UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

CalCOFI Cruise 1711
9 – 24 November, 2017

CC Reference 18 - 03
1 Sep., 2018

UNIVERSITY OF CALIFORNIA, SAN DIEGO

SCRIPPS INSTITUTION OF OCEANOGRAPHY

LA JOLLA, CALIFORNIA 92093

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 1711
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CONTENTS

INTRODUCTION

The data presented in this report were collected during cruise 1711* of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the R/V Sally Ride. 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. Many 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 P157. 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.

* 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. The mean values for NO_2 + NO_3, PO_4, and dissolved reactive silicate species (SIL) for the cruise were calculated and compared to certified manufacturer values (see table below). 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.

1708SR	**NO_2+NO_3 (µmol/L)**	**PO_4 (µmol/L)**	**SIL (µmol/L)**
Mean ± SD (n=34)	36.44 ± .23	2.56 ± .02	110.40 ± .72
Certified Value* (Lot CB)	36.65	2.58	111.82

*Converted from µmol/kg using assumed lab temperature of 20°C and salinity 34.374 provided by manufacturer.

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. Samples were inoculated with a cruise average of 6.50 µCi of ^{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).

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 5 meters. The data were logged in one-second increments using a Sea-Bird Electronics, Inc., SBE 45 MicroTSG Thermosalinographs for internal and external measurements, and a WetLabs C-star transmissometer and Wetlabs FLNTU and Eco-triplet fluorometers. The data has been processed to show 10 minute averages.

2) ADCP: Continuously sample profiles of currents using the RDI/Teledyne Acoustic Doppler Current Profiler. This will be dependent on the ability to sync the ADCP's output with the EK60 and ME70. The EK60 and ME70 will hold priority over the 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) Underway Sea Surface pCO2 and pH measurements: Automated shipboard analysis of the partial pressure of CO2 and pH were made from the ship's underway flow-through system. pCO2 measurements were taken with the Shipboard Underway pCO2 Environmental Recorder (SUPER-CO2) sold by Sunburst Sensors designed with a showered equilibrator and a LI-COR 840A CO2/H2O non-dispersive infrared gas analyzer. pH measurements were taken with a Honeywell Durafet based on Ion Selective Field Effect Transistor (ISFET) technology. The Durafet pH sensor was calibrated before and after the cruise. pCO2 was calibrated with standard gases traceable to NIST every 4 hours, along with an atmospheric sample. Temperature and salinity were also sampled using a SeaBird Thermosalinograph (SBE45). Measurements were recorded every 4 seconds. (T. Martz, SIO)

4) 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)

5) 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)

6) 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 8 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)

7) 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)

8) 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)

9) 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)

10) Wave Buoy: CORDC Miniature Wave Buoys are free-drifting surface-following wave measuring buoys. Four buoys were deployed, each at one of the western most stations along lines 93.3, 86.7, 80.0 and 76.7. The buoys are configured to report every 3 hrs, via Iridium, the SST, the bulk standard wave parameters (Hs, Tp, Dp), and the first 5 (a's and b's) spectral moments. The buoys will help provide data on the California Current as well as any passing hurricane activity further offshore. (E. Terrill, 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 1711

1. CalCOFI Cruise 1711 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

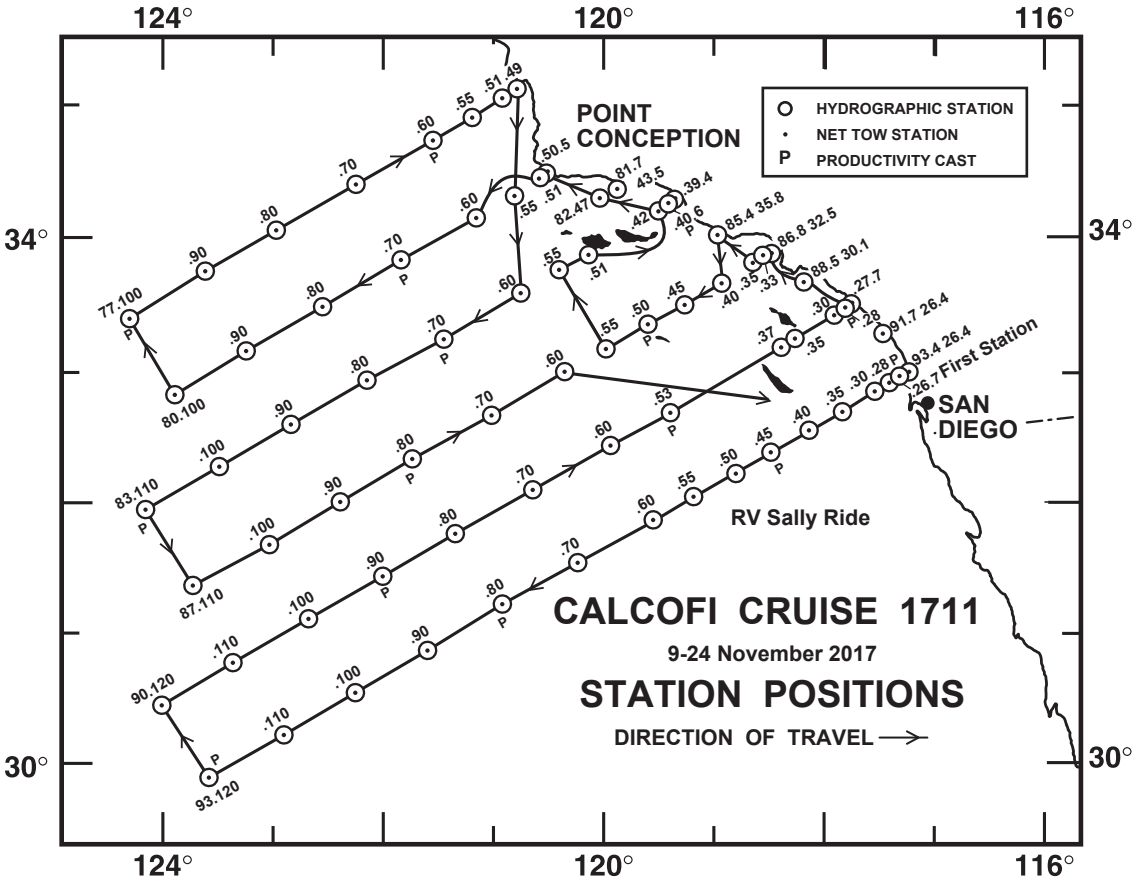

FIGURE 1

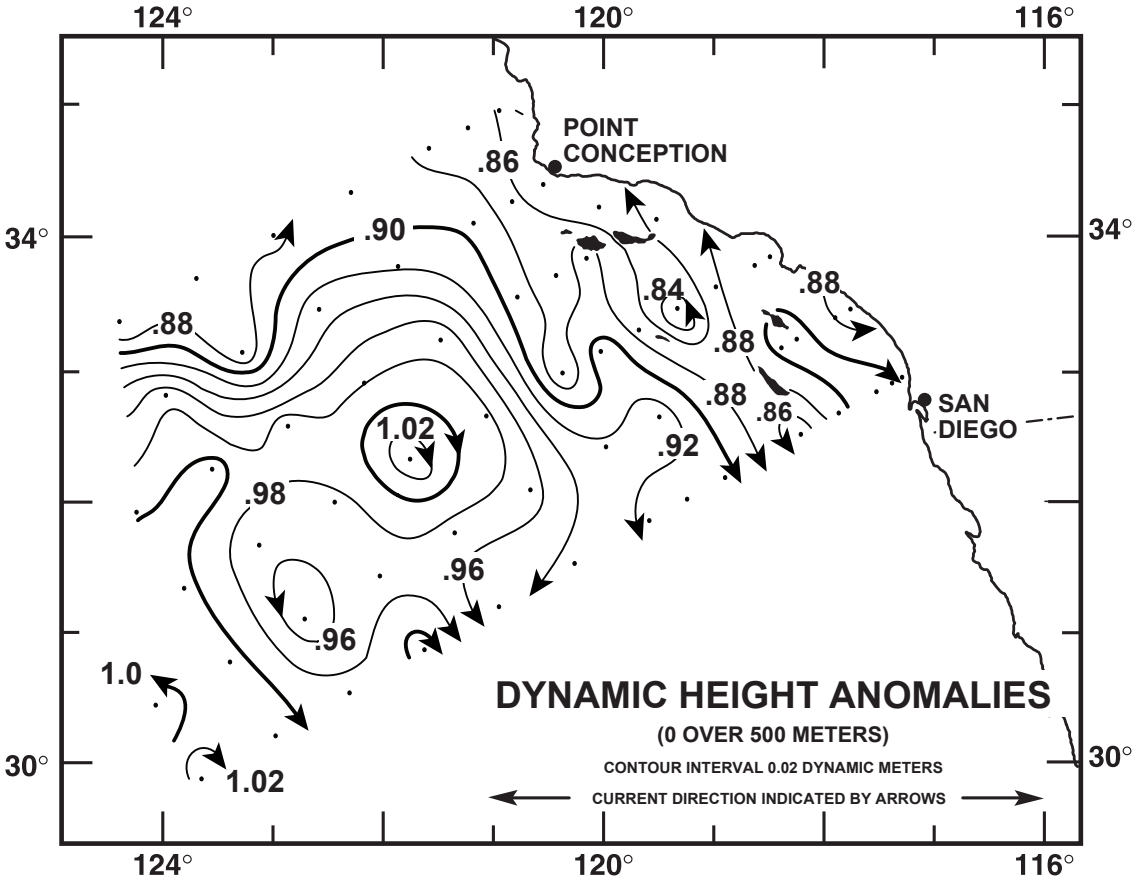

FIGURE 2

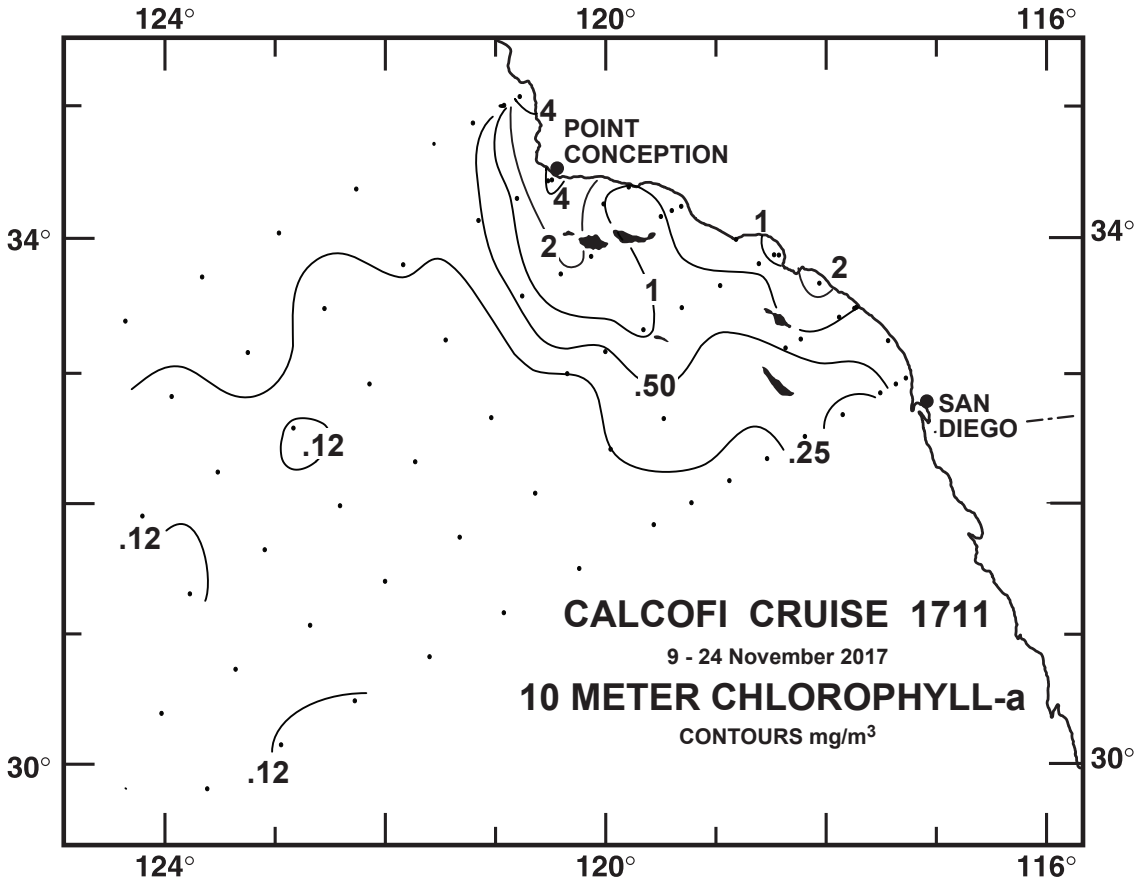

FIGURE 3A

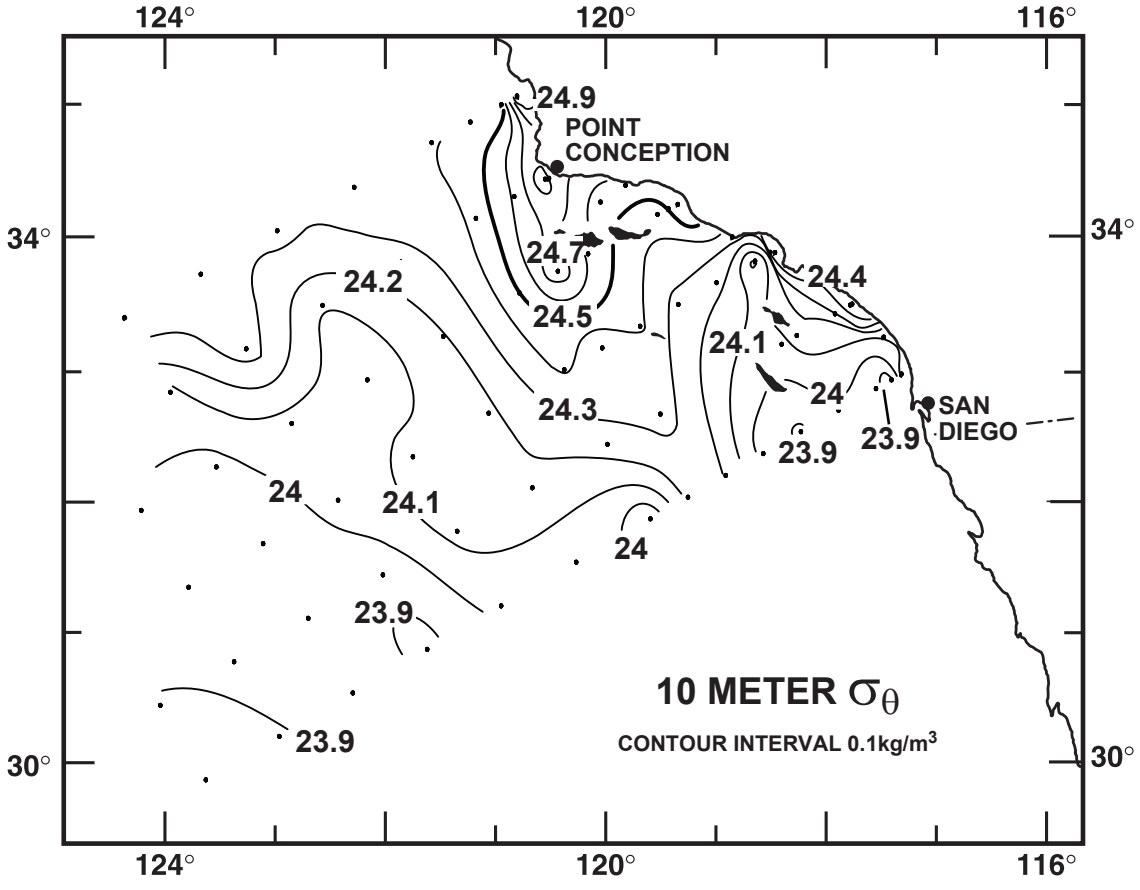

FIGURE 3B

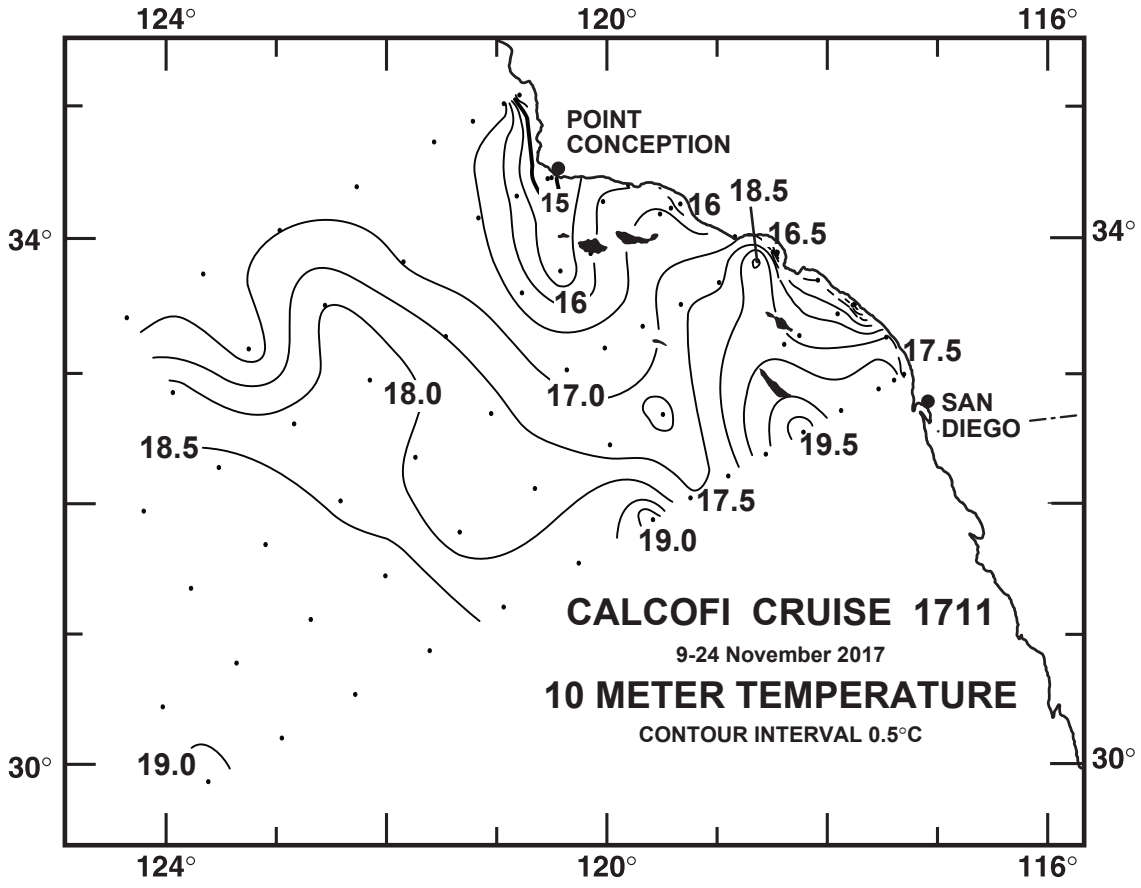

FIGURE 3C

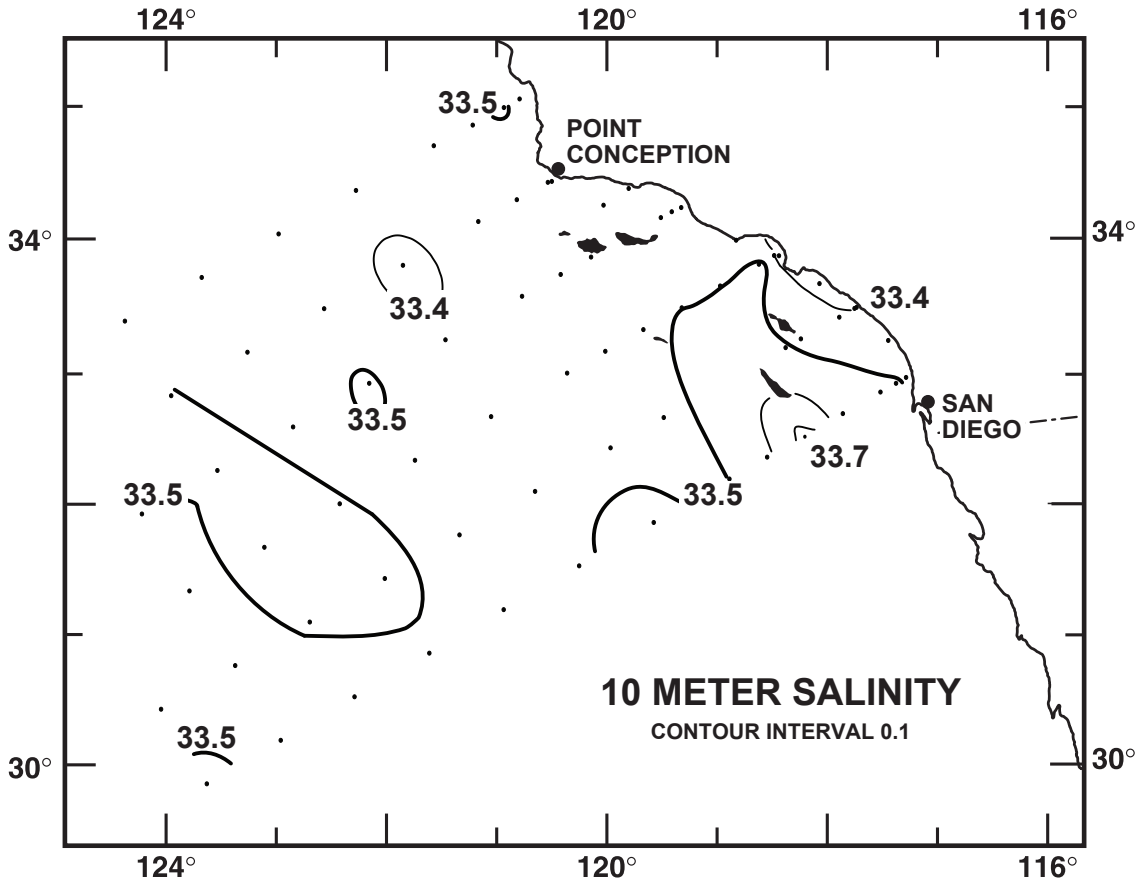

FIGURE 3D

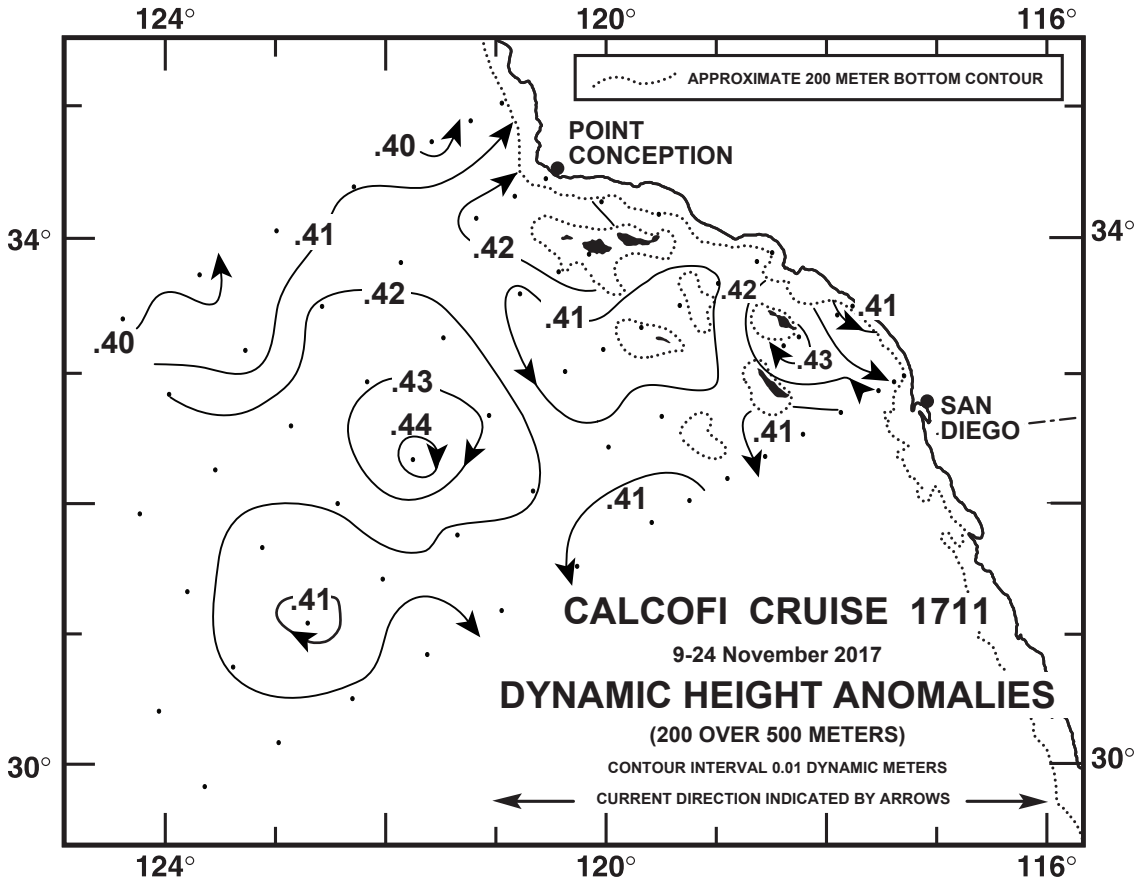

FIGURE 4A

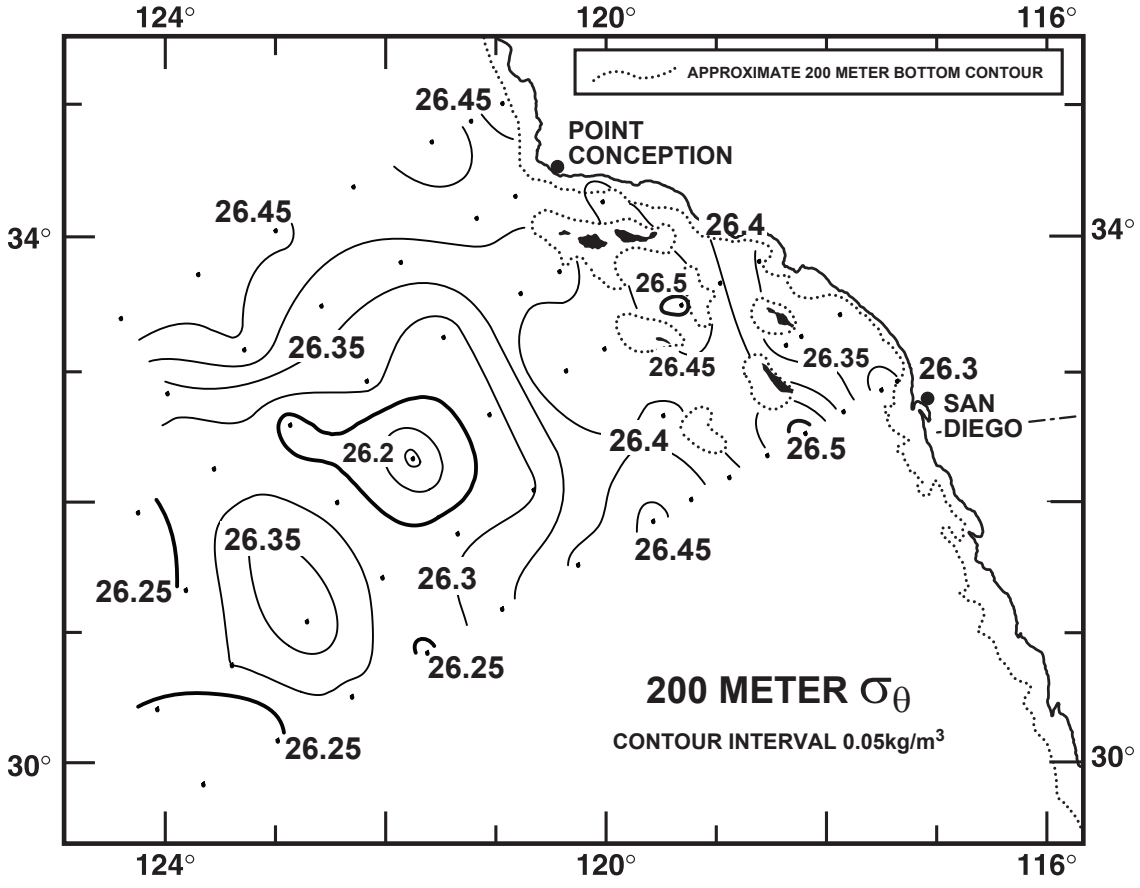

FIGURE 4B

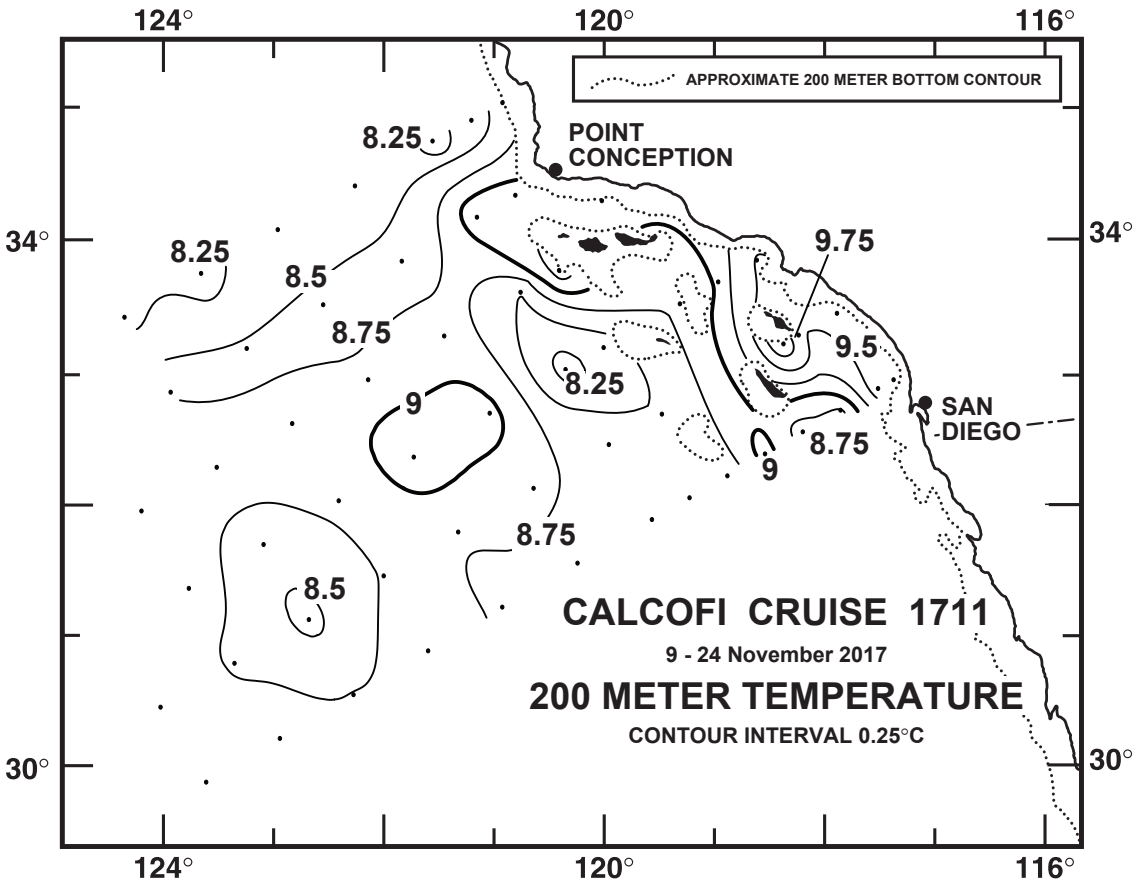

FIGURE 4C

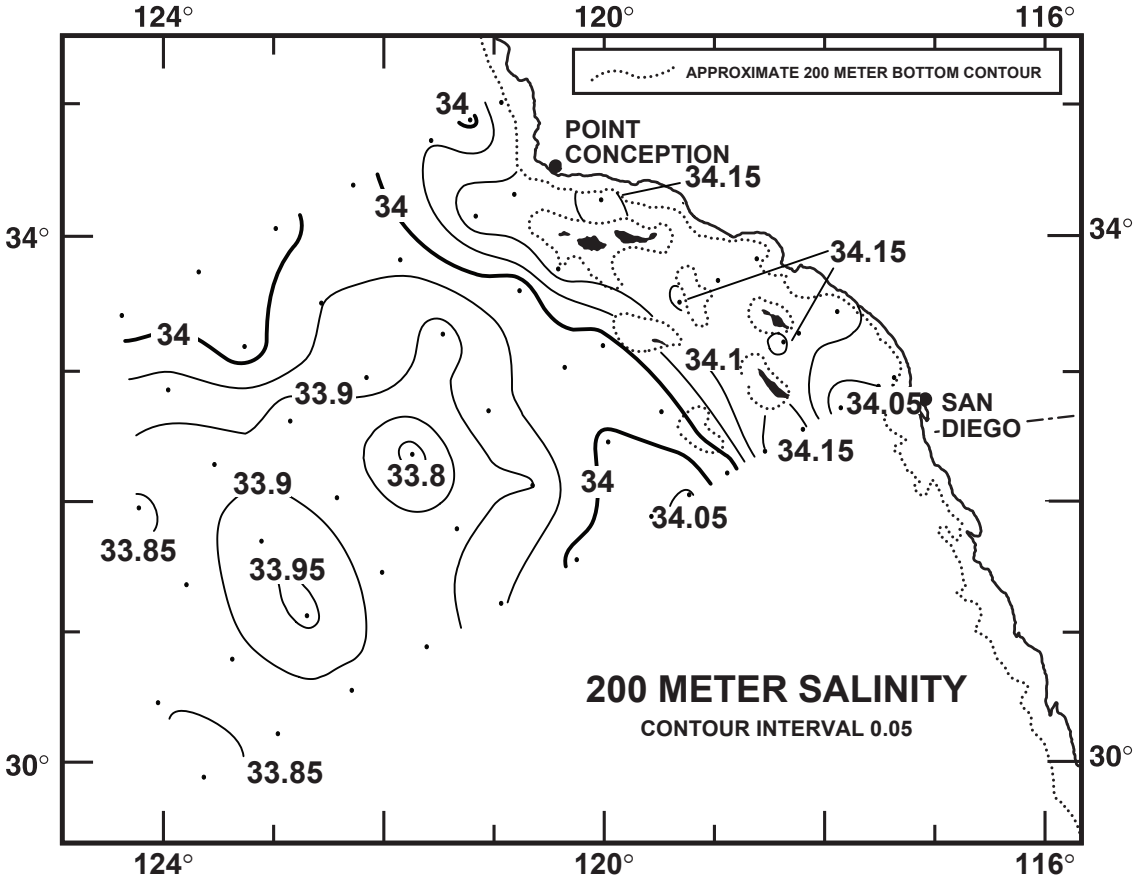

FIGURE 4D

CALCOFI CRUISE 1711

12 - 15 November 2017

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

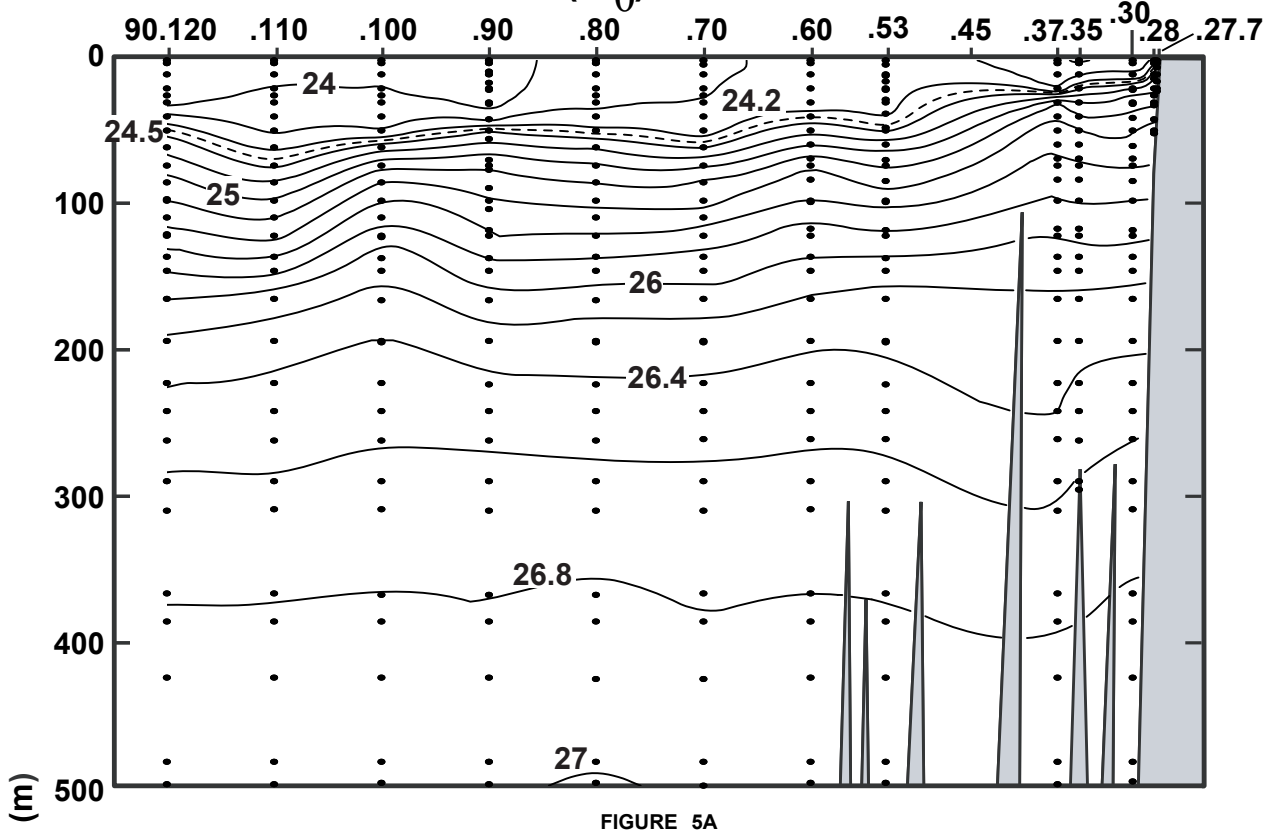

FIGURE 5A

TEMPERATURE (^{o}C) ALONG CALCOFI LINE 90

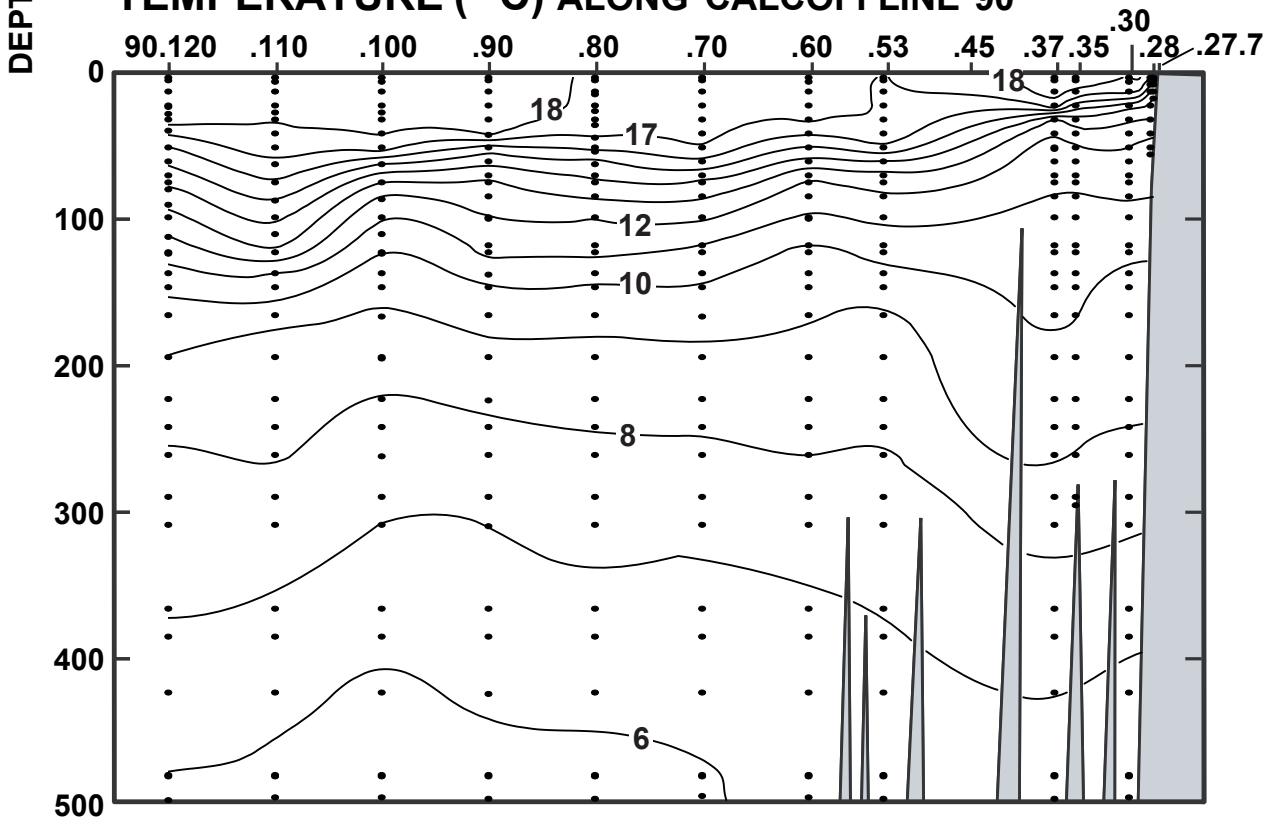

FIGURE 5B

CALCOFI CRUISE 1711

12 - 15 November 2017

SALINITY ALONG CALCOFI LINE 90

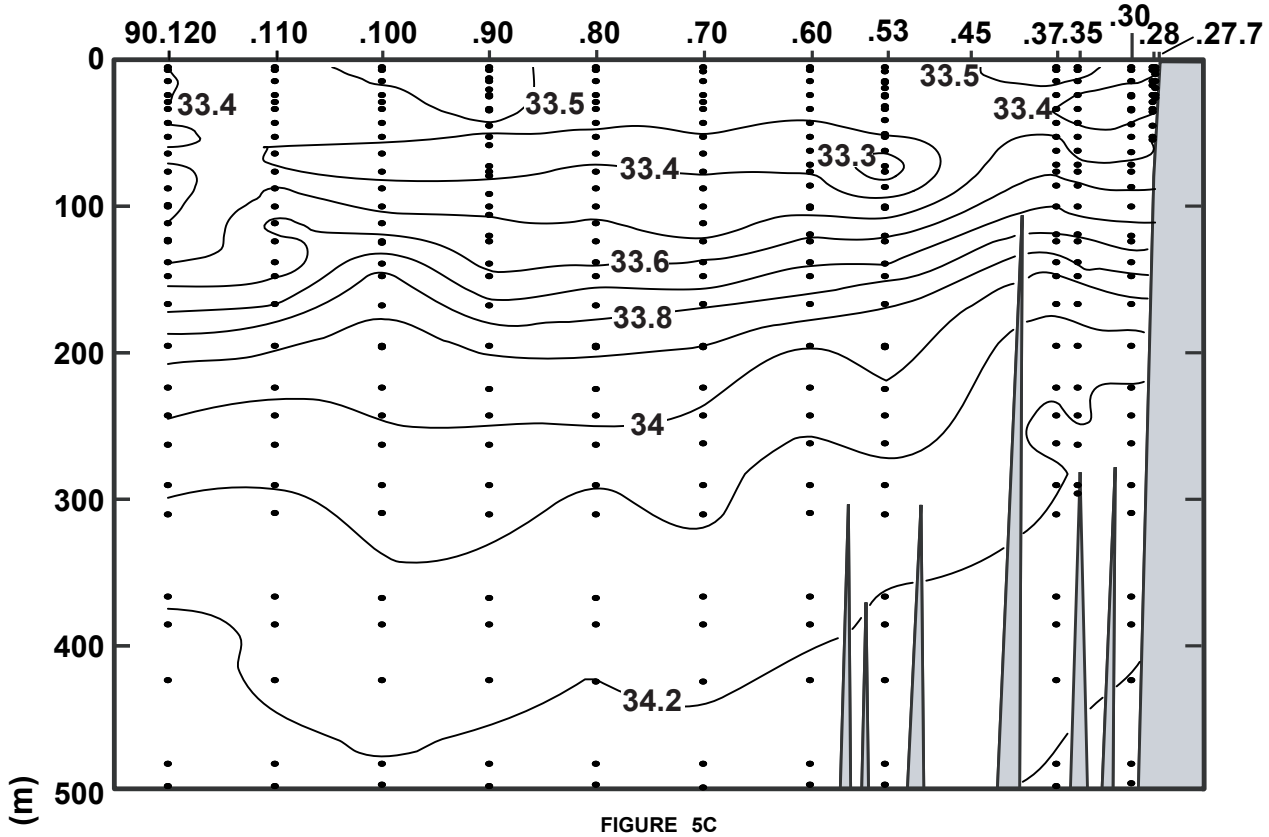

FIGURE 5C

SILICATE (μM/L) ALONG CALCOFI LINE 90

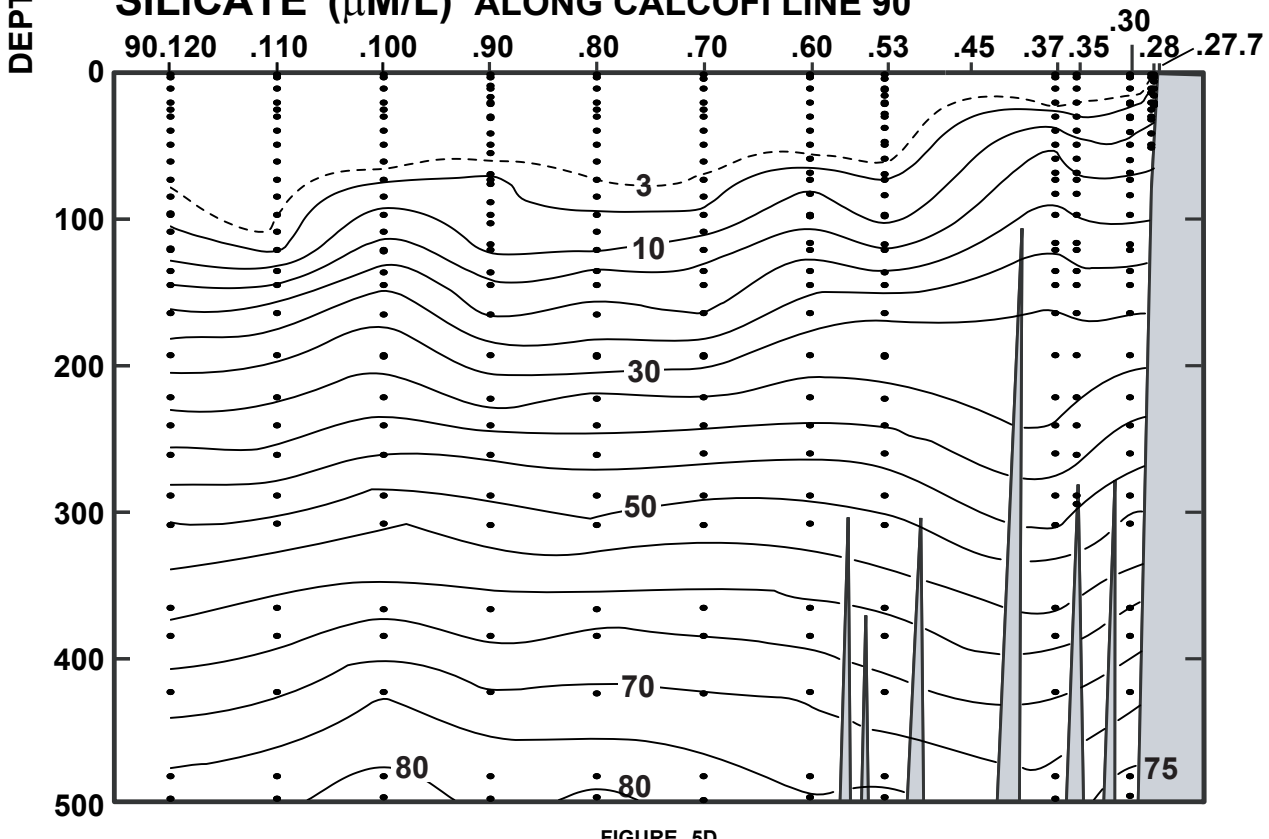

FIGURE 5D

CALCOFI CRUISE 1711

12 - 15 November 2017

NITRATE (μM/L) ALONG CALCOFI LINE 90

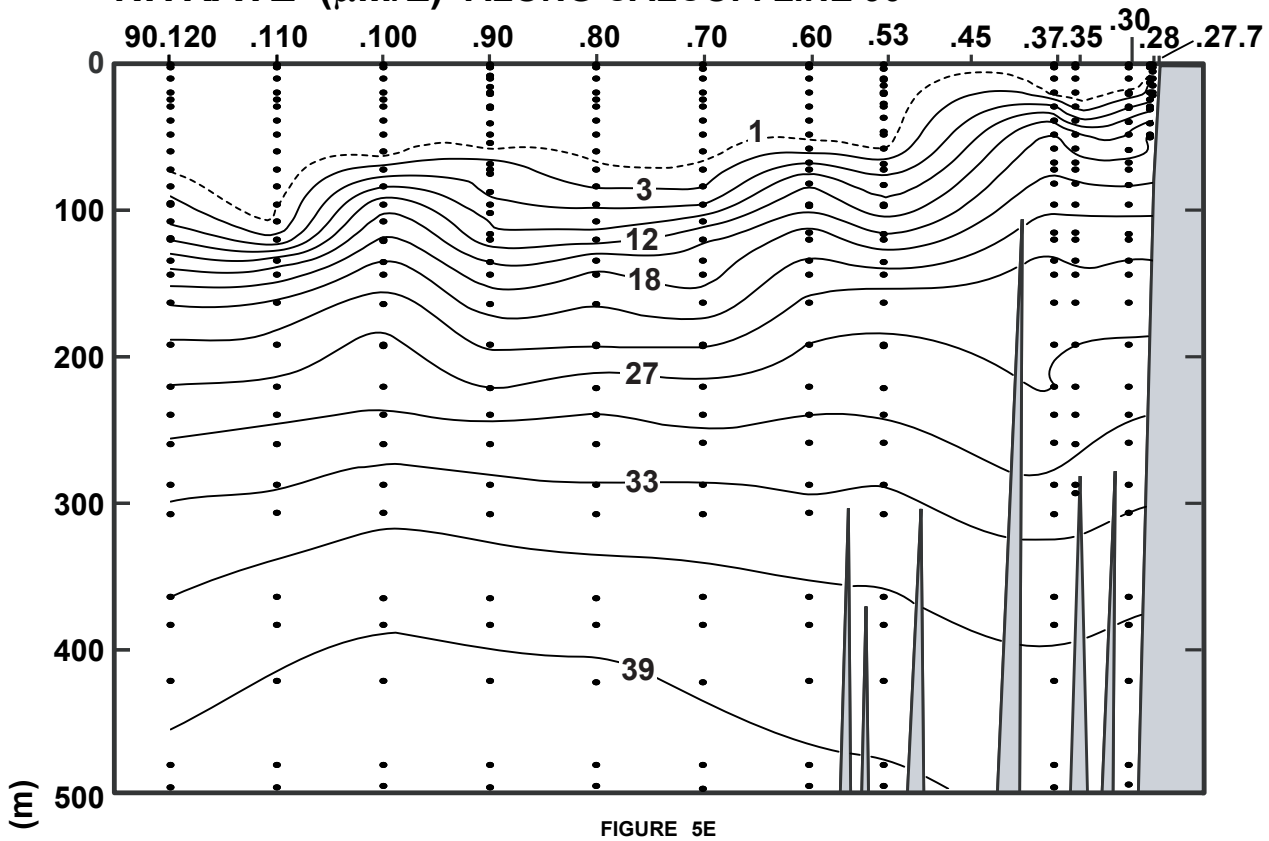

FIGURE 5E

PHOSPHATE (μM/L) ALONG CALCOFI LINE 90

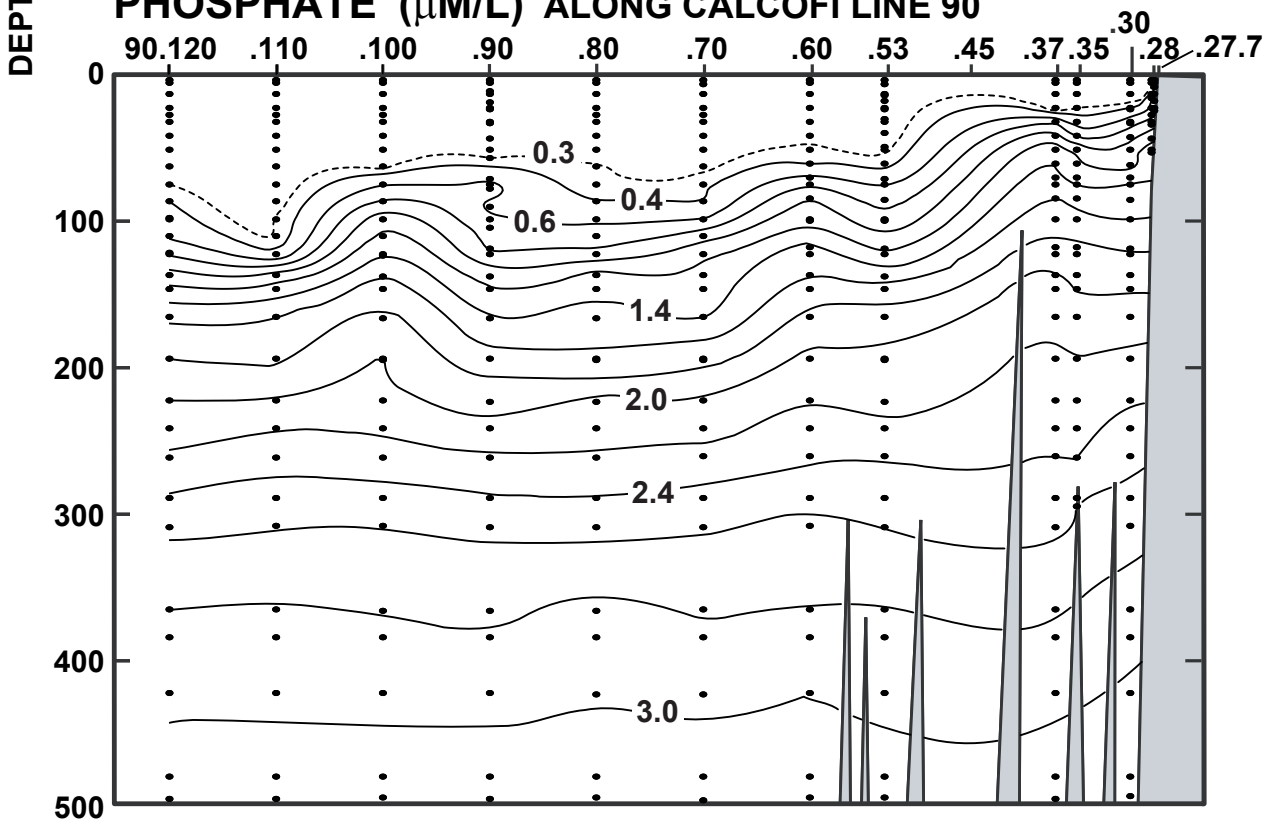

FIGURE 5F

CALCOFI CRUISE 1711

12 - 15 November 2017

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

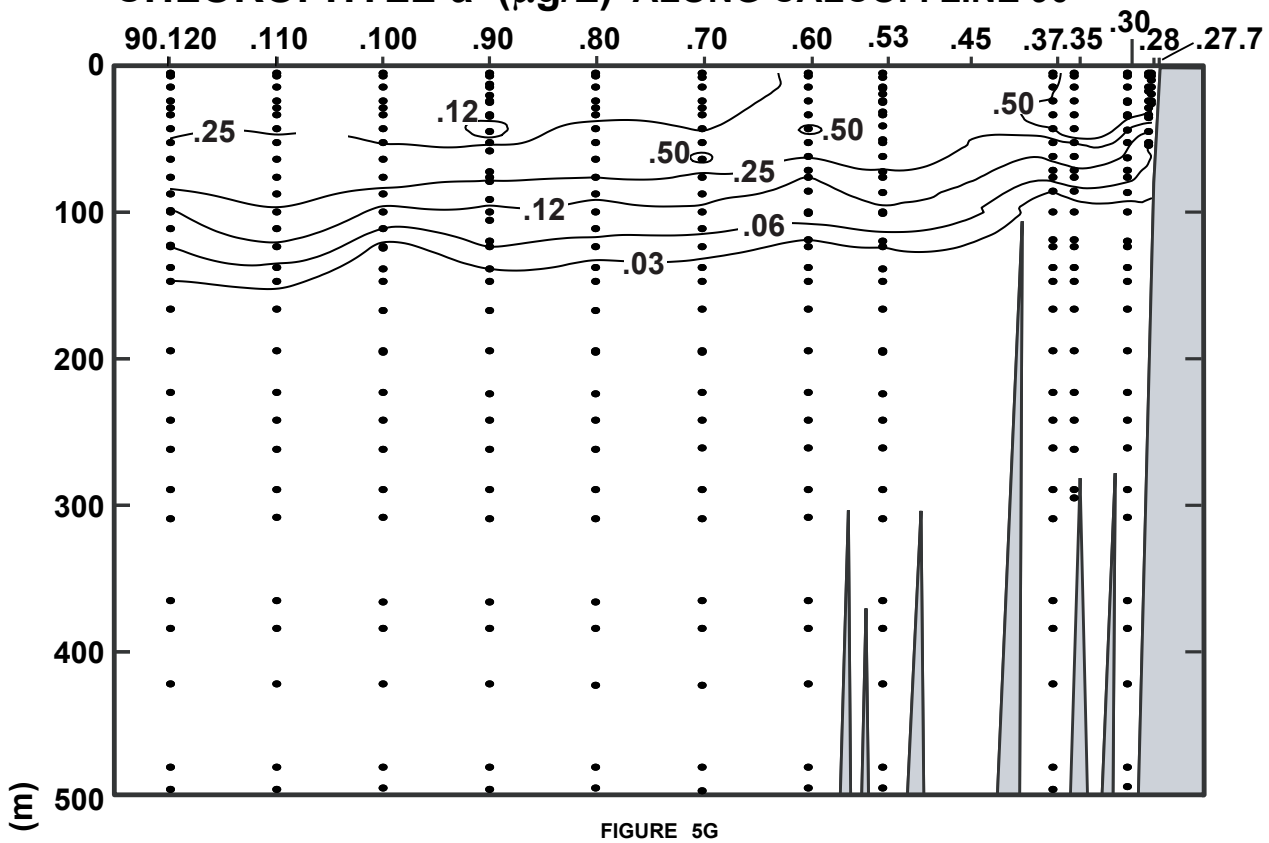

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

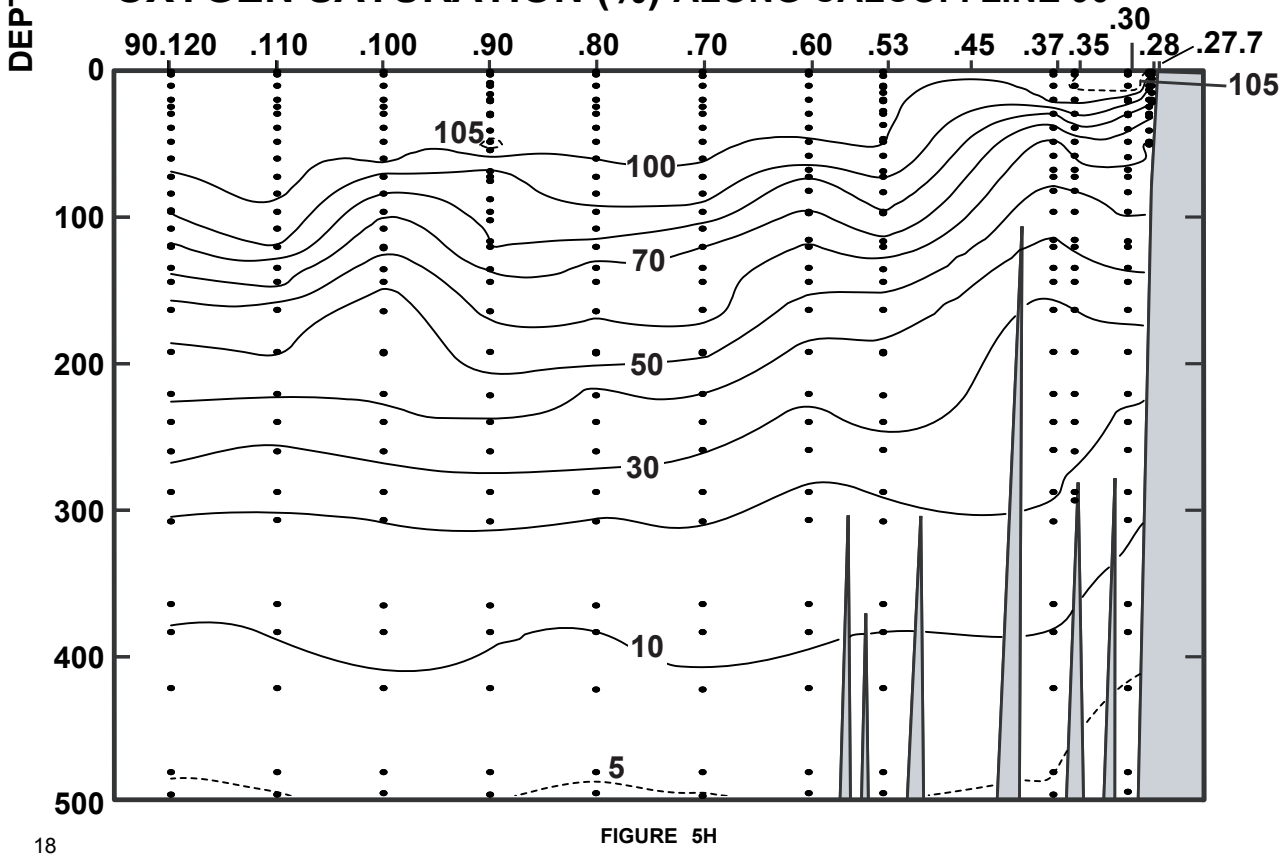

FIGURE 5H

CALCOFI CRUISE 1711

12 - 15 November 2017

OXYGEN (mL/L) ALONG CALCOFI LINE 90

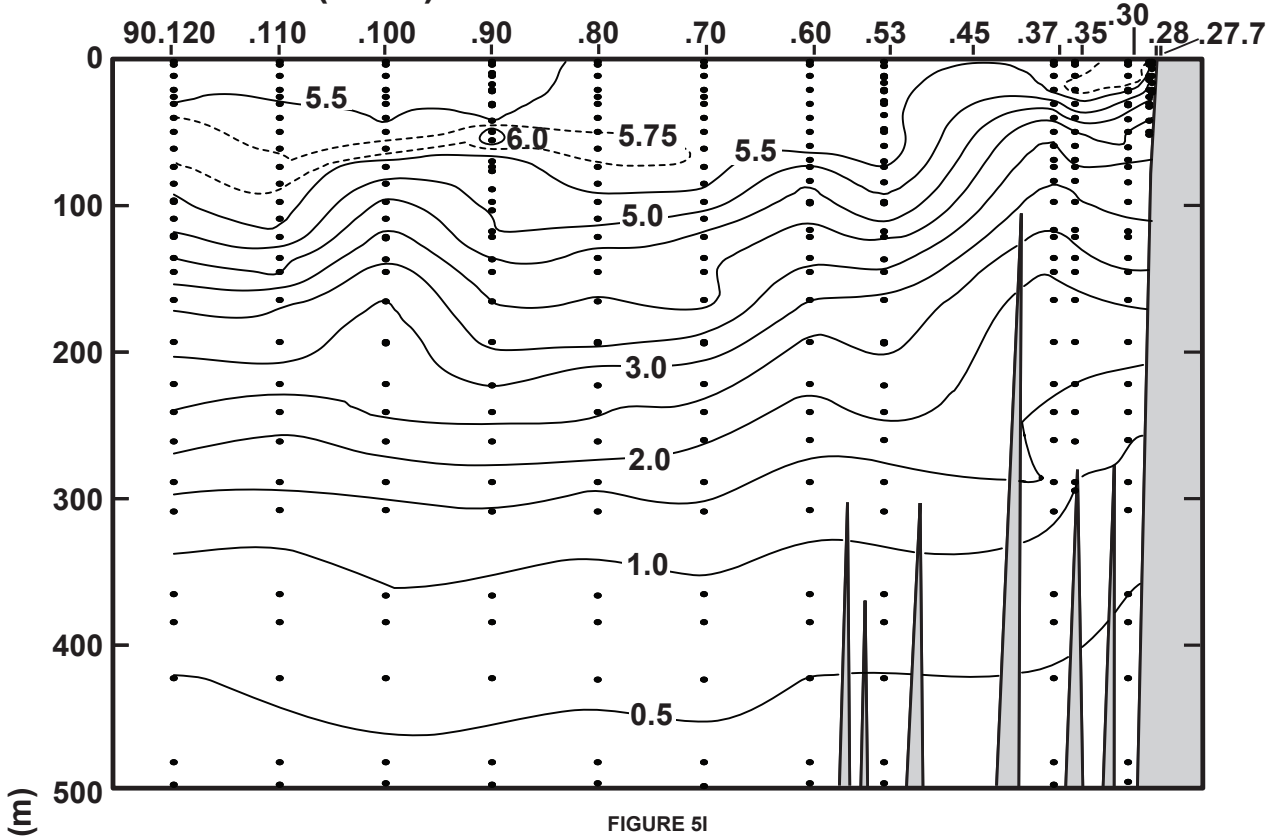

FIGURE 5I

NITRITE (μM/L) ALONG CALCOFI LINE 90

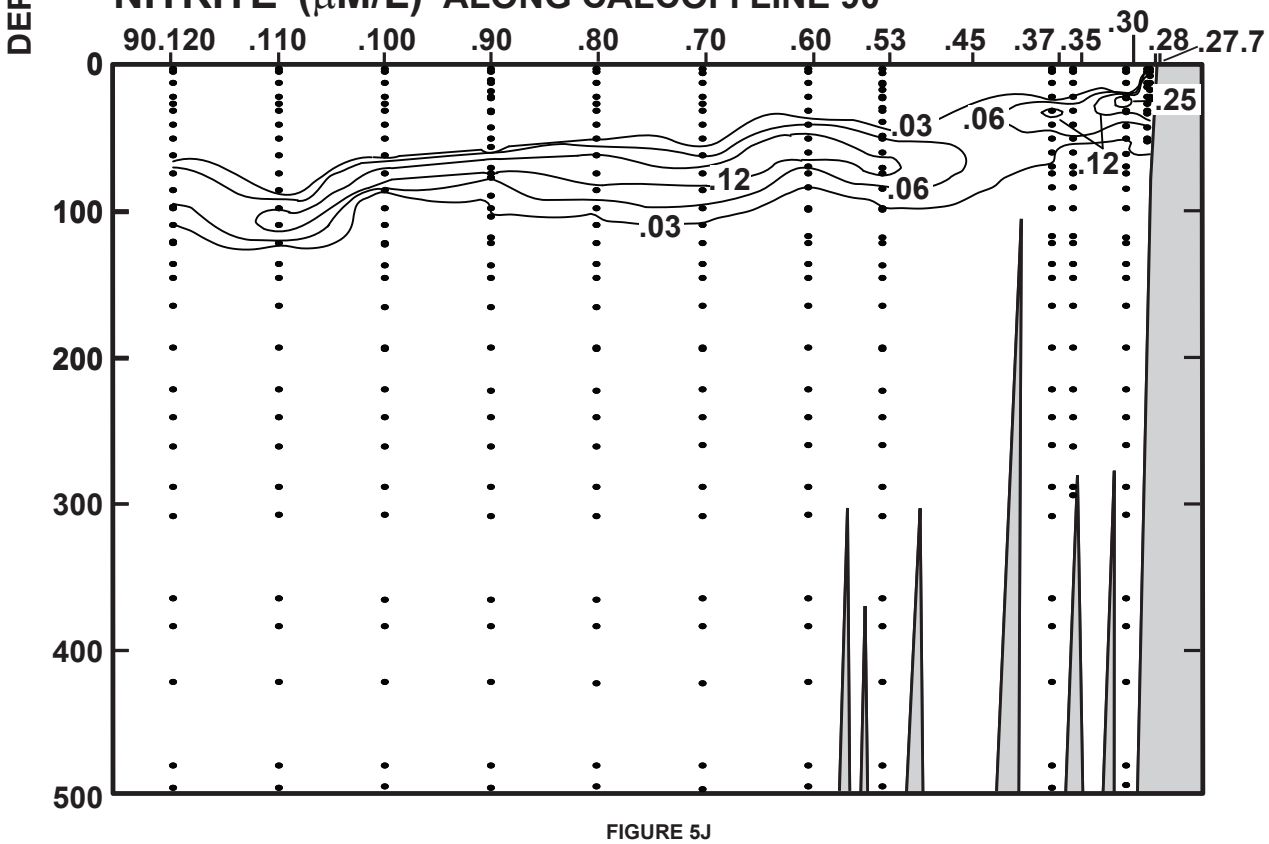

FIGURE 5J

PERSONNEL

CalCOFI Cruise 1711

SHIP'S COMMANDER

Tom Desjardins, R/V *Sally Ride*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

		Participating (Legs)
Schuller, Daniel (Chief Scientist)	Staff Research Associate, SIO	1-3
Bland, Katy	Volunteer, SIO	1-3
Dotterweich, Megan	Volunteer, SIO	1-3
Dovel, Shonna	Staff Research Associate, SIO	1-3
Faber, David	Staff Research Associate, SIO	1-2
Gardner, Emily	Fishery Biologist, NMFS	1-3
Griffith, David	Fishery Biologist, NMFS	1-3
Hunt, Erin	Scientist, SIO	1-3
Osborn, Nicolas	Fishery Biologist, NMFS	1-3
Rogers-Wolgast, Jennifer	Staff Research Associate, SIO	1-3
Schulberg, Anne	Scientist, JCVI	1
Solsona Berga, Alba	Acoustic Technician, SIO	1-3
Sullaway, Genoa	Volunteer, SIO	1-3
Trickey, Jennifer	Staff Research Associate, SIO	1-3
Vasquez Del Mercado, Lenora	Fishery Biologist, NMFS	1-3
Whitaker, Katherine	Marine Mammal Observer, SIO	1-3
Wilkinson, James	Information Systems Analyst, SIO	3
Wolgast, David	Staff Research Associate, SIO	1-3

Leg 1: San Diego to DanaPoint, California, 9 – 15 November, 2017
Leg 2: Dana Point to Ventura, California, California, 15 – 17 November, 2017
Leg 3: Ventura to San Diego, California, 17 - 24 November, 2017

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 49.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
35 5.3 N	120 46.6 W	21/11/2017	0144	UTC	67 m	310 18 kn			1016.3 mb	17.1 C	14.8 C				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	13.95	13.95	33.461	25.009	293.9	0.000	5.80	253.1	98.8	6.4	0.46	1.7	0.18	0.12	5.16	0.23	0	
2	13.95	13.95	33.461	25.009	294.0	0.006	5.80	253.1	98.8	6.4	0.46	1.7	0.18	0.12	5.16	0.23	2	08
5	13.94	13.94	33.460	25.011	293.9	0.015	5.81	253.5	99.0	6.5	0.47	1.7	0.18	0.08	4.91	0.22	5	07
10	13.95	13.95	33.460	25.008	294.3	0.029	5.75	250.9	98.0	6.5	0.51	2.0	0.19	0.16	4.79	0.28	10	05
11	13.95	13.95	33.461	25.009	294.3	0.031											10	06
20	13.26	13.26	33.465	25.153	280.8	0.058	4.85	211.9	81.6	8.6	0.77	6.7	0.33	0.15	0.70	0.22	20	04
30	12.43	12.43	33.482	25.330	264.2	0.085	4.24	185.3	70.1	11.0	1.03	10.9	0.27	0.07	0.37	0.25	30	03
40	12.12	12.11	33.522	25.421	255.8	0.111	4.02	175.5	66.0	13.7	1.15	12.4	0.31	0.07	0.40	0.27	40	02
50 ISL	11.81 D	11.80	33.536 D	25.490	249.5	0.135	3.84	D167.4 D	62.7	14.6	1.22	13.3	0.27	0.17	0.34	0.29	50	
52	11.72	11.71	33.536	25.507	247.9	0.142	3.87	168.9	63.0	14.8	1.23	13.5	0.27	0.19	0.33	0.29	52	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 51.0

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	20/11/2017	2313	UTC	237 m	320 14 kn	320 01 04	0	1016.4 mb	17.9 C	16.0 C	13 m	0/8		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	16.86	16.86	33.519	24.412	350.7	0.000	5.63	245.8	101.8	1.5	0.30	0.1	0.05	0.05	0.47	0.16	0	
2	16.86	16.85	33.519	24.413	350.8	0.007	5.63	245.8	101.8	1.5	0.30	0.1	0.05	0.05	0.47	0.16	2	16
10 ISL	16.83 D	16.83	33.514 D	24.416	350.8	0.032	5.59	D243.7 D	101.0	1.6	0.27	0.1	0.04	0.00	0.47	0.16	10	
11	16.81	16.81	33.517	24.422	350.2	0.039	5.62	245.4	101.5	1.6	0.27	0.1	0.04	0.00	0.47	0.16	11	14
11	16.81	16.81	33.517	24.422	350.2	0.038											11	15
20 ISL	15.74 D	15.74	33.466 D	24.628	330.9	0.066	5.25	D228.8 D	92.8	2.9	0.43	2.6	0.21	0.00	0.35	0.17	20	
21	15.70	15.70	33.465	24.637	330.1	0.072	5.25	229.3	92.8	3.1	0.45	2.9	0.22	0.00	0.34	0.17	21	13
30 ISL	14.73 D	14.72	33.429 D	24.822	312.7	0.099	5.18	D225.8 D	89.7	3.9	0.51	3.4	0.24	0.00	0.36	0.18	30	
31	14.72	14.71	33.429 D	24.825	312.5	0.102	5.18	D225.7 D	89.7								31	12
41	14.28	14.27	33.419	24.911	304.5	0.135	5.18	226.3	88.9	4.8	0.58	4.1	0.26	0.09	0.39	0.20	41	11
50 ISL	13.00 D	13.00	33.408 D	25.162	280.8	0.160	5.03	D218.9 D	84.0	7.3	0.85	7.9	0.15	0.00	0.19	0.16	50	
51	12.49	12.48	33.408	25.263	271.2	0.164	4.85	211.8	80.2	7.6	0.88	8.4	0.13	0.00	0.17	0.15	51	10
61	11.21	11.21	33.485	25.561	243.0	0.190	4.15	181.3	66.8	12.6	1.21	14.9	0.03	0.00	0.09	0.13	62	09
71	10.73	10.72	33.540	25.690	230.9	0.214	3.95	172.4	62.9	14.9	1.36	17.1	0.03	0.00	0.07	0.10	72	08
75 ISL	10.55 D	10.54	33.579 D	25.753	225.1	0.221	3.91	D170.3 D	62.1	16.2	1.42	18.0	0.00	0.00	0.05	0.09	76	
86	10.05	10.04	33.645	25.890	212.2	0.247	3.51	153.3	55.2	19.7	1.58	20.5	0.00	0.00	0.02	0.06	87	07
100	9.76	9.75	33.747	26.018	200.3	0.276	3.17	138.2	49.4	22.9	1.73	22.4	0.00	0.00	0.02	0.07	101	06
121	9.36	9.35	33.825	26.144	188.7	0.317	3.08	134.3	47.7	25.5	1.79	23.6	0.00	0.00	0.01	0.05	122	05
125 ISL	9.38 D	9.37	33.846 D	26.158	187.5	0.323	2.98	D129.8 D	46.2	26.4	1.82	24.0	0.00	0.00	0.01	0.05	126	
140	9.05	9.03	33.922	26.271	177.0	0.352	2.72	118.6	41.8	29.5	1.93	25.4	0.03	0.00	0.01	0.06	141	04
150 ISL	8.97 D	8.95	33.949 D	26.305	173.9	0.368	2.66	D115.8 D	40.9	31.5	2.00	26.0	0.04	0.00	0.01	0.07	151	
170	8.77	8.75	34.032	26.403	165.1	0.403	2.17	94.8	33.2	35.3	2.15	27.2	0.06	0.08	0.01	0.10	171	03
200	8.64	8.62	34.100	26.477	158.6	0.451	1.63	71.1	24.9	40.5	2.35	29.3	0.12	0.16	0.01	0.12	202	02
231	8.35	8.32	34.124	26.541	153.0	0.500	1.48	64.5	22.4	43.8	2.44	30.5	0.12	0.11			233	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 55.0

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	20/11/2017	1934	UTC	558 m	350 09 kn	010 01 05	1	1018.2 mb	19.0 C	17.2 C	16 m	4/8	AS	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	16.78	16.78	33.489	24.408	351.1	0.000	5.59	244.1	100.9	1.2	0.24	0.0	0.02	0.00	0.39	0.16	0	
2	16.78	16.77	33.489	24.409	351.2	0.007	5.59	244.1	100.9	1.2	0.24	0.0	0.00	0.00	0.39	0.16	2	21
10 ISL	16.72 D	16.71	33.488 D	24.422	350.2	0.032	5.60	D243.9 D	100.8	1.2	0.24	0.0	0.00	0.00	0.42	0.16	10	
11	16.71	16.71	33.488	24.424	350.0	0.039	5.60	244.3	100.8	1.2	0.24	0.0	0.00	0.00	0.42	0.16	11	19
11	16.71	16.71	33.500	24.433	349.2	0.039	5.69	248.4	102.5	1.1	0.23	0.0	0.00	0.00			11	20
20 ISL	16.67 D	16.66	33.487 D	24.434	349.5	0.067	5.60	D244.3 D	100.9	1.1	0.27	0.0	0.00	0.00	0.48	0.17	20	
21	16.67	16.66	33.488	24.435	349.4	0.074	5.61	244.7	100.9	1.1	0.27	0.0	0.03	0.20	0.49	0.18	21	22
30 ISL	16.65 D	16.64	33.488 D	24.440	349.2	0.102	5.60	D243.9 D	100.7	1.1	0.24	0.0	0.03	0.07	0.52	0.15	30	
31	16.64	16.64	33.493	24.444	348.8	0.108	5.59	244.1	100.6	1.1	0.24	0.0	0.03	0.05	0.52	0.15	31	17
41	16.42	16.41	33.474	24.482	345.6	0.143	5.51	240.4	98.7	1.5	0.29	0.5	0.08	0.00	0.39	0.18	41	16
50 ISL	14.63 D	14.63	33.406 D	24.826	313.0	0.171	5.28	D230.2 D	91.3	3.1	0.50	3.3	0.31	0.00	0.33	0.21	50	
51	14.56	14.56	33.404	24.840	311.7	0.176	5.29	230.9	91.3	3.3	0.52	3.6	0.34	0.00	0.32	0.21	51	15
61	12.76	12.75	33.374	25.185	278.9	0.205	4.91	214.5	81.6	6.9	0.83	8.7	0.08	0.00	0.21	0.18	62	14
71	11.84	11.83	33.398	25.378	260.7	0.232	4.73	206.3	77.0	9.0	1.01	11.6	0.03	0.00	0.15	0.14	72	13
75 ISL	11.50 D	11.49	33.483 D	25.508	248.5	0.241	4.40	D191.6 D	71.2	10.8	1.11	13.2	0.00	0.00	0.12	0.11	76	
86	10.63	10.62	33.556	25.721	228.3	0.269	3.99	174.0	63.3	15.7	1.38	17.8	0.00	0.00	0.05	0.05	87	12
100 ISL	9.99 D	9.98	33.685 D	25.932	208.5	0.298	3.48	D151.4 D	54.6	21.0	1.63	21.3	0.00	0.00	0.02	0.03	101	
101	9.93	9.91	33.690	25.946	207.2	0.302	3.44	150.1	53.9	21.3	1.65	21.5	0.00	0.05	0.01	0.03	102	11
121	9.13	9.11	33.818	26.177	185.5	0.341	3.56	155.2	54.8	24.6	1.64	22.4	0.00	0.00	0.00	0.02	122	10
125 ISL	9.12 D	9.11	33.830 D	26.187	184.7	0.347	3.61	D156.9 D	55.5	25.3	1.67	22.8	0.00	0.00	0.00	0.02	126	
141	8.98	8.96	33.887	26.255	178.5	0.377	3.22	140.4	49.4	28.0	1.78	24.4	0.00	0.00	0.00	0.02	142	09
150 ISL	8.90 D	8.88	33.895 D	26.274	176.9	0.392	3.16	D137.6 D	48.5	28.9	1.81	24.8	0.00	0.00	0.00	0.02	151	
171	8.60	8.59	33.934	26.351	169.9	0.430	2.99	130.6	45.6	31.0	1.88	26.0	0.00	0.00	0.00	0.03	172	08
200 ISL	8.27 D	8.25	33.980 D	26.439	162.1	0.478	2.84	D123.4 D	42.9	35.4	1.98	27.3	0.00	0.00	0.00	0.02	202	
201	8.12	8.10	33.985	26.464	159.6	0.479	2.86	124.6	43.0	35.5	1.98	27.4	0.00	0.00	0.00	0.02	203	07
231	7.86	7.84	34.025	26.536	153.3	0.526	2.34	101.9	35.0	41.4	2.19	29.9	0.00	0.00			233	06
250 ISL	7.33 D	7.30	34.001 D	26.593	147.8	0.555	2.34	D101.9 D	34.7	45.9	2.29	31.5	0.00	0.00			252	
271	6.94	6.91	34.017	26.660	141.7	0.585	2.04	88.8	29.9	50.9	2.40	33.3	0.00	0.00			273	05
300 ISL	6.54 D	6.51	34.015 D	26.713	136.9	0.627	1.81	D 78.9 D	26.3	56.4	2.54	35.1	0.00	0.00			302	
321	6.43	6.40	34.053	26.757	132.9	0.653	1.41	61.7	20.5	60.4	2.64	36.4	0.00	0.00			324	04
381	6.16	6.13	34.125	26.850	124.9	0.731	0.85	37.2	12.3	69.8	2.87	38.8	0.00	0.00			384	03
400 ISL	6.17 D	6.13	34.140 D	26.862	124.1	0.758	0.76	D 33.1 D	11.0	71.4	2.90	39.0	0.00	0.00			403	
440	6.14	6.10	34.210	26.920	119.1	0.803	0.51	22.3	7.4								444	02
500 ISL	5.93 D	5.89	34.246 D	26.976	114.5	0.878	0.38	D 16.3 D	5.4	79.4	3.07	40.2	0.00	0.00			504	
515	5.81	5.77	34.243	26.990	113.3	0.890	0.47	20.6	6.8	80.6	3.09	40.4	0.00	0.06			519	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 43.8 N	121 32.9 W	20/11/2017	1650	UTC	891 m	290 11 kn	270 02 08	2	1018.3 mb	17.8 C	17.0 C	19 m	6/8	ST	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		16.85		16.85		33.491		24.392	352.7	0.000	5.57	243.0		100.6		1.4	0.24	0.0	0.03	0.04	0.37	0.16	0	
2	A	16.85		16.85		33.491		24.392	352.7	0.007	5.57	243.0		100.6		1.4	0.24	0.0	0.03	0.00	0.37	0.16	2	22
10	ISL	16.84	D	16.84		33.490	D	24.395	352.8	0.032	5.56	D242.4	D	100.5		1.4	0.23	0.0	0.00	0.00	0.37	0.16	10	
12	A	16.84		16.84		33.491		24.396	352.7	0.042	5.58	243.4		100.7		1.3	0.23	0.0	0.00	0.00	0.37	0.16	12	21
15	A	16.84		16.83		33.490		24.396	352.8	0.053	5.57	243.0		100.6		1.3	0.23	0.0	0.00	0.00	0.36	0.16	15	20
20	ISL	16.84	D	16.83		33.490	D	24.397	353.0	0.067	5.56	D242.4	D	100.4		1.3	0.23	0.0	0.00	0.00	0.37	0.16	20	
22		16.83		16.83		33.490		24.398	353.0	0.078	5.56	D242.3	D	100.4		1.3	0.23	0.0	0.00	0.00	0.37	0.15	22	19
30	A	16.83		16.83		33.493		24.400	353.0	0.106	5.56	242.8		100.5		1.3	0.23	0.0	0.00	0.00	0.37	0.17	30	18
41		16.74		16.74		33.485		24.416	351.9	0.145	5.56	242.7		100.2		1.3	0.24	0.1	0.04	0.00	0.36	0.17	41	17
50	ISL	16.03	D	16.02		33.463	D	24.563	338.2	0.174	5.36	D233.7	D	95.3		2.3	0.39	2.0	0.18	0.00	0.33	0.18	50	
52	A	15.90		15.89		33.454		24.586	336.0	0.183	5.28	230.4		93.6		2.5	0.42	2.4	0.21	0.13	0.32	0.18	52	16
59		13.06		13.05		33.416		25.158	281.4	0.204	4.67	204.0		78.2		7.2	0.93	10.5	0.04	0.00	0.18	0.16	59	15
66	A	11.58		11.57		33.478		25.489	250.0	0.223	4.15	181.2		67.3		11.7	1.21	14.7	0.05	0.00	0.11	0.12	67	14
75	ISL	11.14	D	11.13		33.519	D	25.602	239.5	0.243	3.99	D173.9	D	64.2		13.8	1.33	16.5	0.03	0.00	0.08	0.10	76	
76		11.11		11.10		33.519		25.607	239.0	0.247	3.97	173.4		63.8		14.0	1.34	16.7	0.03	0.00	0.07	0.09	77	13
86		10.47		10.46		33.596		25.779	222.8	0.270	3.64	158.8		57.7		17.7	1.50	19.1	0.00	0.00	0.03	0.06	87	12
100	ISL	9.88	D	9.87		33.658	D	25.929	208.8	0.299	3.75	D163.1	D	58.6		19.6	1.52	19.8	0.00	0.00	0.02	0.05	101	
101		9.86		9.84		33.670		25.942	207.6	0.303	3.69	161.0		57.7		19.7	1.52	19.9	0.00	0.00	0.02	0.05	102	11
121		9.41		9.40		33.834		26.144	188.7	0.342	2.94	128.2		45.5		26.5	1.83	24.0	0.00	0.00	0.01	0.04	122	10
125	ISL	9.32	D	9.31		33.850	D	26.170	186.3	0.349	2.90	D126.2	D	44.9		26.9	1.84	24.2	0.00	0.00	0.01	0.04	126	
141		9.04		9.03		33.895		26.251	178.9	0.379	2.93	127.7		45.0		28.7	1.87	25.0	0.00	0.00	0.00	0.04	142	09
150	ISL	8.93	D	8.92		33.919	D	26.287	175.6	0.394	2.82	D122.6	D	43.2		30.1	1.92	25.7	0.00	0.00	0.00	0.04	151	
171		8.69		8.67		33.967		26.364	168.7	0.431	2.59	113.1		39.6		33.3	2.02	27.1	0.00	0.00	0.00	0.03	172	08
200	ISL	8.19	D	8.16		34.048	D	26.505	155.7	0.478	2.25	D 97.8	D	33.9		39.2	2.15	28.8	0.00	0.00	0.00	0.02	202	
201		8.09		8.07		34.031		26.506	155.6	0.480	2.38	104.1		35.9		39.4	2.15	28.8	0.00	0.00	0.00	0.02	203	07
231		7.81		7.78		34.046		26.560	150.9	0.526	2.09	91.3		31.3		43.6	2.26	30.6	0.00	0.00			233	06
250	ISL	7.67	D	7.64		34.084	D	26.610	146.5	0.555	1.78	D 77.2	D	26.5		46.9	2.34	31.7	0.00	0.00			252	
271		7.33		7.31		34.048		26.630	144.8	0.585	1.83	80.0		27.1		50.6	2.43	32.9	0.00	0.00			273	05
300	ISL	6.65	D	6.62		34.030	D	26.709	137.3	0.626	1.81	D 78.6	D	26.3		56.4	2.52	34.6	0.00	0.00			302	
321		6.27		6.24		34.026		26.756	132.9	0.654	1.59	69.2		22.9		60.6	2.59	35.8	0.00	0.00			324	04
380		5.78		5.75		34.065		26.849	124.6	0.730	1.13	49.3		16.1		70.1	2.80	38.5	0.00	0.00			383	03
400	ISL	5.67	D	5.63		34.079	D	26.874	122.3	0.756	0.98	D 42.6	D	14.0		72.7	2.88	38.9	0.00	0.00			403	
440		5.80		5.77		34.196		26.952	115.8	0.802	0.52	22.9		7.5		77.8	3.03	39.7	0.00	0.00			444	02
500	ISL	5.82	D	5.77		34.316	D	27.046	107.8	0.872	0.26	D 11.3	D	3.7		83.7	3.13	40.6	0.00	0.00			504	
515		5.70		5.66		34.324		27.067	105.9	0.886	0.23	10.1		3.3		85.2	3.16	40.8	0.00	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 23.3 N	122 14.8 W	20/11/2017	1007	UTC	4010 m	280 09 kn			1017.3 mb	17.0 C	16.5 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		16.77		16.77		33.497		24.416	350.4	0.000	5.60	244.6		101.1		1.3	0.24	0.0	0.02	0.05	0.43	0.14	0	
2		16.77		16.77		33.497		24.416	350.4	0.007	5.60	244.6		101.1		1.3	0.24	0.0	0.00	0.05	0.43	0.14	2	20
10		16.78		16.77		33.497		24.416	350.8	0.035	5.60	244.6		101.1		1.0	0.23	0.0	0.00	0.00	0.41	0.15	10	19
20	ISL	16.76	D	16.76		33.502	D	24.422	350.5	0.067	5.60	D243.9	D	100.9		0.9	0.21	0.0	0.00	0.00	0.43	0.14	20	
21		16.77		16.76		33.501		24.421	350.7	0.074	5.61	244.9		101.2		0.8	0.21	0.0	0.00	0.00	0.43	0.13	21	18
30		16.87		16.86		33.483		24.384	354.5	0.105	5.54	241.8		100.1		1.1	0.27	0.3	0.07	0.00	0.45	0.17	30	17
40		13.66		13.65		33.408		25.030	293.1	0.138	4.82	210.4		81.6		5.5	0.79	8.2	0.10	0.00	0.37	0.23	40	16
50	ISL	12.31	D	12.31		33.422	D	25.307	267.0	0.164	4.52	D196.9	D	74.5		7.9	0.99	11.2	0.04	0.00	0.25	0.20	50	
51		12.11		12.10		33.419		25.345	263.4	0.168	4.56	199.3		74.8		8.2	1.01	11.5	0.04	0.00	0.24	0.20	51	15
60		11.38		11.37		33.447		25.501	248.6	0.191	4.39	191.5		70.8		11.0	1.13	13.6	0.03	0.00	0.15	0.12	60	14
70		10.88		10.87		33.494		25.628	236.8	0.216	4.18	182.5		66.8		13.1	1.23	15.3	0.03	0.00	0.09	0.08	71	13
75	ISL	10.91	D	10.90		33.500	D	25.627	237.0	0.226	4.18	D182.1	D	66.9		13.7	1.26	15.9	0.00	0.00	0.07	0.08	76	
85		10.45		10.44		33.545		25.742	226.2	0.251	4.03	175.7		63.7		15.1	1.33	17.1	0.00	0.00	0.04	0.06	86	12
100		9.92		9.90		33.603		25.879	213.5	0.284	4.03	175.9		63.1		17.0	1.37	18.0	0.00	0.00	0.03	0.04	101	11
120		9.44		9.42		33.721		26.051	197.5	0.325	3.78	165.0		58.6		20.9	1.52	20.6	0.03	0.00	0.03	0.03	121	10
125	ISL	9.40	D	9.38		33.736	D	26.070	195.9	0.333	3.74	D162.7	D	57.9		21.7	1.55	21.0	0.00	0.00	0.02	0.03	126	
141		9.09		9.08		33.818		26.183	185.4	0.365	3.49	152.4		53.8		24.4	1.65	22.5	0.00	0.00	0.02	0.03	142	09
150	ISL	9.02	D	9.00		33.867	D	26.234	180.7	0.380	3.60	D156.7	D	55.3		25.4	1.65	22.8	0.00	0.00	0.02	0.03	151	
170		8.72		8.71		33.920		26.322	172.7	0.417	3.54	154.5		54.1		27.5	1.66	23.4	0.00	0.00	0.01	0.02	171	08
200		8.27		8.25		33.974		26.434	162.5	0.467	2.85	124.3		43.1		33.9	1.95	27.0	0.00	0.00	0.02	0.02	202	07
230		7.96		7.94		33.985		26.489	157.7	0.515	2.71	118.3		40.7		37.4	2.02	28.1	0.00	0.00			232	06
250	ISL	7.66	D	7.64		33.999	D	26.544	152.7	0.546	2.31	D100.5	D	34.5		42.2	2.17	30.1	0.00	0.00			252	
270		7.21		7.19		34.014		26.620	145.6	0.576	2.09	91.3		30.9		47.0	2.31	32.0	0.00	0.00			272	05
300	ISL	7.05	D	7.02		34.036	D	26.661	142.2	0.620	1.84	D 80.0	D	27.0		51.3	2.44	33.5	0.00	0.00			302	
320		6.80		6.77		34.047		26.704	138.3	0.647	1.59	69.3		23.2		54.1	2.52	34.5	0.00	0.00			323	04
380		6.48		6.45		34.113		26.798	130.0	0.728	0.99	43.3		14.4		62.9	2.77	37.0	0.00	0.00			383	03
400	ISL	6.66	D	6.63		34.181	D	26.829	127.7	0.755	0.79	D 34.4	D	11.5		65.1	2.81	37.4	0.00	0.00			403	
440		6.59		6.55		34.237		26.885	123.0	0.804	0.49	21.3		7.1									444	02
500	ISL	6.12	D	6.07		34.256	D	26.962	116.1	0.878	0.38	D 16.5	D	5.5		76.0	3.03	39.4	0.00	0.00			504	
516		5.98		5.93		34.251		26.975	114.9	0.895	0.37	16.0		5.3		77.8	3.07	39.7	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 3.3 N	122 56.5 W	20/11/2017	0416	UTC	4229 m	310 08 kn			1018.7 mb	17.2 C	16.3 C				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		16.91		16.91		33.441	24.339	357.7	0.000	5.64		246.3		102.0		1.8	0.23	0.1	0.04	0.05	0.33	0.09	0	
2		16.91		16.91		33.441	24.339	357.8	0.007	5.64		246.3		102.0		1.8	0.23	0.1	0.04	0.05	0.33	0.09	2	20
10		16.91		16.91		33.438	24.338	358.2	0.036	5.65		246.6		102.2		1.6	0.23	0.0	0.00	0.18	0.32	0.09	10	19
20		16.83		16.82		33.429	24.352	357.2	0.072	5.66		247.2		102.2		1.4	0.21	0.0	0.00	0.00	0.35	0.11	20	18
30		16.80		16.80		33.428	24.358	357.0	0.107	5.65		246.8		102.0		1.3	0.22	0.0	0.00	0.00	0.43	0.12	30	17
40		16.50		16.49		33.408	24.413	352.1	0.143	5.68		248.0		101.9		1.3	0.22	0.0	0.00	0.00	0.57	0.25	40	16
50		14.71		14.71		33.358	24.772	318.2	0.176	5.44		237.6		94.2		2.6	0.45	2.4	0.37	0.00	0.50	0.27	50	15
60		12.43		12.42		33.416	25.280	269.8	0.206	4.60		200.8		75.9		8.3	1.01	11.6	0.00	0.00	0.17	0.17	60	14
70		11.42		11.41		33.517	25.548	244.5	0.231	3.99		174.1		64.5		13.1	1.35	16.9	0.00	0.00	0.10	0.12	71	13
75	ISL	11.16	D	11.15		33.552	D 25.623	237.5	0.242	3.87	D	168.7	D	62.3		14.8	1.43	18.1	0.00	0.00	0.08	0.10	76	
85		10.49		10.48		33.588	25.769	223.7	0.267	3.58		156.1		56.7		18.1	1.58	20.6	0.00	0.00	0.05	0.06	86	12
100		9.64		9.63		33.724	26.020	200.1	0.298	3.33		145.4		51.9		22.4	1.74	22.3	0.00	0.00	0.01	0.03	101	11
120		9.24		9.23		33.830	26.168	186.4	0.337	2.76		120.5		42.6		27.0	1.91	25.6	0.00	0.00	0.01	0.03	121	10
125	ISL	9.20	D	9.18		33.845	D 26.187	184.7	0.345	2.77	D	120.4	D	42.7		27.8	1.92	25.9	0.00	0.00	0.01	0.03	126	
140		8.90		8.89		33.907	26.283	175.8	0.373	2.57		112.3		39.5		30.2	1.96	26.8	0.00	0.00	0.00	0.03	141	09
150	ISL	8.78	D	8.77		33.957	D 26.341	170.5	0.390	2.59	D	112.7	D	39.6		31.3	1.98	27.0	0.00	0.00	0.00	0.03	151	
170		8.55		8.53		33.973	26.390	166.1	0.425	2.54		110.6		38.6		33.4	2.02	27.5	0.00	0.00	0.00	0.03	171	08
200		8.28		8.26		34.026	26.473	158.8	0.473	2.20		95.9		33.2		38.1	2.17	29.3	0.00	0.00	0.00	0.02	202	07
230		7.86		7.83		34.076	26.576	149.5	0.520	1.76		76.6		26.3		43.6	2.34	31.5	0.00	0.00			232	06
250	ISL	7.45	D	7.43		34.049	D 26.614	146.0	0.549	1.86	D	81.0	D	27.7		46.4	2.38	32.3	0.00	0.00			252	
270		7.18		7.15		34.046	26.650	142.7	0.578	1.76		76.8		26.0		49.1	2.41	33.1	0.00	0.00			272	05
300	ISL	6.84	D	6.81		34.065	D 26.712	137.2	0.620	1.46	D	63.6	D	21.4		54.4	2.57	34.8	0.00	0.00			302	
320		6.71		6.68		34.102	26.759	133.0	0.647	1.14		49.8		16.7		57.9	2.67	35.9	0.00	0.00			323	04
380		6.37		6.33		34.151	26.844	125.7	0.724	0.76		33.3		11.0		65.9	2.83	37.7	0.00	0.00			383	03
400	ISL	6.21	D	6.17		34.147	D 26.861	124.2	0.751	0.74	D	32.4	D	10.7		68.1	2.87	38.3	0.00	0.00			403	
440		5.91		5.87		34.151	26.903	120.5	0.798	0.64		27.8		9.1		72.7	2.95	39.4	0.00	0.00			444	02
500	ISL	5.65	D	5.61		34.220	D 26.990	112.8	0.871	0.39	D	17.1	D	5.6		80.0	3.07	40.7	0.00	0.00			504	
516		5.48		5.43		34.217	27.009	111.0	0.887	0.36		15.8		5.1		81.9	3.10	41.1	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 90.0

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 38.0 W	19/11/2017	2249	UTC	4340 m	250 09 kn	330 02 08	1	1018.2 mb	18.0 C	16.8 C	17 m	2/8	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		16.86		16.86		33.449	24.358	356.0	0.000	5.73		250.3		103.6		1.1	0.21	0.0	0.02	0.07	0.41	0.10	0	
2		16.86		16.86		33.449	24.358	356.0	0.007	5.73		250.3		103.6		1.1	0.21	0.0	0.00	0.07	0.41	0.10	2	20
10	ISL	16.85	D	16.84		33.445	D 24.359	356.2	0.033	5.70	D	248.6	D	103.0		1.0	0.20	0.0	0.00	0.00	0.41	0.11	10	
11		16.85		16.84		33.447	24.361	356.1	0.039	5.71		249.1		103.1		1.0	0.20	0.0	0.00	0.00	0.41	0.11	11	19
20	ISL	16.82	D	16.81		33.444	D 24.366	355.9	0.068	5.69	D	248.2	D	102.8		1.0	0.20	0.0	0.00	0.00	0.46	0.14	20	
21		16.82		16.81		33.445	24.366	355.9	0.075	5.69		248.4		102.7		1.0	0.20	0.0	0.00	0.00	0.46	0.14	21	18
30	ISL	16.62	D	16.61		33.437	D 24.407	352.3	0.104	5.67	D	247.2	D	101.9		1.1	0.22	0.0	0.00	0.00	0.59	0.23	30	
31		16.36		16.36		33.436	24.466	346.8	0.110	5.66		246.9		101.2		1.1	0.22	0.0	0.00	0.00	0.60	0.23	31	17
41		15.54		15.53		33.396	24.621	332.2	0.144	5.55		242.2		97.6		1.7	0.33	0.7	0.41	0.16	0.55	0.25	41	16
50	ISL	13.47	D	13.46		33.351	D 25.024	294.0	0.170	5.19	D	226.1	D	87.5		4.4	0.65	6.2	0.08	0.00	0.23	0.17	50	
51		13.23		13.22		33.344	25.068	289.9	0.175	5.06		221.1		85.0		4.7	0.69	6.8	0.04	0.00	0.20	0.16	51	15
61		11.57		11.57		33.420	25.445	254.1	0.202	4.45		194.5		72.2		10.0	1.12	13.5	0.03	0.00	0.10	0.12	61	14
71		10.95		10.94		33.510	25.628	236.8	0.227	3.89		170.0		62.3		14.4	1.35	17.1	0.03	0.00	0.06	0.08	72	13
75	ISL	10.88	D	10.87		33.525	D 25.651	234.7	0.235	3.87	D	168.4	D	61.8		15.2	1.39	17.7	0.00	0.00	0.05	0.08	76	
86		10.28		10.27		33.584	25.802	220.5	0.261	3.66		159.6		57.7		17.3	1.49	19.4	0.00	0.00	0.03	0.06	87	12
100	ISL	9.81	D	9.80		33.689	D 25.965	205.4	0.289	3.35	D	146.0	D	52.4		21.2	1.65	21.7	0.00	0.00	0.02	0.05	101	
101		9.73		9.72		33.691	25.979	204.0	0.293	3.34		145.8		52.1		21.5	1.66	21.9	0.00	0.00	0.02	0.05	102	11
121		9.26		9.25		33.801	26.142	188.9	0.332	2.94		128.5		45.5		22.7	1.84	24.7	0.00	0.00	0.01	0.04	122	10
125	ISL	9.17	D	9.16		33.819	D 26.170	186.2	0.338	3.00	D	130.7	D	46.3		24.0	1.86	25.0	0.00	0.00	0.01	0.04	126	
141		8.94		8.92		33.876	26.253	178.7	0.369	2.71		118.5		41.6		29.3	1.93	26.4	0.00	0.00	0.01	0.04	142	09
150	ISL	8.84	D	8.82		33.899	D 26.287	175.7	0.384	2.73	D	118.8	D	41.8		30.3	1.95	26.7	0.00	0.00	0.01	0.03	151	
171		8.42		8.40		33.957	26.398	165.4	0.421	2.62		114.4		39.8		32.7	2.01	27.5	0.00	0.00	0.01	0.03	172	08
200	ISL	8.11	D	8.09		34.009	D 26.486	157.5	0.467	2.34	D	101.9	D	35.3		37.7	2.15	29.2	0.00	0.00	0.01	0.04	202	
201		8.13		8.11		34.006	26.480	158.1	0.469	2.31		101.0		34.9		37.9	2.15	29.3	0.00	0.00	0.01	0.04	203	07
231		7.65		7.62		34.031	26.571	149.8	0.516	2.07		90.2		30.8		43.7	2.27	31.2	0.00	0.00			233	06
250	ISL	7.48	D	7.45		34.045	D 26.607	146.7	0.543	1.88	D	81.7	D	27.9		46.1	2.34	32.0	0.00	0.00			252	
270		7.27		7.25		34.051	26.641	143.7	0.573	1.77		77.4		26.2		48.6	2.42	32.9	0.00	0.00			272	05
300	ISL	6.95	D	6.93		34.054	D 26.688	139.6	0.616	1.60	D	69.6	D	23.5		53.7	2.53	34.5	0.00	0.00			302	
321		6.68		6.65		34.063	26.732	135.5	0.644	1.38		60.3		20.1		57.3	2.61	35.5	0.00	0.00			324	04
381		6.22		6.18		34.122	26.840	125.8	0.722	0.91		39.5		13.1		65.7	2.83	37.7	0.00	0.00			384	03
400	ISL	6.09	D	6.05		34.142	D 26.873	122.9	0.748	0.73	D	31.8	D	10.5		68.4	2.87	38.2	0.00	0.00			403	
441		5.79		5.76		34.186	26.945	116.4	0.795	0.48		21.1		6.9									445	02
500	ISL	5.53	D	5.49		34.214	D 27.000	111.8	0.865	0.40	D	17.4	D	5.7		82.6	3.09	40.7	0.00	0.00			504	
516		5.44		5.39		34.221	27.017	110.2	0.880	0.37		16.3		5.3		84.9	3.12	41.1	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 23.3 N	124 19.4 W	19/11/2017	1726	UTC	4586 m	100 06 kn	310 02 07	1	1020.0 mb	17.0 C	16.5 C	16 m	2/8	ST	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		16.71		16.71		33.452	24.395	352.4	0.000	5.78	252.5	104.2	1.4	0.20	0.0	0.02	0.03	0.43	0.15	0	
2	A	16.71		16.71		33.452	24.395	352.5	0.007	5.78	252.5	104.2	1.4	0.20	0.0	0.00	0.00	0.43	0.15	2	22
10	A	16.67		16.67		33.450	24.404	351.9	0.035	5.77	252.0	103.9	1.4	0.20	0.0	0.00	0.00	0.48	0.15	10	20
13	A	16.67		16.66		33.451	24.406	351.9	0.046	5.78	252.2	104.0	1.3	0.21	0.0	0.00	0.00	0.44	0.15	13	19
20	ISL	16.64	D	16.64		33.450	D 24.411	351.6	0.067	5.75	D250.6	D103.4	1.4	0.21	0.0	0.00	0.00	0.53	0.20	20	
26	A	16.43		16.42		33.450	24.461	347.0	0.091	5.77	251.7	103.3	1.4	0.21	0.0	0.00	0.00	0.60	0.25	26	18
30	ISL	16.04	D	16.04		33.436	D 24.539	339.8	0.102	5.76	D251.0	D102.4	1.8	0.27	0.2	0.00	0.00	0.62	0.27	30	
35		14.96		14.96		33.386	24.739	320.8	0.122	5.49	239.7	95.5	2.3	0.34	0.5	0.37	0.08	0.64	0.30	35	17
45	A	13.22		13.21		33.336	25.064	290.0	0.152	5.16	225.2	86.5	4.7	0.60	4.8	0.04	0.00	0.25	0.18	45	16
50	ISL	12.24	D	12.23		33.354	D 25.269	270.6	0.164	4.78	D208.2	D 78.6	6.6	0.78	7.8	0.04	0.00	0.18	0.16	50	
56	A	11.84		11.83		33.376	25.361	261.9	0.182	4.54	198.1	74.0	8.9	0.99	11.3	0.04	0.00	0.11	0.12	56	15
63		11.37		11.36		33.423	25.485	250.3	0.200	4.33	188.9	69.8	11.1	1.14	13.8	0.03	0.00	0.08	0.11	64	14
71		10.91		10.90		33.502	25.629	236.8	0.220	4.01	175.1	64.1	14.3	1.32	16.7	0.00	0.00	0.05	0.09	72	13
75	ISL	10.66	D	10.65		33.554	D 25.713	228.8	0.227	3.77	D163.9	D 59.9	15.5	1.38	17.6	0.00	0.00	0.05	0.08	76	
86		10.16		10.15		33.619	25.851	215.9	0.253	3.54	154.3	55.7	19.0	1.54	20.2	0.00	0.00	0.03	0.07	87	12
100	ISL	9.77	D	9.76		33.703	D 25.982	203.8	0.281	3.21	D139.7	D 50.1	22.7	1.72	22.8	0.00	0.00	0.02	0.06	101	
101		9.70		9.68		33.702	25.993	202.6	0.285	3.20	139.8	49.9	22.9	1.73	23.0	0.00	0.00	0.02	0.06	102	11
121		8.98		8.96		33.833	26.213	182.1	0.323	2.91	127.2	44.7	27.2	1.87	25.2	0.00	0.00	0.01	0.05	122	10
125	ISL	8.96	D	8.95		33.864	D 26.240	179.6	0.329	2.88	D125.3	D 44.2	27.9	1.88	25.4	0.00	0.00	0.01	0.05	126	
141		8.71		8.69		33.916	26.320	172.2	0.359	2.80	122.2	42.7	30.4	1.92	26.0	0.00	0.00	0.01	0.04	142	09
150	ISL	8.66	D	8.65		33.966	D 26.366	168.1	0.373	2.56	D111.3	D 39.0	32.0	1.97	26.7	0.00	0.00	0.01	0.04	151	
171		8.39		8.37		34.000	26.435	161.9	0.409	2.38	103.7	36.1	35.7	2.10	28.5	0.00	0.00	0.02	0.04	172	08
200	ISL	8.12	D	8.10		34.039	D 26.508	155.5	0.454	2.07	D 89.8	D 31.1	39.7	2.23	30.0	0.00	0.00	0.01	0.03	202	
201		8.07		8.05		34.041	26.517	154.6	0.456	2.04	89.2	30.8	39.9	2.23	30.0	0.00	0.00	0.01	0.03	203	07
230		7.86		7.84		34.062	26.564	150.6	0.501	1.87	81.8	28.1	43.4	2.34	31.2	0.00	0.00			232	06
250	ISL	7.60	D	7.57		34.054	D 26.597	147.7	0.530	1.88	D 81.7	D 28.0	45.9	2.37	31.9	0.00	0.00			252	
271		7.17		7.14		34.041	26.647	143.0	0.561	1.82	79.5	26.9	48.5	2.40	32.5	0.00	0.00			273	05
300	ISL	6.79	D	6.76		34.064	D 26.717	136.6	0.602	1.44	D 62.5	D 21.0	55.3	2.56	34.6	0.00	0.00			302	
321		6.57		6.54		34.086	26.764	132.4	0.630	1.20	52.5	17.5	60.3	2.68	36.1	0.00	0.00			324	04
381		6.32		6.28		34.155	26.854	124.7	0.707	0.75	32.7	10.8	67.6	2.88	37.8	0.00	0.00			384	03
400	ISL	6.24	D	6.21		34.176	D 26.880	122.4	0.732	0.68	D 29.4	D 9.8	70.1	2.93	38.3	0.00	0.00			403	
440		6.00		5.96		34.212	26.940	117.1	0.778	0.46	20.0	6.6	75.4	3.02	39.3	0.00	0.00			444	02
500	ISL	5.68	D	5.64		34.236	D 26.999	112.0	0.850	0.37	D 16.1	D 5.3	81.3	3.10	40.2	0.00	0.00			504	
515		5.61		5.57		34.246	27.016	110.6	0.864	0.33	14.4	4.7	82.7	3.12	40.5	0.00	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 50.5

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 27.4 N	120 29.3 W	18/11/2017	0342	UTC	25 m	330 11 kn			1017.4 mb	16.0 C	14.5 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	14.97	14.97	33.435	24.774	316.3	0.000	5.80	253.1	100.9	2.7	0.34	1.1	0.12	0.11	4.44	0.52	0	
2	14.97	14.97	33.435	24.774	316.4	0.006	5.80	253.1	100.9	2.7	0.34	1.1	0.12	0.11	4.44	0.52	2	06
5	14.97	14.97	33.433	24.772	316.6	0.016	5.79	253.0	100.8	3.1	0.35	1.1	0.13	0.16	4.47	0.58	5	05
10	14.95	14.95	33.431	24.774	316.6	0.032	5.77	252.1	100.4	3.1	0.34	1.1	0.13	0.08	4.73	0.63	10	03
10	14.95	14.95	33.432	24.775	316.6	0.033											10	04
15	14.56	14.56	33.433	24.860	308.6	0.047	5.50	240.3	95.0	4.1	0.41	2.4	0.17	0.10	4.24	0.44	15	02
20	14.52	14.51	33.424	24.862	308.5	0.063	5.45	238.2	94.0	4.2	0.45	2.7	0.17	0.22	4.15	0.53	20	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 27.0 N	120 31.4 W	18/11/2017	0437	UTC	74 m	320 13 kn			1017.6 mb	15.2 C	14.2 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	14.32	14.32	33.423	24.903	304.0	0.000	5.62	245.3	96.5	4.5	0.45	2.5	0.18	0.12	4.17	0.45	0	
2	14.32	14.32	33.423	24.903	304.0	0.006	5.62	245.3	96.5	4.5	0.45	2.5	0.18	0.12	4.17	0.45	2	09
6	14.32	14.32	33.423	24.902	304.3	0.018	5.57	243.4	95.7	4.4	0.46	2.6	0.18	0.09	4.24	0.43	6	08
10	14.34	14.34	33.420	24.896	305.0	0.031	5.52	241.1	94.8	4.5	0.47	2.8	0.19	0.18	3.80	0.44	10	06
11	14.34	14.34	33.424	24.899	304.7	0.032											10	07
20	13.54	13.54	33.408	25.053	290.4	0.060	4.97	217.1	84.0	6.6	0.63	5.7	0.22	0.14	3.66	0.40	20	05
30	12.25	12.24	33.460	25.348	262.5	0.088	3.95	172.6	65.0	12.7	1.11	12.2	0.17	0.08	0.97	0.40	30	04
40	11.92	11.91	33.495	25.437	254.2	0.114	3.69	161.3	60.4	14.5	1.24	14.1	0.13	0.00	0.55	0.33	40	03
50	11.30	11.29	33.562	25.605	238.6	0.138	3.41	149.0	55.0	17.6	1.41	16.7	0.12	0.00	0.29	0.26	50	02
60	10.72	10.71	33.653	25.779	222.2	0.161	3.09	134.7	49.2	21.1	1.59	19.3	0.13	0.00	0.21	0.26	60	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 19.0 N	120 48.1 W	21/11/2017	0709	UTC	819 m	340 15 kn			1016.0 mb	17.0 C	16.2 C				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		15.90		15.90		33.467		24.592		333.6	0.000	5.78		252.4		102.5		1.2	0.25	0.0	0.02	0.00	0.83	0.23	0	
3		15.90		15.90		33.467		24.592		333.7	0.010	5.78		252.4		102.5		1.2	0.25	0.0	0.00	0.00	0.83	0.23	3	24
10	ISL	15.84	D	15.84		33.466	D	24.605		332.7	0.029	5.80	D	252.9	D	102.7		1.2	0.24	0.0	0.00	0.00	0.98	0.25	10	
11		15.84		15.84		33.465		24.605		332.8	0.035														10	23
11		15.84		15.84		33.467		24.606		332.6	0.035														10	22
11		15.89		15.89		33.465		24.593		333.9	0.037	5.78		252.5		102.5		1.2	0.24	0.0	0.00	0.00	1.00	0.25	11	21
16		15.85		15.85		33.462		24.601		333.4	0.053	5.82		253.8		103.0		1.2	0.23	0.0	0.00	0.00	1.37	0.30	16	20
20		15.60		15.60		33.453		24.649		328.9	0.067	5.86		255.8		103.3		1.4	0.25	0.0	0.00	0.00	1.63	0.31	20	18
21		15.60		15.60		33.467		24.660		327.9	0.068														20	19
30		15.33		15.33		33.443		24.702		324.2	0.099	5.90		257.6		103.5		1.8	0.26	0.0	0.04	0.00	1.47	0.37	30	17
40		12.42		12.41		33.427		25.291		268.3	0.129	4.48		195.4		73.9		8.5	0.97	10.6	0.18	0.00	0.33	0.31	40	16
50		11.66		11.65		33.459		25.458		252.5	0.155	4.21		183.7		68.4		11.4	1.25	15.0	0.04	0.00	0.18	0.15	50	15
60		10.98		10.97		33.520		25.630		236.4	0.179	3.90		170.3		62.5		14.8	1.42	17.8	0.03	0.00	0.07	0.10	60	14
70		10.44		10.43		33.562		25.757		224.5	0.202	3.84		167.7		60.8		16.9	1.48	18.9	0.00	0.00	0.03	0.05	71	13
75	ISL	10.29	D	10.28		33.602	D	25.815		219.1	0.210	3.79	D	165.0	D	59.8		18.5	1.56	20.0	0.00	0.00	0.02	0.04	76	
85		9.84		9.83		33.687		25.958		205.7	0.235	3.31		144.5		51.8		21.8	1.72	22.4	0.00	0.00	0.01	0.03	86	12
100		9.56		9.54		33.762		26.064		195.9	0.265	3.01		131.3		46.8		24.4	1.81	23.7	0.00	0.00	0.01	0.03	101	11
120		9.58		9.56		33.922		26.185		184.9	0.303	2.41		105.4		37.6		28.3	1.99	25.0	0.00	0.00	0.01	0.04	121	10
125	ISL	9.54	D	9.53		33.942	D	26.207		182.9	0.309	2.38	D	103.5	D	37.0		28.8	2.02	25.3	0.00	0.00	0.01	0.04	126	
140		9.49		9.47		34.000		26.261		178.1	0.339	2.14		93.3		33.2		30.4	2.11	26.1	0.00	0.00	0.01	0.05	141	09
150	ISL	9.50	D	9.49		34.018	D	26.273		177.2	0.354	2.10	D	91.3	D	32.6		31.1	2.14	26.4	0.00	0.00	0.01	0.05	151	
170		9.42		9.40		34.070		26.329		172.3	0.392	1.91		83.5		29.7		32.6	2.19	27.1	0.00	0.00	0.01	0.05	171	08
200		9.12		9.09		34.112		26.411		165.1	0.442	1.73		75.5		26.7		35.2	2.27	28.0	0.00	0.00	0.02	0.04	202	07
230		8.94		8.92		34.158		26.476		159.5	0.491	1.50		65.3		23.0		38.0	2.37	29.1	0.00	0.00			232	06
250	ISL	8.80	D	8.78		34.194	D	26.527		155.1	0.521	1.31	D	56.8	D	20.0		40.1	2.45	29.8	0.00	0.00			252	
270		8.73		8.70		34.221		26.560		152.3	0.553	1.12		48.9		17.1		42.2	2.52	30.6	0.00	0.00			272	05
300	ISL	8.45	D	8.42		34.242	D	26.620		147.1	0.597	0.95	D	41.4	D	14.5		45.6	2.60	31.6	0.00	0.00			302	
320		8.21		8.17		34.243		26.659		143.6	0.627	0.87		37.9		13.1		47.9	2.65	32.4	0.00	0.00			323	04
380		7.44		7.40		34.212		26.747		135.8	0.711	0.79		34.3		11.7		55.3	2.77	34.9	0.00	0.00			383	03
400	ISL	7.41	D	7.37		34.237	D	26.772		133.8	0.738	0.68	D	29.6	D	10.1		57.5	2.81	35.4	0.00	0.00			403	
441		6.97		6.93		34.247		26.841		127.6	0.792	0.55		23.9		8.1		61.9	2.90	36.5	0.00	0.00			445	02
500	ISL	6.57	D	6.52		34.262	D	26.908		121.7	0.867	0.43	D	18.9	D	6.3		68.4	2.99	37.8	0.00	0.00			504	
517		6.49		6.44		34.267		26.924		120.5	0.886	0.39		17.1		5.7		70.2	3.01	38.1	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 9.0 N	121 8.9 W	18/11/2017	1026	UTC	2168 m	310 12 kn			1019.1 mb	16.5 C	14.0 C				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		16.64		16.64		33.467		24.422		349.8	0.000	5.62		245.4		101.1		1.5	0.25	0.0	0.03	0.05	0.45	0.16	0	
2		16.64		16.64		33.465	D	24.421		350.0	0.004	5.62		245.4		101.1		1.5	0.25	0.0	0.03	0.05	0.45	0.16	2	21
10		16.65		16.65		33.464		24.419		350.4	0.035	5.63		245.9		101.3		1.4	0.23	0.0	0.03	0.00	0.43	0.16	10	19
11		16.65		16.65		33.465		24.420		350.4	0.037														10	20
20	ISL	16.65	D	16.64		33.465	D	24.421		350.6	0.067	5.60	D	244.3	D	100.8		1.4	0.24	0.0	0.00	0.00	0.43	0.17	20	
21		16.65		16.65		33.468		24.423		350.5	0.074	5.62		245.6		101.2		1.4	0.24	0.0	0.00	0.00	0.43	0.17	21	18
30		16.64		16.64		33.462		24.421		351.0	0.105	5.62		245.6		101.2		1.4	0.24	0.0	0.00	0.00	0.46	0.16	30	17
40		15.70		15.70		33.369		24.563		337.7	0.140	5.68		248.0		100.2		1.8	0.28	0.0	0.15	0.15	0.44	0.31	40	16
50	ISL	13.74	D	13.74		33.290	D	24.922		303.7	0.170	5.70	D	248.6	D	96.7		2.6	0.39	1.6	0.38	0.00	0.31	0.28	50	
51		13.02		13.01		33.285		25.064		290.1	0.175	5.72		249.7		95.5		2.7	0.40	1.8	0.41	0.00	0.30	0.27	51	15
60		12.01		12.00		33.338		25.301		267.8	0.200	5.27		230.4		86.3							0.12	0.13	60	14
70		11.21		11.21		33.447		25.531		246.0	0.226	4.38		191.1		70.4		11.8	1.16	14.3	0.00	0.00	0.08	0.11	71	13
75	ISL	10.87	D	10.86		33.506	D	25.639		235.9	0.236	4.21	D	183.5	D	67.3		13.4	1.27	16.0	0.00	0.00	0.07	0.10	76	
86		10.43		10.42		33.568		25.765		224.1	0.263	3.67		160.3		58.1		17.1	1.52	19.6	0.00	0.00	0.04	0.06	87	12
100		9.89		9.88		33.773		26.016		200.5	0.293	2.92		127.5		45.7		23.8	1.77	22.5	0.00	0.00	0.02	0.07	101	11
120		9.73		9.71		33.913	D	26.154		187.9	0.330	2.38	D	103.4	D	37.1									121	10
125	ISL	9.71	D	9.70		33.923	D	26.164		187.0	0.339	2.35	D	102.1	D	36.6		27.8	1.95	24.6	0.00	0.00	0.01	0.06	126	
140		9.43		9.42		33.972		26.249		179.3	0.369	2.27		99.2		35.3		30.2	2.06	25.9	0.00	0.00	0.01	0.05	141	09
150	ISL	9.40	D	9.38		34.020	D	26.292		175.4	0.385	2.10	D	91.5	D	32.6		31.1	2.11	26.4	0.00	0.00	0.01	0.05	151	
171		9.34		9.33		34.088		26.355		169.8	0.423	1.81		79.2		28.1		33.1	2.20	27.3	0.00	0.00	0.01	0.05	172	08
200		9.24		9.22		34.146		26.418		164.5	0.471	1.59		69.6		24.7		35.6	2.29	28.1	0.00	0.00	0.01	0.05	202	07
230		9.10		9.07		34.198		26.484		158.9	0.520	1.34		58.3		20.6		38.3	2.39	29.0	0.00	0.00			232	06
250	ISL	8.98	D	8.95		34.231	D	26.528		155.1	0.550	1.18	D	51.4	D	18.2		40.1	2.45	29.7	0.00	0.00			252	
270		8.76		8.73		34.233		26.566		151.8	0.582	1.07		46.7		16.4		41.9	2.51	30.4	0.00	0.00			272	05
300	ISL	8.53	D	8.50		34.247	D	26.613		147.9	0.626	0.94	D	40.8	D	14.3		44.8	2.57	31.2	0.00	0.00			302	
320		8.38		8.35		34.250		26.638		145.8	0.656	0.88		38.4		13.4		46.7	2.61	31.7	0.00	0.00			323	04
380		7.71		7.67		34.258		26.745		136.3	0.741	0.66		28.8		9.9		53.7	2.75	34.2	0.00	0.00			383	03
400	ISL	7.49	D	7.45		34.251	D	26.772		133.9	0.769	0.64	D	27.7	D	9.5		56.3	2.79	34.8	0.00	0.00			403	
441		7.05		7.01		34.252		26.835		128.3	0.822	0.53		23.1		7.8		61.6	2.87	36.2	0.00	0.00			445	02
500	ISL	6.56	D	6.52		34.276	D	26.920		120.6	0.897	0.40	D	17.4	D	5.8		68.5	2.97	37.7	0.00	0.00			504	
515		6.46		6.41		34.282		26.939		118.9	0.913	0.37		16.2		5.4		70.2	3.00	38.1	0.00	0.00			519	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 48.9 N	121 49.5 W	18/11/2017	1747	UTC	3600 m	330 12 kn	320 03 10	1	1021.3 mb	18.0 C	16.0 C	20 m	2/8	ST	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		16.95	16.95	33.337	24.250	366.2	0.000	5.70	249.1	103.2	1.7	0.22	0.0	0.04	0.05	0.30	0.07	0	
3	A	16.95	16.95	33.337	24.250	366.3	0.011	5.70	249.1	103.2	1.7	0.22	0.0	0.04	0.05	0.30	0.07	3	24
10	ISL	16.94 D	16.94	33.337 D	24.254	366.2	0.032	5.68 D	247.6 D	102.7	1.8	0.21	0.0	0.04	0.00	0.30	0.07	10	
13	A	16.94	16.94	33.337 D	24.255	366.2	0.043	5.70	248.9	103.1	1.8	0.21	0.0	0.03	0.00	0.30	0.07	13	21
13		16.94	16.94	33.340	24.257	366.1	0.048											13	22
17	A	16.94	16.94	33.336	24.254	366.4	0.062	5.68	248.2	102.8	1.8	0.20	0.0	0.00	0.00	0.30	0.08	17	20
20	ISL	16.94 D	16.93	33.337 D	24.255	366.4	0.068	5.68 D	247.6 D	102.7	1.8	0.20	0.0	0.00	0.00	0.31	0.08	20	
25		16.92	16.91	33.333	24.258	366.4	0.091	5.69	248.3	102.8	1.8	0.20	0.0	0.00	0.00	0.32	0.07	25	19
30	ISL	16.76 D	16.76	33.326 D	24.288	363.6	0.105	5.71 D	249.1 D	102.9	1.7	0.24	0.1	0.00	0.00	0.37	0.10	30	
32	A	16.65	16.64	33.322	24.312	361.5	0.117	5.74	250.7	103.2	1.7	0.25	0.1	0.00	0.38	0.39	0.12	32	18
44		15.17	15.16	33.324	24.646	329.9	0.158	5.83	254.6	101.8	2.0	0.26	0.0	0.00	0.05	0.76	0.37	44	16
44		15.17	15.16	33.325	24.647	329.9	0.158											44	17
50	ISL	14.57 D	14.57	33.311 D	24.765	318.7	0.174	5.70 D	248.3 D	98.3	2.7	0.33	0.4	0.00	0.07	0.66	0.34	50	
56	A	13.71	13.70	33.268	24.913	304.8	0.197	5.64	246.2	95.5	3.4	0.39	0.7	0.48	0.09	0.56	0.31	56	15
63		12.40	12.39	33.224 D	25.138	283.4	0.214	5.62 D	244.9 D	92.6								64	14
70	A	11.68	11.68	33.266	25.305	267.6	0.236	5.45	238.0	88.5	5.3	0.61	5.4	0.05	0.00	0.16	0.14	71	13
75	ISL	11.50 D	11.49	33.299 D	25.365	262.0	0.246	5.21 D	227.0 D	84.3	6.6	0.72	7.2	0.04	0.00	0.13	0.12	76	
86		11.08	11.07	33.387	25.510	248.5	0.278	4.77	208.5	76.6	9.5	0.96	11.1	0.04	0.00	0.07	0.08	87	12
100	ISL	10.63 D	10.61	33.530 D	25.701	230.6	0.308	3.98 D	173.5 D	63.3	15.3	1.35	17.0	0.03	0.00	0.04	0.06	101	
101		10.51	10.49	33.537	25.728	228.0	0.314	3.95	172.4	62.6	15.7	1.38	17.4	0.03	0.00	0.03	0.06	102	11
121		10.01	9.99	33.659	25.909	211.2	0.357	3.51	153.3	55.1	19.9	1.58	20.4	0.00	0.00	0.02	0.05	122	10
125	ISL	9.82 D	9.80	33.710 D	25.981	204.4	0.363	3.65 D	158.7 D	57.0	21.0	1.62	21.1	0.00	0.00	0.02	0.04	126	
141		9.31	9.29	33.811	26.143	189.2	0.397	3.12	136.1	48.2	25.5	1.78	23.8	0.00	0.00	0.01	0.03	142	09
150	ISL	9.17 D	9.15	33.852 D	26.198	184.1	0.412	3.21 D	139.7 D	49.5	27.0	1.84	24.4	0.00	0.00	0.01	0.03	151	
171		8.91	8.89	33.928	26.300	174.9	0.452	2.68	116.9	41.1	30.5	1.97	26.0	0.00	0.00	0.01	0.04	172	08
200	ISL	8.61 D	8.58	33.972 D	26.382	167.6	0.500	2.51 D	109.4 D	38.3	34.0	2.05	27.6	0.00	0.00	0.01	0.03	202	
201		8.60	8.58	33.974	26.384	167.5	0.503	2.53	110.5	38.6	34.1	2.05	27.6	0.00	0.00	0.01	0.03	203	07
230		8.08	8.06	33.981	26.468	159.8	0.551	2.87	125.1	43.2	36.0	1.99	27.3	0.00	0.00			232	06
250	ISL	7.98 D	7.95	34.067 D	26.552	152.2	0.580	2.10 D	91.3 D	31.5	40.4	2.17	29.5	0.00	0.00			252	
271		7.60	7.57	34.049	26.593	148.4	0.614	1.91	83.4	28.5	45.1	2.35	31.7	0.00	0.00			273	05
300	ISL	7.48 D	7.45	34.076 D	26.632	145.2	0.655	1.58 D	68.6 D	23.4	49.4	2.49	33.3	0.00	0.00			302	
320		7.26	7.23	34.098	26.681	140.8	0.686	1.32	57.4	19.4	52.3	2.59	34.5	0.00	0.00			323	04
380		6.57	6.54	34.105	26.781	131.8	0.767	1.04	45.2	15.1	61.0	2.73	36.8	0.00	0.00			383	03
400	ISL	6.43 D	6.40	34.112 D	26.805	129.7	0.793	0.96 D	41.7 D	13.9	64.3	2.79	37.5	0.00	0.00			403	
440		6.04	6.00	34.131	26.871	123.6	0.844	0.76 D	32.9 D	10.9	71.0	2.92	39.0	0.00	0.00			444	02
500	ISL	5.40 D	5.36	34.137 D	26.954	115.9	0.917	0.64 D	27.8 D	9.0	81.1	3.02	40.6	0.00	0.00			504	
515		5.28	5.24	34.141	26.972	114.3	0.933	0.60	26.3	8.5	83.6	3.04	41.0	0.00	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 80.0

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	18/11/2017	2244	UTC	3973 m	330 08 kn	320 04 07	1	1020.1 mb	17.2 C	14.9 C	30 m	1/8	ST	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		18.05	18.05	33.474	24.093	381.2	0.000	5.48	239.5	101.4	1.5	0.19	0.0	0.02	0.00	0.16	0.02	0	
2		18.05	18.05	33.474	24.093	381.3	0.008	5.48	239.5	101.4	1.5	0.19	0.0	0.00	0.00	0.16	0.02	2	21
10	ISL	18.03 D	18.03	33.472 D	24.097	381.2	0.035	5.49 D	239.3 D	101.4	1.5	0.19	0.0	0.00	0.00	0.16	0.03	10	
11		18.01	18.01	33.473	24.103	380.7	0.042	5.49	239.6	101.4	1.5	0.19	0.0	0.00	0.00	0.16	0.03	11	20
20		16.91	16.91	33.276	24.215	370.3	0.076	5.72	250.0	103.4	1.4	0.21	0.0	0.00	0.00	0.25	0.07	20	19
30	ISL	16.08 D	16.07	33.239 D	24.379	354.9	0.109	5.83 D	254.2 D	103.6	1.3	0.24	0.0	0.00	0.00	0.51	0.09	30	
31		16.00	15.99	33.245	24.402	352.8	0.115	5.84	255.0	103.6	1.3	0.24	0.0	0.00	0.00	0.54	0.10	31	18
41		15.41	15.40	33.417	24.667	327.9	0.149	5.67	247.4	99.4	2.2	0.28	0.0	0.10	0.24	0.54	0.32	41	17
50	ISL	14.60 D	14.59	33.525 D	24.926	303.5	0.174	6.01 D	262.0 D	103.9	2.3	0.20	0.0		0.00	0.46	0.26	50	
51		14.16	14.15	33.521	25.016	294.9	0.181	6.02	262.9	103.1	2.3	0.19	0.0	0.00	0.00	0.45	0.26	51	16
60		13.33	13.32	33.348	25.051	291.7	0.207	5.89	257.4	99.1	2.7	0.22	0.3	0.16	0.00	0.44	0.32	60	14
71		14.20	14.19	33.792	25.216	276.5	0.239	5.64	246.2	96.8	3.0	0.32	1.3	0.11	0.00	0.25	0.18	72	13
75	ISL	14.09 D	14.08	33.820 D	25.262	272.3	0.247	5.56 D	242.2 D	95.2	3.5	0.37	2.2	0.00	0.00	0.23	0.16	76	
86		13.09	13.08	33.763 D	25.423	257.2	0.276	5.34 D	232.4 D	89.5								87	12
100	ISL	11.82 D	11.81	33.676 D	25.600	240.5	0.311	5.12 D	222.8 D	83.5	6.9	0.65	7.5	0.00	0.00	0.06	0.07	101	
101		11.67	11.66	33.671	25.624	238.2	0.316	5.09	222.4	82.9	7.1	0.66	7.7	0.00	0.00	0.05	0.06	102	11
121		10.43	10.41	33.632	25.817	220.1	0.362	4.36	190.4	69.0	14.5	1.19	15.4	0.00	0.00	0.02	0.03	122	10
125	ISL	10.29 D	10.28	33.666 D	25.866	215.5	0.369	4.36 D	189.7 D	68.8	15.3	1.22	15.9	0.00	0.00	0.01	0.03	126	
141		9.76	9.74	33.736	26.011	201.9	0.404	4.25	185.6	66.3	18.2	1.32	17.9	0.00	0.00	0.00	0.02	142	09
150	ISL	9.65 D	9.63	33.806 D	26.085	195.1	0.420	4.30 D	187.3 D	67.0	19.4	1.35	18.5	0.00	0.00	0.00	0.02	151	
170		9.30	9.28	33.881	26.200	184.5	0.460	4.15	181.1	64.2	22.1	1.41	19.8	0.00	0.00	0.00	0.01	171	08
200	ISL	8.58 D	8.55	33.948 D	26.367	169.0	0.512	3.80 D	165.4 D	57.8	28.3	1.62	22.8	0.00	0.00	0.00	0.01	202	
202		8.49	8.47	33.946	26.379	167.9	0.517	3.81	166.5	57.9	28.7	1.63	23.0	0.00	0.00	0.00	0.01	204	07
231		7.97	7.94	33.964	26.472	159.3	0.564	2.97	129.8	44.6	35.9	1.98	27.2	0.00	0.00			233	06
250	ISL	7.64 D	7.61	33.968 D	26.524	154.6	0.593	2.66 D	115.8 D	39.7	41.0	2.14	29.5	0.00	0.00			252	
271		7.32	7.30	33.981	26.579	149.6	0.626	2.18	95.2	32.3	46.7	2.31	32.0	0.00	0.00			273	05
300	ISL	7.10 D	7.07	34.002 D	26.626	145.4	0.669	1.88 D	81.7 D	27.6	50.4	2.42	33.5	0.00	0.00			302	
321		6.86	6.83	33.991	26.650	143.4	0.699	1.77	77.1	25.8	53.1	2.50	34.6	0.00	0.00			324	04
381		6.82	6.78	34.105	26.748	135.1	0.783	1.14	49.8	16.7	58.1	2.71	36.0	0.00	0.00			384	03
400	ISL	6.35 D	6.32	34.080 D	26.790	131.0	0.809	1.13 D	49.2 D	16.4	61.5	2.76	36.9	0.00	0.00			403	
441		6.06	6.02	34.108	26.851	125.6	0.860	0.89	38.8	12.8	68.7	2.87	38.7	0.00	0.00			445	02
500	ISL	5.82 D	5.78	34.191 D	26.946	117.2	0.934	0.50 D	21.8 D	7.2	77.8	3.03	40.3	0.00	0.00			504	
517		5.62	5.58	34.196	26.975	114.5	0.952	0.45	19.5	6.4	80.4	3.08	40.7	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 90.0

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 13.3 W	19/11/2017	0455	UTC	4232 m	330 09 kn			1021.3 mb	16.2 C	14.5 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		16.72		16.72		33.394		24.349		356.8	0.000	5.79		253.0		104.4		1.7	0.23	0.1	0.03	0.05	0.40	0.11	0	
2		16.72		16.72		33.394		24.349		356.9	0.007	5.79		253.0		104.4		1.7	0.23	0.1	0.03	0.05	0.40	0.11	2	20
10		16.64		16.63		33.397		24.371		355.1	0.036	5.80		253.1		104.2		1.4	0.22	0.0	0.00	0.06	0.44	0.14	10	19
20		15.39		15.38		33.420		24.672		326.7	0.070	5.60		244.5		98.2		1.7	0.26	0.0	0.05	0.10	0.90	0.40	20	18
30		14.24		14.24		33.358		24.870		308.1	0.101	5.44		237.5		93.2		3.3	0.41	1.3	0.58	0.00	0.36	0.21	30	17
40		13.27		13.26		33.283		25.013		294.7	0.132	5.79		253.0		97.2		3.2	0.37	1.3	0.23	0.10	0.29	0.24	40	16
50		11.95		11.94		33.300		25.282		269.3	0.160	5.03		219.7		82.2		6.7	0.76	7.3	0.05	0.05	0.10	0.09	50	15
60		11.06		11.05		33.368		25.497		249.0	0.186	5.05		220.5		80.9		7.8	0.81	9.2	0.04	0.00	0.07	0.10	60	14
70		10.69		10.68		33.501		25.667		233.1	0.210	4.47		195.1		71.1		12.5	1.13	14.3	0.03	0.00	0.05	0.06	71	13
75	ISL	10.57	D	10.56		33.525	D	25.707		229.4	0.219	4.36	D	189.7	D	69.1		12.9	1.13	14.4	0.03	0.00	0.04	0.05	76	
85		10.33		10.32		33.616		25.819		218.9	0.244	4.48		195.5		70.7		13.7	1.13	14.8	0.03	0.00	0.03	0.03	86	12
100		9.78		9.77		33.691		25.971		204.8	0.275	3.80		166.0		59.4		19.6	1.48	20.0	0.00	0.00	0.01	0.02	101	11
120		9.41		9.40		33.778		26.100		192.9	0.315	3.33		145.5		51.7		23.2	1.68	22.5	0.00	0.00	0.01	0.03	121	10
125	ISL	9.40	D	9.39		33.816	D	26.131		190.0	0.323	3.10	D	135.0	D	48.1		24.3	1.74	23.3	0.00	0.00	0.01	0.03	126	
140		9.14		9.12		33.865		26.213		182.6	0.353	2.67		116.7		41.2		27.6	1.92	25.5	0.00	0.00	0.01	0.03	141	09
150	ISL	9.10	D	9.09		33.910	D	26.253		178.9	0.369	2.64	D	115.1	D	40.7		29.2	1.97	26.2	0.00	0.00	0.01	0.03	151	
170		8.87		8.85		33.974		26.342		170.8	0.406	2.35		102.4		36.0		32.6	2.07	27.6	0.00	0.00	0.01	0.03	171	08
200		8.54		8.52		34.041		26.446		161.5	0.456	1.97		86.1		30.0		37.0	2.22	29.5	0.00	0.09	0.01	0.03	202	07
230		8.09		8.06		34.074		26.541		152.9	0.503	1.82		79.5		27.4		41.7	2.32	30.9	0.00	0.00			232	06
250	ISL	7.96	D	7.94		34.093	D	26.575		150.0	0.533	1.66	D	72.3	D	25.0		44.6	2.41	31.9	0.00	0.00			252	
270		7.70		7.67		34.116		26.632		144.8	0.563	1.43		62.4		21.4		47.5	2.50	32.9	0.00	0.08			272	05
300	ISL	7.29	D	7.26		34.111	D	26.687		139.9	0.606	1.33	D	57.9	D	19.7		52.6	2.58	34.4	0.00	0.00			302	
320		6.91		6.88		34.099		26.730		135.9	0.633	1.30		56.7		19.0		56.0	2.63	35.4	0.00	0.00			323	04
380		6.28		6.25		34.113		26.824		127.4	0.712	0.93		40.4		13.4		65.2	2.83	38.0	0.00	0.00			383	03
400	ISL	5.98	D	5.94		34.106	D	26.857		124.3	0.738	0.90	D	39.0	D	12.9		68.4	2.87	38.7	0.00	0.00			403	
441		5.76		5.72		34.140		26.912		119.4	0.787	0.68		29.5		9.7		75.0	2.96	40.0	0.00	0.00			445	02
500	ISL	5.30	D	5.26		34.178	D	26.998		111.6	0.858	0.47	D	20.4	D	6.6		84.6	3.07	41.5	0.00	0.00			504	
516		5.22		5.17		34.184		27.013		110.3	0.873	0.43		18.6		6.0		87.3	3.10	41.9	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 80.0 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 49.0 N	123 54.4 W	19/11/2017	1108	UTC	4393 m	340 03 kn			1020.3 mb	17.0 C	15.5 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		18.27		18.27		33.501		24.060		384.3	0.000	5.47		239.0		101.7		1.9	0.20	0.0	0.02	0.18	0.14	0.11	0	
1		18.26		18.27		33.503		24.061		384.3	0.005														1	24
2		18.27		18.27		33.501		24.060		384.4	0.008	5.47		239.0		101.7		1.9	0.20	0.0	0.00	0.18	0.14	0.11	2	23
10		18.28		18.27		33.502		24.060		384.7	0.039	5.45		238.1		101.3		1.7	0.19	0.0	0.00	0.46	0.14	0.04	10	22
20	ISL	18.28	D	18.27		33.501	D	24.060		385.1	0.075	5.44	D	237.3	D	101.1		1.7	0.20	0.0	0.00	0.29	0.13	0.04	20	
26		18.28		18.27		33.505		24.063		385.1	0.100	5.45		237.9		101.2		1.7	0.20	0.0	0.00	0.19	0.13	0.04	26	21
30	ISL	18.28	D	18.27		33.501	D	24.060		385.5	0.114	5.44	D	237.2	D	101.0		1.6	0.19	0.0	0.00	0.00	0.14	0.05	30	
40		18.29		18.28		33.641		24.165		375.9	0.153	5.49		239.5		102.0		1.6	0.16	0.0	0.00	0.00	0.17	0.05	40	20
50		17.21		17.20		33.491		24.313		362.1	0.190	5.67		247.5		103.1		1.6	0.19	0.0	0.00	0.10	0.25	0.11	50	19
62		15.11		15.10		33.351		24.682		327.1	0.232	6.06		264.8		105.7		1.9	0.22	0.0	0.00	0.00	0.32	0.21	62	18
67		14.38		14.37		33.316		24.811		314.9	0.248	6.05		264.2		103.9		2.2	0.27	0.1	0.03	0.09	0.39	0.28	68	16
67		14.38		14.37		33.323		24.817		314.4	0.249														68	17
75		14.75		14.74		33.633		24.978		299.4	0.272	5.73		250.2		99.4		2.4	0.26	0.6	0.08	0.00	0.29	0.21	76	15
87		13.91		13.89		33.629		25.153		283.0	0.307	5.49		239.6		93.5		3.2	0.35	2.0	0.14	0.00	0.21	0.18	88	14
100		12.89		12.88		33.579		25.319		267.4	0.343	5.60		244.5		93.4		3.1	0.33	1.8	0.07	0.00	0.14	0.12	101	13
112		12.10		12.08		33.543		25.446		255.5	0.374	5.21		227.5		85.5		5.7	0.58	5.9	0.03	0.00	0.08	0.10	113	12
125		10.78		10.77		33.455		25.617		239.2	0.407	4.34		189.5		69.2		12.4	1.16	14.4	0.00	0.00	0.05	0.07	126	11
140		10.13		10.11		33.538		25.795		222.5	0.441	4.02		175.6		63.2		16.2	1.36	17.7	0.00	0.00	0.03	0.04	141	10
150	ISL	10.00	D	9.99		33.700	D	25.943		208.7	0.465	3.97	D	172.6	D	62.2		17.7	1.36	18.2	0.00	0.00	0.02	0.03	151	
170		9.46		9.44		33.849		26.149		189.4	0.503	4.13		180.3		64.1		20.7	1.37	19.2	0.00	0.00	0.00	0.01	171	09
200		8.73		8.71		33.920		26.322		173.3	0.558	3.55		155.1		54.2		27.2	1.68	23.4	0.00	0.00	0.00	0.01	202	08
230		8.24		8.21		33.972		26.439		162.7	0.608	2.71		118.2		40.9		34.7	2.02	27.9	0.00	0.00			232	07
250	ISL	7.90	D	7.88		33.973	D	26.489		158.0	0.643	3.23	D	140.7	D	48.5		38.0	2.07	28.6	0.00	0.00			252	
270		7.58		7.55		34.006		26.563		151.3	0.671	2.63		114.8		39.1		41.3	2.12	29.3	0.00	0.00			272	06
300	ISL	7.11	D	7.09		34.029	D	26.646		143.6	0.719	2.00	D	87.0	D	29.5		48.1	2.26	31.5	0.00	0.00			302	
320		6.75		6.72		33.998		26.672		141.2	0.744	2.15		93.8		31.4		52.7	2.36	33.0	0.00	0.00			323	05
380		6.52		6.48		34.108		26.790		130.8	0.825	1.04		45.6		15.2		62.5	2.76	37.1	0.00	0.00			383	04
400	ISL	6.26	D	6.23		34.112	D	26.827		127.5	0.856	0.93	D	40.3	D	13.4		65.2	2.83	37.8	0.00	0.00			403	
441		6.15		6.11		34.183		26.898		121.3	0.902	0.57		25.0		8.3		70.6	2.97	39.1	0.00	0.00			445	03
500	ISL	5.70	D	5.65		34.199	D	26.968		115.0	0.978	0.52	D	22.6	D	7.4		78.9	3.05	40.4	0.00	0.00			504	
515		5.69		5.65		34.211		26.978		114.2	0.989	0.42		18.2		6.0		81.0	3.07	40.7	0.00	0.00			519	01
515		5.69		5.65		34.223		26.988		113.3	0.989														519	02

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

RV SALLY RIDE CALCOFI CRUISE 1711 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 47.8 W	17/11/2017	2043	UTC	181 m	250 17 kn	230 02 04	1	1015.4 mb	19.0 C	17.5 C		3/8	ST	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		16.99		16.99		33.476		24.347		357.0	0.000	5.81		253.9		105.3		0.8	0.19	0.0	0.03	0.01	0.97	0.33	0	
2		16.99		16.99		33.476		24.347		357.0	0.007	5.81		253.9		105.3		0.8	0.19	0.0	0.03	0.00	0.97	0.33	2	04
6		16.66		16.66		33.472		24.423		350.0	0.021	5.82		254.1		104.8		0.7	0.18	0.0	0.03	0.00	0.94	0.31	6	03
10		15.94		15.94		33.463		24.581		335.0	0.035	5.85		255.5		103.8		0.6	0.20	0.0	0.00	0.00	0.84	0.39	10	02
15		15.93		15.93		33.469		24.587		334.6	0.052	5.86		256.0		104.0		0.7	0.21	0.0	0.00	0.13	0.91	0.47	15	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 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 16.5 N	120 1.4 W	17/11/2017	2245	UTC	571 m	280 19 kn	250 02 04	0	1015.8 mb	17.2 C	15.3 C	08 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	16.12	16.12	33.466	24.542	338.4	0.000	5.90	257.6	105.0	0.7	0.23	0.0	0.02	0.00	0.84	0.17	0	
2	16.12	16.12	33.466	24.542	338.5	0.007	5.90	257.6	105.0	0.7	0.23	0.0	0.00	0.00	0.84	0.17	2	24
10 ISL	16.12 D	16.12	33.466 D	24.542	338.8	0.031	5.86 D	255.2 D	104.3	0.7	0.22	0.4	0.00	0.00	0.82	0.24	10	
11	16.08	16.08	33.464	24.549	338.1	0.037	5.86	256.0	104.3	0.7	0.22	0.5	0.00	0.60	0.81	0.25	11	23
20 ISL	14.22 D	14.22	33.431 D	24.931	302.0	0.063	5.51 D	240.2 D	94.5	2.5	0.46	2.7	0.00	0.11	4.89	0.97	20	
21	14.12	14.12	33.423	24.946	300.6	0.069	5.35	233.5	91.4	2.7	0.49	3.0	0.21	0.05	5.35	1.05	21	22
30 ISL	13.66 D	13.65	33.421 D	25.040	291.9	0.093	4.72 D	205.8 D	80.0	6.4	0.76	6.9	0.14	0.00	3.07	0.68	30	
31	13.58	13.58	33.419 D	25.054	290.6	0.096	4.58 D	199.5 D	77.5								31	21
41	12.55	12.54	33.456	25.288	268.6	0.127	4.11	179.3	68.0	11.0	1.08	11.6	0.06	0.00	0.29	0.22	41	20
50 ISL	11.92 D	11.91	33.494 D	25.437	254.5	0.148	3.91 D	170.4 D	63.9	12.9	1.20	13.6	0.05	0.00	0.18	0.20	50	
51	11.80	11.80	33.490	25.456	252.8	0.153	3.84	167.9	62.7	13.2	1.21	13.9	0.04	0.00	0.17	0.19	51	19
61	11.07	11.07	33.582	25.661	233.5	0.177	3.41	148.9	54.7	17.3	1.46	17.6	0.04	0.00	0.13	0.16	61	18
71	10.46	10.45	33.703	25.864	214.4	0.199	2.98	130.3	47.3	21.7	1.69	21.1	0.03	0.00	0.09	0.12	72	17
75 ISL	10.29 D	10.28	33.753 D	25.933	207.9	0.206	2.87 D	124.9 D	45.3	23.4	1.77	22.1	0.00	0.00	0.08	0.11	76	
86	9.87	9.86	33.923	26.137	188.7	0.230	2.29	99.8	35.8	28.0	1.99	25.0	0.00	0.00	0.05	0.10	87	16
100 ISL	9.75 D	9.74	33.962 D	26.187	184.2	0.254	2.17 D	94.6 D	34.0	29.7	2.05	25.5	0.00	0.00	0.02	0.10	101	
101	9.74	9.73	33.965	26.192	183.9	0.258	2.14	93.5	33.5	29.8	2.05	25.5	0.00	0.00	0.02	0.10	102	15
120	9.63	9.62	34.030 D	26.261	177.7	0.291	1.92 D	83.3 D	29.9								121	14
125 ISL	9.48 D	9.46	34.044 D	26.297	174.3	0.299	1.85 D	80.6 D	28.8	33.1	2.17	26.9	0.00	0.00	0.02	0.08	126	
140	9.41	9.39	34.097	26.351	169.6	0.326	1.66	72.5	25.8	35.2	2.25	27.8	0.00	0.00	0.02	0.07	141	13
150 ISL	9.39 D	9.37	34.116 D	26.370	168.0	0.342	1.60 D	69.7 D	24.9	36.2	2.29	28.1	0.00	0.00	0.02	0.07	151	
171	9.30	9.29	34.146	26.407	164.9	0.378	1.30	56.8	20.2	38.3	2.38	28.9	0.00	0.00	0.01	0.07	172	12
200	9.12	9.10	34.175	26.460	160.5	0.426	1.05	45.9	16.2	41.8	2.49	30.2	0.00	0.08	0.02	0.07	202	11
230	8.73	8.71	34.197	26.540	153.4	0.473	0.82	35.6	12.5	46.7	2.63	31.6	0.00	0.00			232	10
250 ISL	8.54 D	8.51	34.202 D	26.574	150.4	0.503	0.77 D	33.5 D	11.7	50.2	2.70	32.3	0.00	0.00			252	
270	8.25	8.22	34.204	26.620	146.4	0.533	0.64	27.7	9.6	53.8	2.76	33.0	0.00	0.00			272	09
300 ISL	7.94 D	7.91	34.210 D	26.671	141.9	0.577	0.57 D	24.7 D	8.5	57.6	2.80	33.3	0.00	0.00			302	
320	7.85	7.81	34.213 D	26.688	140.6	0.605	0.54	23.4	8.0	60.1	2.82	33.6	0.00	0.00			323	08
380	7.38	7.34	34.228	26.768	133.8	0.688	0.40	17.6	6.0	67.2	2.95	33.9	0.00	0.00			383	07
400 ISL	7.23 D	7.19	34.237 D	26.797	131.3	0.715	0.36 D	15.4 D	5.3	70.4	3.00	33.8	0.00	0.00			403	
440	6.91	6.87	34.247	26.849	126.7	0.767	0.26	11.3	3.8	76.8	3.09	33.5	0.00	0.00			444	06
480	6.80	6.76	34.249	26.867	125.6	0.817	0.32	14.1	4.7	75.1	3.05	35.0	0.03	0.00			484	05
500 ISL	6.78 D	6.73	34.253 D	26.873	125.3	0.843	0.28 D	12.0 D	4.0	81.9	3.14	32.7	0.00	0.00			504	
515	6.77	6.72	34.256	26.878	125.1	0.861	0.14	6.3	2.1	87.0	3.21	30.9	0.00	0.00			519	04
538	6.69	6.64	34.258	26.890	124.3	0.890	0.25	11.1	3.7	80.5	3.15	33.3	0.08	0.00			543	03
561	6.66	6.60	34.263	26.899	123.7	0.918	0.23	10.2	3.4	85.4	3.23	31.4	0.36	0.19			566	02
566	6.66	6.60	34.268	26.903	123.4	0.924	0.23	9.9	3.3	85.8	3.25	31.3	0.37	0.19			571	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 SALLY RIDE CALCOFI CRUISE 1711 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 15.4 N	119 19.5 W	17/11/2017	1601	UTC	191 m	110 03 kn	190 02 05	2	1016.4 mb	18.2 C	18.0 C		5/8	ST	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	15.76	15.76	33.424	24.591	333.7	0.000	5.52	241.2	97.7	4.0	0.35	0.4	0.18	0.12	2.74	0.70	0	
2	15.76	15.76	33.424	24.591	333.8	0.007	5.52	241.2	97.7	4.0	0.35	0.4	0.18	0.12	2.74	0.70	2	05
6	15.48	15.48	33.418	24.649	328.4	0.020	5.11	222.9	89.7	4.4	0.50	0.5	0.27	0.26	2.13	0.73	6	04
10	15.45	15.45	33.418	24.655	328.0	0.033	5.01	218.9	88.1	4.6	0.55	0.5	0.29	0.34	2.02	0.81	10	03
11	15.45	15.45	33.417	24.654	328.1	0.035											10	02
15	15.46	15.46	33.415	24.652	328.5	0.049	4.99	217.9	87.7	4.7	0.54	0.5	0.31	0.34	1.90	0.77	15	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 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 13.5 N	119 24.6 W	17/11/2017	1731	UTC	33 m	260 07 kn	240 02 05	2	1017.1 mb	19.0 C	18.0 C	14 m	5/8	ST	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	16.87	16.87	33.481	24.381	353.7	0.000	5.69	248.3	102.8	1.3	0.20	0.1	0.03	0.04	1.17	0.35	0	
2 A	16.87	16.87	33.481	24.381	353.8	0.007	5.69	248.3	102.8	1.3	0.20	0.1	0.03	0.00	1.17	0.35	2	07
10 A	16.43	16.42	33.478	24.481	344.5	0.035	5.73	250.2	102.7	1.0	0.20	0.0	0.00	0.00	1.19	0.39	10	06
12 A	15.81	15.80	33.466	24.614	332.0	0.042	5.63 D	245.3 D	99.6	2.0	0.31	1.3	0.13	0.13	1.22	0.48	12	03
12	15.81	15.80	33.478	24.623	331.1	0.041											12	05
12	15.81	15.80	33.475	24.621	331.3	0.040											12	04
20 ISL	14.95 D	14.94	33.456 D	24.796	314.9	0.065	5.20 D	226.5 D	90.4	3.6	0.46	3.0	0.25	0.14	1.10	0.52	20	
23 A	14.75	14.75	33.452	24.834	311.3	0.077	5.14	224.6	89.1	4.2	0.51	3.6	0.29	0.15	1.05	0.53	23	02
29	14.65	14.65	33.443	24.849	310.1	0.096	5.04	219.9	87.1	5.0	0.57	4.5	0.32	0.06	1.04	0.44	29	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 42.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 10.8 N	119 30.5 W	17/11/2017	1325	UTC	116 m	270 13 kn			1014.6 mb	19.0 C	17.0 C				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	17.48	17.48	33.487	24.241	367.0	0.000	5.61	245.1	102.7	1.3	0.20	0.1	0.03	0.04	0.95	0.18	0	
2	17.48	17.48	33.487	24.242	367.1	0.007	5.61	245.1	102.7	1.3	0.20	0.1	0.03	0.00	0.95	0.18	2	11
10	16.66	16.66	33.469	24.421	350.3	0.036	5.59	244.0	100.6	1.4	0.26	0.5	0.07	0.18	0.74	0.34	10	09
10	16.66	16.66	33.467	24.419	350.4	0.035											10	10
20	15.36	15.36	33.461	24.709	323.2	0.070	5.35	233.5	93.8	3.1	0.40	2.1	0.16	0.19	0.54	0.28	20	08
30	14.21	14.20	33.442	24.942	301.2	0.101	4.86	212.3	83.3	6.2	0.66	5.5	0.28	0.06	0.41	0.20	30	07
40	13.03	13.03	33.453	25.190	277.9	0.130	4.47	195.0	74.7	8.8	0.87	8.6	0.25	0.00	0.34	0.17	40	06
50	11.98	11.97	33.516	25.443	254.0	0.156	3.86	168.4	63.1	13.5	1.21	13.6	0.15	0.00	0.18	0.19	50	05
60	11.39	11.38	33.523	25.559	243.2	0.181	3.69	161.2	59.7	14.6	1.31	15.2	0.09	0.00	0.16	0.13	60	04
70	10.72	10.71	33.580	25.723	227.7	0.205	3.39	148.0	54.0	17.3	1.51	18.6	0.00	0.16	0.06	0.08	71	03
75 ISL	10.71 D	10.70	33.610 D	25.749	225.4	0.214	3.27	D142.3 D	52.1	18.1	1.55	18.9	0.00	0.00	0.06	0.08	76	
85	10.63	10.62	33.652	25.794	221.3	0.239	3.05	133.1	48.5	19.8	1.64	19.5	0.00	0.00	0.04	0.09	86	02
100 ISL	10.45 D	10.44	33.702 D	25.866	214.8	0.269	2.90	D126.2 D	45.9	21.6	1.72	21.1	0.00	0.00	0.04	0.10	101	
101	10.44	10.43	33.702	25.867	214.8	0.273	2.87	125.2	45.5	21.7	1.73	21.2	0.03	0.00	0.03	0.11	102	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 51.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 52.7 N	120 8.1 W	17/11/2017	0726	UTC	98 m	310 08 kn			1015.1 mb	17.5 C	17.0 C				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	16.22	16.22	33.463	24.516	340.9	0.000	5.64	246.2	100.6	2.8	0.29	0.9	0.07	0.19	1.49	0.37	0	
2	16.22	16.22	33.463	24.516	341.0	0.007	5.64	246.2	100.6	2.8	0.29	0.9	0.07	0.19	1.49	0.37	2	10
10	15.94	15.94	33.464	24.581	335.0	0.034	5.64	246.4	100.2	2.2	0.29	0.8	0.06	0.10	2.00	0.40	10	08
10	15.94	15.94	33.464	24.581	335.0	0.034											10	09
20	15.83	15.83	33.463	24.605	333.1	0.067	5.69	248.5	100.8	1.9	0.28	0.6	0.05	0.13	2.17	0.42	20	07
30	15.71	15.71	33.468	24.637	330.4	0.100	5.60	244.4	98.9	2.2	0.31	1.0	0.06	0.13	2.13	0.52	30	06
40	15.60	15.60	33.476	24.669	327.7	0.133	5.48	239.3	96.6	2.9	0.36	1.8	0.07	0.24	1.68	0.44	40	05
50	14.08	14.07	33.497	25.012	295.2	0.164	4.88	213.2	83.5	6.9	0.68	6.3	0.12	0.26	1.09	0.42	50	04
60	12.27	12.27	33.517	25.389	259.5	0.192	4.21	183.8	69.3	12.0	1.07	12.2	0.14	0.05	0.41	0.23	60	03
71	11.77	11.76	33.549	25.510	248.2	0.220	3.96	172.7	64.4	13.6	1.20	14.0	0.12	0.05	0.32	0.21	72	02
75 ISL	11.76 D	11.75	33.550 D	25.512	248.2	0.229	3.98	D173.2 D	64.8	13.9	1.22	14.3	0.12	0.00	0.31	0.21	76	
86	11.52	11.51	33.570	25.573	242.6	0.257	3.81	166.4	61.8	14.9	1.29	15.2	0.12	0.00	0.28	0.23	87	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 55.0

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 24.5 W	17/11/2017	0321	UTC	966 m	170 04 kn			1013.4 mb	17.2 C	16.5 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	15.59	15.59	33.457	24.654	327.7	0.000	5.87	256.4	103.5	2.3	0.29	0.9	0.08	0.18	2.53	0.47	0	
2	15.59	15.59	33.457	24.654	327.8	0.007	5.87	256.4	103.5	2.3	0.29	0.9	0.08	0.18	2.53	0.47	2	21
10	15.02	15.02	33.455	24.777	316.3	0.032	5.66	247.2	98.6	2.6	0.38	1.8	0.11	0.23	1.97	0.60	10	19
10	15.02	15.02	33.455	24.778	316.3	0.032											10	20
20	14.49	14.48	33.466	24.902	304.8	0.064	5.35	D233.3 D	92.2	2.5	0.37	1.7	0.10	0.27	2.02	0.59	20	18
30	14.25	14.24	33.444	24.936	301.8	0.094	5.24	228.7	89.8	4.5	0.55	4.2	0.18	0.27	1.54	0.69	30	17
40	12.30	12.29	33.443	25.326	264.9	0.122	4.32	188.8	71.2	10.0	1.00	10.7	0.13	0.00	0.40	0.25	40	16
50	11.65	11.64	33.480	25.477	250.7	0.148	3.98	173.7	64.6	12.4	1.19	13.7	0.06	0.00	0.25	0.19	50	15
60	11.12	11.11	33.508	25.596	239.6	0.172	4.14	180.7	66.5	13.1	1.20	14.4	0.04	0.00	0.17	0.16	60	14
70	10.66	10.65	33.573	25.728	227.2	0.196	4.00	174.8	63.7	15.2	1.30	16.5	0.03	0.00	0.13	0.15	71	13
75 ISL	10.42 D	10.41	33.629 D	25.814	219.2	0.205	3.96	D172.2 D	62.6	17.1	1.41	18.0	0.00	0.00	0.10	0.14	76	
85	10.16	10.15	33.693	25.907	210.6	0.228	3.24	141.5	51.0	20.9	1.64	20.9	0.00	0.00	0.05	0.12	86	12
100	9.75	9.74	33.834	26.087	193.7	0.259	2.72	118.8	42.5	25.1	1.86	23.7	0.00	0.00	0.04	0.06	101	11
120	9.67	9.66	33.942	26.186	184.8	0.297	2.31	100.8	36.0	28.2	2.01	25.2	0.00	0.00	0.03	0.07	121	10
125 ISL	9.67 D	9.65	33.958 D	26.199	183.7	0.304	2.30	D100.0 D	35.9	28.5	2.03	25.3	0.00	0.00	0.03	0.08	126	
140	9.61	9.59	33.986	26.232	180.9	0.333	2.17	94.7	33.8	29.5	2.07	25.8	0.00	0.00	0.03	0.11	141	09
150 ISL	9.60 D	9.58	34.001 D	26.244	179.9	0.349	2.15	D 93.6 D	33.5	30.0	2.10	26.1	0.00	0.00	0.03	0.09	151	
170	9.51	9.49	34.045	26.295	175.6	0.387	1.98	86.3	30.8	31.0	2.15	26.7	0.00	0.00	0.02	0.07	171	08
200	9.42	9.39	34.128	26.376	168.6	0.438	1.70	74.4	26.5	34.0	2.25	27.7	0.00	0.00	0.02	0.06	202	07
230	9.11	9.09	34.196	26.479	159.3	0.488	1.37	59.8	21.1	37.8	2.40	28.9	0.00	0.00			232	06
250 ISL	8.86 D	8.83	34.219 D	26.537	154.1	0.518	1.23	D 53.4 D	18.8	40.0	2.45	29.8	0.00	0.00			252	
270	8.59	8.56	34.213	26.576	150.7	0.550	1.19	51.7	18.1	42.3	2.49	30.7	0.00	0.00			272	05
300 ISL	8.34 D	8.31	34.219 D	26.619	147.2	0.594	1.07	D 46.6 D	16.3	44.8	2.57	31.7	0.00	0.00			302	
320	8.30	8.26	34.234	26.638	145.7	0.623	0.94	41.0	14.2	46.4	2.62	32.3	0.00	0.00			323	04
379	7.50	7.47	34.224	26.748	135.8	0.706	0.75	32.7	11.1	54.9	2.74	34.8	0.00	0.00			382	03
400 ISL	7.28 D	7.24	34.227 D	26.783	132.6	0.736	0.69	D 29.8 D	10.1	57.3	2.79	35.5	0.00	0.00			403	
440	6.94	6.90	34.244	26.842	127.4	0.787	0.54	23.7	8.0	62.0	2.88	36.8	0.00	0.00			444	02
500 ISL	6.59 D	6.54	34.267 D	26.910	121.6	0.863	0.44	D 19.2 D	6.4	68.6	2.98	38.3	0.00	0.00			504	
516	6.43	6.38	34.274	26.936	119.2	0.881	0.39	16.8	5.6	70.3	3.01	38.7	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 60.0

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	21/11/2017	1343	UTC	1374 m	310 08 kn			1015.9 mb	17.5 C	16.5 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		16.38	16.38	33.461	24.479	344.4	0.000	5.61	245.1	100.5	1.4	0.24	0.1	0.06	0.14	0.54	0.14	0	
2		16.38	16.38	33.461	24.479	344.5	0.007	5.61	245.1	100.5	1.4	0.24	0.1	0.06	0.14	0.54	0.14	2	21
10	ISL	16.38 D	16.38	33.462 D	24.480	344.7	0.031	5.59 D	243.9 D	100.1	1.3	0.24	0.1	0.05	0.08	0.50	0.19	10	
11		16.38	16.38	33.461	24.479	344.8	0.038	5.63	245.6	100.7	1.3	0.24	0.1	0.05	0.07	0.50	0.19	11	19
11		16.38	16.38	33.463	24.480	344.7	0.037											11	20
20		16.37	16.37	33.462	24.483	344.8	0.069	5.60	244.6	100.3	1.6	0.25	0.3	0.06	0.20	0.51	0.17	20	18
30		16.20	16.20	33.455	24.517	341.9	0.103	5.57	243.3	99.4	1.8	0.26	0.6	0.09	0.00	0.51	0.20	30	17
41		15.91	15.90	33.451	24.581	336.1	0.141	5.57	243.1	98.7	2.1	0.29	0.7	0.13	0.00	0.39A	0.23A	41	16
50	ISL	13.49 D	13.48	33.403 D	25.062	290.4	0.167	4.98 D	217.0 D	84.1	5.6	0.67	6.3	0.12	0.00	0.32	0.26	50	
51		13.38	13.37	33.403	25.085	288.3	0.172	4.97	216.8	83.6	6.0	0.71	6.9	0.11	0.00	0.31	0.26	51	15
60		12.69	12.69	33.424	25.236	274.0	0.197	4.69	204.8	77.9	8.0	0.88	9.6	0.06	0.00	0.21	0.16	60	14
70		11.56	11.55	33.480	25.494	249.7	0.223	4.14	180.9	67.2	12.1	1.18	14.2	0.03	0.00	0.09	0.10	71	13
75	ISL	11.24 D	11.23	33.505 D	25.572	242.3	0.234	4.11 D	178.8 D	66.1	13.0	1.21	14.8	0.00	0.00	0.13	0.13	76	
85		10.59	10.57	33.544	25.719	228.5	0.259	4.16	181.6	66.0	14.7	1.26	16.1	0.00	0.00	0.20	0.18	86	12
100		10.36	10.35	33.580	25.787	222.4	0.293	4.11	179.3	64.9	15.8	1.29	16.8	0.00	0.00	0.03	0.05	101	11
120		9.88	9.87	33.673	25.940	208.2	0.336	3.60	157.0	56.3	20.1	1.53	20.2	0.00	0.00	0.02	0.04	121	10
125	ISL	9.85 D	9.83	33.686 D	25.956	206.7	0.345	3.58 D	155.6 D	55.9	21.2	1.58	20.9	0.00	0.00	0.01	0.04	126	
140		9.32	9.30	33.784	26.121	191.3	0.376	3.27	142.9	50.6	24.6	1.71	23.0	0.00	0.00	0.01	0.03	141	09
150	ISL	9.10 D	9.08	33.837 D	26.198	184.2	0.394	3.15 D	137.0 D	48.5	26.3	1.77	23.8	0.00	0.00	0.00	0.03	151	
170		8.84	8.82	33.896	26.284	176.3	0.431	2.87	125.0	43.9	29.6	1.88	25.5	0.00	0.00	0.00	0.03	171	08
200		8.50	8.48	33.965	26.392	166.6	0.482	2.56	111.9	39.0	34.0	2.01	27.3	0.00	0.00	0.00	0.03	202	07
230		8.16	8.14	34.054	26.514	155.5	0.531	2.03	88.4	30.6	39.0	2.22	29.5	0.00	0.00			232	06
250	ISL	8.27 D	8.24	34.146 D	26.572	150.5	0.562	1.59 D	69.0 D	24.0	42.4	2.36	30.6	0.00	0.00			252	
270		8.09	8.06	34.164	26.612	147.0	0.592	1.30	56.8	19.6	45.8	2.49	31.7	0.00	0.00			272	05
300	ISL	7.92 D	7.89	34.210 D	26.674	141.6	0.635	0.97 D	42.4 D	14.6	50.6	2.62	33.3	0.00	0.00			302	
320		7.46	7.43	34.201	26.734	135.9	0.663	0.87	37.8	12.9	53.8	2.70	34.4	0.00	0.00			323	04
380		6.73	6.70	34.190	26.827	127.6	0.742	0.72	31.2	10.4	63.1	2.84	36.8	0.00	0.00			383	03
400	ISL	6.83 D	6.79	34.256 D	26.867	124.3	0.769	0.51 D	22.1 D	7.4	65.3	2.89	37.2	0.00	0.00			403	
440		6.51	6.47	34.270	26.921	119.5	0.817	0.39	16.9	5.6	69.7	3.00	38.0	0.00	0.00			444	02
500	ISL	6.11 D	6.06	34.281 D	26.982	114.2	0.889	0.33 D	14.5 D	4.8	76.8	3.08	39.4	0.00	0.00			504	
516		5.99	5.94	34.289	27.004	112.2	0.905	0.29	12.7	4.2	78.7	3.10	39.8	0.00	0.00			520	01

A) SECOND FLUOROMETER READING NOT RECORDED CHLOROPHYLL AND PHAEOPIGMENT CALCULATED WITH ASSUMED ACID RATIO INTERPOLATED FROM ADJACENT LEVELS
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 14.7 N	121 26.6 W	21/11/2017	1942	UTC	3788 m	320 10 kn	080 03 08	1	1018.1 mb	21.0 C	19.2 C	28 m	2/8	ST	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		17.55	17.55	33.427	24.178	373.1	0.000	5.56	242.7	101.8	1.7	0.20	0.0	0.02	0.01	0.15	0.06	0	
2	A	17.55	17.55	33.427	24.178	373.2	0.008	5.56	242.7	101.8	1.7	0.20	0.0	0.00	0.00	0.15	0.06	2	23
10	ISL	17.51 D	17.50	33.429 D	24.191	372.2	0.034	5.54 D	241.6 D	101.4	1.5	0.18	0.0	0.00	0.00	0.14	0.05	10	
11		17.48	17.48	33.426	24.195	371.9	0.041	5.56	242.7	101.6	1.5	0.18	0.0	0.00	0.00	0.14	0.05	11	21
11		17.48	17.48	33.430	24.198	371.6	0.041											11	22
18	A	17.44	17.44	33.425	24.204	371.3	0.067	5.56	242.5	101.5	1.4	0.18	0.0	0.00	0.00	0.15	0.05	18	20
20	ISL	17.44 D	17.43	33.426 D	24.206	371.2	0.071	5.55 D	242.0 D	101.4	1.4	0.18	0.0	0.00	0.00	0.15	0.05	20	
23	A	17.42	17.41	33.435	24.218	370.1	0.086	5.61	244.7	102.4	1.4	0.18	0.0	0.00	0.00	0.15	0.05	23	19
30	ISL	17.42 D	17.41	33.425 D	24.210	371.1	0.109	5.55 D	241.9 D	101.3	1.4	0.18	0.0	0.00	0.00	0.15	0.06	30	
34		17.40	17.40	33.424	24.214	371.0	0.126	5.58	243.5	101.8	1.4	0.18	0.0	0.00	0.00	0.15	0.06	34	18
45	A	17.05	17.05	33.411	24.287	364.4	0.167	5.64	246.0	102.2	1.4	0.19	0.0	0.00	0.00	0.24	0.10	45	17
50	ISL	16.52 D	16.51	33.410 D	24.411	352.6	0.182	5.77 D	251.3 D	103.4	1.6	0.19	0.0	0.00	0.00	0.29	0.14	50	
56		16.03	16.02	33.485	24.581	336.7	0.205	5.85	255.6	104.1	1.7	0.18	0.0	0.00	0.00	0.35	0.19	56	16
67		15.02	15.01	33.590	24.886	307.9	0.241	5.92	258.6	103.3	2.2	0.18	0.0	0.06	0.00	0.44	0.32	68	15
75	ISL	14.37 D	14.36	33.591 D	25.027	294.7	0.263	5.84 D	254.4 D	100.4	2.5	0.22	0.5	0.11	0.00	0.31	0.24	76	
78	A	14.02	14.01	33.576	25.088	288.9	0.274	5.83	254.7	99.7	2.6	0.23	0.7	0.13	0.00	0.26	0.21	79	14
88		13.68	13.67	33.641	25.209	277.6	0.302	5.72	249.5	97.0	2.6	0.22	0.5	0.19	0.00	0.18	0.16	89	13
98	A	13.02	13.01	33.588	25.301	269.1	0.329	5.51	240.5	92.2	3.7	0.36	2.6	0.06	0.00	0.11	0.12	99	12
100	ISL	12.99 D	12.97	33.577 D	25.299	269.3	0.334	5.50 D	239.4 D	91.9	4.3	0.42	3.5	0.05	0.00	0.11	0.11	101	
112		11.71	11.69	33.454	25.449	255.1	0.366	4.83	211.0	78.6	8.0	0.80	9.1	0.03	0.00	0.08	0.09	113	11
125		10.89	10.88	33.501	25.633	237.7	0.398	4.40	192.2	70.4	11.9	1.08	13.4	0.00	0.00	0.05	0.07	126	10
141		10.25	10.24	33.570	25.798	222.2	0.435	4.03	176.0	63.6	15.5	1.28	16.6	0.00	0.00	0.03	0.05	142	09
150	ISL	10.12 D	10.10	33.593 D	25.840	218.5	0.455	3.87 D	168.5 D	60.8	17.7	1.37	18.0	0.00	0.00	0.02	0.04	151	
171		9.44	9.42	33.778	26.097	194.4	0.498	3.51	153.4	54.5	22.7	1.59	21.3	0.00	0.00	0.00	0.02	172	08
200	ISL	8.90 D	8.88	33.875 D	26.260	179.3	0.553	3.09 D	134.6 D	47.4	28.1	1.80	24.5	0.00	0.00	0.00	0.02	202	
201		8.91	8.89	33.873	26.257	179.6	0.554	3.09	134.9	47.4	28.3	1.81	24.6	0.00	0.00	0.00	0.02	203	07
231		8.47	8.44	33.975	26.406	165.9	0.605	2.65	115.5	40.2	33.7	1.99	27.1	0.00	0.00			233	06
250	ISL	8.08 D	8.06	33.982 D	26.470	159.9	0.638	2.82 D	122.8 D	42.5	37.2	2.06	28.3	0.00	0.00			252	
270		7.76	7.73	34.003	26.534	154.1	0.668	2.44	106.6	36.5	41.0	2.14	29.5	0.00	0.00			272	05
300	ISL	7.30 D	7.27	34.016 D	26.611	147.1	0.715	2.19 D	95.1 D	32.3	46.5	2.28	31.6	0.00	0.00			302	
320		7.00	6.97	34.025	26.658	142.7	0.742	1.88	82.2	27.7	50.1	2.38	33.0	0.00	0.00			323	04
381		6.34	6.31	34.068	26.782	131.5	0.825	1.21	52.9	17.5	62.2	2.70	36.8	0.00	0.00			384	03
400	ISL	6.26 D	6.23	34.087 D	26.807	129.3	0.854	1.06 D	46.3 D	15.4	64.7	2.75	37.3	0.00	0.00			403	
441		5.93	5.90	34.131	26.884	122.3	0.902	0.72	31.4	10.3								445	02
500	ISL	5.67 D	5.63	34.179 D	26.955	116.2	0.977	0.50 D	21.9 D	7.2	77.5	3.01	40.0	0.00	0.00			504	
516		5.60	5.56	34.191	26.973	114.6	0.991	0.44	19.3	6.3	79.5	3.05	40.5	0.00	0.00			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 SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 54.7 N	122 7.7 W	22/11/2017	0147	UTC	4201 m	300 08 kn			1016.9 mb	18.1 C	17.9 C				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	18.72	18.72	33.528	23.970	392.9	0.000	5.43	237.1	101.8	1.5	0.21	0.1	0.02	0.04	0.13	0.04	0	
2	18.72	18.71	33.528	23.970	393.0	0.008	5.43	237.1	101.8	1.5	0.21	0.1	0.00	0.00	0.13	0.04	2	21
10	18.55	18.55	33.512	23.998	390.6	0.039	5.44	237.4	101.6	1.3	0.19	0.0	0.00	0.00	0.14	0.04	10	19
10	18.55	18.55	33.511	23.997	390.7	0.041											10	20
20 ISL	18.16 D	18.16	33.486 D	24.075	383.7	0.074	5.48 D	238.9 D	101.5	1.3	0.19	0.0	0.00	0.00	0.16	0.05	20	
25	18.13	18.13	33.486	24.083	383.1	0.097	5.50	239.8	101.8	1.4	0.19	0.0	0.00	0.00	0.17	0.05	25	18
30 ISL	18.06 D	18.06	33.480 D	24.097	382.0	0.113	5.49 D	239.4 D	101.5	1.4	0.20	0.0	0.00	0.00	0.20	0.07	30	
40	17.68	17.67	33.447	24.165	375.8	0.154	5.58	243.6	102.4	1.3	0.21	0.0	0.00	0.00	0.26	0.10	40	17
50 ISL	15.45 D	15.44	33.347 D	24.604	334.2	0.187	5.96 D	259.8 D	104.7	1.7	0.23	0.0	0.00	0.00	0.31	0.22	50	
51	15.46	15.46	33.336	24.592	335.4	0.193	5.99	261.3	105.1	1.8	0.23	0.0	0.00	0.00	0.32	0.23	51	16
62	14.75	14.74	33.493	24.869	309.3	0.228	5.85	255.4	101.4	2.3	0.25	0.1	0.03	0.00	0.39	0.24	62	15
75	13.76	13.75	33.472	25.061	291.3	0.267	5.68	247.7	96.4	2.9	0.32	1.2	0.16	0.00	0.24	0.31	76	14
88	12.97	12.96	33.428	25.186	279.7	0.305	5.45	237.9	91.0	4.0	0.45	3.2	0.11	0.00	0.18	0.25	89	13
100	12.25	12.23	33.459	25.351	264.2	0.337	5.07	221.3	83.4	6.2	0.66	6.7	0.04	0.00	0.11	0.16	101	12
112	11.39	11.37	33.475	25.524	247.9	0.368	4.47	195.2	72.2	10.4	1.01	11.9	0.03	0.00	0.08	0.12	113	11
125	10.74	10.72	33.527	25.681	233.1	0.399	4.39	191.7	70.0	12.7	1.12	14.2	0.00	0.00	0.04	0.07	126	10
140	10.18	10.16	33.571	25.811	220.9	0.433	3.97	173.1	62.4	16.5	1.35	17.4	0.00	0.00	0.03	0.04	141	09
150 ISL	9.84 D	9.82	33.641 D	25.923	210.5	0.454	3.64 D	158.2 D	56.8	19.1	1.47	19.2	0.00	0.00	0.02	0.04	151	
170	9.30	9.29	33.768	26.111	192.9	0.495	3.27	142.7	50.5	24.4	1.72	22.8	0.00	0.00	0.01	0.02	171	08
200	8.82	8.79	33.939	26.323	173.3	0.550	2.72	118.6	41.6	30.8	1.95	26.1	0.00	0.00	0.00	0.02	202	07
230	8.40	8.38	33.987	26.425	164.0	0.601	2.65	115.6	40.2	34.4	2.01	27.2	0.00	0.00			232	06
250 ISL	8.25 D	8.23	34.026 D	26.479	159.2	0.634	2.29 D	99.8 D	34.7	37.9	2.12	28.5	0.00	0.00			252	
271	8.04	8.01	34.044	26.525	155.2	0.666	2.20	95.9	33.1	41.5	2.23	29.8	0.00	0.00			273	05
300 ISL	7.58 D	7.55	34.058 D	26.604	148.0	0.711	1.80 D	78.4 D	26.8	45.6	2.37	31.6	0.00	0.00			302	
320	7.43	7.39	34.075	26.639	144.8	0.739	1.61	70.2	23.9	48.5	2.46	32.9	0.00	0.00			323	04
380	6.82	6.78	34.106	26.749	135.0	0.823	1.16	50.5	16.9	59.0	2.70	35.8	0.00	0.00			383	03
400 ISL	6.89 D	6.85	34.165 D	26.787	131.9	0.852	0.84 D	36.5 D	12.3	60.8	2.76	36.4	0.00	0.00			403	
440	6.51	6.47	34.168	26.840	127.2	0.903	0.74	32.1	10.7	64.5	2.87	37.5	0.00	0.00			444	02
500 ISL	6.07 D	6.02	34.198 D	26.922	119.8	0.979	0.52 D	22.7 D	7.5	73.1	3.01	39.2	0.00	0.00			504	
517	5.96	5.91	34.206	26.942	118.0	0.997	0.45	19.6	6.4	75.6	3.05	39.7	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 34.7 N	122 48.7 W	22/11/2017	0712	UTC	4302 m	340 10 kn			1018.7 mb	17.2 C	17.0 C				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	18.38	18.38	33.492	24.024	387.7	0.000	5.44	237.6	101.3	2.4	0.20	0.6	0.04	0.07	0.10	0.02	0	
2	18.38	18.38	33.492	24.024	387.8	0.008	5.44	237.6	101.3	2.4	0.20	0.6	0.04	0.07	0.10	0.02	2	21
10	18.36	18.36	33.496	24.033	387.3	0.039	5.45	238.1	101.4	1.9	0.19	0.0	0.00	0.00	0.10	0.02	10	19
10	18.36	18.36	33.497	24.034	387.2	0.040											10	20
20 ISL	18.24 D	18.24	33.507 D	24.071	384.0	0.074	5.45 D	237.7 D	101.2	1.8	0.18	0.0	0.00	0.00	0.11	0.03	20	
25	18.23	18.22	33.506	24.076	383.8	0.097	5.45	238.2	101.2	1.8	0.18	0.0	0.00	0.00	0.12	0.03	25	18
30 ISL	18.21 D	18.20	33.518 D	24.089	382.7	0.113	5.46 D	237.9 D	101.2	1.8	0.18	0.0	0.00	0.00	0.13	0.04	30	
40	17.72	17.71	33.531	24.220	370.6	0.154	5.61	245.0	103.1	1.9	0.17	0.0	0.00	0.00	0.17	0.05	40	17
50	15.98	15.98	33.346	24.484	345.7	0.189	5.87	256.4	104.2	1.7	0.22	0.0	0.00	0.00	0.43	0.26	50	16
62	15.30	15.29	33.538	24.785	317.4	0.229	6.03	263.2	105.6	2.3	0.17	0.0	0.00	0.00	0.33	0.22	62	15
75	15.26	15.25	33.693	24.913	305.7	0.270	5.97	260.9	104.7	2.2	0.14	0.0	0.00	0.00	0.25	0.23	76	14
87	13.69	13.68	33.495	25.094	288.5	0.305	5.91	257.9	100.1	2.6	0.24	0.5	0.08	0.00	0.30	0.28	88	13
100	13.46	13.45	33.637	25.251	273.9	0.342	5.56	242.8	93.9	3.5	0.33	2.0	0.10	0.00	0.16	0.15	101	12
112	13.04	13.02	33.716	25.398	260.3	0.374	5.37	234.3	89.9	4.1	0.38	3.2	0.03	0.00	0.10	0.12	113	11
125	11.61	11.59	33.458	25.471	253.3	0.407	4.79	209.0	77.7	8.5	0.83	9.7	0.00	0.00	0.08	0.10	126	10
140	10.66	10.65	33.528	25.695	232.2	0.444	4.60	200.9	73.2	11.6	1.03	13.0	0.00	0.00	0.05	0.07	141	09
150 ISL	10.29 D	10.27	33.593 D	25.810	221.3	0.466	4.17 D	181.6 D	65.8	14.3	1.16	15.1	0.00	0.00	0.03	0.06	151	
170	9.76	9.74	33.713	25.995	204.1	0.509	3.89	170.0	60.8	19.6	1.43	19.4	0.00	0.00	0.01	0.02	171	08
200	9.01	8.99	33.850	26.223	182.9	0.567	3.31	144.5	50.9	26.9	1.73	23.7	0.00	0.00	0.00	0.02	202	07
230	8.47	8.45	33.938	26.377	168.6	0.620	3.07	134.2	46.7	31.8	1.84	26.0	0.00	0.00			232	06
250 ISL	8.22 D	8.19	33.971 D	26.442	162.7	0.654	2.86 D	124.5 D	43.2	35.2	1.95	27.3	0.00	0.00			252	
270	7.91	7.89	33.987	26.499	157.5	0.685	2.67	116.7	40.1	38.7	2.06	28.6	0.00	0.00			272	05
300 ISL	7.49 D	7.46	34.017 D	26.584	149.7	0.732	2.23 D	97.1 D	33.2	44.3	2.23	30.9	0.00	0.00			302	
320	7.28	7.25	34.033	26.627	145.9	0.761	1.92	83.7	28.4	48.1	2.34	32.5	0.00	0.00			323	04
380	6.80	6.76	34.103	26.749	135.0	0.845	1.15	50.0	16.7	58.0	2.66	36.0	0.00	0.00			383	03
400 ISL	6.63 D	6.60	34.128 D	26.792	131.1	0.873	0.94 D	40.7 D	13.6	61.5	2.74	36.9	0.00	0.00			403	
440	6.24	6.20	34.151	26.862	124.8	0.923	0.68	29.5	9.7	68.6	2.89	38.6	0.00	0.00			444	02
500 ISL	5.89 D	5.84	34.208 D	26.952	116.8	0.998	0.44 D	19.3 D	6.4	77.3	3.02	40.2	0.00	0.00			504	
517	5.76	5.72	34.226	26.982	114.0	1.015	0.38	16.6	5.4	79.8	3.06	40.6	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 100.0

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	22/11/2017	1239	UTC	4191 m	350 08 kn			1017.4 mb	17.0 C	17.0 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		18.64		18.64		33.512	23.975	392.4	0.000	5.40		235.8		101.0		1.2	0.20	0.0	0.01	0.03	0.13	0.04	0	
2		18.64		18.64		33.512	23.976	392.5	0.008	5.40		235.8		101.0		1.2	0.20	0.0	0.00	0.00	0.13	0.04	2	21
10	ISL	18.64	D	18.64	D	33.506	D 23.972	393.2	0.036	5.39	D	235.2	D	100.9		1.4	0.18	0.0	0.00	0.00	0.14	0.03	10	
11		18.65		18.65		33.506	23.970	393.4	0.043	5.41		236.2		101.2		1.4	0.18	0.0	0.00	0.00	0.14	0.03	11	19
11		18.65		18.65		33.507	23.970	393.3	0.042														11	20
20	ISL	18.55	D	18.55	D	33.501	D 23.991	391.7	0.075	5.41	D	235.7	D	100.9		1.3	0.19	0.0	0.00	0.00	0.15	0.04	20	
26		18.49		18.48		33.497	24.005	390.6	0.102	5.43		237.3		101.3		1.2	0.19	0.0	0.00	0.00	0.15	0.04	26	18
30	ISL	18.45	D	18.44	D	33.488	D 24.008	390.5	0.114	5.41	D	236.1	D	100.9		1.2	0.20	0.0	0.00	0.00	0.17	0.05	30	
41		18.19		18.18		33.475	24.063	385.6	0.160	5.45		238.0		101.0		1.2	0.21	0.0	0.00	0.00	0.21	0.07	41	17
50		16.98		16.97		33.404	24.299	363.4	0.194	5.63		246.1		102.0		1.2	0.21	0.0	0.00	0.00	0.30	0.16	50	16
62		15.49		15.48		33.510	24.721	323.4	0.235	5.98		261.1		105.1		2.1	0.18	0.0	0.00	0.00	0.33	0.26	62	15
75		14.50		14.49		33.515	24.941	302.9	0.276	5.97		260.8		103.0		2.3	0.20	0.1	0.04	0.00	0.31	0.25	76	14
87		13.26		13.24		33.379	25.092	288.6	0.311	5.90		257.6		99.0		2.8	0.31	1.1	0.11	0.00	0.28	0.24	88	13
100		13.93		13.92		33.678	25.187	280.2	0.348	5.67		247.7		96.8		2.8	0.28	0.6	0.15	0.00	0.22	0.17	101	12
112		12.56		12.54		33.458	25.291	270.3	0.381	5.61		244.9		92.8		3.8	0.41	2.8	0.04	0.00	0.16	0.12	113	11
125	ISL	11.85	D	11.83	D	33.439	D 25.412	259.0	0.415	5.22	D	227.5	D	85.2		6.1	0.64	6.6	0.03	0.00	0.10	0.10	126	
126		11.69		11.68		33.439	25.441	256.2	0.418	5.23		228.6		85.1		6.3	0.66	6.9	0.03	0.00	0.10	0.09	127	10
140		11.99		11.97		33.680	25.573	244.2	0.453	5.25		229.4		86.0		5.6	0.54	5.9	0.00	0.00	0.06	0.06	141	09
150	ISL	11.10	D	11.08	D	33.651	D 25.714	230.7	0.477	4.80	D	209.1	D	77.2		9.5	0.78	9.7	0.00	0.00	0.04	0.05	151	
170		9.80		9.78		33.753	26.018	202.0	0.520	4.35		190.0		68.0		17.4	1.25	17.4	0.00	0.00	0.01	0.01	171	08
200		8.92		8.90		33.871	26.253	179.9	0.577	3.67		160.1		56.2		25.7	1.61	22.7	0.00	0.00	0.00	0.01	202	07
231		8.50		8.47		33.983	26.408	165.7	0.631	2.47		107.6		37.5		34.3	2.06	28.2	0.00	0.00			233	06
250	ISL	8.32	D	8.29	D	34.043	D 26.483	159.0	0.663	2.07	D	90.1	D	31.3		38.6	2.14	29.6	0.00	0.00			252	
270		7.74		7.71		34.019	26.550	152.6	0.693	2.21		96.4		33.0		43.0	2.22	31.0	0.00	0.00			272	05
300	ISL	7.33	D	7.30	D	34.028	D 26.615	146.7	0.740	2.03	D	88.1	D	30.0		47.3	2.36	32.7	0.00	0.00			302	
320		7.29		7.26		34.064	26.650	143.8	0.767	1.63		71.0		24.1		50.2	2.46	33.9	0.00	0.00			323	04
380		6.73		6.69		34.122	26.774	132.6	0.850	0.99		43.1		14.4		60.5	2.74	37.2	0.00	0.00			383	03
400	ISL	6.55	D	6.51	D	34.125	D 26.800	130.3	0.880	0.92	D	39.8	D	13.3		63.5	2.80	37.9	0.00	0.00			403	
440		6.23		6.19		34.157	26.868	124.2	0.927	0.67		29.4		9.7		69.5	2.93	39.3	0.00	0.00			444	02
500	ISL	5.86	D	5.82	D	34.215	D 26.960	115.9	1.004	0.42	D	18.3	D	6.0		77.8	3.05	40.5	0.00	0.00			504	
516		5.78		5.73		34.225	26.979	114.3	1.017	0.37		16.0		5.2		80.0	3.08	40.9	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 110.0

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	22/11/2017	1820	UTC	4229 m	330 06 kn	250 02 09	2	1020.0 mb	19.0 C	18.0 C	34 m	7/8	ST	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		18.65		18.65		33.457	23.932	396.6	0.000	5.46		238.4		102.1		2.4	0.20	0.2	0.03	0.07	0.12	0.05	0	
2	A	18.65		18.65		33.457	23.932	396.6	0.008	5.46		238.4		102.1		2.4	0.20	0.2	0.03	0.07	0.12	0.05	2	24
10	ISL	18.62	D	18.62	D	33.459	D 23.941	396.0	0.036	5.40	D	235.6	D	101.0		2.0	0.19	0.1	0.00	0.00	0.13	0.04	10	
13		18.57		18.57		33.465	23.957	394.6	0.052	5.41		236.1		101.0		1.8	0.19	0.0	0.00	0.00	0.13	0.04	13	22
13		18.57		18.57		33.464	23.957	394.7	0.052														13	23
20	ISL	18.41	D	18.41	D	33.520	D 24.040	387.0	0.075	5.43	D	236.8	D	101.1		1.8	0.17	0.0	0.00	0.00	0.12	0.05	20	
22	A	18.34		18.33		33.532	24.068	384.4	0.087	5.45		238.0		101.4		1.8	0.17	0.0	0.00	0.00	0.12	0.06	22	21
28	A	18.21		18.20		33.553	24.117	380.0	0.110	5.48		239.2		101.7		1.8	0.17	0.0	0.00	0.00	0.14	0.06	28	20
30	ISL	18.19	D	18.19	D	33.563	D 24.128	379.0	0.114	5.46	D	238.1	D	101.3		1.8	0.17	0.0	0.00	0.00	0.16	0.07	30	
37		17.38		17.37		33.458	24.245	368.1	0.143	5.60		244.6		102.2		1.8	0.19	0.0	0.00	0.00	0.23	0.10	37	19
46		16.22		16.21		33.457	D 24.515	342.6	0.172	5.85	D	255.1	D	104.4									46	18
50	ISL	15.81	D	15.80	D	33.432	D 24.588	335.7	0.186	5.90	D	257.0	D	104.3		1.8	0.21	0.0	0.00	0.00	0.25	0.18	50	
54	A	15.40		15.39		33.405	24.660	329.0	0.202	5.92		258.3		103.8		1.9	0.21	0.0	0.00	0.00	0.26	0.20	54	17
67		14.74		14.73		33.404	24.803	315.7	0.244	5.82		254.1		100.7		2.4	0.23	0.0	0.03	0.00	0.31	0.22	68	16
75	ISL	14.41	D	14.40	D	33.398	D 24.868	309.8	0.267	5.78	D	251.9	D	99.4		2.4	0.27	0.5	0.11	0.00	0.27	0.20	76	
80		13.93		13.92		33.414	24.981	299.1	0.284	5.69		248.6		97.0		2.4	0.30	0.8	0.16	0.00	0.24	0.19	81	15
94	A	13.22		13.21		33.397	25.113	286.8	0.325	5.51		240.9		92.5		3.6	0.41	2.7	0.13	0.00	0.15	0.15	95	14
100	ISL	12.81	D	12.80	D	33.397	D 25.194	279.2	0.340	5.39	D	234.9	D	89.7		4.2	0.48	3.9	0.06	0.00	0.13	0.13	101	
101		12.79		12.78		33.394	25.196	279.1	0.345	5.38		234.9		89.5		4.3	0.49	4.1	0.05	0.00	0.13	0.13	102	13
110		12.21		12.19		33.404	25.316	267.8	0.370	5.28		230.5		86.7		5.0	0.55	5.2	0.04	0.00	0.11	0.12	111	12
119	A	11.82		11.80		33.386	25.376	262.3	0.394	5.00		218.3		81.4		7.1	0.75	8.3	0.03	0.00	0.09	0.11	120	11
125	ISL	11.70	D	11.69	D	33.406	D 25.413	258.8	0.408	4.83	D	210.5	D	78.6		8.6	0.87	10.2	0.00	0.00	0.07	0.09	126	
130		11.15		11.14		33.415	25.520	248.6	0.422	4.62		201.8		74.2		9.8	0.97	11.8	0.00	0.00	0.06	0.09	131	10
141		10.65		10.64		33.484	25.662	235.3	0.449	4.37		191.0		69.5		12.8	1.14	14.4	0.00	0.00	0.04	0.06	142	09
150	ISL	10.39	D	10.37	D	33.540	D 25.752	226.9	0.468	4.18	D	181.9	D	66.1		15.4	1.27	16.4	0.00	0.00	0.03	0.05	151	
171		9.47		9.45		33.682	26.018	201.8	0.514	3.62		157.9		56.1		21.7	1.57	21.1	0.00	0.00	0.01	0.02	172	08
200		8.87		8.84		33.834	26.233	181.8	0.570	3.26		142.5		50.0		26.9	1.77	24.2	0.00	0.00	0.00	0.02	202	07
230		8.46		8.43		33.944	26.383	168.0	0.622	2.83		123.7		43.0		32.5	1.94	26.9	0.00	0.00			232	06
250	ISL	8.17	D	8.15	D	33.998	D 26.469	160.2	0.655	2.56	D	111.2	D	38.6		37.2	2.09	28.7	0.00	0.00			252	
270		7.90		7.88		34.036	26.539	153.8	0.687	2.10		91.7		31.5		41.9	2.23	30.5	0.00	0.00			272	05
300	ISL	7.77	D	7.74	D	34.096	D 26.607	147.8	0.732	1.56	D	67.7	D	23.3		46.0	2.38	32.3	0.00	0.00			302	
321		7.37		7.34		34.094	26.663	142.6	0.763	1.46		63.7		21.6		48.9	2.49	33.5	0.00	0.00			324	04
380		6.96		6.93		34.157	26.770	133.2	0.844	0.92		40.1		13.5		57.9	2.73	36.1	0.00	0.00			383	03
400	ISL	6.77	D	6.74	D	34.167	D 26.803	130.2	0.871	0.78	D	34.0	D	11.4		61.4	2.80	36.9	0.00	0.00			403	
440		6.42		6.38		34.188	26.868	124.4	0.922	0.57		25.1		8.3		68.2	2.93	38.4	0.00	0.00			444	02
500	ISL	6.06	D	6.02	D	34.236	D 26.952	117.0	0.996	0.40	D	17.5	D	5.8		75.2	3.05	39.9	0.00	0.00			504	
515		5.96		5.91		34.242	26.970	115.3	1.012	0.38		16.7		5.5		77.0	3.08	40.2	0.00	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 85.4 35.8

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
34 0.4 N	118 49.9 W	16/11/2017	0555	UTC	35 m	110 05 kn			1013.4 mb	18.3 C	17.0 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		17.04		17.04		33.426		24.298	361.6	0.000	5.84		255.1		105.9		2.5	0.21	0.3	0.03	0.22	1.15	0.24	0	
2		17.04		17.04		33.426		24.298	361.7	0.007	5.84		255.1		105.9		2.5	0.21	0.3	0.03	0.22	1.15	0.24	2	06
5		16.98		16.97		33.427		24.314	360.3	0.018	5.86		255.8		106.1		2.1	0.22	0.2	0.00	0.23	1.03	0.24	5	05
10		16.70		16.69		33.410		24.367	355.4	0.036	5.76		251.5		103.7		2.3	0.24	0.2	0.06	0.18	1.62	0.39	10	03
10		16.70		16.69		33.410		24.367	355.4	0.035														10	04
20	ISL	14.32	D	14.32	D	33.360	D	24.854	309.3	0.066	5.14	D	224.1	D	88.3		7.1	0.71	5.4	0.55	0.12	0.76	0.32	20	
21		14.23		14.23		33.358		24.872	307.6	0.072	4.67		204.0		80.0		7.5	0.76	6.0	0.60	0.11	0.68	0.32	21	02
27		13.61		13.61		33.365		25.006	295.1	0.090	4.44		193.8		75.1		8.4	0.85	7.8	0.42	0.13	0.48	0.27	27	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 33.0

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	15/11/2017	2341	UTC	55 m	050 01 kn	180 01 13	1	1012.5 mb	19.0 C	18.0 C	15 m	3/8	ST	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		17.66		17.66		33.439		24.162	374.6	0.000	5.83		254.6		107.0		1.6	0.16	0.0	0.02	0.00	1.27	0.08	0	
2		17.66		17.65		33.439		24.162	374.7	0.008	5.83		254.6		107.0		1.6	0.16	0.0	0.00	0.00	1.27	0.08	2	06
10	ISL	17.18	D	17.18		33.422	D	24.262	365.4	0.034	5.91	D	257.6	D	107.4		1.8	0.17	0.0	0.00	0.00	0.78	0.17	10	
11		17.15		17.15		33.414		24.264	365.3	0.041	5.87		256.2		106.6		1.8	0.17	0.0	0.00	0.00	0.71	0.18	11	04
11		17.15		17.15		33.408		24.259	365.7	0.040														11	05
20	ISL	15.94	D	15.94	D	33.398	D	24.532	340.1	0.069	5.96	D	259.9	D	105.8		4.2	0.46	2.1	0.00	0.00	0.74	0.25	20	
26		13.52		13.52		33.324		24.993	296.3	0.092	5.23		228.2		88.2		5.8	0.65	3.4	0.48	2.53	0.75	0.29	26	03
30	ISL	13.37	D	13.37		33.342	D	25.037	292.2	0.100	4.95	D	215.6	D	83.3		6.9	0.78	5.0	0.46	4.10	0.65	0.28	30	
41		12.59		12.59		33.319		25.174	279.4	0.135	4.32		188.7		71.6		9.9	1.14	9.4	0.38	8.41	0.38	0.25	41	02
50		12.20		12.19		33.401		25.313	266.4	0.160	3.97		173.3		65.2		11.4	1.10	12.1	0.48	0.42	0.16	0.17	50	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 35.0

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	16/11/2017	0153	UTC	643 m	270 09 kn			1013.1 mb	19.0 C	17.3 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		18.88		18.88		33.529		23.928	396.9	0.000	5.65		246.5		106.1		1.2	0.15	0.1	0.02	0.47	0.97	0.19	0	
2		18.88		18.88		33.529		23.928	397.0	0.008	5.65		246.5		106.1		1.2	0.15	0.1	0.00	0.47	0.97	0.19	2	21
10		18.81		18.81		33.522		23.942	396.0	0.040	5.66		247.2		106.3		1.1	0.14	0.0	0.00	0.00	1.05	0.24	10	19
10		18.81		18.81		33.522		23.942	395.9	0.041														10	20
20		16.85		16.84		33.418		24.339	358.5	0.077	5.87		256.2		106.0		2.0	0.25	0.0	0.00	0.07	0.87	0.32	20	18
30		13.75		13.74		33.350		24.967	298.9	0.110	5.40		236.0		91.7		4.7	0.54	2.8	0.20	0.00	1.08	0.65	30	17
40		13.21		13.20		33.356		25.082	288.2	0.140	5.12		223.4		85.8		5.7	0.68	5.2	0.20	0.45	0.60	0.49	40	16
50		12.15		12.14		33.406		25.327	265.0	0.167	4.40		192.1		72.2		9.6	1.01	11.0	0.05	0.05	0.22	0.25	50	15
60		11.53		11.52		33.468		25.490	249.7	0.193	3.90		170.3		63.2		12.9	1.25	14.7	0.03	0.00	0.11	0.15	60	14
70		10.96		10.95		33.531		25.643	235.4	0.217	3.60		157.0		57.6		15.9	1.43	17.5	0.00	0.00	0.06	0.12	71	13
75	ISL	10.80	D	10.79		33.558	D	25.692	230.8	0.227	3.52	D	153.1	D	56.1		17.0	1.50	18.4	0.00	0.00	0.05	0.10	76	
85		10.54		10.53		33.626		25.790	221.8	0.252	3.19		139.2		50.6		19.3	1.64	20.2	0.00	0.00	0.02	0.06	86	12
100		10.36		10.35		33.707		25.886	213.0	0.284	2.89		126.0		45.7		21.9	1.75	21.7	0.00	0.00	0.02	0.05	101	11
120		10.13		10.11		33.811		26.007	201.9	0.326	2.61		113.8		41.1		24.2	1.89	23.4	0.00	0.00	0.01	0.04	121	10
125	ISL	10.08	D	10.07		33.862	D	26.055	197.5	0.334	2.49	D	108.2	D	39.1		24.8	1.93	23.7	0.00	0.00	0.02	0.05	126	
140		9.98		9.96		33.917		26.116	192.0	0.365	2.31		100.6		36.2		26.7	2.03	24.8	0.00	0.05	0.04	0.05	141	09
150	ISL	9.93	D	9.91		33.968	D	26.165	187.6	0.383	2.22	D	96.8	D	34.9		27.9	2.06	25.2	0.00	0.00	0.04	0.05	151	
170		9.72		9.70		34.037		26.254	179.5	0.421	2.05		89.3		32.0		30.3	2.13	26.2	0.00	0.00	0.04	0.05	171	08
200		9.54		9.52		34.113		26.343	171.8	0.474	1.82		79.3		28.3		33.0	2.23	27.2	0.00	0.00	0.03	0.03	202	07
230		9.15		9.13		34.182		26.462	161.0	0.523	1.36		59.2		20.9		38.3	2.42	29.2	0.00	0.00			232	06
250	ISL	8.96	D	8.94		34.214	D	26.517	156.1	0.555	1.30	D	56.6	D	20.0		40.4	2.48	30.0	0.00	0.00			252	
270		8.74		8.71		34.235		26.570	151.4	0.586	1.12		48.8		17.1		42.5	2.53	30.7	0.00	0.00			272	05
300	ISL	8.46	D	8.43		34.269	D	26.640	145.2	0.631	0.88	D	38.4	D	13.4		46.3	2.64	31.9	0.00	0.00			302	
320		8.23		8.19		34.274		26.680	141.7	0.659	0.78		33.9		11.7		48.8	2.71	32.7	0.00	0.00			323	04
380		7.53		7.49		34.286		26.792	131.6	0.741	0.54		23.5		8.0		56.6	2.86	35.1	0.00	0.00			383	03
400	ISL	7.28	D	7.24		34.289	D	26.831	128.1	0.769	0.49	D	21.2	D	7.2		60.7	2.92	35.9	0.00	0.00			403	
440		6.74		6.70		34.301		26.915	120.3	0.817	0.35		15.1		5.1		68.9	3.03	37.6	0.00	0.00			444	02
500	ISL	6.27	D	6.22		34.321	D	26.994	113.3	0.890	0.25	D	11.1	D	3.7		77.0	3.13	38.4	0.00	0.00			504	
517		6.16		6.11		34.328		27.013	111.6	0.906	0.22		9.6		3.2		79.3	3.16	38.6	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 39.4 N	118 58.5 W	16/11/2017	0842	UTC	751 m	350 03 kn			1013.4 mb	19.0 C	18.0 C				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	18.38	18.38	33.546	24.066	383.7	0.000	5.71	249.2	106.3	1.0	0.15	0.0	0.01	0.02	0.84	0.30	0	
2	18.38	18.38	33.546	24.066	383.8	0.008	5.71	249.2	106.3	1.0	0.15	0.0	0.00	0.00	0.84	0.30	2	24
10	17.42	17.42	33.472	24.244	367.2	0.038	5.71	249.3	104.3	1.3	0.19	0.0	0.00	0.00	0.71	0.30	10	23
20	15.60	15.59	33.392	24.603	333.2	0.073	5.81	253.8	102.4	2.0	0.25	0.0	0.00	0.00	0.84	0.41	20	22
30	14.58	14.58	33.357	24.798	315.0	0.105	5.70	248.8	98.3	3.1	0.35	1.2	0.10	0.00	0.90	0.53	30	21
40	13.57	13.56	33.347	25.001	295.9	0.136	5.44	237.5	91.9	4.7	0.54	3.8	0.25	0.10	0.59	0.39	40	20
50	12.61	12.61	33.384	25.220	275.3	0.164	5.22	228.0	86.5	6.4	0.70	6.5	0.26	0.34	0.38	0.22	50	19
60	12.08	12.07	33.443	25.369	261.3	0.191	4.79	209.1	78.5	8.5	0.86	9.1	0.13	0.00	0.26	0.22	60	18
70	11.62	11.61	33.504	25.502	248.9	0.217	4.78	208.5	77.5	9.1	0.88	9.8	0.07	0.06	0.15	0.17	71	17
75 ISL	11.37 D	11.36	33.557 D	25.588	240.8	0.227	4.77 D	207.9 D	77.1	11.6	1.06	12.3	0.05	0.00	0.12	0.15	76	
85	10.88	10.87	33.562	25.681	232.2	0.253	3.67	160.4	58.7	16.6	1.41	17.1	0.03	0.00	0.08	0.12	86	16
100 ISL	10.21 D	10.20	33.678 D	25.888	212.8	0.284	3.29 D	143.0 D	51.8	20.2	1.62	20.1	0.00	0.00	0.01	0.05	101	
101	10.27	10.26	33.668	25.870	214.4	0.288	3.28	143.2	51.8	20.4	1.63	20.3	0.00	0.00	0.01	0.04	102	14
120	9.78	9.76	33.768	26.032	199.4	0.328	2.95	128.9	46.1	24.0	1.80	22.9	0.03	0.00	0.03	0.08	121	15
125 ISL	9.78 D	9.77	33.790 D	26.049	198.0	0.335	2.92 D	127.0 D	45.6	25.3	1.86	23.5	0.03	0.00	0.03	0.07	126	
141	9.44	9.42	33.961	26.240	180.1	0.368	2.44	106.5	37.9	29.4	2.05	25.5	0.04	0.00	0.02	0.05	142	13
150 ISL	9.41 D	9.39	33.984 D	26.263	178.1	0.382	2.30 D	100.0 D	35.6	30.4	2.07	25.8	0.00	0.00	0.01	0.04	151	
171	9.16	9.14	34.018	26.330	172.1	0.420	2.16	94.2	33.3	32.5	2.13	26.7	0.00	0.00	0.01	0.04	172	12
200	9.01	8.99	34.099	26.418	164.4	0.469	1.81	78.8	27.8	36.0	2.28	28.1	0.00	0.06	0.01	0.03	202	11
230	8.82	8.80	34.192 D	26.521	155.2	0.516	1.40 D	60.8 D	21.4								232	10
250 ISL	8.80 D	8.77	34.243 D	26.565	151.4	0.547	1.16 D	50.6 D	17.8	42.9	2.53	30.3	0.00	0.00			252	
271	8.44	8.41	34.247	26.624	146.1	0.580	0.97	42.1	14.7	45.9	2.63	31.3	0.00	0.00			273	09
300 ISL	8.26 D	8.23	34.267 D	26.669	142.4	0.621	0.85 D	36.9 D	12.9	49.5	2.70	32.3	0.00	0.00			302	
320	8.03	7.99	34.268	26.705	139.2	0.650	0.71	31.0	10.7	52.0	2.74	33.0	0.00	0.00			323	08
380	7.27	7.23	34.283	26.827	128.1	0.730	0.49	21.4	7.3	61.0	2.91	35.3	0.00	0.00			383	07
400 ISL	7.12 D	7.08	34.293 D	26.857	125.5	0.755	0.45 D	19.5 D	6.6	62.7	2.94	35.8	0.00	0.00			403	
440	6.91	6.86	34.292	26.885	123.3	0.805	0.42	18.3	6.2	66.2	2.99	36.6	0.00	0.00			444	06
481	6.61	6.57	34.304	26.935	118.9	0.855	0.34	14.7	4.9	71.3	3.03	37.5	0.00	0.00			485	05
500 ISL	6.42 D	6.38	34.317 D	26.970	115.7	0.878	0.30 D	13.1 D	4.4	73.6	3.06	37.8	0.00	0.00			504	
516	6.36	6.31	34.315	26.977	115.2	0.896	0.32	14.0	4.7	75.6	3.09	38.1	0.00	0.00			520	04
600 ISL	5.87 D	5.81	34.349 D	27.068	107.3	0.991	0.22 D	9.4 D	3.1	86.0	3.18	38.9	0.00	0.00			605	
631	5.62	5.57	34.358	27.106	103.8	1.022	0.21	9.0	3.0	89.9	3.22	39.2	0.00	0.00			637	03
700 ISL	5.40 D	5.34	34.380 D	27.151	100.2	1.095	0.16 D	6.9 D	2.2	96.5	3.26	38.3	0.00	0.00			706	
739	5.33	5.27	34.383	27.162	99.5	1.131	0.17	7.5	2.4	100.2	3.29	37.8	0.00	0.00			746	02
744	5.34	5.27	34.381	27.160	99.8	1.136	0.13	5.8	1.9	99.7	3.31	37.9	0.00	0.00			751	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.4 N	119 19.2 W	16/11/2017	1321	UTC	1626 m	270 03 kn			1012.7 mb	19.0 C	18.2 C				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	17.55	17.55	33.510	24.241	367.1	0.000	5.61	245.1	102.9	1.3	0.16	0.0	0.01	0.02	0.55	0.22	0	
2	17.55	17.55	33.510	24.241	367.1	0.007	5.61	245.1	102.8	1.3	0.16	0.0	0.00	0.00	0.55	0.22	2	21
10	17.43	17.43	33.501	24.264	365.3	0.037	5.60	244.6	102.4	1.2	0.17	0.0	0.00	0.05	0.64	0.25	10	19
10	17.43	17.43	33.501	24.263	365.3	0.035											10	20
20	13.23	13.23	33.326	25.052	290.5	0.069	5.44	237.5	91.3	4.0	0.52	3.7	0.25	0.00	0.48	0.24	20	18
30	12.10	12.09	33.339	25.283	268.6	0.097	5.09	222.2	83.4	6.8	0.76	7.7	0.14	0.00	0.31	0.26	30	17
40	11.50	11.50	33.407	25.447	253.3	0.123	4.70	205.1	76.0	9.4	0.94	10.7	0.09	0.00	0.21	0.24	40	16
50	11.02	11.02	33.501	25.607	238.3	0.148	4.27	186.5	68.5	13.2	1.16	14.0	0.07	0.00	0.14	0.17	50	15
60	10.45	10.45	33.583	25.771	222.9	0.171	3.62	158.2	57.4	17.5	1.47	18.4	0.03	0.00	0.07	0.11	60	14
70	10.29	10.28	33.604	25.816	218.8	0.193	3.53	154.1	55.7	18.4	1.54	19.2	0.00	0.00	0.05	0.09	71	13
75 ISL	10.17 D	10.16	33.644 D	25.868	214.1	0.202	3.49 D	151.9 D	54.9	19.8	1.59	20.0	0.00	0.00	0.04	0.08	76	
85	9.86	9.85	33.731	25.989	202.8	0.225	3.22	140.7	50.4	22.8	1.68	21.5	0.00	0.00	0.02	0.07	86	12
100 ISL	9.66 D	9.65	33.795 D	26.071	195.2	0.253	2.99 D	130.3 D	46.7	24.7	1.78	22.7	0.00	0.00	0.01	0.07	101	
101	9.69	9.67	33.791	26.065	195.9	0.257	2.97	129.6	46.3	24.8	1.79	22.8	0.00	0.00	0.01	0.07	102	11
120	9.36	9.34	33.925 D	26.224	181.1	0.291	2.54 D	110.7 D	39.4								121	10
125 ISL	9.29 D	9.28	33.939 D	26.245	179.2	0.300	2.46 D	107.2 D	38.1	29.2	2.01	25.0	0.00	0.00	0.01	0.05	126	
140	9.29	9.28	34.032	26.318	172.6	0.328	2.10	91.5	32.5	32.0	2.14	26.5	0.00	0.00	0.01	0.04	141	09
150 ISL	9.24 D	9.22	34.063 D	26.352	169.7	0.344	2.02 D	87.9 D	31.3	33.4	2.18	27.0	0.00	0.00	0.01	0.04	151	
170	9.03	9.01	34.112	26.425	163.1	0.378	1.77	77.1	27.2	36.4	2.26	28.0	0.00	0.00	0.01	0.04	171	08
200	8.75	8.73	34.163	26.509	155.7	0.426	1.49	64.9	22.8	39.7	2.39	29.3	0.00	0.00	0.01	0.04	202	07
230	8.65	8.62	34.245	26.591	148.5	0.472	1.04	45.2	15.8	44.2	2.55	30.6	0.00	0.00			232	06
250 ISL	8.56 D	8.54	34.257 D	26.614	146.7	0.502	0.96 D	41.9 D	14.7	45.6	2.60	31.0	0.00	0.00			252	
270	8.40	8.37	34.270	26.650	143.6	0.530	0.85	36.9	12.9	47.0	2.64	31.5	0.00	0.00			272	05
300 ISL	7.93 D	7.90	34.260 D	26.712	138.0	0.574	0.80 D	34.9 D	12.1	50.5	2.70	32.6	0.00	0.00			302	
320	7.85	7.81	34.265	26.729	136.8	0.600	0.71	30.9	10.6	52.8	2.74	33.3	0.00	0.00			323	04
380	7.36	7.32	34.274	26.807	130.1	0.680	0.54	23.7	8.0	59.5	2.87	35.1	0.00	0.00			383	03
400 ISL	7.23 D	7.19	34.284 D	26.834	127.8	0.709	0.51 D	22.0 D	7.5	62.1	2.91	35.7	0.00	0.00			403	
440	6.80	6.75	34.295	26.903	121.5	0.756	0.37	16.3	5.5	67.4	2.98	37.0	0.00	0.00			444	02
500 ISL	6.36 D	6.32	34.315 D	26.977	115.0	0.830	0.30 D	13.1 D	4.4	75.1	3.08	38.3	0.00	0.00			504	
515	6.25	6.20	34.322	26.998	113.2	0.844	0.26	11.5	3.8	77.0	3.11	38.6	0.00	0.00			519	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 50.0

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 39.9 W	16/11/2017	1743	UTC	79 m	210 03 kn	260 01 01	1	1014.0 mb	19.0 C	18.5 C	15 m	3/8	ST	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		16.91	16.91	33.488	24.377	354.1	0.000	5.65	246.5	102.1	2.4	0.21	0.3	0.04	0.00	0.93	0.08	0	
2	A	16.91	16.91	33.488	24.377	354.2	0.007	5.65	246.5	102.1	2.4	0.21	0.3	0.04	0.00	0.93	0.08	2	11
10	A	16.73	16.73	33.485	24.415	350.8	0.035	5.66	D246.8	D102.1	2.0	0.21	0.1	0.00	0.00	1.14	0.03	10	10
12		16.63	16.63	33.474	D 24.430	349.4	0.039											12	08
13	A	16.58	16.58	33.474	24.444	348.2	0.046	5.66	247.2	101.8	2.0	0.22	0.0	0.00	0.00	1.15	0.14	13	07
20	ISL	16.35	D 16.35	33.460	D 24.486	344.5	0.067	5.67	D247.3	D101.5	2.1	0.24	0.2	0.00	0.00	1.11	0.17	20	
25	A	16.26	16.25	33.459	24.507	342.6	0.087	5.63	245.9	100.6	2.2	0.25	0.3	0.04	0.00	1.08	0.19	25	06
30	ISL	16.01	D 16.01	33.452	D 24.558	338.0	0.101	5.57	D242.8	D 99.0	2.4	0.29	0.7	0.07	0.00	0.91	0.24	30	
33		15.94	15.93	33.446	24.569	337.0	0.114	5.54	241.9	98.3	2.5	0.32	1.0	0.09	0.06	0.81	0.27	33	05
41	A	15.13	15.12	33.424	24.732	321.7	0.141	5.42	236.6	94.6	3.2	0.40	2.1	0.17	0.06	0.77	0.22	41	04
50	ISL	13.24	D 13.23	33.392	D 25.104	286.4	0.166	5.04	D219.4	D 84.5	5.9	0.66	5.9	0.23	0.00	0.42	0.20	50	
53	A	12.01	12.00	33.387	25.338	264.1	0.176	5.02	219.1	82.1	6.8	0.75	7.2	0.25	0.00	0.30	0.19	53	03
62		11.23	11.22	33.417	25.505	248.4	0.199	4.73	206.6	76.1	9.6	0.96	11.0	0.06	0.00	0.14	0.16	63	02
70		10.89	10.89	33.496	25.627	236.9	0.219	4.44	193.7	70.9	12.6	1.14	14.0	0.07	0.00	0.10	0.07	71	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 55.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 9.4 N	120 0.4 W	16/11/2017	2117	UTC	1192 m	310 08 kn	300 03 10	1	1013.9 mb	19.0 C	17.5 C	18 m	7/8	ST	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		17.28	17.28	33.455	24.263	364.9	0.000	5.56	242.9	101.4	1.5	0.24	0.0	0.01	0.00	0.32	0.06	0	
2		17.28	17.28	33.455	24.263	365.0	0.007	5.56	242.9	101.4	1.5	0.24	0.0	0.00	0.00	0.32	0.06	2	21
10	ISL	17.12	D 17.12	33.451	D 24.298	362.0	0.033	5.59	D243.8	D101.5	1.3	0.24	0.0	0.00	0.00	0.36	0.03	10	
11		17.12	17.12	33.451	24.300	361.9	0.040	5.59	244.2	101.6	1.3	0.24	0.0	0.00	0.00	0.36	0.03	11	19
11		17.12	17.12	33.452	24.300	361.9	0.040											11	20
20	ISL	17.10	D 17.10	33.451	D 24.304	361.8	0.069	5.59	D243.8	D101.5	1.4	0.24	0.0	0.00	0.00	0.36	0.03	20	
21		17.10	17.10	33.453	24.306	361.6	0.076	5.60	244.6	101.7	1.5	0.24	0.0	0.00	0.00	0.36	0.03	21	18
30	ISL	17.08	D 17.08	33.449	D 24.308	361.8	0.106	5.58	D243.4	D101.3	1.3	0.23	0.0	0.00	0.00	0.38	0.12	30	
31		17.09	17.08	33.450	24.308	361.8	0.112	5.58	243.7	101.3	1.3	0.23	0.0	0.00	0.00	0.38	0.13	31	17
40		16.35	16.34	33.396	24.439	349.6	0.144	5.69	248.6	101.8	1.6	0.26	0.0	0.04	0.00	0.77	0.10	40	16
50	ISL	15.07	D 15.06	33.345	D 24.686	326.3	0.176	5.54	D241.3	D 96.5	2.1	0.33	0.5	0.20	0.00	0.65	0.32	50	
51		14.74	14.74	33.354	24.763	319.1	0.181	5.68	247.9	98.3	2.1	0.34	0.5	0.22	0.00	0.64	0.35	51	15
61		12.66	12.66	33.334	25.172	280.2	0.211	5.42	236.8	89.9	4.8	0.58	4.9	0.04	0.00	0.26	0.16	61	14
71		12.39	12.38	33.453	25.318	266.5	0.239	5.28	230.3	87.0	5.3	0.59	5.3	0.04	0.00	0.20	0.15	72	13
75	ISL	12.12	D 12.11	33.408	D 25.335	265.0	0.248	4.91	D213.7	D 80.5	5.5	0.69	6.8	0.00	0.00	0.17	0.13	76	
86		11.21	11.20	33.444	25.531	246.5	0.277	4.75	207.3	76.4	9.4	0.96	11.1	0.00	0.00	0.10	0.08	87	12
100	ISL	10.84	D 10.83	33.569	D 25.695	231.2	0.309	4.70	D204.5	D 75.0	11.1	0.98	12.1	0.00	0.00	0.05	0.05	101	
101		10.73	10.71	33.567	25.712	229.5	0.313	4.69	204.8	74.7	11.2	0.98	12.2	0.00	0.00	0.05	0.05	102	11
121		9.96	9.94	33.694	25.945	207.8	0.357	4.07	177.6	63.8	17.5	1.35	17.6	0.00	0.00	0.02	0.02	122	10
125	ISL	9.84	D 9.83	33.727	D 25.989	203.6	0.364	3.76	D163.6	D 58.8	18.9	1.42	18.6	0.00	0.00	0.02	0.02	126	
141		9.25	9.23	33.812	26.154	188.2	0.396	3.40	148.5	52.5	24.4	1.69	22.6	0.00	0.00	0.01	0.03	142	09
150	ISL	9.22	D 9.20	33.842	D 26.182	185.7	0.412	3.33	D144.8	D 51.4	26.3	1.75	23.5	0.00	0.00	0.01	0.03	151	
171		8.69	8.67	33.916	26.324	172.5	0.451	3.02	131.7	46.1	30.6	1.88	25.5	0.00	0.00	0.01	0.02	172	08
200	ISL	8.32	D 8.30	33.970	D 26.423	163.5	0.499	2.70	D117.5	D 40.9	34.5	2.01	27.2	0.00	0.00	0.01	0.02	202	
201		8.30	8.28	33.969	26.426	163.3	0.501	2.72	118.9	41.2	34.7	2.01	27.2	0.00	0.00	0.01	0.02	203	07
230		7.90	7.87	34.023	26.529	153.9	0.547	2.21	96.3	33.1	40.5	2.22	29.8	0.00	0.00			232	06
250	ISL	7.73	D 7.71	34.061	D 26.583	149.1	0.578	1.83	D 79.7	D 27.4	44.2	2.35	31.2	0.00	0.00			252	
271		7.54	7.51	34.095	26.638	144.1	0.608	1.52	66.3	22.6	48.1	2.49	32.8	0.00	0.00			273	05
300	ISL	7.40	D 7.37	34.149	D 26.701	138.6	0.650	1.10	D 47.8	D 16.3	52.3	2.61	34.1	0.00	0.00			302	
320		7.28	7.25	34.168	26.733	135.9	0.677	0.96	42.0	14.2	55.2	2.70	35.0	0.00	0.00			323	04
381		6.92	6.89	34.209	26.816	128.8	0.757	0.68	29.9	10.0	61.5	2.84	36.4	0.00	0.00			384	03
400	ISL	6.81	D 6.78	34.225	D 26.844	126.4	0.783	0.61	D 26.5	D 8.9	64.7	2.89	36.9	0.00	0.00			403	
441		6.42	6.38	34.260	26.925	119.0	0.832	0.45	19.5	6.5	71.6	3.01	38.1	0.00	0.00			445	02
500	ISL	6.11	D 6.07	34.282	D 26.983	114.2	0.904	0.35	D 15.2	D 5.0	76.6	3.07	39.2	0.00	0.00			504	
516		6.08	6.03	34.284	26.989	113.8	0.919	0.33	14.3	4.7	78.0	3.09	39.6	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 60.0

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	24/11/2017	0427	UTC	712 m	320 09 kn			1013.6 mb	18.0 C	17.2 C				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		16.74		16.74		33.481	24.410	350.9	0.000	5.64		246.3		101.7		1.4	0.21	0.0	0.02	0.00	0.26	0.09	0	
2		16.74		16.74		33.481	24.411	351.0	0.007	5.64		246.3		101.7		1.4	0.21	0.0	0.00	0.00	0.26	0.09	2	21
10		16.74		16.74		33.481	24.412	351.2	0.035	5.65		246.9		101.9		1.3	0.20	0.0	0.00	0.00	0.26	0.09	10	19
10		16.74		16.74		33.483	24.413	351.1	0.037														10	20
20	ISL	16.60	D	16.60		33.482	D 24.445	348.3	0.067	5.62	D	245.1	D	101.1		1.5	0.22	0.0	0.00	0.00	0.33	0.13	20	
21		16.63		16.63		33.482	24.438	349.1	0.074	5.65		246.6		101.6							0.34	0.13	21	18
30		16.38		16.37		33.477	24.493	344.1	0.105	5.61		245.2		100.5		1.6	0.23	0.0	0.06	0.00	0.52	0.31	30	17
40		13.88		13.88		33.425	24.998	296.2	0.137	4.88		213.1		83.0		6.0	0.69	6.3	0.44	0.00	0.32	0.31	40	16
50	ISL	12.21	D	12.20		33.420	D 25.325	265.2	0.163	4.57	D	199.0	D	75.1		8.9	0.94	10.3	0.14	0.00	0.17	0.18	50	
51		12.11		12.10		33.420	25.345	263.3	0.168	4.58		200.1		75.1		9.2	0.96	10.7	0.11	0.00	0.15	0.17	51	15
60		11.42		11.41		33.421	25.475	251.2	0.191	4.58		199.8		73.9		10.5	1.04	12.4	0.04	0.00	0.09	0.11	60	14
71		11.22		11.21		33.502	25.573	242.1	0.218	4.05		176.7		65.1		13.7	1.28	15.9	0.03	0.00	0.08	0.10	72	13
75	ISL	11.17	D	11.16		33.511	D 25.589	240.7	0.225	4.02	D	175.2	D	64.7		14.5	1.33	16.6	0.03	0.00	0.07	0.09	76	
85		10.62		10.60		33.553	25.721	228.3	0.251	3.89		169.7		61.8		16.4	1.44	18.4	0.03	0.00	0.04	0.07	86	12
100		10.12		10.11		33.655	25.886	212.9	0.284	3.46		150.9		54.3		20.4	1.60	20.5	0.03	0.00	0.02	0.06	101	11
120		9.64		9.63		33.736	26.030	199.6	0.325	3.22		140.8		50.2		23.2	1.71	22.3	0.00	0.00	0.01	0.05	121	10
125	ISL	9.59	D	9.58		33.774	D 26.068	196.1	0.333	3.11	D	135.5	D	48.4		24.7	1.77	23.0	0.00	0.00	0.01	0.05	126	
140		9.04		9.03		33.885	26.244	179.6	0.363	2.70		118.0		41.6		28.9	1.94	25.2	0.00	0.00	0.01	0.04	141	09
150	ISL	8.82	D	8.81		33.936	D 26.318	172.7	0.379	2.73	D	119.0	D	41.9		30.8	1.96	25.9	0.00	0.00	0.01	0.04	151	
170		8.26		8.25		33.961	26.424	162.9	0.415	2.76		120.5		41.7		34.7	2.00	27.4	0.00	0.00	0.00	0.03	171	08
200		8.12		8.09		33.991	26.471	159.0	0.463	2.50		108.9		37.6		37.6	2.11	28.7	0.00	0.00	0.00	0.02	202	07
230		7.84		7.82		34.014	26.530	153.8	0.510	2.26		98.8		33.9		41.3	2.21	30.1	0.00	0.00			232	06
250	ISL	7.73	D	7.70		34.032	D 26.561	151.2	0.539	2.07	D	90.0	D	30.9		44.3	2.31	31.2	0.00	0.00			252	
270		7.47		7.44		34.044	26.608	146.9	0.570	1.86		81.0		27.6		47.3	2.41	32.3	0.00	0.00			272	05
300	ISL	7.21	D	7.18		34.097	D 26.686	139.9	0.613	1.34	D	58.3	D	19.8		52.8	2.56	34.2	0.00	0.00			302	
320		7.04		7.01		34.114	26.724	136.5	0.641	1.16		50.4		17.0		56.5	2.66	35.4	0.00	0.00			323	04
380		6.70		6.67		34.244	26.874	123.2	0.719	0.50		21.8		7.3		67.0	2.94	37.4	0.00	0.00			383	03
400	ISL	6.60	D	6.56		34.261	D 26.901	120.8	0.744	0.45	D	19.5	D	6.5		69.5	2.98	38.0	0.00	0.00			403	
440		6.30		6.26		34.277	26.953	116.3	0.791	0.36		15.5		5.1		74.6	3.06	39.1	0.00	0.00			444	02
500	ISL	6.14	D	6.09		34.293	D 26.989	113.6	0.861	0.32	D	13.7	D	4.5		78.4	3.11	39.7	0.00	0.00			504	
517		6.02		5.97		34.303	27.011	111.6	0.879	0.28		12.3		4.1		79.5	3.13	39.8	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 39.4 N	121 2.0 W	23/11/2017	2223	UTC	3810 m	330 16 kn	310 03 12	1	1015.1 mb	19.7 C	18.5 C	26 m	8/8	ST	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		17.68		17.68		33.455	24.169	374.0	0.000	5.53		241.3		101.4		1.9	0.21	0.0	0.02	0.20	0.18	0.00	0	
2		17.68		17.68		33.455	24.169	374.0	0.008	5.53		241.3		101.4		1.9	0.21	0.0	0.00	0.20	0.18	0.00	2	21
10	ISL	17.68	D	17.67		33.456	D 24.170	374.2	0.034	5.52	D	240.6	D	101.3		1.9	0.20	0.0	0.00	0.00	0.15	0.02	10	
11		17.67		17.67		33.460	24.175	373.8	0.041	5.57		243.2		102.2		1.9	0.20	0.0	0.00	0.00	0.15	0.03	11	19
12		17.68		17.68		33.455	24.169	374.4	0.043														12	20
20	ISL	17.61	D	17.61		33.453	D 24.184	373.3	0.071	5.53	D	241.0	D	101.3		1.8	0.20	0.0	0.00	0.00	0.17	0.03	20	
26		17.52		17.51		33.444	24.200	372.0	0.097	5.55		242.4		101.6		1.7	0.20	0.0	0.00	0.00	0.18	0.02	26	18
30	ISL	17.49	D	17.48		33.439	D 24.204	371.7	0.109	5.54	D	241.6	D	101.3		1.7	0.20	0.0	0.00	0.00	0.20	0.03	30	
41		17.40		17.40		33.435	24.222	370.5	0.153	5.60		244.4		102.2		1.7	0.20	0.0	0.00	0.00	0.26	0.05	41	17
50	ISL	16.99	D	16.98		33.416	D 24.307	362.7	0.184	5.64	D	245.7	D	102.1		1.7	0.22	0.0	0.00	0.00	0.30	0.11	50	
51		17.01		17.00		33.416	24.302	363.2	0.190	5.67		247.4		102.6		1.7	0.22	0.0	0.00	0.00	0.30	0.11	51	16
63		15.55		15.54		33.563	24.748	320.9	0.231	5.80		253.4		102.2		2.3	0.22	0.0	0.04	0.05	0.37	0.36	64	15
75	ISL	14.76	D	14.75		33.568	D 24.925	304.4	0.266	5.71	D	249.0	D	99.1		2.6	0.25	0.3	0.13	0.06	0.27	0.28	76	
76		14.65		14.64		33.568	24.949	302.2	0.271	5.76		251.3		99.6		2.6	0.25	0.4	0.14	0.06	0.27	0.27	77	14
88		14.00		13.99		33.581	25.097	288.4	0.306	5.68		247.8		96.9		3.0	0.29	1.0	0.18	0.00	0.15	0.15	89	13
100	ISL	13.39	D	13.37		33.604	D 25.240	275.0	0.339	5.48	D	238.9	D	92.5		3.7	0.35	2.3	0.06	0.00	0.10	0.10	101	
101		13.35		13.34		33.605	25.248	274.3	0.343	5.50		240.2		92.7		3.8	0.36	2.4	0.05	0.00	0.10	0.09	102	12
113		11.80		11.78		33.543	25.501	250.2	0.374	5.25		229.2		85.6		6.4	0.62	6.7	0.03	0.00	0.06	0.07	114	11
125	ISL	11.37	D	11.36		33.569	D 25.600	241.0	0.403	4.92	D	214.3	D	79.5		8.5	0.77	9.2	0.00	0.00	0.05	0.06	126	
126		11.08		11.07		33.560	25.646	236.6	0.406	4.93		215.1		79.1		8.7	0.78	9.4	0.00	0.00	0.04	0.06	127	10
141		10.54		10.53		33.598	25.770	225.0	0.441	4.51		197.1		71.6		13.2	1.08	13.9	0.00	0.00	0.03	0.04	142	09
150	ISL	10.23	D	10.21		33.618	D 25.841	218.4	0.460	4.24	D	184.5	D	66.8		15.7	1.21	16.0	0.00	0.00	0.02	0.03	151	
171		9.35		9.33		33.738	26.081	195.8	0.504	3.72		162.4		57.5		21.5	1.52	20.8	0.00	0.00	0.01	0.02	172	08
200	ISL	9.10	D	9.08		33.946	D 26.285	177.1	0.558	2.44	D	106.1	D	37.5		30.9	2.01	26.5	0.00	0.00	0.00	0.02	202	
201		9.02		9.00		33.944	26.295	176.0	0.560	2.48		108.2		38.1		31.2	2.03	26.7	0.00	0.00	0.00	0.02	203	07
230		8.57		8.54		33.982	26.397	166.8	0.610	2.49		108.5		37.8		34.4	2.06	27.8	0.00	0.00			232	06
250	ISL	8.34	D	8.31		33.972	D 26.424	164.5	0.643	2.83	D	123.1	D	42.8		37.5	2.11	28.8	0.00	0.00			252	
270		7.89		7.86		34.004	26.516	155.9	0.675	2.44		106.4		36.5		40.6	2.15	29.8	0.00	0.00			272	05
300	ISL	7.53	D	7.50		34.016	D 26.578	150.4	0.722	2.21	D	96.2	D	32.9		45.2	2.27	31.4	0.00	0.00			302	
320		7.20		7.17		34.020	26.628	145.8	0.750	2.05		89.3		30.2		48.3	2.35	32.4	0.00	0.00			323	04
380		6.52		6.48		34.069	26.760	133.7	0.834	1.29		56.4		18.8		60.5	2.67	36.5	0.00	0.00			383	03
400	ISL	6.45	D	6.41		34.078	D 26.776	132.4	0.863	1.17	D	50.8	D	16.9		63.8	2.74	37.3	0.00	0.00			403	
441		6.06		6.02		34.123	26.862	124.6	0.913	0.80		34.9		11.5		70.7	2.89	39.0	0.00	0.00			445	02
500	ISL	5.85	D	5.80		34.192	D 26.944	117.4	0.988	0.49	D	21.3	D	7.0		77.2	3.02	40.1	0.00	0.00			504	
516		5.80		5.76		34.205	26.961	116.1	1.003	0.51		22.3		7.3		78.9	3.05	40.4	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 80.0

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 43.0 W	23/11/2017	1651	UTC	4076 m	320 14 kn	320 03 08	1	1017.3 mb	19.5 C	17.5 C	24 m	4/8	ST	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		17.87		17.87		33.484	24.144	376.3	0.000	5.48	239.2	101.0	1.8	0.18	0.0	0.02	0.03	0.16	0.04	0	
2	A	17.87		17.87		33.484	24.144	376.4	0.008	5.48	239.2	101.0	1.8	0.18	0.0	0.00	0.00	0.16	0.04	2	24
10		17.87		17.87		33.483	24.145	376.6	0.038	5.50	240.4	101.4	1.6	0.18	0.0	0.00	0.00	0.16	0.03	10	22
10		17.87		17.87		33.482	24.144	376.7	0.039											10	23
15	A	17.87		17.86		33.485	24.147	376.6	0.056	5.48	239.3	101.0	1.4	0.17	0.0	0.00	0.00	0.18	0.03	15	21
19	A	17.87		17.86		33.482	24.145	377.0	0.072	5.53	241.3	101.8	1.5	0.16	0.0	0.00	0.00	0.17	0.03	19	20
20	ISL	17.87	D	17.86	D	33.482	D 24.145	377.0	0.072	5.47	D238.3	D100.7	1.5	0.16	0.0	0.00	0.00	0.17	0.03	20	
28		17.87		17.86		33.482	24.146	377.2	0.106	5.49	239.8	101.2	1.4	0.17	0.0	0.00	0.00	0.17	0.04	28	19
30	ISL	17.86	D	17.85	D	33.482	D 24.148	377.1	0.110	5.46	D238.2	D100.6	1.4	0.17	0.0	0.00	0.00	0.19	0.04	30	
38	A	17.77		17.76		33.476	24.166	375.7	0.143	5.50	240.0	101.1	1.4	0.17	0.0	0.00	0.00	0.23	0.06	38	18
47		17.75		17.74		33.474	24.170	375.7	0.177	5.49	239.7	100.9	1.4	0.17	0.0	0.00	0.00	0.32	0.07	47	17
50	ISL	17.74	D	17.74	D	33.475	D 24.172	375.6	0.186	5.46	D238.3	D100.4	1.4	0.17	0.0	0.00	0.00	0.31	0.09	50	
56		17.42		17.41		33.442	24.224	370.8	0.211	5.57	243.2	101.7	1.4	0.18	0.0	0.00	0.00	0.29	0.13	56	16
66	A	16.28		16.26		33.412	24.470	347.6	0.247	5.73	250.3	102.3	1.3	0.21	0.0	0.00	0.00	0.24	0.22	67	15
75		15.57		15.56		33.500	24.695	326.4	0.277	5.81	253.5	102.3	1.8	0.22	0.0	0.00	0.11	0.21	0.22	76	14
84	A	15.32		15.31		33.617	24.842	312.7	0.306	5.75	251.2	100.9	2.2	0.20	0.0	0.06	0.07	0.17	0.16	85	13
100	ISL	14.68	D	14.67	D	33.676	D 25.027	295.5	0.353	5.69	D247.9	D 98.6	2.5	0.22	0.4	0.19	0.00	0.13	0.10	101	
101		14.65		14.64		33.693	25.046	293.7	0.357	5.69	248.5	98.5	2.5	0.22	0.4	0.20	0.00	0.13	0.10	102	12
113		13.86		13.85		33.606	25.146	284.5	0.392	5.59	244.0	95.2	3.0	0.29	1.4	0.13	0.00	0.11	0.10	114	11
125	ISL	12.91	D	12.89	D	33.498	D 25.255	274.2	0.425	5.49	D239.1	D 91.6	3.8	0.40	3.0	0.04	0.00	0.10	0.06	126	
126		12.48		12.46		33.503	25.343	265.8	0.428	5.51	240.8	91.1	3.9	0.41	3.2	0.03	0.00	0.10	0.06	127	10
141		11.79		11.77		33.523	25.489	252.1	0.467	5.11	223.1	83.2	6.3	0.64	7.0	0.00	0.00	0.06	0.06	142	09
150	ISL	11.20	D	11.18	D	33.534	D 25.605	241.1	0.489	4.81	D209.3	D 77.3	8.3	0.77	9.2	0.00	0.00	0.05	0.05	151	
171		10.15		10.13		33.598	25.838	219.1	0.537	4.54	198.2	71.4	13.1	1.07	14.2	0.00	0.00	0.03	0.03	172	08
200		9.21		9.19		33.770	26.128	191.9	0.597	3.89	169.8	60.0	21.9	1.51	20.9	0.00	0.00	0.01	0.02	202	07
231		8.84		8.82		33.925	26.309	175.2	0.654	3.00	130.9	45.9	29.8	1.87	25.7	0.00	0.00			233	06
250	ISL	8.76	D	8.73	D	34.011	D 26.391	167.9	0.686	2.49	D108.3	D 38.1	33.3	1.97	27.3	0.00	0.00			252	
271		8.05		8.02		33.984	26.478	159.7	0.722	2.64	115.0	39.6	37.3	2.07	28.9	0.00	0.00			273	05
300	ISL	7.64	D	7.61	D	33.991	D 26.543	153.7	0.767	2.59	D112.7	D 38.6	42.5	2.20	30.8	0.00	0.00			302	
320		7.31		7.28		34.007	26.602	148.3	0.797	2.27	99.0	33.5	46.1	2.29	32.1	0.00	0.00			323	04
381		6.78		6.75		34.077	26.731	136.7	0.884	1.35	59.1	19.8	56.9	2.65	36.2	0.00	0.00			384	03
400	ISL	6.64	D	6.61	D	34.092	D 26.761	134.0	0.911	1.16	D 50.5	D 16.9	59.5	2.72	37.0	0.00	0.00			403	
441		6.32		6.28		34.119	26.826	128.2	0.964	0.93	40.6	13.4	65.1	2.86	38.7	0.00	0.00			445	02
500	ISL	5.94	D	5.89	D	34.152	D 26.902	121.5	1.040	0.66	D 28.7	D 9.5	73.7	3.02	40.5	0.00	0.00			504	
515		5.87		5.83		34.166	26.921	119.8	1.055	0.63	27.4	9.0	76.0	3.06	41.0	0.00	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 59.4 N	122 23.6 W	23/11/2017	1108	UTC	4139 m	340 14 kn			1017.6 mb	17.5 C	17.0 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		18.34		18.34		33.503	24.044	385.8	0.000	5.47	238.9	101.8	1.7	0.19	0.0	0.02	0.00	0.16	0.04	0	
2		18.34		18.34		33.503	24.045	385.9	0.008	5.47	238.9	101.8	1.7	0.19	0.0	0.00	0.00	0.16	0.04	2	21
10		18.33		18.32		33.497	24.043	386.3	0.039	5.46	238.3	101.5	1.4	0.19	0.0	0.00	0.00	0.16	0.04	10	19
10		18.33		18.32		33.497	24.043	386.3	0.039											10	20
20	ISL	18.22	D	18.21	D	33.492	D 24.067	384.5	0.074	5.45	D237.7	D101.1	1.2	0.19	0.0	0.00	0.00	0.17	0.04	20	
25		18.11		18.10		33.484	24.089	382.6	0.096	5.48	239.4	101.5	1.1	0.19	0.0	0.00	0.00	0.18	0.04	25	18
30	ISL	18.03	D	18.03	D	33.477	D 24.102	381.5	0.112	5.47	D238.3	D101.0	1.1	0.19	0.0	0.00	0.00	0.18	0.05	30	
40		17.89		17.89		33.472	24.132	379.0	0.154	5.53	241.6	102.0	1.2	0.19	0.0	0.00	0.00	0.20	0.06	40	17
50		16.53		16.52		33.459	24.447	349.3	0.190	5.83	254.6	104.7	1.5	0.20	0.0	0.00	0.00	0.28	0.14	50	16
62		14.90		14.89		33.503	24.845	311.6	0.230	5.86	255.8	101.8	2.1	0.21	0.0	0.00	0.00	0.30	0.27	62	15
75		13.52		13.51		33.573	25.188	279.2	0.268	5.54	241.9	93.6	3.0	0.32	1.6	0.17	0.00	0.23	0.22	76	14
87		13.19		13.18		33.552	25.238	274.7	0.301	5.42	236.4	90.9	3.7	0.40	2.9	0.08	0.00	0.16	0.19	88	13
100		12.33		12.32		33.536	25.395	260.1	0.336	5.21	227.4	85.8	5.3	0.55	5.6	0.03	0.00	0.10	0.15	101	12
112		11.62		11.61		33.528	25.522	248.2	0.367	4.82	210.6	78.3	8.1	0.79	9.3	0.00	0.00	0.07	0.11	113	11
125		11.22		11.20		33.540	25.606	240.4	0.398	4.68	204.2	75.3	10.0	0.92	11.3	0.00	0.00	0.06	0.09	126	10
140		10.32		10.31		33.580	25.794	222.6	0.433	4.14	181.0	65.4	15.2	1.27	16.5	0.00	0.00	0.03	0.04	141	09
150	ISL	10.07	D	10.06	D	33.628	D 25.874	215.2	0.454	4.12	D179.3	D 64.7	17.5	1.36	18.0	0.00	0.00	0.02	0.04	151	
170		9.37		9.35		33.770	26.102	193.8	0.496	3.72	162.5	57.6	22.2	1.54	21.1	0.00	0.00	0.00	0.02	171	08
200		8.80		8.78		33.882	26.282	177.2	0.551	3.40	148.4	52.0	27.1	1.71	23.8	0.00	0.00	0.00	0.02	202	07
231		8.34		8.31		33.972	26.424	164.1	0.604	2.77	121.0	42.0	34.1	1.98	27.1	0.00	0.00			233	06
250	ISL	8.02	D	8.00	D	34.005	D 26.497	157.4	0.635	2.44	D106.1	D 36.7	37.9	2.12	29.0	0.00	0.00			252	
270		7.88		7.85		34.037	26.544	153.3	0.666	2.01	87.9	30.2	41.9	2.27	30.9	0.00	0.00			272	05
300	ISL	7.47	D	7.44	D	34.057	D 26.619	146.5	0.712	1.75	D 75.9	D 25.9	47.1	2.40	32.6	0.00	0.00			302	
320		7.23		7.19		34.069	26.663	142.5	0.740	1.57	68.6	23.2	50.5	2.49	33.8	0.00	0.00			323	04
380		6.57		6.54		34.122	26.794	130.5	0.822	0.95	41.4	13.8	62.3	2.80	37.2	0.00	0.00			383	03
400	ISL	6.41	D	6.38	D	34.138	D 26.828	127.4	0.850	0.81	D 35.4	D 11.8	64.9	2.85	37.7	0.00	0.00			403	
440		6.17		6.13		34.175	26.890	122.0	0.897	0.61	26.8	8.8								444	02
500	ISL	5.91	D	5.86	D	34.240	D 26.975	114.6	0.972	0.40	D 17.5	D 5.8	77.9	3.07	40.0	0.00	0.00			504	
516		5.82		5.77		34.256	26.999	112.5	0.987	0.35	15.5	5.1	80.0	3.11	40.4	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 39.4 N	123 4.2 W	23/11/2017	0516	UTC	4157 m	340 12 kn			1018.7 mb	17.7 C	17.0 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		18.99		18.99		33.541	23.909	398.7	0.000	5.38		235.0		101.3		1.9	0.20	0.2	0.04	0.07	0.15	0.04	0	
2		18.99		18.99		33.541	23.910	398.8	0.008	5.38		235.0		101.3		1.9	0.20	0.2	0.04	0.07	0.15	0.04	2	21
10		18.99		18.99		33.537	23.908	399.3	0.040	5.38		234.9		101.3		1.3	0.21	0.0	0.00	0.18	0.15	0.04	10	19
11		18.99		18.99		33.541	23.910	399.0	0.042														10	20
20	ISL	18.99	D	18.99		33.538	D 23.909	399.6	0.076	5.37	D	234.1	D	101.1		1.2	0.21	0.0	0.00	0.00	0.18	0.05	20	
25		18.99		18.98		33.539	D 23.911	399.6	0.097	5.37	D	234.1	D	101.1									25	18
30	ISL	18.99	D	18.98		33.539	D 23.912	399.7	0.117	5.37	D	234.1	D	101.1		1.2	0.20	0.0	0.00	0.00	0.21	0.07	30	
40		18.93		18.92		33.546	23.933	398.0	0.160	5.38		235.0		101.2		1.1	0.20	0.0	0.00	0.00	0.24	0.08	40	17
50		18.57		18.56		33.512	23.998	392.3	0.199	5.48		239.1		102.3		1.1	0.21	0.0	0.00	0.08	0.37	0.19	50	16
62		15.24		15.23		33.375	24.672	328.1	0.242	6.00		262.2		105.0		1.7	0.35	0.0	0.00	0.00	0.54	0.30	62	15
75		13.67		13.66		33.342	24.978	299.1	0.283	5.55		242.4		94.0		3.5	0.52	2.5	0.13	0.07	0.50	0.39	76	14
87		12.37		12.36		33.378	25.264	272.1	0.318	4.95		216.0		81.5		6.5	0.75	7.1	0.03	0.00	0.24	0.22	88	13
100		11.56		11.55		33.411	25.441	255.5	0.352	4.66		203.4		75.5		9.2	0.95	11.0	0.03	0.00	0.14	0.19	101	12
112		10.68		10.66		33.528	25.691	231.8	0.381	4.20		183.2		66.7		14.1	1.25	16.1	0.00	0.00	0.05	0.09	113	11
125		10.28		10.26		33.599	25.816	220.2	0.410	3.98		173.7		62.8		16.6	1.38	18.1	0.00	0.00	0.03	0.04	126	10
140		9.69		9.67		33.702	25.996	203.3	0.442	3.66		159.7		57.0		20.7	1.55	20.8	0.00	0.00	0.01	0.03	141	09
150	ISL	9.47	D	9.45		33.759	D 26.077	195.8	0.461	3.77	D	164.0	D	58.5		22.3	1.57	21.4	0.00	0.00	0.01	0.03	151	
170		8.92		8.91		33.870	26.251	179.5	0.500	3.73		162.9		57.2		25.4	1.61	22.6	0.00	0.00	0.00	0.02	171	08
200		8.57		8.55		33.948	26.368	168.9	0.552	2.74		119.8		41.8		32.7	1.97	27.1	0.00	0.00	0.00	0.02	202	07
230		8.19		8.17		33.997	26.465	160.1	0.601	2.37		103.4		35.8		37.1	2.13	29.1	0.00	0.00			232	06
250	ISL	8.00	D	7.97		34.019	D 26.511	156.1	0.634	2.22	D	96.5	D	33.4		40.1	2.21	30.2	0.00	0.00			252	
270		7.61		7.58		34.028	26.575	150.1	0.664	2.05		89.4		30.5		43.1	2.29	31.4	0.00	0.00			272	05
300	ISL	7.20	D	7.18		34.039	D 26.642	144.1	0.709	1.84	D	79.9	D	27.1		48.8	2.44	33.2	0.00	0.00			302	
320		7.06		7.03		34.064	26.681	140.6	0.736	1.53		66.8		22.5		52.6	2.54	34.4	0.00	0.00			323	04
381		6.43		6.39		34.108	26.803	129.6	0.819	0.97		42.4		14.1		63.3	2.77	37.4	0.00	0.00			384	03
400	ISL	6.29	D	6.26		34.118	D 26.828	127.4	0.845	0.91	D	39.4	D	13.1		66.7	2.84	38.2	0.00	0.00			403	
440		5.93		5.89		34.156	26.905	120.3	0.893	0.61		26.5		8.7		74.0	2.99	39.7	0.00	0.00			444	02
500	ISL	5.65	D	5.60		34.211	D 26.983	113.5	0.966	0.42	D	18.1	D	5.9		81.1	3.10	40.9	0.00	0.00			504	
517		5.48		5.44		34.210	27.003	111.6	0.982	0.38		16.6		5.4		83.1	3.13	41.3	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 110.0

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 44.6 W	22/11/2017	2342	UTC	4032 m	320 11 kn	340 02 09	1	1017.4 mb	21.0 C	19.0 C		5/8	ST	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		18.56		18.56		33.454	23.951	394.7	0.000	5.44		237.7		101.6		2.1	0.18	0.0	0.02	0.05	0.11	0.03	0	
2		18.56		18.56		33.454	23.951	394.8	0.008	5.44		237.7		101.6		2.1	0.18	0.0	0.00	0.05	0.11	0.03	2	21
10		18.54		18.54		33.458	23.961	394.1	0.040	5.45		237.9		101.6		1.9	0.18	0.0	0.00	0.00	0.11	0.03	10	19
10		18.54		18.54		33.454	23.958	394.5	0.039														10	20
20	ISL	18.37	D	18.37		33.451	D 23.997	391.1	0.075	5.45	D	237.5	D	101.3		1.8	0.17	0.0	0.00	0.00	0.14	0.03	20	
25		18.32		18.32		33.457	D 24.015	389.6	0.095	5.45	D	237.7	D	101.3									25	18
30	ISL	18.24	D	18.24		33.472	D 24.046	386.8	0.115	5.46	D	238.3	D	101.4		1.8	0.17	0.0	0.00	0.00	0.17	0.03	30	
40		18.08		18.07		33.484	24.097	382.4	0.156	5.49		239.9		101.6		1.8	0.16	0.0	0.00	0.00	0.20	0.03	40	17
50		17.90		17.89		33.485	24.143	378.4	0.194	5.50		240.3		101.4		1.7	0.18	0.0	0.00	0.00	0.22	0.08	50	16
62		16.11		16.10		33.417	24.509	343.7	0.237	5.85		255.7		104.2		1.8	0.18	0.0	0.00	0.00	0.29	0.22	62	15
75		14.72		14.70		33.410	24.813	315.1	0.280	5.80		253.5		100.4		2.2	0.23	0.0	0.03	0.00	0.30	0.33	76	14
88		14.39		14.38		33.706	25.111	287.0	0.319	5.68		248.2		97.9		2.6	0.21	0.6	0.15	0.00	0.21	0.18	89	13
100	ISL	13.96	D	13.94		33.725	D 25.217	277.3	0.352	5.58	D	243.0	D	95.2		2.8	0.24	1.0	0.10	0.00	0.14	0.12	101	
101		13.93		13.91		33.723	25.222	276.9	0.356	5.59		243.9		95.3		2.8	0.24	1.0	0.10	0.00	0.14	0.11	102	12
113		13.24		13.23		33.651	25.306	269.1	0.389	5.49		239.6		92.2		3.5	0.32	2.3	0.04	0.00	0.12	0.10	114	11
125	ISL	12.57	D	12.56		33.578	D 25.382	262.0	0.420	5.35	D	233.0	D	88.7		4.6	0.46	4.3	0.00	0.00	0.09	0.07	126	
126		12.18		12.16		33.584	25.462	254.4	0.423	5.35		233.7		88.0		4.7	0.47	4.5	0.00	0.00	0.08	0.07	127	10
141		11.35		11.33		33.563	25.601	241.3	0.460	4.90		213.9		79.1		8.5	0.79	9.7	0.00	0.00	0.04	0.05	142	09
150	ISL	10.90	D	10.88		33.660	D 25.757	226.6	0.481	4.81	D	209.3	D	76.9		11.9	0.98	12.6	0.00	0.00	0.03	0.04	151	
171		9.56		9.54		33.686	26.005	203.0	0.527	3.90		170.3		60.6		19.7	1.43	19.6	0.00	0.00	0.01	0.02	172	08
200		8.93		8.91		33.866	26.249	180.3	0.583	3.06		133.6		46.9		28.4	1.80	25.1	0.00	0.00	0.00	0.02	202	07
230		8.54		8.52		33.994	26.410	165.6	0.635	2.38		103.9		36.2		34.6	2.06	28.4	0.00	0.00			232	06
250	ISL	8.31	D	8.28		34.044	D 26.484	158.8	0.668	2.06	D	89.7	D	31.2		38.6	2.20	30.0	0.00	0.00			252	
270		8.10		8.07		34.082	26.547	153.2	0.698	1.69		73.7		25.5		42.6	2.34	31.6	0.00	0.00			272	05
300	ISL	7.59	D	7.56		34.085	D 26.623	146.1	0.745	1.53	D	66.3	D	22.7		47.6	2.47	33.3	0.00	0.00			302	
320		7.37		7.34		34.106	26.672	141.7	0.772	1.30		56.8		19.3		51.0	2.55	34.5	0.00	0.00			323	04
380		6.80		6.77		34.146	26.783	131.8	0.854	0.84		36.8		12.3		60.9	2.77	37.1	0.00	0.00			383	03
400	ISL	6.71	D	6.67		34.163	D 26.809	129.5	0.883	0.77	D	33.3	D	11.2		62.7	2.82	37.5	0.00	0.00			403	
440		6.54		6.50		34.218	26.875	123.8	0.931	0.52		22.8		7.6		66.4	2.91	38.3	0.00	0.00			444	02
500	ISL	6.06	D	6.01		34.239	D 26.955	116.7	1.007	0.40	D	17.2	D	5.7		74.2	3.05	39.8	0.00	0.00			504	
515		6.00		5.95		34.254	26.975	114.9	1.020	0.34		15.0		4.9		76.2	3.08	40.2	0.00	0.00			519	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 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 26.8 W	15/11/2017	2257	UTC	25 m	270 03 kn	240 01 09	1	1012.7 mb	19.1 C	18.3 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		17.59		17.59		33.431	24.171	373.7	0.000	5.60		244.3		102.5		2.9	0.18	0.3	0.13	0.13	2.56	0.91	0	
2		17.59		17.59		33.431	24.172	373.8	0.008	5.60		244.3		102.5		2.9	0.18	0.3	0.13	0.13	2.56	0.91	2	04
6		16.05		16.05		33.369	24.483	344.2	0.022	5.42		236.4		96.3		4.0	0.38	1.4	0.47	0.93	1.77	0.78	6	03
10	ISL	15.10	D	15.10		33.332	D 24.666	326.9	0.032	5.54	D	241.2	D	96.5		4.2	0.40	1.5	0.47	1.03	1.53	0.72	10	
11		15.54		15.54		33.340	24.576	335.5	0.039	5.45		238.0		95.9		4.3	0.40	1.5	0.47	1.06	1.47	0.70	11	02
20	ISL	14.73	D	14.72		33.342	D 24.755	318.8	0.065	5.26	D	229.2	D	91.0		5.9	0.60	3.5	0.82	2.36	1.04	0.67	20	
21		15.04		15.03		33.322	24.673	326.6	0.071	5.35	D	233.1	D	93.1		6.0	0.62	3.7	0.86	2.50	0.99	0.67	21	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 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 40.5 N	118 5.0 W	15/11/2017	1907	UTC	17 m	020 02 kn	220 01 06	2	1014.0 mb	19.0 C	17.0 C		8/8	ST	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		17.09	17.09	33.342	24.221	368.9	0.000	6.17	269.2	111.8	2.3	0.15	0.0	0.03	0.01	3.34	0.96	0	
1		17.09	17.09	33.342	24.222	369.0	0.004	6.17	269.2	111.8	2.3	0.15	0.0	0.03	0.00	3.34	0.96	1	03
6		16.92	16.92	33.347	24.265	365.0	0.022	6.14	267.9	110.9	2.4	0.20	0.0	0.04	0.00	3.57	1.19	6	02
10	ISL	16.50 D	16.50	33.376 D	24.386	353.7	0.035	5.73 D	250.0 D	102.8	2.9	0.25	0.1	0.10	0.00	2.58	0.76	10	
11		16.61	16.61	33.379	24.364	355.8	0.040	5.72	249.9	102.8	3.0	0.26	0.2	0.12	0.00	2.34	0.66	11	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 27.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.6 N	117 45.0 W	15/11/2017	1433	UTC	30 m	160 01 kn	230 01 01	2	1013.3 mb	18.0 C	17.0 C		7/8	ST	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		16.85	16.85	33.416	24.336	358.0	0.000	5.73	250.1	103.5	2.9	0.26	0.1	0.05	0.07	1.30	0.37	0	
2		16.85	16.84	33.416	24.336	358.1	0.007	5.73	250.1	103.5	2.9	0.26	0.1	0.05	0.07	1.30	0.37	2	05
5		15.79	15.79	33.400	24.566	336.2	0.018	5.44	237.6	96.2	3.8	0.33	0.6	0.16	0.27	1.54	0.39	5	04
10		14.29	14.29	33.358	24.859	308.5	0.034	5.00	218.3	85.8	6.0	0.58	3.0	0.53	0.00	0.92	0.42	10	03
15		13.98	13.97	33.360	24.927	302.2	0.049	4.79	209.1	81.6	6.9	0.68	4.3	0.47	0.00	0.70	0.46	15	02
20	ISL	13.79 D	13.79	33.366 D	24.969	298.3	0.061	4.74 D	206.5 D	80.5	6.9	0.69	4.2	0.46	0.00	0.79	0.38	20	
22		13.94	13.93	33.361	24.935	301.6	0.070	4.80	209.6	81.8	6.9	0.69	4.2	0.46	0.00	0.83	0.34	22	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 29.1 N	117 46.1 W	15/11/2017	1652	UTC	63 m	010 04 kn	270 01 05	2	1013.7 mb	17.2 C	16.0 C	15 m	8/8	ST	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		17.97	17.97	33.479	24.115	379.1	0.000	5.76	251.6	106.4	1.5	0.18	0.1	0.02	0.11	0.98	0.29	0	
2	A	17.97	17.97	33.479	24.115	379.1	0.008	5.76	251.6	106.4	1.5	0.18	0.1	0.00	0.11	0.98	0.29	2	10
10	A	16.36	16.36	33.400	24.437	348.8	0.037	5.88	256.6	105.1	2.2	0.23	0.0	0.00	0.00	0.75	0.28	10	08
10		16.36	16.36	33.385	24.426	349.8	0.036											10	09
13	A	15.36	15.36	33.352	24.625	330.9	0.047	5.80	253.1	101.6	3.2	0.32	0.0	0.04	0.00	0.78	0.31	13	07
16		14.71	14.71	33.345	24.760	318.1	0.057			94.3	4.6	0.44	1.0	0.21	0.00	1.15	0.52	16	05
17		14.29	14.29	33.344	24.848	309.8	0.059											17	06
20	ISL	13.83 D	13.83	33.377 D	24.970	298.3	0.066	4.91 D	213.7 D	83.4	5.8	0.57	2.9	0.16	0.00	0.90	0.46	20	
25	A	13.33	13.33	33.372	25.068	289.1	0.084	4.65	202.9	78.2	7.3	0.74	5.3	0.09	0.00	0.59	0.39	25	04
30	ISL	13.10 D	13.09	33.390 D	25.129	283.4	0.095	4.40 D	191.8 D	73.7	8.8	0.88	7.5	0.15	0.00	0.43	0.34	30	
32		12.78	12.77	33.393	25.194	277.2	0.104	4.26	186.0	70.9	9.3	0.93	8.4	0.18	0.00	0.37	0.32	32	03
42	A	12.06	12.05	33.441	25.370	260.8	0.130	3.97	173.2	65.0	11.7	1.14	12.7	0.04	0.00	0.13	0.19	42	02
50	ISL	11.62 D	11.61	33.500 D	25.499	248.6	0.148	3.71 D	161.4 D	60.2	14.4	1.32	15.2	0.04	0.00	0.07	0.15	50	
52	A	11.51	11.50	33.509	25.526	246.1	0.156	3.52	153.6	57.0	15.1	1.36	15.8	0.04	0.00	0.06	0.14	52	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 30.0

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 54.3 W	15/11/2017	0950	UTC	606 m	060 02 kn			1013.7 mb	19.5 C	18.0 C				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		17.88	17.88	33.451	24.116	379.0	0.000	5.79	252.6	106.6	1.9	0.12	0.0	0.01	0.23	0.72	0.16	0	
2		17.88	17.88	33.451	24.117	379.0	0.008	5.79	252.6	106.6	1.9	0.12	0.0	0.00	0.23	0.72	0.16	2	21
10		17.27	17.27	33.409	24.231	368.4	0.038	5.92	258.6	107.8	2.2	0.17	0.0	0.00	0.00	1.03	0.15	10	19
10		17.27	17.27	33.409	24.231	368.4	0.036											10	20
20	ISL	14.72 D	14.72	33.345 D	24.759	318.4	0.068	5.65 D	246.2 D	97.7	4.3	0.41	1.6	0.00	0.00	1.78	0.84	20	
21		14.07	14.06	33.330	24.885	306.4	0.075	5.45	238.0	93.0	4.5	0.43	1.7	0.56	0.05	1.85	0.91	21	18
30	ISL	12.91 D	12.91	33.379 D	25.157	280.7	0.098	4.76 D	207.5 D	79.4	6.5	0.70	5.7	0.15	0.00	0.66	0.38	30	
31		13.14	13.13	33.370	25.105	285.7	0.104	4.70	205.3	78.7	6.7	0.73	6.1	0.10	0.00	0.52	0.32	31	17
41		12.46	12.46	33.405	25.265	270.7	0.132	4.30	187.9	71.1	9.1	0.94	10.0	0.04	0.00	0.22	0.24	41	16
50		12.02	12.02	33.430	25.368	261.1	0.156	4.01	175.3	65.7	10.9	1.08	12.1	0.03	0.00	0.14	0.17	50	15
61		11.67	11.66	33.446	25.448	253.7	0.184	4.04	176.5	65.7	11.6	1.12	13.0	0.03	0.00	0.11	0.15	61	14
70		11.50	11.50	33.530	25.543	244.9	0.207	3.55	154.8	57.4	14.8	1.35	15.9	0.00	0.00	0.08	0.10	71	13
75	ISL	11.30 D	11.29	33.550 D	25.596	240.0	0.216	3.41 D	148.5 D	55.0	15.6	1.40	16.5	0.00	0.00	0.07	0.09	76	
86		11.12	11.11	33.595	25.664	233.8	0.245	3.16	138.0	50.8	17.4	1.51	17.8	0.00	0.00	0.04	0.08	87	12
100		10.45	10.44	33.631	25.810	220.1	0.277	3.22	140.5	51.0	19.0	1.60	20.1	0.00	0.00	0.02	0.06	101	11
121		10.15	10.14	33.761	25.963	206.1	0.321	2.84	124.0	44.8	23.0	1.79	22.4	0.00	0.00	0.01	0.04	122	10
125	ISL	10.16 D	10.14	33.762 D	25.964	206.1	0.328	2.83 D	123.4 D	44.6	23.6	1.82	22.8	0.00	0.00	0.01	0.04	126	
140		9.88	9.86	33.867	26.094	194.1	0.359	2.55	111.2	39.9	25.7	1.92	24.1	0.00	0.00	0.00	0.04	141	09
150	ISL	9.68 D	9.66	33.902 D	26.155	188.5	0.377	2.51 D	109.1 D	39.1	27.1	1.98	24.7	0.00	0.00	0.00	0.04	151	
170		9.71	9.69	34.035	26.254	179.5	0.415	2.06	89.7	32.1	29.9	2.11	25.9	0.00	0.00	0.00	0.04	171	08
200		9.55	9.52	34.136	26.361	170.1	0.468	1.70	74.3	26.5	33.5	2.25	27.2	0.00	0.00	0.00	0.03	202	07
230		9.24	9.22	34.211	26.470	160.2	0.517	1.35	59.1	20.9	37.6	2.38	28.9	0.00	0.00			232	06
250	ISL	9.02 D	9.00	34.245 D	26.532	154.7	0.549	1.19 D	51.8 D	18.4	40.4	2.47	29.8	0.00	0.00			252	
270		8.65	8.63	34.260	26.602	148.3	0.579	1.00	43.6	15.3	43.3	2.56	30.8	0.00	0.00			272	05
300	ISL	8.37 D	8.33	34.275 D	26.659	143.3	0.624	0.84 D	36.6 D	12.8	47.8	2.67	32.2	0.00	0.00			302	
320		8.07	8.04	34.281	26.709	138.9	0.651	0.69	30.0	10.4	50.9	2.75	33.1	0.00	0.00			323	04
380		7.30	7.26	34.290	26.829	128.0	0.731	0.48	20.8	7.1	60.5	2.93	35.6	0.00	0.00			383	03
400	ISL	7.11 D	7.07	34.293 D	26.857	125.5	0.758	0.44 D	19.0 D	6.4	63.4	2.97	36.2	0.00	0.00			403	
440		6.70	6.66	34.301	26.920	119.8	0.805	0.32	14.1	4.7	69.0	3.04	37.4	0.00	0.00			444	02
500	ISL	6.28 D	6.24	34.323 D	26.993	113.4	0.879	0.25 D	10.9 D	3.6	76.1	3.14	38.4	0.00	0.00			504	
514		6.22	6.17	34.326	27.004	112.5	0.891	0.23	9.8	3.3	77.8	3.16	38.7	0.00	0.06			518	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 35.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 15.1 N	118 15.0 W	15/11/2017	0536	UTC	314 m	270 07 kn			1014.8 mb	19.0 C	17.9 C				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	18.72	18.72	33.544	23.981	391.9	0.000	5.58	243.5	104.5	1.1	0.15	0.0	0.01	0.05	0.65	0.12	0	
2	18.72	18.72	33.544	23.981	391.9	0.008	5.58	243.5	104.5	1.1	0.15	0.0	0.00	0.05	0.65	0.12	2	18
10	17.73	17.72	33.494	24.187	372.6	0.038	5.71	249.3	105.0	1.4	0.17	0.0	0.00	0.08	0.78	0.19	10	16
10	17.73	17.72	33.493	24.187	372.6	0.038											10	17
20	15.46	15.46	33.381	24.625	331.2	0.074	5.86	255.8	102.9	3.2	0.31	0.0	0.00	0.00	1.29	0.56	20	15
30	13.60	13.60	33.359	25.004	295.3	0.105	5.42	236.8	91.7	4.9	0.48	1.6	0.09	0.00	1.81	0.76	30	14
40	12.85	12.84	33.386	25.175	279.2	0.134	4.76	207.6	79.2	7.4	0.73	6.2	0.12	0.00	1.23	0.67	40	13
50	11.86	11.85	33.453	25.417	256.4	0.160	3.95	172.6	64.5	12.0	1.13	13.0	0.05	0.00	0.20	0.23	50	12
60	11.65	11.64	33.476	25.474	251.3	0.186	3.76	164.3	61.1	13.1	1.22	14.2	0.00	0.00	0.18	0.19	60	11
70	11.30	11.29	33.517	25.571	242.3	0.210	3.59	156.6	57.8	14.8	1.33	15.9	0.00	0.00	0.11	0.17	71	10
75 ISL	11.20 D	11.19	33.542 D	25.609	238.8	0.220	3.51 D	152.9 D	56.5	15.6	1.38	16.5	0.00	0.00	0.10	0.16	76	
85	10.93	10.92	33.614 D	25.712	229.2	0.244	3.12 D	135.9 D	50.0								86	09
100	10.77	10.75	33.651	25.771	224.0	0.280	2.98	130.3	47.6	19.4	1.63	19.7	0.00	0.00	0.02	0.07	101	08
120	10.45	10.43	33.787	25.933	209.0	0.323	2.59	113.1	41.1	22.9	1.83	22.2	0.00	0.00	0.01	0.05	121	07
125 ISL	10.40 D	10.38	33.815 D	25.965	206.1	0.332	2.61 D	113.5 D	41.3	23.4	1.85	22.5	0.00	0.00	0.01	0.05	126	
140	10.17	10.15	33.872	26.049	198.4	0.364	2.44	106.5	38.5	25.1	1.92	23.6	0.00	0.00	0.01	0.04	141	06
150 ISL	10.12 D	10.10	33.966 D	26.131	190.9	0.382	2.23 D	96.9 D	35.1	26.5	1.98	24.3	0.00	0.00	0.01	0.04	151	
170	10.02	10.00	34.051	26.215	183.4	0.421	1.93	84.1	30.3	29.1	2.10	25.6	0.00	0.00	0.00	0.04	171	05
200	9.51	9.49	34.113	26.348	171.2	0.474	1.84	80.2	28.6	32.4	2.19	27.1	0.00	0.00	0.00	0.03	202	04
230	9.38	9.36	34.191	26.432	164.0	0.525	1.51	65.9	23.4	35.1	2.32	28.0	0.00	0.00			232	03
250 ISL	9.15 D	9.12	34.181 D	26.462	161.4	0.557	1.53 D	66.6 D	23.6	37.1	2.35	28.8	0.00	0.00			252	
271	8.84	8.81	34.176	26.508	157.3	0.591	1.51	65.9	23.1	39.1	2.38	29.6	0.00	0.00			273	02
300 ISL	8.52 D	8.49	34.262 D	26.625	146.7	0.635	0.96 D	41.7 D	14.6	43.9	2.57	31.5	0.00	0.00			302	
306	8.50	8.46	34.261	26.629	146.4	0.644	0.90	39.1	13.6	44.9	2.61	31.9	0.03	0.00			308	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 37.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
33 11.1 N	118 23.2 W	15/11/2017	0206	UTC	1167 m	280 08 kn			1014.6 mb	19.0 C	18.0 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	18.35	18.35	33.509	24.045	385.7	0.000	5.60	244.4	104.1	1.2	0.16	0.0	0.02	0.00	0.42	0.13	0	
2	18.35	18.35	33.509	24.046	385.8	0.008	5.60	244.4	104.1	1.2	0.16	0.0	0.00	0.00	0.42	0.13	2	22
10	18.34	18.34	33.509	24.049	385.8	0.039	5.60	244.3	104.1	1.2	0.14	0.0	0.00	0.00	0.42	0.14	10	20
10	18.34	18.34	33.509	24.049	385.8	0.040											10	21
20	17.77	17.77	33.481	24.166	374.9	0.077	5.65	246.5	103.9	1.5	0.19	0.0	0.00	0.00	0.52	0.13	20	19
30	12.74	12.74	33.385	25.196	277.0	0.109	4.71	205.8	78.3	7.5	0.78	6.8	0.16	0.00	1.22	0.79	30	17
31	12.65	12.64	33.395	25.221	274.6	0.111											31	18
40	12.11	12.11	33.436	25.356	262.0	0.136	4.09	178.4	67.0	11.0	1.08	11.8	0.07	0.00	0.42	0.52	40	16
50	11.49	11.49	33.511	25.530	245.7	0.162	3.59	156.6	58.1	14.6	1.32	15.2	0.04	0.00	0.18	0.28	50	15
60	11.35	11.34	33.535	25.575	241.6	0.186	3.44	150.1	55.5	15.8	1.40	16.1	0.04	0.00	0.14	0.19	60	14
70	11.22	11.21	33.562	25.621	237.6	0.210	3.32	144.9	53.4	16.6	1.46	17.0	0.03	0.00	0.08	0.14	71	13
75 ISL	11.13 D	11.12	33.593 D	25.661	233.9	0.219	3.24 D	141.0 D	52.1	17.4	1.51	17.6	0.00	0.00	0.07	0.12	76	
85	10.98	10.96	33.630	25.717	228.7	0.245	3.02	131.9	48.4	18.9	1.60	18.8	0.00	0.00	0.03	0.08	86	12
100	10.70	10.69	33.702	25.822	219.1	0.279	2.76	120.6	44.0	21.2	1.73	20.6	0.00	0.00	0.01	0.05	101	11
120	10.44	10.42	33.812	25.955	207.0	0.321	2.48	108.2	39.3	23.8	1.88	22.6	0.00	0.00	0.01	0.04	121	10
125 ISL	10.37 D	10.35	33.850 D	25.997	203.1	0.330	2.42 D	105.4 D	38.4	24.7	1.92	23.0	0.00	0.00	0.01	0.04	126	
140	10.20	10.18	33.963	26.115	192.2	0.361	2.13	92.8	33.6	27.3	2.05	24.5	0.00	0.00	0.01	0.03	141	09
150 ISL	10.16 D	10.14	34.014 D	26.162	187.9	0.379	2.00 D	87.1 D	31.6	28.3	2.09	25.0	0.00	0.00	0.00	0.03	151	
170	10.14	10.12	34.094	26.228	182.2	0.417	1.74	75.9	27.5	30.4	2.18	26.0	0.00	0.08	0.00	0.03	171	08
200	10.06	10.04	34.160	26.293	176.7	0.471	1.56	68.0	24.5	31.7	2.25	26.6	0.00	0.00	0.00	0.03	202	07
230	9.92	9.89	34.193	26.345	172.5	0.523	1.50	65.3	23.5	32.5	2.29	26.9	0.00	0.00			232	06
250 ISL	9.74 D	9.71	34.217 D	26.394	168.2	0.557	1.45 D	63.2 D	22.7	35.0	2.35	27.7	0.00	0.00			252	
270	9.34	9.31	34.238	26.477	160.6	0.590	1.33	58.0	20.6	37.4	2.41	28.5	0.00	0.00			272	05
300 ISL	8.44 D	8.41	34.149 D	26.550	153.7	0.638	1.51 D	65.8 D	23.0	41.6	2.49	30.3	0.00	0.00			302	
321	8.44	8.41	34.224	26.608	148.7	0.668	1.10	48.2	16.8	44.5	2.55	31.7	0.00	0.00			324	04
380	7.64	7.60	34.243	26.744	136.3	0.752	0.75	32.5	11.1	54.5	2.77	34.6	0.00	0.00			383	03
400 ISL	7.48 D	7.44	34.255 D	26.776	133.5	0.782	0.68 D	29.4 D	10.1	57.6	2.83	35.3	0.00	0.00			403	
440	7.07	7.03	34.287	26.859	126.0	0.831	0.44	19.2	6.5	63.8	2.95	36.7	0.00	0.00			444	02
500 ISL	6.64 D	6.60	34.302 D	26.930	119.8	0.909	0.35 D	15.3 D	5.1	70.3	3.04	38.1	0.00	0.00			504	
516	6.53	6.48	34.309	26.951	117.9	0.923	0.30	13.1	4.4	72.0	3.07	38.4	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 39.0 N	119 28.9 W	14/11/2017	1736	UTC	1303 m	310 14 kn	290 04 09	1	1019.2 mb	20.0 C	18.5 C	17 m	3/8	AS	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		16.96		16.96		33.466	24.348	356.9	0.000	5.60	244.4		101.4		1.3	0.23	0.0	0.02	0.02	0.38	0.07	0	
3	A	16.96		16.96		33.466	24.348	357.0	0.011	5.60	244.4		101.4		1.3	0.23	0.0	0.00	0.00	0.38	0.07	3	23
3		16.96		16.96		33.469	24.350	356.7	0.011													3	24
10	ISL	16.96	D	16.96		33.466	D 24.348	357.3	0.031	5.62	D245.2	D	101.8		1.3	0.23	0.0	0.00	0.00	0.37	0.09	10	
11	A	16.96		16.96		33.467	24.348	357.3	0.039	5.62	245.2		101.7		1.3	0.23	0.0	0.00	0.00	0.36	0.10	11	21
11		16.96		16.96		33.468	24.349	357.2	0.039													11	22
15	A	16.95		16.94		33.479	24.362	356.1	0.054	5.61	245.0		101.6		1.2	0.23	0.0	0.00	0.00	0.40	0.07	15	20
20	ISL	16.94	D	16.93		33.465	D 24.354	357.0	0.067	5.63	D245.2	D	101.8		1.3	0.23	0.0	0.00	0.00	0.35	0.11	20	
21		16.94		16.94		33.466	24.354	357.1	0.075	5.61	245.1		101.6		1.3	0.23	0.0	0.00	0.00	0.35	0.11	21	19
28	A	16.93		16.93		33.473	24.362	356.6	0.100	5.59	244.2		101.2		1.3	0.23	0.0	0.00	0.00	0.35	0.12	28	18
30	ISL	16.91	D	16.91		33.464	D 24.360	356.9	0.103	5.63	D245.4	D	101.8		1.2	0.23	0.0	0.00	0.00	0.36	0.12	30	
38		16.88		16.87		33.466	24.370	356.2	0.136	5.60	244.5		101.2		1.2	0.23	0.0	0.00	0.06	0.41	0.11	38	17
48	A	15.98		15.97		33.406	24.530	341.2	0.171	5.66	247.0		100.4		1.6	0.27	0.2	0.05	0.20	0.45	0.27	48	15
48		15.98		15.97		33.403	24.528	341.4	0.170													48	16
50	ISL	15.82	D	15.81		33.397	D 24.559	338.5	0.174	5.69	D248.2	D	100.8		1.8	0.28	0.2	0.06	0.19	0.45	0.26	50	
60	A	13.86		13.85		33.308	24.912	305.0	0.210	5.76	251.4		97.9		2.5	0.34	0.7	0.10	0.14	0.42	0.23	60	14
71		12.62		12.61		33.252	25.118	285.6	0.242	5.60	244.6		92.7		4.3	0.53	3.9	0.16	0.00	0.22	0.20	72	13
75	ISL	12.34	D	12.33		33.261	D 25.179	279.8	0.250	5.50	D239.5	D	90.5		5.0	0.59	4.9	0.13	0.00	0.21	0.18	76	
86		11.87		11.86		33.331	25.322	266.5	0.283	5.18	226.0		84.4		6.7	0.74	7.6	0.04	0.00	0.15	0.13	87	12
100	ISL	11.44	D	11.43		33.453	D 25.496	250.2	0.317	4.95	D215.4	D	80.0		8.3	0.84	9.5	0.03	0.00	0.11	0.09	101	
101		11.23		11.21		33.438	25.524	247.6	0.322	4.91	214.5		79.1		8.4	0.85	9.6	0.03	0.00	0.11	0.08	102	11
121		10.33		10.31		33.595	25.804	221.2	0.369	4.36	190.3		68.9		14.0	1.17	15.0	0.00	0.00	0.04	0.05	122	10
125	ISL	10.31	D	10.29		33.616	D 25.825	219.4	0.375	4.02	D175.1	D	63.5		15.3	1.24	16.0	0.00	0.00	0.03	0.04	126	
141		9.76		9.75		33.692	25.976	205.2	0.412	3.67	160.1		57.3		20.1	1.52	20.1	0.03	0.00	0.02	0.03	142	09
150	ISL	9.40	D	9.38		33.782	D 26.106	193.0	0.427	3.46	D150.6	D	53.6		23.0	1.64	21.8	0.00	0.00	0.01	0.03	151	
170		8.87		8.85		33.887	26.273	177.4	0.467	2.90	126.3		44.4		29.4	1.90	25.6	0.00	0.00	0.00	0.03	171	08
200	ISL	8.52	D	8.50		33.964	D 26.388	167.0	0.516	2.59	D112.5	D	39.3		32.9	2.02	27.4	0.00	0.00	0.00	0.03	202	
201		8.54		8.52		33.950	26.375	168.3	0.521	2.62	114.5		39.9		33.0	2.02	27.5	0.00	0.00	0.00	0.03	203	07
231		8.38		8.35		33.999	26.439	162.7	0.570	2.36	103.0		35.8		36.3	2.13	28.7	0.00	0.00			233	06
250	ISL	8.17	D	8.15		34.033	D 26.497	157.5	0.599	2.17	D 94.4	D	32.8		39.8	2.25	29.9	0.00	0.00			252	
270		7.91		7.89		34.077	26.570	150.9	0.631	1.73	75.5		26.0		43.5	2.38	31.2	0.00	0.00			272	05
300	ISL	7.57	D	7.54		34.120	D 26.655	143.2	0.674	1.37	D 59.8	D	20.5		48.0	2.50	32.9	0.00	0.00			302	
321		7.46		7.43		34.127	26.676	141.4	0.706	1.25	54.7		18.6		51.2	2.59	34.1	0.00	0.09			324	04
380		7.07		7.03		34.204	26.793	131.1	0.786	0.74	32.2		10.9		59.9	2.81	36.2	0.00	0.00			383	03
400	ISL	6.93	D	6.89		34.211	D 26.817	129.0	0.812	0.69	D 29.8	D	10.1		62.1	2.86	36.7	0.00	0.00			403	
440		6.63		6.59		34.249	26.888	122.8	0.862	0.48	21.1		7.0		66.4	2.95	37.9	0.00	0.00			444	02
500	ISL	6.11	D	6.07		34.260	D 26.965	115.8	0.935	0.40	D 17.4	D	5.8		74.1	3.05	39.1	0.00	0.00			504	
515		6.12		6.07		34.274	26.976	115.1	0.951	0.36	15.6		5.1		76.1	3.08	39.4	0.00	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 60.0

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 57.6 W	14/11/2017	1212	UTC	872 m	330 21 kn			1018.9 mb	19.0 C	17.0 C				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		17.23		17.23		33.432	24.258	365.4	0.000	5.57	243.3		101.4		1.6	0.24	0.0	0.01	0.00	0.30	0.08	0	
2		17.23		17.23		33.432	24.258	365.5	0.007	5.57	243.3		101.4		1.6	0.24	0.0	0.00	0.00	0.30	0.08	2	20
10		17.23		17.23		33.433	24.260	365.7	0.037	5.57	243.4		101.4		1.6	0.21	0.0	0.00	0.00	0.26	0.06	10	19
20		17.23		17.23		33.433	24.259	366.1	0.073	5.57	243.4		101.4		1.5	0.21	0.0	0.00	0.00	0.32	0.05	20	18
30		17.16		17.16		33.432	24.276	364.9	0.110	5.58	243.5		101.4		1.5	0.23	0.0	0.00	0.00	0.32	0.12	30	17
40		16.11		16.10		33.392	24.490	344.8	0.145	5.67	247.7		101.0		1.7	0.25	0.0	0.03	0.00	0.57	0.31	40	16
50		14.91		14.91		33.362	24.732	322.0	0.178	5.72	249.9		99.4		2.5	0.34	0.7	0.19	0.22	0.39	0.30	50	15
60		13.72		13.71		33.366	24.986	297.9	0.209	5.74	250.6		97.3		3.3	0.37	1.7	0.21	0.00	0.26	0.17	60	14
70		12.22		12.21		33.317	25.244	273.5	0.238	5.23	228.4		85.9		6.0	0.64	5.9	0.04	0.00	0.13	0.16	71	13
75	ISL	11.92	D	11.91		33.409	D 25.372	261.4	0.250	4.93	D214.5	D	80.4		7.6	0.76	7.9	0.04	0.00	0.12	0.15	76	
85		11.42		11.41		33.433	25.485	250.9	0.277	4.50	196.4		72.7		10.7	1.01	11.9	0.03	0.00	0.09	0.12	86	12
100	ISL	10.88	D	10.86		33.474	D 25.614	238.9	0.312	4.36	D189.6	D	69.6		12.6	1.13	14.0	0.00	0.00	0.08	0.08	101	
101		10.94		10.93		33.470	25.600	240.3	0.317	4.34	189.5		69.4		12.8	1.14	14.1	0.00	0.00	0.08	0.08	102	11
120		9.93		9.92		33.592	25.869	215.0	0.360	3.84	167.5		60.1		18.3	1.45	19.0	0.00	0.00	0.03	0.04	121	10
125	ISL	9.85	D	9.83		33.614	D 25.901	212.0	0.369	3.81	D166.0	D	59.6		19.2	1.49	19.6	0.00	0.00	0.02	0.04	126	
140		9.51		9.49		33.677	26.006	202.3	0.402	3.57	156.0		55.5		21.8	1.59	21.2	0.00	0.00	0.01	0.04	141	09
150	ISL	9.31	D	9.29		33.758	D 26.102	193.3	0.420	3.43	D149.2	D	53.0		23.8	1.68	22.4	0.00	0.00	0.01	0.03	151	
170		9.09		9.08		33.839	26.200	184.4	0.459	2.99	130.3		45.9		27.7	1.85	24.6	0.00	0.00	0.00	0.02	171	08
200		8.77		8.75		34.009	26.385	167.4	0.512	2.41	105.4		36.9		33.5	2.06	27.1	0.00	0.00	0.00	0.02	202	07
230		8.63		8.60		34.076	26.461	160.8	0.561	2.07	90.1		31.5		36.8	2.19	28.5	0.00	0.00			232	06
250	ISL	8.26	D	8.24		34.104	D 26.539	153.6	0.593	1.81	D 78.7	D	27.4		40.5	2.29	30.0	0.00	0.00			252	
270		8.02		7.99		34.104	26.576	150.4	0.623	1.67	72.7		25.1		44.3	2.38	31.4	0.00	0.00			272	05
300	ISL	7.85	D	7.82		34.174	D 26.657	143.2	0.668	1.22	D 52.9	D	18.2		48.7	2.54	32.7	0.00	0.00			302	
320		7.68		7.64		34.200	26.702	139.1	0.696	1.03	44.8		15.3		51.6	2.65	33.5	0.00	0.00			323	04
380		6.83		6.80		34.177	26.803	130.0	0.777	0.81	35.4		11.9		60.9	2.81	36.4	0.00	0.00			383	03
400	ISL	6.62	D	6.59		34.174	D 26.829	127.6	0.803	0.74	D 32.1	D	10.8		63.7	2.87	37.0	0.00	0.00			403	
440		6.53		6.49		34.237	26.892	122.2	0.852	0.49	21.5		7.2		69.4	3.00	38.1	0.00	0.00			444	02
500	ISL	6.26	D	6.21		34.264	D 26.950	117.4	0.926	0.39	D 16.8	D	5.6		73.9	3.08	39.2	0.00	0.00			504	
515		6.20		6.16		34.268	26.961	116.6	0.941	0.36	15.8		5.2		75.1	3.10	39.5	0.00	0.24			519	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 5.1 N	120 38.3 W	14/11/2017	0554	UTC	3821 m	320 15 kn			1020.5 mb	18.1 C	17.1 C				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		17.63		17.63		33.456		24.180	372.9	0.000	5.52		241.2		101.3		1.8	0.19	0.0	0.01	0.00	0.15	0.04	0	
3		17.63		17.63		33.456		24.180	373.0	0.011	5.52		241.2		101.3		1.8	0.19	0.0	0.00	0.00	0.15	0.04	3	22
10		17.64		17.64		33.470		24.189	372.4	0.037	5.55		242.1		101.8		1.8	0.22	0.0	0.00	0.00	0.16	0.05	10	20
10		17.64		17.64		33.461		24.182	373.1	0.038														10	21
20	ISL	17.58	D	17.57		33.449	D	24.190	372.7	0.069	5.56	D	242.6	D	101.9		1.8	0.20	0.0	0.00	0.00	0.16	0.05	20	
25		17.54		17.53		33.443		24.194	372.5	0.093	5.55		242.1		101.5		1.8	0.19	0.0	0.00	0.00	0.16	0.06	25	19
30	ISL	17.39	D	17.39		33.427	D	24.218	370.4	0.107	5.60	D	244.0	D	102.1		1.8	0.19	0.0	0.00	0.00	0.18	0.06	30	
40		17.29		17.28		33.426		24.243	368.4	0.149	5.62		245.4		102.4		1.8	0.20	0.0	0.00	0.00	0.23	0.07	40	18
50		16.94		16.93		33.395		24.303	363.0	0.185	5.65		246.6		102.2		1.8	0.21	0.0	0.00	0.00	0.36	0.15	50	17
62		15.51		15.50		33.342		24.588	336.2	0.227	5.73		250.1		100.7		1.9	0.26	0.0	0.05	0.13	0.59	0.32	62	15
62		15.51		15.50		33.343		24.588	336.1	0.227														62	16
75		13.78		13.77		33.373		24.980	299.0	0.269	5.70		248.7		96.7		3.5	0.38	1.9	0.18	0.00	0.14	0.16	76	14
87		13.00		12.99		33.505		25.240	274.5	0.303	5.56		242.8		93.0		4.0	0.39	2.7	0.10	0.00	0.14	0.16	88	13
100		12.20		12.19		33.405		25.317	267.4	0.338	5.28		230.6		86.8		5.6	0.61	6.0	0.04	0.00	0.11	0.12	101	12
112		11.32		11.30		33.440		25.509	249.2	0.369	4.76		207.8		76.7		9.2	0.92	10.7	0.03	0.00	0.07	0.10	113	11
125		10.80		10.78		33.512		25.659	235.2	0.401	4.40		192.0		70.1		13.2	1.16	14.6	0.00	0.00	0.04	0.06	126	10
140		10.10		10.08		33.612	D	25.858	216.5	0.432	4.09	D	178.2	D	64.3									141	09
150	ISL	9.97	D	9.95		33.632	D	25.895	213.1	0.454	4.07	D	177.3	D	63.8		17.0	1.28	17.0	0.00	0.00	0.02	0.03	151	
170		9.47		9.45		33.777		26.092	194.8	0.497	4.18		182.6		64.9		20.0	1.37	18.9	0.00	0.00	0.00	0.02	171	08
200	ISL	8.82	D	8.80		33.894	D	26.287	176.7	0.551	3.35	D	145.8	D	51.3		27.7	1.73	23.8	0.00	0.00	0.00	0.02	202	
201		8.82		8.79		33.897		26.291	176.4	0.554	3.36		146.7		51.4		28.0	1.74	23.9	0.00	0.00	0.00	0.02	203	07
230		8.34		8.32		33.977		26.427	163.8	0.603	2.62		114.1		39.6									232	06
250	ISL	8.09	D	8.06		34.006	D	26.488	158.3	0.635	2.44	D	106.0	D	36.7		39.1	2.12	28.9	0.00	0.00			252	
270		7.80		7.77		34.036		26.554	152.2	0.667	2.03		88.8		30.4		43.6	2.28	31.0	0.00	0.00			272	05
300	ISL	7.41	D	7.39		34.067	D	26.635	144.9	0.712	1.75	D	76.1	D	26.0		49.3	2.45	33.1	0.00	0.00			302	
321		7.10		7.07		34.078		26.688	140.0	0.741	1.41		61.3		20.7		53.3	2.57	34.6	0.00	0.00			324	04
380		6.66		6.62		34.125		26.785	131.5	0.821	0.96		42.0		14.0		62.2	2.78	37.0	0.00	0.00			383	03
400	ISL	6.59	D	6.55		34.140	D	26.807	129.6	0.849	0.88	D	38.1	D	12.8		64.7	2.84	37.5	0.00	0.00			403	
441		6.25		6.21		34.178		26.881	123.0	0.899	0.62		26.9		8.9		69.9	2.95	38.6	0.00	0.00			445	02
500	ISL	5.93	D	5.89		34.226	D	26.961	116.0	0.972	0.44	D	19.1	D	6.3		76.6	3.07	39.7	0.00	0.00			504	
517		5.95		5.90		34.262		26.987	113.7	0.989	0.33		14.5		4.8		78.6	3.10	40.0	0.00	0.00			521	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 45.1 N	121 19.0 W	13/11/2017	2346	UTC	3673 m	330 13 kn	340 03 06	1	1019.7 mb	19.1 C	17.5 C		6/8	ST	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		17.70		17.70		33.420		24.136	377.1	0.000	5.56		242.5		102.0		1.7	0.19	0.0	0.01	0.04	0.17	0.04	0	
2		17.70		17.70		33.420		24.136	377.2	0.008	5.56		242.5		102.0		1.7	0.19	0.0	0.00	0.00	0.17	0.04	2	20
10		17.71		17.70		33.423		24.138	377.3	0.038	5.56		242.7		102.1		1.6	0.19	0.0	0.00	0.00	0.16	0.04	10	19
20	ISL	17.73	D	17.72		33.429	D	24.139	377.6	0.072	5.58	D	243.3	D	102.5		1.6	0.20	0.0	0.00	0.00	0.16	0.04	20	
25		17.72		17.71		33.437		24.147	377.0	0.094	5.53		241.6		101.6		1.6	0.20	0.0	0.00	0.00	0.16	0.05	25	18
30	ISL	17.71	D	17.71		33.437	D	24.148	377.1	0.110	5.58	D	243.1	D	102.4		1.6	0.20	0.0	0.00	0.00	0.21	0.07	30	
40		17.17		17.16		33.422		24.269	365.9	0.150	5.64		246.1		102.5		1.5	0.21	0.0	0.00	0.00	0.30	0.11	40	17
50		16.30		16.29		33.375		24.435	350.4	0.186	5.75		250.8		102.6		1.6	0.22	0.0	0.00	0.00	0.42	0.23	50	16
62		14.46		14.45		33.299		24.781	317.6	0.226	5.81		253.9		100.0		2.5	0.32	0.7	0.13	0.16	0.39	0.40	62	15
75		13.92		13.91		33.468		25.025	294.8	0.266	5.72		249.8		97.5		3.0	0.33	1.3	0.21	0.00	0.25	0.26	76	14
87		13.00		12.99		33.447		25.195	278.8	0.301	5.62		245.3		93.9		3.7	0.40	2.7	0.08	0.00	0.14	0.14	88	13
100		11.98		11.97		33.367		25.329	266.2	0.336	5.38		235.1		88.0		5.4	0.58	5.7	0.03	0.00	0.08	0.10	101	12
112		11.81		11.80		33.542		25.498	250.5	0.367	5.10		222.4		83.1		6.8	0.67	7.6	0.03	0.00	0.07	0.08	113	11
125		11.25		11.24		33.552		25.609	240.1	0.399	4.82		210.3		77.6		9.6	0.87	10.8	0.00	0.00	0.05	0.07	126	10
140		10.22		10.20		33.580		25.812	220.9	0.433	4.22		184.2		66.5		15.6	1.28	17.1	0.00	0.00	0.02	0.04	141	09
150	ISL	9.95	D	9.94		33.659	D	25.919	210.9	0.455	4.36	D	189.9	D	68.4		17.7	1.35	18.3	0.00	0.00	0.02	0.03	151	
171		9.23		9.21		33.771		26.126	191.5	0.498	3.92		170.9		60.4		22.0	1.50	20.9	0.00	0.00	0.01	0.02	172	08
200	ISL	8.76	D	8.74		33.885	D	26.289	176.4	0.551	3.66	D	159.4	D	56.0		27.3	1.67	23.8	0.00	0.00	0.00	0.02	202	
201		8.73		8.71		33.890		26.299	175.5	0.553	3.57		155.9		54.5		27.5	1.68	24.0	0.00	0.00	0.00	0.02	203	07
231		8.36		8.34		33.987		26.432	163.4	0.603	2.48		108.1		37.5		36.1	2.08	28.9	0.00	0.00			233	06
250	ISL	8.13	D	8.10		33.993	D	26.471	159.9	0.635	2.53	D	110.2	D	38.2		39.5	2.15	30.0	0.00	0.00			252	
271		7.61		7.58		34.012		26.563	151.3	0.667	2.29		99.9		34.1		43.2	2.22	31.3	0.00	0.00			273	05
300	ISL	7.60	D	7.57		34.098	D	26.633	145.2	0.711	1.58	D	68.8	D	23.6		47.7	2.42	33.0	0.00	0.00			302	
321		7.39		7.36		34.126		26.685	140.5	0.740	1.31		57.0		19.4		50.9	2.56	34.2	0.00	0.00			324	04
381		6.74		6.70		34.193		26.828	127.5	0.821	0.72		31.4		10.5		63.1	2.86	37.5	0.00	0.00			384	03
400	ISL	6.57	D	6.53		34.196	D	26.853	125.3	0.847	0.68	D	29.6	D	9.9		65.7	2.90	38.2	0.00	0.00			403	
441		6.16		6.12		34.202		26.912	120.0	0.895	0.55		23.9		7.9		71.1	2.99	39.7	0.00	0.00			445	02
500	ISL	5.82	D	5.77		34.244	D	26.989	113.1	0.967	0.38	D	16.5	D	5.4		78.8	3.09	40.9	0.00	0.00			504	
515		5.78		5.73		34.265		27.010	111.3	0.980	0.31		13.7		4.5		80.8	3.12	41.3	0.00	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
31 25.1 N	121 59.3 W	13/11/2017	1800	UTC	3905 m	360 12 kn	030 03 09	1	1022.2 mb	21.0 C	19.0 C	26 m	3/8	ST	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		18.95		18.95	33.547	23.924	397.3	0.000	5.38		234.8		101.3		1.3	0.19	0.0	0.02	0.07	0.17	0.06	0	
2	A	18.95		18.95	33.547	23.924	397.4	0.008	5.38		234.8		101.3		1.3	0.19	0.0	0.00	0.07	0.17	0.06	2	23
2		18.95		18.95	33.546	23.923	397.5	0.010														2	24
8		18.94		18.94	33.545	23.928	397.3	0.032	5.39		235.1		101.3		1.2	0.20	0.0	0.00	0.06	0.16	0.06	8	21
8		18.94		18.94	33.546	23.928	397.3	0.033														8	22
10	ISL	18.94	D	18.94	33.545	D 23.927	397.5	0.036	5.41	D	236.0	D	101.8		1.2	0.20	0.0	0.00	0.06	0.16	0.06	10	
16	A	18.93		18.93	33.546	23.930	397.4	0.064	5.38		234.7		101.1		1.2	0.19	0.0	0.00	0.07	0.17	0.06	16	20
20	ISL	18.93	D	18.93	33.546	D 23.931	397.4	0.076	5.41	D	236.0	D	101.8		1.2	0.18	0.0	0.00	0.07	0.17	0.06	20	
21	A	18.93		18.92	33.555	23.938	396.8	0.084	5.38		234.9		101.2		1.2	0.18	0.0	0.00	0.07	0.17	0.06	21	19
30	ISL	18.92	D	18.91	33.546	D 23.935	397.4	0.116	5.41	D	235.9	D	101.7		1.2	0.19	0.0	0.00	0.00	0.17	0.07	30	
31		18.91		18.90	33.553	23.943	396.7	0.123	5.38		234.9		101.2		1.2	0.19	0.0	0.00	0.00	0.17	0.07	31	18
42	A	17.96		17.95	33.490	24.131	379.2	0.166	5.47		238.9		101.0		1.3	0.19	0.0	0.00	0.00	0.01	0.30	42	17
50	ISL	15.41	D	15.40	33.344	D 24.611	333.5	0.192	6.11	D	266.4	D	107.2		1.8	0.25	0.0	0.00	0.00	0.21	0.27	50	
56		14.82		14.81	33.334	24.732	322.2	0.214	6.05		264.3		104.9		2.1	0.29	0.0	0.00	0.00	0.36	0.24	56	15
56		14.82		14.81	33.329	24.728	322.5	0.215														56	16
71	A	13.11		13.10	33.351	25.099	287.4	0.260	5.31		232.0		88.9		4.7	0.57	3.8	0.20	0.00	0.33	0.26	72	14
75	ISL	12.94	D	12.93	33.384	D 25.157	282.0	0.269	5.14	D	223.7	D	85.7		5.5	0.63	4.8	0.12	0.00	0.28	0.24	76	
78		12.73		12.72	33.385	25.199	278.1	0.279	5.01		218.8		83.3		6.0	0.67	5.5	0.05	0.00	0.24	0.22	79	13
91	A	12.46		12.45	33.483	25.328	266.1	0.315	5.25		229.3		86.8		5.3	0.55	5.3	0.03	0.00	0.13	0.14	92	12
100	ISL	11.94	D	11.92	33.469	D 25.417	257.8	0.337	5.12	D	222.8	D	83.6		6.6	0.65	7.1	0.03	0.00	0.11	0.12	101	
106		11.74		11.73	33.500	25.477	252.2	0.353	5.03		219.5		81.8		7.4	0.72	8.3	0.03	0.00	0.09	0.11	107	11
121		11.18		11.17	33.529	25.603	240.5	0.390	4.98		217.6		80.2		8.2	0.77	9.4	0.00	0.00	0.07	0.09	122	10
125	ISL	11.26	D	11.25	33.536	D 25.594	241.5	0.399	4.98	D	216.8	D	80.2		9.3	0.84	10.5	0.00	0.00	0.06	0.08	126	
141		10.23		10.22	33.576	25.807	221.4	0.437	4.47		195.2		70.5		13.9	1.13	15.0	0.00	0.00	0.03	0.05	142	09
150	ISL	10.05	D	10.03	33.617	D 25.870	215.6	0.456	4.31	D	187.5	D	67.6		15.6	1.21	16.3	0.00	0.00	0.02	0.04	151	
171		9.32		9.30	33.717	26.069	197.0	0.500	4.02		175.4		62.1		19.6	1.41	19.5	0.00	0.00	0.01	0.03	172	08
200		8.76		8.74	33.881	26.286	176.7	0.554	3.62		157.9		55.3		26.8	1.65	23.6	0.00	0.00	0.00	0.03	202	07
231		8.14		8.12	33.954	26.439	162.6	0.607	3.02		131.6		45.5		33.3	1.91	27.0	0.00	0.00			233	06
250	ISL	7.92	D	7.89	33.998	D 26.507	156.4	0.636	2.62	D	113.8	D	39.2		38.5	2.06	29.1	0.00	0.00			252	
271		7.51		7.48	34.009	26.575	150.1	0.670	2.29		100.1		34.1		44.2	2.23	31.4	0.00	0.00			273	05
300	ISL	7.19	D	7.16	34.050	D 26.652	143.1	0.712	1.79	D	77.7	D	26.4		49.3	2.41	33.4	0.00	0.00			302	
321		7.01		6.98	34.074	26.697	139.1	0.742	1.48		64.6		21.8		52.9	2.54	34.9	0.00	0.00			324	04
381		6.67		6.63	34.129	26.787	131.3	0.823	0.94		40.9		13.7		61.3	2.76	37.6	0.00	0.00			384	03
400	ISL	6.62	D	6.59	34.182	D 26.835	127.1	0.848	0.72	D	31.1	D	10.4		64.2	2.82	38.2	0.00	0.00			403	
440		6.19		6.15	34.168	26.881	122.9	0.898	0.63		27.4		9.1		70.2	2.94	39.7	0.00	0.00			444	02
500	ISL	5.90	D	5.85	34.236	D 26.973	114.7	0.970	0.41	D	17.7	D	5.8		76.9	3.04	40.8	0.00	0.00			504	
516		5.83		5.78	34.241	26.986	113.7	0.988	0.36		15.7		5.2		78.7	3.07	41.1	0.00	0.00			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
31 5.1 N	122 39.7 W	13/11/2017	1145	UTC	4003 m	340 09 kn			1020.3 mb	19.5 C	18.5 C				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		18.74		18.74	33.515	23.952	394.6	0.000	5.39		235.3		101.0		1.2	0.18	0.0	0.01	0.01	0.16	0.04	0	
2		18.74		18.74	33.515	23.953	394.7	0.008	5.39		235.3		101.0		1.2	0.18	0.0	0.00	0.00	0.16	0.04	2	21
10		18.74		18.73	33.513	23.953	394.9	0.040	5.42		236.5		101.5		1.2	0.20	0.0	0.00	0.11	0.17	0.03	10	20
20	ISL	18.36	D	18.36	33.467	D 24.012	389.7	0.075	5.47	D	238.7	D	101.8		1.4	0.19	0.0	0.00	0.00	0.17	0.04	20	
25		18.33		18.33	33.463	24.017	389.4	0.098	5.44		237.6		101.2		1.4	0.19	0.0	0.00	0.00	0.17	0.05	25	19
30	ISL	18.27	D	18.27	33.463	D 24.032	388.2	0.114	5.50	D	239.7	D	102.0		1.5	0.19	0.0	0.00	0.00	0.18	0.05	30	
40		18.04		18.04	33.462	24.089	383.1	0.156	5.47		239.0		101.2		1.5	0.20	0.0	0.00	0.00	0.21	0.07	40	18
50		17.55		17.54	33.448	24.198	373.1	0.194	5.56		242.8		101.8		1.6	0.20	0.0	0.00	0.00	0.24	0.10	50	17
62		14.93		14.92	33.334	24.709	324.6	0.236	5.95		259.7		103.3		2.0	0.26	0.0	0.00	0.00	0.33	0.20	62	16
66		14.06		14.05	33.331	24.889	307.4	0.249							2.3	0.30	0.0	0.00	0.00	0.47	0.32	67	15
75		12.96		12.95	33.359	25.134	284.2	0.275	5.22		228.0		87.1		4.6	0.60	4.0	0.18	0.00	0.37	0.28	76	14
87		11.76		11.75	33.413	25.406	258.5	0.308	4.91		214.6		80.0		7.4	0.81	8.9	0.03	0.00	0.18	0.19	88	13
100		11.10		11.08	33.485	25.584	241.8	0.340	4.42		192.8		70.9		11.7	1.12	14.1	0.00	0.00	0.09	0.11	101	12
112		10.53		10.51	33.532	25.721	228.9	0.368	4.22		184.4		67.0		13.9	1.24	16.1	0.00	0.00	0.06	0.08	113	11
125	ISL	10.15	D	10.14	33.643	D 25.872	214.8	0.395	3.85	D	167.7	D	60.6		17.1	1.39	18.4	0.00	0.00	0.02	0.04	126	
126		9.84		9.82	33.642	25.924	209.9	0.399	3.90		170.1		60.9		17.4	1.40	18.6	0.00	0.00	0.02	0.04	127	10
141		9.44		9.43	33.761	26.083	195.0	0.430	3.62		157.9		56.1		22.1	1.59	21.3	0.00	0.00	0.01	0.03	142	09
150	ISL	9.31	D	9.30	33.812	D 26.143	189.4	0.445	3.26	D	141.9	D	50.4		24.2	1.67	22.6	0.00	0.00	0.00	0.03	151	
171		8.88		8.86	33.884	26.270	177.7	0.486	2.97		129.8		45.6		29.0	1.87	25.6	0.00	0.00	0.00	0.03	172	08
200	ISL	8.41	D	8.39	33.966	D 26.407	165.1	0.534	2.72	D	118.4	D	41.3		33.9	2.01	27.8	0.00	0.00	0.00	0.02	202	
201		8.34		8.32	33.968	26.419	164.0	0.537	2.70		117.8		40.9		34.1	2.01	27.9	0.00	0.00	0.00	0.02	203	07
230		7.97		7.95	33.979	26.483	158.3	0.584	2.73		119.3		41.0		37.6	2.05	28.7	0.00	0.00			232	06
250	ISL	7.67	D	7.65	33.996	D 26.540	153.1	0.614	2.58	D	112.3	D	38.5		41.4	2.17	30.2	0.00	0.00			252	
271		7.43		7.41	34.017	26.592	148.4	0.646	2.18		95.1		32.3		45.3	2.29	31.9	0.00	0.00			273	05
300	ISL	7.27	D	7.24	34.067	D 26.654	142.9	0.688	1.70	D	74.1	D	25.2		51.0	2.47	34.1	0.00	0.00			302	
320		6.98		6.95	34.077	26.703	138.5	0.717	1.36		59.3		19.9		54.9	2.60	35.6	0.00	0.00			323	04
381		6.35		6.32	34.102	26.807	129.1	0.799	0.98		42.8		14.2		63.6	2.79	38.1	0.00	0.00			384	03
400	ISL	6.10	D	6.07	34.113	D 26.847	125.3	0.823	0.86	D	37.4	D	12.4		67.2	2.84	38.8	0.00	0.00			403	
440		5.80		5.76	34.141	26.909	119.8	0.872	0.66		28.8		9.4		74.9	2.96	40.3	0.00	0.00			444	02
500	ISL	5.50	D	5.46	34.202	D 26.994	112.3	0.943	0.45	D	19.4	D	6.3		81.1	3.07	41.3	0.00	0.00			504	
515		5.49		5.44	34.209	27.001	111.8	0.958	0.41		17.8		5.8		82.6	3.10	41.5	0.00	0.00			519	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 45.1 N	123 19.9 W	13/11/2017	0545	UTC	4004 m	010 06 kn			1021.4 mb	18.8 C	17.1 C				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		18.59		18.59		33.486		23.967	393.2	0.000	5.41		236.3		101.1		1.5	0.20	0.0	0.00	0.27	0.16	0.05	0	
2		18.59		18.59		33.486		23.967	393.2	0.008	5.41		236.3		101.1		1.5	0.20	0.0	0.00	0.27	0.16	0.05	2	20
10		18.59		18.58		33.480		23.966	393.7	0.039	5.41		236.3		101.1		1.4	0.21	0.0	0.00	0.09	0.15	0.05	10	19
20	ISL	18.44	D	18.44		33.477	D	24.000	390.9	0.075	5.46	D	238.3	D	101.8		1.6	0.20	0.0	0.00	0.00	0.20	0.07	20	
25		18.09		18.08		33.441		24.061	385.2	0.098	5.48		239.2		101.4		1.7	0.20	0.0	0.00	0.00	0.22	0.08	25	18
30	ISL	18.00	D	18.00		33.435	D	24.076	384.0	0.114	5.51	D	240.1	D	101.7		1.7	0.20	0.0	0.00	0.00	0.22	0.07	30	
40		17.92		17.91		33.429		24.093	382.7	0.156	5.56		242.8		102.5		1.8	0.21	0.0	0.00	0.05	0.22	0.07	40	17
50		17.67		17.66		33.439		24.163	376.4	0.194	5.51		240.4		101.0		1.8	0.21	0.0	0.00	0.00	0.29	0.12	50	16
62		16.59		16.58		33.379		24.372	356.8	0.238	5.69		248.4		102.2		1.8	0.23	0.0	0.00	0.00	0.34	0.21	62	15
75		15.93		15.92		33.424		24.558	339.5	0.283	5.84		254.8		103.5		2.1	0.23	0.0	0.00	0.12	0.33	0.25	76	14
87		15.03		15.02		33.515		24.826	314.3	0.322	5.81		253.8		101.3		2.4	0.25	0.1	0.00	0.07	0.31	0.25	88	13
100		14.15		14.13		33.516		25.016	296.4	0.362	5.71		249.3		97.7		2.9	0.30	0.8	0.12	0.09	0.23	0.21	101	12
112		13.73		13.71		33.638		25.198	279.5	0.396	5.57		243.1		94.6		3.2	0.29	1.0	0.17	0.00	0.16	0.15	113	11
125		12.83		12.82		33.580		25.333	266.8	0.432	5.42		236.4		90.3		4.2	0.42	3.4	0.03	0.00	0.11	0.12	126	10
140		10.91		10.90		33.492		25.623	239.1	0.470	4.54		198.1		72.5		11.7	1.10	13.8	0.00	0.00	0.05	0.07	141	09
150	ISL	10.65	D	10.63		33.596	D	25.752	227.0	0.492	4.62	D	201.0	D	73.4		15.2	1.27	16.4	0.00	0.00	0.04	0.06	151	
170		9.25		9.23		33.694		26.063	197.5	0.536	3.60		157.3		55.6		22.1	1.60	21.5	0.00	0.00	0.01	0.03	171	08
200		8.69		8.67		33.887		26.301	175.3	0.592	3.34		145.9		51.0		28.6	1.76	24.5	0.00	0.00	0.00	0.02	202	07
230		8.36		8.33		33.973		26.421	164.3	0.643	2.71		118.4		41.1		34.5	2.02	27.6	0.00	0.00			232	06
250	ISL	8.27	D	8.24		34.030	D	26.480	159.1	0.673	2.22	D	96.8	D	33.6		37.8	2.17	29.3	0.00	0.00			252	
271		8.07		8.04		34.072		26.543	153.5	0.708	1.91		83.2		28.7		41.2	2.33	31.0	0.00	0.00			273	05
300	ISL	7.75	D	7.72		34.096	D	26.609	147.6	0.750	1.60	D	69.8	D	24.0		47.0	2.48	32.8	0.00	0.00			302	
320		7.53		7.50		34.126		26.664	142.6	0.781	1.26		54.8		18.7		50.9	2.58	34.1	0.00	0.00			323	04
380		6.92		6.88		34.171		26.787	131.6	0.863	0.78		33.9		11.4		60.8	2.81	37.1	0.00	0.00			383	03
400	ISL	6.75	D	6.71		34.192	D	26.826	128.0	0.889	0.70	D	30.3	D	10.2		63.5	2.86	37.8	0.00	0.00			403	
440		6.30		6.26		34.183		26.878	123.3	0.939	0.57		24.7		8.2		69.0	2.95	39.2	0.00	0.00			444	02
500	ISL	5.92	D	5.88		34.238	D	26.971	115.0	1.011	0.39	D	17.1	D	5.7		76.8	3.06	40.3	0.00	0.00			504	
516		5.85		5.81		34.247		26.988	113.6	1.029	0.34		15.0		4.9		78.9	3.09	40.7	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 25.1 N	123 59.9 W	12/11/2017	2350	UTC	4245 m	330 09 kn	280 04 11	1	1018.7 mb	18.8 C	17.2 C		6/8	ST	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		18.78		18.78		33.400		23.856	403.8	0.000	5.44		237.6		102.0		1.8	0.19	0.0	0.02	0.05	0.13	0.03	0	
2		18.78		18.78		33.400		23.856	403.9	0.008	5.44		237.6		102.0		1.8	0.19	0.0	0.00	0.05	0.13	0.03	2	22
10		18.76		18.76		33.392		23.855	404.3	0.040	5.42		236.7		101.6		1.8	0.19	0.0	0.00	0.00	0.13	0.03	10	20
10		18.76		18.76		33.392		23.855	404.3	0.042														10	21
20	ISL	18.68	D	18.67		33.398	D	23.882	402.1	0.077	5.46	D	238.2	D	102.2		1.8	0.19	0.0	0.00	0.00	0.16	0.03	20	
25		18.63		18.62		33.398		23.894	401.2	0.101	5.44		237.4		101.6		1.8	0.19	0.0	0.00	0.00	0.17	0.02	25	19
30	ISL	18.53	D	18.52		33.406	D	23.925	398.4	0.118	5.49	D	239.4	D	102.4		1.8	0.19	0.0	0.00	0.00	0.19	0.05	30	
40		17.12		17.12		33.404	D	24.264	366.4	0.156	5.78	D	251.9	D	104.9									40	18
50		15.91		15.90		33.377		24.524	341.8	0.195	5.89		257.2		104.4		2.0	0.21	0.0	0.00	0.00	0.26	0.15	50	17
62		15.06		15.05		33.415		24.742	321.4	0.234	5.93		258.7		103.3		2.3	0.22	0.0	0.00	0.00	0.36	0.17	62	16
75		14.24		14.23		33.388		24.897	307.0	0.275	5.75		251.1		98.6		2.7	0.30	0.8	0.09	0.00	0.34	0.19	76	14
75		14.24		14.23		33.388		24.896	307.0	0.274														76	15
87		13.23		13.22		33.364		25.085	289.2	0.311	5.59		244.1		93.8		3.4	0.40	2.3	0.14	0.00	0.21	0.16	88	13
99		12.84		12.83		33.389		25.182	280.3	0.345	5.44		237.4		90.5		4.2	0.47	3.6	0.04	0.00	0.11	0.14	100	12
100	ISL	12.69	D	12.68		33.381	D	25.206	278.1	0.346	5.45	D	237.2	D	90.4		4.3	0.48	3.8	0.04	0.00	0.11	0.14	101	
112		12.01		12.00		33.400		25.350	264.5	0.380	5.28		230.3		86.3		5.4	0.57	5.5	0.03	0.00	0.08	0.11	113	11
124		11.62		11.60		33.424		25.443	255.9	0.412	4.97		217.0		80.6		7.6	0.76	8.6	0.00	0.00	0.06	0.09	125	10
125	ISL	11.36	D	11.34		33.440	D	25.503	250.2	0.413	4.79	D	208.7	D	77.3		7.9	0.78	8.9	0.00	0.00	0.06	0.08	126	
140		10.71		10.69		33.494		25.661	235.4	0.451	4.50		196.6		71.7		12.2	1.08	13.6	0.00	0.00	0.04	0.05	141	09
150	ISL	10.28	D	10.26		33.567	D	25.792	223.1	0.472	4.29	D	186.7	D	67.7		15.1	1.24	16.0	0.00	0.00	0.03	0.04	151	
170		9.50		9.48		33.664		25.998	203.7	0.516	3.62		157.8		56.1		20.8	1.56	20.8	0.00	0.00	0.00	0.03	171	08
200		8.98		8.95		33.854		26.231	182.0	0.574	3.15		137.6		48.4		27.6	1.80	24.4	0.00	0.06	0.00	0.02	202	07
230		8.48		8.45		33.955		26.389	167.5	0.627	2.70		117.9		41.0		33.3	2.00	27.1	0.00	0.00			232	06
250	ISL	8.21	D	8.19		33.996	D	26.462	160.8	0.659	2.49	D	108.1	D	37.5		37.1	2.11	28.7	0.00	0.00			252	
271		7.87		7.84		34.027		26.537	153.9	0.693	2.16		94.1		32.3		41.0	2.23	30.3	0.00	0.00			273	05
300	ISL	7.61	D	7.58		34.083	D	26.619	146.5	0.736	1.65	D	71.6	D	24.5		46.5	2.42	32.2	0.00	0.00			302	
321		7.48		7.45		34.121		26.667	142.3	0.767	1.30		56.5		19.2		50.4	2.56	33.6	0.00	0.00			324	04
380		7.06		7.02		34.195		26.786	131.7	0.847	0.75		32.6		11.0		58.8	2.80	36.0	0.00	0.06			383	03
400	ISL	6.87	D	6.83		34.206	D	26.821	128.6	0.874	0.66	D	28.9	D	9.7		61.6	2.85	36.6	0.00	0.00			403	
440		6.51		6.47		34.230		26.889	122.5	0.924	0.49		21.4		7.1		67.4	2.96	38.0	0.00	0.00			444	02
500	ISL	5.97	D	5.93		34.260	D	26.983	114.0	0.997	0.36	D	15.7	D	5.2		75.8	3.08	39.6	0.00	0.00			504	
516		5.89		5.84		34.268		26.999	112.5	1.013	0.31		13.6		4.5		78.0	3.11	40.0	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 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 14.4 N	117 27.9 W	09/11/2017	2327	UTC	22 m	290 11 kn	270 01 04	0	1014.8 mb	19.5 C	19.5 C				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		18.53		18.53		33.461		23.964	393.5	0.000	5.74		250.6		107.1		1.7	0.18	0.1	0.00	0.04	0.89	0.21	0	
2		18.53		18.53		33.461		23.964	393.5	0.008	5.74		250.6		107.1		1.7	0.18	0.1	0.00	0.00	0.89	0.21	2	04
6		18.30		18.30		33.455		24.018	388.6	0.024	5.81		253.5		107.9		1.7	0.21	0.0	0.00	0.00	0.87	0.24	6	03
10	ISL	18.16	D	18.16		33.446	D	24.044	386.3	0.035	5.83	D	254.2	D	108.0		1.8	0.22	0.0	0.00	0.00	0.91	0.22	10	
12		18.21		18.21		33.449		24.035	387.2	0.047	5.77		252.1		107.1		1.8	0.22	0.1	0.00	0.29	0.93	0.22	12	01
12		18.21		18.21		33.452		24.037	387.0	0.045														12	02

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 57.4 N	117 18.3 W	09/11/2017	1919	UTC	61 m	300 04 kn	190 01 04	1	1016.8 mb	19.6 C	17.9 C	15 m	2/8	SC	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		18.33		18.33		33.460	24.013	388.8	0.000	5.67	247.5		105.4		2.1	0.22	0.7	0.00	0.42	0.95	0.21	0	
2	A	18.33		18.33		33.460	24.013	388.9	0.008	5.67	247.5		105.4		2.1	0.22	0.7	0.00	0.42	0.95	0.21	2	09
10	A	17.73		17.73		33.443	24.147	376.4	0.038	5.80	253.3		106.6		1.9	0.26	0.2	0.00	0.85	0.76	0.20	10	07
10		17.73		17.73		33.442	24.147	376.4	0.037													10	08
13	A	16.75		16.75		33.405	24.350	357.1	0.049	5.92	258.2		106.6		1.9	0.26	0.2	0.00	0.25	0.59	0.17	13	06
20	ISL	15.01	D	15.01		33.353	24.701	323.9	0.070	5.79	D252.5	D	100.9		3.5	0.37	0.5	0.00	0.13	0.88	0.32	20	
25		14.51		14.51		33.347	24.805	314.1	0.088													24	05
25	A	14.23		14.23		33.347	24.864	308.5	0.089	5.44	D237.1	D	93.2		4.6	0.45	0.8	0.09	0.05	1.10	0.43	25	04
30	ISL	13.67	D	13.66		33.369	24.998	295.9	0.101	5.14	D224.0	D	87.1		6.8	0.71	4.7	0.19	0.21	0.69	0.38	30	
33		13.13		13.12		33.390	25.123	284.0	0.113	4.54	198.0		76.0		8.2	0.87	7.1	0.24	0.30	0.45	0.35	33	03
42	A	12.33		12.32		33.460	25.334	264.1	0.138	3.97	173.3		65.4		11.3	1.16	11.6	0.03	0.13	0.22	0.22	42	02
50	ISL	12.30	D	12.29		33.461	25.341	263.8	0.156	3.99	D173.9	D	65.7		11.6	1.15	12.0	0.05	0.10	0.19	0.21	50	
52	A	12.30		12.29		33.462	25.341	263.8	0.164	3.94	172.0		64.9		11.7	1.15	12.1	0.06	0.09	0.18	0.21	52	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 54.7 N	117 23.7 W	10/11/2017	0200	UTC	638 m	010 13 kn			1014.6 mb	19.0 C	18.0 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		19.32		19.32		33.524	23.813	407.8	0.000	5.60	244.3		106.1		1.4	0.16	0.2	0.02	0.04	0.84	0.14	0	
2		19.32		19.32		33.524	23.814	407.9	0.008	5.60	244.3		106.1		1.4	0.16	0.2	0.00	0.00	0.84	0.14	2	20
10		19.30		19.30		33.525	23.819	407.7	0.041	5.61	244.8		106.3		1.1	0.16	0.0	0.00	0.10	0.80	0.19	10	19
20		17.57		17.57		33.422	24.170	374.6	0.080	5.77	251.4		105.6		2.1	0.26	0.0	0.00	0.00	0.59	0.22	20	18
30		14.28		14.27		33.345	24.853	309.7	0.114	5.60	244.2		96.1		3.7	0.47	1.4	0.13	0.05	0.92	0.45	30	17
40		12.68		12.68		33.424	25.237	273.4	0.143	4.38	190.9		72.7		8.8	0.95	8.6	0.04	0.05	0.33	0.31	40	16
50		12.36		12.35		33.484	25.347	263.2	0.170	3.81	166.0		62.8		11.9	1.17	11.8	0.00	0.00	0.18	0.24	50	15
60		11.78		11.77		33.535	25.496	249.2	0.196	3.43	149.4		55.9		14.9	1.38	14.7	0.00	0.10	0.08	0.13	60	14
71		11.50		11.49		33.586	25.588	240.8	0.223	3.18	138.4		51.5		16.9	1.52	16.5	0.00	0.00	0.04	0.10	72	13
75	ISL	11.48	D	11.47		33.592	25.597	240.0	0.230	3.16	D137.8	D	51.2		17.3	1.55	17.0	0.00	0.00	0.04	0.10	76	
86		11.31		11.30		33.641	25.665	233.8	0.258	2.88	125.3		46.5		18.7	1.65	18.2	0.00	0.07	0.03	0.09	87	12
100	ISL	11.07	D	11.06		33.692	25.749	226.1	0.288	2.74	D119.3	D	44.0		20.3	1.73	19.4	0.00	0.07	0.02	0.08	101	
101		11.04		11.03		33.691	25.754	225.7	0.293	2.71	118.1		43.6		20.4	1.74	19.5	0.00	0.07	0.02	0.08	102	11
120		10.68		10.67		33.784	25.891	213.1	0.334	2.50	108.6		39.8		22.9	1.88	21.3	0.00	0.09	0.01	0.06	121	10
125	ISL	10.64	D	10.62		33.799	25.910	211.4	0.343	2.52	D109.6	D	40.1		23.3	1.90	21.6	0.00	0.08	0.01	0.06	126	
140		10.50		10.48		33.850	25.975	205.6	0.376	2.36	102.9		37.5		24.5	1.97	22.5	0.00	0.05	0.01	0.05	141	09
150	ISL	10.18	D	10.16		33.832	26.016	201.8	0.395	2.49	D108.4	D	39.3		25.6	2.00	23.1	0.00	0.00	0.01	0.05	151	
170		9.97		9.95		33.963	26.154	189.1	0.435	2.30	99.9		36.0		27.8	2.05	24.3	0.00	0.00	0.01	0.04	171	08
200		9.55		9.53		34.055	26.297	176.1	0.490	2.11	91.7		32.8		30.9	2.16	26.1	0.00	0.05	0.00	0.04	202	07
230		8.88		8.85		34.054	26.405	166.2	0.541	2.10	91.3		32.2		34.5	2.21	27.7	0.00	0.07			232	06
250	ISL	8.67	D	8.64		34.103	26.476	159.8	0.575	1.86	D 80.8	D	28.3		38.1	2.33	28.9	0.00	0.00			252	
271		8.35		8.33		34.161	26.570	151.1	0.607	1.48	64.2		22.4		41.8	2.46	30.2	0.00	0.00			273	05
300	ISL	7.81	D	7.78		34.154	26.646	144.1	0.651	1.30	D 56.4	D	19.4		47.1	2.58	32.0	0.00	0.00			302	
320		7.67		7.64		34.171	26.681	141.2	0.678	1.12	48.8		16.8		50.9	2.67	33.2	0.00	0.00			323	04
380		7.47		7.43		34.286	26.802	130.7	0.759	0.57	24.8		8.5		58.3	2.91	34.6	0.00	0.00			383	03
400	ISL	7.19	D	7.15		34.293	26.846	126.6	0.788	0.46	D 20.2	D	6.9		61.9	2.96	35.4	0.00	0.00			403	
441		6.71		6.67		34.309	26.925	119.4	0.835	0.32	14.1		4.7		69.2	3.07	36.9	0.00	0.07			445	02
500	ISL	6.27	D	6.23		34.328	26.998	112.9	0.909	0.25	D 10.8	D	3.6		75.9	3.15	38.0	0.00	0.24			504	
516		6.18		6.14		34.334	27.015	111.5	0.922	0.23	9.8		3.3		77.7	3.17	38.4	0.00	0.28			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 30.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 50.7 N	117 32.1 W	10/11/2017	0531	UTC	840 m	320 05 kn			1015.3 mb	19.0 C	17.0 C				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		18.79		18.79		33.517	23.941	395.7	0.000	5.53	241.5		103.8		1.8	0.17	0.0	0.05	0.32	0.25	0.06	0	
2		18.79		18.79		33.517	23.941	395.7	0.008	5.53	241.5		103.8		1.8	0.17	0.0	0.00	0.32	0.25	0.06	2	20
10		18.78		18.78		33.515	23.944	395.8	0.040	5.51	240.3		103.3		1.8	0.18	0.1	0.00	0.09	0.24	0.07	10	19
20		16.14		16.14		33.395	24.483	344.8	0.077	5.84	254.9		104.0		2.1	0.25	0.0	0.00	0.09	0.50	0.23	20	18
30		14.28		14.27		33.366	24.869	308.2	0.109	5.15	224.7		88.3		5.3	0.53	2.0	0.24	0.12	1.00	0.47	30	17
40		13.71		13.70		33.387	25.005	295.6	0.139	4.64	202.7		78.7		7.3	0.75	5.3	0.19	0.16	0.47	0.31	40	16
50		12.78		12.78		33.415	25.211	276.1	0.168	4.29	187.4		71.4		9.2	0.95	8.7	0.16	0.12	0.25	0.20	50	15
60		12.46		12.45		33.452	25.304	267.6	0.195	4.00	174.7		66.1		10.8	1.06	10.7	0.04	0.15	0.18	0.17	60	14
71		12.07		12.06		33.480	25.400	258.7	0.224	3.80	166.1		62.3		12.3	1.18	12.4	0.03	0.00	0.12	0.15	72	13
75	ISL	12.01	D	12.00		33.494	25.422	256.7	0.232	3.71	D161.7	D	60.8		12.9	1.22	12.9	0.00	0.00	0.11	0.14	76	
85		11.63		11.62		33.519	25.513	248.2	0.260	3.56	155.6		57.9		14.3	1.31	14.2	0.00	0.06	0.07	0.11	86	12
100		11.28		11.26		33.670	25.695	231.3	0.296	2.77	121.0		44.7		19.4	1.65	18.3	0.00	0.06	0.03	0.08	101	11
120		10.83		10.82		33.788	25.867	215.4	0.340	2.37	103.5		37.9		22.8	1.84	20.8	0.00	0.00	0.01	0.06	121	10
125	ISL	10.81	D	10.79		33.805	25.885	213.8	0.350	2.37	D103.0	D	37.8		23.4	1.87	21.2	0.00	0.00	0.01	0.05	126	
140		10.35		10.34		33.888	26.029	200.4	0.382	2.31	100.7		36.5		25.1	1.96	22.4	0.00	0.06	0.01	0.04	141	09
150	ISL	10.16	D	10.15		33.900	26.071	196.5	0.401	2.38	D103.4	D	37.5		25.8	1.99	22.9	0.00	0.06	0.01	0.04	151	
170		10.14		10.12		33.976	26.136	190.9	0.441	2.17	94.8		34.2		27.4	2.05	23.8	0.00	0.05	0.01	0.04	171	08
200		9.68		9.66		34.050	26.272	178.5	0.496	2.04	89.2		31.9		30.5	2.13	25.3	0.00	0.00	0.00	0.04	202	07
230		9.40		9.37		34.134	26.385	168.4	0.548	1.78	77.6		27.6		33.8	2.25	26.8	0.00	0.00			232	06
250	ISL	9.19	D	9.16		34.167	26.445	163.1	0.582	1.60	D 69.8	D	24.8		37.0	2.34	27.9	0.00	0.00			252	
270		8.78		8.75		34.199	26.535	154.7	0.613	1.34	58.4		20.5		40.3	2.43	29.0	0.00	0.00			272	05
300	ISL	8.39	D	8.36		34.240	26.628	146.3	0.660	1.04	D 45.1	D	15.7		47.3	2.57	31.1	0.00	0.00			302	
320		7.72		7.69		34.214	26.708	138.6	0.687	0.93	40.4		13.8		51.9	2.66	32.5	0.00	0.00			323	04
380		7.46		7.42		34.294	26.809	130.0	0.768	0.64	28.1		9.6		58.5	2.88	34.3	0.00	0.00			383	03
400	ISL	7.39	D	7.35		34.296	26.821	129.2	0.796	0.48	D 21.0	D	7.2		60.5	2.91	34.8	0.00	0.00			403	
440		7.06		7.02		34.292	26.865	125.4	0.845	0.42	18.1		6.1		64.5	2.97	35.7	0.00	0.07			444	02
500	ISL	6.39	D	6.34		34.316	26.975	115.3	0.920	0.30	D 12.9	D	4.3		72.7	3.06	37.4	0.00	0.00			504	
516		6.30		6.25		34.318	26.988	114.2	0.935	0.27	11.8		3.9		74.9	3.09	37.9	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 35.0

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	10/11/2017	0932	UTC	612 m	310 13 kn			1015.1 mb	19.0 C	17.5 C				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		18.73		18.73		33.562		23.992	390.8	0.000	5.42		236.6		101.6		0.6	0.13	0.0	0.02	0.16	0.20	0.06	0	
2		18.73		18.73		33.562		23.992	390.9	0.008	5.42		236.6		101.6		0.6	0.13	0.0	0.00	0.16	0.20	0.06	2	20
10	ISL	18.72	D	18.72		33.557	D	23.990	391.4	0.036	5.46	D	238.0	D	102.3		0.7	0.14	0.0	0.00	0.31	0.19	0.05	10	
11		18.72		18.72		33.559		23.993	391.2	0.043	5.41		236.1		101.4		0.8	0.14	0.0	0.03	0.33	0.19	0.05	11	19
20	ISL	17.97	D	17.96		33.494	D	24.130	378.4	0.074	5.58	D	243.5	D	103.1		0.9	0.18	0.0	0.00	0.00	0.23	0.05	20	
21		17.73		17.73		33.474		24.171	374.6	0.082	5.58		243.4		102.5		0.9	0.18	0.0	0.00	0.00	0.23	0.06	21	18
30	ISL	16.43	D	16.42		33.397	D	24.420	351.1	0.111	5.79	D	252.6	D	103.8		1.4	0.23	0.0	0.00	0.00	0.41	0.10	30	
31		15.78		15.77		33.392		24.564	337.4	0.118	5.75		251.0		101.6		1.4	0.23	0.0	0.00	0.00	0.43	0.11	31	17
41		13.87		13.87		33.348		24.940	301.8	0.150	5.47		238.8		93.0		3.4	0.48	2.0	0.21	0.05	0.63	0.25	41	16
50	ISL	13.10	D	13.09		33.362	D	25.108	285.9	0.173	5.07	D	221.0	D	84.9		5.3	0.68	5.1	0.26	0.21	0.45	0.24	50	
51		13.03		13.02		33.366		25.125	284.4	0.179	5.02		219.1		83.9		5.6	0.70	5.5	0.27	0.23	0.43	0.24	51	15
61		12.11		12.10		33.399		25.329	265.1	0.206	4.56		198.8		74.7		8.1	0.93	9.3	0.10	0.07	0.34	0.17	61	14
71		11.41		11.40		33.443		25.493	249.7	0.232	4.75		207.2		76.7		8.8	0.91	10.1	0.04	0.09	0.11	0.13	72	13
75	ISL	11.22	D	11.21		33.475	D	25.553	244.1	0.240	4.56	D	198.4	D	73.3		10.8	1.06	12.2	0.00	0.00	0.10	0.12	76	
85		10.67		10.66		33.551		25.710	229.4	0.266	3.68		160.6		58.5		16.0	1.45	17.4	0.00	0.00	0.07	0.11	86	12
100		10.09		10.07		33.639		25.879	213.5	0.299	3.37		147.0		52.9		19.8	1.62	20.3	0.00	0.00	0.04	0.07	101	11
121		9.54		9.52		33.745		26.054	197.3	0.342	3.07		134.0		47.7		23.3	1.78	22.5	0.00	0.00	0.01	0.05	122	10
125	ISL	9.47	D	9.45		33.771	D	26.086	194.4	0.348	3.08	D	134.2	D	47.9		24.1	1.81	22.9	0.00	0.00	0.01	0.05	126	
141		9.25		9.24		33.835		26.171	186.6	0.380	2.76		120.6		42.7		27.1	1.91	24.4	0.00	0.00	0.01	0.04	142	09
150	ISL	9.18	D	9.17		33.870	D	26.210	183.1	0.395	2.71	D	117.9	D	41.8		28.5	1.96	25.0	0.00	0.00	0.01	0.04	151	
171		8.87		8.85		33.950		26.323	172.7	0.434	2.40		104.9		36.8		31.7	2.06	26.5	0.00	0.00	0.00	0.03	172	08
200	ISL	8.69	D	8.67		34.007	D	26.395	166.4	0.483	2.27	D	98.6	D	34.6		34.2	2.15	27.6	0.00	0.00	0.00	0.03	202	
201		8.67		8.65		34.004		26.396	166.3	0.485	2.21		96.5		33.8		34.3	2.15	27.6	0.03	0.12	0.00	0.03	203	07
231		8.45		8.42		34.083		26.494	157.6	0.534	1.82		79.6		27.7		38.3	2.30	29.1	0.00	0.00			233	06
250	ISL	8.45	D	8.42		34.182	D	26.572	150.6	0.562	1.41	D	61.3	D	21.4		42.5	2.43	30.2	0.00	0.00			252	
271		7.92		7.89		34.202		26.667	141.7	0.594	1.11		48.4		16.7		47.2	2.58	31.5	0.03	0.07			273	05
300	ISL	7.86	D	7.83		34.231	D	26.700	139.1	0.634	0.93	D	40.4	D	13.9		50.1	2.67	32.2	0.00	0.00			302	
321		7.81		7.77		34.267		26.736	136.1	0.664	0.74		32.2		11.1		52.3	2.74	32.7	0.00	0.00			324	04
382		7.23		7.19		34.283		26.832	127.6	0.744	0.53		22.9		7.8		59.1	2.89	35.0	0.00	0.00			385	03
400	ISL	7.17	D	7.13		34.283	D	26.841	127.0	0.768	0.50	D	21.9	D	7.4		60.4	2.91	35.3	0.00	0.00			403	
442		6.95		6.91		34.296		26.882	123.7	0.820	0.43		18.6		6.3		63.3	2.95	35.9	0.03	0.00			446	02
500	ISL	6.54	D	6.50		34.310	D	26.949	117.9	0.892	0.34	D	14.6	D	4.9		70.0	3.04	37.3	0.00	0.00			504	
518		6.40		6.35		34.316		26.973	115.7	0.911	0.29		12.8		4.2		72.0	3.07	37.8	0.00	0.00			522	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 40.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 30.9 N	118 12.8 W	10/11/2017	1347	UTC	1468 m	310 11 kn			1015.3 mb	19.5 C	17.5 C				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		19.65		19.65		33.714		23.875	402.0	0.000	5.39		235.4		103.0		0.6	0.16	0.0	0.02	0.01	0.32	0.08	0	
2		19.65		19.64		33.714		23.875	402.1	0.008	5.39		235.4		103.0		0.6	0.16	0.0	0.00	0.00	0.32	0.08	2	21
10	ISL	19.65	D	19.65		33.715	D	23.876	402.3	0.037	5.44	D	237.2	D	103.8		1.2	0.17	0.1	0.00	0.00	0.33	0.08	10	
11		19.65		19.65		33.714		23.875	402.4	0.044	5.40		235.6		103.0		1.3	0.17	0.2	0.07	0.00	0.33	0.07	11	19
11		19.65		19.65		33.717		23.877	402.2	0.045														11	20
20		19.64		19.64		33.721		23.883	402.1	0.080	5.40		235.8		103.1		0.5	0.16	0.0	0.00	0.00	0.32	0.08	20	18
30		17.13		17.12		33.648		24.451	348.2	0.118	5.73		250.1		104.2		0.4	0.19	0.0	0.00	0.05	0.55	0.07	30	17
41		12.22		12.22		33.520		25.400	257.9	0.151	4.44		194.0		73.1		8.8	1.10	11.7	0.26	0.08	0.52	0.42	41	16
50	ISL	11.12	D	11.11		33.577	D	25.650	234.3	0.172	3.71	D	161.7	D	59.7		15.0	1.42	17.1	0.08	0.00	0.30	0.37	50	
51		10.95		10.94		33.574		25.676	231.7	0.176	3.68		160.6		58.9		15.7	1.46	17.7	0.06	0.00	0.28	0.37	51	15
61		10.19		10.18		33.627		25.851	215.3	0.198	3.41		148.9		53.7		19.7	1.62	20.3	0.03	0.10	0.08	0.14	61	14
71		9.91		9.90		33.697		25.953	205.8	0.219	3.14		137.3		49.2		22.3	1.75	22.1	0.03	0.25	0.06	0.11	72	13
75	ISL	9.86	D	9.85		33.712	D	25.974	203.9	0.226	3.16	D	137.4	D	49.4		23.2	1.78	22.6	0.00	0.00	0.05	0.10	76	
86		9.54		9.53		33.780		26.079	194.2	0.249	2.88		125.7		44.8		25.8	1.87	23.9	0.00	0.00	0.03	0.07	87	12
100	ISL	9.22	D	9.21		33.863	D	26.197	183.2	0.274	2.70	D	117.3	D	41.6		28.3	1.96	25.2	0.00	0.00	0.02	0.07	101	
101		9.24		9.23		33.865		26.195	183.5	0.278	2.67		116.4		41.2		28.5	1.97	25.3	0.00	0.00	0.02	0.07	102	11
121		9.13		9.12		33.885		26.229	180.6	0.314	2.61		113.9		40.2		29.3	2.01	25.8	0.00	0.00	0.02	0.07	122	10
125	ISL	9.12	D	9.10		33.887	D	26.232	180.4	0.320	2.63	D	114.3	D	40.5		30.0	2.03	26.0	0.00	0.00	0.02	0.07	126	
140		8.85		8.83		33.953		26.327	171.6	0.347	2.40		104.7		36.7		32.5	2.10	26.9	0.00	0.18	0.01	0.05	141	09
150	ISL	8.81	D	8.80		33.990	D	26.363	168.5	0.364	2.37	D	103.2	D	36.3		33.8	2.15	27.5	0.00	0.15	0.01	0.05	151	
171		8.61		8.59		34.046		26.439	161.6	0.399	2.03		88.5		30.9		36.7	2.25	28.6	0.00	0.08	0.00	0.04	172	08
200	ISL	8.59	D	8.57		34.168	D	26.538	152.8	0.444	1.48	D	64.5	D	22.6		40.6	2.42	29.6	0.00	0.00	0.00	0.03	202	
201		8.56		8.54		34.154		26.531	153.5	0.446	1.53		66.8		23.3		40.7	2.43	29.6	0.00	0.00	0.00	0.03	203	07
231		8.73		8.71		34.274		26.600	147.7	0.492	1.01		44.1		15.5		43.4	2.61	30.0	0.00	0.00			233	06
250	ISL	8.50	D	8.47		34.287	D	26.647	143.6	0.519	0.87	D	38.0	D	13.3		45.6	2.65	30.7	0.00	0.00			252	
271		8.22		8.19		34.273		26.679	140.8	0.549	0.83		36.4		12.6		48.0	2.69	31.4	0.00	0.00			273	05
300	ISL	7.73	D	7.70		34.251	D	26.734	135.8	0.590	0.82	D	35.5	D	12.2		52.6	2.77	33.0	0.00	0.00			302	
320		7.58		7.55		34.251		26.756	134.0	0.616	0.71		31.1		10.6		55.7	2.82	34.1	0.00	0.06			323	04
380		7.27		7.24		34.274		26.820	128.8	0.695	0.52		22.8		7.7		60.4	2.92	35.3	0.00	0.06			383	03
400	ISL	7.13	D	7.09		34.287	D	26.850	126.1	0.722	0.47	D	20.2	D	6.9		62.3	2.97	35.6	0.00	0.00			403	
441		6.84		6.79		34.297		26.899	122.0	0.772	0.39		17.0		5.7		66.3	3.06	36.2	0.00	0.00			445	02
500	ISL	6.41	D	6.36		34.317	D	26.972	115.6	0.844	0.29	D	12.7	D	4.3		74.0	3.12	37.9	0.00	0.00			504	
516		6.29		6.24		34.321		26.991	113.8	0.860	0.27		11.6		3.9		76.1	3.14	38.3	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 20.8 N	118 33.2 W	10/11/2017	1800	UTC	1354 m	320 12 kn	310 02 10	1	1016.5 mb	20.0 C	18.0 C	23 m	3/8	SC	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		18.93		18.93		33.585		23.959	394.0	0.000	5.45		238.1		102.6		1.1	0.16	0.0	0.02	0.00	0.21	0.07	0	
2	A	18.93		18.93		33.585		23.959	394.0	0.008	5.45		238.1		102.6		1.1	0.16	0.0	0.00	0.00	0.21	0.07	2	24
9		18.92		18.92		33.584		23.960	394.2	0.036	5.44		237.6		102.4		0.8	0.16	0.0	0.00	0.00	0.21	0.07	9	22
9		18.92		18.92		33.585		23.961	394.1	0.035														9	23
10	ISL	18.92	D	18.92		33.584	D	23.961	394.2	0.036	5.49	D	239.3	D	103.2		0.8	0.16	0.0	0.00	0.00	0.21	0.07	10	
15	A	18.92		18.91		33.584		23.963	394.2	0.059	5.44		237.4		102.3		0.6	0.15	0.0	0.00	0.00	0.22	0.08	15	21
19	A	18.84		18.84		33.583		23.982	392.5	0.075	5.44		237.6		102.2		0.5	0.16	0.0	0.00	0.00	0.24	0.06	19	20
20	ISL	17.73	D	17.72		33.480	D	24.177	373.9	0.075	5.71	D	249.1	D	105.0		0.7	0.18	0.0	0.00	0.00	0.27	0.09	20	
28		14.91		14.91		33.351		24.722	322.1	0.106	5.94		259.5		103.2		2.1	0.32	0.0	0.00	0.00	0.48	0.26	28	19
30	ISL	14.39	D	14.39		33.347	D	24.831	311.9	0.110	5.82	D	253.8	D	100.1		2.7	0.39	0.8	0.00	0.00	0.55	0.29	30	
37	A	13.33		13.33		33.358		25.057	290.4	0.134	5.18		225.9		87.0		5.0	0.63	3.7	0.21	0.00	0.77	0.40	37	18
46		12.53		12.52		33.380		25.234	273.8	0.159	4.71		205.4		77.8		7.3	0.85	7.9	0.09	0.17	0.43	0.36	46	17
50	ISL	12.37	D	12.36		33.389	D	25.271	270.4	0.168	4.68	D	203.9	D	77.2		7.7	0.89	8.4	0.07	0.00	0.39	0.33	50	
55		12.20		12.19		33.397		25.311	266.8	0.183	4.57		199.6		75.1		8.2	0.93	9.2	0.05	0.00	0.35	0.30	55	16
64	A	11.75		11.74		33.428		25.419	256.7	0.207	4.38		191.1		71.2		10.2	1.08	11.8	0.04	0.00	0.23	0.23	65	15
73		11.19		11.18		33.477		25.560	243.4	0.229	4.01		174.9		64.4		13.1	1.27	14.5	0.03	0.05	0.14	0.18	74	14
75	ISL	11.10	D	11.09		33.493	D	25.588	240.8	0.232	3.94	D	171.7	D	63.3		13.8	1.31	15.1	0.00	0.00	0.13	0.17	76	
81	A	10.69		10.68		33.534		25.692	231.0	0.248	3.73		162.7		59.3		15.7	1.42	17.0	0.00	0.00	0.08	0.15	82	13
91		10.34		10.33		33.594		25.800	220.9	0.271	3.49		152.4		55.2		18.5	1.56	19.1	0.03	0.00	0.04	0.09	92	12
100	ISL	9.87	D	9.85		33.689	D	25.955	206.3	0.288	3.26	D	142.0	D	51.0		21.8	1.71	21.4	0.00	0.00	0.02	0.06	101	
101		9.82		9.81		33.697		25.968	205.1	0.292	3.18		138.9		49.7		22.2	1.73	21.7	0.00	0.00	0.01	0.06	102	11
121		9.52		9.51		33.810		26.107	192.3	0.332	2.84		124.1		44.2		25.6	1.88	23.6	0.00	0.00	0.00	0.04	122	10
125	ISL	9.46	D	9.45		33.854	D	26.151	188.2	0.338	2.78	D	121.0	D	43.1		26.5	1.92	23.9	0.00	0.00	0.00	0.04	126	
140		9.48		9.46		33.977		26.246	179.5	0.367	2.33		101.5		36.1		29.6	2.07	25.1	0.00	0.00	0.00	0.04	141	09
150	ISL	9.47	D	9.46		34.026	D	26.285	176.1	0.384	2.20	D	95.7	D	34.2		30.7	2.12	25.5	0.00	0.00	0.00	0.04	151	
171		9.35		9.34		34.091		26.356	169.8	0.421	1.92		83.8		29.8		33.1	2.22	26.5	0.00	0.00	0.00	0.04	172	08
200		9.11		9.09		34.156		26.447	161.7	0.470	1.61		70.3		24.8		36.8	2.35	27.9	0.00	0.00	0.00	0.04	202	07
231		8.74		8.71		34.171		26.518	155.5	0.519	1.47		64.0		22.4		40.2	2.42	29.3	0.00	0.00			233	06
250	ISL	8.59	D	8.56		34.191	D	26.558	152.0	0.548	1.34	D	58.4	D	20.5		42.6	2.48	30.1	0.00	0.00			252	
271		8.17		8.15		34.181		26.613	146.9	0.580	1.27		55.4		19.2		45.2	2.54	31.1	0.00	0.00			273	05
300	ISL	8.02	D	7.99		34.206	D	26.656	143.4	0.622	1.06	D	46.1	D	16.0		49.4	2.65	32.2	0.00	0.00			302	
320		7.77		7.74		34.234		26.716	137.9	0.650	0.85		36.9		12.7		52.2	2.73	33.0	0.00	0.00			323	04
380		7.17		7.13		34.274		26.834	127.4	0.729	0.53		23.1		7.8		61.0	2.91	35.4	0.00	0.00			383	03
400	ISL	6.97	D	6.93		34.277	D	26.864	124.7	0.756	0.49	D	21.1	D	7.1		63.1	2.94	35.9	0.00	0.00			403	
441		6.72		6.68		34.282		26.902	121.5	0.805	0.41		17.9		6.0		67.4	3.01	37.0	0.00	0.00			445	02
500	ISL	6.37	D	6.32		34.293	D	26.959	116.7	0.877	0.34	D	15.0	D	5.0		73.3	3.08	38.3	0.00	0.00			504	
517		6.30		6.26		34.301		26.974	115.5	0.895	0.31		13.5		4.5		75.0	3.10	38.6	0.00	0.00			521	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
32 10.8 N	118 53.5 W	10/11/2017	2207	UTC	1451 m	310 14 kn	310 02 13	1	1014.7 mb	17.9 C	16.0 C		6/8	SC	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		18.31		18.31		33.535		24.075	382.9	0.000	5.50		240.2		102.3		1.4	0.19	0.0	0.02	0.19	0.18	0.07	0	
2		18.31		18.31		33.535		24.075	382.9	0.008	5.50		240.2		102.3		1.4	0.19	0.0	0.00	0.19	0.18	0.07	2	20
10	ISL	17.65	D	17.65		33.501	D	24.210	370.4	0.034	5.60	D	244.3	D	102.8		1.4	0.22	0.0	0.00	0.00	0.23	0.09	10	
11		17.41		17.41		33.477		24.249	366.7	0.042	5.62		245.2		102.6		1.4	0.22	0.0	0.00	0.00	0.23	0.09	11	19
20	ISL	17.14	D	17.13		33.447	D	24.292	362.9	0.071	5.67	D	247.4	D	103.1		1.5	0.24	0.0	0.00	0.00	0.29	0.12	20	
21		17.11		17.11		33.452		24.303	361.9	0.078	5.65		246.7		102.6		1.5	0.24	0.0	0.00	0.00	0.30	0.13	21	18
30	ISL	15.97	D	15.96		33.396	D	24.524	341.1	0.107	5.78	D	252.1	D	102.6		2.3	0.28	0.2	0.00	0.00	0.70	0.30	30	
31		15.85		15.85		33.394		24.549	338.8	0.113	5.74		250.4		101.5		2.3	0.28	0.2	0.04	0.00	0.74	0.32	31	17
41		14.18		14.18		33.320		24.854	310.0	0.145	5.76		251.4		98.5		3.2	0.40	1.6	0.10	0.10	0.75	0.36	41	16
50	ISL	13.18	D	13.17		33.332	D	25.070	289.6	0.170	5.37	D	233.9	D	90.0		5.4	0.63	4.9	0.19	0.08	0.52	0.53	50	
51		13.04		13.03		33.333		25.097	287.0	0.175	5.27		229.9		88.0		5.6	0.66	5.2	0.20	0.08	0.49	0.55	51	15
61		12.28		12.27		33.407		25.302	267.7	0.203	4.77		208.1		78.5		8.0	0.90	8.8	0.16	0.00	0.37	0.27	61	14
72		11.76		11.75		33.453		25.436	255.2	0.232	4.27		186.5		69.5		11.2	1.14	12.3	0.07	0.00	0.24A	0.21A	73	13
75	ISL	11.72	D	11.71		33.447	D	25.440	254.9	0.238	4.30	D	187.3	D	70.0		11.7	1.17	12.7	0.07	0.00	0.22	0.20	76	
86		11.22		11.21		33.500		25.572	242.6	0.267	4.09		178.6		65.9		13.2	1.26	14.3	0.05	0.00	0.14	0.15	87	12
100	ISL	10.49	D	10.47		33.578	D	25.763	224.6	0.298	3.59	D	156.4	D	56.9		17.2	1.52	18.3	0.03	0.00	0.06	0.10	101	
101		10.27		10.26		33.573		25.796	221.5	0.302	3.62		158.0		57.1		17.5	1.54	18.6	0.03	0.00	0.05	0.10	102	11
121		9.80		9.79		33.696		25.972	205.1	0.344	3.21		140.0		50.1		22.3	1.76	21.8	0.00	0.00	0.01	0.05	122	10
125	ISL	9.77	D	9.76		33.730	D	26.003	202.3	0.351	3.12	D	136.0	D	48.8		22.9	1.79	22.1	0.00	0.00	0.01	0.05	126	
142		9.63		9.62		33.830		26.106	192.9	0.386	2.76		120.6		43.1		25.5	1.92	23.5	0.00	0.00	0.01	0.04	143	09
150	ISL	9.47	D	9.46		33.856	D	26.152	188.7	0.400	2.78	D	120.9	D	43.1		26.5	1.94	23.9	0.00	0.00	0.00	0.04	151	
171		8.93		8.91		33.903		26.276	177.1	0.440	2.84	D	123.6	D	43.6		29.0	1.98	25.2	0.00	0.00	0.00	0.05	172	08
200	ISL	8.53	D	8.51		33.959	D	26.384	167.4	0.489	2.62	D	113.9	D	39.8		33.5	2.10	27.0	0.00	0.00	0.00	0.03	202	
201		8.49		8.47		33.967	D	26.395	166.3	0.491	2.61		113.8		39.6		33.6	2.10	27.1	0.00	0.00	0.00	0.03	203	07
231		8.23		8.21		34.030		26.485	158.3	0.541	2.17		94.7		32.8		38.0	2.26	29.0	0.00	0.00			233	06
250	ISL	8.08	D	8.05		34.069	D	26.539	153.5	0.570	1.87	D	81.5	D	28.2		40.6	2.36	30.0	0.00	0.00			252	
271		7.97		7.94		34.115		26.592	148.8	0.602	1.64		71.7		24.7		43.6	2.46	31.2	0.03	0.00			273	05
300	ISL	7.66	D	7.63		34.133	D	26.651	143.6	0.645	1.35	D	58.8	D	20.2		48.2	2.58	32.5	0.00	0.00			302	
320		7.50		7.47		34.155		26.691	140.0	0.673	1.21		52.6		17.9		51.3	2.66	33.4	0.00	0.00			323	04
380		6.97		6.94		34.190		26.795	130.8	0.754	0.84		36.7		12.3		58.8	2.85	35.5	0.00	0.00			383	03
400	ISL	6.90	D	6.86		34.207	D	26.819	128.9	0.782	0.70	D	30.5	D	10.3		61.0	2.90	36.0	0.00	0.00			403	
441		6.60		6.56		34.242		26.887	122.8	0.832	0.55		24.0		8.0		65.7	2.99	37.1	0.00	0.00			445	02
500	ISL	6.31	D	6.27		34.272	D	26.949	117.5	0.907	0.39	D	17.0	D	5.6		71.1	3.09	38.2	0.00	0.00			504	
516		6.22		6.18		34.281		26.968	115.9	0.921	0.38		16.5		5.4		72.5	3.12	38.4	0.00	0.00			520	01

A) SECOND FLUOROMETER READING RECALCULATED BECAUSE ACID RATIO > TAU OF PURE CHL-A
D) CTD DATA USED ON STANDARD LEVELS AND MISSING FIELDS; PRIMARY T; PRIMARY CORRECTED SALINITY; PRIMARY CRUISE-CORRECTED O2;

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 55.0

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	11/11/2017	0217	UTC	1573 m	310 15 kn			1015.4 mb	17.5 C	16.2 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		17.53		17.53		33.468		24.215	369.6	0.000	5.57		243.0		101.9		1.2	0.22	0.0	0.02	0.15	0.24	0.07	0	
2		17.53		17.53		33.468		24.215	369.6	0.007	5.57		243.0		101.9		1.2	0.22	0.0	0.00	0.15	0.24	0.07	2	21
10		17.53		17.53		33.468		24.215	370.0	0.037	5.56		242.6		101.7		1.2	0.22	0.0	0.00	0.25	0.22	0.07	10	19
10		17.53		17.53		33.468		24.215	370.0	0.038														10	20
20		17.53		17.53		33.467		24.214	370.4	0.074	5.56		242.5		101.7		1.1	0.22	0.0	0.00	0.12	0.25	0.06	20	18
30		17.41		17.40		33.461		24.240	368.3	0.111	5.59		244.0		102.1		1.2	0.22	0.0	0.00	0.09	0.27	0.09	30	17
40		16.70		16.70		33.419		24.375	355.8	0.147	5.67		247.5		102.1		1.4	0.23	0.0	0.00	0.10	0.47	0.15	40	16
50		14.09		14.09		33.351		24.897	306.1	0.180	5.88		256.9		100.5		2.6	0.28	0.0	0.03	0.05	0.68	0.36	50	15
60		13.59		13.58		33.490		25.109	286.2	0.210	5.64		246.0		95.3		3.4	0.34	1.4	0.22	0.06	0.34	0.33	60	14
70		12.65		12.64		33.445		25.262	271.8	0.238	5.47		238.8		90.7		4.6	0.48	3.7	0.13	0.00	0.21	0.21	71	13
75	ISL	12.23	D	12.22	D	33.482	D	25.372	261.5	0.249	5.28	D	230.1	D	86.9		6.2	0.62	5.8	0.09	0.00	0.18	0.19	76	
85		11.79		11.78		33.485		25.457	253.6	0.277	4.62		201.6		75.2		9.6	0.90	10.1	0.03	0.00	0.12	0.15	86	12
100		10.74		10.73		33.499		25.656	234.8	0.314	4.15		181.0		66.0		13.2	1.18	14.1	0.03	0.16	0.09	0.13	101	11
120		9.74		9.72		33.617		25.921	209.9	0.358	3.82		166.9		59.6		18.8	1.46	19.4	0.00	0.08	0.02	0.05	121	10
125	ISL	9.72	D	9.70	D	33.671	D	25.967	205.7	0.367	3.70	D	161.0	D	57.7		20.5	1.54	20.4	0.00	0.07	0.02	0.04	126	
139		9.31		9.30		33.793		26.128	190.6	0.396	3.17		138.5		49.1		25.5	1.76	23.4	0.00	0.05	0.01	0.03	140	09
150	ISL	9.10	D	9.08	D	33.884	D	26.234	180.7	0.415	3.10	D	135.0	D	47.8		27.1	1.82	24.2	0.00	0.07	0.00	0.03	151	
170		9.08		9.06		33.935		26.278	177.0	0.453	2.70		117.6		41.5		29.9	1.93	25.6	0.03	0.10	0.00	0.04	171	08
200		8.79		8.77		34.059		26.421	164.0	0.504	2.18		95.1		33.3		34.7	2.13	27.7	0.00	0.00	0.00	0.02	202	07
230		8.20		8.18		34.056		26.510	155.9	0.552	1.99		87.0		30.1		39.4	2.25	29.8	0.00	0.00			232	06
250	ISL	8.01	D	7.99		34.087	D	26.563	151.2	0.582	1.71	D	74.6	D	25.8		43.1	2.39	31.0	0.00	0.00			252	
270		8.04		8.02		34.177		26.629	145.3	0.612	1.25		54.7		18.9		46.9	2.53	32.1	0.00	0.00			272	05
300	ISL	8.13	D	8.10		34.287	D	26.703	139.0	0.655	0.77	D	33.6	D	11.7		50.1	2.65	33.0	0.00	0.00			302	
321		7.74		7.70		34.279		26.756	134.1	0.684	0.72		31.2		10.7		52.4	2.74	33.6	0.00	0.00			324	04
380		6.94		6.90		34.251		26.848	125.9	0.761	0.55		23.9		8.0		63.1	2.90	36.8	0.00	0.00			383	03
400	ISL	6.76	D	6.73	D	34.257	D	26.876	123.3	0.787	0.49	D	21.4	D	7.2		65.7	2.94	37.3	0.00	0.00			403	
441		6.50		6.46		34.286		26.934	118.3	0.835	0.37		16.0		5.3		71.1	3.03	38.3	0.00	0.00			445	02
500	ISL	6.27	D	6.23	D	34.301	D	26.977	114.9	0.907	0.32	D	14.0	D	4.7		75.6	3.09	39.1	0.00	0.00			504	
516		6.17		6.13		34.311		26.998	113.0	0.922	0.27		11.8		3.9		76.8	3.10	39.3	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 60.0

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 34.3 W	11/11/2017	0653	UTC	1838 m	310 09 kn			1016.5 mb	17.9 C	16.0 C				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		19.11		19.11		33.579		23.908	398.8	0.000	5.37		234.3		101.4		1.2	0.21	0.2	0.02	0.22	0.16	0.04	0	
2		19.11		19.11		33.579		23.908	398.9	0.008	5.37		234.3		101.4		1.2	0.21	0.2	0.00	0.22	0.16	0.04	2	20
10		19.11		19.11		33.571		23.903	399.7	0.040	5.38		234.7		101.5		0.9	0.19	0.0	0.00	0.00	0.16	0.04	10	19
20		18.14		18.13		33.474		24.073	383.8	0.079	5.58		243.7		103.4		0.9	0.25	0.0	0.00	0.27	0.22	0.07	20	18
30		17.09		17.08		33.407		24.275	365.0	0.117	5.69		248.5		103.3		1.0	0.24	0.0	0.00	0.00	0.35	0.19	30	17
40		15.17		15.17		33.340	D	24.658	328.7	0.148	5.88	D	256.2	D	102.7									40	16
50		13.94		13.94		33.323		24.906	305.3	0.183	5.58		243.7		95.1		3.6	0.46	1.8	0.17	0.00	0.64	0.43	50	15
61		12.76		12.75		33.367	D	25.179	279.5	0.213	4.94	D	215.0	D	82.0									61	14
70		12.36		12.35		33.386		25.272	270.9	0.240	4.79		209.1		78.9		7.2	0.77	6.8	0.08	0.00	0.25	0.27	71	13
75	ISL	12.17	D	12.16		33.410	D	25.327	265.7	0.251	4.55	D	198.3	D	74.7		8.8	0.90	9.2	0.07	0.00	0.21	0.24	76	
85		11.42		11.41		33.458		25.504	249.1	0.279	4.15		181.0		67.0		12.0	1.17	13.8	0.03	0.00	0.12	0.17	86	12
100	ISL	10.55	D	10.54		33.562	D	25.739	226.9	0.313	3.75	D	163.1	D	59.5		15.8	1.39	17.4	0.03	0.00	0.06	0.10	101	
101		10.53		10.51		33.548		25.733	227.5	0.317	3.77		164.5		59.8		16.1	1.40	17.6	0.03	0.00	0.06	0.09	102	11
120		9.74		9.72		33.697		25.983	204.1	0.358	3.31		144.4		51.6		21.8	1.67	21.7	0.00	0.00	0.01	0.05	121	10
125	ISL	9.75	D	9.73		33.708	D	25.991	203.5	0.367	3.32	D	144.3	D	51.7		22.7	1.70	22.2	0.00	0.00	0.01	0.04	126	
140		9.29		9.27		33.803		26.140	189.5	0.398	3.05		132.9		47.1		25.3	1.80	23.8	0.00	0.00	0.00	0.03	141	09
150	ISL	9.22	D	9.20		33.857	D	26.194	184.6	0.415	2.96	D	128.8	D	45.7		27.2	1.85	24.6	0.00	0.00	0.00	0.03	151	
170		8.81		8.79		33.949		26.331	171.9	0.452	2.72		118.9		41.7		30.9	1.96	26.2	0.00	0.00	0.00	0.03	171	08
200		8.50		8.48		34.049		26.458	160.3	0.502	2.08		90.6		31.6		36.5	2.20	28.9	0.00	0.00	0.00	0.03	202	07
231		8.31		8.28		34.101		26.529	154.2	0.551	1.74		76.0		26.4		40.5	2.34	30.6	0.00	0.00			233	06
250	ISL	8.25	D	8.22		34.110	D	26.546	152.9	0.580	1.65	D	72.0	D	25.0		42.0	2.39	31.0	0.00	0.00			252	
270		8.13		8.10		34.141		26.589	149.2	0.610	1.45		63.4		21.9		43.6	2.45	31.4	0.00	0.00			272	05
300	ISL	7.89	D	7.86		34.165	D	26.643	144.5	0.654	1.24	D	53.9	D	18.6		47.9	2.56	32.8	0.00	0.00			302	
320		7.75		7.72		34.192		26.686	140.7	0.682	1.03		44.9		15.4		50.8	2.64	33.7	0.00	0.00			323	04
380		7.26		7.22		34.235		26.790	131.6	0.764	0.68		29.6		10.0		58.3	2.82	35.7	0.00	0.00			383	03
400	ISL	7.10	D	7.07		34.245	D	26.820	128.9	0.792	0.61	D	26.5	D	9.0		60.4	2.85	36.2	0.00	0.00			403	
440		6.84		6.80		34.261		26.869	124.7	0.841	0.52		22.7		7.6		64.5	2.92	37.2	0.00	0.00			444	02
500	ISL	6.35	D	6.31		34.290	D	26.958	116.8	0.916	0.36	D	15.6	D	5.2		71.8	3.05	38.6	0.00	0.00			504	
516		6.28		6.23		34.296		26.973	115.5	0.932	0.33		14.4		4.8		73.7	3.08	39.0	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 30.9 N	120 14.5 W	11/11/2017	1253	UTC	3923 m	360 15 kn			1016.6 mb	19.0 C	17.0 C				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		18.42		18.42		33.491	24.014	388.7	0.000	5.49		239.5		102.2		1.4	0.19	0.2	0.03	0.03	0.23	0.05	0	
2		18.42		18.42		33.491	24.014	388.8	0.008	5.49		239.5		102.2		1.4	0.19	0.2	0.03	0.00	0.23	0.05	2	20
10		18.41		18.41		33.491	24.018	388.7	0.039	5.45		237.7		101.4		0.7	0.17	0.0	0.00	0.00	0.23	0.05	10	19
20	ISL	18.40	D	18.40		33.491	D 24.020	388.9	0.074	5.50	D	239.7	D	102.3		0.7	0.17	0.0	0.00	0.00	0.23	0.06	20	
26		18.30		18.29		33.477	24.036	387.6	0.101	5.48		239.3		101.9		0.7	0.17	0.0	0.00	0.00	0.23	0.07	26	18
30	ISL	18.15	D	18.14		33.470	D 24.069	384.7	0.113	5.55	D	242.1	D	102.8		0.7	0.17	0.0	0.00	0.00	0.23	0.07	30	
40		17.54		17.53		33.476	24.222	370.5	0.154	5.48		239.3		100.3		0.7	0.17	0.0	0.00	0.00	0.22	0.06	40	17
50		15.41		15.40		33.336	24.604	334.2	0.189	5.98		261.0		104.9		1.5	0.22	0.0	0.00	0.00	0.46	0.21	50	16
62		13.80		13.79		33.333	24.945	301.9	0.228	5.88		256.9		99.9		2.5	0.30	0.4	0.05	0.00	0.51	0.30	62	15
75	ISL	12.74	D	12.73		33.444	D 25.244	273.7	0.263	5.37	D	234.0	D	89.3		4.1	0.46	3.4	0.07	0.00	0.26	0.23	76	
76		12.64		12.63		33.447	25.265	271.8	0.268	5.39		235.2		89.4		4.3	0.47	3.7	0.07	0.00	0.24	0.23	77	14
87		11.81		11.80		33.424	25.406	258.5	0.297	4.89		213.4		79.7		7.4	0.78	8.4	0.05	0.08	0.15	0.15	88	13
100		10.88		10.87		33.518	25.647	235.7	0.329	4.55		198.5		72.7		11.1	1.02	12.6	0.00	0.00	0.09	0.07	101	12
112		10.20		10.18		33.542	25.785	222.8	0.357	4.04		176.5		63.6		15.6	1.32	17.0	0.00	0.00	0.04	0.06	113	11
125		9.85		9.84		33.618	25.903	211.8	0.385	3.69		161.1		57.7		19.1	1.51	19.7	0.00	0.00	0.02	0.03	126	10
140		9.31		9.30		33.731	26.080	195.2	0.415	3.33		145.4		51.5		23.1	1.69	22.6	0.00	0.00	0.01	0.02	141	09
150	ISL	9.11	D	9.09		33.794	D 26.163	187.5	0.433	3.32	D	144.4	D	51.1		24.9	1.74	23.3	0.00	0.00	0.01	0.02	151	
171		8.79		8.77		33.888	26.287	176.0	0.473	3.10		135.2		47.4		28.7	1.83	24.9	0.00	0.00	0.00	0.02	172	08
200	ISL	8.63	D	8.61		34.020	D 26.416	164.4	0.521	2.45	D	106.5	D	37.3		33.8	2.06	27.2	0.00	0.00	0.00	0.02	202	
201		8.48		8.46		34.017	26.437	162.3	0.524	2.43		105.9		36.9		34.0	2.07	27.3	0.00	0.06	0.00	0.02	203	07
230		8.31		8.28		34.099	26.528	154.3	0.570	1.83		79.7		27.7		39.5	2.29	29.3	0.00	0.09			232	06
250	ISL	7.85	D	7.83		34.072	D 26.574	150.0	0.599	1.85	D	80.7	D	27.8		43.0	2.43	30.4	0.00	0.00			252	
270		7.99		7.96		34.175	26.636	144.6	0.629	1.26		54.9		18.9		46.6	2.56	31.4	0.00	0.00			272	05
300	ISL	7.72	D	7.69		34.189	D 26.687	140.2	0.672	1.11	D	48.1	D	16.5		50.6	2.64	32.7	0.00	0.00			302	
321		7.50		7.47		34.204	26.731	136.3	0.700	0.94		41.0		14.0		53.5	2.70	33.6	0.00	0.00			324	04
380		7.14		7.10		34.243	26.814	129.3	0.779	0.64		27.8		9.4		58.7	2.86	35.4	0.00	0.00			383	03
400	ISL	7.02	D	6.98		34.265	D 26.847	126.3	0.806	0.57	D	24.8	D	8.4		61.1	2.90	35.9	0.00	0.00			403	
440		6.85		6.80		34.297	26.898	122.1	0.854	0.45		19.6		6.6		65.9	2.99	36.8	0.03	0.18			444	02
500	ISL	6.42	D	6.37		34.296	D 26.955	117.2	0.929	0.35	D	15.3	D	5.1		71.3	3.06	38.2	0.00	0.00			504	
515		6.28		6.23		34.296	26.973	115.5	0.943	0.31		13.6		4.5		72.7	3.08	38.5	0.00	0.00			519	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
31 10.8 N	120 55.2 W	11/11/2017	1855	UTC	3816 m	330 11 kn	350 03 11	1	1018.2 mb	20.0 C	18.0 C	24 m	2/8	ST	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		18.48		18.48		33.493	24.001	389.9	0.000	5.49		239.9		102.5		1.3	0.18	0.0	0.02	0.02	0.17	0.06	0	
2	A	18.48		18.48		33.493	24.001	390.0	0.008	5.49		239.9		102.5		1.3	0.18	0.0	0.00	0.00	0.17	0.06	2	24
9		18.45		18.45		33.484	24.002	390.2	0.035	5.50		240.2		102.5		0.9	0.17	0.0	0.00	0.00	0.17	0.06	9	22
9		18.45		18.45		33.484	24.002	390.2	0.035														9	23
10	ISL	18.44	D	18.44		33.485	D 24.006	389.9	0.036	5.50	D	239.9	D	102.5		0.8	0.17	0.0	0.00	0.00	0.17	0.06	10	
16	A	18.39		18.39		33.484	24.018	389.0	0.062	5.48		239.4		102.1		0.7	0.18	0.0	0.00	0.00	0.19	0.07	16	21
20	A	18.22		18.21		33.462	24.044	386.6	0.078	5.54		241.6		102.7		0.6	0.18	0.0	0.00	0.00	0.25	0.09	20	20
29		17.69		17.68		33.422	24.143	377.5	0.112	5.68		247.8		104.2		0.8	0.19	0.0	0.00	0.00	0.35	0.17	29	19
30	ISL	17.66	D	17.65		33.428	D 24.155	376.4	0.113	5.71	D	249.0	D	104.7		0.8	0.19	0.0	0.00	0.00	0.36	0.18	30	
39	A	16.54		16.54		33.364	24.369	356.2	0.149	5.88		256.5		105.4		1.1	0.22	0.0	0.00	0.00	0.43	0.22	39	18
48		14.12		14.11		33.320	24.868	308.8	0.179	5.85		255.4		100.0		2.2	0.33	0.0	0.05	0.21	0.62	0.44	48	16
48		14.12		14.11		33.320	24.868	308.8	0.179														48	17
50	ISL	14.14	D	14.14		33.324	D 24.866	309.1	0.183	5.83	D	254.2	D	99.8		2.3	0.34	0.1	0.06	0.18	0.59	0.43	50	
57		13.83		13.82		33.331	24.936	302.6	0.207	5.75		250.8		97.6		2.6	0.36	0.6	0.12	0.09	0.47	0.37	57	15
67	A	12.84		12.83		33.324	25.131	284.3	0.236	5.45		238.0		90.7		3.9	0.51	3.5	0.19	0.00	0.29	0.28	68	14
75		12.41		12.40		33.358	25.240	274.0	0.258	5.24		228.8		86.4		5.3	0.64	5.9	0.05	0.00	0.19	0.20	76	13
84	A	11.95		11.94		33.397	25.359	262.9	0.282	4.82		210.3		78.7		7.4	0.83	8.6	0.04	0.00	0.14	0.14	85	12
100	ISL	11.07	D	11.06		33.471	D 25.577	242.4	0.321	4.44	D	193.2	D	71.2		11.3	1.08	12.8	0.00	0.00	0.07	0.10	101	
101		10.95		10.93		33.466	25.595	240.7	0.325	4.48		195.6		71.7		11.5	1.10	13.0	0.00	0.00	0.07	0.10	102	11
121		10.23		10.22		33.544	25.781	223.4	0.372	4.04		176.4		63.7		15.8	1.35	16.9	0.00	0.00	0.03	0.06	122	10
125	ISL	10.09	D	10.08		33.575	D 25.829	218.9	0.379	3.97	D	173.0	D	62.4		16.7	1.39	17.6	0.00	0.00	0.03	0.06	126	
141		9.71		9.69		33.650	25.953	207.4	0.415	3.66		159.5		57.0		20.3	1.57	20.3	0.00	0.00	0.01	0.04	142	09
150	ISL	9.57	D	9.55		33.714	D 26.025	200.7	0.432	3.49	D	151.7	D	54.2		21.8	1.63	21.1	0.00	0.00	0.01	0.03	151	
171		9.23		9.22		33.820	26.163	188.0	0.474	3.16		137.9		48.8		25.2	1.78	23.1	0.00	0.00	0.01	0.03	172	08
200	ISL	8.70	D	8.68		33.947	D 26.347	170.9	0.525	2.88	D	125.5	D	44.0		30.7	1.93	25.5	0.00	0.00	0.00	0.02	202	
201		8.58		8.56		33.948	26.367	169.0	0.528	2.85		124.4		43.4		30.9	1.94	25.6	0.00	0.00	0.00	0.02	203	07
231		8.37		8.34		34.069	26.495	157.4	0.577	2.14		93.2		32.4		36.5	2.20	28.2	0.00	0.00			233	06
250	ISL	8.12	D	8.10		34.054	D 26.521	155.2	0.607	2.05	D	89.1	D	30.9		39.7	2.28	29.4	0.00	0.00			252	
270		7.98		7.95		34.103	26.581	149.8	0.637	1.77		77.1		26.6		42.9	2.37	30.6	0.00	0.00			272	05
300	ISL	7.82	D	7.79		34.156	D 26.647	144.1	0.682	1.40	D	60.7	D	20.9		48.1	2.53	32.1	0.00	0.00			302	
320		7.63		7.60		34.177	26.691	140.2	0.709	1.11		48.4		16.6		51.5	2.64	33.2	0.00	0.00			323	04
380		7.05		7.01		34.191	26.785	131.9	0.791	0.83		36.0		12.2		57.3	2.78	35.3	0.00	0.00			383	03
400	ISL	6.86	D	6.82		34.186	D 26.807	129.9	0.819	0.81	D	35.1	D	11.8		60.3	2.83	36.0	0.00	0.00			403	
441		6.43		6.39		34.201	26.876	123.6	0.869	0.62		27.2		9.0		66.5	2.94	37.5	0.00	0.00			445	02
500	ISL	6.04	D	6.00		34.237	D 26.955	116.6	0.943	0.44	D	19.3	D	6.4		74.1	3.06	39.0	0.00	0.00			504	
515		5.96		5.92		34.248	26.975	114.9	0.957	0.39		17.0		5.6		76.0	3.09	39.4	0.00	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 SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 90.0

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 35.3 W	12/11/2017	0035	UTC	4082 m	340 13 kn	320 04 08	1	1016.4 mb	18.5 C	17.0 C		3/8	ST	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		19.03		19.03		33.475		23.849		404.5	0.000	5.39		235.4		101.6		1.3	0.20	0.0	0.01	0.02	0.11	0.03	0	
2		19.03		19.03		33.475		23.849		404.5	0.008	5.39		235.4		101.6		1.3	0.20	0.0	0.00	0.00	0.11	0.03	2	20
10		19.03		19.03		33.475		23.851		404.6	0.041	5.38		235.0		101.4		1.3	0.21	0.0	0.00	0.00	0.14	0.01	10	19
20	ISL	19.00	D	18.99		33.475	D	23.860		404.2	0.077	5.42	D	236.5	D	102.1		1.3	0.21	0.0	0.00	0.00	0.14	0.01	20	
25		18.79		18.79		33.475		23.912		399.5	0.101	5.38		235.0		101.0		1.3	0.21	0.0	0.00	0.00	0.13	0.01	25	18
30	ISL	18.63	D	18.62		33.452	D	23.936		397.3	0.118	5.40		235.7		101.0		1.4	0.22	0.0	0.00	0.00	0.16	0.04	30	
40		18.50		18.49		33.444		23.962		395.3	0.161	5.44		237.6		101.5		1.5	0.23	0.0	0.00	0.00	0.21	0.09	40	17
50		17.98		17.97		33.429		24.079		384.4	0.200	5.54		241.8		102.3		1.7	0.21	0.0	0.00	0.00	0.31	0.10	50	16
62		16.26		16.25		33.368		24.440		350.3	0.244	5.90		257.6		105.3		1.8	0.23	0.0	0.00	0.00	0.32	0.24	62	15
75		14.96		14.95		33.472		24.808		315.6	0.287	5.87		256.5		102.2		2.1	0.23	0.0	0.00	0.00	0.32	0.33	76	14
87		14.06		14.04		33.457		24.989		298.6	0.324	5.70		249.0		97.4		2.6	0.32	0.9	0.12	0.00	0.26	0.25	88	13
100		12.70		12.69		33.380		25.203		278.4	0.361	5.45		237.9		90.4		3.8	0.48	3.5	0.06	0.00	0.16	0.22	101	12
112		12.20		12.18		33.468		25.368		262.9	0.394	5.24		228.9		86.2		5.2	0.57	5.3	0.00	0.00	0.10	0.14	113	11
125		11.58		11.57		33.479		25.492		251.3	0.427	4.86		212.1		78.8		8.2	0.83	9.5	0.00	0.12	0.07	0.11	126	10
140		10.59		10.57		33.530		25.710		230.7	0.463	4.41		192.4		70.0		12.9	1.14	14.2	0.00	0.00	0.03	0.05	141	09
150	ISL	10.34	D	10.33		33.576	D	25.788		223.4	0.485	4.52	D	196.9	D	71.4		14.4	1.21	15.3	0.00	0.00	0.02	0.04	151	
170		9.69		9.67		33.659		25.964		207.0	0.529	4.16		181.8		64.9		17.3	1.34	17.6	0.00	0.00	0.01	0.03	171	08
200		8.95		8.93		33.854		26.235		181.7	0.587	3.56		155.3		54.6		26.0	1.67	22.6	0.00	0.00	0.00	0.03	202	07
231		8.43		8.41		33.939		26.383		168.0	0.642	3.18		138.7		48.2		31.8	1.86	25.2	0.00	0.06			233	06
250	ISL	8.19	D	8.17		33.995	D	26.464		160.6	0.673	2.60	D	112.9	D	39.2		36.0	2.05	27.4	0.00	0.00			252	
271		7.88		7.85		34.025		26.535		154.1	0.706	2.20		95.8		32.9		40.6	2.26	29.9	0.00	0.00			273	05
300	ISL	7.56	D	7.53		34.052	D	26.602		148.1	0.750	1.95	D	84.7	D	29.0		45.9	2.40	31.8	0.00	0.00			302	
320		7.31		7.28		34.066		26.649		143.9	0.779	1.59		69.4		23.5		49.6	2.50	33.2	0.00	0.07			323	04
380		6.67		6.63		34.094		26.759		133.9	0.863	1.13		49.4		16.5		60.0	2.71	35.9	0.00	0.00			383	03
400	ISL	6.48	D	6.45		34.108	D	26.795		130.7	0.890	1.03	D	44.9	D	15.0		63.5	2.79	36.8	0.00	0.00			403	
441		6.11		6.07		34.149		26.877		123.2	0.941	0.69		29.9		9.9		70.7	2.94	38.6	0.00	0.00			445	02
500	ISL	5.77	D	5.73		34.206	D	26.965		115.4	1.014	0.48	D	20.7	D	6.8		77.5	3.06	39.9	0.00	0.00			504	
516		5.72		5.67		34.222		26.984		113.8	1.030	0.42		18.3		6.0		79.3	3.09	40.2	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 30.8 N	122 15.6 W	12/11/2017	0620	UTC	4156 m	330 05 kn			1018.9 mb	18.1 C	16.4 C				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		18.53		18.53		33.452		23.956		394.2	0.000	5.46		238.2		101.8		1.7	0.20	0.0	0.02	0.03	0.11	0.03	0	
2		18.53		18.53		33.452		23.956		394.3	0.008	5.46		238.2		101.8		1.7	0.20	0.0	0.00	0.00	0.11	0.03	2	20
10		18.53		18.53		33.454		23.959		394.3	0.039	5.43		236.8		101.2		1.6	0.20	0.0	0.00	0.00	0.11	0.03	10	19
20	ISL	18.48	D	18.48		33.450	D	23.970		393.7	0.075	5.48	D	238.8	D	102.1		1.5	0.21	0.0	0.00	0.00	0.13	0.03	20	
25		18.35		18.35		33.451		24.003		390.7	0.098	5.44		237.3		101.1		1.4	0.21	0.0	0.00	0.00	0.14	0.04	25	18
30	ISL	18.23	D	18.22		33.463	D	24.043		387.1	0.115	5.52	D	240.6	D	102.3		1.3	0.21	0.0	0.00	0.00	0.16	0.05	30	
40		17.88		17.87		33.474		24.137		378.6	0.156	5.51		240.7		101.6		1.2	0.20	0.0	0.00	0.07	0.19	0.07	40	17
50		17.12		17.11		33.408		24.269		366.2	0.193	5.72		249.5		103.8		1.4	0.21	0.0	0.00	0.06	0.23	0.12	50	16
62		16.10		16.09		33.577		24.636		331.6	0.235	5.86		256.0		104.4		1.7	0.19	0.0	0.00	0.00	0.26	0.17	62	15
75		14.32		14.30		33.443		24.923		304.5	0.277	5.77		251.9		99.1		2.2	0.30	0.2	0.07	0.00	0.34	0.25	76	14
87		13.58		13.56		33.450		25.082		289.6	0.312	5.64		246.0		95.3		2.8	0.35	1.2	0.15	0.00	0.23	0.20	88	13
100		12.68		12.66		33.424		25.242		274.7	0.349	5.34		233.3		88.6		4.2	0.51	3.9	0.04	0.05	0.14	0.15	101	12
112		11.68		11.66		33.428		25.434		256.5	0.381	5.13		224.2		83.4		5.8	0.65	6.5	0.03	0.00	0.10	0.11	113	11
125		10.94		10.92		33.434		25.573		243.4	0.413	4.79		209.1		76.6		9.0	0.90	10.3	0.00	0.00	0.06	0.08	126	10
140		10.30		10.28		33.529		25.758		226.0	0.449	4.29		187.4		67.7		14.1	1.21	15.1	0.00	0.00	0.03	0.04	141	09
150	ISL	10.17	D	10.15		33.573	D	25.816		220.7	0.470	4.14	D	180.0	D	65.1		17.3	1.37	17.4	0.00	0.00	0.02	0.03	151	
170		9.42		9.40		33.738		26.069		196.9	0.512	3.36		146.9		52.1		23.6	1.70	22.2	0.00	0.00	0.00	0.02	171	08
200		8.76		8.74		33.876		26.282		177.1	0.568	3.35		146.1		51.2		27.6	1.76	23.8	0.00	0.00	0.00	0.02	202	07
230		8.27		8.24		33.939		26.408		165.5	0.620	3.30		144.2		49.9		32.8	1.84	25.2	0.00	0.00			232	06
250	ISL	8.01	D	7.99		33.976	D	26.475		159.4	0.653	2.99	D	129.9	D	44.9		36.6	1.99	27.0	0.00	0.00			252	
271		7.72		7.69		33.997		26.536		153.9	0.685	2.55		111.1		38.0		40.5	2.14	28.9	0.00	0.00			273	05
300	ISL	7.41	D	7.38		34.035	D	26.611		147.2	0.730	1.99	D	86.7	D	29.5		45.8	2.29	31.0	0.00	0.00			302	
321		7.04		7.01		34.023		26.653		143.3	0.760	1.98		86.5		29.1		49.6	2.39	32.5	0.00	0.00			324	04
381		6.77		6.73		34.161		26.800		130.2	0.842	0.83		36.3		12.2		62.2	2.84	36.8	0.00	0.00			384	03
400	ISL	6.61	D	6.57		34.171	D	26.828		127.7	0.869	0.72	D	31.1	D	10.4		65.6	2.89	37.4	0.00	0.00			403	
440		6.12		6.08		34.175		26.895		121.5	0.917	0.57		25.0		8.3		72.6	2.99	38.7	0.00	0.00			444	02
500	ISL	5.75	D	5.71		34.225	D	26.982		113.7	0.990	0.39	D	17.1	D	5.6		79.3	3.11	39.7	0.00	0.00			504	
516		5.81		5.77		34.286		27.023		110.2	1.004	0.28		12.2		4.0		81.1	3.14	40.0	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
30 10.8 N	122 55.4 W	12/11/2017	1212	UTC	3868 m	320 11 kn			1018.0 mb	19.0 C	18.0 C				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		18.77		18.77		33.432		23.883		401.2	0.000	5.40		235.9		101.3		1.8	0.18	0.0	0.02	0.06	0.13	0.03	0	
2		18.77		18.77		33.432		23.883		401.3	0.008	5.40		235.9		101.3		1.8	0.18	0.0	0.00	0.06	0.13	0.03	2	20
10		18.76		18.76		33.427		23.881		401.8	0.040	5.41		236.1		101.4		1.8	0.17	0.0	0.00	0.00	0.12	0.04	10	19
20	ISL	18.71	D	18.71		33.432	D	23.898		400.5	0.077	5.45	D	237.9	D	102.1		1.8	0.17	0.0	0.00	0.00	0.14	0.03	20	
25		18.66		18.65		33.429		23.911		399.6	0.100	5.43		237.0		101.5		1.8	0.17	0.0	0.00	0.00	0.15	0.03	25	18
30	ISL	18.63	D	18.63		33.435	D	23.921		398.8	0.117	5.46	D	238.1	D	102.0		1.8	0.17	0.0	0.00	0.00	0.17	0.04	30	
40		18.49		18.48		33.445		23.965		395.0	0.160	5.41		236.2		100.8		1.8	0.17	0.0	0.00	0.05	0.21	0.06	40	17
50		18.27		18.26		33.445		24.022		389.9	0.199	5.47		238.9		101.6		1.8	0.18	0.0	0.00	0.00	0.32	0.16	50	16
62		17.17		17.16		33.422		24.268		366.8	0.245	5.60		244.7		101.8		1.7	0.18	0.0	0.00	0.00	0.27	0.12	62	15
75		14.90		14.89		33.386		24.755		320.6	0.289	5.87		256.5		102.0		2.3	0.23	0.0	0.03	0.00	0.29	0.19	76	14
88		13.87		13.86		33.392		24.976		299.8	0.330	5.70		249.1		97.0		2.9	0.32	1.1	0.14	0.00	0.25	0.19	89	13
100		13.23		13.22		33.397		25.112		287.1	0.365	5.57		243.2		93.5		3.5	0.38	2.3	0.12	0.00	0.18	0.16	101	12
112		12.55		12.53		33.425		25.268		272.5	0.398	5.39		235.5		89.3		4.4	0.46	3.8	0.03	0.00	0.12	0.10	113	11
125	ISL	12.06	D	12.04		33.495	D	25.417		258.6	0.432	5.09	D	221.7	D	83.4		6.6	0.66	7.1	0.03	0.00	0.11	0.07	126	
126		11.84		11.82		33.493		25.456		254.8	0.436	5.08		221.9		82.9		6.8	0.67	7.4	0.03	0.09	0.11	0.07	127	10
142		10.67		10.65		33.501		25.674		234.2	0.475	4.67		203.9		74.3		10.6	0.94	11.7	0.00	0.00	0.05	0.06	143	09
150	ISL	10.29	D	10.27		33.555	D	25.781		224.1	0.492	4.32	D	187.9	D	68.1		13.2	1.09	14.0	0.00	0.00	0.04	0.05	151	
171		9.56		9.54		33.648		25.977		205.7	0.538	3.73		162.9		58.0		20.1	1.50	20.1	0.00	0.00	0.01	0.02	172	08
200	ISL	8.99	D	8.97		33.851	D	26.227		182.5	0.593	3.07	D	133.5	D	47.1		27.1	1.81	24.4	0.00	0.00	0.00	0.02	202	
201		9.08		9.05		33.847		26.210		184.1	0.596	3.05		133.2		46.9		27.4	1.82	24.5	0.00	0.00	0.00	0.02	203	07
230		8.55		8.53		33.958		26.380		168.4	0.648	2.73		119.0		41.5		32.8	1.96	26.7	0.00	0.11			232	06
250	ISL	8.37	D	8.35		34.026	D	26.461		161.1	0.680	2.40	D	104.6	D	36.4		36.7	2.11	28.5	0.00	0.19			252	
271		7.96		7.94		34.046		26.539		153.8	0.714	2.05		89.5		30.8		40.9	2.26	30.4	0.03	0.27			273	05
300	ISL	7.61	D	7.58		34.079	D	26.616		146.8	0.757	1.71	D	74.2	D	25.4		45.5	2.38	32.0	0.00	0.00			302	
321		7.36		7.32		34.075		26.650		143.8	0.788	1.58		68.7		23.3		48.9	2.46	33.2	0.00	0.00			324	04
381		6.64		6.61		34.114		26.779		132.1	0.871	1.02		44.6		14.9		61.5	2.78	36.7	0.00	0.00			384	03
400	ISL	6.49	D	6.45		34.129	D	26.811		129.1	0.896	0.86	D	37.6	D	12.5		64.0	2.83	37.3	0.00	0.00			403	
440		6.28		6.24		34.176		26.876		123.4	0.946	0.60		26.3		8.7		69.4	2.94	38.5	0.00	0.00			444	02
500	ISL	5.97	D	5.93		34.236	D	26.964		115.8	1.019	0.39	D	17.0	D	5.6		76.2	3.06	39.7	0.00	0.00			504	
516		5.92		5.87		34.247		26.980		114.4	1.037	0.35		15.1		4.9		78.1	3.09	40.0	0.00	0.00			520	01

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

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 120.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST	TIME	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI	CLD AMT	TYPE	ORD
29 50.8 N	123 35.2 W	12/11/2017	1810	UTC	4110 m	340 06 kn	340 01 01	1	1020.8 mb	21.0 C	19.0 C	31 m	2/8	ST	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		19.31		19.31		33.573		23.854		404.0	0.000	5.39		235.4		102.2		1.5	0.16	0.0	0.02	0.11	0.12	0.03	0	
2	A	19.31		19.30		33.573		23.854		404.0	0.008	5.39		235.4		102.2		1.5	0.16	0.0	0.00	0.11	0.12	0.03	2	24
10	ISL	19.29	D	19.29		33.569	D	23.857		404.1	0.037	5.38	D	234.9	D	102.0		1.5	0.16	0.0	0.00	0.00	0.14	0.01	10	
11		19.29		19.29		33.570		23.856		404.2	0.044	5.35		233.4		101.3		1.5	0.16	0.0	0.00	0.00	0.14	0.01	11	22
11		19.29		19.29		33.567		23.854		404.5	0.044														11	23
20	A	19.28		19.28		33.572		23.861		404.1	0.081	5.34		233.0		101.1		1.5	0.16	0.0	0.00	0.00	0.13	0.02	20	21
26	A	19.32		19.31		33.591		23.868		403.8	0.105	5.35		233.5		101.4		1.5	0.16	0.0	0.00	0.00	0.15	0.01	26	20
30	ISL	19.32	D	19.32		33.609	D	23.880		402.7	0.118	5.38	D	234.8	D	102.1		1.6	0.16	0.0	0.00	0.00	0.16	0.02	30	
38		19.33		19.33		33.655		23.913		399.9	0.153	5.35		233.3		101.4		1.6	0.16	0.0	0.00	0.00	0.18	0.03	38	19
50	A	18.50		18.49		33.669		24.134		379.2	0.200	5.50		240.2		102.7		1.7	0.16	0.0	0.00	0.00	0.24	0.05	50	18
62		16.57		16.56		33.570		24.523		342.5	0.243	5.87		256.4		105.6		2.0	0.15	0.0	0.00	0.15	0.25	0.07	62	17
74		15.56		15.55		33.599		24.774		318.9	0.283	5.83		254.6		102.8		2.2	0.15	0.0	0.00	0.00	0.22	0.16	75	16
75	ISL	15.52	D	15.50		33.590	D	24.778		318.5	0.284	5.85	D	254.9	D	103.0		2.3	0.16	0.0	0.00	0.00	0.23	0.16	76	
86	A	14.74		14.73		33.526		24.898		307.4	0.321	5.78		252.1		100.1		2.5	0.21	0.1	0.06	0.00	0.32	0.15	87	14
86		14.74		14.73		33.531		24.901		307.0	0.320														87	15
97		14.19		14.17		33.499		24.994		298.4	0.354	5.70		248.8		97.6		2.7	0.27	0.7	0.19	0.00	0.23	0.20	98	13
100	ISL	14.14	D	14.12		33.503	D	25.009		297.1	0.361	5.66	D	246.8	D	96.9		2.9	0.29	1.0	0.19	0.00	0.21	0.19	101	
108	A	13.39		13.38		33.482		25.145		284.2	0.386	5.53		241.4		93.2		3.4	0.35	1.8	0.18	0.00	0.17	0.16	109	12
116		13.05		13.03		33.463		25.199		279.2	0.409	5.35		233.7		89.5		4.3	0.47	3.7	0.06	0.00	0.16	0.13	117	11
125	ISL	12.73	D	12.72		33.474	D	25.270		272.7	0.432	5.40	D	235.1	D	89.7		4.3	0.47	3.8	0.03	0.00	0.11	0.11	126	
126		12.68		12.66		33.481		25.287		271.1	0.436	5.41		236.2		89.8		4.3	0.47	3.8	0.03	0.00	0.10	0.11	127	10
140		11.76		11.75		33.466		25.449		255.9	0.473	5.14		224.6		83.7		6.8	0.71	7.7	0.00	0.00	0.07	0.07	141	09
150	ISL	10.88	D	10.86		33.484	D	25.623		239.3	0.497	4.73	D	206.1	D	75.6		10.7	0.95	11.4	0.00	0.00	0.05	0.06	151	
170		9.65		9.63		33.607		25.929		210.3	0.542	4.03		175.7		62.6		18.4	1.43	18.9	0.00	0.00	0.01	0.03	171	08
200		9.00		8.97		33.817		26.200		185.0	0.602	3.50		152.6		53.7		25.6	1.69	23.1	0.00	0.00	0.00	0.02	202	07
230		8.57		8.55		33.928		26.353		170.9	0.655	3.12		136.1		47.5		30.5	1.84	25.4	0.00	0.00			232	06
250	ISL	8.30	D	8.28		33.966	D	26.424		164.5	0.689	2.84	D	123.6	D	43.0		34.8	1.97	27.2	0.00	0.00			252	
270		7.95		7.92		33.997		26.502		157.2	0.721	2.52		109.9		37.8		39.1	2.10	29.0	0.00	0.00			272	05
300	ISL	7.60	D	7.57		34.029	D	26.579		150.3	0.768	2.12	D	92.1	D	31.5		44.8	2.28	31.4	0.00	0.00			302	
320		7.27		7.24		34.040		26.634		145.2	0.797	1.83		80.0		27.1		48.6	2.40	33.0	0.00	0.06			322	04
381		6.56		6.53		34.071		26.756		134.2	0.882	1.32		57.5		19.2		59.1	2.66	36.1	0.00	0.00			384	03
400	ISL	6.40	D	6.36		34.090	D	26.792		130.9	0.909	1.14	D	49.7	D	16.6		62.4	2.73	36.8	0.00	0.00			403	
441		6.11		6.07		34.131		26.862		124.6	0.959	0.80		34.7		11.4		69.5	2.88	38.5	0.00	0.00			445	02
500	ISL	5.75	D	5.71		34.196	D	26.959		115.9	1.033	0.51	D	22.0	D	7.2		77.0	3.02	40.1	0.00	0.00			504	
515		5.70		5.65		34.206		26.974		114.6	1.048	0.47		20.5		6.7		78.9	3.05	40.6	0.00	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 57.0 N	117 16.6 W	09/11/2017	2058	UTC	61 m	300 04 kn	290 01 04	1	1016.8 mb	19.6 C	17.9 C	15 m	2/8	SC	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	17.19	17.19	33.429	24.266	364.7	0.000	5.68	247.9	103.2	3.1	0.36	0.4	0.06	0.34	1.92	0.64	0	
1	17.19	17.19	33.429	24.266	364.7	0.004	5.68	247.9	103.2	3.1	0.36	0.4	0.06	0.34	1.92	0.64	1	03
6	17.18	17.18	33.419	24.261	365.4	0.022	5.49	239.9	99.9	3.9	0.40	0.7	0.11	0.13	2.44	0.86	6	02
10 ISL	16.54 D	16.54	33.415 D	24.406	351.7	0.035	5.39 D	234.9 D	96.7	4.1	0.40	0.8	0.13	0.36	2.52	0.95	10	
11	16.44	16.43	33.418	24.433	349.2	0.040	5.43	237.1	97.3	4.2	0.40	0.8	0.13	0.42	2.54	0.98	11	01

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

A) INCUBATION LIGHT INTENSITIES WERE PERCENT RESPECTIVELY.

RV SALLY RIDE — CALCOFI CRUISE 1711 — STATION 76.7 60.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 43.8 N	121 32.9 W	20/11/2017	1650 UTC	19 m	1152 - 1725 PST	1152 PST	1722 PST	252.1 mg C/m2	058

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	33.491	24.392	5.57	100.6	1.4	0.24	0.0	0.03	0.00	0.37	0.16	85. A	3.6	4.1	3.8	0.16
12	16.84	33.491	24.396	5.58	100.7	1.3	0.23	0.0	0.00	0.00	0.37	0.16	38.	6.5	6.3	6.4	0.10
15	16.84	33.490	24.396	5.57	100.6	1.3	0.23	0.0	0.00	0.00	0.36	0.16	30.	6.6	6.8	6.7	0.12
22	16.83	33.490	24.398	5.56D	100.4	1.3	0.23	0.0	0.00	0.00	0.37	0.15					
30	16.83	33.493	24.400	5.56	100.5	1.3	0.23	0.0	0.00	0.00	0.37	0.17	8.9	5.7	5.4	5.5	0.20
41	16.74	33.485	24.416	5.56	100.2	1.3	0.24	0.1	0.04	0.00	0.36	0.17					
52	15.90	33.454	24.586	5.28	93.6	2.5	0.42	2.4	0.21	0.13	0.32	0.18	1.5	1.2	1.0	1.1	0.09
59	13.06	33.416	25.158	4.67	78.2	7.2	0.93	10.5	0.04	0.00	0.18	0.16					
66	11.58	33.478	25.489	4.15	67.3	11.7	1.21	14.7	0.05	0.00	0.11	0.12	0.48	0.16	0.15	0.16	0.05

RV SALLY RIDE — CALCOFI CRUISE 1711 — STATION 76.7 100.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 23.3 N	124 19.4 W	19/11/2017	1726 UTC	16 m	1205 - 1745 PST	1203 PST	1737 PST	318.4 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	16.71	33.452	24.395	5.78	104.2	1.4	0.20	0.0	0.00	0.00	0.43	0.15	83. A	6.6	7.4	7.0	0.26
10	16.67	33.450	24.404	5.77	103.9	1.4	0.20	0.0	0.00	0.00	0.48	0.15	38.	9.9	8.7	9.3	0.25
13	16.67	33.451	24.406	5.78	104.0	1.3	0.21	0.0	0.00	0.00	0.44	0.15	29.	9.2	9.7	9.5	0.20
26	16.43	33.450	24.461	5.77	103.3	1.4	0.21	0.0	0.00	0.00	0.60	0.25	8.3	9.4	7.9	8.7	0.16
35	14.96	33.386	24.739	5.49	95.5	2.3	0.34	0.5	0.37	0.08	0.64	0.30					
45	13.22	33.336	25.064	5.16	86.5	4.7	0.60	4.8	0.04	0.00	0.25	0.18	1.3	0.74	0.63	0.69	0.11
56	11.84	33.376	25.361	4.54	74.0	8.9	0.99	11.3	0.04	0.00	0.11	0.12	0.46	0.12	0.12	0.12	0.06

RV SALLY RIDE — CALCOFI CRUISE 1711 — STATION 80.0 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 48.9 N	121 49.5 W	18/11/2017	1747 UTC	20 m	1159 - 1745 PST	1153 PST	1736 PST	192.0 mg C/m2	050

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	16.95	33.337	24.250	5.70	103.8	1.7	0.22	0.0	0.04	0.05	0.30	0.07	79. A	4.6	4.8	4.7	0.15
13	16.94	33.337D	24.255	5.70	103.1	1.8	0.21	0.0	0.03	0.00	0.30	0.07	37.	5.0	4.7	4.8	0.15
17	16.94	33.336	24.254	5.68	102.8	1.8	0.20	0.0	0.00	0.00	0.30	0.08	27.	4.3	4.5	4.4	0.13
25	16.92	33.333	24.258	5.69	102.8	1.8	0.20	0.0	0.00	0.00	0.32	0.07					
32	16.65	33.322	24.312	5.74	103.2	1.7	0.25	0.1	0.00	0.38	0.39	0.12	8.6	3.2	3.2	3.2	0.12
44	15.17	33.324	24.646	5.83	101.4	2.0	0.26	0.0	0.00	0.05	0.76	0.37					
56	13.71	33.268	24.913	5.64	98.7	3.4	0.39	0.7	0.48	0.09	0.56	0.31	1.4	0.86	0.83	0.85	0.15
70	11.68	33.266	25.305	5.45	91.5	5.3	0.61	5.4	0.05	0.00	0.16	0.14	0.46	0.04	0.04	0.04	0.07

RV SALLY RIDE — CALCOFI CRUISE 1711 — STATION 83.3 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
34 13.5 N	119 24.6 W	17/11/2017	1731 UTC	14 m	1144 - 1734 PST	1142 PST	1724 PST	345.3 mg C/m2	044

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	16.87	33.481	24.381	5.69	102.8	1.3	0.20	0.1	0.03	0.00	1.17	0.35	80. A	21.4	21.7	21.6	0.19
10	16.43	33.478	24.481	5.73	102.7	1.0	0.20	0.0	0.00	0.00	1.19	0.39	33.	22.2	20.7	21.5	0.21
12	15.81	33.466	24.614	5.63D	99.6	2.0	0.31	1.3	0.13	0.13	1.22	0.48	27.	14.3	13.3	13.8	0.21
23	14.75	33.452	24.834	5.14	89.1	4.2	0.51	3.6	0.29	0.15	1.05	0.53	8.0	8.2	6.6	7.4	0.17

RV SALLY RIDE — CALCOFI CRUISE 1711 — STATION 83.3 70.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 14.7 N	121 26.6 W	21/11/2017	1942 UTC	28 m	1240 - 1735 PST	1155 PST	1734 PST	80.8 mg C/m2	064

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	17.55	33.427	24.178	5.56	101.8	1.7	0.20	0.0	0.00	0.00	0.15	0.06	90. A	1.5	1.6	1.5	0.12
11	17.48	33.426	24.195	5.56	101.6	1.5	0.18	0.0	0.00	0.00	0.14	0.05					
18	17.44	33.425	24.204	5.56	101.5	1.4	0.18	0.0	0.00	0.00	0.15	0.05	37.	1.4	1.1	1.2	0.15
23	17.42	33.435	24.218	5.61	102.4	1.4	0.18	0.0	0.00	0.00	0.15	0.05	28.	1.2	0.82	1.0	0.09
34	17.40	33.424	24.214	5.58	101.8	1.4	0.18	0.0	0.00	0.00	0.15	0.06					
45	17.05	33.411	24.287	5.64	102.2	1.4	0.19	0.0	0.00	0.00	0.24	0.10	8.5	1.0	1.2	1.1	0.11
56	16.03	33.485	24.581	5.85	104.1	1.7	0.18	0.0	0.00	0.00	0.35	0.19					
67	15.02	33.590	24.886	5.92	103.3	2.2	0.18	0.0	0.06	0.00	0.44	0.32					
78	14.02	33.576	25.088	5.83	99.7	2.6	0.23	0.7	0.13	0.00	0.26	0.21	1.4	0.27	0.32	0.29	0.05
88	13.68	33.641	25.209	5.72	97.0	2.6	0.22	0.5	0.19	0.00	0.18	0.16					
98	13.02	33.588	25.301	5.51	92.2	3.7	0.36	2.6	0.06	0.00	0.11	0.12	0.46	0.05	0.04	0.05	0.03

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 83.3 110.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 54.7 N	124 10.2 W	22/11/2017	1820 UTC	34 m	1203 - 1742 PST	1203 PST	1740 PST	168.3 mg C/m2	068

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	18.65	33.457	23.932	5.46	102.1	2.4	0.20	0.2	0.03	0.07	0.12	0.05	91. A	2.2	2.2	2.2	0.11
13	18.57	33.465	23.957	5.41	101.0	1.8	0.19	0.0	0.00	0.00	0.13	0.04					
22	18.34	33.532	24.068	5.45	101.4	1.8	0.17	0.0	0.00	0.00	0.12	0.06	37.	1.9	1.9	1.9	0.11
28	18.21	33.553	24.117	5.48	101.7	1.8	0.17	0.0	0.00	0.00	0.14	0.06	28.	1.8	2.1	1.9	0.14
37	17.38	33.458	24.245	5.60	102.2	1.8	0.19	0.0	0.00	0.00	0.23	0.10					
54	15.40	33.405	24.660	5.92	103.8	1.9	0.21	0.0	0.00	0.00	0.26	0.20	8.7	2.8	1.6	2.2	0.05
67	14.74	33.404	24.803	5.82	100.7	2.4	0.23	0.0	0.03	0.00	0.31	0.22					
80	13.93	33.414	24.981	5.69	97.0	2.4	0.30	0.8	0.16	0.00	0.24	0.19					
94	13.22	33.397	25.113	5.51	92.5	3.6	0.41	2.7	0.13	0.00	0.15	0.15	1.4	0.40	0.31	0.35	0.03
101	12.79	33.394	25.196	5.38	89.5	4.3	0.49	4.1	0.05	0.00	0.13	0.13					
110	12.21	33.404	25.316	5.28	86.7	5.0	0.55	5.2	0.04	0.00	0.11	0.12					
119	11.82	33.386	25.376	5.00	81.4	7.1	0.75	8.3	0.03	0.00	0.09	0.11	0.46	0.07	0.10	0.08	0.03

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 50.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 19.4 N	119 39.9 W	16/11/2017	1743 UTC	15 m	1134 - 1740 PST	1144 PST	1723 PST	461.1 mg C/m2	038

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	16.91	33.488	24.377	5.65	102.1	2.4	0.21	0.3	0.04	0.00	0.93	0.08	81. A	14.9	15.2	15.1	0.14
10	16.73	33.485	24.415	5.66D	102.1	2.0	0.21	0.1	0.00	0.00	1.14	0.03	36.	16.8	16.9	16.9	0.18
13	16.58	33.474	24.444	5.66	101.8	2.0	0.22	0.0	0.00	0.00	1.15	0.14	26.	18.0	18.8	18.4	0.16
25	16.26	33.459	24.507	5.63	100.6	2.2	0.25	0.3	0.04	0.00	1.08	0.19	7.7	8.1	9.8	9.0	0.21
33	15.94	33.446	24.569	5.54	98.3	2.5	0.32	1.0	0.09	0.06	0.81	0.27					
41	15.13	33.424	24.732	5.42	94.6	3.2	0.40	2.1	0.17	0.06	0.77	0.22	1.5	0.87	1.1	0.97	0.09
53	12.01	33.387	25.338	5.02	82.1	6.8	0.75	7.2	0.25	0.00	0.30	0.19	0.44	0.18	0.15	0.16	0.05

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 86.7 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 19.4 N	121 43.0 W	23/11/2017	1651 UTC	24 m	1154 - 1810 PST	1153 PST	1729 PST	126.6 mg C/m2	072

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	17.87	33.484	24.144	5.48	101.0	1.8	0.18	0.0	0.00	0.00	0.16	0.04	88. A	1.4	1.6	1.5	0.11
10	17.87	33.483	24.145	5.50	101.4	1.6	0.18	0.0	0.00	0.00	0.16	0.03					
15	17.87	33.485	24.147	5.48	101.0	1.4	0.17	0.0	0.00	0.00	0.18	0.03	38.	2.3	2.3	2.3	0.08
19	17.87	33.482	24.145	5.53	101.8	1.5	0.16	0.0	0.00	0.00	0.17	0.03	30.	2.4	2.4	2.4	0.08
28	17.87	33.482	24.146	5.49	101.2	1.4	0.17	0.0	0.00	0.00	0.17	0.04					
38	17.77	33.476	24.166	5.50	101.1	1.4	0.17	0.0	0.00	0.00	0.23	0.06	8.8	2.0	2.1	2.0	0.09
47	17.75	33.474	24.170	5.49	100.9	1.4	0.17	0.0	0.00	0.00	0.32	0.07					
56	17.42	33.442	24.224	5.57	101.7	1.4	0.18	0.0	0.00	0.00	0.29	0.13					
66	16.28	33.412	24.470	5.73	102.3	1.3	0.21	0.0	0.00	0.00	0.24	0.22	1.5	0.89	0.68	0.79	0.05
75	15.57	33.500	24.695	5.81	102.3	1.8	0.22	0.0	0.00	0.11	0.21	0.22					
84	15.32	33.617	24.842	5.75	100.9	2.2	0.20	0.0	0.06	0.07	0.17	0.16	0.46	0.20	0.20	0.20	0.06

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 28.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
33 29.1 N	117 46.1 W	15/11/2017	1652 UTC	15 m	1125 - 1725 PST	1136 PST	1717 PST	438.9 mg C/m2	030

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	17.97	33.479	24.115	5.76	106.4	1.5	0.18	0.1	0.00	0.11	0.98	0.29	81. A	22.8	20.7	21.8	0.30
10	16.36	33.400	24.437	5.88	105.1	2.2	0.23	0.0	0.00	0.00	0.75	0.28	36.	15.0	16.8	15.9	0.53
13	15.36	33.352	24.625	5.80	101.6	3.2	0.32	0.0	0.04	0.00	0.78	0.31	26.	14.1	17.2	15.6	0.20
16	14.71	33.345	24.760		94.3	4.6	0.44	1.0	0.21	0.00	1.15	0.52					
25	13.33	33.372	25.068	4.65	78.2	7.3	0.74	5.3	0.09	0.00	0.59	0.39	7.7	7.0	6.7	6.9	0.15
32	12.78	33.393	25.194	4.26	70.9	9.3	0.93	8.4	0.18	0.00	0.37	0.32					
42	12.06	33.441	25.370	3.97	65.0	11.7	1.14	12.7	0.04	0.00	0.13	0.19	1.4	0.30	0.29	0.29	0.09
52	11.51	33.509	25.526	3.52	57.0	15.1	1.36	15.8	0.04	0.00	0.06	0.14	0.49	0.03	0.07	0.05	0.09

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 53.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 39.0 N	119 28.9 W	14/11/2017	1736 UTC	17 m	1134 - 1730 PST	1142 PST	1718 PST	227.1 mg C/m2	025

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	16.96	33.466	24.348	5.60	101.4	1.3	0.23	0.0	0.00	0.00	0.38	0.07	76. A	4.5	4.8	4.7	0.17
11	16.96	33.467	24.348	5.62	101.7	1.3	0.23	0.0	0.00	0.00	0.36	0.10	37.	5.7	5.6	5.7	0.15
15	16.95	33.479	24.362	5.61	101.6	1.2	0.23	0.0	0.00	0.00	0.40	0.07	26.	6.0	5.9	6.0	0.14
21	16.94	33.466	24.354	5.61	101.6	1.3	0.23	0.0	0.00	0.00	0.35	0.11					
28	16.93	33.473	24.362	5.59	101.2	1.3	0.23	0.0	0.00	0.00	0.35	0.12	8.0	4.6	4.9	4.7	0.11
38	16.88	33.466	24.370	5.60	101.2	1.2	0.23	0.0	0.00	0.06	0.41	0.11					
48	15.98	33.406	24.530	5.66	100.4	1.6	0.27	0.2	0.05	0.20	0.45	0.27	1.3	1.9	1.5	1.7	0.05
60	13.86	33.308	24.912	5.76	97.9	2.5	0.34	0.7	0.10	0.14	0.42	0.23	0.44	0.92	0.56	0.74	0.07

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 90.0 90.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 25.1 N	121 59.3 W	13/11/2017	1800 UTC	26 m	1155 - 1737 PST	1152 PST	1733 PST	193.2 mg C/m2	021

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	18.95	33.547	23.924	5.38	101.3	1.3	0.19	0.0	0.00	0.07	0.17	0.06	89. A	2.3	2.1	2.2	0.10
8	18.94	33.545	23.928	5.39	101.3	1.2	0.20	0.0	0.00	0.06	0.16	0.06					
16	18.93	33.546	23.930	5.38	101.1	1.2	0.19	0.0	0.00	0.07	0.17	0.06	39.	2.9	3.0	2.9	0.10
21	18.93	33.555	23.938	5.38	101.2	1.2	0.18	0.0	0.00	0.07	0.17	0.06	29.	3.1	3.1	3.1	0.11
31	18.91	33.553	23.943	5.38	101.2	1.2	0.19	0.0	0.00	0.00	0.17	0.07					
42	17.96	33.490	24.131	5.47	101.0	1.3	0.19	0.0	0.00	0.00	0.01	0.30	8.4	3.0	2.8	2.9	0.09
56	14.82	33.334	24.732	6.05	104.9	2.1	0.29	0.0	0.00	0.00	0.36	0.24					
71	13.11	33.351	25.099	5.31	88.9	4.7	0.57	3.8	0.20	0.00	0.33	0.26	1.5	1.3	1.1	1.2	0.02
78	12.73	33.385	25.199	5.01	83.3	6.0	0.67	5.5	0.05	0.00	0.24	0.22					
91	12.46	33.483	25.328	5.25	86.8	5.3	0.55	5.3	0.03	0.00	0.13	0.14	0.46	0.34	0.30	0.32	0.02

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 57.4 N	117 18.3 W	09/11/2017	1919 UTC	15 m	1210 - 1733 PST	1133 PST	1717 PST	441.1 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	18.33	33.460	24.013	5.67	105.4	2.1	0.22	0.7	0.00	0.42	0.95	0.21	81. A	20.8	19.9	20.4	0.25
10	17.73	33.443	24.147	5.80	106.6	1.9	0.26	0.2	0.00	0.85	0.76	0.20	36.	14.2	14.1	14.2	0.23
13	16.75	33.405	24.350	5.92	106.6	1.9	0.26	0.2	0.00	0.25	0.59	0.17	26.	9.6	9.8	9.7	0.18
25	14.23	33.347	24.864	5.44D	93.2	4.6	0.45	0.8	0.09	0.05	1.10	0.43	7.7	12.2	10.5	11.4	0.17
33	13.13	33.390	25.123	4.54	76.0	8.2	0.87	7.1	0.24	0.30	0.45	0.35					
42	12.33	33.460	25.334	3.97	65.4	11.3	1.16	11.6	0.03	0.13	0.22	0.22	1.4	0.35	0.04	0.20	0.03
52	12.30	33.462	25.341	3.94	64.9	11.7	1.15	12.1	0.06	0.09	0.18	0.21	0.49	0.11	0.15	0.13	0.02

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 45.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
32 20.8 N	118 33.2 W	10/11/2017	1800 UTC	23 m	1138 - 1739 PST	1138 PST	1726 PST	313.8 mg C/m2	008

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	18.93	33.585	23.959	5.45	102.6	1.1	0.16	0.0	0.00	0.00	0.21	0.07	88. A	5.5	5.4	5.5	0.14
9	18.92	33.584	23.960	5.44	102.4	0.8	0.16	0.0	0.00	0.00	0.21	0.07					
15	18.92	33.584	23.963	5.44	102.3	0.6	0.15	0.0	0.00	0.00	0.22	0.08	37.	4.8	4.9	4.9	0.11
19	18.84	33.583	23.982	5.44	102.2	0.5	0.16	0.0	0.00	0.00	0.24	0.06	28.	5.3	5.0	5.2	0.10
28	14.91	33.351	24.722	5.94	103.2	2.1	0.32	0.0	0.00	0.00	0.48	0.26					
37	13.33	33.358	25.057	5.18	87.0	5.0	0.63	3.7	0.21	0.00	0.77	0.40	8.5	7.2	7.5	7.3	0.08
46	12.53	33.380	25.234	4.71	77.8	7.3	0.85	7.9	0.09	0.17	0.43	0.36					
55	12.20	33.397	25.311	4.57	75.1	8.2	0.93	9.2	0.05	0.00	0.35	0.30					
64	11.75	33.428	25.419	4.38	71.2	10.2	1.08	11.8	0.04	0.00	0.23	0.23	1.4	0.38	0.02	0.20	0.07
73	11.19	33.477	25.560	4.01	64.4	13.1	1.27	14.5	0.03	0.05	0.14	0.18					
81	10.69	33.534	25.692	3.73	59.3	15.7	1.42	17.0	0.00	0.00	0.08	0.15	0.45	0.01	0.02	0.02	0.06

RV SALLY RIDE CALCOFI CRUISE 1711 STATION 93.3 80.0

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
31 10.8 N	120 55.2 W	11/11/2017	1855 UTC	24 m	1200 - 1750 PST	1148 PST	1736 PST	205.9 mg C/m2	013

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	18.48	33.493	24.001	5.49	102.5	1.3	0.18	0.0	0.00	0.00	0.17	0.06	88. A	3.7	3.2	3.4	0.19
9	18.45	33.484	24.002	5.50	102.5	0.9	0.17	0.0	0.00	0.00	0.17	0.06					
16	18.39	33.484	24.018	5.48	102.1	0.7	0.18	0.0	0.00	0.00	0.19	0.07	36.	3.4	3.5	3.4	0.24
20	18.22	33.462	24.044	5.54	102.7	0.6	0.18	0.0	0.00	0.00	0.25	0.09	28.	3.9	3.9	3.9	0.21
29	17.69	33.422	24.143	5.68	104.2	0.8	0.19	0.0	0.00	0.00	0.35	0.17					
39	16.54	33.364	24.369	5.88	105.4	1.1	0.22	0.0	0.00	0.00	0.43	0.22	8.3	3.9	3.6	3.8	0.12
48	14.12	33.320	24.872	5.85	100.0	2.2	0.33	0.0	0.05	0.21	0.62	0.44					
57	13.83	33.331	24.928	5.75	97.6	2.6	0.36	0.6	0.12	0.09	0.47	0.37					
67	12.84	33.324	25.139	5.45	90.7	3.9	0.51	3.5	0.19	0.00	0.29	0.28	1.4	0.63	0.25	0.44	0.02
75	12.41	33.358	25.240	5.24	86.4	5.3	0.64	5.9	0.05	0.00	0.19	0.20					
84	11.95	33.397	25.359	4.82	78.7	7.4	0.83	8.6	0.04	0.00	0.14	0.14	0.46	0.09	0.11	0.10	0.00

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE	ORD
29 50.8 N	123 35.2 W	12/11/2017	1810 UTC	31 m	1200 - 1750 PST	1159 PST	1746 PST	117.6 mg C/m2	017

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	19.31	33.573	23.854	5.39	102.2	1.5	0.16	0.0	0.00	0.11	0.12	0.03	91. A	2.2	2.1	2.1	0.12
11	19.29	33.570	23.856	5.35	101.3	1.5	0.16	0.0	0.00	0.00	0.14	0.01					
20	19.28	33.572	23.861	5.34	101.1	1.5	0.16	0.0	0.00	0.00	0.13	0.02	37.	1.3	1.9	1.6	0.12
26	19.32	33.591	23.868	5.35	101.4	1.5	0.16	0.0	0.00	0.00	0.15	0.01	28.	1.7	1.4	1.6	0.13
38	19.33	33.655	23.913	5.35	101.4	1.6	0.16	0.0	0.00	0.00	0.18	0.03					
50	18.50	33.669	24.134	5.50	102.7	1.7	0.16	0.0	0.00	0.00	0.24	0.05	8.4	1.6	1.4	1.5	0.09
62	16.57	33.570	24.523	5.87	105.6	2.0	0.15	0.0	0.00	0.15	0.25	0.07					
74	15.56	33.599	24.774	5.83	102.8	2.2	0.15	0.0	0.00	0.00	0.22	0.16					
86	14.74	33.526	24.898	5.78	100.1	2.5	0.21	0.1	0.06	0.00	0.32	0.15	1.4	0.37	0.03	0.20	0.02
97	14.19	33.499	24.994	5.70	97.6	2.7	0.27	0.7	0.19	0.00	0.23	0.20					
108	13.39	33.482	25.145	5.53	93.2	3.4	0.35	1.8	0.18	0.00	0.17	0.16	0.48	0.06	0.07	0.06	0.06

A) INCUBATION LIGHT INTENSITIES WERE 65.8, 38.8, 29.3, 9.00, 1.47, 0.49 PERCENT RESPECTIVELY.