.4	102.6	2.0	0.34	0.1	0.01	0.18	0.21	0.04	2	21
10	16.73	16.73	33.384	24.339	358.1	0.036	5.72	249.2	103.0	2.0	0.33	0.1	0.01	0.10	0.24	0.05	10	19
10	16.73	16.73	33.383	24.338	358.2	0.037											10	20
20	16.70	16.69	33.391	24.353	357.1	0.072	5.71	248.7	102.7	2.0	0.33	0.0	0.01	0.10	0.26	0.06	20	18
30	16.52	16.51	33.383	24.389	354.1	0.107	5.73	249.8	102.8	2.0	0.34	0.0	0.01	0.15	0.96	0.10	30	17
40	15.86	15.86	33.372	24.530	340.9	0.142	5.76	251.2	102.1	2.5	0.35	0.1	0.03	0.20	0.79	0.43	40	16
50	14.64	14.63	33.291	24.737	321.4	0.175	5.67	246.9	97.8	3.5	0.49	1.0	0.10	0.12	0.76	0.51	50	15
60	13.55	13.55	33.283	24.956	300.8	0.206	5.33	232.1	89.9	5.3	0.70	4.3	0.08	0.10	0.35	0.38	60	14
70	12.29	12.28	33.271	25.196	278.1	0.235	5.23	227.7	86.0	6.2	0.75	6.0	0.06	0.11	0.21	0.31	71	13
75 ISL	12.05 D	12.04	33.294 D	25.258	272.2	0.233	5.06	D220.3 D	82.8	7.5	0.85	7.6	0.05	0.09	0.18	0.26	76	
85	11.63	11.62	33.348	25.380	260.9	0.276	4.72	205.5	76.6	9.9	1.06	10.8	0.04	0.05	0.10	0.14	86	12
100	10.84	10.83	33.452	25.603	239.9	0.313	4.24	184.7	67.7	13.7	1.30	14.9	0.03	0.06	0.05	0.09	101	11
120	10.20	10.19	33.657	25.875	214.5	0.359	3.46	150.8	54.6	20.0	1.65	19.9	0.01	0.09	0.01	0.06	121	10
125 ISL	10.11 D	10.10	33.699 D	25.922	210.1	0.354	3.33	D145.1 D	52.4	20.7	1.68	20.4	0.01	0.07	0.01	0.06	126	
140	9.90	9.88	33.758	26.005	202.5	0.400	3.19	138.7	49.9	22.8	1.76	21.9	0.00	0.02	0.01	0.05	141	09
150 ISL	9.65 D	9.63	33.897 D	26.155	188.4	0.404	2.70	D117.7 D	42.2	25.2	1.87	23.2	0.00	0.04	0.01	0.04	151	
170	9.56	9.54	33.988	26.242	180.6	0.457	2.32	101.1	36.2	30.1	2.08	25.8	0.00	0.08	0.00	0.03	171	08
200	9.41	9.38	34.047	26.314	174.4	0.511	2.10	91.4	32.6	32.4	2.17	26.9	0.00	0.09	0.00	0.04	202	07
230	9.15	9.13	34.113	26.407	166.2	0.562	1.89	82.3	29.2	35.6	2.30	28.2	0.01	0.19			232	06
250 ISL	8.98 D	8.95	34.137 D	26.455	162.0	0.580	1.74	D 75.5 D	26.7								252	
270	8.80	8.77	34.181	26.519	156.3	0.626	1.54	67.1	23.6								272	05
300 ISL	8.61 D	8.58	34.216 D	26.576	151.4	0.659	1.18	D 51.3 D	18.0								302	
320	8.30	8.27	34.234	26.638	145.7	0.702	1.15	50.2	17.5	46.4	2.61	31.8	0.01	0.11			323	04
380	7.89	7.85	34.268	26.727	138.1	0.787	0.79	34.2	11.8	53.0	2.76	33.4	0.01	0.03			383	03
400 ISL	7.71 D	7.67	34.268 D	26.753	135.9	0.804	0.69	D 29.9 D	10.3	55.5	2.81	34.0	0.01	0.05			403	
440	7.34	7.30	34.307	26.837	128.3	0.867	0.57	24.6	8.4	60.4	2.92	35.2	0.01	0.09			444	02
500 ISL	6.73 D	6.68	34.305 D	26.921	120.7	0.934	0.31	D 13.7 D	4.6	70.1	3.08	37.5	0.02	0.14			504	
515	6.61	6.57	34.299	26.932	119.8	0.960	0.29	D 12.7 D	4.3	72.5	3.12	38.1	0.02	0.15			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 15.0 N	118 15.2 W	21/01/2015	1904	UTC	339 m	040 03 kn	270 03 08	2	1016.0 mb	15.6 C	13.9 C	33 m	2/8	ST	028

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.03	17.03	33.440	24.312	360.3	0.000	5.64	246.0	102.3	2.1	0.32	0.1	0.01	0.06	0.21	0.05	0	
2 A	17.03	17.03	33.440	24.312	360.4	0.007	5.64	246.0	102.3	2.1	0.32	0.1	0.01	0.06	0.21	0.05	2	21
10 ISL	16.97 D	16.97	33.444 D	24.330	359.0	0.036	5.69	D248.3 D	103.1	2.1	0.33	0.0	0.01	0.03	0.23	0.06	10	
12	16.96	16.96	33.436	24.325	359.5	0.043	5.68	247.6	102.8	2.1	0.33	0.0	0.01	0.02	0.23	0.06	12	18
12	16.96	16.96	33.436	24.324	359.6	0.043											12	20
12	16.96	16.96	33.438	24.326	359.4	0.043											12	19
20 ISL	16.96 D	16.96	33.444 D	24.332	359.1	0.058	5.70	D248.5 D	103.2	2.2	0.36	0.1	0.00	0.07	0.25	0.06	20	
23 A	16.95	16.95	33.437	24.328	359.6	0.083	5.66	246.6	102.4	2.2	0.37	0.1	0.00	0.09	0.25	0.06	23	17
30 ISL	16.89 D	16.88	33.442 D	24.349	357.9	0.094	5.67	D247.2 D	102.5	2.2	0.35	0.1	0.00	0.07	0.31	0.10	30	
32 A	16.59	16.59	33.419	24.399	353.1	0.115	5.69	248.2	102.3	2.2	0.34	0.0	0.00	0.06	0.33	0.11	32	16
44	15.67	15.66	33.345	24.553	338.9	0.157	5.76	251.0	101.5	2.7	0.38	0.0	0.00	0.04	0.60	0.38	44	15
50 ISL	14.94 D	14.93	33.307 D	24.684	326.5	0.163	5.84	D254.7 D	101.5	3.3	0.45	0.5	0.04	0.06	0.85	0.53	50	
56 A	13.95	13.94	33.264	24.860	309.9	0.196	5.69	248.1	96.9	3.8	0.51	1.0	0.09	0.07	1.10	0.68	56	13
56	13.95	13.94	33.257	24.855	310.4	0.195											56	14
72	12.20	12.19	33.292	25.230	274.9	0.243	5.01	218.2	82.2	7.7	0.91	8.2	0.04	0.02	0.28	0.35	73	12
75 ISL	11.88 D	11.87	33.329 D	25.319	266.5	0.213	4.91	D214.0 D	80.1	8.4	0.96	9.2	0.03	0.02	0.25	0.31	76	
87	11.30	11.29	33.377	25.462	253.1	0.282	4.47	194.6	72.0	11.3	1.18	12.9	0.01	0.02	0.13	0.16	88	11
100 ISL	10.71 D	10.70	33.488 D	25.653	235.1	0.276	4.11	D178.7 D	65.3	14.2	1.34	15.5	0.01	0.02	0.06	0.09	101	
105 A	10.57	10.56	33.514	25.699	230.9	0.325	3.92	170.8	62.3						0.04	0.07	106	10
114	10.44	10.43	33.563	25.759	225.4	0.346	3.75	163.2	59.4	17.4	1.51	18.2	0.01	0.01	0.03	0.05	115	09
122 A	10.28	10.26	33.598	25.816	220.2	0.364	3.59	156.3	56.7	18.6	1.57	19.2	0.01	0.03	0.02	0.05	123	08
125 ISL	10.21 D	10.20	33.597 D	25.826	219.2	0.333	3.54	154.3	55.8	19.2	1.59	19.5	0.00	0.03	0.02	0.05	126	
140	10.02	10.00	33.719	25.954	207.4	0.402	3.31	144.0	51.9	21.9	1.71	21.2	0.00	0.01	0.01	0.04	141	07
150 ISL	9.85 D	9.84	33.821 D	26.062	197.4	0.386	2.98	D129.9 D	46.7	23.6	1.78	22.2	0.01	0.02	0.01	0.03	151	
170	9.59	9.57	33.872	26.146	189.7	0.462	2.82	122.7	43.9	26.9	1.92	24.1	0.02	0.04	0.00	0.03	171	06
200	9.43	9.41	33.982	26.260	179.6	0.517	2.39	104.2	37.2	30.5	2.09	25.9	0.01	0.05	0.00	0.03	202	05
230	8.89	8.86	34.127	26.460	161.0	0.568	1.76	76.5	27.0	37.9	2.34	29.0	0.01	0.03			232	04
250 ISL	8.80 D	8.78	34.171 D	26.508	156.8	0.564	1.53	D 66.6 D	23.4	39.8	2.40	29.6	0.01	0.02			252	
270	8.65	8.62	34.186	26.546	153.6	0.631	1.48	64.3	22.6	41.7	2.46	30.3	0.00	0.01			272	03
300 ISL	8.18 D	8.15	34.238 D	26.659	143.2	0.640	0.97	D 42.3 D	14.7	48.4	2.64	32.5	0.02	0.02			302	
310	8.10	8.07	34.248	26.677	141.6	0.690	0.84	36.7	12.7	50.6	2.70	33.2	0.02	0.02			312	02
360	7.81	7.77	34.259	26.732	137.2	0.760	0.71	D 30.9 D	10.6	54.7	2.82	34.5	0.02	0.04			363	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 11.0 N	118 23.3 W	21/01/2015	1556		1178 m	040 02 kn	280 03 08	2	1015.0 mb	14.1 C	12.8 C	35 m	8/8	ST	027

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.83	16.83	33.237	24.203	370.6	0.000	5.63	245.4	101.5	1.8	0.32	0.0	0.01	0.03	0.18	0.04	0	
2	16.83	16.83	33.237	24.204	370.7	0.007	5.63	245.4	101.5	1.8	0.32	0.0	0.01	0.03	0.18	0.04	2	22
10	16.83	16.82	33.236	24.203	371.0	0.037	5.64	246.0	101.7	1.8	0.32	0.0	0.01	0.02	0.19	0.05	10	20
10	16.83	16.82	33.235	24.203	371.1	0.035											10	21
20	16.71	16.71	33.233	24.228	369.0	0.074	5.66	246.6	101.8	1.8	0.32	0.0	0.00	0.00	0.20	0.06	20	19
29	16.50	16.50	33.279	24.313	361.2	0.107	5.70	248.5	102.1	1.8	0.32	0.0	0.00	0.00	0.23	0.07	29	18
30 ISL	16.47 D	16.47	33.272 D	24.314	361.2	0.093	5.71	D248.7	D102.2	1.9	0.32	0.0	0.00	0.00	0.24	0.08	30	
40	16.33	16.33	33.336	24.396	353.7	0.146	5.72	249.3	102.2	2.0	0.32	0.0	0.01	0.01	0.30	0.10	40	17
49	15.65	15.64	33.279	24.507	343.5	0.178	5.77	251.4	101.6	2.2	0.36	0.1	0.02	0.02	0.48	0.25	49	15
49	15.65	15.64	33.285	24.511	343.0	0.179											49	16
50 ISL	15.28 D	15.27	33.270 D	24.582	336.3	0.181	5.74	250.3	100.4	2.4	0.38	0.4	0.03	0.02	0.46	0.26	50	
60	13.59	13.58	33.175	24.865	309.5	0.213	5.50	239.6	92.9	4.5	0.61	3.5	0.18	0.01	0.31	0.29	60	14
69	12.75	12.74	33.232 D	25.077	289.4	0.222	5.31	231.5	88.2	5.9	0.74	5.7	0.07	0.00	0.22	0.21	70	13
75 ISL	12.03 D	12.02	33.267 D	25.242	273.8	0.239	5.18	225.5	84.6	6.9	0.82	7.1	0.06	0.00	0.19	0.19	76	
84	11.66	11.65	33.276	25.318	266.7	0.282	4.97	216.6	80.7	8.5	0.95	9.3	0.03	0.00	0.14	0.14	85	12
100	10.85	10.84	33.420	25.577	242.4	0.323	4.38	190.7	69.9	13.1	1.24	14.3	0.02	0.01	0.06	0.10	101	11
120	10.16	10.15	33.542	25.791	222.4	0.369	4.00	174.0	62.9	17.0	1.44	17.5	0.01	0.01	0.03	0.05	121	10
125 ISL	10.06 D	10.05	33.548 D	25.813	220.4	0.362	4.11	D178.9 D	64.5	18.5	1.51	18.6	0.01	0.00	0.02	0.05	126	
139	9.78	9.76	33.719	25.994	203.5	0.410	3.33	144.9	52.0	22.7	1.72	21.7	0.01	0.00	0.01	0.03	140	09
150 ISL	9.69 D	9.68	33.796 D	26.069	196.6	0.414	3.11	D135.4 D	48.5	25.0	1.83	23.0	0.01	0.00	0.01	0.03	151	
170	9.64	9.62	33.951	26.200	184.6	0.470	2.38	103.7	37.2	29.1	2.04	25.3	0.01	0.00	0.00	0.03	171	08
200	9.39	9.36	34.064	26.330	172.9	0.523	1.98	85.9	30.6	33.3	2.20	27.2	0.01	0.00	0.00	0.03	202	07
229	9.13	9.11	34.122	26.418	165.1	0.572	1.76	76.4	27.1	36.4	2.31	28.4	0.00	0.00			231	06
250 ISL	8.96 D	8.93	34.155 D	26.472	160.4	0.590	1.60	D 69.7 D	24.6	39.3	2.35	29.3	0.00	0.00			252	
270	8.34	8.31	34.107	26.531	154.8	0.639	1.75	76.1	26.5	42.0	2.38	30.2	0.00	0.00			272	05
300 ISL	8.54 D	8.51	34.235 D	26.602	148.9	0.668	1.05	D 45.5 D	15.9	45.5	2.55	31.3	0.00	0.00			302	
320	8.36	8.33	34.245	26.637	145.9	0.714	0.92	40.1	14.0	47.7	2.66	32.1	0.00	0.00			323	04
380	7.65	7.61	34.264	26.758	135.0	0.799	0.66	28.6	9.8	56.1	2.82	34.4	0.00	0.00			383	03
400 ISL	7.44 D	7.40	34.275 D	26.798	131.4	0.809	0.55	D 24.0 D	8.2	58.7	2.87	34.9	0.00	0.00			403	
440	7.11	7.07	34.282	26.850	126.9	0.877	0.46	20.0	6.8	63.9	2.96	35.9	0.00	0.00			444	02
500 ISL	6.70 D	6.65	34.307 D	26.927	120.1	0.936	0.32	D 13.7 D	4.6	71.0	3.06	37.7	0.00	0.00			504	
514	6.55	6.51	34.307	26.946	118.4	0.968	0.30	13.1	4.4	72.7	3.08	38.1	0.00	0.00			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 55.1 N	118 56.2 W	21/01/2015	1054		1709 m	290 06 kn			1013.0 mb	15.2 C	13.8 C				026

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.01	16.01	33.276	24.421	349.9	0.000	5.79	252.6	102.8	2.1	0.32	0.0	0.01	0.00	0.29	0.08	0	
2	16.01	16.01	33.276	24.421	349.9	0.007	5.79	252.6	102.8	2.1	0.32	0.0	0.01	0.00	0.29	0.08	2	21
10	16.00	16.00	33.282	24.428	349.6	0.035	5.80	252.8	102.9	2.1	0.33	0.0	0.01	0.02	0.30	0.08	10	19
10	16.00	16.00	33.276	24.423	350.1	0.035											10	20
20	15.87	15.86	33.279	24.457	347.2	0.070	5.86	255.6	103.8	2.2	0.32	0.0	0.01	0.00	0.45	0.15	20	18
30	15.17	15.16	33.286	24.617	332.2	0.104	5.88	256.2	102.6	2.3	0.35	0.0	0.02	0.01	0.74	0.39	30	17
40	14.21	14.20	33.177	24.738	320.9	0.137	5.66	246.8	96.9	3.6	0.50	1.8	0.14	0.01	0.77	0.41	40	16
50	13.54	13.54	33.248	24.931	302.9	0.168	5.36	233.5	90.4	5.6	0.68	4.9	0.16	0.01	0.36	0.27	50	15
60	12.86	12.85	33.249	25.067	290.1	0.197	5.26	229.3	87.6	6.4	0.75	6.1	0.12	0.01	0.24	0.20	60	14
70	11.93	11.92	33.270	25.263	271.6	0.225	5.01	218.1	81.7	8.7	0.94	9.3	0.08	0.00	0.17	0.16	71	13
75 ISL	11.51 D	11.50	33.321 D	25.380	260.5	0.223	4.88	D212.4 D	78.9	10.4	1.04	10.8	0.06	0.00	0.14	0.15	76	
86	10.85	10.84	33.414	25.571	242.6	0.266	4.40	191.6	70.2	13.9	1.27	14.2	0.03	0.01	0.08	0.14	87	12
100	10.76	10.75	33.445	25.612	239.0	0.300	4.27	186.0	68.0	15.0	1.31	15.5	0.03	0.00	0.07	0.11	101	11
120	10.01	9.99	33.583	25.849	216.9	0.346	3.80	165.3	59.5	19.3	1.53	18.9	0.02	0.00	0.03	0.07	121	10
125 ISL	10.00 D	9.99	33.611 D	25.872	214.8	0.341	3.69	D160.6 D	57.8	20.0	1.56	19.4	0.02	0.00	0.03	0.07	126	
139	9.82	9.80	33.672	25.951	207.6	0.386	3.47	150.8	54.1	22.1	1.65	20.8	0.02	0.00	0.02	0.06	140	09
150 ISL	9.67 D	9.66	33.753 D	26.039	199.5	0.394	3.17	D138.1 D	49.4	24.1	1.72	22.1	0.02	0.00	0.01	0.05	151	
169	9.15	9.14	33.833	26.186	185.8	0.445	3.05	132.7	47.0	27.6	1.85	24.4	0.02	0.00	0.01	0.05	170	08
200	8.85	8.82	33.974	26.346	171.1	0.501	2.58	112.3	39.5	32.9	2.04	26.8	0.01	0.00	0.00	0.03	202	07
231	8.68	8.66	34.069	26.447	162.1	0.552	2.06	89.4	31.4	37.9	2.22	28.7	0.01	0.00			233	06
250 ISL	8.47 D	8.45	34.126 D	26.524	155.1	0.568	1.74	D 75.5 D	26.4	41.2	2.32	29.9	0.01	0.00			252	
270	8.24	8.21	34.131	26.564	151.6	0.614	1.59	69.0	24.0	44.7	2.43	31.2	0.01	0.00			272	05
300 ISL	8.00 D	7.97	34.193 D	26.649	144.0	0.643	1.20	D 52.4 D	18.1	49.8	2.52	32.8	0.01	0.00			302	
319	7.44	7.41	34.125	26.677	141.3	0.686	1.36	59.0	20.1	53.1	2.58	33.9	0.01	0.00			322	04
381	7.26	7.22	34.247	26.801	130.6	0.771	0.65	28.1	9.6	61.2	2.84	35.8	0.01	0.00			384	03
400 ISL	7.21 D	7.17	34.256 D	26.814	129.6	0.780	0.60	D 26.1 D	8.9	63.0	2.88	36.2	0.01	0.00			403	
441	6.89	6.85	34.268	26.869	124.8	0.848	0.46	19.9	6.7	66.8	2.98	37.0	0.01	0.00			445	02
500 ISL	6.48 D	6.44	34.301 D	26.950	117.7	0.905	0.33	D 14.2 D	4.8	74.1	3.05	38.4	0.01	0.00			504	
515	6.38	6.33	34.309	26.970	115.9	0.937	0.31	13.4	4.5	75.9	3.07	38.8	0.01	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 39.2 N	119 29.1 W	21/01/2015	0513	UTC	897 m	310 22 kn	320 06 08	2	1014.0 mb	16.5 C	15.0 C		8/8	SC	025

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.02	17.02	33.240	24.161	374.6	0.000	5.60	244.0	101.3	1.8	0.33	0.0	0.01	0.01	0.12	0.03	0	
3	17.02	17.01	33.240	24.162	374.7	0.011	5.60	244.0	101.3	1.8	0.33	0.0	0.01	0.01	0.12	0.03	3	22
9	17.02	17.02	33.243	24.163	374.8	0.034	5.63	245.4	101.9	1.8	0.32	0.0	0.01	0.01	0.13	0.03	9	20
9	17.02	17.02	33.242	24.162	374.9	0.034											9	21
10 ISL	17.02 D	17.02	33.239 D	24.161	375.1	0.036	5.60	D244.2	D101.4	1.8	0.32	0.0	0.01	0.00	0.13	0.03	10	
20 ISL	17.02 D	17.02	33.240 D	24.161	375.4	0.074	5.59	D243.8	D101.2	1.8	0.32	0.0	0.01	0.00	0.13	0.03	20	
25	17.02	17.02	33.245	24.165	375.3	0.094	5.60	244.4	101.5	1.8	0.32	0.0	0.01	0.00	0.12	0.03	25	19
30 ISL	17.02 D	17.02	33.242 D	24.163	375.6	0.111	5.60	D244.1	D101.3	1.8	0.32	0.0	0.01	0.00	0.13	0.03	30	
40	17.02	17.01	33.266	24.183	374.0	0.150	5.60	244.4	101.5	1.8	0.31	0.0	0.01	0.02	0.14	0.03	40	18
50 ISL	16.97 D	16.96	33.390 D	24.290	364.3	0.187	5.63	D245.3	D101.8	1.9	0.31	0.0	0.01	0.00	0.23	0.07	50	
51	16.88	16.87	33.376	24.302	363.1	0.191	5.65	246.2	102.0	2.0	0.31	0.0	0.01	0.00	0.24	0.07	51	17
62	16.46	16.45	33.409	24.425	351.7	0.230	5.64	245.9	101.1	2.2	0.33	0.0	0.01	0.03	0.36	0.15	62	15
62	16.46	16.45	33.400	24.419	352.4	0.229											62	16
75	13.67	13.66	33.176	24.851	311.3	0.273	5.69	248.0	96.2	3.4	0.49	1.2	0.17	0.01	0.36	0.28	76	14
87	11.97	11.96	33.120	25.139	283.9	0.309	5.39	234.9	88.0	6.3	0.79	6.5	0.04	0.01	0.18	0.19	88	13
100	11.25	11.24	33.179 D	25.318	267.1	0.323	5.12	D222.9	D 82.3								101	12
113	10.62	10.61	33.318 D	25.538	246.3	0.356	4.88	D212.5	D 77.4								114	11
124	10.19	10.18	33.414	25.687	232.4	0.404	4.61	200.6	72.5	13.6	1.23	14.7	0.02	0.03	0.04	0.07	125	10
125 ISL	10.12 D	10.11	33.440 D	25.719	229.3	0.385	4.58	D199.3	D 71.9	13.9	1.24	14.9	0.01	0.03	0.04	0.07	126	
139	9.89	9.87	33.511 D	25.814	220.6	0.417	4.19	182.6	65.6	17.3	1.42	17.9	0.01	0.01	0.02	0.05	140	09
150 ISL	9.47 D	9.46	33.650 D	25.991	203.9	0.440	3.82	D166.1	D 59.1	20.1	1.54	19.7	0.01	0.03	0.02	0.04	151	
170	9.28	9.26	33.757	26.107	193.3	0.503	3.34	145.3	51.6	25.1	1.76	23.1	0.02	0.08	0.00	0.03	171	08
200	8.80	8.78	33.906	26.301	175.4	0.558	3.08	134.2	47.2	30.0	1.88	25.4	0.01	0.02	0.00	0.03	202	07
231	8.24	8.22	33.997	26.457	161.0	0.610	2.81	122.4	42.5	35.9	2.02	27.5	0.01	0.05			233	06
250 ISL	7.97 D	7.94	34.012 D	26.511	156.1	0.620	2.54	D110.4	D 38.1	40.5	2.18	29.3	0.01	0.04			252	
270	7.68	7.65	34.063	26.593	148.5	0.671	2.00	87.0	29.8	45.3	2.34	31.2	0.01	0.03			272	05
300 ISL	7.49 D	7.46	34.083 D	26.636	144.8	0.695	1.68	D 73.0	D 24.9	48.6	2.42	32.4	0.01	0.02			302	
320	7.39	7.36	34.093	26.659	143.0	0.744	1.62	70.3	24.0	50.7	2.47	33.2	0.01	0.01			323	04
380	7.24	7.20	34.205	26.770	133.5	0.826	0.82	35.6	12.1	60.9	2.80	36.1	0.01	0.03			383	03
400 ISL	7.15 D	7.11	34.282 D	26.843	126.9	0.833	0.52	D 22.8	D 7.7	63.1	2.85	36.5	0.01	0.02			403	
440	6.90	6.86	34.310	26.901	121.8	0.903	0.41	17.7	6.0	67.6	2.96	37.5	0.01	0.01			444	02
500 ISL	6.51 D	6.46	34.291 D	26.939	118.8	0.957	0.35	D 15.4	D 5.2	73.6	3.06	38.6	0.01	0.03			504	
516	6.46	6.41	34.307	26.958	117.2	0.994	0.32	13.8	4.6	75.2	3.09	38.9	0.01	0.03			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 25.1 N	119 57.5 W	21/01/2015	0002	UTC	1629 m	330 21 kn	350 06 04	2	1018.0 mb	17.0 C	15.4 C	23 m	5/8	ST	024

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.59	16.59	33.264	24.279	363.4	0.000	5.68	247.8	102.1	1.8	0.31	0.0	0.01	0.04	0.15	0.04	0	
2	16.59	16.59	33.264	24.279	363.5	0.007	5.68	247.8	102.1	1.8	0.31	0.0	0.01	0.04	0.15	0.04	2	20
10	16.59	16.59	33.256	24.273	364.3	0.036	5.68	247.4	101.9	1.9	0.31	0.0	0.01	0.07	0.15	0.04	10	19
20	16.59	16.58	33.265	24.282	363.9	0.073	5.69	248.0	102.1	1.8	0.31	0.0	0.01	0.11	0.16	0.05	20	18
30	16.48	16.47	33.257	24.302	362.4	0.109	5.69	248.0	101.9	1.8	0.30	0.0	0.01	0.04	0.18	0.04	30	17
40	14.86	14.86	33.252	24.658	328.7	0.144	5.89	256.7	102.1	2.5	0.35	0.1	0.02	0.07	0.86	0.39	40	16
50	12.35	12.34	33.137	25.079	288.7	0.175	5.36	233.6	88.2	6.2	0.77	6.2	0.12	0.09	0.80	0.64	50	15
60	10.75	10.74	33.237	25.450	253.4	0.202	4.80	208.8	76.3	11.0	1.15	12.7	0.03	0.09	0.22	0.21	60	14
70	10.17	10.16	33.360	25.646	235.0	0.226	4.43	192.9	69.6	14.1	1.32	15.7	0.02	0.14	0.09	0.12	71	13
75 ISL	10.14 D	10.13	33.428 D	25.704	229.6	0.239	4.35	D189.6	D 68.4	15.4	1.38	16.7	0.02	0.13	0.07	0.10	76	
84	9.96	9.95	33.480	25.776	222.9	0.258	4.01	174.5	62.7	17.8	1.49	18.7	0.02	0.10	0.03	0.06	85	12
100	9.67	9.66	33.562	25.888	212.6	0.293	3.72	162.1	58.0	20.3	1.60	20.6	0.01	0.03	0.01	0.05	101	11
120	9.31	9.30	33.698	26.053	197.3	0.334	3.49	151.9	53.9	23.1	1.69	22.3	0.01	0.02	0.01	0.04	121	10
125 ISL	9.22 D	9.21	33.745 D	26.105	192.5	0.345	3.42	D148.8	D 52.7	23.9	1.72	22.7	0.01	0.02	0.00	0.04	126	
140	9.10	9.08	33.804	26.171	186.5	0.372	3.22	140.3	49.6	26.3	1.80	24.1	0.01	0.03	0.00	0.03	141	09
150 ISL	8.94 D	8.92	33.836 D	26.222	181.8	0.392	3.22	D140.1	D 49.4	27.3	1.82	24.4	0.01	0.00	0.00	0.02	151	
171	8.70	8.68	33.892	26.303	174.5	0.428	3.16	137.5	48.2	29.4	1.85	25.2	0.01	0.00	0.00	0.01	172	08
199	8.37	8.35	33.976	26.421	163.8	0.476	2.79	121.6	42.3	34.3	2.00	27.2	0.01	0.01	0.00	0.03	201	07
200 ISL	8.34 D	8.32	33.973 D	26.423	163.6	0.479	2.85	D123.8	D 43.1	34.5	2.00	27.3	0.01	0.01			202	
231	7.92	7.89	33.997	26.505	156.2	0.527	2.48	108.0	37.3	39.6	2.14	29.3	0.01	0.01			233	06
250 ISL	7.76 D	7.73	34.028 D	26.554	151.9	0.558	2.31	D100.3	D 34.5	42.6	2.25	30.5	0.01	0.02			252	
270	7.55	7.52	34.047	26.599	147.8	0.586	1.94	84.3	28.8	45.8	2.36	31.8	0.01	0.03			272	05
300 ISL	7.29 D	7.26	34.064 D	26.649	143.4	0.633	1.69	D 73.5	D 25.0	50.5	2.47	33.4	0.01	0.03			302	
320	7.08	7.05	34.077	26.689	139.9	0.658	1.46	63.5	21.5	53.6	2.55	34.4	0.01	0.03			323	04
380	6.50	6.46	34.160	26.834	126.7	0.738	0.77	33.5	11.2	65.8	2.85	37.7	0.01	0.01			383	03
400 ISL	6.47 D	6.43	34.200 D	26.870	123.6	0.767	0.62	D 27.1	D 9.0	68.3	2.90	38.1	0.01	0.01			403	
441	6.20	6.16	34.238	26.934	117.9	0.813	0.46	19.9	6.6	73.3	3.01	39.0	0.01	0.01			445	02
500 ISL	5.90 D	5.85	34.262 D	26.993	112.9	0.886	0.36	D 15.8	D 5.2	78.8	3.11	39.8	0.01	0.00			504	
514	5.93	5.88	34.278	27.002	112.3	0.896	0.32	D 13.8	D 4.6	80.1	3.13	40.0	0.01	0.00			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 5.0 N	120 38.5 W	20/01/2015	1727	UTC	3814 m	330 21 kn	350 06 08	2	1018.0 mb	17.0 C	15.4 C	23 m	5/8	ST	023

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.43	17.43	33.317	24.123	378.4	0.000	5.56	242.2	101.4	1.9	0.30	0.0	0.01	0.01	0.11	0.04	0	
3 A	17.43	17.43	33.317	24.123	378.4	0.011	5.56	242.2	101.4	1.9	0.30	0.0	0.01	0.01	0.11	0.04	3	24
10 ISL	17.43 D	17.43	33.307 D	24.115	379.5	0.038	5.54	D241.4	D101.0	1.9	0.30	0.0	0.01	0.05	0.11	0.03	10	
11	17.43	17.43	33.306	24.115	379.5	0.042	5.54	241.6	101.1	1.9	0.30	0.0	0.01	0.05	0.11	0.03	11	22
11	17.43	17.43	33.306	24.115	379.5	0.041											11	23
16 A	17.42	17.42	33.307	24.118	379.4	0.061	5.54	241.6	101.1	1.9	0.33	0.1	0.01	0.19	0.12	0.03	16	21
20 ISL	17.42 D	17.42	33.304 D	24.117	379.7	0.067	5.55	D242.2	D101.4	1.9	0.32	0.0	0.00	0.07	0.12	0.03	20	
22 A	17.42	17.41	33.305	24.117	379.7	0.084	5.55	242.1	101.3	1.9	0.31	0.0	0.00	0.01	0.12	0.03	22	20
30 ISL	17.42 D	17.42	33.304 D	24.116	380.1	0.105	5.54	D241.6	D101.1	1.9	0.31	0.0	0.00	0.02	0.12	0.03	30	
39 A	17.40	17.39	33.299	24.118	380.2	0.148	5.54	241.6	101.0	1.9	0.31	0.0	0.00	0.03	0.12	0.03	39	19
50	17.40	17.39	33.298	24.119	380.6	0.190	5.55	241.9	101.2	1.9	0.31	0.0	0.00	0.01	0.12	0.04	50	18
61	16.98	16.97	33.271	24.198	373.4	0.231	5.56	242.4	100.6	1.8	0.31	0.0	0.00	0.00	0.15	0.05	61	17
73 A	14.89	14.88	33.145	24.572	338.0	0.274	5.85	255.1	101.5	2.6	0.38	0.1	0.01	0.05	0.27	0.22	74	16
75 ISL	14.88 D	14.86	33.207 D	24.623	333.2	0.274	5.77	D251.3	D100.0	2.7	0.39	0.1	0.03	0.00	0.26	0.23	76	
80	14.65	14.64	33.243	24.699	326.0	0.297	5.71	248.7	98.5	3.0	0.41	0.3	0.08	0.00	0.25	0.25	81	14
80	14.65	14.64	33.242	24.699	326.1	0.296											81	15
85 A	14.00	13.98	33.160	24.772	319.2	0.313	5.73	249.7	97.6	3.3	0.47	0.9	0.13	0.01	0.24	0.23	86	13
95	12.54	12.53	33.096	25.013	296.2	0.344	5.61	244.5	92.7	4.3	0.63	2.8	0.13	0.04	0.22	0.23	96	12
100 ISL	12.10 D	12.09	33.080 D	25.085	289.5	0.344	5.51	D240.0 D	90.1	5.1	0.71	4.3	0.09	0.04	0.20	0.21	101	
110	11.17	11.16	33.146	25.307	268.4	0.387	5.32	231.6	85.3	6.8	0.87	7.4	0.01	0.05	0.14	0.16	111	11
125	10.60	10.58	33.210	25.459	254.2	0.426	5.01	218.2	79.4	10.0	1.08	11.5	0.00	0.02	0.08	0.10	126	10
140	10.12	10.11	33.290	25.602	240.8	0.463	4.74	206.3	74.3	12.9	1.27	14.7	0.00	0.09	0.05	0.07	141	09
150 ISL	9.77 D	9.75	33.423 D	25.765	225.4	0.472	4.39	D191.0 D	68.3	15.8	1.39	16.8	0.00	0.00	0.03	0.06	151	
170	9.33	9.31	33.618	25.989	204.4	0.530	3.85	167.5	59.5	21.6	1.64	21.2	0.00	0.00	0.01	0.02	171	08
200 ISL	8.94 D	8.92	33.810 D	26.203	184.7	0.574	3.38	D147.0 D	51.8	25.8	1.76	23.6	0.00	0.00	0.00	0.02	202	
202	8.94	8.92	33.783	26.181	186.8	0.592	3.44	149.8	52.8	26.1	1.77	23.8	0.00	0.00	0.00	0.02	204	07
230	8.58	8.56	33.902	26.331	173.0	0.642	3.02	131.5	46.0	31.0	1.93	26.2	0.00	0.00			232	06
250 ISL	8.28 D	8.25	33.974 D	26.435	163.4	0.662	2.79	D121.2 D	42.1	34.7	2.03	27.6	0.00	0.00			252	
270	8.02	7.99	33.988	26.484	159.0	0.709	2.62	114.0	39.4	38.4	2.12	29.0	0.00	0.01			272	05
300 ISL	7.68 D	7.65	34.015 D	26.556	152.5	0.741	2.30	D100.1 D	34.3	44.0	2.29	31.2	0.00	0.02			302	
319	7.43	7.40	34.031	26.604	148.1	0.784	1.99	86.4	29.5	47.5	2.39	32.6	0.00	0.02			322	04
379	6.83	6.80	34.088	26.733	136.5	0.870	1.24	54.0	18.2	58.6	2.72	36.3	0.00	0.01			382	03
400 ISL	6.69 D	6.65	34.124 D	26.782	132.1	0.884	0.95	D 41.5 D	13.9	62.4	2.80	37.2	0.00	0.01			403	
440	6.32	6.28	34.164	26.861	124.9	0.949	0.67	28.9	9.6	69.5	2.96	38.9	0.00	0.02			444	02
500 ISL	6.11 D	6.07	34.240 D	26.949	117.3	1.009	0.40	D 17.6 D	5.8	76.4	3.11	40.0	0.00	0.01			504	
516	6.05	6.01	34.250	26.965	116.0	1.041	0.38	16.6	5.5	78.3	3.15	40.3	0.00	0.01			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 45.0 N	121 19.0 W	20/01/2015	1051	UTC	3634 m	340 19 kn			1018.0 mb	16.9 C	14.7 C				022

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.45	17.45	33.287	24.094	381.1	0.000	5.61	244.6	102.4	1.9	0.31	0.0	0.01	0.00	0.11	0.03	0	
2	17.45	17.45	33.287	24.094	381.1	0.008	5.61	244.6	102.4	1.9	0.31	0.0	0.01	0.00	0.11	0.03	2	20
10	17.46	17.46	33.287	24.092	381.6	0.038	5.54	241.4	101.1	1.9	0.32	0.0	0.01	0.00	0.11	0.03	10	19
20 ISL	17.46 D	17.46	33.292 D	24.097	381.6	0.077	5.54	D241.4	D101.1	1.9	0.32	0.0	0.01	0.00	0.11	0.03	20	
25	17.46	17.45	33.286	24.093	382.1	0.095	5.54	241.4	101.1	1.9	0.32	0.0	0.01	0.00	0.11	0.03	25	18
30 ISL	17.46 D	17.46	33.292 D	24.097	381.9	0.115	5.53	D241.2	D101.0	1.9	0.32	0.0	0.01	0.00	0.11	0.03	30	
40	17.46	17.46	33.287	24.094	382.6	0.153	5.54	241.4	101.1	1.9	0.32	0.0	0.01	0.00	0.11	0.03	40	17
50 ISL	17.31 D	17.30	33.281 D	24.126	379.9	0.192	5.56	D242.3	D101.2	1.9	0.31	0.0	0.01	0.00	0.12	0.04	50	
51	17.29	17.28	33.280	24.132	379.4	0.195	5.54	241.8	100.9	1.9	0.31	0.0	0.01	0.00	0.12	0.04	51	16
62	16.44	16.43	33.243	24.301	363.6	0.236	5.67	247.0	101.4	1.8	0.34	0.0	0.01	0.00	0.26	0.11	62	15
75 ISL	16.00 D	15.99	33.294 D	24.442	350.5	0.284	5.68	D247.5	D100.8	1.9	0.34	0.0	0.01	0.00	0.31	0.17	76	
76	15.92	15.91	33.295	24.461	348.8	0.285	5.69	247.9	100.8	1.9	0.34	0.0	0.01	0.01	0.32	0.18	77	14
88	14.38	14.37	33.107	24.651	330.8	0.326	5.80	252.7	99.5	1.9	0.34	0.0	0.01	0.00	0.34	0.27	89	13
100	13.43	13.42	33.184	24.906	306.7	0.364	5.60	243.9	94.2	3.9	0.56	2.0	0.20	0.01	0.24	0.25	101	12
112	11.15	11.14	33.119	25.290	270.1	0.399	5.16	224.6	82.7	8.3	0.97	9.2	0.04	0.00	0.19	0.20	113	11
125	10.98	10.96	33.425	25.559	244.8	0.433	4.12	179.4	65.9	14.2	1.35	15.1	0.02	0.00	0.11	0.14	126	10
140	10.50	10.48	33.614	25.791	223.0	0.468	3.41	148.4	54.1	19.2	1.62	19.2	0.02	0.02	0.04	0.07	141	09
150 ISL	10.26 D	10.24	33.693 D	25.893	213.4	0.492	3.19	D138.7 D	50.3	21.0	1.70	20.4	0.02	0.00	0.03	0.06	151	
170	9.91	9.89	33.780	26.021	201.7	0.531	2.87	124.8	44.9	24.6	1.87	22.8	0.01	0.00	0.00	0.05	171	08
200	9.53	9.51	33.886	26.168	188.3	0.590	2.55	110.8	39.6	28.6	2.01	24.9	0.01	0.01	0.00	0.04	202	07
230	9.22	9.20	33.984	26.295	176.8	0.645	2.22	96.5	34.3	32.6	2.14	26.7	0.01	0.00			232	06
250 ISL	9.02 D	9.00	34.050 D	26.379	169.1	0.682	2.01	D 87.6 D	31.0	35.4	2.24	27.9	0.01	0.00			252	
270	8.84	8.81	34.103	26.450	162.8	0.712	1.74	75.7	26.7	38.1	2.33	29.0	0.01	0.00			272	05
300 ISL	8.56 D	8.53	34.143 D	26.526	156.1	0.764	1.51	D 65.5 D	22.9	42.5	2.46	30.4	0.01	0.00			302	
320	8.34	8.31	34.174	26.585	150.8	0.791	1.28	55.7	19.4	45.4	2.54	31.4	0.01	0.00			323	04
382	7.72	7.68	34.203	26.701	140.5	0.881	0.93	40.6	14.0	53.5	2.71	33.8	0.01	0.00			385	03
400 ISL	7.27 D	7.23	34.169 D	26.737	136.9	0.911	0.97	D 42.2 D	14.3	56.8	2.76	34.7	0.01	0.00			403	
439	6.80	6.75	34.183	26.814	129.8	0.958	0.75	32.5	10.9	63.8	2.88	36.4	0.01	0.00			443	02
500 ISL	6.58 D	6.53	34.236 D	26.887	123.8	1.042	0.50	D 21.8 D	7.3	70.6	3.01	38.0	0.01	0.00			504	
516	6.34	6.29	34.228	26.912	121.4	1.055	0.50	21.9	7.3	72.4	3.04	38.4	0.01	0.03			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 25.1 N	121 59.7 W	20/01/2015	0428 UTC	3869 m	350 18 kn			1020.0 mb	17.5 C	15.0 C				021

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	18.12	18.12	33.410	24.026	387.5	0.000	5.48	238.9	101.4	2.1	0.29	0.0	0.01	0.00	0.10	0.03	0	
2	18.12	18.12	33.410	24.027	387.6	0.008	5.48	238.9	101.4	2.1	0.29	0.0	0.01	0.00	0.10	0.03	2	22
9	18.12	18.12	33.419	24.033	387.2	0.036											9	21
10	18.12	18.12	33.409	24.026	388.0	0.039	5.48	238.8	101.4	2.1	0.30	0.0	0.01	0.00	0.10	0.04	10	20
20 ISL	18.12 D	18.12	33.405 D	24.024	388.6	0.062	5.48	D239.0	D101.4	2.1	0.30	0.0	0.01	0.00	0.10	0.03	20	
25	18.13	18.12	33.418	24.033	387.9	0.097	5.45	237.9	101.0	2.1	0.30	0.0	0.01	0.00	0.10	0.03	25	19
30 ISL	18.13 D	18.12	33.404 D	24.023	389.1	0.102	5.47	D238.4	D101.2	2.1	0.30	0.0	0.01	0.00	0.10	0.03	30	
40	18.12	18.12	33.408	24.028	389.0	0.155	5.45	237.6	100.9	2.1	0.30	0.0	0.01	0.01	0.10	0.04	40	18
50	18.12	18.11	33.395	24.019	390.2	0.194	5.45	237.8	100.9	2.1	0.31	0.0	0.01	0.00	0.10	0.04	50	17
62	18.08	18.07	33.390	24.027	389.9	0.241	5.46	238.1	101.0	2.1	0.31	0.0	0.01	0.00	0.11	0.04	62	16
75	15.08	15.07	33.116	24.507	344.2	0.289	5.86	255.5	102.0	2.6	0.37	0.1	0.02	0.02	0.24	0.15	76	15
87	13.78	13.77	33.084	24.757	320.6	0.328											88	14
88	13.78	13.77	33.088	24.760	320.3	0.332	5.79	252.3	98.1	3.4	0.50	1.1	0.22	0.03	0.26	0.20	89	13
100	13.25	13.23	33.149	24.916	305.7	0.369	5.63	245.4	94.4	4.0	0.55	2.2	0.19	0.05	0.24	0.20	101	12
112	11.71	11.70	33.065	25.146	283.9	0.405	5.44	237.2	88.3	6.0	0.79	6.2	0.03	0.03	0.19	0.19	113	11
125	10.99	10.98	33.149	25.342	265.4	0.441	5.25	228.6	83.9	7.6	0.91	8.7	0.03	0.06	0.12	0.14	126	10
139	10.46	10.45	33.193	25.468	253.5	0.477	5.03	219.0	79.4	10.0	1.09	11.6	0.02	0.05	0.09	0.10	140	09
150 ISL	10.14 D	10.12	33.315 D	25.620	239.3	0.471	4.81	D209.5 D	75.5	13.3	1.25	14.3	0.02	0.06	0.06	0.08	151	
170	9.51	9.49	33.544	25.903	212.7	0.549	4.02	175.0	62.3	19.2	1.54	19.2	0.01	0.07	0.01	0.03	171	08
200	9.00	8.98	33.790	26.179	187.0	0.609	3.30	143.7	50.7	26.6	1.84	24.0	0.01	0.05	0.00	0.02	202	07
231	8.67	8.64	33.939	26.347	171.6	0.665	2.72	118.4	41.5	32.4	2.02	26.9	0.01	0.04			233	06
250 ISL	8.40 D	8.37	33.975 D	26.417	165.2	0.664	2.61	D113.5 D	39.5	36.3	2.14	28.5	0.01	0.04			252	
270	8.05	8.03	34.024	26.508	156.8	0.729	2.12	92.4	32.0	40.3	2.27	30.3	0.01	0.05			272	05
300 ISL	7.59 D	7.56	34.027 D	26.578	150.4	0.743	2.16	D 94.1 D	32.2	45.7	2.41	31.8	0.01	0.16			302	
318	7.39	7.36	34.056	26.630	145.7	0.801	1.74	75.7	25.8	48.9	2.49	32.8	0.01	0.23			321	04
380	6.76	6.72	34.117	26.765	133.4	0.888	1.11	48.2	16.2	60.6	2.75	36.0	0.02	0.09			383	03
400 ISL	6.55 D	6.51	34.133 D	26.806	129.7	0.884	0.97	D 42.2 D	14.1	64.4	2.83	36.9	0.01	0.09			403	
439	6.25	6.21	34.191	26.893	121.8	0.963	0.60	25.9	8.6	71.8	2.98	38.7	0.01	0.08			443	02
500 ISL	5.90 D	5.86	34.246 D	26.980	114.1	1.006	0.36	D 15.6 D	5.1	79.5	3.10	39.9	0.02	0.09			504	
513	5.82	5.78	34.249	26.993	113.0	1.050	0.36	15.7	5.2	81.1	3.12	40.1	0.02	0.09			517	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 5.1 N	122 39.8 W	19/01/2015	2217 UTC	3989 m	010 16 kn	350 04 05	2	1021.0 mb	16.9 C	15.2 C	36 m	8/8	ST	020

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	18.09	18.09	33.333	23.974	392.6	0.000	5.47	238.8	101.2	2.1	0.30	0.1	0.01	0.02	0.10	0.03	0	
2	18.09	18.09	33.333	23.974	392.6	0.008	5.47	238.8	101.2	2.1	0.30	0.1	0.01	0.02	0.10	0.03	2	20
10	18.09	18.09	33.329	23.972	393.1	0.039	5.47	238.6	101.2	2.0	0.29	0.1	0.01	0.01	0.10	0.03	10	19
20 ISL	18.08 D	18.08	33.323 D	23.970	393.6	0.079	5.47	D238.5	D101.1	2.0	0.30	0.1	0.01	0.04	0.10	0.03	20	
25	18.09	18.08	33.328	23.974	393.5	0.098	5.48	238.9	101.3	2.0	0.31	0.1	0.01	0.06	0.10	0.03	25	18
30 ISL	18.08 D	18.08	33.323 D	23.971	394.0	0.119	5.48	D239.1	D101.4	2.0	0.31	0.1	0.01	0.04	0.10	0.03	30	
40	18.06	18.05	33.323	23.978	393.7	0.157	5.47	238.6	101.1	2.0	0.30	0.0	0.01	0.01	0.11	0.03	40	17
50	18.06	18.05	33.321	23.978	394.1	0.197	5.48	238.8	101.2	2.0	0.29	0.1	0.01	0.05	0.11	0.03	50	16
62	18.15	18.14	33.325	23.959	396.4	0.244	5.49	239.2	101.5	2.0	0.30	0.0	0.01	0.01	0.12	0.03	62	15
75	16.48	16.47	33.308	24.343	360.1	0.293	5.76	251.0	103.1	2.3	0.30	0.0	0.01	0.01	0.19	0.14	76	14
87	13.91	13.90	33.006	24.670	328.9	0.335	5.86	255.5	99.6	2.9	0.43	0.5	0.17	0.03	0.26	0.20	88	13
100	12.87	12.85	33.124	24.972	300.3	0.376	5.63	245.1	93.6	4.2	0.57	2.6	0.19	0.02	0.22	0.27	101	12
113	11.45	11.44	33.119	25.235	275.4	0.413	5.36	233.6	86.5	6.6	0.83	7.2	0.03	0.00	0.16	0.20	114	11
125	10.37	10.35	33.170	25.466	253.4	0.445	5.08	221.3	80.1	10.1	1.08	11.6	0.02	0.00	0.07	0.13	126	10
140	9.86	9.85	33.312	25.663	234.9	0.481	4.66	202.9	72.7	13.8	1.31	15.2	0.01	0.04	0.04	0.07	141	09
150 ISL	9.65 D	9.64	33.437 D	25.795	222.6	0.508	4.34	D188.8 D	67.4	16.2	1.41	16.9	0.01	0.03	0.03	0.05	151	
171	9.32	9.31	33.587	25.966	206.6	0.550	3.85	167.7	59.5	21.1	1.62	20.6	0.01	0.01	0.01	0.03	172	08
200	8.88	8.86	33.811	26.213	183.7	0.606	3.39	147.5	51.9	26.7	1.80	23.6	0.01	0.02	0.00	0.02	202	07
229	8.57	8.54	33.931	26.357	170.6	0.658	2.98	129.5	45.3	31.6	1.92	25.8	0.01	0.03			231	06
250 ISL	8.36 D	8.33	33.973 D	26.421	164.8	0.697	2.80	D121.8 D	42.4	35.4	2.05	27.4	0.01	0.00			252	
270	8.10	8.07	34.020	26.498	157.7	0.725	2.35	102.4	35.4	39.1	2.17	28.9	0.01	0.00			272	05
300 ISL	7.57 D	7.54	34.020 D	26.576	150.6	0.776	2.23	D 97.1 D	33.2	44.7	2.31	30.9	0.01	0.00			302	
321	7.35	7.32	34.048	26.629	145.8	0.802	1.85	80.6	27.4	48.6	2.41	32.2	0.01	0.01			324	04
381	6.81	6.77	34.120	26.762	133.8	0.886	1.11	48.4	16.3	59.8	2.72	35.7	0.01	0.00			384	03
400 ISL	6.75 D	6.71	34.145 D	26.790	131.5	0.918	0.91	D 39.7 D	13.3	62.3	2.77	36.2	0.01	0.00			403	
439	6.53	6.49	34.195	26.858	125.4	0.961	0.63	27.3	9.1	67.4	2.88	37.2	0.01	0.00			443	02
500 ISL	6.14 D	6.09	34.233 D	26.940	118.2	1.043	0.43	D 18.8 D	6.2	75.2	3.04	38.8	0.01	0.00			504	
516	6.06	6.02	34.253	26.966	115.9	1.054	0.37	16.1	5.3	77.2	3.08	39.3	0.01	0.00			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 45.2 N	123 19.9 W	19/01/2015	1711	UTC	4032 m	020 17 kn	340 04 05	2	1024.0 mb	17.0 C	14.9 C	37 m	8/8	ST	019

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.69	17.69	33.202	23.972	392.7	0.000	5.55	242.2	101.8	1.9	0.31	0.0	0.01	0.00	0.13	0.04	0	
2 A	17.69	17.69	33.202	23.972	392.8	0.008	5.55	242.2	101.8	1.9	0.31	0.0	0.01	0.00	0.13	0.04	2	22
10 ISL	17.69 D	17.69	33.195 D	23.968	393.5	0.040	5.54	D241.5	D101.5	1.9	0.32	0.0	0.01	0.00	0.13	0.04	10	
14	17.69	17.68	33.198	23.970	393.4	0.055	5.54	241.7	101.6	1.9	0.32	0.0	0.01	0.00	0.13	0.04	14	20
14	17.69	17.68	33.196	23.969	393.5	0.056											14	21
20 ISL	17.69 D	17.69	33.196 D	23.968	393.9	0.067	5.55	D242.0	D101.7	1.8	0.32	0.0	0.01	0.00	0.13	0.04	20	
27 A	17.69	17.69	33.202	23.973	393.6	0.106	5.53	241.0	101.3	1.8	0.31	0.0	0.01	0.01	0.12	0.04	27	19
30 ISL	17.69 D	17.69	33.196 D	23.968	394.2	0.107	5.53	D241.2	D101.4	1.8	0.31	0.0	0.01	0.00	0.13	0.04	30	
37 A	17.69	17.68	33.209	23.980	393.4	0.146	5.52	240.8	101.2	1.8	0.31	0.0	0.01	0.00	0.13	0.04	37	18
46	17.69	17.69	33.196	23.970	394.7	0.181	5.54	241.5	101.5	1.8	0.32	0.0	0.01	0.08	0.13	0.04	46	17
50 ISL	17.70 D	17.69	33.196 D	23.970	394.8	0.187	5.54	D241.5	D101.5	1.8	0.32	0.0	0.01	0.05	0.13	0.04	50	
55	17.70	17.69	33.196	23.970	395.0	0.217	5.53	241.1	101.4	1.8	0.32	0.0	0.01	0.01	0.13	0.04	55	16
66 A	17.70	17.69	33.197	23.970	395.4	0.260	5.53	241.0	101.3	1.8	0.32	0.0	0.01	0.00	0.13	0.05	67	15
75 ISL	16.15 D	16.14	33.126 D	24.279	366.1	0.285	5.80	D252.9	D103.1	2.2	0.36	0.1	0.02	0.00	0.18	0.15	76	
85	14.47	14.46	33.049	24.587	336.8	0.328											85	14
85	14.41	14.39	33.041	24.594	336.1	0.329	5.94	258.8	101.9	2.6	0.40	0.1	0.04	0.02	0.24	0.27	86	13
100 ISL	12.73 D	12.72	33.107 D	24.985	299.1	0.351	5.65	D246.0	D 93.6	4.5	0.63	3.4	0.11	0.00	0.20	0.25	101	
103	12.63	12.61	33.111	25.009	296.9	0.386	5.56	242.4	92.0	4.8	0.67	4.1	0.12	0.00	0.19	0.25	104	12
121 A	11.24	11.22	33.139	25.290	270.2	0.437	5.32	231.9	85.5	6.9	0.85	7.6	0.03	0.01	0.13	0.19	122	11
125 ISL	11.21 D	11.19	33.152 D	25.305	268.9	0.422	5.32	D231.8	D 85.4	7.4	0.89	8.3	0.02	0.00	0.12	0.17	126	
130	11.00	10.98	33.159	25.349	264.8	0.461	5.24	228.1	83.7	8.0	0.93	9.2	0.02	0.00	0.10	0.15	131	10
141 A	10.52	10.50	33.203	25.467	253.7	0.490	5.04	219.3	79.7	10.0	1.06	11.5	0.02	0.00	0.07	0.12	142	09
150 ISL	10.19 D	10.17	33.273 D	25.578	243.3	0.487	4.93	D214.5	D 77.4	12.0	1.17	13.3	0.02	0.00	0.06	0.10	151	
170	9.74	9.72	33.405	25.757	226.6	0.559	4.41	191.9	68.6	16.2	1.40	17.3	0.01	0.00	0.03	0.05	171	08
199	9.04	9.02	33.735	26.128	191.8	0.620	3.47	150.9	53.3	25.0	1.77	23.4	0.01	0.02	0.00	0.02	201	07
200 ISL	8.98 D	8.96	33.741 D	26.142	190.5	0.622	3.43	D149.2	D 52.6	25.2	1.77	23.5	0.01	0.02			202	
230	8.53	8.50	33.928	26.360	170.3	0.676	3.12	135.5	47.4	31.2	1.91	25.7	0.01	0.01			232	06
250 ISL	8.25 D	8.23	33.983 D	26.445	162.4	0.684	2.81	D122.4	D 42.5	35.2	2.05	27.6	0.01	0.01			252	
269	8.06	8.03	34.002	26.490	158.5	0.740	2.42	105.1	36.3	39.0	2.18	29.3	0.01	0.01			271	05
300 ISL	7.67 D	7.64	34.022 D	26.563	151.9	0.763	2.19	D 95.3	D 32.7	44.1	2.32	31.1	0.01	0.01			302	
320	7.44	7.41	34.043	26.613	147.3	0.818	1.87	81.2	27.7	47.4	2.41	32.2	0.01	0.01			323	04
381	6.83	6.79	34.120	26.759	134.1	0.904	1.02	44.5	15.0	59.9	2.77	36.3	0.01	0.01			384	03
400 ISL	6.69 D	6.65	34.144 D	26.797	130.7	0.905	0.85	D 37.1	D 12.5	62.8	2.83	36.9	0.01	0.00			403	
440	6.38	6.34	34.173	26.861	125.0	0.980	0.65	28.4	9.5	68.8	2.95	38.2	0.01	0.00			444	02
500 ISL	6.11 D	6.06	34.240 D	26.950	117.2	1.030	0.39	D 17.0	D 5.6	76.4	3.07	39.5	0.01	0.00			504	
514	6.03	5.98	34.247	26.966	115.8	1.069	0.36	15.7	5.2	78.1	3.10	39.8	0.01	0.01			518	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 25.2 N	124 0.1 W	19/01/2015	0950	UTC	4276 m	020 12 kn			1023.0 mb	17.0 C	15.2 C				018

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.77	17.77	33.229	23.974	392.5	0.000	5.50	240.0	101.1	1.9	0.34	0.0	0.01	0.06	0.11	0.03	0	
2	17.77	17.77	33.229	23.974	392.6	0.008	5.50	240.0	101.1	1.9	0.34	0.0	0.01	0.06	0.11	0.03	2	22
10	17.77	17.77	33.231	23.976	392.8	0.039	5.52	240.5	101.3	1.9	0.33	0.0	0.01	0.02	0.12	0.03	10	20
10	17.77	17.77	33.228	23.973	393.0	0.039											10	21
20 ISL	17.78 D	17.77	33.230 D	23.974	393.3	0.059	5.50	D239.7	D100.9	1.9	0.32	0.0	0.01	0.03	0.11	0.03	20	
25	17.78	17.77	33.229	23.974	393.5	0.098	5.51	240.2	101.2	1.9	0.32	0.0	0.01	0.03	0.11	0.04	25	19
30 ISL	17.78 D	17.77	33.231 D	23.974	393.6	0.099	5.50	D239.8	D101.0	1.9	0.32	0.0	0.01	0.08	0.11	0.04	30	
40	17.79	17.78	33.234	23.976	393.9	0.157	5.51	240.5	101.3	1.9	0.32	0.0	0.01	0.17	0.11	0.04	40	18
50	17.82	17.81	33.233	23.969	394.9	0.197	5.51	240.3	101.3	1.9	0.32	0.0	0.01	0.10	0.12	0.04	50	17
61	17.78	17.77	33.232	23.977	394.5	0.240	5.53	241.2	101.6	2.0	0.32	0.0	0.01	0.18	0.12	0.04	61	16
75	15.16	15.15	33.046	24.437	350.9	0.292	5.95	259.2	103.6	2.4	0.38	0.0	0.01	0.05	0.21	0.23	76	15
88	13.89	13.87	33.042	24.704	325.7	0.336	5.82	253.6	98.8	3.1	0.49	0.7	0.27	0.02	0.27	0.23	89	13
88	13.89	13.87	33.042	24.704	325.7	0.336											89	14
100	12.99	12.98	33.074	24.909	306.4	0.374	5.65	246.2	94.2	4.1	0.61	2.7	0.23	0.04	0.24	0.22	101	12
112	11.86	11.84	33.103	25.149	283.6	0.410	5.42	236.1	88.2	5.9	0.80	6.4	0.03	0.04	0.16	0.20	113	11
124	10.86	10.84	33.173	25.384	261.3	0.442	5.14	223.8	81.9	8.7	1.00	10.3	0.02	0.05	0.09	0.11	125	10
125 ISL	10.74 D	10.72	33.192 D	25.420	257.9	0.408	5.15	D224.2	D 81.8	8.9	1.01	10.5	0.02	0.06	0.09	0.11	126	
140	10.12	10.11	33.305	25.614	239.6	0.482	4.78	208.1	75.0	12.5	1.21	14.0	0.02	0.22	0.05	0.07	141	09
150 ISL	9.85 D	9.83	33.399 D	25.734	228.4	0.470	4.56	D198.5	D 71.1	14.9	1.31	15.9	0.02	0.15	0.03	0.06	151	
170	9.32	9.30	33.580	25.961	207.1	0.549	4.15	180.8	64.2	19.8	1.52	19.5	0.01	0.01	0.01	0.03	171	08
200	8.83	8.81	33.813	26.222	182.8	0.608	3.60	156.7	55.1	26.1	1.74	23.2	0.01	0.05	0.00	0.02	202	07
230	8.41	8.38	33.938	26.386	167.7	0.661	3.11	135.4	47.2	32.5	1.93	26.2	0.01	0.00			232	06
250 ISL	8.11 D	8.08	33.977 D	26.462	160.8	0.658	2.85	D124.1	D 43.0	36.4	2.05	27.8	0.01	0.00			252	
270	7.80	7.77	33.992	26.519	155.5	0.725	2.57	111.6	38.4	40.3	2.17	29.4	0.01	0.07			272	05
300 ISL	7.43 D	7.40	34.035 D	26.607	147.6	0.736	2.01	D 87.2	D 29.7	46.7	2.38	31.9	0.01	0.08			302	
320	7.27	7.24	34.056	26.646	144.1	0.800	1.65	71.8	24.4	50.9	2.52	33.5	0.01	0.08			323	04
380	7.04	7.00	34.155	26.758	134.4	0.883	0.94	41.0	13.9	58.9	2.79	35.9	0.01	0.06			383	03
400 ISL	6.83 D	6.80	34.176 D	26.803	130.3	0.876	0.77	D 33.7	D 11.3	62.0	2.85	36.6	0.01	0.05			403	
440	6.50	6.46	34.209	26.873	124.0	0.961	0.57	24.8	8.3	68.2	2.98	38.0	0.01	0.04			444	02
500 ISL	5.99 D	5.95	34.230 D	26.957	116.4	1.000	0.45	D 19.4	D 6.4	76.1	3.10	38.9	0.01	0.03			504	
516	5.98	5.94	34.245	26.970	115.4	1.051	0.39	16.9	5.6	78.2	3.13	39.1	0.01	0.03			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 91.7 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 14.7 N	117 27.9 W	16/01/2015	0034	UTC	17 m	320 14 kn	310 01 06	0	1020.0 mb	17.5 C	15.0 C		0/8		003

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.86	16.86	33.389 D	24.312	360.3	0.000	5.64	245.7	101.8	2.2	0.33	0.0	0.00	0.29	0.44	0.09	0	
2	16.86	16.86	33.389 D	24.312	360.3	0.007	5.64	245.7	101.8	2.2	0.33	0.0	0.00	0.29	0.44	0.09	2	06
4	16.88	16.88	33.391	24.310	360.7	0.014	5.64	245.8	101.9	2.1	0.32	0.0	0.00	0.22	0.37	0.12	4	04
10	16.73	16.73	33.394	24.346	357.4	0.036	5.65	246.4	101.8	2.3	0.35	0.0	0.01	0.05	0.45	0.14	10	02
11	16.73	16.73	33.391	24.344	357.6	0.038											10	03
17	16.60	16.60	33.396	24.379	354.5	0.061	5.64	246.0	101.4	2.4	0.37	0.1	0.02	0.28	0.49	0.17	17	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 57.5 N	117 18.5 W	15/01/2015	1953		69 m	330 05 kn	340 02 05	0	1022.7 mb	17.8 C	14.2 C	21 m	0/8		001

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.75	16.75	33.411	24.355	356.2	0.000	5.64	245.9	101.6	2.2	0.33	0.1	0.01	0.42	0.37	0.09	0	
2 A	16.75	16.75	33.411	24.355	356.3	0.007	5.64	245.9	101.6	2.2	0.33	0.1	0.01	0.42	0.37	0.09	2	09
8	16.76	16.76	33.411	24.353	356.7	0.029	5.69	247.9	102.5	2.2	0.33	0.1	0.01	0.53	0.35	0.08	8	07
8	16.76	16.76	33.411	24.353	356.7	0.028											8	08
10 ISL	16.74 D	16.74	33.410 D	24.356	356.4	0.033	5.70	248.4	102.7	2.2	0.33	0.1	0.01	0.94	0.36	0.09	10	
15 A	16.60	16.60	33.409	24.388	353.6	0.053	5.72	249.6	102.9	2.2	0.34	0.1	0.01	1.98	0.40	0.11	15	06
20 A	16.43	16.43	33.416	24.434	349.4	0.071	5.75	250.5	102.9	2.4	0.32	0.0	0.01	1.17	0.50	0.15	20	05
28	16.11	16.11	33.422	24.511	342.4	0.099	5.72	249.3	101.8	2.7	0.35	0.1	0.02	0.77	0.60	0.22	28	04
30 ISL	15.98 D	15.97	33.420 D	24.541	339.5	0.103	5.70	248.6	101.2	2.9	0.36	0.1	0.04	0.67	0.68	0.25	30	
36 A	15.62	15.61	33.370	24.584	335.7	0.126	5.65	246.4	99.6	3.2	0.40	0.3	0.11	0.38	0.90	0.34	36	02
36	15.62	15.61	33.389	24.598	334.3	0.126											36	03
50 ISL	14.30 D	14.29	33.353 D	24.856	310.0	0.171	5.12	223.1	87.8	5.9	0.70	4.8	0.17	0.44	0.50	0.25	50	
60 A	13.24	13.23	33.340	25.063	290.6	0.201	4.74	206.4	79.5	7.9	0.91	7.9	0.22	0.48	0.21	0.18	60	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 28

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 54.7 N	117 23.7 W	16/01/2015	1422		644 m	350 02 kn			1021.0 mb	16.6 C	15.0 C				004

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.17	16.17	33.426	24.499	342.5	0.000	5.77	251.7	102.9	2.7	0.31	0.2	0.01	0.50	0.33	0.10	0	
2	16.17	16.17	33.426	24.499	342.6	0.007	5.77	251.7	102.9	2.7	0.31	0.2	0.01	0.50	0.33	0.10	2	20
10	16.09	16.08	33.424	24.518	341.1	0.034	5.77	251.7	102.7	2.8	0.32	0.0	0.01	0.64	0.31	0.13	10	19
20	15.29	15.28	33.384	24.666	327.3	0.068	5.62	245.0	98.4	3.5	0.39	0.4	0.05	0.45	0.71	0.56	20	18
30	14.41	14.41	33.322	24.807	314.2	0.100	5.38	234.4	92.5	4.4	0.55	2.2	0.15	0.11	0.67	0.52	30	21
40	13.50	13.50	33.308	24.985	297.4	0.130	5.38	234.3	90.7	4.5	0.58	2.6	0.13	0.15	0.59	0.51	40	16
50	12.91	12.90	33.289	25.089	287.8	0.160	5.03	219.3	83.9	7.1	0.85	7.3	0.03	0.34	0.18	0.23	50	15
62	12.07	12.07	33.257	25.226	275.0	0.193	5.03	219.0	82.3	7.7	0.90	8.5	0.04	0.19	0.17	0.20	62	14
70	11.95	11.94	33.319	25.297	268.4	0.215	4.86	211.7	79.4	8.6	0.95	9.2	0.03	0.10	0.13	0.14	71	13
75 ISL	11.80 D	11.79	33.343 D	25.344	264.1	0.214	4.79	D208.6	D 78.0	9.9	1.05	10.6	0.03	0.13	0.11	0.12	76	
84	11.69	11.68	33.443	25.442	254.9	0.252	4.13	180.0	67.2	12.3	1.22	13.2	0.02	0.17	0.06	0.09	85	12
100	11.11	11.10	33.509	25.600	240.3	0.291	3.81	165.7	61.1	15.2	1.41	16.3	0.08	0.11	0.03	0.08	101	11
120	10.74	10.72	33.623	25.756	225.9	0.338	3.48	151.7	55.5	18.1	1.56	18.3	0.02	0.07	0.02	0.05	121	10
125 ISL	10.56 D	10.55	33.684 D	25.833	218.6	0.336	3.35	D145.8	D 53.2	19.1	1.60	19.0	0.02	0.06	0.02	0.05	126	
139	10.35	10.34	33.819 D	25.976	205.4	0.366	2.80	D122.1	D 44.4								140	09
150 ISL	10.05 D	10.03	33.879 D	26.075	196.2	0.388	2.62	D114.0	D 41.2	23.9	1.82	22.1	0.01	0.04	0.01	0.04	151	
169	9.82	9.80	33.960	26.177	186.8	0.438	2.57	111.7	40.2	27.5	1.98	24.4	0.01	0.02	0.00	0.03	170	08
200	9.57	9.54	34.110	26.337	172.3	0.494	1.81	78.8	28.2	33.9	2.25	27.3	0.01	0.05	0.00	0.06	202	07
230	9.17	9.14	34.163	26.445	162.6	0.544	1.56	67.7	24.1	37.9	2.38	28.9	0.01	0.04			232	06
250 ISL	8.86 D	8.84	34.187 D	26.512	156.5	0.564	1.47	D 63.7	D 22.5	39.8	2.43	29.6	0.01	0.05			252	
270	8.80	8.77	34.199	26.532	155.0	0.607	1.34	58.4	20.6	41.6	2.47	30.3	0.01	0.05			272	05
300 ISL	8.66 D	8.63	34.210 D	26.564	152.6	0.642	1.26	D 54.9	D 19.3	43.9	2.54	31.1	0.01	0.06			302	
318	8.53	8.49	34.221	26.593	150.1	0.680	1.13	48.9	17.1	45.2	2.58	31.5	0.01	0.06			321	04
381	7.88	7.85	34.229	26.697	141.0	0.772	0.91	39.6	13.7	51.9	2.71	33.8	0.01	0.04			384	03
400 ISL	7.70 D	7.66	34.254 D	26.744	136.8	0.788	0.73	D 31.9	D 11.0	54.9	2.78	34.5	0.01	0.04			403	
440	7.30	7.26	34.276	26.819	130.0	0.852	0.54	23.4	8.0	61.1	2.92	36.0	0.01	0.05			444	02
500 ISL	6.61 D	6.56	34.306 D	26.938	119.0	0.917	0.33	D 14.2	D 4.8								504	
513	6.43	6.39	34.318 D	26.970	115.9	0.933	0.28	D 12.1	D 4.1								517	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME UTC	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 50.7 N	117 31.9 W	16/01/2015	1730		850 m	330 01 kn	300 01 07	1	1020.0 mb	15.8 C	13.3 C	38 m	1/8	CS	005

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.84	16.84	33.388	24.316	359.9	0.000	5.58	243.4	100.8	2.0	0.32	0.0	0.01	0.06	0.19	0.03	0	
2 A	16.84	16.84	33.388	24.316	360.0	0.007	5.58	243.4	100.8	2.0	0.32	0.0	0.01	0.06	0.19	0.03	2	24
10 ISL	16.82 D	16.82	33.387 D	24.321	359.8	0.036	5.59	243.6	100.8	2.0	0.32	0.0	0.01	0.09	0.20	0.02	10	
14	16.81	16.81	33.391	24.327	359.4	0.050	5.59	243.6	100.8	1.9	0.32	0.0	0.01	0.11	0.21	0.02	14	22
14	16.81	16.81	33.389	24.325	359.5	0.051											14	23
20 ISL	16.81 D	16.81	33.387 D	24.323	360.0	0.062	5.59	243.7	100.9	1.9	0.32	0.0	0.01	0.09	0.20	0.03	20	
27 A	16.80	16.80	33.390	24.328	359.7	0.097	5.59	243.8	100.9	1.9	0.32	0.0	0.01	0.06	0.20	0.05	27	21
30 ISL	16.81 D	16.80	33.389 D	24.327	360.0	0.098	5.64	D246.0	D101.8	2.0	0.32	0.0	0.01	0.05	0.28	0.10	30	
37 A	16.64	16.63	33.386	24.364	356.7	0.133	5.65	246.2	101.5	2.0	0.33	0.0	0.01	0.01	0.45	0.22	37	20
46	16.14	16.13	33.384	24.477	346.3	0.165	5.66	246.7	100.8	2.3	0.35	0.0	0.01	0.04	0.45	0.23	46	19
50 ISL	15.43 D	15.42	33.344 D	24.606	334.0	0.169	5.70	D248.3	D100.0	3.0	0.43	0.7	0.07	0.06	0.51	0.32	50	
55	14.66	14.65	33.279	24.723	323.0	0.195	5.49	239.4	94.9	3.9	0.53	1.7	0.14	0.09	0.60	0.42	55	17
55	14.66	14.65	33.294	24.735	321.8	0.194											55	18
65 A	13.15	13.14	33.207	24.980	298.6	0.226	5.40	235.4	90.4	5.0	0.68	4.3	0.10	0.17	0.30	0.27	66	16
75 ISL	12.34 D	12.33	33.243 D	25.166	281.1	0.230	5.21	D227.1	D 85.8	6.8	0.82	6.9	0.06	0.18	0.22	0.20	76	
84	12.08	12.07	33.320	25.275	271.0	0.279	4.81	209.5	78.8	8.4	0.95	9.2	0.02	0.18	0.14	0.14	85	15
100 ISL	11.31 D	11.30	33.429 D	25.501	249.7	0.297	4.40	D191.7	D 70.9	12.0	1.19	13.2	0.02	0.29	0.07	0.08	101	
103	11.27	11.26	33.447	25.523	247.7	0.329	4.21	183.1	67.7	12.7	1.24	13.9	0.02	0.31	0.06	0.07	104	14
121 A	11.14	11.13	33.731	25.768	224.9	0.371	3.02	131.4	48.5	19.3	1.65	18.9	0.02	0.05	0.01	0.04	122	13
125 ISL	11.05 D	11.04	33.758 D	25.805	221.5	0.356	2.97	D129.1	D 47.6	20.2	1.70	19.6	0.01	0.07	0.01	0.04	126	
131	10.79	10.78	33.793	25.879	214.5	0.393	2.87	125.0	45.9	21.5	1.77	20.7	0.01	0.09	0.01	0.03	132	11
131	10.79	10.78	33.793	25.879	214.6	0.394	2.88	125.5	46.1	21.5	1.78	20.7	0.01	0.20	0.01	0.03	132	12
141 A	10.32	10.31	33.809	25.973	205.7	0.414	2.84	123.5	44.9	22.9	1.82	21.7	0.02	0.05	0.01	0.03	142	10
150 ISL	10.10 D	10.08	33.930 D	26.106	193.3	0.398	2.64	D114.9	D 41.6	25.1	1.91	23.0	0.02	0.05	0.01	0.03	151	
170	9.61	9.59	33.988	26.235	181.3	0.470	2.20	95.7	34.3	30.1	2.11	25.9	0.02	0.06	0.00	0.03	171	09
200	9.48	9.46	34.068	26.318	174.1	0.524	1.96	85.3	30.5	33.2	2.22	27.2	0.01	0.04	0.00	0.03	202	08
230	9.28	9.26	34.159	26.423	164.7	0.574	1.61	69.9	24.9	36.8	2.35	28.5	0.01	0.15			232	07
250 ISL	9.12 D	9.09	34.181 D	26.468	160.9	0.573	1.53	D 66.5	D 23.6	38.8	2.41	29.2	0.01	0.13			252	
270	8.91	8.88	34.196	26.512	157.0	0.639	1.39	60.7	21.4	40.8	2.46	29.9	0.01	0.11			272	06
300 ISL	8.70 D	8.67	34.205 D	26.553	153.6	0.652	1.31	D 57.2	D 20.1	43.6	2.53	30.9	0.01	0.06			302	
320	8.47	8.43	34.221	26.603	149.2	0.716	1.16	50.6	17.7	45.5	2.58	31.5	0.01	0.03			323	05
380	7.63	7.59	34.220	26.726	138.0	0.802	0.89	38.6	13.3	54.3	2.77	34.5	0.01	0.12			383	04
400 ISL	7.45 D	7.41	34.237 D	26.766	134.4	0.797	0.76	D 32.8	D 11.2	56.9	2.82	35.2	0.01	0.08			403	
440	7.17	7.13	34.270	26.832	128.6	0.881	0.55	23.9	8.1	62.2	2.92	36.4	0.01	0.00			444	03
500 ISL	6.82 D	6.77	34.299 D	26.904	122.4	0.926	0.37	D 16.2	D 5.5	68.4	3.03	37.4	0.01	0.28			504	
514	6.72	6.67	34.304	26.921	120.9	0.974	0.38	16.5	5.6	69.8	3.06	37.6	0.01	0.34			518	01
515	6.72	6.67	34.303	26.922	120.9	0.975											519	02

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 40.8 N	117 52.4 W	16/01/2015	2041 UTC	617 m	310 07 kn	310 01 06	1	1019.0 mb	17.9 C	16.2 C	32 m	3/8	AS	006

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.14	17.14	33.422	24.271	364.2	0.000	5.66	D246.8	D102.8	2.0	0.34	0.1	0.01	0.04	0.20	0.03	0	
2	17.14	17.14	33.422	24.271	364.3	0.007	5.66	D246.8	D102.8	2.0	0.34	0.1	0.01	0.04	0.20	0.03	2	21
10	16.97	16.96	33.426	24.316	360.3	0.036	5.66	D246.6	D102.4	2.1	0.33	1.3	0.01	0.12	0.22	0.03	10	20
20 ISL	16.94 D	16.94	33.423 D	24.320	360.3	0.073	5.65	D246.5	D102.3	2.0	0.32	1.0	0.01	0.22	0.22	0.04	20	
25	16.93	16.93	33.423	24.323	360.1	0.090	5.65	D246.4	D102.3	2.0	0.32	0.9	0.01	0.27	0.22	0.05	25	19
30 ISL	16.93 D	16.93	33.424 D	24.324	360.2	0.109	5.64	D245.9	D102.0	2.0	0.33	0.7	0.01	0.26	0.29	0.05	30	
40	16.61	16.61	33.389	24.372	356.0	0.144	5.67	D247.3	D101.9	2.0	0.35	0.3	0.01	0.25	0.42	0.04	40	18
50	16.05	16.04	33.359	24.479	346.1	0.179	5.67	247.0	100.7	2.3	0.36	0.3	0.01	0.14	0.45	0.18	50	17
55	15.10	15.09	33.285	24.632	331.6	0.196	5.75	250.4	100.1	2.8	0.40	0.4	0.01	0.37	0.86	0.31	55	16
62	13.83	13.82	33.217	24.849	311.0	0.219	5.54	D241.6	D 94.1	4.1	0.57	2.5	0.12	0.14	0.62	0.42	62	15
75	12.58	12.57	33.237	25.114	286.0	0.258	5.21	226.9	86.1	6.4	0.81	6.7	0.04	0.06	0.21	0.25	76	14
87	11.67	11.66	33.292	25.329	265.8	0.291	4.86	211.8	78.9	8.5	0.96	9.6	0.03	0.01	0.13	0.14	88	13
99	10.98	10.97	33.427	25.559	244.1	0.321	4.36	189.9	69.8	12.7	1.23	14.0	0.02	0.09	0.07	0.09	100	12
100 ISL	11.01 D	10.99	33.425 D	25.553	244.7	0.326	4.43	D192.9	D 70.9	12.8	1.24	14.2	0.02	0.10	0.07	0.09	101	
112	10.86	10.85	33.473	25.617	238.9	0.353	4.14	180.1	66.0	14.3	1.33	15.7	0.02	0.23	0.05	0.06	113	11
125	10.41	10.39	33.577	25.777	223.9	0.383	3.79	164.8	59.9	17.9	1.51	18.7	0.02	0.19	0.02	0.05	126	10
140	9.87	9.86	33.684	25.951	207.6	0.415	3.42	149.0	53.6	21.1	1.66	20.9	0.02	0.02	0.01	0.03	141	09
150 ISL	9.77 D	9.75	33.727 D	26.003	202.9	0.439	3.42	D148.8	D 53.4	22.6	1.73	21.9	0.01	0.12	0.01	0.03	151	
170	9.49	9.47	33.834	26.133	190.9	0.475	3.05	132.7	47.4	25.7	1.86	23.8	0.01	0.33	0.01	0.03	171	08
200	9.14	9.12	33.976	26.301	175.6	0.530	2.52	109.6	38.8	31.2	2.06	26.7	0.01	0.18	0.00	0.02	202	07
230	8.64	8.61	34.039	26.430	163.7	0.581	2.22	96.6	33.8	36.3	2.21	28.9	0.01	0.09			232	06
250 ISL	8.55 D	8.52	34.074 D	26.472	160.1	0.617	2.06	D 89.7	D 31.4	39.1	2.31	29.9	0.01	0.05			252	
270	8.41	8.38	34.123	26.533	154.7	0.645	1.70	73.9	25.8	41.9	2.41	30.9	0.01	0.01			272	05
300 ISL	8.38 D	8.35	34.216 D	26.611	147.9	0.695	1.15	D 49.9	D 17.4	44.9	2.55	31.9	0.00	0.09			302	
320	8.27	8.23	34.221	26.633	146.2	0.720	1.09	47.4	16.5	46.9	2.65	32.6	0.00	0.15			323	04
380	7.64	7.60	34.255	26.753	135.5	0.805	0.71	30.9	10.6	55.8	2.88	35.3	0.00	0.11			383	03
400 ISL	7.49 D	7.45	34.261 D	26.780	133.1	0.837	0.66	D 28.8	D 9.9	58.6	2.92	36.0	0.00	0.14			403	
440	7.08	7.03	34.275	26.848	127.0	0.883	0.48	21.0	7.1	64.0	2.99	37.4	0.01	0.21			444	02
500 ISL	6.55 D	6.51	34.308 D	26.946	118.1	0.963	0.32	D 13.8	D 4.6	71.4	3.10	38.7	0.00	0.07			504	
514	6.51	6.46	34.309	26.954	117.6	0.974	0.31	13.5	4.5	73.2	3.12	39.0	0.00	0.04			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 30.8 N	118 12.9 W	17/01/2015	0038 UTC	1629 m	290 10 kn	320 02 05	1	1019.0 mb	16.5 C	15.3 C		7/8	CS	007

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.10	17.10	33.402	24.266	364.7	0.000	5.63	245.4	102.1	2.0	0.32	0.0	0.01	0.60	0.20	0.04	0	
2	17.10	17.09	33.402	24.267	364.7	0.007	5.63	245.4	102.1	2.0	0.32	0.0	0.01	0.60	0.20	0.04	2	21
10	16.96	16.96	33.403	24.300	361.8	0.036	5.64	245.8	102.0	2.0	0.32	0.0	0.01	0.74	0.18	0.04	10	19
10	16.96	16.96	33.400	24.298	362.0	0.035											10	20
19	16.94	16.93	33.399	24.303	361.9	0.069	5.64	246.0	102.1	2.0	0.31	0.0	0.01	0.68	0.21	0.05	19	18
20 ISL	16.94 D	16.94	33.400 D	24.303	361.9	0.057	5.65	D246.4	D102.3	2.0	0.31	0.0	0.01	0.65	0.21	0.05	20	
29	16.83	16.83	33.393	24.323	360.3	0.105	5.66	246.7	102.2	2.0	0.31	0.0	0.01	0.39	0.25	0.09	29	17
30 ISL	16.79 D	16.79	33.392 D	24.333	359.4	0.093	5.68	D247.6	D102.5	2.0	0.32	0.0	0.01	0.41	0.28	0.10	30	
40	15.60	15.60	33.297	24.530	340.9	0.144	5.79	252.6	102.0	2.5	0.37	0.0	0.01	0.59	0.53	0.25	40	16
50 ISL	14.07 D	14.06	33.207 D	24.791	316.2	0.162	5.66	D246.8	D 96.6	3.8	0.53	1.7	0.13	1.45	0.75	0.59	50	
51	14.03	14.02	33.206	24.798	315.6	0.180	5.66	246.4	96.4	3.9	0.55	1.8	0.14	1.54	0.78	0.62	51	15
60	13.06	13.05	33.211	25.000	296.6	0.207	5.39	235.0	90.1	5.2	0.70	4.7	0.07	0.27	0.25	0.43	60	14
70	12.25	12.24	33.247	25.185	279.1	0.236	5.10	222.3	83.8	7.3	0.89	8.0	0.04	0.66	0.17	0.21	71	13
75 ISL	11.86 D	11.85	33.287 D	25.290	269.2	0.235	4.95	D215.6	D 80.6	8.5	0.97	9.4	0.03	0.53	0.14	0.17	76	
85	11.26	11.25	33.354	25.451	254.1	0.276	4.62	201.2	74.4	10.9	1.13	12.3	0.03	0.27	0.09	0.10	86	12
100	10.94	10.92	33.404	25.549	245.1	0.313	4.41	192.1	70.5	12.7	1.23	14.1	0.03	0.66	0.06	0.09	101	11
119	10.44	10.43	33.507	25.717	229.5	0.358	4.16	180.9	65.8	15.4	1.37	16.3	0.02	0.27	0.03	0.05	120	10
125 ISL	10.26 D	10.24	33.545 D	25.778	223.8	0.372	4.03	175.6	63.6	16.7	1.43	17.3	0.02	0.33	0.03	0.05	126	
139	10.04	10.02	33.659 D	25.905	212.0	0.389	3.64	D158.6	D 57.2								140	09
150 ISL	9.68 D	9.66	33.692 D	25.990	204.1	0.412	3.53	D153.5	D 55.0	22.2	1.66	21.1	0.02	0.59	0.01	0.04	151	
169	9.24	9.22	33.821	26.163	188.0	0.463	3.13	136.2	48.3	26.4	1.83	24.1	0.01	0.78	0.00	0.03	170	08
200 ISL	8.93 D	8.90	33.889 D	26.267	178.6	0.507	3.03	D131.7	D 46.4	29.1	1.90	25.3	0.01	0.37	0.00	0.03	202	
201	8.92	8.90	33.888	26.266	178.7	0.521	3.00	130.6	46.0	29.2	1.90	25.3	0.01	0.36	0.00	0.03	203	07
230	8.44	8.41	33.968	26.405	165.9	0.571	2.78	121.0	42.2	34.1	2.02	27.3	0.01	0.02			232	06
250 ISL	8.45 D	8.42	34.063 D	26.478	159.4	0.592	2.20	D 95.5	D 33.3	37.9	2.21	28.8	0.01	0.25			252	
269	8.58	8.55	34.147	26.526	155.5	0.634	1.64	71.4	25.0	41.5	2.40	30.2	0.01	0.47			271	05
300 ISL	8.14 D	8.11	34.150 D	26.595	149.2	0.669	1.50	D 65.4	D 22.7	45.9	2.53	31.8	0.01	1.37			302	
320	8.00	7.96	34.190	26.648	144.5	0.710	1.19	51.7	17.9	48.7	2.61	32.8	0.01	1.95			323	04
380	7.47	7.43	34.223	26.752	135.4	0.794	0.81	35.2	12.0	56.2	2.82	35.0	0.01	0.77			383	03
400 ISL	7.29 D	7.26	34.251 D	26.799	131.1	0.810	0.64	D 27.8	D 9.5	58.6	2.86	35.6	0.01	0.88			403	
439	7.07	7.03	34.260	26.838	128.0	0.871	0.55	23.7	8.0	63.3	2.94	36.7	0.01	1.10			443	02
500 ISL	6.65 D	6.60	34.297 D	26.925	120.2	0.938	0.36	D 15.8	D 5.3	70.3	3.05	38.2	0.01	1.23			504	
514	6.56	6.51	34.292	26.934	119.5	0.964	0.35	15.4	5.1	71.9	3.08	38.6	0.01	1.26			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 20.9 N	118 33.4 W	17/01/2015	0432 UTC	1337 m	310 10 kn			1019.0 mb	16.7 C	15.0 C				008

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.79	16.79	33.234	24.210	370.0	0.000	5.62	245.0	101.2	1.5	0.31	0.0	0.01	0.15	0.11	0.03	0	
2	16.79	16.79	33.234	24.210	370.1	0.007	5.62	245.0	101.2	1.5	0.31	0.0	0.01	0.15	0.11	0.03	2	21
10	16.79	16.79	33.224	24.202	371.2	0.037	5.63	245.3	101.4	1.5	0.32	0.0	0.01	0.02	0.11	0.03	10	19
10	16.79	16.79	33.222	24.200	371.3	0.036											10	20
20 ISL	16.76 D	16.75	33.240 D	24.223	369.5	0.056	5.62	245.1	101.2	1.5	0.32	0.0	0.01	0.29	0.13	0.02	20	
25	16.82	16.82	33.247	24.213	370.6	0.093	5.62	245.1	101.3	1.6	0.32	0.0	0.01	0.42	0.14	0.02	25	18
30 ISL	16.99 D	16.98	33.334 D	24.243	368.0	0.093	5.62	D245.2	D101.8	1.6	0.32	0.0	0.01	0.43	0.15	0.02	30	
40	17.05	17.04	33.371	24.256	367.1	0.148	5.60	244.1	101.5	1.8	0.32	0.0	0.01	0.46	0.16	0.03	40	17
50	16.69	16.68	33.365	24.337	359.7	0.185	5.63	245.6	101.4	1.9	0.32	0.0	0.01	0.14	0.23	0.07	50	16
62	14.86	14.85	33.210	24.628	332.3	0.226	5.68	247.5	98.4	2.9	0.44	0.8	0.09	0.09	0.63	0.41	62	15
75 ISL	13.44 D	13.43	33.098 D	24.836	312.6	0.251	5.65	D246.2	D 95.1	3.9	0.57	2.6	0.13	0.29	0.37	0.33	76	
76	13.11	13.10	33.098	24.901	306.4	0.271	5.60	244.2	93.7	4.0	0.58	2.7	0.13	0.30	0.35	0.32	77	14
88	12.10	12.09	33.260	25.224	275.9	0.306	5.09	221.8	83.4	7.4	0.87	7.9	0.03	0.11	0.16	0.20	89	13
100	11.42	11.41	33.325	25.401	259.3	0.338	4.80	209.1	77.5	9.5	1.02	10.4	0.03	0.09	0.12	0.14	101	12
112	10.99	10.97	33.446	25.573	243.1	0.368	4.33	188.5	69.3	12.8	1.23	13.6	0.02	0.04	0.07	0.09	113	11
125	10.64	10.63	33.551	25.715	229.8	0.399	3.91	170.2	62.1	16.3	1.43	16.7	0.02	0.13	0.04	0.05	126	10
140	10.46	10.44	33.671	25.842	218.2	0.432	3.43	149.3	54.4	19.5	1.61	19.2	0.02	0.13	0.02	0.05	141	09
150 ISL	10.22 D	10.20	33.789 D	25.976	205.6	0.437	3.02	D131.5	D 47.6	21.8	1.73	20.8	0.02	0.18	0.01	0.04	151	
170	9.87	9.85	33.889	26.113	193.0	0.494	2.62	114.0	41.0	26.4	1.96	23.9	0.02	0.29	0.00	0.04	171	08
200	9.51	9.48	34.023	26.279	177.7	0.550	2.14	93.2	33.3	31.7	2.14	26.5	0.01	0.06	0.00	0.03	202	07
230	9.15	9.12	34.125	26.418	165.2	0.601	1.76	76.5	27.1	36.4	2.30	28.5	0.01	0.13			232	06
250 ISL	8.91 D	8.88	34.167 D	26.490	158.7	0.617	1.57	D 68.5	D 24.2	39.2	2.31	29.4	0.01	0.13			252	
270	8.11	8.08	34.080	26.544	153.4	0.666	1.98	86.1	29.8	41.9	2.32	30.3	0.01	0.12			272	05
300 ISL	8.19 D	8.16	34.130 D	26.571	151.5	0.695	1.68	D 73.0	D 25.4	44.6	2.48	31.2	0.02	0.14			302	
320	8.26	8.22	34.201	26.618	147.5	0.741	1.23	53.3	18.5	46.3	2.58	31.9	0.02	0.15			323	04
380	7.31	7.28	34.169	26.731	137.2	0.826	1.06	45.9	15.6	55.8	2.73	34.9	0.01	0.18			383	03
400 ISL	6.95 D	6.92	34.171 D	26.782	132.3	0.838	0.92	D 40.0	D 13.5	58.8	2.81	35.6	0.01	0.13			403	
441	6.98	6.94	34.267	26.856	126.1	0.905	0.50	21.7	7.3	64.9	2.98	37.0	0.02	0.04			445	02
500 ISL	6.52 D	6.48	34.302 D	26.945	118.2	0.964	0.33	D 14.5	D 4.9	72.8	3.09	38.5	0.01	0.07			504	
514	6.42	6.37	34.309	26.965	116.4	0.994	0.31	13.3	4.4	74.6	3.11	38.9	0.01	0.08			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 10.6 N	118 53.7 W	17/01/2015	0838 UTC	1468 m	320 10 kn			1019.0 mb	17.1 C	15.5 C				009

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.24	17.24	33.297	24.153	375.5	0.000	5.56	242.5	101.1	1.7	0.33	0.0	0.01	0.08	0.11	0.03	0	
2	17.24	17.24	33.297	24.153	375.5	0.008	5.56	242.5	101.1	1.7	0.33	0.0	0.01	0.08	0.11	0.03	2	20
10 ISL	17.25 D	17.24	33.296 D	24.150	376.1	0.023	5.57	D243.0	D101.3	1.7	0.32	0.0	0.01	0.08	0.10	0.03	10	
11	17.25	17.25	33.297	24.150	376.1	0.041	5.57	242.8	101.3	1.7	0.32	0.0	0.01	0.08	0.10	0.03	11	19
20 ISL	17.25 D	17.25	33.296 D	24.150	376.4	0.060	5.56	D242.4	D101.1	1.7	0.33	0.1	0.01	0.37	0.11	0.03	20	
25	17.25	17.25	33.298	24.151	376.6	0.094	5.55	242.2	101.0	1.7	0.34	0.1	0.01	0.53	0.11	0.03	25	18
30 ISL	17.25 D	17.25	33.297 D	24.151	376.8	0.098	5.57	D242.8	D101.3	1.7	0.33	0.1	0.01	0.45	0.12	0.03	30	
40	16.95	16.94	33.294	24.222	370.3	0.150	5.58	243.1	100.8	1.7	0.32	0.0	0.01	0.28	0.13	0.04	40	17
50	16.74	16.74	33.263	24.246	368.4	0.187	5.62	245.1	101.2	1.8	0.38	0.1	0.01	0.44	0.21	0.11	50	16
62	15.03	15.02	33.170	24.559	338.8	0.230	5.78	251.7	100.4	2.5	0.42	0.3	0.05	0.08	0.38	0.27	62	15
75	13.08	13.07	33.117	24.924	304.2	0.271	5.59	243.5	93.4	4.2	0.62	3.0	0.13	0.12	0.30	0.27	76	14
87	12.29	12.28	33.217	25.155	282.5	0.307	5.24	228.5	86.2	6.3	0.80	6.4	0.03	0.14	0.19	0.19	88	13
100	11.65	11.64	33.193 D	25.256	273.1	0.330	5.23	D227.7	D 84.8								101	12
112	10.61	10.59	33.317 D	25.539	246.2	0.361	4.87	D212.1	D 77.3								113	11
123	10.32	10.30	33.443	25.688	232.3	0.400	4.42	192.6	69.8	14.1	1.31	15.2	0.02	0.73	0.03	0.05	124	10
125 ISL	10.21 D	10.20	33.446 D	25.709	230.4	0.393	4.48	D195.0	D 70.5	14.8	1.35	15.7	0.02	0.66	0.03	0.05	126	
140	10.29	10.28	33.691	25.886	213.9	0.438	3.33	145.0	52.6	20.3	1.65	20.0	0.02	0.15	0.01	0.04	141	09
150 ISL	10.15 D	10.13	33.772 D	25.974	205.8	0.447	3.13	D136.4	D 49.4	22.5	1.77	21.4	0.02	0.31	0.01	0.03	151	
170	9.88	9.86	33.918	26.134	191.0	0.499	2.51	109.2	39.3	27.0	2.00	24.3	0.02	0.64	0.00	0.02	171	08
200	9.41	9.39	34.024	26.295	176.2	0.554	2.21	96.2	34.3	31.5	2.13	26.4	0.02	0.12	0.00	0.02	202	07
230	9.12	9.10	34.124	26.421	164.8	0.605	1.82	79.0	28.0	36.0	2.27	28.1	0.01	0.10			232	06
250 ISL	8.89 D	8.86	34.124 D	26.459	161.6	0.627	1.85	D 80.5	D 28.4	37.4	2.25	28.6	0.01	0.06			252	
269	8.34	8.31	34.069	26.501	157.6	0.668	2.11	91.8	32.0	38.7	2.23	29.0	0.01	0.03			271	05
300 ISL	7.71 D	7.68	34.036 D	26.569	151.4	0.706	2.15	D 93.5	D 32.1	43.6	2.34	30.8	0.01	0.10			302	
320	7.52	7.48	34.065	26.619	146.8	0.745	1.82	79.1	27.0	46.8	2.41	32.0	0.01	0.15			323	04
381	6.91	6.88	34.086	26.721	137.8	0.832	1.34	58.3	19.7	56.2	2.66	35.4	0.01	0.19			384	03
400 ISL	6.67 D	6.63	34.121 D	26.781	132.1	0.849	1.08	D 46.9	D 15.7	59.6	2.74	36.1	0.01	0.17			403	
440	6.43	6.39	34.171	26.853	125.8	0.910	0.74	32.1	10.7	66.8	2.91	37.7	0.01	0.12			444	02
500 ISL	6.21 D	6.16	34.220 D	26.921	120.0	0.975	0.53	D 23.0	D 7.6	71.9	3.01	38.7	0.01	0.09			504	
515	6.24	6.19	34.242	26.936	119.0	1.001	0.46	20.1	6.7	73.2	3.04	38.9	0.01	0.08			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 0.8 N	119 14.0 W	17/01/2015	1239 UTC	1586 m	350 05 kn			1018.0 mb	17.0 C	15.0 C				010

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.81	16.81	33.246	24.213	369.8	0.000	5.65	246.3	101.8	1.8	0.32	0.0	0.01	0.02	0.13	0.03	0	
2	16.81	16.81	33.246	24.213	369.8	0.007	5.65	246.3	101.8	1.8	0.32	0.0	0.01	0.02	0.13	0.03	2	22
10	16.81	16.81	33.264	24.227	368.8	0.037	5.65	246.2	101.8	1.8	0.32	0.0	0.01	0.00	0.13	0.03	10	20
10	16.81	16.81	33.248	24.216	369.9	0.037											10	21
20 ISL	16.88 D	16.87	33.280 D	24.227	369.2	0.056	5.65	D246.2	D102.0	1.8	0.31	0.0	0.01	0.00	0.14	0.04	20	
25	16.92	16.92	33.303	24.233	368.8	0.092	5.62	245.1	101.6	1.8	0.31	0.0	0.01	0.00	0.14	0.04	25	19
30 ISL	16.92 D	16.92	33.327 D	24.252	367.1	0.093	5.65	D246.4	D102.1	1.9	0.31	0.0	0.01	0.00	0.18	0.05	30	
39	16.88	16.87	33.385	24.308	362.1	0.143	5.69	248.0	102.8	2.0	0.31	0.0	0.01	0.00	0.23	0.07	39	18
50	16.73	16.72	33.391	24.348	358.7	0.183	5.63	245.6	101.5	2.1	0.30	0.0	0.01	0.00	0.30	0.13	50	17
62	15.96	15.95	33.309	24.462	348.2	0.225	5.68	247.7	100.7	2.3	0.34	0.0	0.01	0.00	0.47	0.26	62	16
70	14.21	14.20	33.115	24.693	326.2	0.252	5.70	248.5	97.5	3.2	0.47	1.1	0.15	0.01	0.39	0.33	71	15
75	13.58	13.57	33.083	24.796	316.5	0.269	5.67	247.2	95.7	3.6	0.53	1.9	0.18	0.02	0.31	0.30	76	14
87	12.74	12.73	33.159	25.023	295.1	0.305	5.51	240.2	91.4	4.6	0.63	3.6	0.12	0.00	0.20	0.19	88	13
100	11.17	11.15	33.206	25.354	263.6	0.342	5.08	221.3	81.5	8.2	0.96	9.5	0.02	0.00	0.11	0.13	101	12
113	10.90	10.89	33.261	25.444	255.4	0.375	4.91	213.8	78.4	9.7	1.05	11.3	0.02	0.00	0.08	0.11	114	11
125	10.30	10.29	33.378	25.640	236.8	0.405	4.61	200.6	72.6	13.0	1.22	14.5	0.01	0.00	0.04	0.07	126	10
140	9.89	9.87	33.490	25.798	222.1	0.439	4.26	185.4	66.6	16.3	1.40	17.3	0.01	0.00	0.02	0.05	141	09
150 ISL	9.63 D	9.61	33.555 D	25.892	213.3	0.446	4.17	D181.7	D 64.9	18.6	1.50	18.9	0.01	0.00	0.02	0.04	151	
170	9.15	9.13	33.712	26.092	194.7	0.502	3.60	156.6	55.4	23.2	1.69	22.2	0.01	0.00	0.01	0.03	171	08
199	8.75	8.72	33.926	26.324	173.1	0.555	2.80	121.9	42.8	31.0	1.97	26.2	0.01	0.15	0.00	0.02	201	07
200 ISL	8.70 D	8.67	33.932 D	26.337	171.9	0.541	2.85	D124.0	D 43.5	31.2	1.97	26.2	0.01	0.15			202	
230	8.36	8.33	33.996	26.440	162.6	0.607	2.46	107.0	37.3	35.5	2.10	28.0	0.01	0.16			232	06
250 ISL	8.19 D	8.17	34.031 D	26.491	158.0	0.624	2.30	D 99.9	D 34.7	38.2	2.20	29.1	0.01	0.22			252	
270	8.00	7.97	34.052	26.538	153.9	0.670	2.03	88.3	30.5	40.9	2.29	30.1	0.01	0.28			272	05
300 ISL	7.80 D	7.77	34.095 D	26.601	148.4	0.701	1.68	D 73.1	D 25.2	45.2	2.42	31.6	0.01	0.54			302	
320	7.55	7.52	34.093	26.636	145.3	0.745	1.57	68.1	23.3	48.0	2.50	32.5	0.01	0.71			323	04
380	6.84	6.80	34.119	26.756	134.3	0.829	1.11	48.2	16.2	58.9	2.73	36.1	0.01	0.00			383	03
400 ISL	6.65 D	6.61	34.138 D	26.797	130.7	0.842	0.97	D 42.2	D 14.2	62.1	2.80	36.8	0.01	0.00			403	
441	6.32	6.28	34.168	26.864	124.6	0.908	0.73	31.5	10.5	68.6	2.94	38.3	0.01	0.00			445	02
500 ISL	6.09 D	6.04	34.261 D	26.968	115.5	0.966	0.41	D 17.9	D 5.9	75.9	3.08	39.5	0.01	0.00			504	
514	6.04	5.99	34.272	26.985	114.1	0.995	0.35	15.4	5.1	77.6	3.11	39.8	0.01	0.00			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 50.8 N	119 34.2 W	17/01/2015	1745 UTC	1828 m	280 04 kn	300 05 10	1	1020.0 mb	17.9 C	16.8 C	41 m	4/8	ST	011

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.44	17.44	33.264	24.080	382.4	0.000	5.53	241.3	101.0	1.8	0.34	0.0	0.01	0.10	0.10	0.03	0	
2 A	17.44	17.44	33.264	24.080	382.5	0.008	5.53	241.3	101.0	1.8	0.34	0.0	0.01	0.10	0.10	0.03	2	22
10 ISL	17.42 D	17.42	33.264 D	24.083	382.5	0.039	5.55	241.9	101.2	1.8	0.33	0.0	0.01	0.11	0.10	0.04	10	
16	17.42	17.41	33.264	24.086	382.5	0.061	5.56	242.3	101.4	1.8	0.33	0.0	0.01	0.11	0.11	0.04	16	20
16	17.42	17.41	33.264	24.085	382.5	0.060											16	21
20 ISL	17.42 D	17.41	33.264 D	24.086	382.6	0.069	5.55	242.1	101.3	1.8	0.34	0.0	0.01	0.13	0.11	0.03	20	
28 A	17.42	17.41	33.267	24.090	382.5	0.107	5.54	241.7	101.1	1.8	0.36	0.0	0.01	0.17	0.11	0.03	28	19
30 ISL	17.42 D	17.41	33.264 D	24.087	382.9	0.108	5.54	D241.7	D101.1	1.8	0.35	0.0	0.00	0.15	0.11	0.03	30	
40 A	17.42	17.41	33.263	24.087	383.2	0.153	5.58	243.1	101.7	1.8	0.32	0.0	0.00	0.03	0.11	0.04	40	18
50 ISL	17.39 D	17.38	33.263 D	24.094	383.0	0.185	5.53	D241.3	D100.9	1.8	0.32	0.0	0.00	0.10	0.12	0.04	50	
51	17.41	17.41	33.261	24.087	383.7	0.195	5.54	241.7	101.1	1.8	0.32	0.0	0.01	0.11	0.12	0.04	51	17
61	16.06	16.05	33.165	24.328	360.9	0.232	5.76	251.2	102.3	2.0	0.35	0.0	0.01	0.07	0.20	0.12	61	16
69 A	14.26	14.25	33.098	24.668	328.5	0.260	5.82	253.8	99.7	3.0	0.45	0.7	0.10	0.01	0.32	0.30	70	14
69	14.26	14.25	33.098	24.668	328.5	0.261											70	15
75 ISL	13.62 D	13.61	33.132 D	24.826	313.6	0.264	5.68	D247.3	D 95.9	4.5	0.60	3.2	0.08	0.03	0.29	0.29	76	
90	11.66	11.65	33.155	25.225	275.7	0.324	5.10	222.0	82.6	8.1	0.99	9.3	0.04	0.07	0.22	0.26	91	13
100 ISL	10.94 D	10.93	33.121 D	25.328	266.1	0.336	4.88	212.7	78.0	10.1	1.10	11.3	0.03	0.06	0.17	0.21	101	
110	10.32	10.31	33.313 D	25.585	241.8	0.361	4.73	D206.1	D 74.6								111	12
125 ISL	10.01 D	9.99	33.453 D	25.748	226.5	0.397	4.38	D190.9	D 68.7	15.4	1.37	16.3	0.01	0.04	0.06	0.08	126	
130 A	9.90	9.88	33.475	25.784	223.2	0.422	4.25	185.0	66.4	16.4	1.42	17.4	0.01	0.04	0.03	0.05	131	11
141	9.73	9.71	33.539	25.862	216.0	0.446	4.02	175.0	62.6	18.5	1.51	18.9	0.01	0.04	0.02	0.04	142	10
150 ISL	9.53 D	9.51	33.643 D	25.977	205.2	0.451	3.76	D163.5	D 58.3	21.0	1.63	20.7	0.01	0.03	0.02	0.04	151	
152 A	9.53	9.51	33.643	25.976	205.4	0.469	3.67	159.6	56.9	21.5	1.66	21.1	0.01	0.03	0.01	0.04	153	09
170	9.28	9.26	33.765	26.114	192.7	0.505	3.30	143.8	51.0	25.1	1.78	23.3	0.01	0.02	0.00	0.04	171	08
200	8.86	8.83	33.924	26.306	174.9	0.560	2.73	119.0	41.9	31.1	1.99	26.3	0.01	0.03	0.00	0.03	202	07
230	8.45	8.43	33.980	26.412	165.3	0.611	2.66	115.6	40.3	34.5	2.06	27.4	0.01	0.00			232	06
250 ISL	8.16 D	8.13	34.001 D	26.474	159.6	0.631	2.44	106.0	36.7	38.3	2.17	28.9	0.01	0.00			252	
270	7.79	7.76	34.036	26.556	152.0	0.674	2.21	96.3	33.1	42.1	2.27	30.3	0.01	0.02			272	05
300 ISL	7.50 D	7.47	34.069 D	26.624	146.0	0.708	1.77	D 77.1	D 26.3	47.7	2.44	32.4	0.01	0.04			302	
320	7.35	7.32	34.091	26.663	142.5	0.748	1.47	63.8	21.7	51.5	2.56	33.8	0.01	0.06			323	04
381	6.77	6.73	34.153	26.792	130.9	0.831	0.88	38.4	12.9	62.2	2.83	36.8	0.01	0.05			384	03
400 ISL	6.50 D	6.47	34.147 D	26.824	128.0	0.845	0.82	D 35.7	D 11.9	64.8	2.87	37.4	0.01	0.06			403	
440	6.28	6.24	34.175	26.875	123.6	0.906	0.64	27.6	9.2	70.4	2.96	38.7	0.01	0.07			444	02
500 ISL	5.98 D	5.94	34.225 D	26.954	116.7	0.968	0.45	D 19.7	D 6.5	76.9	3.07	39.8	0.01	0.04			504	
514	5.93	5.88	34.225	26.961	116.2	0.995	0.43	18.6	6.1	78.4	3.10	40.0	0.01	0.03			518	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 30.7 N	120 15.0 W	17/01/2015	2251	UTC	3939 m	340 08 kn	320 05 09	1	1019.0 mb	17.3 C	16.0 C		3/8	CU	012

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.55	17.55	33.299	24.079	382.5	0.000	5.56	242.5	101.7	1.8	0.38	0.0	0.01	0.10	0.11	0.03	0	
2	17.55	17.55	33.299	24.079	382.6	0.008	5.56	242.5	101.7	1.8	0.38	0.0	0.01	0.10	0.11	0.03	2	20
10	17.39	17.39	33.285	24.108	380.2	0.038	5.56	242.3	101.4	1.8	0.31	0.0	0.01	0.07	0.11	0.03	10	19
20 ISL	17.32 D	17.31	33.265 D	24.111	380.3	0.077	5.59	D243.6	D101.7	1.8	0.32	0.0	0.01	0.08	0.11	0.03	20	
25	17.30	17.30	33.271	24.119	379.7	0.095	5.58	243.3	101.6	1.9	0.32	0.0	0.01	0.08	0.12	0.04	25	18
30 ISL	17.30 D	17.30	33.264 D	24.114	380.3	0.115	5.58	D243.3	D101.5	1.9	0.32	0.0	0.01	0.10	0.13	0.03	30	
40	17.29	17.29	33.266	24.118	380.3	0.152	5.56	242.5	101.2	1.9	0.31	0.0	0.01	0.13	0.14	0.02	40	17
50	17.28	17.27	33.269	24.125	380.0	0.190	5.57	243.0	101.4	1.9	0.31	0.0	0.01	0.28	0.13	0.04	50	16
62	16.95	16.94	33.243	24.184	374.8	0.236	5.60	244.2	101.2	1.8	0.31	0.0	0.01	0.19	0.20	0.07	62	15
75	16.15	16.13	33.259	24.382	356.3	0.283	5.67	247.4	101.0	1.8	0.33	0.0	0.01	0.10	0.33	0.20	76	14
87	14.96	14.95	33.169	24.576	338.0	0.325	5.73	249.6	99.4	2.4	0.40	0.4	0.11	0.28	0.26	0.18	88	13
100	12.69	12.67	33.123	25.007	297.0	0.366	5.52	240.4	91.4	4.9	0.70	4.7	0.05	0.11	0.19	0.17	101	12
112	12.11	12.09	33.139	25.129	285.6	0.401	5.35	232.9	87.5	6.0	0.80	6.6	0.03	0.05	0.16	0.16	113	11
125	11.17	11.15	33.219	25.364	263.3	0.437	5.11	222.4	81.9	8.3	0.96	9.8	0.02	0.04	0.10	0.12	126	10
140	10.40	10.38	33.360	25.610	240.1	0.475	4.64	201.9	73.2	12.5	1.21	14.0	0.02	0.09	0.05	0.08	141	09
150 ISL	9.82 D	9.80	33.522 D	25.834	218.9	0.501	4.27	D185.7	D 66.6	15.7	1.36	16.5	0.02	0.08	0.04	0.07	151	
170	9.44	9.43	33.677	26.017	201.9	0.540	3.62	157.4	56.1	22.2	1.67	21.6	0.01	0.05	0.01	0.04	171	08
200	9.00	8.98	33.865	26.237	181.5	0.598	3.01	130.8	46.2	28.5	1.90	25.1	0.01	0.21	0.00	0.02	202	07
231	8.51	8.48	33.976	26.401	166.4	0.652	2.59	112.8	39.4	34.3	2.08	27.7	0.01	0.18			233	06
250 ISL	8.27 D	8.24	34.017 D	26.470	160.1	0.687	2.37	D102.9	D 35.8	37.7	2.18	29.0	0.01	0.15			252	
272	7.96	7.93	34.044	26.537	154.0	0.717	2.12	92.3	31.9	41.7	2.29	30.5	0.01	0.11			274	05
300 ISL	7.61 D	7.58	34.069 D	26.609	147.5	0.764	1.77	D 77.1	D 26.4	46.7	2.44	32.3	0.01	0.18			302	
322	7.44	7.41	34.100	26.657	143.2	0.791	1.48	64.4	22.0	50.7	2.55	33.7	0.01	0.23			325	04
381	7.08	7.04	34.178	26.771	133.2	0.873	0.90	39.2	13.3	59.0	2.79	35.9	0.01	0.17			384	03
400 ISL	6.72 D	6.68	34.145 D	26.794	131.0	0.904	0.93	D 40.4	D 13.6	62.0	2.84	36.7	0.01	0.16			403	
440	6.42	6.38	34.178	26.860	125.2	0.949	0.68	29.4	9.8	68.4	2.95	38.3	0.01	0.15			444	02
500 ISL	6.03 D	5.98	34.238 D	26.958	116.3	1.029	0.41	D 17.9	D 5.9	76.6	3.08	39.8	0.01	0.25			504	
515	5.94	5.89	34.245	26.975	114.8	1.039	0.40	17.3	5.7	78.7	3.11	40.1	0.01	0.27			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 10.9 N	120 55.5 W	18/01/2015	0437	UTC	3831 m	010 08 kn			1021.0 mb	17.2 C	15.4 C				013

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.72	17.72	33.344	24.074	383.0	0.000	5.51	240.4	101.2	1.8	0.31	0.0	0.00	0.00	0.10	0.03	0	
2	17.72	17.72	33.344	24.074	383.1	0.008	5.51	240.4	101.2	1.8	0.31	0.0	0.00	0.00	0.10	0.03	2	20
10	17.72	17.72	33.343	24.073	383.5	0.038	5.51	240.5	101.3	1.8	0.30	0.0	0.00	0.00	0.09	0.03	10	19
20 ISL	17.74 D	17.74	33.347 D	24.072	383.9	0.077	5.52	D240.7	D101.4	1.8	0.30	0.0	0.00	0.00	0.10	0.03	20	
24	17.73	17.73	33.349	24.076	383.7	0.092	5.52	240.8	101.4	1.8	0.30	0.0	0.00	0.00	0.10	0.03	24	18
30 ISL	17.76 D	17.76	33.358 D	24.076	384.0	0.116	5.51	D240.2	D101.2	1.8	0.30	0.0	0.00	0.00	0.11	0.03	30	
40	17.59	17.58	33.358	24.118	380.3	0.153	5.51	240.4	101.0	1.7	0.31	0.0	0.01	0.01	0.11	0.04	40	17
50	17.08	17.07	33.276	24.177	375.0	0.191	5.60	244.4	101.6	1.6	0.32	0.0	0.00	0.00	0.17	0.07	50	16
61	15.96	15.95	33.184	24.366	357.3	0.232	5.77	251.6	102.2	2.0	0.35	0.0	0.00	0.01	0.22	0.14	61	15
75	13.97	13.96	33.115	24.741	321.8	0.279	5.72	249.1	97.3	3.1	0.47	1.2	0.15	0.03	0.35	0.22	76	14
88	12.60	12.59	33.073	24.984	298.8	0.319	5.52	240.4	91.2	5.1	0.69	4.8	0.07	0.00	0.29	0.30	89	13
100	11.80	11.79	33.089	25.148	283.4	0.354	5.43	236.5	88.3	5.9	0.77	6.1	0.03	0.01	0.21	0.28	101	12
112	10.74	10.73	33.177	25.407	258.8	0.387	5.08	221.4	80.8	9.1	1.02	10.7	0.02	0.00	0.12	0.16	113	11
125	10.22	10.20	33.402 D	25.673	233.7	0.422	4.38	D190.8	D 69.0								126	10
140	9.79	9.77	33.562	25.870	215.3	0.452	3.73	162.3	58.2	19.9	1.61	20.4	0.01	0.00	0.01	0.06	141	09
150 ISL	9.67 D	9.66	33.643 D	25.953	207.6	0.477	3.50	D152.1	D 54.4	21.8	1.68	21.6	0.01	0.00	0.01	0.06	151	
170	9.36	9.34	33.769	26.103	193.7	0.514	3.13	136.0	48.4	25.6	1.83	23.9	0.01	0.01	0.00	0.05	171	08
200 ISL	8.74 D	8.72	33.932 D	26.330	172.6	0.573	2.83	D122.9	D 43.2	30.9	1.96	26.3	0.01	0.00	0.00	0.03	202	
201	8.74	8.72	33.928	26.326	172.9	0.571	2.83	123.2	43.3	31.1	1.96	26.3	0.01	0.00	0.00	0.03	203	07
230	8.47	8.44	34.030	26.449	161.8	0.619	2.25	97.9	34.2	37.1	2.20	28.8	0.01	0.00			232	06
250 ISL	8.30 D	8.27	34.074 D	26.510	156.3	0.655	1.94	D 84.5	D 29.4	39.9	2.25	29.8	0.01	0.00			252	
270	7.86	7.84	34.040	26.549	152.8	0.682	2.08	90.5	31.2	42.6	2.30	30.8	0.01	0.00			272	05
300 ISL	7.37 D	7.34	34.062 D	26.637	144.6	0.731	1.79	D 78.0	D 26.6	48.2	2.44	32.8	0.01	0.00			302	
319	7.23	7.20	34.071	26.664	142.3	0.754	1.56	67.9	23.1	51.7	2.53	34.0	0.01	0.02			322	04
380	6.70	6.67	34.116	26.772	132.7	0.838	1.07	46.5	15.6	60.7	2.75	36.6	0.01	0.03			383	03
400 ISL	6.51 D	6.47	34.129 D	26.808	129.5	0.870	0.93	D 40.3	D 13.5	64.0	2.81	37.3	0.01	0.00			403	
440	6.21	6.17	34.165	26.876	123.4	0.915	0.70	30.5	10.1	70.5	2.94	38.7	0.01	0.00			444	02
500 ISL	5.88 D	5.83	34.222 D	26.964	115.6	0.993	0.43	D 18.7	D 6.1	77.9	3.06	40.1	0.01	0.00			504	
514	5.83	5.79	34.230	26.977	114.6	1.003	0.41	D 17.6	D 5.8	79.6	3.09	40.4	0.01	0.00			518	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 50.8 N	121 35.4 W	18/01/2015	1013	UTC	3111 m	030 06 kn			1021.0 mb	16.8 C	15.2 C				014

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	17.55	17.55	33.302	24.083	382.2	0.000	5.53	241.0	101.1	1.8	0.33	0.0	0.01	0.03	0.12	0.04	0	
2	17.55	17.55	33.302	24.083	382.2	0.008	5.53	241.0	101.1	1.8	0.33	0.0	0.01	0.03	0.12	0.04	2	20
10	17.55	17.54	33.313	24.092	381.7	0.038	5.53	241.2	101.2	1.8	0.32	0.0	0.01	0.04	0.11	0.04	10	19
20 ISL	17.55 D	17.55	33.303 D	24.084	382.8	0.061	5.55	D242.0	D101.5	1.8	0.31	0.0	0.01	0.00	0.11	0.04	20	
25	17.55	17.54	33.300	24.083	383.1	0.095	5.53	241.1	101.2	1.8	0.30	0.0	0.01	0.00	0.11	0.04	25	18
30 ISL	17.55 D	17.55	33.301 D	24.084	383.2	0.100	5.52	D240.9	D101.0	1.8	0.30	0.0	0.01	0.00	0.11	0.04	30	
41	17.56	17.55	33.303	24.085	383.5	0.157	5.53	241.2	101.2	1.8	0.30	0.0	0.01	0.00	0.11	0.03	41	17
50	17.56	17.55	33.301	24.083	384.0	0.191	5.53	241.3	101.2	1.7	0.31	0.0	0.00	0.00	0.11	0.03	50	16
63	16.80	16.79	33.223	24.204	372.9	0.241	5.62	244.9	101.2	1.8	0.36	0.1	0.00	0.25	0.22	0.12	63	15
75 ISL	15.70 D	15.69	33.195 D	24.432	351.4	0.271	5.77	D251.7	D101.8	2.0	0.36	0.0	0.01	0.09	0.31	0.21	76	
76	15.61	15.59	33.198	24.456	349.2	0.287	5.74	250.1	101.0	2.0	0.36	0.0	0.01	0.08	0.31	0.22	77	14
87	14.70	14.69	33.227	24.675	328.5	0.325	5.77	251.3	99.7	2.6	0.41	0.2	0.09	0.10	0.29	0.27	88	13
100 ISL	12.41 D	12.39	33.057 D	25.009	296.7	0.353	5.56	D242.3	D 91.6	4.7	0.67	4.2	0.09	0.07	0.22	0.27	101	
101	12.39	12.37	33.047	25.006	297.1	0.368	5.56	242.3	91.5	4.8	0.69	4.5	0.09	0.07	0.22	0.27	102	12
112	11.58	11.56	33.080	25.182	280.4	0.400	5.39	234.9	87.2						0.16	0.21	113	11
125	10.64	10.63	33.146	25.401	259.7	0.435	5.13	223.2	81.3	9.2	1.06	10.8	0.04	0.27	0.10	0.14	126	10
140	10.02	10.00	33.318	25.642	237.0	0.473	4.65	202.6	72.9	12.7	1.26	14.3	0.04	0.18	0.05	0.08	141	09
150 ISL	9.76 D	9.74	33.464 D	25.800	222.1	0.483	4.35	D189.3	D 67.7	15.7	1.37	16.4	0.04	0.12	0.03	0.06	151	
170	9.34	9.32	33.683	26.039	199.7	0.538	3.86	167.9	59.6	21.6	1.60	20.8	0.04	0.01	0.00	0.02	171	08
200	8.78	8.75	33.847	26.257	179.5	0.595	3.22	140.1	49.2	27.9	1.85	24.5	0.04	0.00	0.00	0.03	202	07
230	8.39	8.36	33.963	26.409	165.6	0.647	2.75	119.7	41.7	33.8	2.02	27.4	0.04	0.00			232	06
250 ISL	8.20 D	8.17	33.994 D	26.462	160.8	0.667	2.59	D112.5	D 39.0	38.0	2.14	29.0	0.03	0.00			252	
270	7.74	7.71	34.017	26.548	152.8	0.711	2.26	98.5	33.8	42.3	2.25	30.6	0.03	0.00			272	05
300 ISL	7.36 D	7.33	34.060 D	26.637	144.6	0.744	1.82	D 79.0	D 26.9	48.4	2.43	32.6	0.03	0.00			302	
321	7.28	7.24	34.092	26.674	141.4	0.785	1.44	62.7	21.3	52.8	2.56	34.1	0.03	0.00			324	04
380	7.03	6.99	34.182	26.781	132.3	0.866	0.83	36.1	12.2	60.5	2.82	36.3	0.03	0.00			383	03
400 ISL	6.47 D	6.43	34.137 D	26.820	128.3	0.881	0.87	D 38.0	D 12.7	63.8	2.86	37.0	0.03	0.00			403	
440	6.18	6.14	34.162	26.877	123.2	0.942	0.72	31.4	10.4	70.3	2.93	38.6	0.01	0.00			444	02
500 ISL	5.80 D	5.76	34.197 D	26.954	116.4	1.005	0.52	D 22.4	D 7.4	77.9	3.05	39.6	0.01	0.00			504	
515	5.74	5.70	34.204	26.967	115.4	1.031	0.49	21.2	7.0	79.8	3.08	39.9	0.01	0.00			519	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 30.9 N	122 15.9 W	18/01/2015	1700 UTC	4172 m	030 12 kn	330 04 06	2	1022.0 mb	18.0 C	16.0 C	35 m	6/8	ST	015

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	18.44	18.44	33.522	24.033	386.9	0.000	5.45	D237.6	D101.5	2.2	0.29	0.0	0.01	0.13	0.09	0.03	0	
2 A	18.44	18.44	33.522	24.033	387.0	0.008	5.45	D237.6	D101.5	2.2	0.29	0.0	0.01	0.13	0.09	0.03	2	23
10 ISL	18.44 D	18.44	33.521 D	24.033	387.3	0.039	5.44	D237.1	D101.3	2.2	0.28	0.0	0.01	0.07	0.09	0.03	10	
14	18.44	18.44	33.521	24.033	387.5	0.054	5.43	236.6	101.1	2.2	0.28	0.0	0.01	0.04	0.09	0.03	14	21
14	18.44	18.44	33.524	24.035	387.2	0.055											14	22
20 ISL	18.44 D	18.44	33.521 D	24.033	387.7	0.066	5.41	D236.0	D100.8	2.2	0.29	0.0	0.01	0.07	0.09	0.03	20	
25 A	18.44	18.44	33.520	24.033	387.8	0.097	5.44	D237.4	D101.5	2.2	0.30	0.1	0.01	0.10	0.09	0.02	25	20
30 ISL	18.45 D	18.44	33.521 D	24.034	388.0	0.105	5.46	D238.0	D101.7	2.2	0.29	0.0	0.01	0.07	0.09	0.03	30	
34 A	18.45	18.44	33.520	24.033	388.2	0.132	5.43	236.7	101.1	2.2	0.29	0.0	0.01	0.05	0.09	0.03	34	19
43	18.44	18.43	33.520	24.036	388.4	0.167	5.44	237.1	101.3	2.2	0.29	0.0	0.01	0.07	0.09	0.03	43	18
50 ISL	18.44 D	18.43	33.519 D	24.036	388.6	0.184	5.43	D236.8	D101.2	2.2	0.29	0.0	0.01	0.04	0.09	0.03	50	
52	18.27	18.26	33.519	24.079	384.6	0.202	5.43	236.9	100.9	2.2	0.29	0.0	0.01	0.03	0.09	0.03	52	17
60 A	18.07	18.05	33.539	24.144	378.7	0.232	5.55	242.0	102.7	2.3	0.28	0.0	0.00	0.04	0.15	0.08	60	16
75 ISL	15.84 D	15.82	33.247 D	24.442	350.5	0.277	5.79	252.5	102.5	2.5	0.34	0.0	0.01	0.08	0.22	0.14	76	
76	15.64	15.63	33.254	24.492	345.8	0.290	5.81	253.2	102.3	2.5	0.34	0.0	0.01	0.08	0.22	0.15	77	14
77	15.27	15.26	33.249	24.570	338.3	0.293											78	15
94	14.08	14.06	33.152	24.749	321.6	0.350	5.74	250.2	97.9	3.2	0.45	0.6	0.21	0.09	0.24	0.18	95	13
100 ISL	13.80 D	13.78	33.202 D	24.846	312.5	0.329	5.64	D246.0	D 95.7	3.4	0.45	1.0	0.18	0.08	0.21	0.18	101	
111 A	14.21	14.19	33.483	24.979	300.4	0.402	5.43	236.4	93.0	3.9	0.46	1.9	0.12	0.06	0.17	0.18	112	12
119	13.30	13.28	33.439	25.131	285.9	0.425	5.36	233.4	90.1	4.6	0.54	3.3	0.05	0.03	0.13	0.20	120	11
125 ISL	12.55 D	12.53	33.361 D	25.219	277.5	0.403	5.32	231.9	88.1	5.2	0.63	4.4	0.04	0.10	0.12	0.15	126	
130 A	12.25	12.24	33.351	25.267	273.0	0.456	5.30	230.7	87.1	5.7	0.70	5.3	0.03	0.15	0.11	0.12	131	10
150	10.77	10.76	33.329	25.521	248.9	0.508	5.11	222.4	81.3	8.9	0.93	9.7	0.02	0.11	0.06	0.10	151	09
170	10.33	10.31	33.537	25.760	226.6	0.556	4.30	187.1	67.8	15.0	1.28	15.4	0.01	0.09	0.00	0.02	171	08
200	9.51	9.49	33.772	26.082	196.4	0.619	3.46	150.8	53.8	23.2	1.66	21.5	0.01	0.03	0.00	0.02	202	07
230	8.86	8.84	33.919	26.301	176.0	0.675	3.00	130.5	45.9	29.9	1.88	25.0	0.01	0.03			232	06
250 ISL	8.53 D	8.50	33.993 D	26.412	165.7	0.671	2.62	114.1	39.9	34.5	2.04	27.0	0.01	0.03			252	
270	8.29	8.26	34.043	26.488	158.9	0.742	2.25	97.8	34.0	39.1	2.19	29.0	0.01	0.03			272	05
300 ISL	7.96 D	7.93	34.075 D	26.563	152.1	0.750	1.97	D 85.5	D 29.5	44.3	2.35	30.9	0.01	0.05			302	
320	7.67	7.64	34.097	26.623	146.6	0.818	1.68	73.2	25.1	47.7	2.45	32.2	0.01	0.07			323	04
380	7.05	7.01	34.162	26.762	134.0	0.903	0.99	42.9	14.5	59.3	2.75	35.6	0.01	0.08			383	03
400 ISL	6.93 D	6.89	34.190 D	26.802	130.5	0.892	0.84	D 36.6	D 12.3	62.0	2.81	36.2	0.01	0.07			403	
441	6.54	6.50	34.209	26.868	124.5	0.982	0.65	28.2	9.4	67.7	2.94	37.4	0.01	0.06			445	02
500 ISL	6.18 D	6.13	34.249 D	26.949	117.4	1.017	0.46	D 19.9	D 6.6	74.4	3.04	38.8	0.01	0.03			504	
516	6.17	6.13	34.275	26.969	115.7	1.071	0.38	16.4	5.5	76.2	3.07	39.2	0.01	0.02			520	01

A) PRIMARY PRODUCTIVITY SAMPLES WERE TAKEN FROM THESE LEVELS.
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 10.9 N	122 55.5 W	18/01/2015	2212 UTC	3838 m	030 10 kn	360 05 07	1	1021.0 mb	18.5 C	16.5 C	37 m	5/8	AC	016

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	19.00	19.00	33.712	24.038	386.4	0.000	5.40	235.4	101.8	2.3	0.28	0.0	0.01	0.09	0.11	0.03	0	
2	19.00	19.00	33.712	24.038	386.5	0.008	5.40	235.4	101.8	2.3	0.28	0.0	0.01	0.09	0.11	0.03	2	20
10	18.97	18.97	33.697	24.035	387.1	0.039	5.38	234.8	101.4	2.3	0.29	0.0	0.01	0.11	0.11	0.03	10	19
20 ISL	18.94 D	18.93	33.686 D	24.036	387.4	0.078	5.38	D234.7	D101.3	2.3	0.28	0.0	0.01	0.10	0.11	0.03	20	
25	18.95	18.94	33.705	24.049	386.4	0.097	5.38	234.5	101.3	2.3	0.27	0.0	0.01	0.09	0.12	0.03	25	18
30 ISL	18.94 D	18.93	33.688 D	24.037	387.7	0.117	5.37	D234.2	D101.1	2.3	0.27	0.0	0.01	0.07	0.12	0.04	30	
39	18.93	18.93	33.690	24.042	387.6	0.151	5.38	234.7	101.3	2.3	0.26	0.0	0.01	0.04	0.12	0.04	39	17
50	18.92	18.91	33.683	24.041	388.2	0.194	5.39	234.9	101.4	2.2	0.26	0.0	0.01	0.06	0.13	0.04	50	16
62	18.93	18.92	33.691	24.046	388.2	0.240	5.36	233.8	100.9	2.2	0.27	0.0	0.01	0.09	0.13	0.04	62	15
74	18.14	18.13	33.550	24.134	380.1	0.286	5.54	241.5	102.6	2.3	0.28	0.0	0.01	0.18	0.19	0.11	75	14
75 ISL	17.53 D	17.52	33.492 D	24.238	370.2	0.292	5.56	242.3	101.7	2.3	0.28	0.0	0.01	0.17	0.19	0.11	76	
87	16.03	16.02	33.347	24.476	347.7	0.333	5.77	251.7	102.6	2.4	0.30	0.0	0.01	0.04	0.19	0.15	88	13
100	15.64	15.63	33.627	24.780	319.2	0.376	5.58	243.1	98.5	2.8	0.28	0.1	0.07	0.12	0.22	0.17	101	12
112	14.85	14.83	33.612	24.943	304.0	0.414	5.47	238.2	95.0	3.3	0.35	0.7	0.18	0.07	0.19	0.16	113	11
125	13.59	13.57	33.552	25.161	283.3	0.452	5.36	233.3	90.6	4.2	0.46	2.5	0.05	0.03	0.15	0.13	126	10
140	11.84	11.82	33.417	25.397	260.8	0.493	5.21	226.8	84.9	6.5	0.70	6.4	0.02	0.02	0.09	0.10	141	09
150 ISL	11.54 D	11.52	33.407 D	25.446	256.4	0.524	5.05	220.1	81.9	8.2	0.81	8.2	0.02	0.02	0.07	0.08	151	
171	10.52	10.50	33.549	25.738	228.8	0.569	4.73	205.9	75.0	11.6	1.03	12.1	0.01	0.02	0.03	0.04	172	08
200 ISL	9.57 D	9.55	33.672 D	25.994	204.8	0.639	4.00	173.9	62.1	19.8	1.49	19.2	0.01	0.06	0.01	0.02	202	
201	9.57	9.55	33.675	25.997	204.5	0.634	3.97	172.8	61.7	20.1	1.51	19.5	0.01	0.06	0.01	0.02	203	07
231	9.10	9.07	33.849	26.210	184.8	0.692	3.43	149.1	52.7	25.7	1.72	22.8	0.01	0.06			233	06
250 ISL	8.78 D	8.76	33.961 D	26.347	172.0	0.734	3.02	D131.5	D 46.2	30.5	1.90	25.1	0.01	0.06			252	
270	8.53	8.50	34.025	26.438	163.7	0.760	2.55	111.0	38.8	35.5	2.08	27.5	0.01	0.05			272	05
300 ISL	8.27 D	8.24	34.097 D	26.534	155.1	0.816	1.97	D 85.7	D 29.8	41.1	2.30	29.6	0.01	0.04			302	
320	8.27	8.24	34.181	26.600	149.2	0.838	1.47	64.0	22.3	44.8	2.45	31.0	0.01	0.04			322	04
381	7.48	7.44	34.182	26.718	138.6	0.926	1.10	47.7	16.3	53.9	2.65	34.1	0.01	0.04			384	03
400 ISL	7.33 D	7.29	34.180 D	26.739	136.9	0.962	1.02	D 44.2	D 15.0	56.5	2.72	34.8	0.01	0.03			403	
441	7.09	7.05	34.250	26.827	129.1	1.006	0.65	28.1	9.5	62.0	2.86	36.2	0.01	0.02			445	02
500 ISL	6.56 D	6.52	34.277 D	26.921	120.5	1.091	0.43	D 18.7	D 6.3	70.4	3.02	38.0	0.01	0.03			504	
516	6.48	6.43	34.309	26.957	117.3	1.098	0.33	14.4	4.8	72.7	3.06	38.5	0.01	0.03			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 120

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
29 50.9 N	123 35.2 W	19/01/2015	0401 UTC	4119 m	020 14 kn			1022.0 mb	17.5 C	16.0 C				017

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	18.72	18.72	33.562	23.994	390.6	0.000	5.41	235.8	101.3	2.2	0.28	0.1	0.01	0.13	0.09	0.03	0	
2	18.72	18.72	33.562	23.994	390.7	0.008	5.41	235.8	101.3	2.2	0.28	0.1	0.01	0.13	0.09	0.03	2	20
10	18.73	18.72	33.564	23.995	390.9	0.039	5.40	235.4	101.2	2.2	0.28	0.1	0.01	0.13	0.08	0.02	10	19
20 ISL	18.73 D	18.73	33.563 D	23.994	391.4	0.079	5.40	D235.5	D101.2	2.2	0.27	0.1	0.01	0.07	0.09	0.03	20	
25	18.73	18.72	33.572	24.002	390.8	0.098	5.39	235.2	101.1	2.2	0.27	0.0	0.01	0.04	0.09	0.03	25	18
30 ISL	18.73 D	18.72	33.562 D	23.995	391.7	0.118	5.38	D234.6	D100.8	2.2	0.27	0.1	0.01	0.03	0.09	0.03	30	
40	18.73	18.72	33.563	23.997	392.0	0.157	5.40	235.5	101.2	2.2	0.27	0.0	0.01	0.01	0.09	0.03	40	17
50	18.73	18.72	33.564	23.998	392.3	0.196	5.40	235.7	101.3	2.1	0.27	0.0	0.01	0.04	0.09	0.02	50	16
62	18.74	18.73	33.579	24.007	391.9	0.243	5.40	235.4	101.2	2.2	0.27	0.0	0.01	0.08	0.10	0.02	62	15
75	18.32	18.31	33.696	24.202	373.8	0.293	5.53	241.1	102.9	2.3	0.24	0.0	0.01	0.06	0.16	0.09	76	14
87	16.05	16.03	33.343	24.470	348.4	0.336	5.78	252.1	102.8	2.4	0.29	0.0	0.01	0.08	0.17	0.14	88	13
99	14.51	14.49	33.186	24.687	327.8	0.377	5.75	250.7	99.0	2.9	0.39	0.3	0.15	0.06	0.23	0.21	100	12
100 ISL	14.27 D	14.25	33.145 D	24.705	326.0	0.383	5.74	250.3	98.3	2.9	0.40	0.4	0.16	0.06	0.22	0.21	101	
112	13.56	13.55	33.208	24.899	307.8	0.418	5.62	245.1	94.9	3.7	0.49	1.6	0.23	0.10	0.19	0.21	113	11
125	11.46	11.45	33.062	25.190	280.0	0.456	5.43	236.4	87.6	6.3	0.82	7.0	0.03	0.00	0.14	0.16	126	10
140	11.03	11.01	33.174	25.355	264.5	0.497	5.26	228.9	84.0	7.7	0.91	8.8	0.02	0.06	0.08	0.12	141	09
150 ISL	10.85 D	10.83	33.342 D	25.519	249.2	0.527	5.13	D223.5	D 81.8	9.2	0.96	10.1	0.02	0.05	0.06	0.10	151	
171	10.34	10.32	33.467	25.704	231.9	0.574	4.82	210.0	76.1	12.1	1.08	12.8	0.01	0.03	0.03	0.05	172	08
200	9.45	9.43	33.640	25.988	205.2	0.637	4.12	179.3	63.8	19.3	1.47	18.6	0.01	0.05	0.01	0.03	202	07
230	8.89	8.87	33.847	26.241	181.7	0.695	3.55	154.3	54.3	26.1	1.73	23.1	0.01	0.00			232	06
250 ISL	8.64 D	8.62	33.928 D	26.343	172.4	0.735	3.29	D143.2	D 50.1	30.6	1.88	25.0	0.01	0.00			252	
270	8.33	8.30	33.988	26.438	163.5	0.764	2.83	123.3	42.9	35.1	2.02	27.0	0.01	0.02			272	05
300 ISL	8.02 D	7.99	34.018 D	26.509	157.3	0.817	2.46	D106.9	D 37.0	41.1	2.21	29.5	0.01	0.01			302	
320	7.62	7.59	34.046	26.589	149.8	0.843	2.10	91.2	31.2	45.1	2.33	31.2	0.01	0.01			322	04
380	7.14	7.11	34.080	26.685	141.4	0.931	1.56	67.9	23.0	53.6	2.57	34.0	0.01	0.02			383	03
400 ISL	6.82 D	6.78	34.099 D	26.744	135.8	0.964	1.30	D 56.6	D 19.0	57.9	2.66	35.2	0.01	0.02			403	
439	6.37	6.33	34.128	26.826	128.3	1.010	1.00	43.4	14.4	66.2	2.84	37.5	0.01	0.01			443	02
500 ISL	5.84 D	5.80	34.157 D	26.917	119.9	1.093	0.74	D 32.1	D 10.6	76.2	3.01	39.1	0.01	0.03			504	
516	5.70	5.66	34.170	26.945	117.4	1.104	0.68	29.5	9.7	78.8	3.06	39.5	0.01	0.03			520	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.4 26.4

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 57.3 N	117 17.0 W	15/01/2015	2155 UTC	21 m	290 03 kn	310 01 06	0	1020.0 mb	17.8 C	15.9 C		0/8		002

DEPTH m	TEMP DEG C	POTTEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	OXYGEN ml/L	OXYGEN µmol/Kg	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	PRES db	SAMP
0	16.67	16.67	33.395	24.360	355.7	0.000	5.66	246.8	101.9	2.4	0.35	0.1	0.00	0.45	0.35	0.09	0	
2	16.67	16.67	33.395	24.360	355.8	0.007	5.66	246.8	101.9	2.4	0.35	0.1	0.00	0.45	0.35	0.09	2	04
5	16.61	16.61	33.397	24.376	354.4	0.018	5.64	245.9	101.4	2.3	0.32	0.0	0.01	0.27	0.36	0.10	5	03
10	16.55	16.55	33.393	24.387	353.5	0.036	5.68	247.7	102.0	2.3	0.33	0.0	0.00	0.35	0.35	0.10	10	02
15	16.49	16.49	33.394	24.402	352.2	0.053	5.67	247.3	101.7	2.3	0.32	0.0	0.00	0.12	0.39	0.11	15	01

D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2.

RV NEW HORIZON — CALCOFI CRUISE 1501 — STATION 76.7 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 23.3 N	122 14.8 W	29/01/2015	1913 UTC	19 m	1225 - 1758 PST	1222 PST	1759 PST	208.2 mg C/m2	069

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.75	33.253	24.461	5.83	103.0	1.9	0.34	0.1	0.01	0.05	0.25	0.06	85. A	4.3	4.3	4.3	0.95
10	15.74	33.252	24.463	5.85	103.2	1.9	0.33	0.1	0.01	0.07	0.26	0.06					
13	15.73	33.251	24.465	5.83	103.0	1.8	0.33	0.1	0.01	0.02	0.26	0.05	35.	1.2	1.2	1.2	
17	15.72	33.252	24.469	5.87	103.6	1.9	0.34	0.1	0.01	0.07	0.27	0.06	25.	4.6	3.8	4.2	1.1
32	15.63	33.293	24.520	5.86	103.3	2.0	0.33	0.1	0.01	0.08	0.37	0.11	7.5	4.2	4.1	4.1	1.3
40	15.51	33.326	24.573	5.91	103.8	2.2	0.34	0.0	0.03	0.05	0.48	0.16					
51	15.36	33.300	24.588	5.90	103.3	2.1	0.35	0.0	0.03	0.07	0.58	0.23					
60	14.84	33.281	24.685	5.88	102.0	2.1	0.37	0.1	0.05	0.17	0.81	0.39	0.78	1.8	2.4	2.1	0.89
70	12.44	33.163	25.083	5.33	87.9	6.3	0.81	6.5	0.14	0.03	0.38	0.37	0.35	0.30	0.12	0.21	1.3

RV NEW HORIZON — CALCOFI CRUISE 1501 — STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 9.2 N	121 9.0 W	27/01/2015	1618 UTC	17 m	1218 - 1800 PST	1217 PST	1800 PST	321.9 mg C/m2	061

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.35	33.217	24.524	5.89	103.1	2.0	0.34	0.0	0.01	0.01	0.32	0.10	83. A	6.8	7.1	6.9	0.56
12	15.26	33.209	24.537	5.90	103.2	2.0	0.33	0.0	0.01	0.01	0.35	0.10	34.	6.8	6.8	6.8	0.47
16	15.16	33.194	24.548	5.92	103.3	2.0	0.34	0.1	0.01	0.01	0.43	0.15	24.	7.0	6.9	6.9	0.44
22	15.19	33.197	24.543	5.90	103.0	2.0	0.36	0.1	0.02	0.01	0.56	0.24					
29	14.72	33.203	24.649	5.81	100.4	2.3	0.39	0.3	0.09	0.04	0.70	0.40	7.3	7.5	8.2	7.8	0.45
37	14.13	33.172	24.752	5.72	97.6	3.2	0.51	1.9	0.22	0.02	0.68	0.47					
45	12.78	33.126	24.988	5.41	89.7	5.6	0.76	5.7	0.13	0.02	0.65	0.33					
55	11.96	33.162	25.173	5.10	83.2	7.9	0.96	9.0	0.07	0.06	0.33	0.31	0.70	0.76	0.75	0.76	0.32
63	11.20	33.192	25.335	4.87	78.2	9.8	1.10	11.4	0.04	0.02	0.22	0.24	0.34	0.32	0.39	0.36	0.29

RV NEW HORIZON — CALCOFI CRUISE 1501 — STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 48.8 N	123 54.3 W	28/01/2015	1739 UTC	31 m	1230 - 1810 PST	1229 PST	1811 PST	184.1 mg C/m2	065

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.85	33.144	24.128	5.63	101.5	1.7	0.31	0.0	0.01	0.02	0.11	0.02	91. A	2.0	2.0	2.0	0.80
12	16.84	33.145	24.130	5.63	101.6	1.8	0.33	0.0	0.01	0.05	0.11	0.04					
22	16.67	33.149	24.173	5.69	102.3	1.8	0.32	0.0	0.01	0.00	0.13	0.03	34.	2.4	2.4	2.4	0.59
30	16.26	33.128	24.253	5.70	101.6	1.7	0.34	0.0	0.01	0.01	0.15	0.04	23.	2.4	2.4	2.4	0.20
42	15.86	33.123	24.340	5.80	102.6	1.7	0.34	0.0	0.01	0.01	0.20	0.06					
53	15.77	33.180	24.404	5.81	102.5	1.8	0.33	0.0	0.01	0.01	0.27	0.12	7.2	2.0	2.0	2.0	0.77
68	14.30	33.176	24.720	5.63	96.5	3.2	0.52	2.0	0.21	0.03	0.58	0.33					
83	11.59	33.067	25.169	5.30	85.8	6.6	0.88	7.7	0.04	0.02	0.38	0.31					
99	10.47	33.266	25.523	4.66	73.7	12.6	1.29	14.8	0.02	0.01	0.10	0.11	0.74	0.73	0.47	0.60	0.70
107	10.16	33.393	25.676	4.31	67.7	15.2	1.41	17.0	0.02	0.01	0.05	0.07					
115	9.62	33.386	25.759	4.30	66.8	17.1	1.48	18.2	0.01	0.01	0.03	0.05	0.34	0.18	0.15	0.16	0.58

RV NEW HORIZON — CALCOFI CRUISE 1501 — STATION 83.3 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 10.7 N	119 30.8 W	26/01/2015	1806 UTC	09 m	1215 - 1755 PST	1211 PST	1821 PST	296.5 mg C/m2	054

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.98	33.310	24.453	5.78	102.6	2.6	0.41	0.1	0.06	0.12	1.10	0.46	71. A	20.7	21.6	21.2	0.59
6	15.93	33.306	24.462	5.81	102.9	2.6	0.40	0.1	0.06	0.08	1.12	0.46	36.	20.6	18.2	19.4	0.61
9	15.90	33.305	24.469	5.78	102.4	2.6	0.40	0.2	0.06	0.11	1.04	0.44	22.	17.0	15.5	16.3	0.56
15	15.77	33.297	24.492	5.74	101.4	2.4	0.39	0.2	0.07	0.11	0.83	0.33	7.7	6.5	7.7	7.1	0.62
22	15.69	33.292	24.506	5.73	101.0	2.4	0.37	0.4	0.08	0.10	0.71	0.26					
28	15.66	33.295	24.516	5.71	100.6	2.7	0.39	0.6	0.13	0.14	0.78	0.29	0.84	0.28	0.37	0.32	0.90
33	15.62	33.294	24.525	5.71	100.6	2.6	0.42	0.6	0.14	0.11	0.74	0.27	0.36	0.17	0.14	0.15	0.50

RV NEW HORIZON — CALCOFI CRUISE 1501 — STATION 83.3 80

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 54.5 N	122 7.7 W	25/01/2015	1716 UTC	25 m	1224 - 1759 PST	1221 PST	1757 PST	202.2 mg C/m2	049

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	15.70	32.970	24.256	5.75	101.3	1.6	0.34	0.1	0.01	0.01	0.19	0.09	88. A	3.5	3.0	3.3	0.71
10	15.68	32.970	24.261	5.76	101.4	1.6	0.34	0.1	0.01	0.01	0.20	0.07					
18	15.68	32.970	24.261	5.77	101.6	1.6	0.35	0.0	0.01	0.02	0.20	0.07	33.	2.8	2.5	2.7	0.52
25	15.67	32.981	24.271	5.76	101.4	1.6	0.35	0.0	0.01	0.01	0.20	0.07	22.	2.4	3.1	2.8	0.60
33	15.67	32.976	24.269	5.78	101.7	1.6	0.34	0.0	0.01	0.01	0.21	0.07					
43	15.52	32.971	24.297	5.76	101.1	1.7	0.35	0.1	0.02	0.02	0.29	0.13	7.1	3.4	3.9	3.6	0.79
55	12.78	32.982	24.878	5.71	94.6	4.0	0.62	3.0	0.11	0.02	0.39	0.30					
67	11.36	32.939	25.110	5.48	88.2	7.1	0.91	8.1	0.05	0.01	0.24	0.26					
80	10.11	33.019	25.391	5.34	83.6	9.9	1.10	11.4	0.03	0.01	0.13	0.14	0.74	0.08	0.08	0.08	0.63
93	9.56	33.296	25.698	4.79	74.2	14.7	1.32	15.6	0.02	0.01	0.04	0.05	0.33	0.32	0.32	0.32	0.70

A) INCUBATION LIGHT INTENSITIES WERE 55.0, 34.0, 22.7, 7.3, 0.76, 0.34 PERCENT RESPECTIVELY.

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 40

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 39.6 N	118 58.5 W	22/01/2015	1749 UTC	31 m	1207 - 1745 PST	1207 PST	1742 PST	292.0 mg C/m2	036

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.88	33.321	24.254	5.67	102.4	1.9	0.32	0.0	0.01	0.06	0.16	0.04	91. A	3.7	3.8	3.7	0.43
12	16.84	33.323	24.267	5.68	102.6	1.9	0.32	0.0	0.01	0.05	0.18	0.05					
22	16.83	33.326	24.272	5.66	102.2	1.9	0.33	0.0	0.01	0.09	0.20	0.05	34.	3.5	3.3	3.4	0.38
30	16.72	33.355	24.320	5.66	102.0	2.0	0.33	0.0	0.01	0.10	0.24	0.07	23.	3.5	3.3	3.4	0.52
42	15.64	33.287	24.515	5.77	101.7	2.3	0.37	0.0	0.02	0.07	0.58	0.29					
52	14.80	33.284	24.696	5.64	97.8	3.2	0.48	1.3	0.15	0.05	0.53	0.30	7.6	3.8	4.2	4.0	0.91
68	12.27	33.255	25.187	5.11	84.0	7.7	0.88	8.2	0.08	0.03	0.18	0.17					
83	11.70	33.258	25.296	4.94	80.3	9.2	1.00	10.2	0.05	0.05	0.15	0.16					
99	11.01	33.315	25.467	4.68	74.9	11.6	1.15	12.7	0.03	0.03	0.11	0.13	0.74	0.30	0.17	0.24	0.47
115	10.62	33.463	25.651	4.22	67.0	15.1	1.33	15.9	0.03	0.05	0.07	0.10	0.34	0.05	0.58	0.32	0.44

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 39.5 N	121 2.4 W	23/01/2015	1711 UTC	31 m	1218 - 1759 PST	1216 PST	1758 PST	170.8 mg C/m2	041

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.98	33.174	24.119	5.59	101.0	1.8	0.35	0.0	0.02	0.09	0.13	0.04	91. A	2.3	1.9	2.1	0.30
12	16.97	33.172	24.121	5.58	100.9	1.7	0.34	0.0	0.01	0.09	0.13	0.04					
21	16.97	33.174	24.124	5.59	101.1	1.8	0.33	0.1	0.01	0.03	0.14	0.04	35.	1.8	1.8	1.8	0.33
30	16.97	33.175	24.125	5.59	101.0	1.7	0.32	0.0	0.01	0.04	0.13	0.04	23.	2.3	1.7	2.0	0.28
42	16.96	33.172	24.125	5.60	101.2	1.7	0.34	0.0	0.01	0.08	0.14	0.04					
53	16.94	33.173	24.130	5.60	101.1	1.7	0.32	0.0	0.01	0.05	0.14	0.05	7.2	1.9	1.7	1.8	0.30
68	15.81	33.157	24.378	5.77	101.9	2.0	0.35	0.0	0.01	0.05	0.25	0.16					
83	13.43	33.103	24.842	5.79	97.4	3.4	0.48	1.1	0.17	0.01	0.29	0.19					
99	11.71	33.173	25.229	5.44	88.3	5.8	0.74	5.6	0.07	0.02	0.22	0.17	0.74	0.79	0.95	0.87	0.26
106	11.08	33.163	25.336	5.25	84.1	7.9	0.92	9.0	0.03	0.03	0.15	0.14					
115	10.42	33.194	25.476	5.06	79.8	10.4	1.08	11.8	0.02	0.04	0.09	0.10	0.34	0.06	0.19	0.12	0.31

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 86.7 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 19.4 N	123 44.7 W	24/01/2015	1645 UTC	27 m	1230 - 1810 PST	1227 PST	1809 PST	138.7 mg C/m2	045

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.07	33.146	24.077	5.60	101.3	1.7	0.31	0.0	0.01	0.01	0.10	0.03	89. A	1.4	2.0	1.7	0.45
10	17.07	33.143	24.075	5.59	101.2	1.7	0.32	0.0	0.01	0.02	0.11	0.03					
19	17.07	33.137	24.071	5.59	101.3	1.7	0.31	0.0	0.01	0.01	0.11	0.03	34.	1.8	1.8	1.8	0.35
26	17.06	33.143	24.078	5.59	101.1	1.7	0.32	0.0	0.01	0.01	0.11	0.03	23.	1.8	1.8	1.8	0.38
36	17.06	33.143	24.078	5.59	101.3	1.7	0.32	0.0	0.01	0.01	0.10	0.03					
46	17.05	33.151	24.089	5.59	101.1	1.7	0.31	0.0	0.01	0.01	0.11	0.03	7.3	1.9	1.4	1.7	0.31
59	16.94	33.131	24.100	5.60	101.1	1.7	0.30	0.0	0.01	0.00	0.13	0.04					
72	16.36	33.056	24.178	5.67	101.1	1.6	0.35	0.0	0.01	0.04	0.19	0.15					
86	14.89	33.020	24.477	5.85	101.4	2.3	0.36	0.1	0.03	0.04	0.27	0.22	0.75	0.92	0.73	0.83	0.35
93	14.05	32.987	24.628	5.87	100.0	2.8	0.42	0.4	0.20	0.04	0.27	0.20					
100	13.11	32.990	24.820	5.75	96.0	3.6	0.51	1.7	0.25	0.01	0.24	0.19	0.34	0.18	0.39	0.29	0.27

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 15.0 N	118 15.2 W	21/01/2015	1904 UTC	33 m	1204 - 1738 PST	1204 PST	1738 PST	497.6 mg C/m2	028

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.03	33.440	24.312	5.64	102.3	2.1	0.32	0.1	0.01	0.06	0.21	0.05	91. A	3.8	3.6	3.7	0.25
12	16.96	33.436	24.325	5.68	102.8	2.1	0.33	0.0	0.01	0.02	0.23	0.06					
23	16.95	33.437	24.328	5.66	102.4	2.2	0.37	0.1	0.00	0.09	0.25	0.06	34.	4.6	4.1	4.4	0.35
32	16.59	33.419	24.399	5.69	102.3	2.2	0.34	0.0	0.00	0.06	0.33	0.11	23.	4.2	2.6	3.4	0.35
44	15.67	33.345	24.553	5.76	101.5	2.7	0.38	0.0	0.00	0.04	0.60	0.38					
56	13.95	33.264	24.860	5.69	96.9	3.8	0.51	1.0	0.09	0.07	1.10	0.68	7.4	8.9	8.9	8.9	0.35
72	12.20	33.292	25.230	5.01	82.2	7.7	0.91	8.2	0.04	0.02	0.28	0.35					
87	11.30	33.377	25.462	4.47	72.0	11.3	1.18	12.9	0.01	0.02	0.13	0.16					
105	10.57	33.514	25.699	3.92	62.3						0.04	0.07	0.76	0.18	0.17	0.18	0.21
114	10.44	33.563	25.759	3.75	59.4	17.4	1.51	18.2	0.01	0.01	0.03	0.05					
122	10.28	33.598	25.816	3.59	56.7	18.6	1.57	19.2	0.01	0.03	0.02	0.05	0.34	0.01	0.07	0.04	0.18

A) INCUBATION LIGHT INTENSITIES WERE 55.0, 34.0, 22.7, 7.3, 0.76, 0.34 PERCENT RESPECTIVELY.

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 5.0 N	120 38.5 W	20/01/2015	1727 UTC	23 m	1218 - 1748 PST	1214 PST	1748 PST	90.1 mg C/m2	023

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	17.43	33.317	24.123	5.56	101.4	1.9	0.30	0.0	0.01	0.01	0.11	0.04	82. A	1.3	1.5	1.4	0.27
11	17.43	33.306	24.115	5.54	101.1	1.9	0.30	0.0	0.01	0.05	0.11	0.03					
16	17.42	33.307	24.118	5.54	101.1	1.9	0.33	0.1	0.01	0.19	0.12	0.03	34.	1.4	1.4	1.4	0.28
22	17.42	33.305	24.117	5.55	101.3	1.9	0.31	0.0	0.00	0.01	0.12	0.03	23.	1.5	1.8	1.6	0.34
39	17.40	33.299	24.118	5.54	101.0	1.9	0.31	0.0	0.00	0.03	0.12	0.03	7.4	1.00	1.1	1.0	0.26
50	17.40	33.298	24.119	5.55	101.2	1.9	0.31	0.0	0.00	0.01	0.12	0.04					
61	16.98	33.271	24.198	5.56	100.6	1.8	0.31	0.0	0.00	0.00	0.15	0.05					
73	14.89	33.145	24.572	5.85	101.5	2.6	0.38	0.1	0.01	0.05	0.27	0.22	0.77	0.75	0.69	0.72	0.28
80	14.65	33.243	24.699	5.71	98.5	3.0	0.41	0.3	0.08	0.00	0.25	0.25					
85	14.00	33.160	24.772	5.73	97.6	3.3	0.47	0.9	0.13	0.01	0.24	0.23	0.34	0.45	0.24	0.34	0.21

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
30 45.2 N	123 19.9 W	19/01/2015	1711 UTC	37 m	1225 - 1807 PST	1224 PST	1804 PST	185.9 mg C/m2	019

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.69	33.202	23.972	5.55	101.8	1.9	0.31	0.0	0.01	0.00	0.13	0.04	92. A	2.3	2.3	2.3	0.37
14	17.69	33.198	23.970	5.54	101.6	1.9	0.32	0.0	0.01	0.00	0.13	0.04					
27	17.69	33.202	23.973	5.53	101.3	1.8	0.31	0.0	0.01	0.01	0.12	0.04	33.	2.2	2.2	2.2	0.35
37	17.69	33.209	23.980	5.52	101.2	1.8	0.31	0.0	0.01	0.00	0.13	0.04	22.	2.3	2.0	2.1	0.52
46	17.69	33.196	23.970	5.54	101.5	1.8	0.32	0.0	0.01	0.08	0.13	0.04					
55	17.70	33.196	23.970	5.53	101.4	1.8	0.32	0.0	0.01	0.01	0.13	0.04					
66	17.70	33.197	23.970	5.53	101.3	1.8	0.32	0.0	0.01	0.00	0.13	0.05	6.5	1.6	1.1	1.3	0.70
85	14.41	33.041	24.594	5.94	101.9	2.6	0.40	0.1	0.04	0.02	0.24	0.27					
103	12.63	33.111	25.009	5.56	92.0	4.8	0.67	4.1	0.12	0.00	0.19	0.25					
121	11.24	33.139	25.290	5.32	85.5	6.9	0.85	7.6	0.03	0.01	0.13	0.19	0.66	0.78	0.09	0.43	0.68
130	11.00	33.159	25.349	5.24	83.7	8.0	0.93	9.2	0.02	0.00	0.10	0.15					
141	10.52	33.203	25.467	5.04	79.7	10.0	1.06	11.5	0.02	0.00	0.07	0.12	0.29	0.07	0.11	0.09	0.44

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 57.5 N	117 18.5 W	15/01/2015	1953 UTC	21 m	1232 - 1735 PST	1159 PST	1732 PST	413.3 mg C/m2	001

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.75	33.411	24.355	5.64	101.6	2.2	0.33	0.1	0.01	0.42	0.37	0.09	86. A	8.7	7.9	8.3	0.94
8	16.76	33.411	24.353	5.69	102.5	2.2	0.33	0.1	0.01	0.53	0.35	0.08					
15	16.60	33.409	24.388	5.72	102.9	2.2	0.34	0.1	0.01	1.98	0.40	0.11	33.	8.9	10.3	9.6	0.38
20	16.43	33.416	24.434	5.75	102.9	2.4	0.32	0.0	0.01	1.17	0.50	0.15	23.	8.7	8.8	8.7	0.32
28	16.11	33.422	24.511	5.72	101.8	2.7	0.35	0.1	0.02	0.77	0.60	0.22					
36	15.62	33.370	24.584	5.65	99.6	3.2	0.40	0.3	0.11	0.38	0.90	0.34	7.2	8.6	8.1	8.3	0.47
60	13.24	33.340	25.063	4.74	79.5	7.9	0.91	7.9	0.22	0.48	0.21	0.18	1.2	0.50	0.48	0.49	0.22

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 30

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 50.7 N	117 31.9 W	16/01/2015	1730 UTC	38 m	1200 - 1738 PST	1200 PST	1736 PST	187.8 mg C/m2	005

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.84	33.388	24.316	5.58	100.8	2.0	0.32	0.0	0.01	0.06	0.19	0.03	92. A	3.1	2.9	3.0	0.48
14	16.81	33.391	24.327	5.59	100.8	1.9	0.32	0.0	0.01	0.11	0.21	0.02					
27	16.80	33.390	24.328	5.59	100.9	1.9	0.32	0.0	0.01	0.06	0.20	0.05	34.	3.1	3.1	3.1	0.28
37	16.64	33.386	24.364	5.65	101.5	2.0	0.33	0.0	0.01	0.01	0.45	0.22	22.	2.7	2.3	2.5	0.19
46	16.14	33.384	24.477	5.66	100.8	2.3	0.35	0.0	0.01	0.04	0.45	0.23					
55	14.66	33.279	24.723	5.49	94.9	3.9	0.53	1.7	0.14	0.09	0.60	0.42					
65	13.15	33.207	24.980	5.40	90.4	5.0	0.68	4.3	0.10	0.17	0.30	0.27	7.2	0.76	0.75	0.75	0.14
84	12.08	33.320	25.275	4.81	78.8	8.4	0.95	9.2	0.02	0.18	0.14	0.14					
103	11.27	33.447	25.523	4.21	67.7	12.7	1.24	13.9	0.02	0.31	0.06	0.07					
121	11.14	33.731	25.768	3.02	48.5	19.3	1.65	18.9	0.02	0.05	0.01	0.04	0.75	0.01	0.12	0.06	0.11
131	10.79	33.793	25.879	2.87	45.9	21.5	1.77	20.7	0.01	0.09	0.01	0.03					
141	10.32	33.809	25.973	2.84	44.9	22.9	1.82	21.7	0.02	0.05	0.01	0.03	0.34	1.0	0.73	0.88	

A) INCUBATION LIGHT INTENSITIES WERE 55.0, 34.0, 22.7, 7.3, 0.76, 0.34 PERCENT RESPECTIVELY.

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 50.8 N	119 34.2 W	17/01/2015	1745 UTC	41 m	1210 - 1750 PST	1208 PST	1748 PST	232.2 mg C/m2	011

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.44	33.264	24.080	5.53	101.0	1.8	0.34	0.0	0.01	0.10	0.10	0.03	93. A	1.4	2.4	1.9	0.64
16	17.42	33.264	24.086	5.56	101.4	1.8	0.33	0.0	0.01	0.11	0.11	0.04					
28	17.42	33.267	24.090	5.54	101.1	1.8	0.36	0.0	0.01	0.17	0.11	0.03	35.	2.1	1.8	2.0	0.66
40	17.42	33.263	24.088	5.58	101.7	1.8	0.32	0.0	0.00	0.03	0.11	0.04	22.	1.7	1.8	1.8	0.55
51	17.41	33.261	24.087	5.54	101.1	1.8	0.32	0.0	0.01	0.11	0.12	0.04					
61	16.06	33.165	24.328	5.76	102.3	2.0	0.35	0.0	0.01	0.07	0.20	0.12					
69	14.26	33.098	24.668	5.82	99.7	3.0	0.45	0.7	0.10	0.01	0.32	0.30	7.6	2.3	3.0	2.6	0.26
90	11.66	33.155	25.225	5.10	82.6	8.1	0.99	9.3	0.04	0.07	0.22	0.26					
130	9.90	33.475	25.784	4.25	66.4	16.4	1.42	17.4	0.01	0.04	0.03	0.05	0.77	0.33	0.25	0.29	0.24
141	9.73	33.539	25.862	4.02	62.6	18.5	1.51	18.9	0.01	0.04	0.02	0.04					
152	9.53	33.643	25.976	3.67	56.9	21.5	1.66	21.1	0.01	0.03	0.01	0.04	0.34	0.05	0.03	0.04	0.28

RV NEW HORIZON CALCOFI CRUISE 1501 STATION 93.3 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
30 30.9 N	122 15.9 W	18/01/2015	1700 UTC	35 m	1220 - 1759 PST	1219 PST	1759 PST	132.2 mg C/m2	015

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN ml/L	OXY PCT	SIO3* µM	PO4* µM	NO3* µM	NO2* µM	NH4* µM	CHL-A µg/L	PHAEO µg/L	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	18.44	33.522	24.033	5.45D	101.5	2.2	0.29	0.0	0.01	0.13	0.09	0.03	92. A	1.6	1.2	1.4	0.41
14	18.44	33.521	24.033	5.43	101.1	2.2	0.28	0.0	0.01	0.04	0.09	0.03					
25	18.44	33.520	24.034	5.44D	101.5	2.2	0.30	0.1	0.01	0.10	0.09	0.02	33.	1.2	1.2	1.2	0.40
34	18.45	33.520	24.033	5.43	101.1	2.2	0.29	0.0	0.01	0.05	0.09	0.03	23.	0.92	1.1	1.00	0.71
43	18.44	33.520	24.036	5.44	101.3	2.2	0.29	0.0	0.01	0.07	0.09	0.03					
52	18.27	33.519	24.079	5.43	100.9	2.2	0.29	0.0	0.01	0.03	0.09	0.03					
60	18.07	33.539	24.144	5.55	102.7	2.3	0.28	0.0	0.00	0.04	0.15	0.08	7.2	1.4	1.5	1.5	0.40
76	15.64	33.254	24.492	5.81	102.3	2.5	0.34	0.0	0.01	0.08	0.22	0.15					
94	14.08	33.152	24.750	5.74	97.9	3.2	0.45	0.6	0.21	0.09	0.24	0.18					
111	14.21	33.483	24.979	5.43	93.0	3.9	0.46	1.9	0.12	0.06	0.17	0.18	0.77	0.57	0.52	0.54	0.22
119	13.30	33.439	25.131	5.36	90.1	4.6	0.54	3.3	0.05	0.03	0.13	0.20					
130	12.25	33.351	25.267	5.30	87.1	5.7	0.70	5.3	0.03	0.15	0.11	0.12	0.33	0.15	0.30	0.22	0.27

A) INCUBATION LIGHT INTENSITIES WERE 55.0, 34.0, 22.7, 7.3, 0.76, 0.34 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)
60.0	53.0	37 50.6	123 06.0	02/04	1838	1845	137	63	139	139
60.0	60.0	37 36.7	123 36.3	02/04	2304	2325	411	213	58	51
63.3	52.0	37 18.4	122 37.0	02/04	1313	1321	158	56	241	114
63.3	55.0	37 12.5	122 50.0	02/04	1049	1110	359	211	884	42
63.3	60.0	37 02.7	123 11.6	02/04	0715	0736	428	211	65	65
63.3	70.0	36 42.4	123 55.1	02/04	0131	0152	431	204	86	53
63.3	80.0	36 22.6	124 37.7	02/03	2001	2022	431	208	248	67
63.3	90.0	36 02.5	125 20.3	02/03	1414	1435	427	212	56	56
66.7	50.0	36 47.4	122 03.2	02/02	0409	0431	418	207	124	53
66.7	55.0	36 37.3	122 24.8	02/02	1117	1139	440	206	27	27
66.7	60.0	36 27.1	122 46.2	02/02	1502	1523	423	202	54	26
66.7	70.0	36 07.2	123 29.0	02/02	2052	2113	437	212	37	37
66.7	80.0	35 47.1	124 11.6	02/03	0235	0256	447	202	58	49
66.7	90.0	35 27.2	124 54.0	02/03	0824	0845	431	213	97	46
70.0	51.0	36 10.9	121 43.8	02/01	2218	2239	415	207	268	43
70.0	55.0	36 02.9	122 00.6	02/01	1904	1925	413	208	659	56
70.0	60.0	35 52.9	122 21.9	02/01	1459	1521	437	201	62	16
70.0	70.0	35 32.6	123 04.4	02/01	0848	0909	408	215	56	25
70.0	80.0	35 12.7	123 46.7	02/01	0150	0212	447	207	266	40
70.0	90.0	34 52.8	124 28.7	01/31	1950	2012	435	217	147	28
73.3	50.0	35 38.6	121 15.3	01/30	1012	1014	58	20	87	87
73.3	55.0	35 28.5	121 36.4	01/30	1350	1413	525	198	274	25
73.3	60.0	35 18.6	121 57.4	01/30	1742	1804	430	216	72	44
73.3	70.0	34 58.5	122 39.9	01/31	0012	0033	475	197	27	27
73.3	80.0	34 38.6	123 21.7	01/31	0637	0658	467	216	105	28
73.3	90.0	34 18.6	124 03.7	01/31	1306	1329	476	210	34	34
76.7	49.0	35 05.4	120 46.6	01/30	0439	0444	112	43	36	36
76.7	51.0	35 01.3	120 55.1	01/30	0230	0250	442	177	158	54
76.7	55.0	34 53.3	121 11.9	01/29	2304	2325	425	215	2121	63
76.7	60.0	34 42.7	121 33.0	01/29	1856	1918	435	217	67	41
76.7	70.0	34 23.3	122 14.9	01/29	1220	1241	451	203	151	40
76.7	80.0	34 03.4	122 56.5	01/29	0545	0606	425	217	66	54
76.7	90.0	33 43.3	123 38.1	01/28	2315	2337	455	211	29	29
76.7	100.0	33 23.1	124 19.2	01/28	1658	1719	420	209	26	26
80.0	51.0	34 27.0	120 31.4	01/27	0026	0031	111	38	54	54
80.0	55.0	34 19.1	120 48.2	01/27	0402	0423	446	208	25	25
80.0	60.0	34 09.1	121 08.9	01/27	0717	0737	423	220	172	28
80.0	70.0	33 49.0	121 50.4	01/27	1503	1525	443	208	50	50
80.0	80.0	33 28.9	122 32.1	01/27	2110	2132	462	210	186	50
80.0	90.0	33 09.0	123 13.3	01/28	0224	0246	445	206	43	43
80.0	100.0	32 48.7	123 54.3	01/28	1054	1115	446	212	47	47
81.7	43.5	34 24.3	119 47.9	01/26	1641	1643	44	14	23	23
81.8	46.9	34 16.6	120 01.5	01/26	2002	2023	425	214	19	19
83.3	39.4	34 15.4	119 19.5	01/26	1337	1339	49	12	20	20
83.3	40.6	34 13.5	119 24.8	01/26	1246	1248	63	19	16	16
83.3	42.0	34 10.7	119 30.5	01/26	1111	1118	168	65	30	30
83.3	51.0	33 52.7	120 08.0	01/26	0517	0524	141	66	50	50
83.3	55.0	33 44.6	120 24.7	01/26	0134	0156	454	210	31	31
83.3	60.0	33 34.7	120 45.3	01/25	2140	2202	455	206	92	92
83.3	70.0	33 14.7	121 26.5	01/25	1555	1617	478	227	153	44
83.3	80.0	32 54.4	122 07.8	01/25	0818	0839	421	211	541	59
83.3	90.0	32 34.5	122 48.5	01/25	0318	0340	440	210	39	39
83.3	100.0	32 14.6	123 29.4	01/24	2124	2146	447	214	22	22
83.3	110.0	31 54.6	124 10.0	01/24	1528	1550	431	217	51	28
86.7	33.0	33 53.4	118 29.3	01/22	0408	0413	123	39	16	16
86.7	35.0	33 49.4	118 37.7	01/22	0650	0711	419	214	24	24
86.7	40.0	33 39.4	118 58.5	01/22	1124	1146	455	204	68	31
86.7	45.0	33 29.4	119 19.1	01/22	1539	1600	394	228	18	18
86.7	50.0	33 19.4	119 39.8	01/22	1917	1923	143	58	49	49
86.7	55.0	33 09.4	120 00.4	01/22	2308	2329	431	207	44	44
86.7	60.0	32 59.4	120 20.8	01/23	0303	0324	406	213	84	59
86.7	70.0	32 39.4	121 01.9	01/23	0811	0833	450	209	29	29
86.7	80.0	32 19.4	121 42.7	01/23	1528	1549	420	211	24	24
86.7	90.0	31 59.3	122 23.4	01/23	2121	2143	439	214	23	23
86.7	100.0	31 39.3	123 03.9	01/24	0308	0329	468	206	19	19
86.7	110.0	31 19.4	123 44.6	01/24	0749	0811	450	214	24	24
86.8	32.5	33 53.3	118 26.7	01/22	0236	0238	55	17	162	162
88.5	30.1	33 40.3	118 05.6	01/21	2314	2316	57	14	140	140
90.0	27.7	33 29.7	117 44.9	01/21	2046	2049	67	19	75	75
90.0	28.0	33 29.1	117 46.1	01/21	1946	2000	286	134	147	17
90.0	30.0	33 25.1	117 54.2	01/21	1704	1726	451	218	42	22
90.0	35.0	33 15.1	118 15.0	01/21	1220	1243	463	214	17	9
90.0	37.0	33 11.1	118 23.3	01/21	0924	0946	458	210	15	15
90.0	45.0	32 55.0	118 56.0	01/21	0407	0429	448	215	118	29
90.0	53.0	32 39.1	119 29.0	01/20	2240	2304	498	223	22	22
90.0	60.0	32 25.1	119 57.4	01/20	1719	1741	465	215	22	22
90.0	70.0	32 05.1	120 38.4	01/20	1058	1121	482	213	8	8
90.0	80.0	31 45.0	121 18.7	01/20	0415	0437	465	219	24	24
90.0	90.0	31 25.1	121 59.4	01/19	2150	2212	478	211	17	17
90.0	100.0	31 05.1	122 39.7	01/19	1540	1602	424	216	9	9
90.0	110.0	30 45.1	123 19.9	01/19	0813	0836	461	210	9	9
90.0	120.0	30 25.1	123 59.9	01/19	0311	0333	449	215	16	16
91.7	26.4	33 14.8	117 27.8	01/15	1658	1700	59	14	17	17
93.3	26.7	32 57.5	117 18.3	01/15	1257	1320	512	216	23	12
93.3	28.0	32 56.6	117 24.1	01/15	1912	1933	434	214	12	12
93.3	30.0	32 50.8	117 31.9	01/16	0822	0844	463	218	22	6
93.3	35.0	32 40.8	117 52.4	01/16	1356	1417	410	214	12	12
93.3	40.0	32 30.7	118 12.9	01/16	1745	1807	454	213	11	11
93.3	45.0	32 20.9	118 33.4	01/16	2147	2209	466	207	13	13
93.3	50.0	32 10.6	118 53.7	01/17	0152	0215	493	211	26	26
93.3	55.0	32 00.8	119 14.0	01/17	0552	0613	448	214	27	27
93.3	60.0	31 50.8	119 34.3	01/17	0840	0903	493	212	30	30
93.3	70.0	31 30.8	120 14.8	01/17	1602	1623	472	209	25	25
93.3	80.0	31 10.8	120 55.3	01/17	2138	2201	492	211	33	33
93.3	90.0	30 50.8	121 35.4	01/18	0319	0341	479	211	25	25
93.3	100.0	30 30.9	122 15.6	01/18	0753	0816	487	214	6	6
93.3	110.0	30 10.8	122 55.4	01/18	1519	1541	468	209	6	6
93.3	120.0	29 50.8	123 35.2	01/18	2102	2125	458	215	11	11
93.4	26.4	32 57.4	117 17.0	01/15	1410	1412	58	14	17	17