UNIVERSITY OF CALIFORNIA, SAN DIEGO SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL, CHEMICAL AND BIOLOGICAL DATA

CalCOFI Cruise 9007
25 July – 9 August 1990

CalCOFI Cruise 9011
5 – 20 November 1990

SIO Reference 91-18
31 July 1991

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LA JOLLA, CALIFORNIA 92093-0227

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Approved for distribution:

Edward A. Frieman, Director

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INTRODUCTION

The data in this report were collected during Cruises 9007* and 9011 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *New Horizon* of the Scripps Institution of Oceanography, University of California, San Diego. The CalCOFI program was organized in the late 1940s to study the causes of variations in population size of fishes of importance to the State of California. It is carried out by NOAA's National Marine Fisheries Service Southwest Fisheries Science Center, the California Department of Fish and Game, and the Marine Life Research Group (MLRG) at Scripps Institution of Oceanography (SIO). MLRG contributes to this program by investigations of the physical, chemical and biological structure of the California Current. Data from CalCOFI Cruises 9007 and 9011 were collected and processed by personnel of the Marine Life Research Group and the Southwest Fisheries Science Center. Volunteers and other SIO staff members also assisted in the collection of data and chemical analyses at sea.

In addition to the usual horizontal maps of characteristics at the surface and at 200 m, vertical sections of various properties measured on CalCOFI line 90 appear in this report.

STANDARD PROCEDURES

Hydrographic Cast Data

The hydrographic casts usually consisted of 20 three-liter plastic (PVC) botdes lowered to a maximum sampling depth of 500 meters, bottom depth permitting. Temperature, salinity, oxygen and nutrients were determined at sea for all depths sampled. Chlorophyll-a and phaeopigments were usually determined at sea from the top 14 depths. A special near-bottom cast was done in the Santa Barbara Basin on each cruise.

Paired protected reversing thermometers read by two observers were used to determine temperatures which were then recorded to hundredths of a degree Celsius. The temperatures are reported relative to the International Practical Temperature Scale of 1968 (IPTS-68). The new International Temperature Scale of 1990 (ITS-90) differs from the IPTS-68 by less than 0.01° C over oceanic temperature ranges, so the distinction between the two scales is of marginal significance for temperatures listed to the nearest hundredth of a degree. Most sampling bottles used below a depth of about 75 meters were equipped with unprotected thermometers for determination of the depth of sampling, using the Saunders (1981) pressure-to-depth conversion technique.

Salinity samples were analyzed at sea using inductive-type salinometers standardized with substandard seawater. Periodic checks on the concentration of the substandard were made by comparison with IAPSO Standard Seawater batch P-78. Salinity values have been calculated from the algorithms for the Practical Salinity Scale, 1978 (UNESCO, 1981a) and were reported to three decimal places, provided that accepted standards were met. If only one determination per sample was obtained, or there was doubt concerning the accuracy of the analytical results, the salinities were reported to two decimal places.

Dissolved oxygen was determined by the Winkler method, as modified by Carpenter (1965), using the equipment and procedure outlined by Anderson (1971). Percent oxygen saturation was calculated from the equations of Weiss (1970).

Silicate, phosphate, nitrate and nitrite nutrients were determined at sea using an automated analyzer. The procedures used are similar to those described in Atlas *et al.* (1971).

Chlorophyll-*a* and phaeopigments were measured with a fluorometric technique (Yentsch and Menzel, 1963; Holm-Hansen *et al.*, 1965) from subsamples filtered onto GF/F filters. The pigments were extracted with a cold extraction technique in 90% acetone (Venrick and Hayward, 1984) and the fluoresence determined before and after acidification with a fluorometer.

Evaluation of the data involved comparisons with 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). Estimates of precision of the standard techniques are given in SIO, 1991.

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

Primary Production

Primary productivity easts were taken each day shortly before local apparent noon (LAN). Primary production was estimated from C uptake using asimulated *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 with 5-liter Niskin bottles attached to the hydrowire. The Niskin bottles were equipped with epoxy-coated springs and silicone-rubber O-rings. Where the productivity casts occurred at non-standard CalCOFI sampling locations, additional hydrographic bottles were added to extend the observations to 200 m. Triplicate samples (two light and one dark control) were drawn from each productivity sample (depth into 250 ml polycarbonate incubation bottles. Samples were innoculated with 10pCi of C as NaHCO (200 (J of 50 pCi/ml stock) prepared in a 0.3g/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 HA millipore filters and placed in scintillation vials. One half ml of 10% HC1 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 fluor were added to each sample and the samples were returned to SIO where the radioactivity was determined with a scintillation counter. Temperature, salinity, oxygen, nutrients, chlorophyll-a, and phaeopigments were determined for all depths.

Macrozooplankton Net Tows

Macrozooplankton was sampled with a 71-cm mouth diameter paired net (bongo net) equipped with 0.505-mm plankton mesh. Bottom depth permitting, the nets were towed obliquely from 210 m 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, wis determined in the laboratory ashore. These procedures are summarized in greater detail in Kramer *et al.* (1972).

TABULATED DATA

Hydrographic Cast Data

The reported hydrographic cast time is the Coordinated Universal Time (UTC) of the messenger release. 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, taken on most daylight stations, are also reported.

Observed and interpolated standard depth data from hydrographic casts have been interspersed and are presented together sequentially by depth. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Densityielated parameters have been calculated from the International Equation of State of Seawater 1980 (UNESCO, 1981, b). Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), dynamic height or geopotential anomaly, and pressure are included with both observed and interpolated standard depth levels.

Primary Production

In addition to the normal hydrographic data, 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 subtracng the dark value, the mean of the two uptake values, the dark uptake, chlorophyll-a and phaeopigments. 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 that the shallowest value continues to the surface and that negative values (when dark uptake exceeds light uptake) are zero. The uptake data have been presented to two significant digits (values <1.00) or one decimal (values >1.00). The higher production values may not vibrant all of the digits presented. Incubation time, LAN, and civil twilight are given in local Pacific Standard Time (JST); to convert to UTC, add eight hours to the PST time. Incubation light intensities are listed in a footnote at the iottom of each page.

Macrozooplankton Data

Macrozooplankton biomass volumes are tabulated as total biomass volume (cm /1000 m3 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.

ISL: After depth values indicates 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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PERSONNEL

CaLCOFI Cruise 9007

SHIP'S CAPTAIN

Eric C. Buck, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Mullin, Michael M. (Chief Scientist)	Professor, Director, MLRG, SIO
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS
Bos, David L.	Staff Research Associate, SIO
Griffith, David A.	Fishery Biologist, NMFS
Gripp, Sherry L.	Staff Research Associate, SIO
Gruber, Dennis W.	Marine Technician, SIO
Lippsmeyer, Michael J.	Volunteer, UCI
Maggert, Keith	Student, UCSD
Molina, Kathy C.	Preparator, Los Angeles County Museum of Natural History
Renger, Edward H.	Staff Research Associate, SIO
Swanson, Willie J	Student, UCSD
Wilkinson, James R.	Staff Research Associate, SIO

FIGURES

Cruise 9007

1. CalCOFI Cruise 9007, track and station positions.

2. Horizontal distribution of dynamic height anomaly (0 over 500 m). 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) nitrite; F) phosphate; G) chlorophyll-a; H) oxygen saturation; I) oxygen; J) nitrite; and K) phaeopigments.

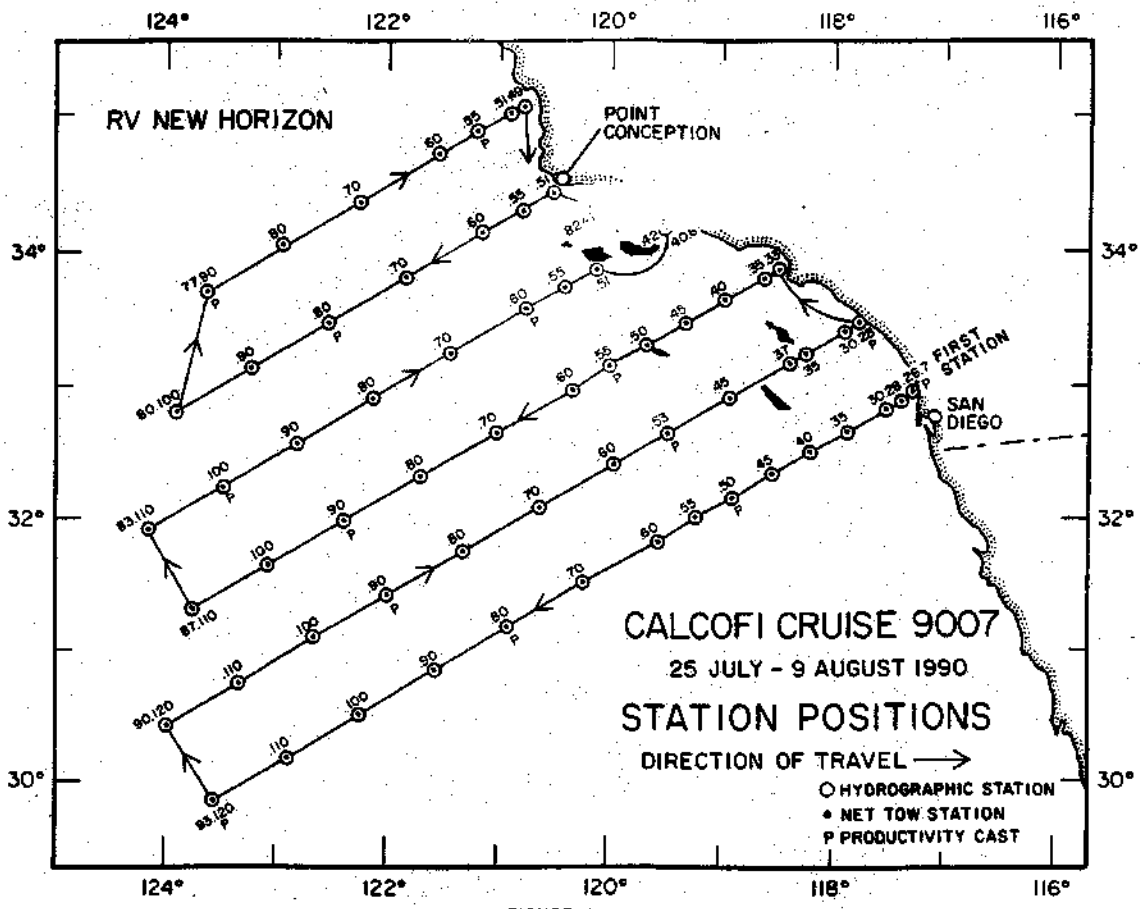

FIGURE 1

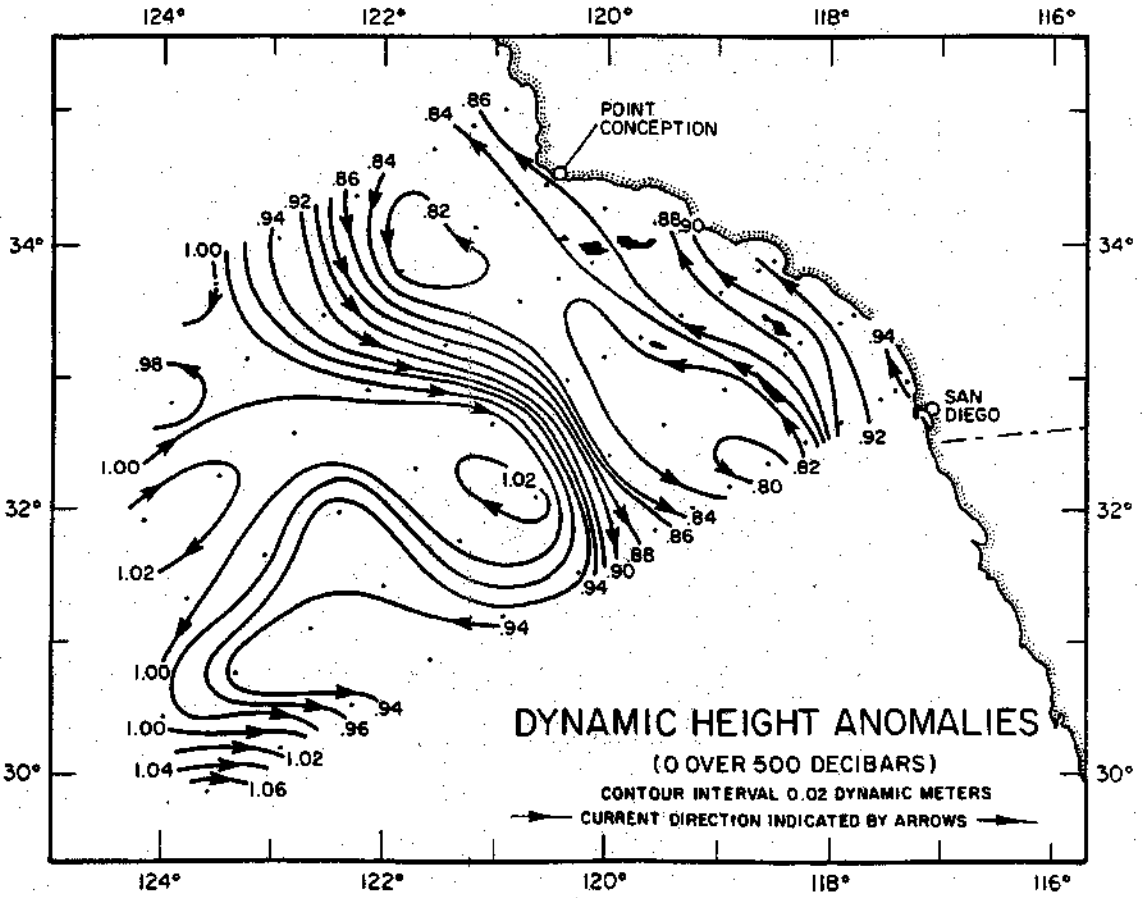

FIGURE 2

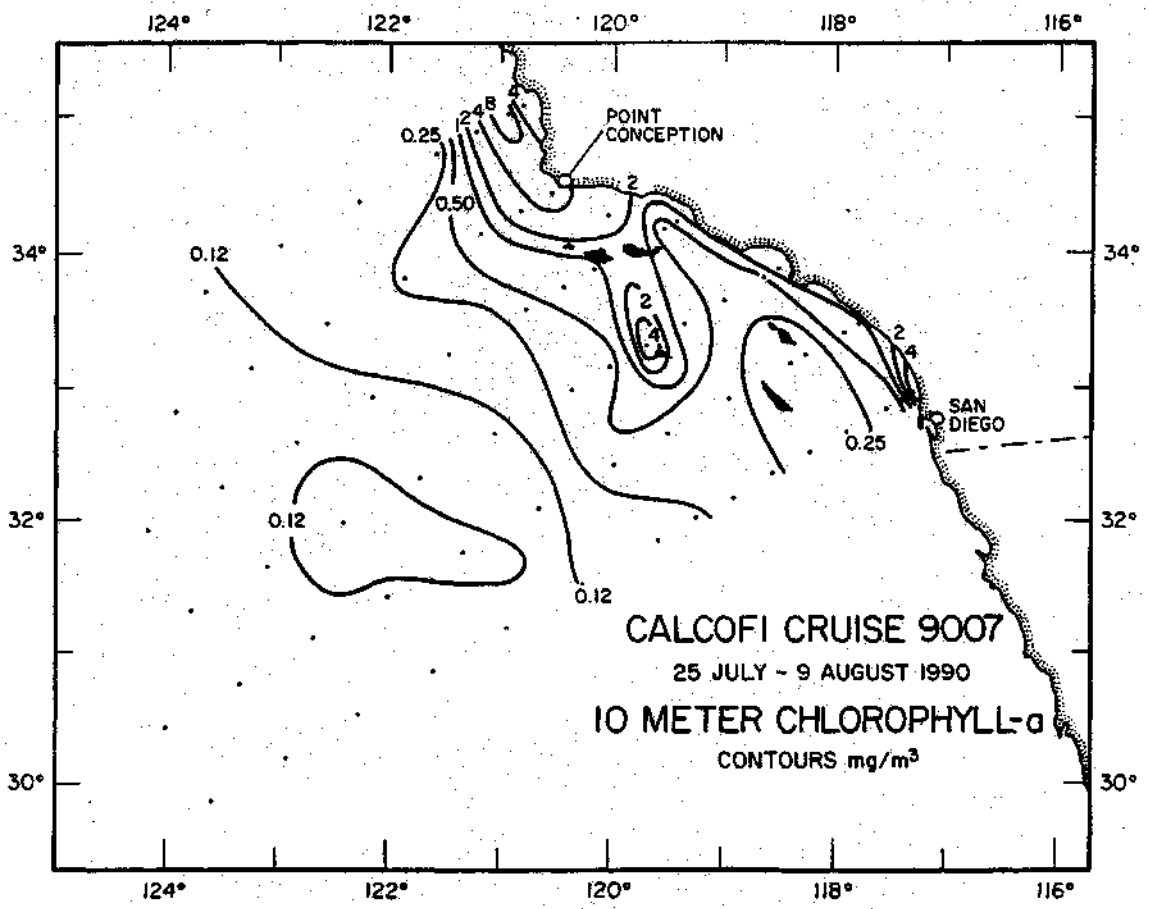

FIGURE 3A

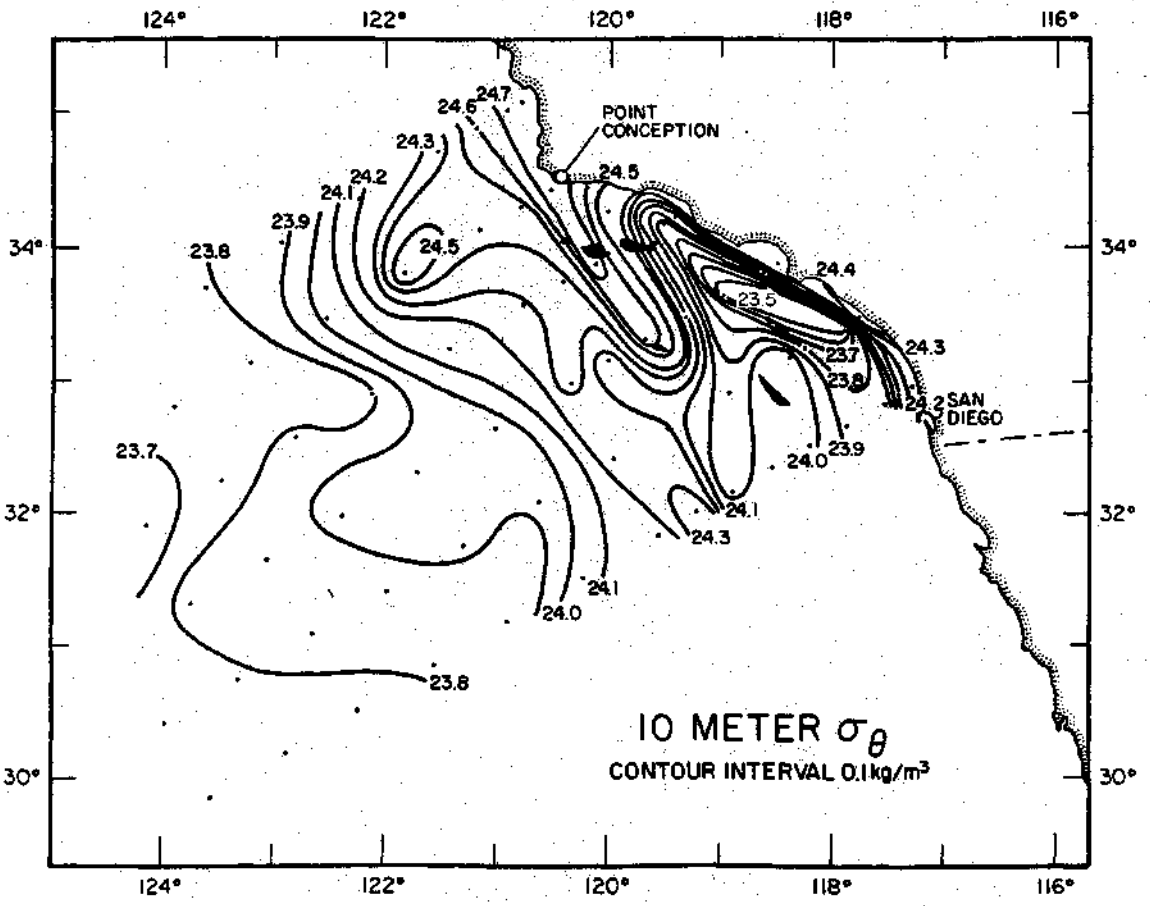

FIGURE 3B

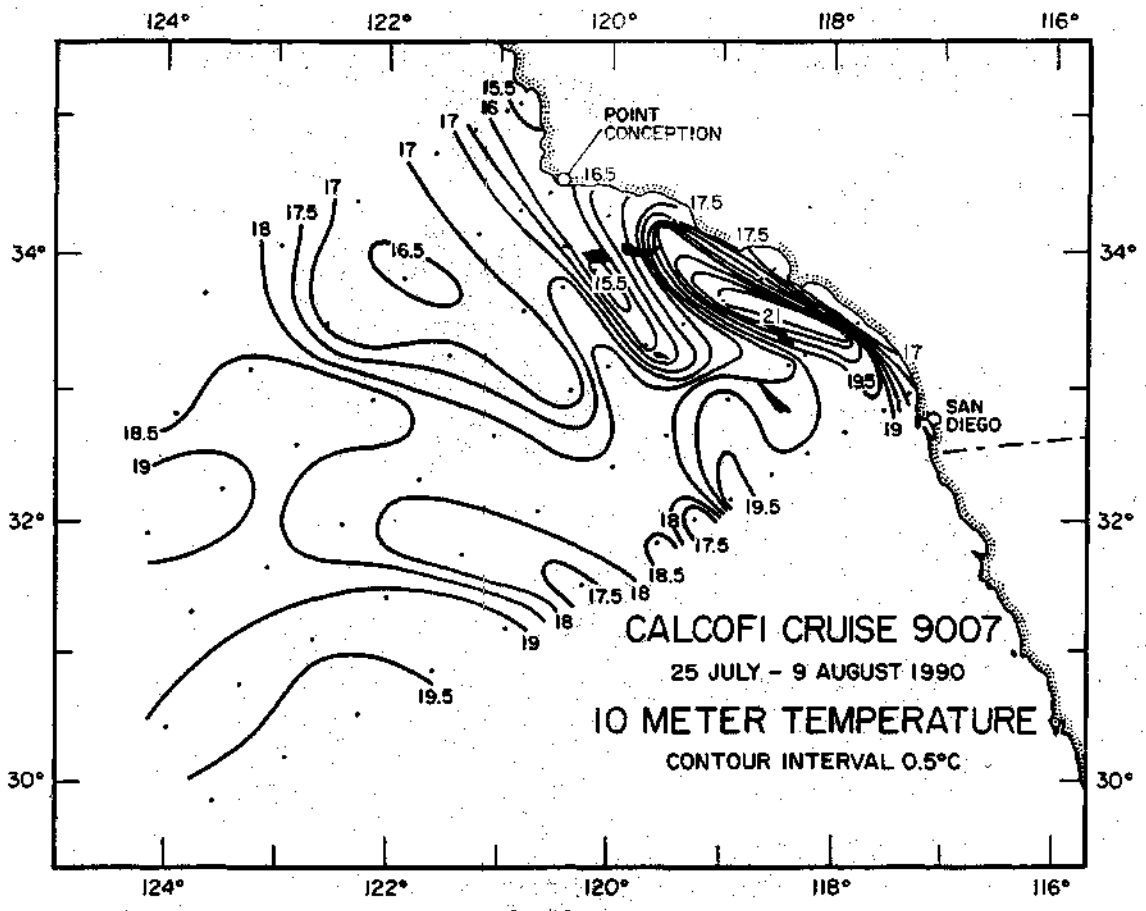

FIGURE 3C

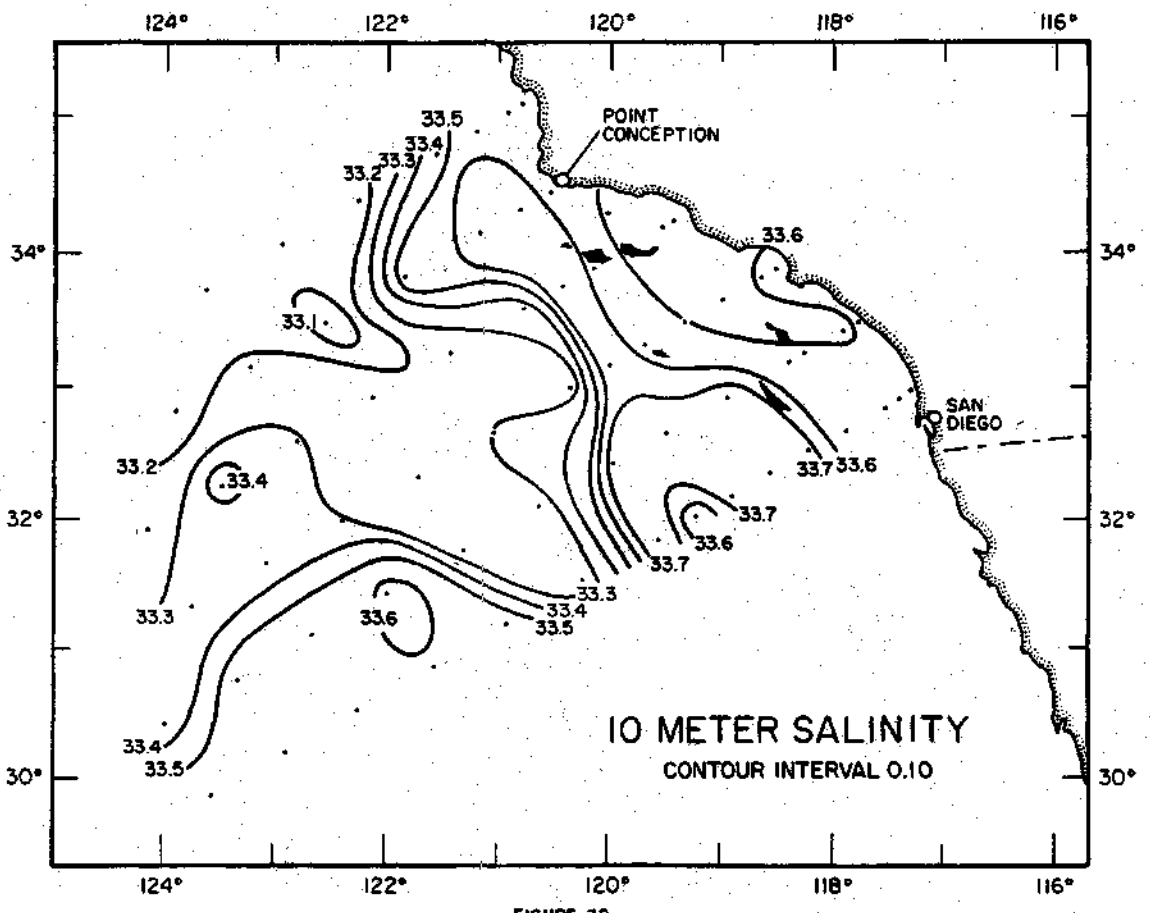

FIGURE 3D

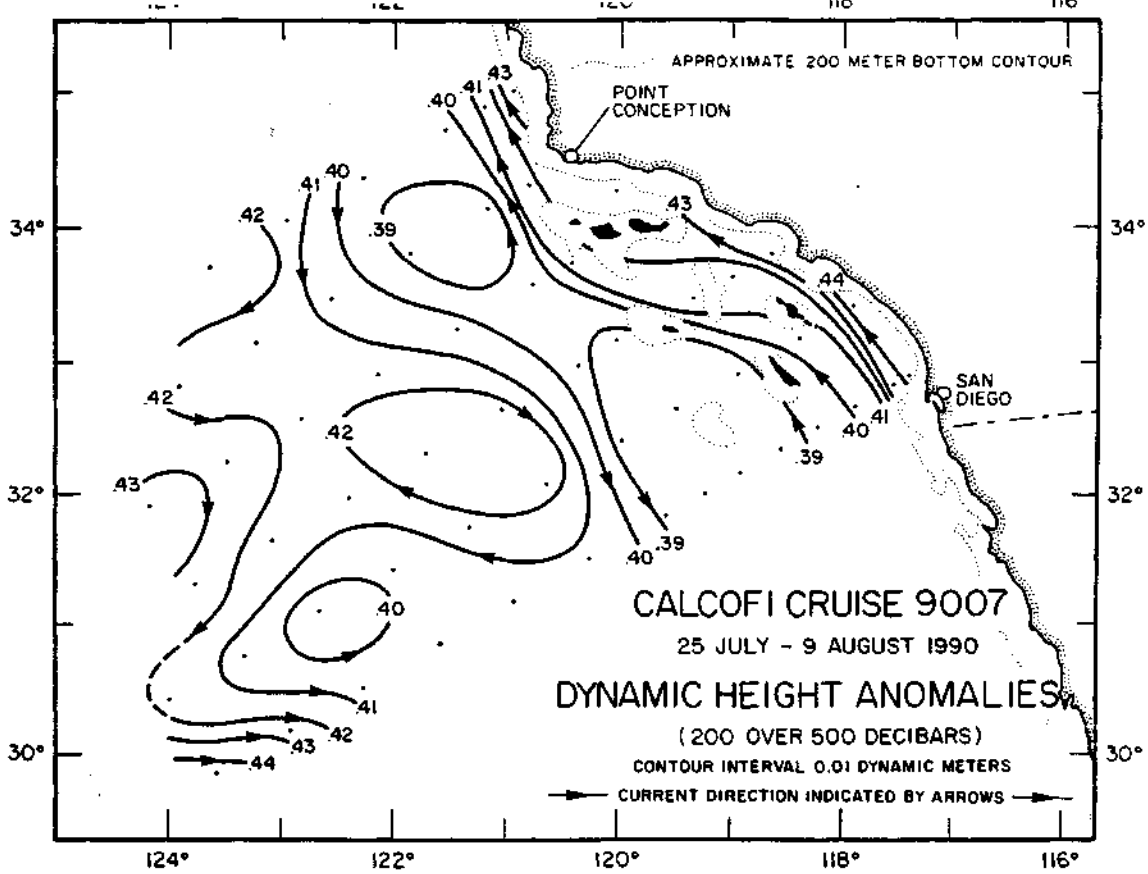

FIGURE 4A

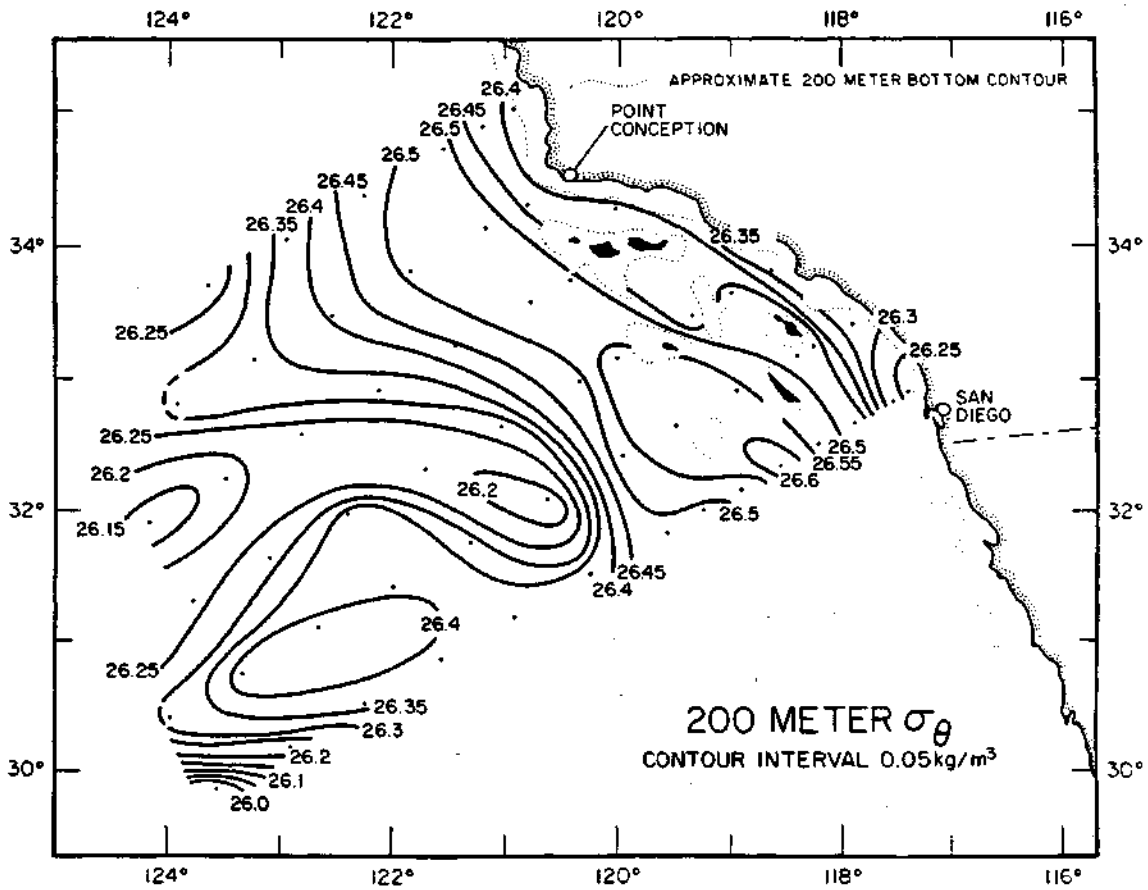

FIGURE 4B

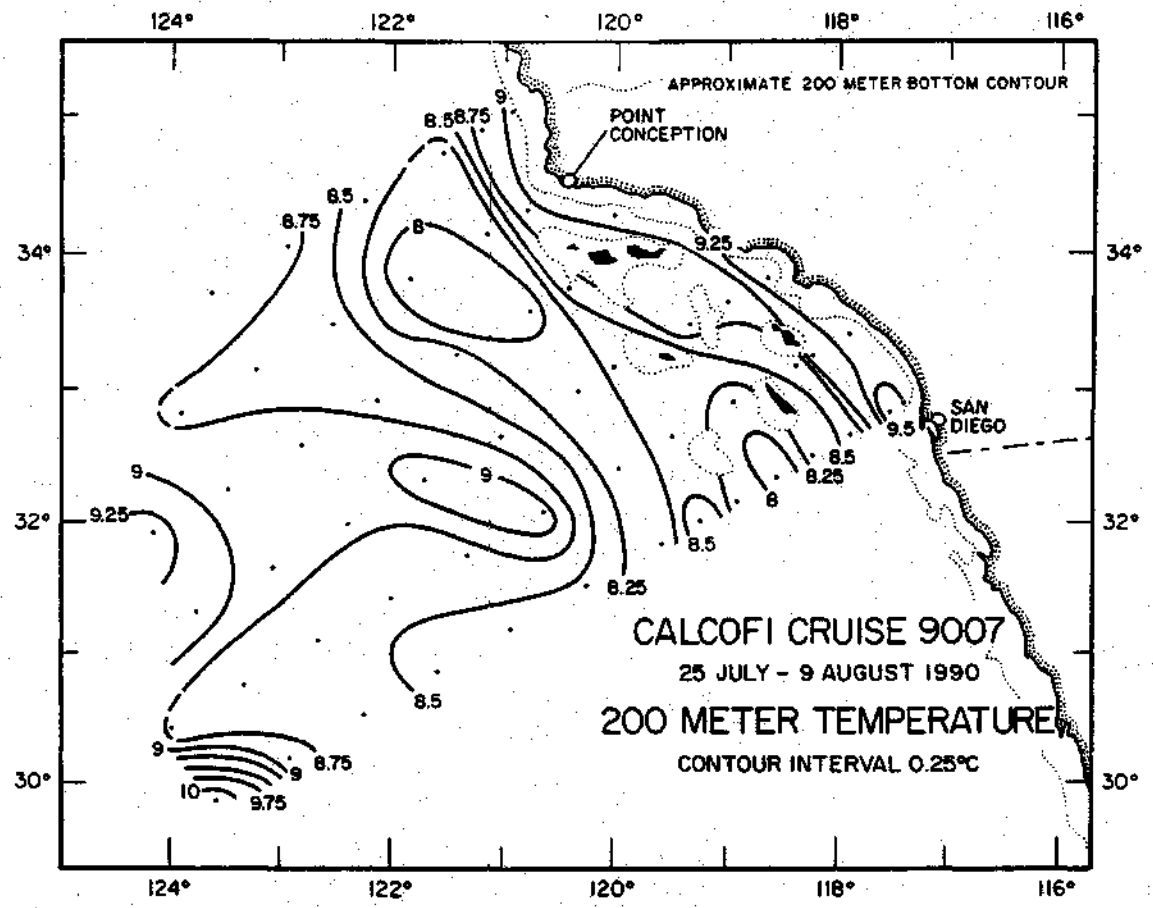

FIGURE 4C

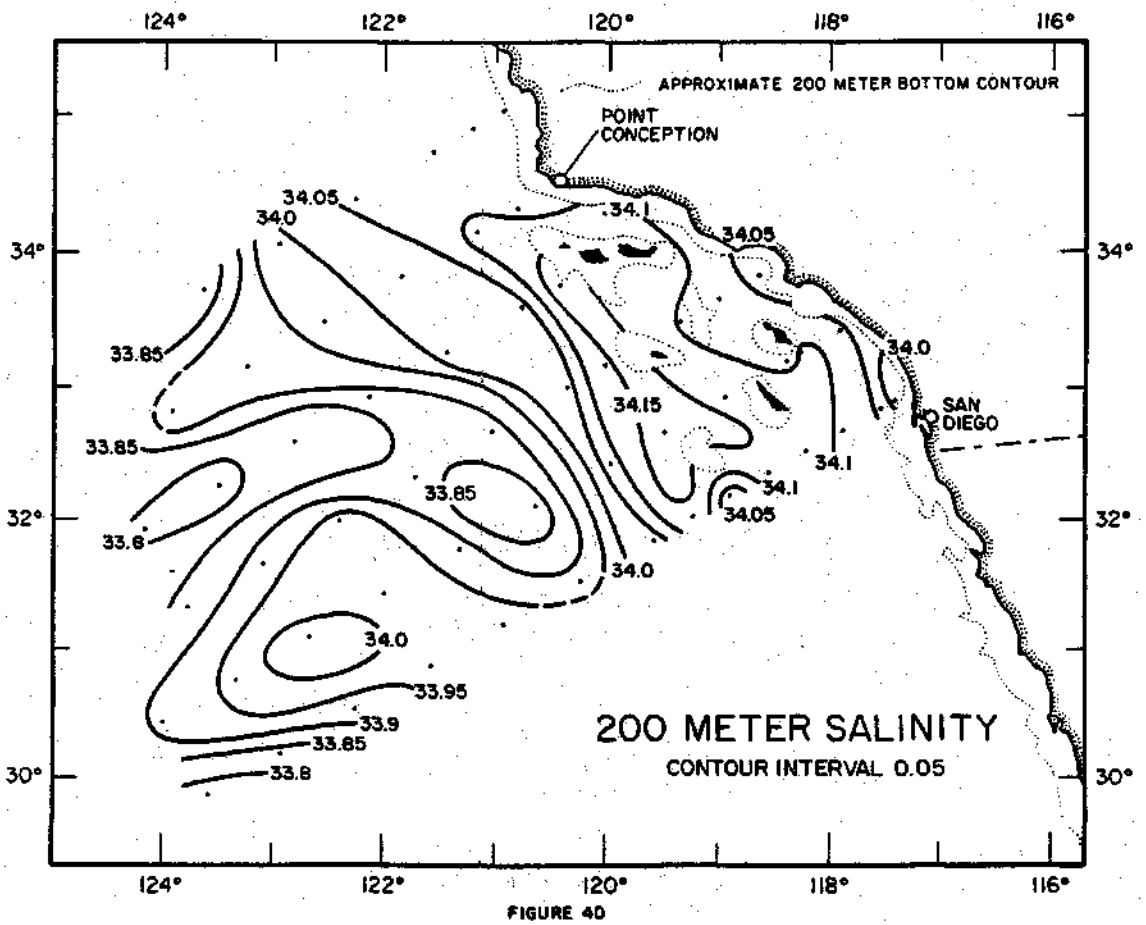

FIGURE 4D

CALCOFI CRUISE 9007

28 - 31 JULY 1990

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

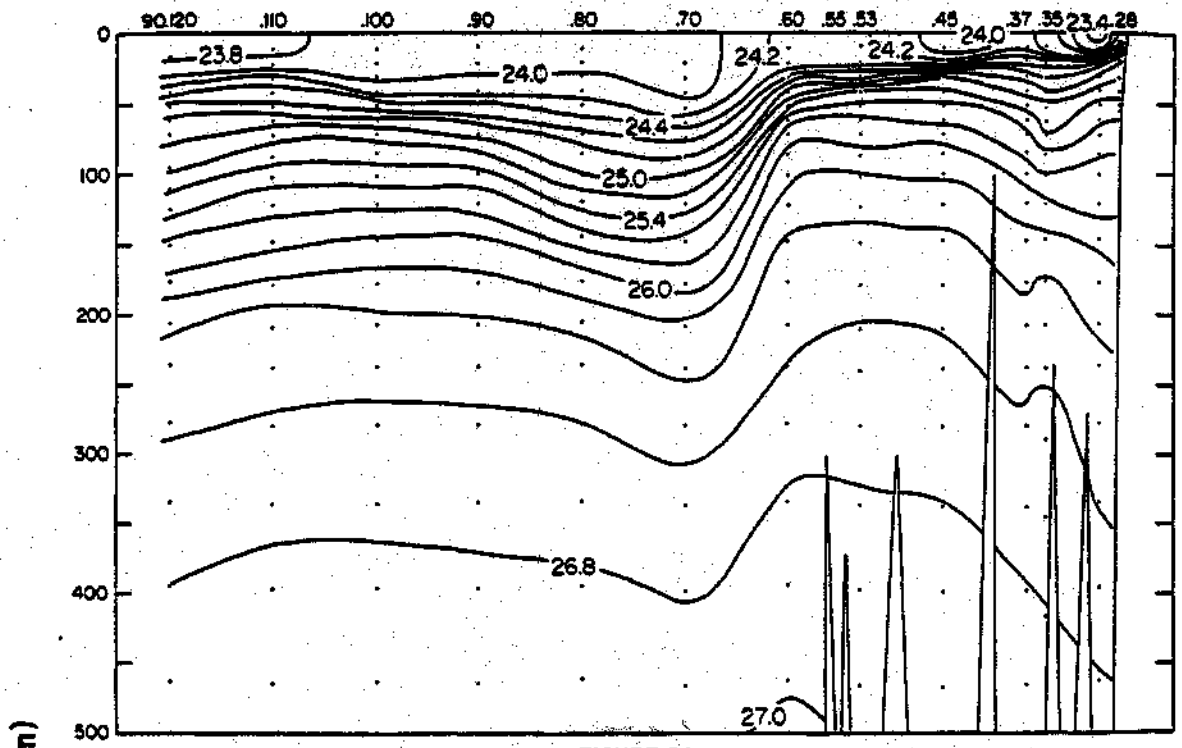

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

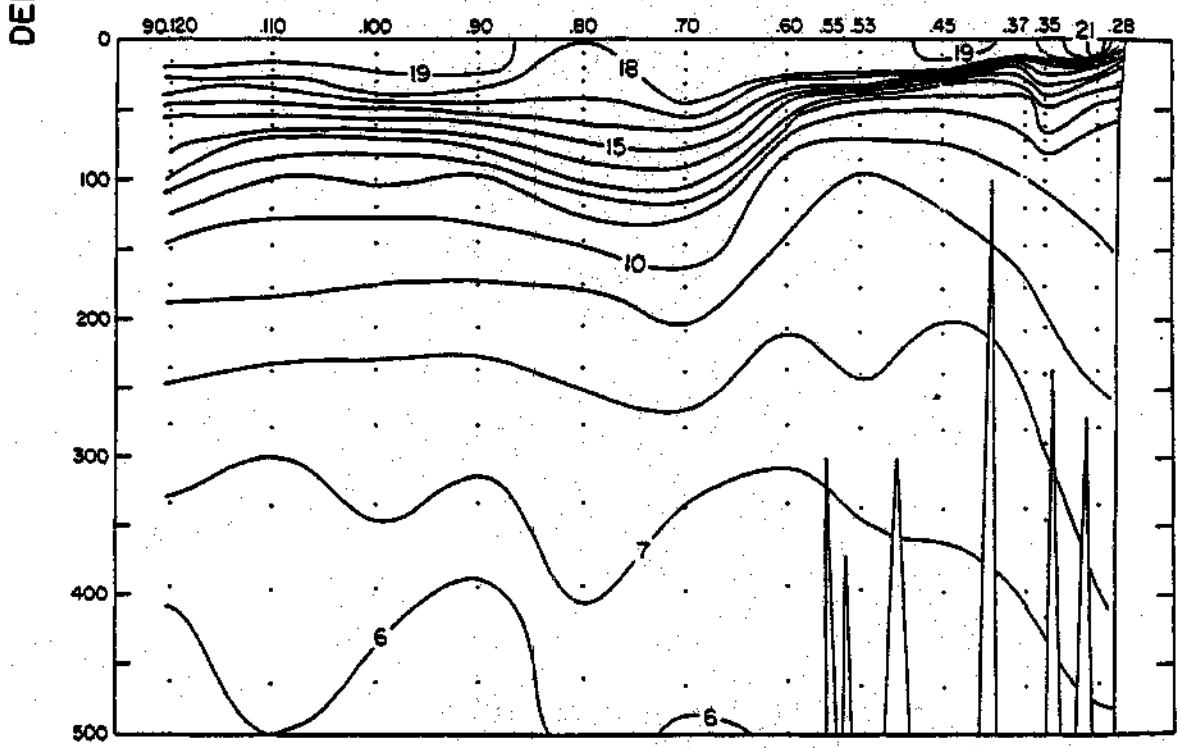

FIGURE 5B

CALCOFI CRUISE 9007

28-31 JULY 1990

SALINITY ALONG CALCOFI LINE 90

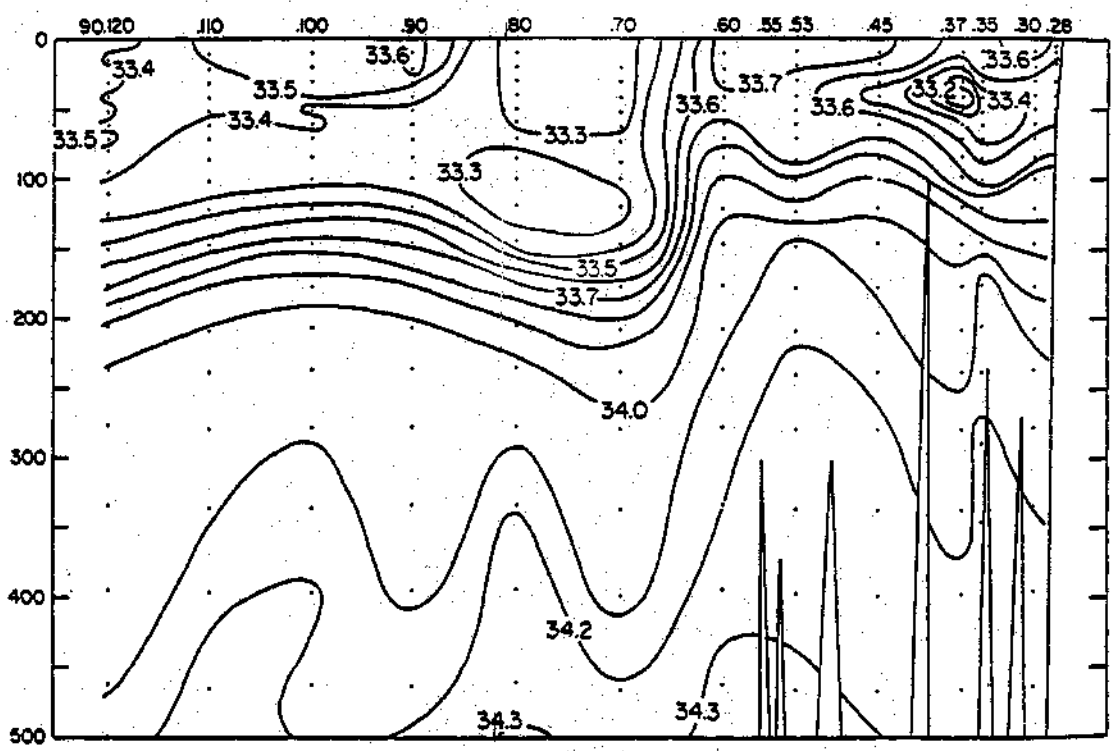

FIGURE 5C

SILICATE (μM/l) ALONG CALCOFI LINE 90

DEPTH (m)

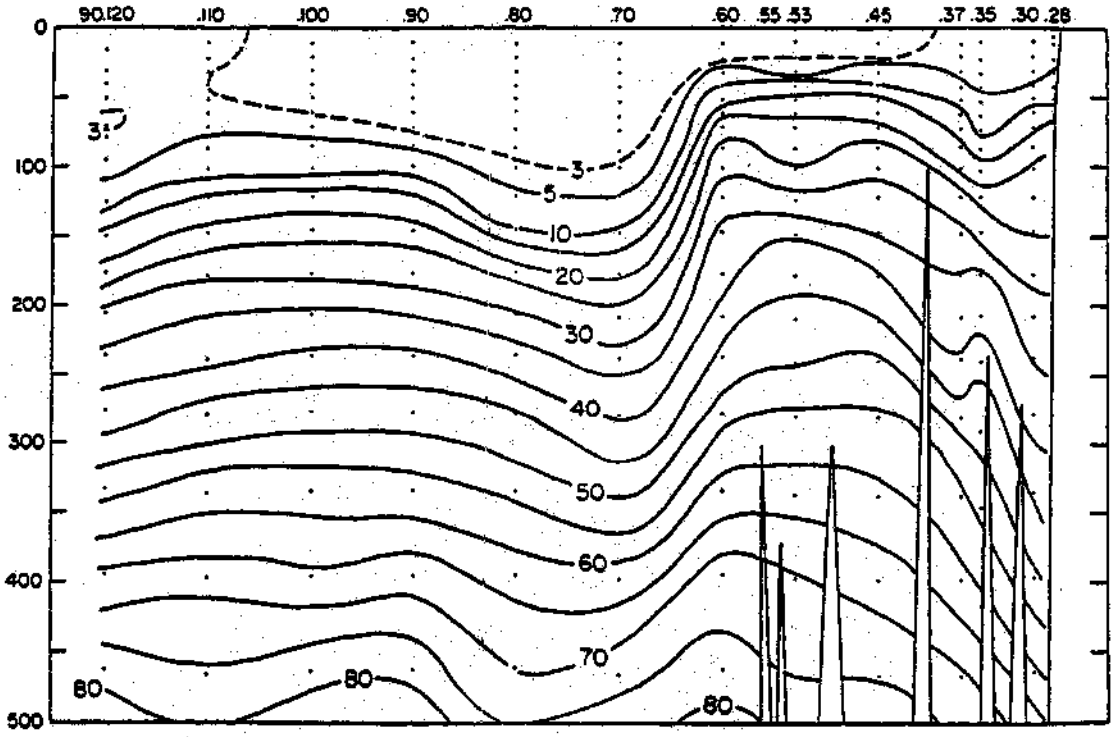

FIGURE 5D

CALCOFI CRUISE 9007

28-31 JULY 1990

NITRATE (μM/l) ALONG CALCOFI LINE 90

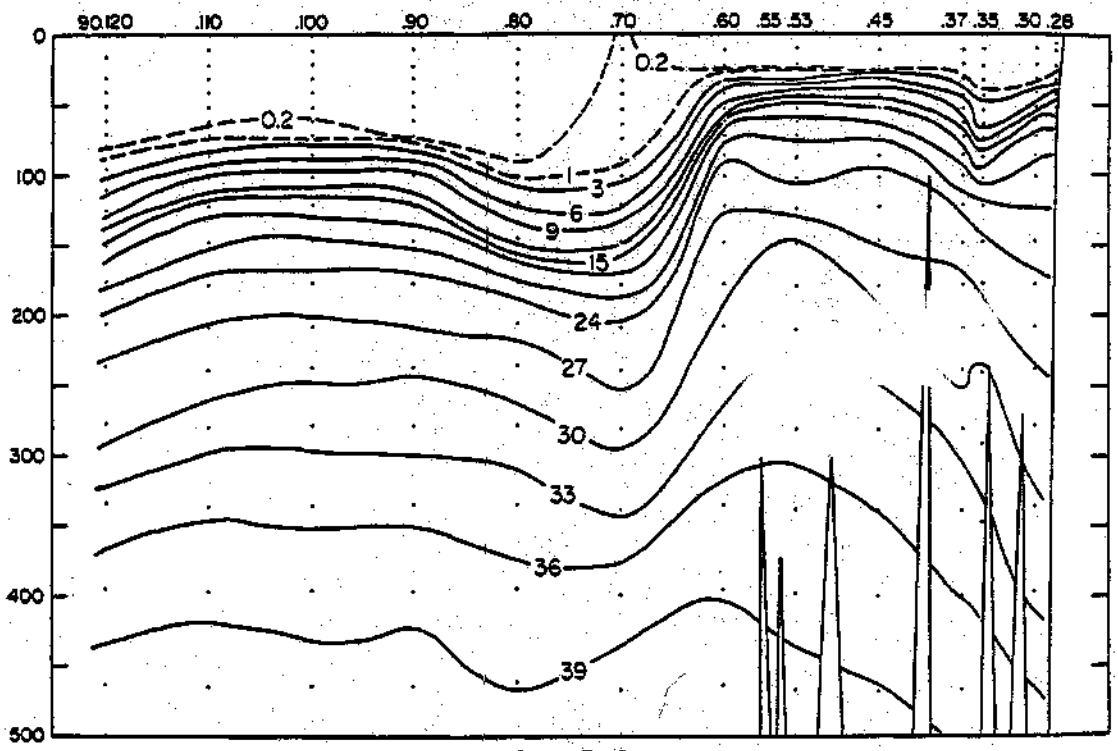

FIGURE 5E

DEPTH (m)

PHOSPHATE (μM/l) ALONG CALCOFI LINE 90

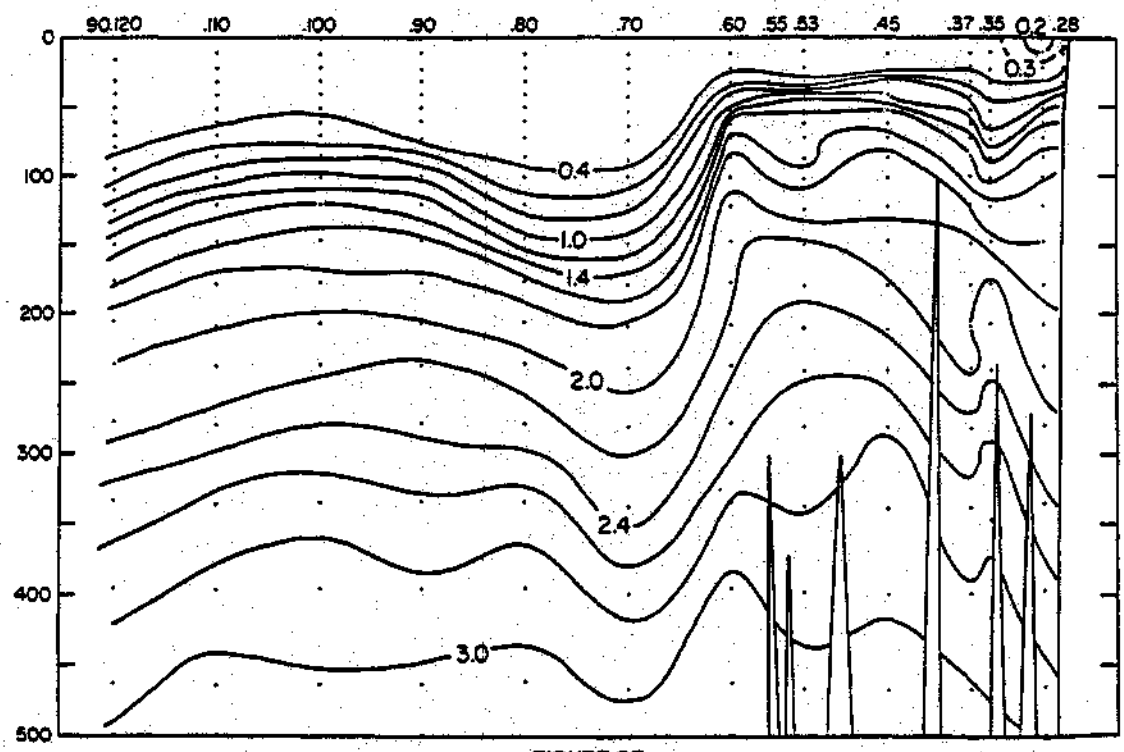

FIGURE 5F

CALCOFI CRUISE 9007

28 - 31 JULY 1990

CHLOROPHYLL-a ($\mu g/l$) ALONG CALCOFI LINE 90

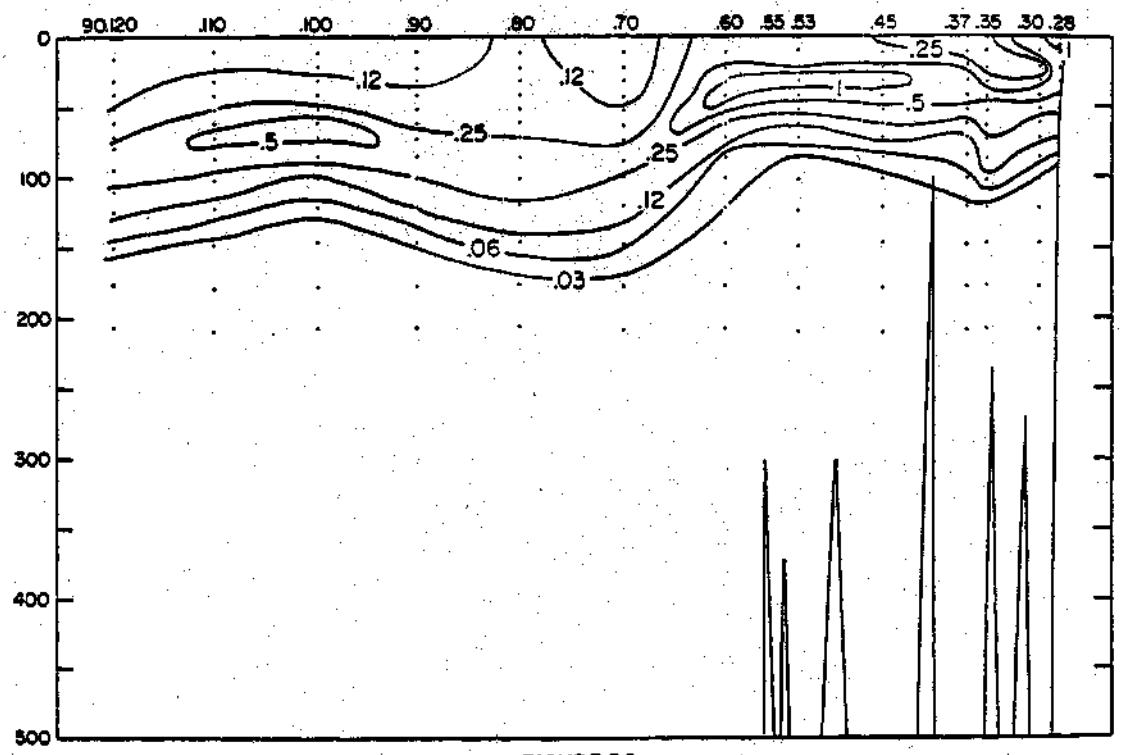

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

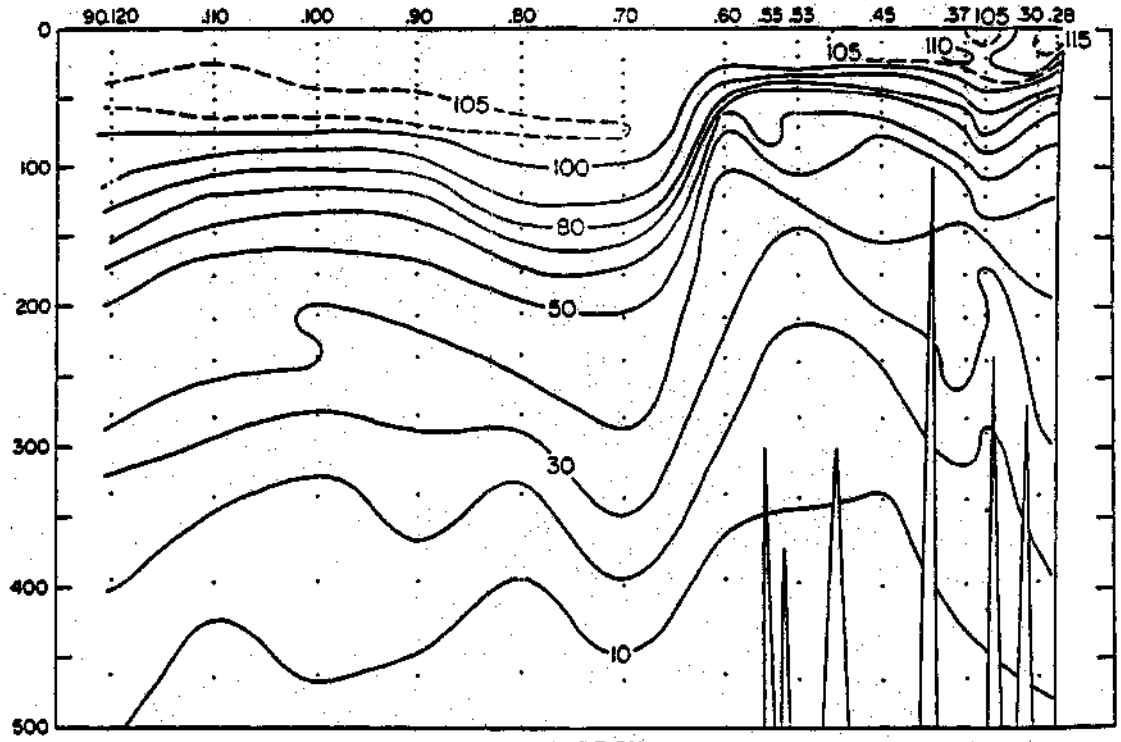

FIGURE 5H

DEPTH (m)

CALCOFI CRUISE 9007

28 - 31 JULY 1990

OXYGEN (ml/l) ALONG CALCOFI LINE 90

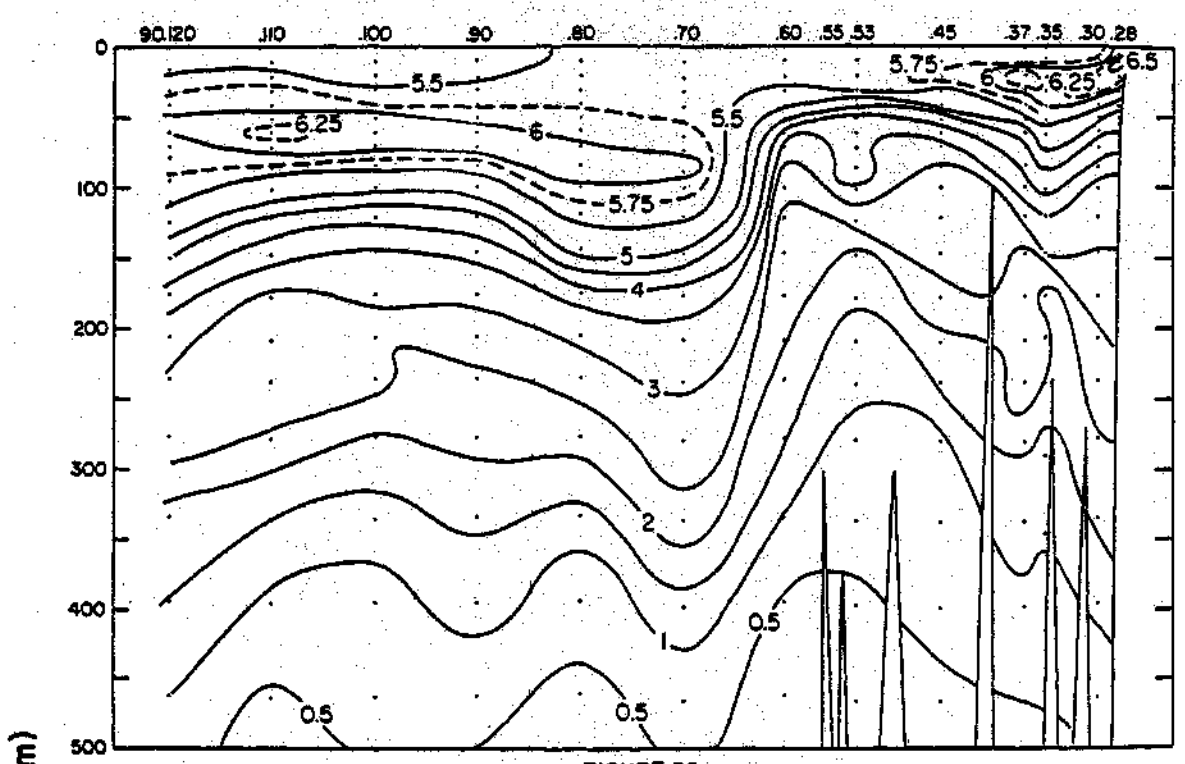

FIGURE 5I

NITRITE (μM/l) ALONG CALCOFI LINE 90

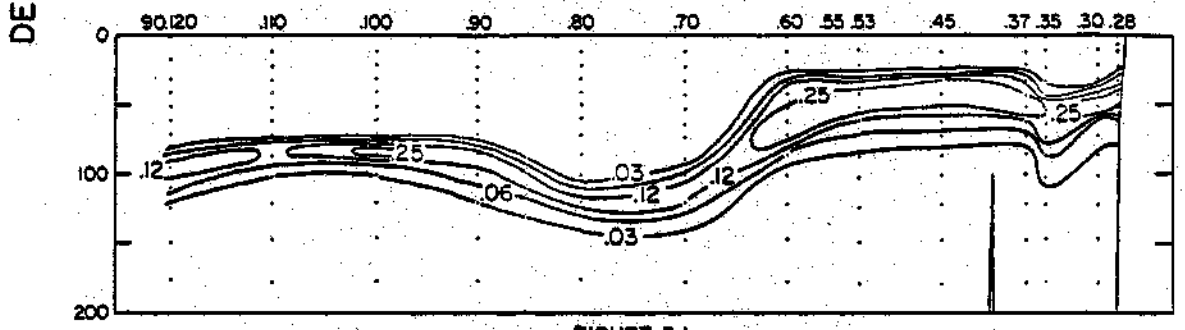

FIGURE 5J

PHAEOPIGMENTS (μg/l) ALONG CALCOFI LINE 90

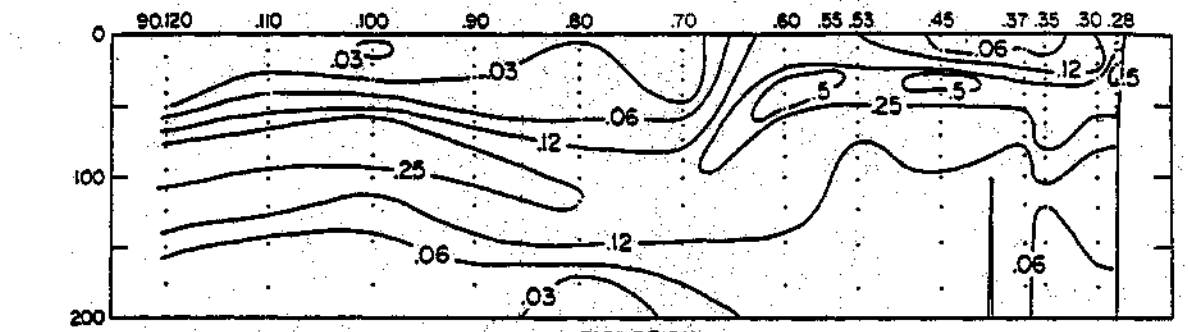

FIGURE 5K

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 5.4 N	120 46.5 W	09/08/90	0144 UTC	65 m	270 06 Jen	310 01 08	4	1013.3 mb	16.2 C	16.2 C		8/8	

CAST	DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.78	15.78	33.556	24.688	324.5	0.000	7.03	124.4	4.9	0.25	0.0	0.00	1.64	0.30	0
1	10	15.44	15.44	33.549	24.758	318.1	0.032	7.10	124.8	4.8	0.25	0.0	0.00	2.29	0.42	10
	20 ISL	14.82	14.82	33.539	24.886	306.2	0.063	6.78	117.7	5.4	0.29	0.0	0.01	13.16	1.50	20
1	21	14.74	14.74	33.538	24.903	304.7	0.066	6.75	117.0	5.5	0.29	0.0	0.01	13.91	1.58	21
	30 ISL	13.69	13.69	33.534	25.120	284.2	0.093	5.52	93.6	7.2	0.46	1.0	0.05	3.19	0.76	30
1	31	13.57	13.57	33.535	25.145	281.8	0.096	5.38	91.0	7.4	0.48	1.1	0.06	1.73	0.64	31
1	42	12.80	12.79	33.547	25.308	266.5	0.126	4.91	81.8	9.4	0.81	6.3	0.27	1.10	0.64	42
	50 ISL	12.09	12.08	33.548	25.446	253.6	0.147	4.57	75.0	11.3	1.01	10.1	0.32	0.89	0.72	50
1	52	11.93	11.92	33.550	25.478	250.6	0.152	4.48	73.2	12.1	1.06	10.9	0.33	0.85	0.75	52
1	62	11.49	11.48	33.591	25.592	240.0	0.176	3.86	62.5	19.3	1.35	13.6	0.34	0.59	1.01	62

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 1.6 N	120 55.1 W	08/08/90	2328 UTC	236 m	260 04 kn	300 01 08	4	1013.7 mb	17.0 C	16.8 C	12m 04	8/8	

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.78	16.78	33.559	24.461	346.1	0.000	6.10	110.1	5.1	0.33	0.0	0.00	1.26	0.19	0
1	10	15.68	15.68	33.551	24.706	323.0	0.033	6.57	116.0	5.4	0.31	0.0	0.00	8.94	0.92	10
	20 ISL	14.47	14.47	33.535	24.958	299.4	0.065	5.80	100.0	6.8	0.46	1.6	0.12	2.13	0.56	20
1	21	14.36	14.36	33.534	24.980	297.2	0.068	5.70	98.0	6.9	0.48	1.8	0.13	1.23	0.50	21
	30 ISL	13.73	13.73	33.538	25.115	284.7	0.094	5.51	93.5	7.1	0.54	2.7	0.20	0.79	0.50	30
1	31	13.67	13.67	33.539	25.128	283.5	0.097	5.49	93.1	7.1	0.55	2.8	0.21	0.74	0.50	31
1	41	12.77	12.76	33.540	25.309	266.5	0.124	4.89	81.4	9.6	0.80	6.2	0.38	0.56	0.54	41
	50 ISL	12.40	12.39	33.527	25.371	260.8	0.148	4.73	78.1	10.8	0.90	8.0	0.46	0.48	0.44	50
1	51	12.37	12.36	33.527	25.377	260.3	0.150	4.72	77.9	10.9	0.91	8.2	0.46	0.47	0.43	51
1	62	11.70	11.69	33.583	25.547	244.3	0.178	4.32	70.3	13.6	1.08	12.3	0.34	0.32	0.34	62
1	72	10.77	10.76	33.629	25.751	225.0	0.202	3.88	61.9	17.2	1.32	16.8	0.20	0.22	0.27	72
	75 ISL	10.64	10.63	33.644	25.785	221.8	0.208	3.79	60.3	17.8	1.36	17.5	0.18	0.21	0.27	75
1	86	10.41	10.40	33.699	25.868	214.1	0.232	3.56	56.4	19.6	1.45	19.1	0.12	0.20	0.27	86
	100 ISL	10.09	10.08	33.772	25.980	203.8	0.262	3.29	51.8	22.3	1.58	21.0	0.07	0.11	0.20	101
1	101	10.07	10.06	33.777	25.987	203.1	0.264	3.27	51.4	22.5	1.59	21.1	0.07	0.10	0.19	102
1	122	9.62	9.61	33.889	26.150	188.0	0.305	2.90	45.2	26.7	1.75	23.7	0.06	0.06	0.15	123
	125 ISL	9.58	9.57	33.897	26.163	186.8	0.310	2.87	44.7	27.1	1.76	23.9	0.06	0.06	0.14	126
1	142	9.44	9.42	33.930	26.212	182.5	0.342	2.76	42.8	28.9	1.82	24.6	0.06	0.04	0.13	143
	150 ISL	9.39	9.37	33.946	26.233	180.7	0.356	2.69	41.7	29.7	1.85	24.9	0.07	0.04	0.14	151
1	167	9.30	9.28	33.982	26.276	176.9	0.387	2.52	39.0	31.7	1.93	25.7	0.09	0.03	0.17	168
1	193	9.13	9.11	34.049	26.356	169.8	0.432	2.13	32.9	35.9	2.09	27.5	0.11	0.03	0.17	194
	200 ISL	9.07	9.05	34.064	26.378	167.9	0.443	2.07	31.9	36.8	2.12	27.9	0.10			201
1	223	8.86	8.84	34.115	26.451	161.3	0.481	1.87	28.7	39.7	2.21	29.0	0.07			224

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 53.7 N	121 12.2 W	08/08/90	2009 UTC	559 m	170 06 kn	300 02 04	2	1015.5 mb	18.5 C	17.5 C	11m 04	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.17	17.17	33.608	24.407	351.2	0.000	6.44	117.2	4.9	0.24	0.0	0.00	0.66	0.16	0
1	1	17.17	17.17	33.608	24.407	351.3	0.004	6.44	117.2	4.9	0.24	0.0	0.00	0.66	0.16	1
	10 ISL	16.26	16.26	33.578	24.596	333.6	0.034	6.92	123.7	5.1	0.26	0.0	0.00	3.77	0.60	10
1	11	16.11	16.11	33.574	24.627	330.6	0.038	6.96	124.0	5.1	0.26	0.0	0.00	4.17	0.65	11
	20 ISL	15.23	15.23	33.556	24.810	313.5	0.067	5.95	104.2	6.0	0.30	0.0	0.00	3.57	0.46	20
1	21	15.13	15.13	33.555	24.831	311.5	0.070	5.81	101.5	6.1	0.31	0.0	0.00	3.50	0.42	21
	30 ISL	14.24	14.24	33.550	25.018	293.9	0.097	5.42	93.0	7.5	0.46	1.6	0.09	0.91	0.30	30
1	32	13.98	13.98	33.546	25.069	289.1	0.103	5.36	91.5	7.9	0.52	2.0	0.12	0.37	0.28	32
1	42	11.81	11.80	33.495	25.457	252.3	0.130	4.81	78.4	11.5	1.04	11.0	0.37	0.30	0.22	42
	50 ISL	10.96	10.95	33.560	25.663	232.9	0.149	4.33	69.3	14.4	1.21	14.4	0.31	0.24	0.20	50
1	52	10.84	10.83	33.581	25.701	229.3	0.154	4.21	67.2	15.1	1.23	14.9	0.29	0.23	0.20	52
1	62	10.56	10.55	33.652	25.805	219.6	0.176	3.75	59.6	18.3	1.39	17.9	0.16	0.18	0.20	62
1	72	10.33	10.32	33.702	25.884	212.3	0.198	3.53	55.8	20.0	1.48	19.4	0.11	0.15	0.19	72
	75 ISL	10.27	10.26	33.712	25.902	210.6	0.204	3.50	55.3	20.4	1.50	19.8	0.10	0.14	0.18	75
1	86	10.07	10.06	33.748	25.965	204.9	0.227	3.41	53.6	21.7	1.58	20.9	0.06	0.11	0.13	86
	100 ISL	9.90	9.89	33.811	26.043	197.8	0.255	3.18	49.8	23.8	1.66	22.1	0.05	0.09	0.13	101
1	101	9.89	9.88	33.816	26.048	197.3	0.257	3.16	49.5	24.0	1.67	22.2	0.05	0.09	0.13	102
1	121	9.68	9.67	33.898	26.148	188.3	0.296	2.91	45.4	27.0	1.80	23.9	0.06	0.07	0.10	122
	125 ISL	9.62	9.61	33.915	26.171	186.1	0.303	2.83	44.1	27.8	1.83	24.3	0.05	0.06	0.10	126
1	147	9.29	9.27	34.00	26.292	175.0	0.343	2.44	37.8	31.8	1.99	26.4	0.02	0.03	0.09	148
	150 ISL	9.26	9.24	34.008	26.303	174.1	0.348	2.41	37.3	32.1	2.00	26.6	0.02	0.03	0.09	151
1	179	9.02	9.00	34.063	26.385	166.8	0.398	2.26	34.8	34.4	2.09	27.5	0.01	0.01	0.10	180
	200 ISL	8.85	8.83	34.084	26.428	163.0	0.432	2.23	34.2	36.0	2.12	28.0	0.01	0.01	0.09	201
1	209	8.77	8.75	34.088	26.444	161.7	0.447	2.21	33.8	36.6	2.13	28.2	0.01	0.01	0.09	210
1	238	8.38	8.36	34.073	26.493	157.4	0.493	2.27	34.4	38.4	2.14	28.9	0.01			239
	250 ISL	8.17	8.14	34.064	26.518	155.2	0.512	2.29	34.6	39.8	2.15	29.4	0.01			252
1	280	7.64	7.61	34.046	26.582	149.4	0.558	2.33	34.7	44.1	2.19	30.8	0.01			282
	300 ISL	7.29	7.26	34.033	26.621	145.7	0.587	2.26	33.4	47.7	2.25	31.8	0.01			302
1	337	6.85	6.82	34.046 A	26.692	139.3	0.640	1.92	28.1	54.2	2.42	33.7	0.01			339
1	398	7.22	7.18	34.251 A	26.804	130.1	0.722	0.74	10.9	61.4	2.84	35.8	0.00			401
	400 ISL	7.22	7.18	34.253	26.806	129.9	0.725	0.74	10.9	61.5	2.85	35.9	0.00			403
1	464	6.84	6.80	34.260	26.864	125.1	0.806	0.58	8.5	67.1	2.95	37.3	0.00			467
	500 ISL	6.44	6.39	34.263	26.920	119.9	0.850	0.49	7.1	74.2	3.04	38.1	0.04			504
1	537	6.02	5.97	34.269	26.979	114.4	0.894	0.39	5.6	81.4	3.13	38.9	0.09			541

A) THE SALINITY SAMPLES AT 337 AND 398 METERS APPEAR TO HAVE BEEN ANALYZED IN REVERSE ORDER. THEY ARE ASSUMED TO NOW BE IN THE CORRECT ORDER.

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CID AMT TYPE
34 43.5 N	121 33.1 W	08/08/90	1547 UTC	921 m	310 04 kn	300 02 05	2	1014.1 mb	16.5 C	16.4 C	26m 02	8/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.38	17.38	33.453	24.238	367.3	0.000	5.71	104.2	2.2	0.29	0.0	0.00	0.25	0.07	0
1	1	17.38	17.38	33.453	24.238	367.3	0.004	5.71	104.2	2.2	0.29	0.0	0.00	0.25	0.07	1
	10 ISL	17.13	17.13	33.457	24.301	361.7	0.036	5.76	104.6	2.1	0.29	0.0	0.00	0.22	0.08	10
1	11	17.10	17.10	33.458	24.309	361.0	0.040	5.77	104.7	2.1	0.29	0.0	0.00	0.22	0.08	11
	20 ISL	14.99	14.99	33.326	24.685	325.3	0.071	6.24	108.6	2.8	0.38	1.0	0.05	0.46	0.16	20
1	22	14.47	14.47	33.310	24.784	316.0	0.077	6.31	108.6	2.9	0.41	1.4	0.07	0.52	0.18	22
	30 ISL	13.46	13.46	33.413	25.073	288.6	0.102	5.93	100.0	5.4	0.62	4.8	0.26	0.53	0.25	30
1	32	13.32	13.32	33.446	25.127	283.6	0.107	5.79	97.4	6.1	0.67	5.6	0.31	0.53	0.26	32
1	42	13.17	13.16	33.499	25.198	277.1	0.135	5.38	90.3	8.0	0.76	6.9	0.48	0.51	0.30	42
	50 ISL	12.09	12.08	33.551	25.448	253.3	0.157	4.70	77.1	11.9	1.04	11.5	0.48	0.43	0.29	50
1	52	11.78	11.77	33.565	25.518	246.8	0.162	4.52	73.7	13.0	1.11	12.8	0.48	0.40	0.29	52
1	62	10.86	10.85	33.604	25.715	228.2	0.185	4.03	64.4	16.5	1.30	16.6	0.12	0.21	0.21	62
1	73	10.34	10.33	33.734	25.907	210.1	0.209	3.46	54.7	21.0	1.53	20.0	0.14	0.12	0.19	73
	75 ISL	10.31	10.30	33.748	25.924	208.6	0.214	3.41	53.9	21.5	1.55	20.3	0.14	0.12	0.18	75
1	87	10.22	10.21	33.806	25.984	203.1	0.238	3.22	50.8	23.4	1.63	21.4	0.15	0.12	0.17	87
	100 ISL	9.96	9.95	33.862	26.072	195.0	0.264	3.00	47.1	25.8	1.74	23.0	0.10	0.11	0.21	101
1	102	9.91	9.90	33.870	26.087	193.6	0.268	2.97	46.6	26.2	1.76	23.3	0.09	0.11	0.22	103
1	123	9.46	9.45	33.951	26.225	180.9	0.307	2.64	41.0	30.0	1.90	25.3	0.04	0.04	0.12	124
	125 ISL	9.43	9.42	33.959	26.236	179.9	0.311	2.60	40.4	30.4	1.92	25.5	0.04	0.04	0.12	126
1	148	9.12	9.10	34.046	26.355	169.0	0.351	2.15	33.2	34.8	2.11	27.8	0.02	0.02	0.11	149
	150 ISL	9.10	9.08	34.054	26.364	168.1	0.354	2.14	33.0	35.1	2.12	27.9	0.02	0.02	0.11	151
1	179	8.74	8.72	34.121	26.474	158.2	0.402	1.96	30.0	38.7	2.22	29.1	0.02	0.01	0.09	180
	200 ISL	8.15	8.13	34.067	26.522	153.8	0.435	2.28	34.4	40.1	2.16	29.6	0.02	0.01	0.08	201
1	209	7.89	7.87	34.041	26.540	152.2	0.448	2.41	36.1	40.9	2.14	29.9	0.02	0.01	0.08	210
1	239	7.41	7.39	34.054	26.620	144.9	0.493	2.14	31.7	47.4	2.29	32.0	0.02			240
	250 ISL	7.29	7.27	34.059	26.641	143.0	0.509	2.05	30.3	49.0	2.34	32.6	0.02			252
1	280	7.03	7.00	34.069	26.685	139.2	0.551	1.81	26.6	52.8	2.46	33.9	0.02			282
	300 ISL	6.83	6.80	34.071	26.714	136.6	0.579	1.66	24.3	55.8	2.53	34.8	0.02			302
1	336	6.52	6.49	34.080	26.763	132.3	0.627	1.41	20.5	61.2	2.64	36.4	0.03			338
1	397	6.28	6.24	34.145	26.846	125.2	0.706	0.98	14.2	68.1	2.85	38.2	0.02			400
	400 ISL	6.24	6.20	34.143	26.850	124.8	0.709	0.97	14.0	68.6	2.86	38.3	0.02			403
1	463	5.61	5.57	34.124	26.914	119.0	0.786	0.84	11.9	77.5	2.97	40.3	0.01			466
	500 ISL	5.80	5.76	34.209	26.958	115.5	0.830	0.60	8.6	79.0	3.06	40.3	0.01			504
1	535	5.97	5.92	34.290	27.001	112.2	0.869	0.38	5.5	80.4	3.14	40.3	0.01			539

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 23.4 N	122 14.6 W	08/08/90	0511 UTC	4012 m	300 10 k.n			1013.7 mb	17.1 C	16.7 C		

CAST	DEPTH D	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3+NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.04	17.04	33.176	24.106	379.9	0.000	5.81	105.2	2.8	0.32	0.0	0.19	0.05	0
1	1	17.04	17.04	33.176	24.106	379.9	0.004	5.81	105.2	2.8	0.32	0.0	0.19	0.05	1
	10 ISL	16.73	16.73	33.188	24.188	372.4	0.038	5.86	105.4	2.8	0.31	0.1	0.21	0.05	10
1	11	16.70	16.70	33.190	24.197	371.6	0.041	5.87	105.6	2.8	0.31	0.1	0.21	0.05	11
	20 ISL	14.58	14.58	33.051	24.561	337.2	0.073	6.40	110.2	3.5	0.36	0.4	0.79	0.24	20
1	22	14.05	14.05	33.024	24.651	328.6	0.080	6.51	110.9	3.7	0.38	0.5	0.92	0.29	22
	30 ISL	12.94	12.94	32.998	24.855	309.3	0.105	6.48	107.9	3.9	0.41	0.8	0.97	0.42	30
1	32	12.70	12.70	32.995	24.900	305.1	0.112	6.47	107.1	4.0	0.43	0.9	0.98	0.44	32
1	42	11.19	11.18	32.971	25.163	280.2	0.141	6.04	96.8	6.1	0.67	5.2	0.66	0.36	42
	50 ISL	10.70	10.69	33.082	25.336	263.9	0.163	5.70	90.5	8.3	0.86	8.7	0.36	0.21	50
1	52	10.66	10.65	33.117	25.371	260.7	0.168	5.61	89.0	8.7	0.89	9.4	0.29	0.18	52
1	62	10.71	10.70	33.269	25.481	250.4	0.193	5.20	82.7	8.5	0.89	9.4	0.15	0.16	62
1	72	10.10	10.09	33.299	25.609	238.4	0.218	4.99	78.3	13.2	1.15	14.3	0.08	0.09	72
	75 ISL	9.96	9.95	33.317	25.646	234.9	0.225	4.90	76.6	14.1	1.20	15.2	0.07	0.08	75
1	87	9.57	9.56	33.420	25.792	221.3	0.252	4.43	68.7	17.2	1.37	17.9	0.04	0.06	87
	100 ISL	9.48	9.47	33.576	25.928	208.6	0.280	3.82	59.2	21.2	1.56	20.9	0.01	0.04	100
1	102	9.48	9.47	33.600	25.947	206.8	0.284	3.73	57.8	21.8	1.59	21.3	0.01	0.04	103
1	122	9.15	9.14	33.764	26.129	189.9	0.324	3.17	48.8	26.0	1.77	24.1	0.01	0.05	123
	125 ISL	9.11	9.10	33.785	26.152	187.8	0.330	3.10	47.7	26.6	1.79	24.5	0.01	0.05	126
1	149	8.86	8.84	33.922	26.299	174.2	0.373	2.67	40.9	31.5	1.94	26.8	0.01	0.04	150
	150 ISL	8.85	8.83	33.926	26.303	173.8	0.375	2.66	40.7	31.7	1.95	26.9	0.01	0.04	151
1	178	8.56	8.54	34.018	26.421	163.1	0.422	2.38	36.2	35.9	2.08	28.4	0.00	0.06	179
	200 ISL	8.30	8.28	34.053	26.489	157.1	0.457	2.25	34.1	38.8	2.14	29.4	0.00	0.05	201
1	209	8.19	8.17	34.062	26.512	154.9	0.471	2.20	33.2	40.1	2.17	29.8	0.00	0.05	210
1	239	7.84	7.82	34.098	26.593	147.7	0.517	1.89	28.3	45.3	2.33	31.5			240
	250 ISL	7.63	7.61	34.094	26.620	145.2	0.533	1.84	27.4	47.4	2.37	32.1			251
1	280	7.03	7.00	34.073	26.688	138.9	0.575	1.75	25.7	52.9	2.47	33.8			282
	300 ISL	6.74	6.71	34.062	26.719	136.1	0.603	1.69	24.7	55.9	2.52	34.7			302
1	336	6.37	6.34	34.060	26.767	131.8	0.651	1.53	22.1	60.8	2.62	36.2			338
1	398	6.21	6.17	34.144	26.854	124.4	0.731	0.89	12.8	69.6	2.89	38.5			401
	400 ISL	6.20	6.16	34.145	26.856	124.2	0.733	0.88	12.7	69.9	2.90	38.6			403
1	464	5.68	5.64	34.177	26.947	116.0	0.810	0.58	8.3	79.4	3.04	40.6			467
	500 ISL	5.51	5.47	34.211	26.995	111.7	0.851	0.46	6.5	83.9	3.11	41.2			503
1	536	5.33	5.29	34.246	27.044	107.3	0.890	0.34	4.8	88.3	3.17	41.8			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 3.5 N	122 56.6 W	08/08/90	0000 UTC	4230 m	230 08 Jen	320 02 06	1	1013.7 mb	18.6 C	17.5 C	24m 02	6/8	SC

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3+NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.53	18.53	33.143	23.721	416.6	0.000	5.57	103.7	3.1	0.30	0.1	0.11	0.03	0
1	1		18.53	18.53	33.143	23.721	416.7	0.004	5.57	103.7	3.1	0.30	0.1	0.11	0.03	1
	10	ISL	17.91	17.91	33.151	23.880	401.8	0.041	5.60	103.1	2.9	0.30	0.1	0.15	0.04	10
1	11		17.83	17.83	33.152	23.900	399.9	0.045	5.60	102.9	2.9	0.30	0.1	0.16	0.04	11
	20	ISL	17.78	17.78	33.149	23.910	399.3	0.081	5.60	102.8	3.0	0.30	0.1	0.19	0.05	20
1	22		17.77	17.77	33.148	23.912	399.2	0.089	5.60	102.8	3.0	0.30	0.1	0.20	0.05	22
	30	ISL	16.15	16.15	33.124	24.273	365.0	0.120	5.95	105.8	2.8	0.30	0.1	0.20	0.07	30
1	32		15.68	15.68	33.122	24.377	355.1	0.127	6.04	106.4	2.8	0.30	0.1	0.20	0.07	32
1	42		14.27	14.26	33.110	24.673	327.2	0.161	6.20	106.1	2.7	0.30	0.1	0.34	0.16	42
	50	ISL	13.29	13.28	33.073	24.845	310.9	0.186	6.31	105.8	3.0	0.32	0.1	0.35	0.23	50
1	52		13.07	13.06	33.065	24.882	307.4	0.193	6.33	105.7	3.1	0.33	0.1	0.35	0.25	52
1	62		12.25	12.24	33.072	25.047	291.8	0.223	6.31	103.6	3.7	0.38	0.4	0.49	0.40	62
1	72		11.75	11.74	33.129	25.185	278.9	0.251	5.99	97.3	4.8	0.50	2.7	0.32	0.29	72
	75	ISL	11.48	11.47	33.133	25.238	273.9	0.259	5.87	94.8	5.5	0.57	4.0	0.27	0.29	75
1	86		10.55	10.54	33.152	25.418	256.9	0.289	5.43	85.9	8.3	0.83	9.2	0.13	0.27	86
	100	ISL	10.17	10.16	33.248	25.558	243.9	0.324	5.07	79.6	11.7	1.04	12.9	0.10	0.18	100
1	102		10.15	10.14	33.267	25.576	242.2	0.328	5.01	78.7	12.2	1.07	13.3	0.09	0.16	102
1	122		9.77	9.76	33.530	25.845	216.9	0.374	3.98	62.1	19.4	1.47	19.8	0.02	0.06	123
	125	ISL	9.74	9.73	33.562	25.875	214.2	0.381	3.85	60.0	20.3	1.51	20.5	0.02	0.06	126
1	148		9.50	9.48	33.760	26.070	196.1	0.428	3.09	48.0	26.1	1.76	24.3	0.01	0.04	149
	150	ISL	9.47	9.45	33.774	26.086	194.7	0.432	3.04	47.2	26.5	1.78	24.6	0.01	0.04	151
1	179		9.01	8.99	33.935	26.286	176.1	0.486	2.52	38.7	32.0	2.00	27.3	0.00	0.04	180
	200	ISL	8.76	8.74	33.997	26.374	168.1	0.522	2.37	36.2	34.6	2.06	28.3	0.00	0.03	201
1	210		8.65	8.63	34.018	26.408	165.0	0.538	2.32	35.4	35.8	2.08	28.6	0.00	0.03	211
1	240		8.27	8.25	34.087	26.520	154.8	0.586	2.08	31.5	41.0	2.21	30.1			241
	250	ISL	8.14	8.11	34.091	26.543	152.7	0.602	2.05	30.9	42.4	2.24	30.5			251
1	281		7.78	7.75	34.094	26.599	147.8	0.648	1.93	28.9	46.2	2.34	31.6			283
	300	ISL	7.70	7.67	34.120	26.631	145.1	0.676	1.71	25.5	48.6	2.43	32.5			302
1	338		7.51	7.48	34.168	26.697	139.4	0.730	1.25	18.6	54.0	2.61	34.3			340
1	399		6.57	6.53	34.139	26.804	129.5	0.812	1.06	15.4	64.9	2.79	37.1			402
	400	ISL	6.56	6.52	34.139	26.805	129.3	0.814	1.05	15.3	65.0	2.79	37.1			403
1	464		6.16	6.12	34.183	26.892	121.7	0.894	0.69	9.9	72.9	2.97	39.3			**467**
	500	ISL	5.96	5.92	34.210	26.939	117.5	0.937	0.56	8.0	77.3	3.05	40.1			503
1	536		5.75	5.70	34.238	26.988	113.2	0.978	0.43	6.1	81.7	3.13	40.9			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 43.3 N	123 38.0 W	07/08/90	1752 UTC	4139 m	310 10 kn	340 04 08	2	1015.9 mb	18.6 C	17.4 C	30m 02	8/8	ST

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.38	18.38	33.179	23.786	410.5	0.000	5.53	102.7	2.5	0.32	0.1	0.00	0.11	0.02	0
1	1		18.38	18.38	33.179	23.786	410.5	0.004	5.53	102.7	2.5	0.32	0.1	0.00	0.11	0.02	1
	10	ISL	18.35	18.35	33.182	23.796	409.8	0.041	5.52	102.5	2.6	0.32	0.1	0.00	0.11	0.02	10
1	11		18.34	18.34	33.183	23.799	409.6	0.045	5.52	102.5	2.6	0.32	0.1	0.00	0.11	0.02	11
	20	ISL	18.31	18.31	33.188	23.811	408.8	0.082	5.53	102.6	2.5	0.31	0.1	0.00	0.12	0.02	20
1	22		18.30	18.30	33.189	23.814	408.5	0.090	5.53	102.6	2.5	0.31	0.1	0.00	0.12	0.02	22
	30	ISL	17.86	17.85	33.168	23.906	400.1	0.122	5.65	103.9	2.5	0.32	0.1	0.00	0.15	0.03	30
1	32		17.69	17.68	33.157	23.938	397.0	0.130	5.69	104.3	2.5	0.32	0.1	0.00	0.16	0.03	32
1	42		16.47	16.46	33.042	24.137	378.3	0.169	5.92	105.9	2.6	0.32	0.1	0.00	0.17	0.04	42
	50	ISL	15.56	15.55	33.074	24.367	356.6	0.199	6.09	107.0	2.5	0.30	0.1	0.00	0.19	0.05	50
1	52		15.32	15.31	33.085	24.429	350.8	0.206	6.13	107.2	2.5	0.30	0.1	0.00	0.20	0.06	52
1	62		13.82	13.81	33.027	24.702	324.8	0.239	6.28	106.5	2.7	0.33	0.1	0.00	0.23	0.10	62
1	73		12.73	12.72	32.957	24.866	309.4	0.274	6.37	105.5	2.8	0.35	0.1	0.00	0.27	0.13	73
	75	ISL	12.61	12.60	32.967	24.897	306.5	0.280	6.35	104.9	2.8	0.35	0.2	0.00	0.28	0.15	75
1	87		12.11	12.10	33.060	25.065	290.8	0.316	6.25	102.2	3.4	0.41	0.8	0.00	0.30	0.26	87
	100	ISL	11.59	11.58	33.119	25.207	277.4	0.353	5.91	95.6	4.9	0.56	3.7	0.02	0.26	0.23	100
1	102		11.50	11.49	33.125	25.228	275.5	0.359	5.85	94.5	5.2	0.59	4.3	0.03	0.25	0.23	102
1	123		10.31	10.30	33.164	25.469	252.8	0.414	5.42	85.3	8.5	0.87	9.5	0.14	0.14	0.19	124
	125	ISL	10.24	10.23	33.173	25.488	251.0	0.419	5.38	84.6	8.8	0.89	9.9	0.13	0.13	0.19	126
1	148		9.65	9.63	33.327	25.707	230.6	0.475	4.79	74.4	13.4	1.17	14.9	0.03	0.09	0.13	149
	150	ISL	9.62	9.60	33.348	25.728	228.6	0.479	4.72	73.3	14.0	1.20	15.4	0.03	0.08	0.12	151
1	179		9.21	9.19	33.652	26.033	200.2	0.541	3.68	56.7	22.9	1.60	22.0	0.00	0.01	0.03	180
	200	ISL	8.90	8.88	33.815	26.210	183.7	0.582	3.18	48.7	28.0	1.80	25.0	0.00	0.00	0.02	201
1	211		8.73	8.71	33.881	26.288	176.4	0.602	3.00	45.8	30.3	1.87	26.1	0.00	0.00	0.02	212
1	239		8.30	8.28	33.981	26.433	163.1	0.649	2.77	41.9	35.0	1.97	27.9	0.00			240
	250	ISL	8.15	8.12	33.999	26.469	159.7	0.667	2.76	41.6	36.4	1.99	28.2	0.00			251
1	280		7.79	7.76	34.023	26.542	153.2	0.714	2.72	40.7	40.0	2.06	29.1	0.00			282
	300	ISL	7.60	7.57	34.039	26.582	149.6	0.744	2.52	37.5	43.0	2.15	30.2	0.00			302
1	338		7.24	7.21	34.064	26.653	143.3	0.800	2.03	30.0	49.3	2.37	32.8	0.00			340
1	398		6.54	6.50	34.098	26.775	132.1	0.882	1.30	18.9	60.9	2.70	36.7	0.00			**400**
	400	ISL	6.52	6.48	34.098	26.778	131.9	0.885	1.29	18.7	61.2	2.71	36.8	0.00			**402**
1	463		5.85	5.81	34.102	26.867	123.7	0.965	1.02	14.6	71.6	2.86	39.3	0.00			**466**
	500	ISL	5.49	5.45	34.115	26.921	118.6	1.010	0.87	12.3	78.5	2.95	40.5	0.00			503
1	535		5.14	5.10	34.129	26.974	113.7	1.051	0.72	10.1	85.0	3.04	41.7	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 27.3 N	120 31.8 W	06/08/90	0035 UTC	70 m	300 22 kn	300 04 04	0	1011.4 mb	16.4 C	15.8 C	07m 04	0/8

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
2	0	16.57	16.57	33.612	24.550	337.6	0.000	6.50	116.9	3.0	0.28	0.1	0.02	3.50	0.37	0
1	10	15.82	15.82	33.597	24.710	322.7	0.033	6.43	113.9	4.0	0.33	0.2	0.03	4.38	0.57	10
	20 ISL	13.66	13.66	33.553	25.140	282.0	0.063	5.20	88.2	8.3	0.71	5.1	0.26	1.52	0.48	20
1	21	13.43	13.43	33.551	25.185	277.7	0.066	5.07	85.5	8.8	0.75	5.7	0.28	1.19	0.46	21
	30 ISL	12.39	12.39	33.534	25.378	259.6	0.090	4.73	78.1	10.3	0.94	8.9	0.34	0.66	0.39	30
1	31	12.33	12.33	33.533	25.388	258.6	0.093	4.72	77.8	10.4	0.95	9.1	0.34	0.60	0.39	31
1	42	12.36	12.35	33.537	25.386	259.1	0.121	4.72	77.9	10.5	0.96	9.2	0.34	0.57	0.44	42
	50 ISL	12.36	12.35	33.551	25.397	258.3	0.142	4.64	76.6	11.1	0.98	9.5	0.37	0.50	0.39	50
1	52	12.36	12.35	33.557	25.402	257.9	0.147	4.61	76.1	11.3	0.99	9.6	0.38	0.48	0.38	52
1	62	12.16	12.15	33.566	25.447	253.8	0.173	4.47	73.4	12.2	1.06	10.7	0.38	0.41	0.38	62

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 19.4 N	120 48.3 W	06/08/90	0423 UTC	748 m	340 19 kn			1013.1 mb	15.9 C	15.4 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.01	17.01	33.641	24.470	345.2	0.000	5.88	106.7	4.0	0.30	0.3	0.02	2.22	0.46	0
1	9	16.99	16.99	33.641	24.475	345.0	0.031	5.90	107.0	4.0	0.29	0.3	0.02	2.18	0.50	9
	10 ISL	16.99	16.99	33.641	24.475	345.1	0.035	5.90	107.0	4.0	0.29	0.3	0.02	2.19	0.50	10
1	19	16.97	16.97	33.638	24.478	345.1	0.066	5.88	106.6	3.9	0.31	0.3	0.02	2.28	0.53	19
	20 ISL	16.68	16.68	33.642	24.549	338.4	0.069	5.77	104.0	4.7	0.37	1.2	0.04	2.12	0.52	20
1	29	13.47	13.47	33.702	25.294	267.6	0.096	4.58	77.4	13.1	0.96	10.7	0.24	0.56	0.38	29
	30 ISL	13.12	13.12	33.696	25.360	261.3	0.099	4.48	75.2	13.9	1.02	11.6	0.23	0.53	0.36	30
1	40	10.51	10.51	33.651	25.813	218.4	0.123	3.74	59.3	19.5	1.43	18.4	0.11	0.21	0.18	40
1	50	10.22	10.21	33.683	25.888	211.5	0.144	3.59	56.6	21.2	1.50	19.5	0.08	0.13	0.16	50
1	60	10.17	10.16	33.695	25.906	209.9	0.165	3.53	55.6	21.6	1.51	19.6	0.08	0.16	0.15	60
1	70	9.90	9.89	33.770	26.010	200.2	0.186	3.27	51.2	24.0	1.64	21.5	0.04	0.08	0.12	70
	75 ISL	9.81	9.80	33.804	26.052	196.4	0.196	3.13	48.9	25.0	1.68	22.2	0.03	0.06	0.12	75
1	84	9.67	9.66	33.861	26.120	190.1	0.213			26.7	1.75	23.2	0.02	0.04	0.12	84
1	99	9.47	9.46	33.950	26.222	180.6	0.241	2.60	40.4	30.1	1.90	25.0	0.01	0.02	0.11	100
	100 ISL	9.46	9.45	33.954	26.227	180.2	0.243	2.59	40.2	30.2	1.91	25.1	0.01	0.02	0.11	101
1	120	9.38	9.37	34.002	26.278	175.8	0.278	2.39	37.1	32.1	1.98	26.1	0.01	0.02	0.11	121
	125 ISL	9.35	9.34	34.013	26.292	174.6	0.287	2.34	36.3	32.6	2.00	26.4	0.01	0.02	0.11	126
1	145	9.24	9.22	34.050	26.339	170.5	0.322	2.19	33.9	34.5	2.07	27.3	0.01	0.02	0.11	146
	150 ISL	9.20	9.18	34.056	26.350	169.5	0.330	2.17	33.5	34.9	2.08	27.4	0.01	0.02	0.11	151
1	175	9.04	9.02	34.079	26.394	165.8	0.372	2.10	32.3	36.3	2.14	27.9	0.03	0.02	0.09	176
	200 ISL	8.95	8.93	34.095	26.421	163.7	0.413	2.03	31.2	37.5	2.17	28.3	0.04	0.01	0.11	201
1	204	8.94	8.92	34.098	26.425	163.4	0.420	2.01	30.9	37.7	2.18	28.4	0.04	0.01	0.11	205
1	235	8.72	8.69	34.133	26.487	158.0	0.470	1.82	27.8	40.0	2.28	29.6	0.02			236
	250 ISL	8.53	8.50	34.154	26.534	153.9	0.493	1.69	25.7	42.6	2.35	30.4	0.02			252
1	276	8.19	8.16	34.186	26.611	146.9	0.532	1.47	22.2	47.5	2.47	31.7	0.03			278
	300 ISL	7.98	7.95	34.197	26.651	143.4	0.567	1.32	19.9	50.3	2.55	32.7	0.02			302
1	332	7.74	7.71	34.205	26.693	139.8	0.612	1.14	17.0	53.5	2.64	33.8	0.01			334
1	393	7.23	7.19	34.242	26.795	130.8	0.695	0.78	11.5	61.0	2.85	35.9	0.01			396
	400 ISL	7.18	7.14	34.246	26.805	129.9	0.704	0.74	10.9	61.9	2.87	36.1	0.01			403
1	460	6.81	6.77	34.277	26.881	123.4	0.780	0.50	7.3	68.5	3.00	37.6	0.01			463
	500 ISL	6.64	6.59	34.289	26.914	120.7	0.829	0.45	6.6	71.2	3.05	38.2	0.00			504
1	533	6.50	6.45	34.299	26.941	118.6	0.868	0.40	5.8	73.5	3.09	38.7	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 8.9 N	121 10.0 W	06/08/90	0829 UTC	2297 m	350 10 kn			1012.7 mb	16.5 C	16.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.09	17.09	33.658	24.464	345.8	0.000	5.78	105.0	2.9	0.26	0.1	0.00	0.67	0.26	0
1	1	17.09	17.09	33.658	24.464	345.8	0.003	5.78	105.0	2.9	0.26	0.1	0.00	0.67	0.26	1
	10 ISL	17.09	17.09	33.660	24.466	345.9	0.035	5.79	105.2	2.8	0.26	0.1	0.00	0.78	0.30	10
1	11	17.09	17.09	33.660	24.466	346.0	0.038	5.79	105.2	2.8	0.26	0.1	0.00	0.80	0.31	11
	20 ISL	17.07	17.07	33.658	24.470	345.9	0.069	5.79	105.2	2.7	0.26	0.1	0.00	0.79	0.30	20
1	21	17.07	17.07	33.658	24.470	346.0	0.073	5.79	105.2	2.7	0.26	0.1	0.00	0.79	0.30	21
	30 ISL	16.96	16.96	33.657	24.495	343.8	0.104	5.78	104.8	2.8	0.27	0.1	0.00	0.78	0.33	30
1	32	16.93	16.92	33.657	24.502	343.3	0.111	5.78	104.7	2.8	0.27	0.1	0.00	0.78	0.34	32
1	42	15.63	15.62	33.618	24.770	318.0	0.144	5.55	98.0	5.7	0.47	2.0	0.09	0.98	0.53	42
	50 ISL	14.16	14.15	33.602	25.076	289.0	0.168	5.05	86.5	8.9	0.71	5.9	0.24	0.46	0.37	50
1	52	13.75	13.74	33.603	25.161	280.9	0.174	4.89	83.1	9.9	0.79	7.2	0.28	0.31	0.32	52
1	62	11.50	11.49	33.657	25.641	235.3	0.199	3.98	64.5	16.7	1.28	15.2	0.34	0.18	0.23	62
1	72	10.39	10.38	33.775	25.931	207.9	0.222	3.18	50.4	23.6	1.64	21.5	0.04	0.06	0.19	72
	75 ISL	10.22	10.21	33.789	25.971	204.1	0.228	3.14	49.5	24.4	1.66	21.9	0.04	0.06	0.18	75
1	87	9.82	9.81	33.820	26.063	195.6	0.252	2.99	46.8	25.9	1.76	23.4	0.02	0.04	0.17	87
	100 ISL	9.30	9.29	33.892	26.205	182.3	0.276	2.82	43.6	29.1	1.87	25.2	0.02	0.02	0.14	100
1	102	9.23	9.22	33.903	26.225	180.5	0.280	2.80	43.3	29.6	1.89	25.5	0.02	0.02	0.13	103
1	123	9.07	9.06	33.975	26.307	173.0	0.317	2.57	39.6	32.3	1.98	26.4	0.03	0.01	0.11	124
	125 ISL	9.05	9.04	33.982	26.315	172.3	0.320	2.54	39.1	32.6	1.99	26.5	0.03	0.01	0.11	126
1	148	8.82	8.80	34.054	26.409	163.8	0.359	2.25	34.5	36.3	2.11	28.2	0.02	0.01	0.12	149
	150 ISL	8.79	8.77	34.058	26.417	163.1	0.362	2.24	34.3	36.6	2.12	28.3	0.02	0.01	0.12	151
1	179	8.31	8.29	34.088	26.514	154.3	0.408	2.12	32.1	40.6	2.22	29.7	0.01	0.01	0.08	180
	200 ISL	8.15	8.13	34.102	26.550	151.2	0.440	2.01	30.3	42.6	2.29	30.4	0.01	0.01	0.10	201
1	210	8.10	8.08	34.109	26.563	150.1	0.456	1.94	29.2	43.5	2.32	30.7	0.01	0.01	0.11	211
1	242	7.97	7.95	34.157	26.620	145.2	0.503	1.58	23.8	47.3	2.46	32.1	0.01			243
	250 ISL	7.91	7.88	34.168	26.638	143.7	0.514	1.48	22.2	48.6	2.50	32.5	0.01			252
1	282	7.64	7.61	34.207	26.708	137.4	0.559	1.11	16.6	54.0	2.67	34.1	0.01			284
	300 ISL	7.49	7.46	34.228	26.746	134.1	0.584	0.93	13.8	56.9	2.76	34.9	0.01			302
1	339	7.17	7.14	34.266	26.822	127.4	0.635	0.62	9.2	62.6	2.92	36.4	0.01			341
1	399	6.80	6.76	34.289	26.891	121.4	0.709	0.47	6.9	68.9	3.02	37.8	0.00			402
	400 ISL	6.79	6.75	34.289	26.893	121.3	0.711	0.47	6.9	69.0	3.02	37.8	0.00			403
1	464	6.31	6.27	34.304	26.969	114.7	0.786	0.37	5.4	76.3	3.13	39.3	0.00			467
	500 ISL	5.96	5.92	34.301	27.011	110.8	0.827	0.33	4.7	81.1	3.17	40.3	0.00			504
1	534	5.63	5.58	34.300	27.051	107.0	0.864	0.30	4.3	85.6	3.20	41.2	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 49.1 N	121 50.8 W	06/08/90	1410 UTC	3627 m	320 07 kn	300 04 03	2	1013.9 mb	16.7 C	15.8 C	18m O2	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.86	16.86	33.538	24.426	349.4	0.000	5.86	105.9	3.4	0.29	0.1	0.00	0.23	0.07	0
1	1	16.86	16.86	33.538	24.426	349.4	0.003	5.86	105.9	3.4	0.29	0.1	0.00	0.23	0.07	1
	10 ISL	16.41	16.41	33.534	24.528	340.1	0.035	6.08	108.9	4.2	0.28	0.1	0.00	0.26	0.09	10
1	11	16.33	16.33	33.533	24.545	338.4	0.038	6.11	109.3	4.3	0.28	0.1	0.00	0.26	0.09	11
	20 ISL	15.49	15.49	33.521	24.726	321.5	0.068	6.09	107.1	4.6	0.24	0.1	0.00	1.76	0.35	20
1	22	15.22	15.22	33.517	24.782	316.2	0.074	6.09	106.6	4.7	0.23	0.1	0.00	2.01	0.41	22
	30 ISL	13.52	13.52	33.501	25.129	283.3	0.098	5.72	96.7	5.6	0.66	4.2	0.24	0.85	0.37	30
1	32	13.09	13.09	33.503	25.217	275.0	0.104	5.60	93.8	6.0	0.78	5.4	0.33	0.48	0.36	32
1	42	11.96	11.95	33.544	25.467	251.4	0.130	5.00	81.8	9.8	1.10	10.0	1.00	0.29	0.26	42
	50 ISL	11.58	11.57	33.543	25.537	244.9	0.150	4.79	77.7	11.6	1.20	11.9	1.10	0.30	0.36	50
1	52	11.50	11.49	33.543	25.552	243.5	0.155	4.73	76.6	12.1	1.22	12.4	1.12	0.30	0.38	52
1	62	10.71	10.70	33.600	25.738	225.9	0.178	4.10	65.3	17.0	1.45	18.0	0.36	0.20	0.20	62
1	72	10.56	10.55	33.640	25.796	220.7	0.200	3.89	61.8	18.8	1.53	19.6	0.08	0.12	0.13	72
	75 ISL	10.45	10.44	33.662	25.832	217.3	0.207	3.75	59.4	19.8	1.57	20.3	0.07	0.10	0.12	75
1	87	9.96	9.95	33.757	25.990	202.5	0.232	3.17	49.7	24.2	1.76	23.3	0.02	0.03	0.09	87
	100 ISL	9.61	9.60	33.819	26.097	192.6	0.258	2.89	45.0	27.0	1.88	25.1	0.02	0.03	0.07	101
1	102	9.57	9.56	33.827	26.110	191.4	0.262	2.86	44.5	27.3	1.89	25.3	0.02	0.03	0.07	103
1	122	9.28	9.27	33.937	26.243	179.1	0.299	2.51	38.8	30.3	1.97	26.6	0.01	0.01	0.09	123
	125 ISL	9.23	9.22	33.946	26.259	177.7	0.304	2.51	38.8	30.7	1.98	26.7	0.01	0.01	0.09	126
1	148	8.78	8.76	33.985	26.361	168.3	0.344	2.50	38.2	33.3	2.02	27.7	0.02	0.01	0.09	149
	150 ISL	8.74	8.72	33.987	26.369	167.6	0.347	2.50	38.2	33.6	2.03	27.8	0.02	0.01	0.09	151
1	180	8.14	8.12	34.003	26.473	158.1	0.396	2.41	36.3	37.9	2.12	29.8	0.02	0.00	0.05	181
	200 ISL	7.88	7.86	34.017	26.523	153.6	0.427	2.38	35.7	39.9	2.16	30.4	0.01	0.00	0.06	201
1	209	7.78	7.76	34.024	26.543	151.8	0.441	2.35	35.1	40.9	2.18	30.7	0.01	0.00	0.06	210
1	239	7.48	7.46	34.056	26.612	145.7	0.486	2.03	30.2	45.9	2.34	32.3	0.01			240
	250 ISL	7.31	7.29	34.054	26.634	143.6	0.502	1.99	29.4	47.8	2.37	32.8	0.01			252
1	280	6.81	6.78	34.042	26.694	138.2	0.544	1.93	28.2	53.0	2.44	34.1	0.02			282
	300 ISL	6.55	6.52	34.044	26.730	134.9	0.571	1.78	25.9	56.7	2.52	35.2	0.02			302
1	337	6.20	6.17	34.065	26.792	129.3	0.620	1.43	20.6	63.3	2.70	37.1	0.02			339
1	397	5.98	5.95	34.147	26.886	121.2	0.695	0.80	11.5	72.6	2.94	39.4	0.01			400
	400 ISL	5.97	5.94	34.151	26.890	120.8	0.699	0.78	11.2	72.9	2.95	39.5	0.01			403
1	463	5.75	5.71	34.212	26.966	114.2	0.773	0.49	7.0	79.0	3.09	40.9	0.00			466
	500 ISL	5.44	5.40	34.213	27.005	110.7	0.814	0.43	6.1	84.5	3.14	41.7	0.00			504
1	535	5.14	5.10	34.216	27.043	107.2	0.853	0.38	5.3	89.7	3.18	42.5	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 28.9 N	122 32.7 W	06/08/90	2059 UTC	3980 m	290 12 kn	340 05 08	2	1014.5 mb	18.2 C	16.9 C	24m O2	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.35	17.35	33.097	23.973	392.7	0.000	5.73	104.3	3.1	0.32	0.1	0.00	0.14	0.03	0
1	1	17.35	17.35	33.097	23.973	392.7	0.004	5.73	104.3	3.1	0.32	0.1	0.00	0.14	0.03	1
	10 ISL	17.00	17.00	33.079	24.042	386.4	0.039	5.76	104.1	3.7	0.32	0.1	0.00	0.15	0.04	10
1	11	16.95	16.95	33.077	24.052	385.4	0.043	5.76	104.0	3.8	0.32	0.1	0.00	0.15	0.04	11
	20 ISL	16.90	16.90	33.092	24.075	383.5	0.077	5.79	104.5	3.6	0.32	0.1	0.00	0.18	0.04	20
1	21	16.89	16.89	33.093	24.078	383.3	0.081	5.80	104.6	3.6	0.32	0.1	0.00	0.18	0.04	21
	30 ISL	16.45	16.45	33.178	24.246	367.5	0.115	5.94	106.3	3.0	0.32	0.1	0.00	0.21	0.07	30
1	31	16.37	16.37	33.185	24.270	365.3	0.119	5.96	106.5	2.9	0.32	0.1	0.00	0.21	0.07	31
1	41	15.16	15.15	33.108	24.481	345.4	0.154	6.15	107.2	2.7	0.32	0.1	0.00	0.25	0.08	41
	50 ISL	13.78	13.77	33.063	24.738	321.1	0.184	6.31	106.9	3.0	0.34	0.1	0.00	0.48	0.21	50
1	51	13.63	13.62	33.062	24.768	318.3	0.187	6.32	106.8	3.0	0.35	0.1	0.00	0.50	0.23	51
1	61	12.57	12.56	33.146	25.043	292.2	0.218	6.18	102.2	4.1	0.46	1.3	0.09	0.47	0.28	61
1	71	11.88	11.87	33.134	25.165	280.8	0.247	5.90	96.1	5.3	0.62	4.3	0.21	0.34	0.23	71
	75 ISL	11.54	11.53	33.139	25.232	274.5	0.258	5.78	93.5	6.4	0.71	6.1	0.17	0.27	0.21	75
1	85	10.82	10.81	33.188	25.399	258.8	0.284	5.47	87.1	9.6	0.94	10.4	0.03	0.12	0.16	85
	100 ISL	10.63	10.62	33.359	25.565	243.2	0.322	4.99	79.2	12.8	1.14	13.7	0.02	0.08	0.09	100
1	101	10.62	10.61	33.371	25.577	242.2	0.324	4.96	78.7	13.0	1.15	13.9	0.02	0.08	0.09	101
1	121	9.29	9.28	33.486	25.889	212.7	0.370	4.28	66.0	21.9	1.58	21.0	0.01	0.01	0.08	122
	125 ISL	9.33	9.32	33.546	25.930	208.9	0.378	4.06	62.7	23.0	1.64	21.8	0.01	0.01	0.07	126
1	146	9.55	9.53	33.793	26.087	194.4	0.421	2.96	46.0	27.4	1.85	24.5	0.01	0.01	0.04	147
	150 ISL	9.52	9.50	33.821	26.114	192.0	0.428	2.91	45.2	28.1	1.88	24.9	0.01	0.01	0.04	151
1	177	9.07	9.05	33.935	26.276	177.0	0.478	2.54	39.1	32.1	2.00	27.1	0.01	0.01	0.06	178
	200 ISL	8.55	8.53	33.990	26.401	165.4	0.518	2.58	39.3	34.7	2.04	28.0	0.01	0.00	0.04	201
1	207	8.40	8.38	34.002	26.434	162.4	0.529	2.60	39.4	35.5	2.05	28.2	0.01	0.00	0.04	208
1	237	8.13	8.11	34.060	26.520	154.7	0.577	2.27	34.2	40.4	2.20	30.0	0.01			238
	250 ISL	8.03	8.00	34.075	26.547	152.3	0.597	2.17	32.6	42.0	2.25	30.5	0.01			251
1	278	7.78	7.75	34.093	26.598	147.8	0.639	2.00	29.9	45.5	2.34	31.6	0.01			280
	300 ISL	7.42	7.39	34.088	26.646	143.4	0.671	1.90	28.2	49.5	2.42	32.8	0.01			302
1	335	6.87	6.84	34.090	26.724	136.2	0.720	1.67	24.5	56.3	2.57	34.7	0.01			337
1	396	6.67	6.63	34.201	26.839	126.2	0.800	0.81	11.8	66.5	2.90	37.5	0.01			399
	400 ISL	6.64	6.60	34.204	26.846	125.6	0.805	0.78	11.4	67.1	2.91	37.6	0.01			403
1	463	6.16	6.12	34.223	26.924	118.7	0.882	0.57	8.2	75.1	3.06	39.4	0.00			466
	500 ISL	5.94	5.90	34.244	26.968	114.7	0.925	0.47	6.7	79.2	3.11	40.2	0.00			503
1	534	5.74	5.69	34.264	27.009	111.1	0.963	0.38	5.4	83.0	3.16	41.0	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 9.1 N	123 14.2 W	07/08/90	0315 UTC	4210 m	330 07 kn	330 05 07	2	1013.3 mb	17.8 C	16.8 C		8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.73	18.73	33.228	23.736	415.2	0.000	5.46	102.1	2.7	0.30	0.0	0.00	0.08	0.02	0
1	1	18.73	18.73	33.228	23.736	415.2	0.004	5.46	102.1	2.7	0.30	0.0	0.00	0.08	0.02	1
	10 ISL	18.70	18.70	33.226	23.743	414.9	0.042	5.47	102.3	2.7	0.29	0.0	0.00	0.08	0.02	10
1	11	18.70	18.70	33.225	23.742	415.0	0.046	5.47	102.3	2.7	0.29	0.0	0.00	0.08	0.02	11
	20 ISL	18.67	18.67	33.224	23.749	414.7	0.083	5.46	102.0	2.5	0.30	0.0	0.00	0.09	0.02	20
1	21	18.67	18.67	33.224	23.749	414.7	0.087	5.46	102.0	2.5	0.30	0.0	0.00	0.09	0.02	21
	30 ISL	17.38	17.38	33.107	23.974	393.5	0.124	5.79	105.5	2.6	0.30	0.0	0.00	0.13	0.03	30
1	32	17.01	17.00	33.082	24.042	387.0	0.131	5.87	106.1	2.6	0.30	0.0	0.00	0.14	0.03	32
1	42	15.45	15.44	33.059	24.380	355.1	0.168	6.06	106.2	2.6	0.30	0.0	0.00	0.16	0.04	42
	50 ISL	14.74	14.73	33.065	24.539	340.2	0.196	6.15	106.3	2.4	0.31	0.0	0.00	0.17	0.05	50
1	52	14.60	14.59	33.066	24.569	337.3	0.203	6.17	106.3	2.4	0.31	0.0	0.00	0.17	0.06	52
1	62	13.69	13.68	33.054	24.750	320.3	0.236	6.26	105.9	2.5	0.33	0.0	0.00	0.22	0.10	62
1	72	13.08	13.07	33.075	24.889	307.3	0.267	6.27	104.7	2.5	0.34	0.0	0.00	0.27	0.16	72
	75 ISL	12.94	12.93	33.083	24.922	304.1	0.276	6.26	104.2	2.6	0.34	0.1	0.00	0.31	0.19	75
1	86	12.47	12.46	33.109	25.034	293.7	0.309	6.21	102.4	2.8	0.39	0.3	0.02	0.41	0.28	86
	100 ISL	11.72	11.71	33.131	25.193	278.9	0.349	5.90	95.8	4.3	0.54	3.2	0.14	0.32	0.26	100
1	102	11.60	11.59	33.134	25.217	276.6	0.355	5.84	94.5	4.6	0.57	3.8	0.15	0.30	0.26	102
1	122	10.23	10.22	33.185	25.499	249.9	0.408	5.30	83.3	8.9	0.92	10.5	0.03	0.11	0.17	123
	125 ISL	10.11	10.10	33.209	25.538	246.3	0.415	5.20	81.5	9.7	0.97	11.4	0.03	0.10	0.16	126
1	147	9.52	9.50	33.428	25.807	221.0	0.466	4.44	68.8	15.9	1.31	17.1	0.01	0.04	0.07	148
	150 ISL	9.46	9.44	33.464	25.845	217.5	0.473	4.32	66.9	16.9	1.36	17.9	0.01	0.04	0.06	151
1	178	8.98	8.96	33.768	26.160	188.0	0.530	3.30	50.6	26.0	1.75	24.1	0.01	0.01	0.03	179
	200 ISL	8.61	8.59	33.905	26.325	172.7	0.569	2.94	44.8	30.4	1.89	26.4	0.01	0.00	0.02	201
1	209	8.47	8.45	33.940	26.374	168.1	0.585	2.87	43.6	31.8	1.93	27.0	0.01	0.00	0.02	210
1	238	8.04	8.02	33.995	26.482	158.2	0.632	2.77	41.7	36.0	2.04	28.4	0.00			239
	250 ISL	7.88	7.86	34.010	26.518	155.0	0.651	2.67	40.0	38.2	2.09	29.1	0.00			251
1	279	7.49	7.46	34.030	26.590	148.4	0.695	2.39	35.5	44.0	2.22	30.8	0.00			281
	300 ISL	7.16	7.13	34.029	26.636	144.2	0.726	2.28	33.6	47.8	2.30	31.9	0.00			302
1	335	6.60	6.57	34.019	26.704	137.9	0.775	2.12	30.8	54.0	2.42	33.8	0.00			337
1	396	5.79	5.76	34.021	26.810	128.1	0.856	1.68	24.0	65.2	2.67	37.3	0.00			398
	400 ISL	5.76	5.73	34.024	26.816	127.6	0.861	1.64	23.4	65.8	2.69	37.5	0.00			402
1	463	5.53	5.49	34.091	26.897	120.5	0.939	1.02	14.5	74.4	2.92	40.0	0.00			466
	500 ISL	5.40	5.36	34.132	26.945	116.2	0.983	0.78	11.0	79.5	3.02	40.9	0.00			503
1	534	5.29	5.25	34.170	26.989	112.4	1.022	0.55	7.8	84.1	3.11	41.7	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 48.9 N	123 54.8 W	07/08/90	0910 UTC	m	280 06 kn			1014.9 mb	18.0 C	16.7 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.49	18.49	33.111	23.706	418.0	0.000	5.49	102.2	4.1	0.33	0.0	0.00	0.09	0.03	0
1	1	18.49	18.49	33.111	23.707	418.1	0.004	5.49	102.2	4.1	0.33	0.0	0.00	0.09	0.03	1
	10 ISL	18.40	18.40	33.118	23.735	415.7	0.042	5.51	102.4	3.9	0.32	0.0	0.00	0.09	0.02	10
1	11	18.38	18.38	33.116	23.738	415.4	0.046	5.51	102.3	3.9	0.32	0.0	0.00	0.09	0.02	11
	20 ISL	18.19	18.19	33.177	23.832	406.8	0.083	5.56	102.9	3.8	0.31	0.0	0.00	0.13	0.04	20
1	21	18.17	18.17	33.189	23.846	405.5	0.087	5.57	103.1	3.8	0.31	0.0	0.00	0.13	0.04	21
	30 ISL	17.15	17.15	33.064	23.996	391.4	0.123	5.79	105.0	3.7	0.32	0.0	0.00	0.15	0.05	30
1	31	17.02	17.01	33.051	24.016	389.5	0.127	5.82	105.2	3.7	0.32	0.0	0.00	0.15	0.05	31
1	40	16.05	16.04	33.109	24.285	364.2	0.161	5.99	106.3	3.7	0.30	0.0	0.00	0.15	0.05	40
	50 ISL	14.39	14.38	33.072	24.618	332.5	0.195	6.21	106.5	3.6	0.33	0.0	0.00	0.20	0.08	50
1	51	14.22	14.21	33.066	24.649	329.6	0.199	6.23	106.5	3.6	0.33	0.0	0.00	0.21	0.08	51
1	61	13.01	13.00	33.031	24.868	308.9	0.231	6.27	104.5	3.7	0.34	0.0	0.00	0.25	0.14	61
1	71	12.28	12.27	33.066	25.037	293.1	0.261	6.24	102.5	4.2	0.40	0.3	0.02	0.35	0.26	71
	75 ISL	12.10	12.09	33.097	25.095	287.6	0.272	6.14	100.5	4.5	0.45	1.2	0.06	0.34	0.25	75
1	86	11.72	11.71	33.176	25.227	275.2	0.303	5.83	94.7	5.7	0.60	4.1	0.16	0.26	0.22	86
	100 ISL	11.15	11.14	33.194	25.345	264.2	0.341	5.59	89.7	7.6	0.74	7.0	0.04	0.16	0.23	100
1	101	11.11	11.10	33.194	25.352	263.6	0.344	5.58	89.4	7.8	0.75	7.2	0.03	0.15	0.23	101
1	122	9.88	9.87	33.194	25.565	243.6	0.397	5.20	81.1	11.3	1.00	11.8	0.02	0.10	0.12	123
	125 ISL	9.80	9.79	33.222	25.600	240.3	0.404	5.09	79.3	12.2	1.05	12.7	0.02	0.09	0.11	126
1	147	9.46	9.44	33.483	25.860	216.0	0.454	4.18	64.7	19.5	1.41	18.8	0.01	0.03	0.05	148
	150 ISL	9.41	9.39	33.514	25.892	213.0	0.461	4.09	63.3	20.3	1.45	19.4	0.01	0.03	0.05	151
1	178	8.94	8.92	33.764	26.163	187.7	0.517	3.38	51.8	27.4	1.74	24.0	0.01	0.01	0.03	179
	200 ISL	8.71	8.69	33.919	26.321	173.1	0.557	2.80	42.7	32.7	1.94	26.8	0.01	0.00	0.02	201
1	209	8.61	8.59	33.964	26.372	168.4	0.572	2.64	40.2	34.5	1.99	27.6	0.01	0.00	0.02	210
1	239	8.08	8.06	33.992	26.474	159.0	0.621	2.86	43.1	37.0	1.98	27.9	0.01			240
	250 ISL	7.99	7.96	34.012	26.503	156.4	0.639	2.71	40.7	38.7	2.04	28.6	0.01			251
1	280	7.81	7.78	34.063	26.570	150.5	0.685	2.16	32.3	44.0	2.24	30.8	0.00			282
	300 ISL	7.55	7.52	34.070	26.613	146.6	0.714	2.00	29.8	47.6	2.33	32.0	0.00			302
1	338	7.00	6.97	34.072	26.692	139.4	0.769	1.77	26.0	54.5	2.49	34.0	0.00			340
1	398	6.42	6.38	34.116	26.805	129.2	0.849	1.15	16.7	65.2	2.77	37.3	0.00			400
	400 ISL	6.40	6.36	34.117	26.808	128.8	0.852	1.14	16.5	65.5	2.78	37.4	0.00			402
1	466	5.91	5.87	34.151	26.898	120.8	0.934	0.77	11.0	75.3	2.96	39.6	0.01			469
	500 ISL	5.64	5.60	34.172	26.948	116.3	0.974	0.63	9.0	80.6	3.04	40.6	0.01			503
1	535	5.37	5.33	34.195	26.999	111.6	1.014	0.48	6.8	86.1	3.13	41.6	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 16.6 N	120 1.3 W	05/08/90	1905 UTC	572 m	090 05 Jen	270 02 05	2	1014.5 Mb	19.3 C	18.1 C	12m 04	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0 A	18.47	18.47	33.650	24.124	378.2	0.000	5.84	109.0	3.4	0.22	0.1	0.00	1.09	0.21	0
1	10	16.83	16.83	33.610	24.489	343.8	0.036	6.05	109.4	4.5	0.27	0.1	0.02	2.34	0.59	10
	20 ISL	14.42	14.42	33.549	24.979	297.3	0.068	5.55	95.6	7.6	0.55	3.4	0.26	1.50	0.52	20
1	26	13.10	13.10	33.547	25.249	271.8	0.085	5.09	85.3	10.1	0.76	6.2	0.41	0.69	0.47	26
	30 ISL	12.69	12.69	33.575	25.352	262.1	0.096	4.79	79.6	12.2	0.90	8.1	0.44	0.50	0.42	30
1	40	12.01	12.00	33.640	25.532	245.1	0.121	4.13	67.7	16.9	1.21	12.6	0.51	0.25	0.31	40
	50 ISL	11.15	11.14	33.646	25.696	229.8	0.145	3.84	61.8	18.6	1.33	15.9	0.29	0.22	0.33	50
1	54	10.86	10.85	33.647	25.749	224.8	0.154	3.78	60.4	19.0	1.36	16.9	0.19	0.21	0.34	54
1	69	10.64	10.63	33.705	25.833	217.2	0.187	3.50	55.7	21.2	1.49	18.9	0.11	0.24	0.36	69
	75 ISL	10.53	10.52	33.715	25.860	214.7	0.200	3.45	54.8	21.6	1.51	19.3	0.10	0.19	0.30	75
1	84	10.35	10.34	33.727	25.900	211.0	0.219	3.39	53.6	22.1	1.54	19.8	0.08	0.10	0.21	84
1	98	10.06	10.05	33.759	25.975	204.2	0.248	3.25	51.1	23.3	1.60	21.0	0.05	0.07	0.16	99
	100 ISL	10.02	10.01	33.769	25.990	202.9	0.253	3.22	50.6	23.6	1.61	21.2	0.05	0.07	0.16	101
1	117	9.79	9.78	33.847	26.089	193.7	0.286	2.99	46.7	26.4	1.73	22.8	0.02	0.03	0.14	118
	125 ISL	9.74	9.73	33.858	26.107	192.2	0.302	2.99	46.7	26.7	1.74	23.1	0.02	0.02	0.12	126
1	138	9.67	9.65	33.868	26.126	190.7	0.327	2.99	46.6	27.0	1.75	23.3	0.02	0.02	0.09	139
	150 ISL	9.58	9.56	33.890	26.158	187.8	0.349	2.89	45.0	27.6	1.78	23.7	0.02	0.01	0.08	151
1	169	9.42	9.40	33.949	26.231	181.3	0.384	2.72	42.2	29.9	1.89	24.9	0.02	0.01	0.07	170
1	199	9.12	9.10	34.116	26.411	164.8	0.436	1.72	26.5	38.4	2.25	29.2	0.01	0.02	0.12	200
	200 ISL	9.11	9.09	34.119	26.414	164.4	0.438	1.70	26.2	38.6	2.26	29.3	0.01	0.02	0.12	201
1	238	8.86	8.83	34.167	26.492	157.7	0.499	1.29	19.8	43.4	2.46	31.1	0.01	0.01	0.12	239
	250 ISL	8.75	8.72	34.176	26.517	155.6	0.518	1.20	18.4	45.0	2.51	31.6	0.01	0.01	0.12	252
1	288	8.41	8.38	34.194	26.584	149.8	0.576	0.99	15.0	49.7	2.63	32.7	0.01	0.01	0.12	290
	300 ISL	8.33	8.30	34.196	26.598	148.6	0.594	0.96	14.6	50.8	2.65	32.9	0.01			302
1	338	8.05	8.02	34.199	26.643	144.9	0.650	0.88	13.3	54.7	2.73	33.6	0.01			340
1	388	7.54	7.50	34.211	26.727	137.4	0.720	0.60	8.9	63.2	2.93	34.6	0.01			391
	400 ISL	7.42	7.38	34.216	26.748	135.5	0.737	0.54	8.0	65.8	2.98	34.6	0.01			403
1	427	7.17	7.13	34.226	26.791	131.7	0.773	0.42	6.2	71.5	3.10	34.6	0.01			430
1	466	6.90	6.86	34.237	26.838	127.7	0.823	0.31	4.5	77.2	3.22	34.1	0.01			**469**
1	495	6.62	6.57	34.248	26.884	123.4	0.860	0.12	1.7	91.6	3.45	30.7	0.01			**498**
	500 ISL	6.60	6.55	34.249	26.888	123.1	0.866	0.11	1.6	92.7	3.46	30.3	0.01			503
1	516	6.58	6.53	34.249	26.891	123.1	0.885	0.08	1.2	95.3	3.51	29.1	0.01			520
1	535	6.54	6.49	34.249	26.896	122.8	0.909	0.07	1.0	100.3	3.63	27.7	0.01			**539**
1	545	6.49	6.44	34.253	26.906	122.0	0.921	0.05	0.7	105.7	3.75	25.6	0.01			**549**
1	555	6.47	6.42	34.253	26.909	121.8	0.933	0.06	0.9	113.3	4.00	22.6	0.01			**559**
1	559	6.46	6.41	34.252	26.909	121.8	0.938	0.03	0.4	116.4	4.14	21.0	0.01			563
1	566	6.46	6.41	34.253	26.910	121.8	0.947	0.02	0.3	118.5		20.1	0.02			570
1	570	6.45	6.40	34.254	26.912	121.7	0.951	0.03	0.4	118.7		19.9	0.02			574

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 13.7 N	119 25.0 W	05/08/90	1403 UTC	33 m	070 04 kn	120 02 02	1	1013.5 mb	18.6 C	18.2 C	13m 04	4/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.97	17.97	33.658	24.253	365.9	0.000	5.95	110.0	3.0	0.24	0.0	0.00	0.61	0.14	0
1	10	17.82	17.82	33.648	24.282	363.5	0.036	6.08	112.1	3.1	0.23	0.1	0.00	0.65	0.16	10
	20 ISL	14.11	14.11	33.477	24.989	296.4	0.069	5.97	102.1	4.8	0.43	0.9	0.10	1.67	1.01	20
1	21	13.68	13.68	33.469	25.071	288.6	0.072	5.96	101.0	5.0	0.47	1.0	0.11	1.73	1.08	21
	30 ISL	11.57	11.57	33.484	25.493	248.6	0.097	4.57	74.1	11.9	1.08	11.4	0.23	0.33	0.41	30
1	31	11.33	11.33	33.489	25.541	244.1	0.099	4.41	71.2	12.7	1.15	12.5	0.24	0.17	0.33	31

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 10.8 N	119 30.9 W	05/08/90	1030 UTC	182 m	040 06 kn			1012.1 mb	18.9 C	17.6 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.60	19.60	33.669	23.852	404.1	0.000	5.58	106.4	2.9	0.24	0.0	0.00	0.38	0.10	0
1	1	19.60	19.60	33.669	23.852	404.2	0.004	5.58	106.4	2.9	0.24	0.0	0.00	0.38	0.10	1
	10 ISL	19.56	19.56	33.664	23.859	403.9	0.040	5.61	106.9	3.1	0.24	0.0	0.00	0.39	0.10	10
1	11	19.56	19.56	33.664	23.859	403.9	0.044	5.61	106.9	3.1	0.24	0.0	0.00	0.39	0.10	11
	20 ISL	18.85	18.85	33.642	24.023	388.5	0.080	5.78	108.6	3.7	0.25	0.0	0.00	0.66	0.19	20
1	22	18.53	18.53	33.630	24.094	381.8	0.088	5.83	108.9	3.8	0.25	0.0	0.00	0.72	0.23	22
	30 ISL	16.02	16.02	33.534	24.618	332.1	0.116	6.11	108.6	4.3	0.31	0.0	0.00	3.09	0.56	30
1	32	15.43	15.43	33.520	24.739	320.6	0.123	6.17	108.4	4.4	0.33	0.0	0.00	4.06	0.68	32
1	42	15.10	15.09	33.506	24.801	315.0	0.155	6.15	107.3	4.8	0.39	0.1	0.00	12.06	1.56	42
	50 ISL	13.14	13.13	33.451	25.167	280.2	0.178	5.47	91.7	7.4	0.72	5.2	0.54	4.01	0.68	50
1	53	12.36	12.35	33.443	25.313	266.3	0.187	5.19	85.6	8.6	0.85	7.5	0.69	0.35	0.28	53
1	63	11.38	11.37	33.449	25.501	248.6	0.212	4.79	77.3	11.1	1.04	11.8	0.05	0.15	0.19	63
1	73	10.73	10.72	33.507	25.663	233.4	0.237	4.43	70.6	14.0	1.21	14.7	0.02	0.10	0.13	73
	75 ISL	10.66	10.65	33.519	25.684	231.4	0.241	4.36	69.3	14.4	1.23	15.1	0.02	0.09	0.13	75
1	88	10.39	10.38	33.599	25.794	221.2	0.271	3.92	62.0	17.1	1.37	17.4	0.02	0.06	0.11	88
	100 ISL	10.17	10.16	33.696	25.907	210.7	0.297	3.52	55.4	20.3	1.52	19.6	0.02	0.04	0.10	100
1	108	10.05	10.04	33.756	25.975	204.5	0.313	3.30	51.9	22.3	1.61	20.8	0.02	0.03	0.09	109
	125 ISL	9.88	9.87	33.815	26.050	197.7	0.347	3.12	48.9	24.1	1.71	22.1	0.02	0.01	0.08	126
1	134	9.81	9.79	33.839	26.080	195.0	0.365	3.07	48.0	24.7	1.74	22.5	0.02	0.01	0.08	135
	150 ISL	9.67	9.65	33.919	26.166	187.1	0.396	2.85	44.5	27.0	1.83	23.7	0.02	0.01	0.08	151
1	160	9.58	9.56	33.970	26.221	182.1	0.414	2.72	42.4	28.5	1.89	24.5	0.02	0.01	0.08	161

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 52.8 N	120 8.4 W	05/08/90	0259 UTC	101 m	310 24 Jen	290 03 04	0	1013.0 mb	16.1 C	15.3 C		0/8	

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	15.37	15.37	33.512	24.745	319.1	0.000	6.09	106.9	5.4	0.39	1.0	0.05	0.97	0.38	0
1	1	15.37	15.37	33.512	24.745	319.1	0.003	6.09	106.9	5.4	0.39	1.0	0.05	0.97	0.38	1
	10 ISL	15.35	15.35	33.510	24.748	319.1	0.032	6.12	107.4	5.3	0.38	1.0	0.05	0.97	0.37	10
1	11	15.35	15.35	33.510	24.748	319.1	0.035	6.12	107.4	5.3	0.38	1.0	0.05	0.97	0.37	11
	20 ISL	14.95	14.95	33.499	24.827	311.8	0.063	6.15	107.0	5.3	0.40	1.1	0.05	0.94	0.35	20
1	22	14.86	14.86	33.496	24.844	310.2	0.070	6.16	107.0	5.3	0.40	1.1	0.05	0.94	0.35	22
	30 ISL	13.17	13.17	33.455	25.164	280.0	0.093	5.81	97.4	7.3	0.57	3.7	0.16	1.00	0.46	30
1	32	12.73	12.73	33.451	25.248	272.1	0.099	5.69	94.6	7.9	0.62	4.5	0.20	1.02	0.48	32
1	42	11.87	11.86	33.461	25.420	255.9	0.125	5.06	82.6	10.9	0.90	8.9	0.39	0.61	0.39	42
	50 ISL	11.64	11.63	33.458	25.460	252.2	0.146	4.91	79.7	11.4	0.97	10.2	0.34	0.43	0.31	50
1	53	11.58	11.57	33.459	25.472	251.1	0.153	4.88	79.1	11.6	0.98	10.6	0.32	0.38	0.28	53
1	63	11.09	11.08	33.507	25.599	239.3	0.178	4.50	72.2	14.1	1.14	13.4	0.18	0.24	0.21	63
1	73	10.85	10.84	33.549	25.674	232.3	0.201	4.27	68.2	15.9	1.24	14.8	0.15	0.19	0.19	73
	75 ISL	10.83	10.82	33.554	25.682	231.6	0.206	4.25	67.9	16.1	1.25	14.9	0.15	0.19	0.19	75
1	82	10.77	10.76	33.570	25.705	229.6	0.222	4.17	66.5	16.8	1.28	15.5	0.15	0.19	0.20	82
1	92	10.53	10.52	33.616	25.783	222.4	0.245	3.93	62.4	18.6	1.37	17.1	0.10	0.13	0.18	92

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 44.5 N	120 25.2 W	04/08/90	2319 UTC	1181 m	310 16 kn	310 02 04	1	1016.1 mb	18.0 C	16.5 C	12m 04	6/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.88	17.88	33.682	24.293	362.1	0.000	5.83	107.6	3.6	0.29	0.1	0.01	0.67	0.18	0
1	10	17.79	17.79	33.686	24.319	360.0	0.036	5.86	108.0	3.5	0.28	0.1	0.01	0.80	0.20	10
1	20	15.88	15.88	33.686	24.766	317.7	0.070	5.62	99.7	6.4	0.47	3.4	0.11	0.84	0.38	20
1	30	13.42	13.42	33.602	25.227	274.0	0.100	5.12	86.4	9.4	0.81	7.8	0.30	1.01	0.55	30
1	40	12.44	12.43	33.583	25.406	257.2	0.126	4.79	79.2	11.5	0.94	10.2	0.37	0.77	0.54	40
1	50	10.63	10.62	33.684	25.818	218.1	0.150	3.80	60.5	18.8	1.38	17.7	0.24	0.22	0.28	50
1	60	10.15	10.14	33.748	25.950	205.7	0.171	3.41	53.7	22.5	1.57	20.5	0.11	0.14	0.26	60
1	70	9.60	9.59	33.811	26.092	192.4	0.191	3.13	48.7	25.1	1.71	22.9	0.02	0.03	0.12	70
	75 ISL	9.55	9.54	33.861	26.139	188.0	0.201	3.02	47.0	26.4	1.75	23.6	0.02	0.03	0.11	75
1	84	9.45	9.44	33.923	26.204	182.0	0.217	2.87	44.6	28.3	1.81	24.3	0.02	0.02	0.09	84
1	100	9.27	9.26	33.992	26.288	174.4	0.246	2.71	41.9	30.2	1.88	25.2	0.03	0.02	0.11	101
1	120	9.13	9.12	34.037	26.346	169.3	0.280	2.51	38.7	32.7	2.04	26.4	0.02	0.02	0.12	121
	125 ISL	9.09	9.08	34.049	26.362	167.9	0.288	2.44	37.6	33.5	2.07	26.8	0.02	0.02	0.12	126
1	145	8.94	8.92	34.093	26.420	162.7	0.322	2.16	33.2	36.5	2.18	28.4	0.01	0.02	0.10	146
	150 ISL	8.90	8.88	34.103	26.434	161.4	0.330	2.11	32.4	37.0	2.19	28.6	0.01	0.02	0.10	151
1	176	8.73	8.71	34.144	26.494	156.3	0.371	1.92	29.4	38.9	2.24	29.2	0.01	0.01	0.09	177
	200 ISL	8.61	8.59	34.170	26.533	153.0	0.408	1.73	26.4	40.9	2.31	30.1	0.01	0.01	0.07	201
1	206	8.58	8.56	34.175	26.542	152.3	0.417	1.68	25.6	41.5	2.33	30.3	0.01	0.01	0.07	207
1	236	8.28	8.26	34.203	26.610	146.3	0.462	1.42	21.5	45.7	2.46	31.7	0.01			237
	250 ISL	8.23	8.20	34.208	26.621	145.4	0.482	1.36	20.6	46.7	2.49	32.0	0.01			252
1	276	8.16	8.13	34.214	26.637	144.4	0.520	1.29	19.5	48.1	2.53	32.3	0.01			278
	300 ISL	8.01	7.98	34.224	26.668	141.8	0.554	1.18	17.8	50.3	2.59	32.9	0.01			302
1	332	7.79	7.76	34.238	26.711	138.1	0.599	1.03	15.4	53.2	2.67	33.7	0.01			334
1	393	7.56	7.52	34.256	26.760	134.5	0.682	0.80	11.9	56.6	2.76	35.1	0.01			396
	400 ISL	7.53	7.49	34.257	26.765	134.1	0.692	0.79	11.8	57.1	2.77	35.2	0.01			403
1	459	7.19	7.15	34.267	26.821	129.4	0.769	0.68	10.0	62.5	2.86	36.3	0.01			462
	500 ISL	6.84	6.79	34.290	26.888	123.4	0.821	0.52	7.6	68.2	2.96	37.6	0.01			504
1	527	6.61	6.56	34.306	26.932	119.4	0.854	0.41	6.0	72.0	3.02	38.4	0.01			531

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 34.5 N	120 45.5 W	04/08/90	1818 UTC	1462 m	300 10 Xn	320 02 06	2	1017.8 mb	17.0 C	15.1 C	19m 03	8/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.12	17.12	33.348	24.219	369.1	0.000	5.79	105.1	2.6	0.35	0.0	0.00	0.23	0.06	0
	10 ISL	16.99	16.99	33.342	24.246	366.9	0.037	5.82	105.4	2.6	0.35	0.0	0.00	0.26	0.08	10
1	11	16.98	16.98	33.342	24.248	366.7	0.040	5.82	105.3	2.6	0.35	0.0	0.00	0.26	0.08	11
	20 ISL	14.53	14.53	33.106	24.614	332.1	0.072	6.41	110.3	2.8	0.40	0.2	0.02	0.35	0.13	20
1	21	14.23	14.23	33.089	24.664	327.3	0.075	6.46	110.5	2.8	0.40	0.2	0.02	0.36	0.14	21
1	30	12.89	12.89	33.237	25.050	290.8	0.103	6.14	102.2	3.9	0.58	2.8	0.19	0.56	0.30	30
1	41	12.40	12.39	33.334	25.221	274.8	0.134	5.90	97.3	5.8	0.85	6.6	0.33	0.43	0.32	41
	50 ISL	11.47	11.46	33.237	25.320	265.5	0.158	5.70	92.1	8.0	0.94	8.7	0.35	0.38	0.30	50
1	52	11.26	11.25	33.222	25.346	263.1	0.164	5.63	90.5	8.7	0.96	9.3	0.35	0.36	0.29	52
1	62	10.63	10.62	33.417	25.610	238.1	0.189	4.97	78.9	14.1	1.27	14.9	0.32	0.18	0.22	62
1	72	9.75	9.74	33.445	25.781	222.0	0.212	4.37	68.1	17.9	1.43	18.2	0.03	0.08	0.11	72
	75 ISL	9.77	9.76	33.494	25.816	218.7	0.218	4.19	65.3	19.0	1.48	19.0	0.03	0.06	0.11	75
1	87	9.83	9.82	33.658	25.935	207.7	0.244	3.55	55.5	22.8	1.68	21.7	0.02	0.03	0.12	87
	100 ISL	9.52	9.51	33.762	26.067	195.4	0.270	3.10	48.2	26.3	1.81	23.9	0.01	0.02	0.11	100
1	102	9.46	9.45	33.775	26.087	193.5	0.274	3.05	47.3	26.8	1.83	24.2	0.01	0.02	0.11	103
1	123	9.15	9.14	33.908	26.242	179.2	0.313	2.63	40.6	31.1	1.99	26.6	0.01	0.01	0.06	124
	125 ISL	9.13	9.12	33.917	26.252	178.3	0.317	2.60	40.1	31.3	2.00	26.7	0.01	0.01	0.06	126
1	148	8.89	8.87	33.989	26.347	169.7	0.357	2.40	36.8	33.6	2.10	27.8	0.01	0.01	0.06	149
	150 ISL	8.85	8.83	33.992	26.355	168.9	0.360	2.40	36.8	33.8	2.10	27.9	0.01	0.01	0.06	151
1	179	8.25	8.23	34.013	26.464	158.9	0.408	2.59	39.2	37.0	2.11	28.5	0.01	0.01	0.05	180
	200 ISL	7.88	7.86	34.018	26.524	153.6	0.441	2.81	42.1	39.1	2.09	28.4	0.01	0.00	0.06	201
1	210	7.73	7.71	34.018	26.545	151.6	0.456	2.87	42.9	40.2	2.08	28.4	0.01	0.00	0.06	211
1	240	7.34	7.32	34.023	26.605	146.2	0.500	2.59	38.3	45.1	2.21	30.4	0.01			241
	250 ISL	7.19	7.17	34.017	26.622	144.8	0.515	2.57	37.9	46.5	2.23	30.8	0.01			251
1	281	6.79	6.76	34.009	26.670	140.4	0.559	2.43	35.5	50.9	2.32	32.2	0.01			283
	300 ISL	6.75	6.72	34.048	26.707	137.2	0.586	2.06	30.1	54.5	2.45	33.6	0.01			302
1	337	6.66	6.63	34.121	26.777	131.1	0.635	1.29	18.8	61.4	2.71	36.2	0.01			339
1	397	6.45	6.41	34.183	26.854	124.6	0.712	0.85	12.3	68.0	2.92	37.8	0.01			400
	400 ISL	6.42	6.38	34.182	26.857	124.3	0.716	0.84	12.2	68.4	2.93	37.9	0.01			403
1	463	5.64	5.60	34.148	26.929	117.6	0.792	0.73	10.4	77.9	3.02	40.3	0.00			466
	500 ISL	5.41	5.37	34.171	26.975	113.5	0.835	0.61	8.6	82.9	3.08	41.2	0.00			503
1	534	5.19	5.15	34.193	27.019	109.5	0.873	0.50	7.0	87.4	3.14	42.0	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 15.2 N	121 26.1 W	04/08/90	1219 UTC	3792 m	270 04 Xn			1016.8 mb	17.5 C	15.1 C		

CAST	DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.12	17.12	33.212	24.115	379.1	0.000	5.77	104.6	3.0	0.35	0.0	0.00	0.19	0.05	0
1	10	17.11	17.11	33.211	24.117	379.2	0.038	5.77	104.6	3.0	0.34	0.0	0.00	0.19	0.05	10
	20 ISL	17.02	17.02	33.208	24.136	377.7	0.076	5.80	105.0	2.9	0.34	0.0	0.00	0.22	0.06	20
1	21	17.01	17.01	33.207	24.138	377.6	0.080	5.80	104.9	2.9	0.34	0.0	0.00	0.22	0.06	21
	30 ISL	16.56	16.56	33.280	24.299	362.5	0.113	5.95	106.8	2.7	0.36	0.2	0.01	0.44	0.17	30
1	31	16.48	16.48	33.286	24.322	360.3	0.116	5.97	107.0	2.7	0.36	0.2	0.01	0.46	0.18	31
1	41	15.07	15.06	33.216	24.584	335.6	0.151	6.15	107.1	2.6	0.39	0.2	0.01	0.41	0.19	41
	50 ISL	13.30	13.29	33.242	24.974	298.6	0.180	6.14	103.1	3.9	0.54	2.2	0.12	0.33	0.20	50
1	51	13.12	13.11	33.249	25.015	294.7	0.183	6.14	102.7	4.1	0.56	2.5	0.14	0.32	0.20	51
1	62	12.12	12.11	33.301	25.249	272.6	0.214	5.74	94.1	6.3	0.77	5.7	0.40	0.26	0.20	62
1	72	11.57	11.56	33.351	25.391	259.4	0.241	5.35	86.7	8.6	0.95	9.5	0.48	0.18	0.18	72
	75 ISL	11.47	11.46	33.390	25.439	254.8	0.248	5.22	84.4	9.8	1.03	10.8	0.48	0.16	0.17	75
1	86	11.05	11.04	33.513	25.611	238.7	0.275	4.79	76.8	14.3	1.29	15.0	0.48	0.09	0.11	86
	100 ISL	9.94	9.93	33.468	25.768	223.8	0.308	4.40	68.9	18.1	1.42	18.0	0.06	0.04	0.08	100
1	101	9.86	9.85	33.464	25.778	222.9	0.310	4.37	68.3	18.3	1.43	18.2	0.03	0.04	0.08	101
1	122	9.28	9.27	33.666	26.031	199.2	0.354	3.50	54.0	24.1	1.69	22.7	0.02	0.01	0.06	123
	125 ISL	9.23	9.22	33.693	26.061	196.4	0.360	3.40	52.4	24.9	1.72	23.2	0.02	0.01	0.06	126
1	147	8.95	8.93	33.857	26.234	180.4	0.402	2.83	43.4	30.4	1.93	26.4	0.01	0.01	0.07	148
	150 ISL	8.92	8.90	33.872	26.250	178.9	0.407	2.77	42.5	31.0	1.95	26.7	0.01	0.01	0.07	151
1	177	8.61	8.59	33.964	26.371	167.9	0.454	2.42	36.9	34.9	2.06	28.5	0.01	0.01	0.05	178
	200 ISL	8.34	8.32	34.014	26.452	160.5	0.492	2.52	38.2	36.9	2.06	28.5	0.01	0.02	0.03	201
1	208	8.23	8.21	34.023	26.476	158.4	0.504	2.60	39.3	37.5	2.06	28.5	0.01	0.02	0.02	209
1	237	7.65	7.63	34.022	26.560	150.6	0.549	2.80	41.7	41.2	2.06	29.0	0.01			238
	250 ISL	7.50	7.48	34.029	26.588	148.2	0.569	2.65	39.4	43.4	2.13	29.9	0.01			251
1	278	7.27	7.24	34.052	26.639	143.7	0.610	2.14	31.6	48.6	2.32	32.1	0.01			280
	300 ISL	7.09	7.06	34.072	26.679	140.0	0.641	1.80	26.5	52.4	2.46	33.4	0.01			302
1	334	6.86	6.83	34.110	26.741	134.6	0.687			58.1	2.66	35.2	0.01			336
1	395	6.61	6.57	34.205	26.850	125.1	0.767	0.75	10.9	67.6	2.89	37.7	0.01			398
	400 ISL	6.58	6.54	34.207	26.856	124.6	0.773	0.73	10.6	68.2	2.90	37.8	0.01			403
1	463	6.11	6.07	34.213	26.922	118.8	0.850	0.57	8.2	75.3	3.00	39.5	0.00			466
	500 ISL	5.79	5.75	34.226	26.973	114.2	0.893	0.49	7.0	80.9	3.06	40.6	0.00			503
1	537	5.47	5.42	34.240	27.023	109.5	0.934	0.40	5.7	86.5	3.11	41.6	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 54.8 N	122 7.6 W	04/08/90	0641 UTC	4178 m	330 04	kn		1016.8 mb	18.3 C	15.8 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.74	18.74	33.253	23.753	413.6	0.000	5.46	102.2	2.8	0.33	0.0	0.00	0.08	0.02	0
1	1	18.74	18.74	33.253	23.753	413.6	0.004	5.46	102.2	2.8	0.33	0.0	0.00	0.08	0.02	1
	10 ISL	18.67	18.67	33.252	23.770	412.3	0.041	5.47	102.2	2.9	0.33	0.0	0.00	0.09	0.02	10
1	11	18.66	18.66	33.252	23.773	412.1	0.045	5.47	102.2	2.9	0.33	0.0	0.00	0.09	0.02	11
	20 ISL	18.64	18.64	33.254	23.779	411.8	0.083	5.47	102.2	2.4	0.33	0.0	0.00	0.09	0.02	20
1	22	18.64	18.64	33.254	23.780	411.9	0.091	5.47	102.2	2.2	0.33	0.0	0.00	0.09	0.02	22
	30 ISL	18.16	18.15	33.247	23.893	401.3	0.123	5.59	103.4	1.6	0.32	0.0	0.00	0.11	0.03	30
1	32	18.00	17.99	33.245	23.931	397.7	0.131	5.63	103.9	1.5	0.32	0.0	0.00	0.11	0.03	32
1	42	17.11	17.10	33.246	24.145	377.6	0.170	5.80	105.2	1.3	0.32	0.0	0.00	0.13	0.04	42
	50 ISL	15.55	15.54	33.132	24.414	352.1	0.199	6.04	106.1	1.1	0.33	0.0	0.00	0.15	0.04	50
1	52	15.17	15.16	33.105	24.477	346.1	0.206	6.10	106.3	1.1	0.33	0.0	0.00	0.16	0.04	52
1	63	14.47	14.46	33.084	24.611	333.6	0.244	6.15	105.7	1.0	0.34	0.0	0.00	0.19	0.06	63
1	73	13.43	13.42	33.115	24.850	311.0	0.276	6.30	106.0	0.7	0.35	0.0	0.00	0.27	0.14	73
	75 ISL	13.27	13.26	33.118	24.884	307.8	0.282	6.30	105.6	0.7	0.35	0.0	0.00	0.29	0.17	75
1	87	12.48	12.47	33.133	25.051	292.2	0.318	6.31	104.1	0.9	0.40	0.0	0.01	0.38	0.31	87
	100 ISL	11.69	11.68	33.165	25.225	275.8	0.355	5.90	95.7	1.6	0.60	3.9	0.04	0.25	0.27	100
1	103	11.51	11.50	33.172	25.263	272.2	0.363	5.79	93.6	1.8	0.65	5.0	0.05	0.21	0.26	103
1	122	10.33	10.32	33.188	25.484	251.3	0.413	5.35	84.3	7.1	0.94	10.2	0.01	0.09	0.12	123
	125 ISL	10.20	10.19	33.202	25.517	248.2	0.420	5.29	83.1	7.7	0.97	10.9	0.01	0.08	0.11	126
1	149	9.46	9.44	33.391	25.788	222.8	0.477	4.72	73.0	12.6	1.22	15.6	0.01	0.04	0.06	150
	150 ISL	9.44	9.42	33.404	25.801	221.6	0.479	4.69	72.5	12.9	1.23	15.8	0.01	0.04	0.06	151
1	179	9.10	9.08	33.758	26.133	190.6	0.539	3.78	58.2	21.5	1.55	21.6	0.00	0.00	0.03	180
	200 ISL	8.70	8.68	33.894	26.303	174.8	0.577	3.52	53.7	26.2	1.67	23.8	0.00	0.00	0.02	201
1	210	8.49	8.47	33.933	26.366	168.9	0.594	3.46	52.6	28.1	1.71	24.5	0.00	0.00	0.02	211
1	240	7.96	7.94	33.986	26.487	157.7	0.643	3.31	49.7	33.5	1.83	26.3	0.00			241
	250 ISL	7.81	7.79	33.994	26.516	155.2	0.659	3.21	48.0	35.5	1.88	27.1	0.00			251
1	282	7.38	7.35	34.009	26.589	148.5	0.708	2.80	41.5	42.1	2.07	29.7	0.00			284
	300 ISL	7.16	7.13	34.016	26.626	145.2	0.734	2.57	37.9	45.6	2.17	31.1	0.00			302
1	339	6.77	6.74	34.039	26.698	138.7	0.789	2.04	29.8	53.0	2.39	33.8	0.00			341
1	399	6.40	6.36	34.123	26.813	128.4	0.870	1.14	16.5	64.7	2.74	37.4	0.00			401
	400 ISL	6.39	6.35	34.123	26.814	128.3	0.871	1.13	16.4	64.9	2.74	37.5	0.00			402
1	466	5.77	5.73	34.155	26.919	118.8	0.952	0.74	10.6	76.2	2.95	40.1	0.00			469
	500 ISL	5.75	5.71	34.210	26.965	114.8	0.992	0.56	8.0	79.1	3.02	40.5	0.00			503
1	537	5.72	5.67	34.269	27.016	110.5	1.034	0.36	5.1	82.2	3.09	41.0	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 35.0 N	122 48.5 W	04/08/90	0044 UTC	4261 m	270 05 kn	340 02 07	2	1016.8 mb	19.0 C	16.7 C	38m 01	8/8	SC

CAST	DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		19.00	19.00	33.314	23.734	415.4	0.000	5.45	102.5	2.7	0.33	0.0	0.00	0.09	0.02	0
1	10		18.62	18.62	33.306	23.824	407.2	0.041	5.48	102.3	2.7	0.33	0.0	0.00	0.10	0.02	10
	20	ISL	18.57	18.57	33.302	23.834	406.6	0.082	5.49	102.4	2.5	0.33	0.0	0.00	0.11	0.02	20
1	21		18.57	18.57	33.303	23.834	406.6	0.086	5.49	102.4	2.5	0.33	0.0	0.00	0.11	0.02	21
	30	ISL	18.39	18.38	33.353	23.918	398.9	0.122	5.58	103.8	2.5	0.32	0.0	0.00	0.15	0.04	30
1	31		18.37	18.36	33.369	23.935	397.3	0.126	5.60	104.1	2.5	0.32	0.0	0.00	0.15	0.04	31
1	41		17.11	17.10	33.401	24.264	366.2	0.164	5.81	105.5	2.3	0.33	0.0	0.00	0.17	0.05	41
	50	ISL	16.45	16.44	33.399	24.416	352.0	0.197	5.90	105.7	2.3	0.33	0.0	0.00	0.24	0.09	50
1	51		16.40	16.39	33.398	24.427	351.0	0.200	5.91	105.8	2.3	0.33	0.0	0.00	0.25	0.10	51
1	61		16.10	16.09	33.401	24.498	344.5	0.235	5.92	105.3	2.1	0.33	0.0	0.00	0.29	0.14	61
1	72		15.26	15.25	33.353	24.649	330.4	0.272	6.00	104.9	2.1	0.32	0.0	0.00	0.27	0.16	72
	75	ISL	14.92	14.91	33.318	24.696	326.0	0.282	6.04	104.9	2.1	0.32	0.0	0.00	0.26	0.16	75
1	86		13.71	13.70	33.219	24.874	309.2	0.317	6.10	103.3	2.0	0.33	0.0	0.00	0.22	0.15	86
	100	ISL	12.96	12.95	33.290	25.079	289.9	0.359	5.84	97.4	2.7	0.41	0.9	0.05	0.22	0.22	100
1	101		12.91	12.90	33.297	25.095	288.4	0.362	5.82	97.0	2.8	0.42	1.0	0.05	0.22	0.23	101
1	122		11.12	11.11	33.208	25.362	263.2	0.420	5.56	89.1	5.7	0.72	6.5	0.08	0.14	0.17	123
	125	ISL	10.91	10.89	33.214	25.404	259.2	0.427	5.49	87.6	6.4	0.77	7.4	0.07	0.13	0.16	126
1	147		9.79	9.77	33.348	25.700	231.2	0.481	4.89	76.2	12.3	1.13	13.6	0.01	0.06	0.09	148
	150	ISL	9.72	9.70	33.382	25.738	227.7	0.488	4.78	74.4	13.2	1.18	14.4	0.01	0.05	0.08	151
1	178		9.34	9.32	33.698	26.048	198.8	0.548	3.88	60.0	20.9	1.50	20.2	0.01	0.01	0.03	179
	200	ISL	8.95	8.93	33.833	26.216	183.1	0.590	3.85	59.1	24.0	1.57	21.6	0.01	0.00	0.02	201
1	209		8.79	8.77	33.870	26.270	178.1	0.606	3.84	58.7	25.1	1.58	21.9	0.01	0.00	0.02	210
1	239		8.26	8.24	33.971	26.431	163.2	0.657	3.64	55.0	30.8	1.71	24.2	0.00			240
	250	ISL	8.05	8.02	33.988	26.476	159.1	0.675	3.45	51.9	33.5	1.80	25.4	0.00			251
1	280		7.51	7.48	34.009	26.571	150.3	0.721	2.87	42.6	41.3	2.06	29.0	0.00			282
	300	ISL	7.21	7.18	34.019	26.621	145.6	0.751	2.55	37.6	46.0	2.20	30.9	0.00			302
1	337		6.74	6.71	34.036	26.699	138.5	0.804	2.03	29.6	53.9	2.43	33.8	0.00			339
1	398		6.18	6.14	34.076	26.804	129.0	0.885	1.36	19.6	65.0	2.71	37.4	0.00			400
	400	ISL	6.16	6.12	34.078	26.808	128.6	0.888	1.34	19.3	65.4	2.72	37.5	0.00			402
1	465		5.68	5.64	34.127	26.908	119.7	0.969	0.84	12.0	76.1	2.95	40.0	0.00			468
	500	ISL	5.54	5.50	34.162	26.953	115.8	1.010	0.67	9.5	80.1	3.03	40.7	0.00			503
1	537		5.39	5.35	34.200	27.001	111.5	1.052	0.49	6.9	84.4	3.12	41.5	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 14.9 N	123 29.4 W	03/08/90	1750 UTC	4165 m	240 05 kn	240 02 07	2	1017.0 mb	18.5 C	16.3 C	40m 01	8/8	ST

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.26	19.26	33.410	23.742	414.7	0.000	5.41	102.3	2.7	0.32	0.1	0.00	0.09	0.02	0
1	1		19.26	19.26	33.410	23.742	414.7	0.004	5.41	102.3	2.7	0.32	0.1	0.00	0.09	0.02	1
	10	ISL	19.25	19.25	33.407	23.742	415.0	0.041	5.40	102.1	2.6	0.32	0.1	0.00	0.09	0.02	10
1	11		19.25	19.25	33.407	23.742	415.0	0.046	5.40	102.1	2.6	0.32	0.1	0.00	0.09	0.02	11
	20	ISL	19.24	19.24	33.406	23.744	415.1	0.083	5.40	102.1	2.5	0.31	0.1	0.00	0.09	0.02	20
1	22		19.24	19.24	33.406	23.745	415.2	0.091	5.40	102.1	2.5	0.31	0.1	0.00	0.09	0.02	22
	30	ISL	18.23	18.22	33.412	24.002	390.9	0.124	5.65	104.8	2.4	0.30	0.1	0.00	0.10	0.03	30
1	32		17.95	17.94	33.416	24.074	384.1	0.131	5.71	105.3	2.4	0.30	0.1	0.00	0.10	0.03	32
1	42		17.40	17.39	33.422	24.211	371.3	0.169	5.75	105.0	2.2	0.29	0.1	0.00	0.12	0.04	42
	50	ISL	17.10	17.09	33.404	24.269	366.1	0.199	5.79	105.1	2.3	0.30	0.1	0.00	0.14	0.04	50
1	52		17.00	16.99	33.400	24.289	364.2	0.206	5.81	105.2	2.3	0.30	0.1	0.00	0.14	0.04	52
1	62		16.07	16.06	33.420	24.520	342.5	0.241	5.94	105.6	2.1	0.29	0.1	0.00	0.17	0.05	62
1	72		15.48	15.47	33.366	24.610	334.1	0.275	5.98	105.1	2.1	0.30	0.1	0.00	0.19	0.07	72
	75	ISL	15.24	15.23	33.356	24.656	329.8	0.285	6.00	104.9	2.1	0.30	0.1	0.00	0.20	0.08	75
1	87		14.24	14.23	33.327	24.848	311.8	0.323	6.06	103.8	2.2	0.32	0.0	0.00	0.26	0.15	87
	100	ISL	13.35	13.34	33.294	25.005	297.0	0.363	6.00	100.9	2.5	0.36	0.1	0.01	0.32	0.25	100
1	102		13.22	13.21	33.289	25.027	294.9	0.369	5.99	100.4	2.5	0.37	0.1	0.01	0.32	0.26	102
1	122		11.75	11.73	33.266	25.292	269.9	0.425	5.55	90.2	5.3	0.64	5.2	0.04	0.15	0.24	123
	125	ISL	11.59	11.57	33.279	25.332	266.2	0.433	5.45	88.3	6.0	0.69	6.1	0.04	0.13	0.23	126
1	148		10.56	10.54	33.421	25.627	238.5	0.492	4.68	74.2	11.8	1.09	13.0	0.01	0.05	0.11	149
	150	ISL	10.46	10.44	33.433	25.654	235.9	0.496	4.63	73.3	12.4	1.12	13.5	0.01	0.05	0.10	151
1	179		9.21	9.19	33.614	26.003	203.0	0.560	4.04	62.3	20.4	1.47	20.0	0.01	0.01	0.03	180
	200	ISL	8.81	8.79	33.761	26.182	186.3	0.601	3.63	55.5	25.5	1.66	23.1	0.01	0.00	0.02	201
1	209		8.70	8.68	33.820	26.245	180.5	0.617	3.47	52.9	27.5	1.73	24.1	0.01	0.00	0.02	210
1	239		8.14	8.12	33.967	26.446	161.8	0.669	3.11	46.9	33.9	1.90	26.8	0.01			240
	250	ISL	7.96	7.93	33.986	26.487	157.9	0.686	3.08	46.2	35.9	1.93	27.3	0.01			251
1	280		7.52	7.49	34.000	26.562	151.1	0.733	3.01	44.7	40.9	2.01	28.5	0.01			282
	300	ISL	7.29	7.26	34.010	26.603	147.4	0.762	2.78	41.1	44.2	2.10	29.8	0.01			302
1	336		6.93	6.90	34.026	26.666	141.8	0.814	2.27	33.3	50.4	2.30	32.5	0.01			338
1	398		6.24	6.20	34.063	26.786	130.8	0.899	1.47	21.2	63.3	2.66	36.9	0.01			400
	400	ISL	6.22	6.18	34.065	26.791	130.4	0.902	1.45	20.9	63.7	2.67	37.0	0.01			402
1	464		5.76	5.72	34.123	26.895	121.0	0.982	0.91	13.0	75.0	2.89	39.7	0.00			467
	500	ISL	5.57	5.53	34.149	26.939	117.1	1.025	0.73	10.4	79.7	2.99	40.6	0.00			503
1	536		5.37	5.33	34.176	26.984	113.0	1.066	0.55	7.8	84.3	3.08	41.4	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 54.9 N	124 10.4 W	03/08/90	1204 UTC	m	300 07 kn			1015.9 mb	18.0 C	15.8 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.07	19.07	33.267	23.681	420.5	0.000	5.42	102.1	3.0	0.34	0.1	0.00	0.08	0.02	0
1	1	19.07	19.07	33.267	23.681	420.5	0.004	5.42	102.1	3.0	0.34	0.1	0.00	0.08	0.02	1
	10 ISL	19.08	19.08	33.269	23.680	420.9	0.042	5.43	102.3	2.8	0.32	0.1	0.00	0.08	0.03	10
1	11	19.08	19.08	33.269	23.680	421.0	0.046	5.43	102.3	2.8	0.32	0.1	0.00	0.08	0.03	11
	20 ISL	18.52	18.52	33.368	23.896	400.6	0.083	5.61	104.6	2.6	0.30	0.1	0.00	0.10	0.03	20
1	21	18.44	18.44	33.379	23.925	398.0	0.087	5.63	104.8	2.6	0.30	0.1	0.00	0.10	0.03	21
	30 ISL	17.74	17.73	33.395	24.109	380.7	0.122	5.72	105.1	2.5	0.29	0.1	0.00	0.11	0.04	30
1	32	17.58	17.57	33.393	24.146	377.2	0.130	5.73	104.9	2.5	0.29	0.1	0.00	0.11	0.04	32
1	42	16.89	16.88	33.384	24.303	362.6	0.167	5.84	105.5	2.6	0.29	0.1	0.00	0.14	0.04	42
	50 ISL	16.26	16.25	33.374	24.441	349.6	0.195	5.92	105.7	2.4	0.29	0.1	0.00	0.16	0.06	50
1	52	16.11	16.10	33.371	24.473	346.6	0.202	5.94	105.7	2.3	0.29	0.1	0.00	0.17	0.06	52
1	62	15.51	15.50	33.356	24.596	335.2	0.236	6.00	105.5	2.2	0.30	0.1	0.00	0.24	0.08	62
1	72	14.80	14.79	33.284	24.695	325.9	0.269	6.05	104.8	2.4	0.31	0.0	0.00	0.27	0.10	72
	75 ISL	14.61	14.60	33.285	24.737	322.0	0.279	6.05	104.4	2.4	0.31	0.0	0.00	0.28	0.13	75
1	86	13.97	13.96	33.309	24.890	307.7	0.314	6.06	103.2	2.4	0.33	0.0	0.00	0.32	0.24	86
	100 ISL	13.24	13.23	33.294	25.027	294.9	0.356	5.96	100.0	2.6	0.38	0.4	0.03	0.31	0.27	100
1	101	13.19	13.18	33.292	25.036	294.1	0.359	5.95	99.7	2.6	0.39	0.4	0.03	0.31	0.27	101
1	122	12.29	12.27	33.284	25.205	278.3	0.419	5.70	93.7	4.1	0.56	3.4	0.16	0.21	0.21	123
	125 ISL	12.11	12.09	33.280	25.236	275.4	0.427	5.65	92.5	4.4	0.59	4.0	0.15	0.20	0.20	126
1	147	10.83	10.81	33.304	25.489	251.6	0.485	5.17	82.4	8.2	0.89	9.5	0.02	0.10	0.14	148
	150 ISL	10.69	10.67	33.324	25.529	247.9	0.493	5.07	80.6	9.1	0.94	10.4	0.02	0.09	0.13	151
1	178	9.74	9.72	33.577	25.888	214.1	0.557	4.02	62.7	18.3	1.43	18.6	0.00	0.02	0.05	179
	200 ISL	9.40	9.38	33.793	26.113	193.1	0.602	3.28	50.8	24.5	1.70	22.9	0.00	0.01	0.04	201
1	208	9.30	9.28	33.859	26.181	186.8	0.617	3.09	47.8	26.4	1.77	24.0	0.00	0.00	0.03	209
1	238	8.69	8.66	33.946	26.346	171.5	0.671	3.13	47.8	30.6	1.84	25.6	0.00			239
	250 ISL	8.50	8.47	33.976	26.399	166.6	0.692	3.03	46.0	32.7	1.90	26.4	0.00			251
1	279	8.07	8.04	34.028	26.505	156.9	0.738	2.74	41.2	37.9	2.05	28.3	0.00			280
	300 ISL	7.72	7.69	34.034	26.561	151.7	0.771	2.63	39.3	41.5	2.13	29.5	0.00			302
1	335	7.15	7.12	34.026	26.635	144.8	0.823	2.45	36.1	47.6	2.26	31.4	0.00			337
1	396	6.40	6.36	34.044	26.751	134.2	0.908	1.77	25.6	59.6	2.55	35.6	0.00			398
	400 ISL	6.36	6.32	34.047	26.758	133.5	0.913	1.72	24.9	60.4	2.57	35.9	0.00			402
1	462	5.90	5.86	34.106	26.864	124.0	0.993	0.97	13.9	71.9	2.88	39.4	0.00			465
	500 ISL	5.63	5.59	34.129	26.916	119.3	1.039	0.80	11.4	77.8	2.96	40.4	0.00			503
1	534	5.38	5.34	34.151	26.963	115.0	1.079	0.64	9.1	83.1	3.03	41.3	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 53.2 N	118 29.5 W	01/08/90	0027 UTC	56 m	270 12 kn	260 02 04	0	1011.7 mb	20.0 C	18.8 C	10m 04	0/8

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0 A	20.02	20.02	33.635	23.717	417.0	0.000	5.80	111.4	3.4	0.25	0.0	0.00	0.59	0.08	0
1	10	17.16	17.16	33.569	24.380	354.2	0.039	6.50	118.2	4.1	0.33	0.0	0.01	1.66	0.30	10
	20 ISL	13.10	13.10	33.237	25.009	294.5	0.071	4.73	79.1	13.0	1.85	5.5	0.92	0.61	0.34	20
1	21	12.77	12.77	33.215	25.057	289.9	0.074	4.54	75.4	13.8	1.98	6.0	1.00	0.48	0.34	21
	30 ISL	12.93	12.93	33.344	25.125	283.6	0.100	4.91	81.9	10.8	1.47	4.1	0.67	0.44	0.30	30
1	31	12.95	12.95	33.358	25.132	283.0	0.103	4.95	82.6	10.2	1.37	3.8	0.62	0.43	0.29	31
1	42	12.26	12.25	33.442	25.331	264.3	0.133	5.10	83.9	7.7	0.95	6.4	0.76	0.25	0.26	42
	50 ISL	11.77	11.76	33.479	25.453	252.9	0.153	4.27	69.5	13.0	1.28	10.3	0.70	0.15	0.40	50
1	52	11.65	11.64	33.489	25.483	250.1	0.158	4.06	66.0	14.3	1.36	11.3	0.68	0.13	0.44	52

A) UNUSUAL PROFILES AND ODD NO3/PO4 RATIOS MAY BE DUE TO THE
PROXIMITY OF THIS STATION TO THE HYPERION WASTE-WATER OUTFALL.

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 49.0 N	118 38.1 W	01/08/90	0235 UTC	762 m	260 14 kn	290 02 04	0	1010.9 mb	18.8 C	17.9 C	14m 04	0/8

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.83	18.83	33.594	23.991	390.9	0.000	5.81	109.1	4.4	0.33	0.0	0.00	0.30	0.07	0
1	1	18.83	18.83	33.594	23.991	390.9	0.004	5.81	109.1	4.4	0.33	0.0	0.00	0.30	0.07	1
	10 ISL	18.64	18.64	33.592	24.037	386.8	0.039	5.86	109.7	4.1	0.31	0.0	0.00	0.34	0.07	10
1	11	18.62	18.62	33.592	24.042	386.4	0.043	5.86	109.6	4.1	0.31	0.0	0.00	0.34	0.07	11
	20 ISL	15.82	15.82	33.494	24.631	330.5	0.075	6.36	112.6	6.0	0.47	0.2	0.04	1.43	0.40	20
1	22	15.11	15.11	33.480	24.778	316.6	0.082	6.42	112.1	6.6	0.53	0.2	0.05	1.64	0.47	22
	30 ISL	13.50	13.50	33.426	25.075	288.5	0.106	5.68	95.9	8.8	0.91	2.1	0.36	1.21	0.42	30
1	32	13.23	13.23	33.414	25.120	284.2	0.111	5.46	91.7	9.2	1.00	2.7	0.45	1.03	0.40	32
1	42	12.68	12.67	33.386	25.207	276.2	0.139	5.16	85.6	9.5	1.20	5.1	0.73	0.76	0.51	42
	50 ISL	12.44	12.43	33.412	25.274	270.0	0.161	5.04	83.2	9.5	1.12	6.3	0.79	0.48	0.44	50
1	52	12.39	12.38	33.420	25.290	268.5	0.167	5.03	83.0	9.5	1.08	6.5	0.81	0.43	0.42	52
1	62	12.07	12.06	33.434	25.362	261.9	0.193	5.14	84.2	8.7	0.94	7.7	0.48	0.47	0.38	62
1	72	11.71	11.70	33.449	25.441	254.6	0.219	4.89	79.5	9.8	1.02	10.0	0.07	0.35	0.37	72
	75 ISL	11.62	11.61	33.452	25.460	252.8	0.227	4.82	78.2	10.2	1.05	10.5	0.06	0.31	0.35	75
1	86	11.33	11.32	33.466	25.524	247.0	0.254	4.56	73.6	12.0	1.15	12.2	0.04	0.17	0.26	86
	100 ISL	11.07	11.06	33.506	25.602	239.8	0.288	4.19	67.2	14.3	1.30	14.2	0.09	0.12	0.23	100
1	102	11.03	11.02	33.516	25.617	238.4	0.293	4.13	66.2	14.7	1.32	14.5	0.10	0.12	0.23	102
1	122	10.16	10.15	33.714	25.924	209.6	0.338	3.33	52.4	21.3	1.65	20.4	0.07	0.04	0.12	123
	125 ISL	10.08	10.07	33.739	25.957	206.5	0.344	3.27	51.4	22.1	1.68	20.9	0.06	0.03	0.11	126
1	148	9.68	9.66	33.888	26.140	189.5	0.390	2.96	46.2	26.9	1.84	23.2	0.02	0.01	0.07	149
	150 ISL	9.67	9.65	33.897	26.149	188.7	0.393	2.94	45.9	27.1	1.85	23.3	0.02	0.01	0.07	151
1	178	9.55	9.53	33.983	26.237	181.0	0.445	2.67	41.6	29.4	1.94	24.7	0.01	0.01	0.06	179
	200 ISL	9.34	9.32	34.029	26.307	174.7	0.484	2.54	39.4	31.6	2.01	25.7	0.05	0.00	0.06	201
1	209	9.24	9.22	34.047	26.338	172.0	0.500	2.48	38.3	32.7	2.05	26.1	0.07	0.00	0.06	210
1	239	8.90	8.87	34.123	26.452	161.6	0.550	2.05	31.5	37.9	2.23	28.0	0.10			240
	250 ISL	8.84	8.81	34.136	26.471	159.9	0.568	2.03	31.1	38.5	2.25	28.2	0.08			251
1	280	8.71	8.68	34.158	26.510	156.9	0.615	2.00	30.6	39.9	2.28	28.7	0.03			282
	300 ISL	8.53	8.50	34.186	26.560	152.4	0.646	1.75	26.6	43.0	2.39	29.8	0.03			302
1	336	8.14	8.11	34.232	26.655	143.8	0.699	1.23	18.6	49.7	2.61	32.1	0.03			338
1	397	7.49	7.45	34.256	26.770	133.5	0.784	0.82	12.2	59.0	2.82	34.6	0.03			400
	400 ISL	7.47	7.43	34.257	26.773	133.2	0.788	0.81	12.0	59.3	2.83	34.7	0.03			403
1	464	7.03	6.99	34.280	26.854	126.2	0.871	0.56	8.2	65.4	2.95	36.7	0.01			467
	500 ISL	6.76	6.71	34.298	26.905	121.7	0.916	0.45	6.6	70.2	3.03	37.5	0.01			503
1	537	6.48	6.43	34.318	26.958	116.9	0.960	0.33	4.8	75.1	3.11	38.3	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSEKGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 39.2 N	118 59.0 W	01/08/90	0628 UTC	686 m	260 10 kn			1010.9 mb	18.1 C	17.2 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	21.21	21.21	33.694	23.444	443.0	0.000	5.50	108.0	3.4	0.23	0.1	0.00	0.42	0.06	0
1	1	21.21	21.21	33.694	23.445	443.1	0.004	5.50	108.0	3.4	0.23	0.1	0.00	0.42	0.06	1
	10 ISL	21.07	21.07	33.679	23.472	440.8	0.044	5.58	109.3	3.0	0.23	0.1	0.00	0.48	0.07	10
1	11	21.05	21.05	33.677	23.476	440.5	0.049	5.59	109.5	2.9	0.23	0.1	0.00	0.48	0.07	11
	20 ISL	17.94	17.94	33.560	24.186	373.0	0.085	5.99	110.6	2.7	0.31	0.1	0.00	0.39	0.09	20
1	22	17.15	17.15	33.546	24.365	356.0	0.093	6.08	110.5	2.7	0.33	0.1	0.00	0.36	0.10	22
	30 ISL	15.46	15.46	33.509	24.724	322.0	0.120	6.27	110.2	3.5	0.36	0.1	0.00	0.33	0.12	30
1	32	15.14	15.14	33.50	24.787	316.0	0.126	6.28	109.7	3.8	0.37	0.1	0.00	0.32	0.12	32
1	42	13.69	13.68	33.457	25.061	290.2	0.156	5.98	101.4	4.9	0.54	2.2	0.10	0.65	0.28	42
	50 ISL	12.72	12.71	33.422	25.227	274.4	0.179	5.60	93.0	6.4	0.72	4.8	0.31	0.60	0.35	50
1	52	12.51	12.50	33.418	25.265	270.9	0.184	5.48	90.6	7.0	0.78	5.6	0.38	0.59	0.37	52
1	62	11.76	11.75	33.483	25.458	252.7	0.211	4.80	78.2	11.9	1.14	11.1	0.79	0.18	0.15	62
1	72	10.69	10.68	33.498	25.663	233.4	0.235	4.42	70.3	15.0	1.29	15.7	0.02	0.07	0.08	72
	75 ISL	10.55	10.54	33.511	25.697	230.1	0.242	4.32	68.5	15.7	1.34	16.4	0.02	0.07	0.10	75
1	86	10.32	10.31	33.575	25.787	221.8	0.267	4.01	63.3	17.9	1.48	17.8	0.01	0.07	0.18	86
	100 ISL	10.04	10.03	33.675	25.913	210.1	0.297	3.66	57.5	20.4	1.59	19.6	0.02	0.04	0.10	100
1	102	10.01	10.00	33.690	25.930	208.6	0.301	3.61	56.7	20.8	1.60	19.9	0.02	0.03	0.08	102
1	122	9.75	9.74	33.830	26.083	194.4	0.341	3.12	48.7	25.0	1.78	22.6	0.01	0.02	0.07	123
	125 ISL	9.70	9.69	33.844	26.102	192.6	0.347	3.08	48.1	25.5	1.80	22.9	0.01	0.02	0.07	126
1	148	9.33	9.31	33.932	26.232	180.7	0.390	2.84	44.0	29.0	1.92	24.9	0.01	0.01	0.05	149
	150 ISL	9.30	9.28	33.940	26.243	179.7	0.394	2.82	43.6	29.3	1.93	25.0	0.01	0.01	0.05	151
1	178	8.98	8.96	34.045	26.377	167.5	0.442	2.55	39.2	33.3	2.06	26.7	0.01	0.00	0.06	179
	200 ISL	8.76	8.74	34.099	26.454	160.5	0.478	2.36	36.1	36.2	2.16	27.7	0.01	0.00	0.05	201
1	209	8.69	8.67	34.119	26.481	158.2	0.493	2.26	34.5	37.5	2.20	28.1	0.01	0.00	0.05	210
1	239	8.55	8.52	34.204	26.570	150.3	0.539	1.67	25.4	42.7	2.42	30.2	0.00			240
	250 ISL	8.50	8.47	34.218	26.588	148.7	0.555	1.55	23.6	43.9	2.47	30.6	0.00			251
1	280	8.34	8.31	34.233	26.625	145.7	0.600	1.36	20.6	46.6	2.55	31.4	0.00			282
	300 ISL	8.21	8.18	34.236	26.647	143.9	0.629	1.28	19.4	48.3	2.59	32.0	0.00			302
1	336	7.94	7.91	34.235	26.687	140.6	0.680	1.18	17.7	51.4	2.65	33.0	0.00			338
1	397	7.45	7.41	34.243	26.765	133.9	0.764	0.90	13.4	57.6	2.79	34.9	0.00			400
	400 ISL	7.43	7.39	34.245	26.770	133.5	0.768	0.88	13.1	57.9	2.80	35.0	0.00			403
1	463	7.05	7.01	34.287	26.857	126.0	0.849	0.52	7.7	65.1	2.97	36.8	0.00			466
	500 ISL	6.74	6.69	34.303	26.912	121.1	0.895	0.41	6.0	70.1	3.05	37.9	0.00			503
1	533	6.46	6.41	34.319	26.962	116.5	0.934	0.31	4.5	74.5	3.12	38.9	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 28.8 N	119 19.7 W	01/08/90	1020 UTC	1639 m	290 15 kn			1011.1 mb	16.8 C	15.8 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	20.38	20.38	33.741	23.703	418.4	0.000	5.38	104.1	2.5	0.28	0.1	0.00	0.29	0.05	0
1	10	17.30	17.30	33.600	24.370	355.1	0.039	6.02	109.8	3.0	0.36	0.1	0.00	0.58	0.17	10
	20 ISL	15.52	15.52	33.533	24.728	321.3	0.072	6.04	106.3	3.8	0.45	1.2	0.06	0.74	0.25	20
1	21	15.35	15.35	33.525	24.760	318.3	0.076	6.04	106.0	3.9	0.47	1.3	0.07	0.75	0.26	21
	30 ISL	12.87	12.87	33.443	25.214	275.2	0.102	5.55	92.5	6.5	0.76	5.5	0.44	0.81	0.40	30
1	32	12.36	12.36	33.434	25.306	266.5	0.108	5.41	89.2	7.2	0.83	6.6	0.50	0.82	0.42	32
1	42	11.31	11.30	33.439	25.506	247.7	0.134	4.88	78.7	10.1	1.05	11.0	0.15	0.42	0.31	42
	50 ISL	11.03	11.02	33.455	25.569	241.8	0.153	4.71	75.5	11.5	1.14	12.4	0.07	0.32	0.26	50
1	51	11.01	11.00	33.458	25.575	241.3	0.156	4.69	75.1	11.7	1.15	12.6	0.07	0.31	0.25	51
1	61	10.52	10.51	33.533	25.719	227.7	0.179	4.23	67.1	15.4	1.34	15.8	0.03	0.20	0.17	61
1	71	10.24	10.23	33.589	25.811	219.2	0.201	3.98	62.7	17.7	1.45	17.7	0.02	0.12	0.13	71
	75 ISL	10.14	10.13	33.617	25.850	215.6	0.210	3.87	60.9	18.7	1.49	18.4	0.02	0.10	0.11	75
1	85	9.95	9.94	33.684	25.935	207.7	0.231	3.63	56.9	20.8	1.58	19.9	0.01	0.06	0.07	85
	100 ISL	9.84	9.83	33.733	25.992	202.6	0.262	3.46	54.1	22.1	1.66	20.9	0.01	0.03	0.06	101
1	101	9.84	9.83	33.736	25.994	202.4	0.264	3.45	54.0	22.2	1.66	21.0	0.01	0.03	0.06	102
1	121	9.57	9.56	33.842	26.122	190.7	0.303	3.14	48.8	25.6	1.80	23.1	0.01	0.01	0.05	122
	125 ISL	9.54	9.53	33.859	26.140	189.0	0.311	3.09	48.0	26.2	1.82	23.4	0.01	0.01	0.05	126
1	146	9.39	9.37	33.935	26.224	181.4	0.350	2.83	43.9	29.0	1.91	24.7	0.01	0.01	0.06	147
	150 ISL	9.36	9.34	33.951	26.242	179.8	0.357	2.78	43.1	29.6	1.93	24.9	0.01	0.01	0.06	151
1	176	9.14	9.12	34.042	26.349	170.1	0.402	2.50	38.6	33.1	2.06	26.3	0.02	0.01	0.07	177
	200 ISL	8.90	8.88	34.098	26.431	162.7	0.442	2.31	35.5	35.8	2.15	27.6	0.03	0.00	0.13	201
1	207	8.84	8.82	34.112	26.452	160.9	0.454	2.25	34.5	36.5	2.18	28.0	0.03	0.00	0.15	208
1	236	8.84	8.81	34.176	26.502	156.7	0.500	1.93	29.6	39.2	2.32	28.9	0.00			237
	250 ISL	8.70	8.67	34.189	26.535	153.9	0.522	1.75	26.8	41.3	2.39	29.7	0.00			251
1	277	8.37	8.34	34.202	26.596	148.4	0.562	1.43	21.7	45.5	2.51	31.3	0.01			279
	300 ISL	8.20	8.17	34.213	26.631	145.4	0.596	1.28	19.3	47.7	2.58	32.1	0.01			302
1	333	7.99	7.96	34.227	26.674	141.9	0.644	1.13	17.0	50.5	2.66	33.1	0.01			335
1	393	7.43	7.39	34.270	26.789	131.5	0.726	0.73	10.8	58.3	2.86	35.4	0.00			396
	400 ISL	7.38	7.34	34.273	26.799	130.7	0.735	0.70	10.4	59.1	2.88	35.6	0.00			403
1	459	7.00	6.96	34.291	26.866	124.9	0.810	0.48	7.1	65.6	2.99	37.1	0.00			462
	500 ISL	6.78	6.73	34.302	26.906	121.7	0.861	0.41	6.0	69.2	3.04	37.8	0.00			503
1	531	6.61	6.56	34.311	26.936	119.1	0.898	0.35	5.1	72.0	3.08	38.3	0.00			535

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 18.6 N	119 40.8 W	01/08/90	1400 UTC	63 m	320 15 *ko*	320 04 04		1012.8 mb	16.0 C	15.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.97	15.97	33.581	24.664	326.8	0.000	6.16	109.5	2.1	0.33	0.1	0.02	5.42	1.15	0
1	10	15.96	15.96	33.582	24.667	326.7	0.033	6.15	109.3	2.0	0.32	0.1	0.02	5.23	1.29	10
	20 ISL	14.92	14.92	33.520	24.850	309.7	0.064	5.87	102.1	4.7	0.53	1.7	0.09	2.54	0.78	20
1	21	14.80	14.80	33.515	24.872	307.6	0.068	5.84	101.3	5.0	0.55	1.9	0.10	2.28	0.73	21
	30 ISL	14.29	14.29	33.517	24.982	297.3	0.095	5.78	99.2	5.4	0.59	2.5	0.15	2.47	0.70	30
1	31	14.22	14.22	33.516	24.996	296.0	0.098	5.77	98.9	5.5	0.60	2.6	0.15	2.49	0.70	31
1	42	12.22	12.21	33.435	25.334	264.1	0.129	5.30	87.1	9.5	0.93	7.8	0.49	0.95	0.51	42
	50 ISL	12.07	12.06	33.469	25.389	259.0	0.150	5.04	82.6	11.4	1.05	9.6	0.47	0.65	0.42	50
1	52	12.03	12.02	33.478	25.403	257.7	0.155	4.97	81.4	11.9	1.08	10.0	0.47	0.58	0.40	52

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 9.8 N	120 1.1 W	01/08/90	2039 UTC	1168 m	300 14 kn	300 04 04	2	1014.2 mb	17.7 C	16.8 C	16m 03	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.39	18.39	33.685	24.170	373.8	0.000	5.58	104.0	3.1	0.33	0.0	0.02	0.46	0.13	0
1	1	18.39	18.39	33.685	24.170	373.8	0.004	5.58	104.0	3.1	0.33	0.0	0.02	0.46	0.13	1
	10 ISL	18.37	18.37	33.687	24.177	373.5	0.037	5.58	104.0	2.8	0.32	0.1	0.01	0.45	0.12	10
1	11	18.37	18.37	33.687	24.177	373.5	0.041	5.58	104.0	2.8	0.32	0.1	0.01	0.45	0.12	11
	20 ISL	17.72	17.72	33.625	24.289	363.2	0.074	5.68	104.5	2.6	0.32	0.0	0.01	0.52	0.15	20
1	22	17.58	17.58	33.612	24.313	361.0	0.081	5.71	104.7	2.6	0.32	0.0	0.01	0.53	0.16	22
	30 ISL	14.60	14.60	33.571	24.958	299.6	0.108	5.76	99.6	4.9	0.57	2.8	0.14	0.44	0.20	30
1	31	14.18	14.18	33.572	25.048	291.1	0.111	5.77	98.9	5.4	0.61	3.4	0.16	0.43	0.20	31
1	42	11.18	11.17	33.522	25.594	239.3	0.140	4.60	74.0	12.9	1.18	12.8	0.36	1.38	0.56	42
	50 ISL	10.79	10.78	33.578	25.707	228.7	0.159	4.20	67.0	15.4	1.35	15.7	0.23	0.66	0.42	50
1	52	10.69	10.68	33.568	25.717	227.8	0.163	4.14	65.9	15.8	1.37	16.1	0.19	0.43	0.37	52
1	62	10.30	10.29	33.604	25.813	218.9	0.186	3.91	61.7	17.8	1.47	18.0	0.12	0.33	0.25	62
1	73	9.95	9.94	33.702	25.949	206.1	0.209	3.45	54.1	21.8	1.65	20.9	0.04	0.13	0.13	73
	75 ISL	9.90	9.89	33.717	25.969	204.3	0.213	3.39	53.1	22.4	1.68	21.3	0.04	0.11	0.12	75
1	86	9.66	9.65	33.792	26.068	195.1	0.235	3.13	48.8	25.0	1.79	22.9	0.02	0.05	0.08	86
	100 ISL	9.36	9.35	33.892	26.195	183.2	0.262	2.89	44.8	28.2	1.88	24.6	0.02	0.02	0.07	101
1	102	9.32	9.31	33.905	26.212	181.7	0.265	2.86	44.3	28.6	1.89	24.8	0.02	0.02	0.07	103
1	123	9.12	9.11	34.000	26.318	172.0	0.302	2.60	40.1	31.7	2.00	26.2	0.01	0.01	0.06	124
	125 ISL	9.09	9.08	34.007	26.329	171.0	0.306	2.58	39.8	32.1	2.01	26.3	0.01	0.01	0.06	126
1	148	8.70	8.68	34.070	26.440	160.8	0.344	2.40	36.7	36.3	2.14	27.8	0.02	0.01	0.06	149
	150 ISL	8.68	8.66	34.072	26.444	160.4	0.347	2.39	36.5	36.5	2.14	27.9	0.02	0.01	0.06	151
1	179	8.53	8.51	34.101	26.491	156.5	0.393	2.20	33.5	38.8	2.23	28.8	0.02	0.00	0.07	180
	200 ISL	8.38	8.36	34.149	26.552	151.1	0.425	1.75	26.6	43.0	2.40	30.6	0.02	0.01	0.08	201
1	210	8.30	8.28	34.172	26.582	148.4	0.440	1.52	23.0	45.1	2.49	31.5	0.02	0.01	0.08	211
1	240	8.07	8.05	34.208	26.645	142.9	0.484	1.15	17.3	49.5	2.64	33.0	0.01			241
	250 ISL	7.91	7.88	34.210	26.671	140.6	0.498	1.15	17.3	51.2	2.67	33.4	0.01			252
1	281	7.41	7.38	34.210	26.743	133.9	0.541	1.13	16.8	56.0	2.73	34.3	0.02			283
	300 ISL	7.28	7.25	34.219	26.769	131.8	0.566	1.04	15.4	57.9	2.78	34.9	0.02			302
1	338	7.16	7.13	34.242	26.804	129.0	0.616	0.80	11.8	60.8	2.87	35.9	0.02			340
1	398	6.95	6.91	34.287	26.869	123.6	0.691	0.48	7.1	65.9	3.00	37.2	0.01			401
	400 ISL	6.94	6.90	34.288	26.871	123.4	0.694	0.47	6.9	66.1	3.00	37.2	0.01			403
1	464	6.51	6.47	34.308	26.946	117.0	0.771	0.37	5.4	73.4	3.09	38.5	0.00			467
	500 ISL	6.37	6.32	34.318	26.972	114.9	0.813	0.34	4.9	75.6	3.12	39.1	0.00			503
1	534	6.23	6.18	34.328	26.999	112.7	0.851	0.31	4.5	77.6	3.14	39.6	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 59.2 N	120 21.4 W	02/08/90	0036 UTC	771 m	300 12 kn	300 05 05	2	1012.7 mb	17.2 C	16.0 C	13m 03	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.64	16.64	33.284	24.282	363.1	0.000	5.85	105.1	2.5	0.39	0.0	0.00	0.31	0.10	0
1	J.	16.64	16.64	33.284	24.283	363.1	0.004	5.85	105.1	2.5	0.39	0.0	0.00	0.31	0.10	1
	10 ISL	16.56	16.56	33.298	24.312	360.6	0.036	5.88	105.5	2.4	0.38	0.0	0.00	0.32	0.12	10
1	11	16.55	16.55	33.300	24.316	360.3	0.040	5.88	105.5	2.4	0.38	0.0	0.00	0.32	0.12	11
	20 ISL	16.60	16.60	33.541	24.490	344.0	0.071	5.87	105.6	2.7	0.35	0.0	0.00	0.82	0.37	20
1	21	16.61	16.61	33.571	24.510	342.1	0.075	5.87	105.6	2.7	0.35	0.0	0.00	0.87	0.40	21
	30 ISL	15.93	15.93	33.510	24.619	331.9	0.105	5.85	103.8	3.0	0.42	0.6	0.04	0.61	0.31	30
1	32	15.68	15.68	33.482	24.654	328.7	0.112	5.85	103.3	3.1	0.45	0.9	0.05	0.52	0.28	32
1	42	13.94	13.93	33.477	25.025	293.6	0.143	5.59	95.3	5.2	0.72	4.0	0.18	0.35	0.30	42
	50 ISL	12.90	12.89	33.470	25.229	274.3	0.166	5.27	87.9	7.8	0.89	6.9	0.25	0.31	0.25	50
1	52	12.67	12.66	33.468	25.273	270.2	0.171	5.19	86.1	8.5	0.93	7.6	0.26	0.30	0.24	52
1	62	11.46	11.45	33.461	25.496	249.1	0.197	4.86	78.6	11.2	1.14	11.0	0.32	0.21	0.20	62
1	72	10.69	10.68	33.687	25.810	219.4	0.221	3.72	59.3	19.4	1.58	19.1	0.27	0.09	0.12	72
	75 ISL	10.56	10.55	33.729	25.866	214.2	0.227	3.51	55.8	20.9	1.65	20.2	0.24	0.09	0.11	75
1	86	10.22	10.21	33.830	26.003	201.3	0.250	3.00	47.3	24.7	1.80	22.3	0.13	0.09	0.09	86
	100 ISL	9.66	9.65	33.912	26.161	186.5	0.277	2.61	40.7	28.9	1.97	24.9	0.05	0.06	0.14	100
1	101	9.62	9.61	33.916	26.171	185.6	0.279	2.59	40.4	29.2	1.98	25.0	0.05	0.06	0.14	101
1	122	9.38	9.37	33.988	26.267	176.9	0.317	2.31	35.8	32.3	2.10	26.5	0.02	0.04	0.09	123
	125 ISL	9.36	9.35	33.998	26.278	175.9	0.322	2.27	35.2	32.7	2.12	26.7	0.02	0.04	0.09	126
1	147	9.13	9.11	34.045	26.352	169.2	0.360	2.10	32.4	34.8	2.20	27.9	0.01	0.02	0.09	148
	150 ISL	9.07	9.05	34.042	26.360	168.6	0.365	2.15	33.1	34.8	2.19	27.9	0.01	0.02	0.09	151
1	177	8.51	8.49	34.015	26.426	162.6	0.410	2.58	39.2	35.3	2.09	27.7	0.02	0.01	0.11	178
	200 ISL	8.19	8.17	34.045	26.499	156.0	0.447	2.44	36.8	38.4	2.17	28.7	0.02	0.01	0.09	201
1	208	8.11	8.09	34.059	26.522	154.0	0.459	2.35	35.4	39.7	2.21	29.2	0.02	0.01	0.08	209
1	238	7.89	7.87	34.080	26.571	149.7	0.505	2.15	32.2	43.1	2.32	30.5	0.02			239
	250 ISL	7.82	7.80	34.094	26.593	147.9	0.522	2.03	30.4	44.5	2.37	31.0	0.02			251
1	279	7.58	7.55	34.117	26.646	143.2	0.565	1.76	26.2	48.5	2.49	32.3	0.01			281
	300 ISL	7.17	7.14	34.101	26.691	139.0	0.594	1.66	24.5	53.0	2.56	33.8	0.01			302
1	336	6.43	6.40	34.072	26.768	131.7	0.643	1.51	21.9	61.2	2.68	36.3	0.00			338
1	397	5.89	5.86	34.100	26.860	123.5	0.721	1.08	15.5	71.6	2.90	38.8	0.00			400
	400 ISL	5.89	5.86	34.107	26.865	123.0	0.725	1.05	15.0	72.0	2.91	38.9	0.00			403
1	464	5.91	5.87	34.252	26.978	113.3	0.800	0.43	6.2	78.6	3.12	40.4	0.00			467
	500 ISL	5.88	5.84	34.288	27.011	110.7	0.840	0.35	5.0	80.3	3.16	40.6	0.00			503
1	537	5.84	5.79	34.325	27.045	107.9	0.881	0.26	3.7	82.0	3.21	40.8	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 39.2 N	121 1.9 W	02/08/90	0629 UTC	3794 m	290 11 kn			1014.6 mb	17.5 C	16.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.04	18.04	33.302	23.963	393.5	0.000	5.51	101.8	2.5	0.36	0.0	0.00	0.09	0.02	0
1	2	18.04	18.04	33.302	23.963	393.6	0.008	5.51	101.8	2.5	0.36	0.0	0.00	0.09	0.02	2
	10 ISL	18.05	18.05	33.301	23.960	394.2	0.039	5.52	102.0	2.5	0.36	0.0	0.00	0.09	0.02	10
1	17	18.05	18.05	33.299	23.959	394.5	0.067	5.53	102.2	2.4	0.36	0.0	0.00	0.09	0.02	17
	20 ISL	18.05	18.05	33.299	23.959	394.6	0.079	5.53	102.2	2.4	0.36	0.0	0.00	0.09	0.02	20
	30 ISL	18.03	18.02	33.299	23.965	394.4	0.118	5.53	102.1	2.3	0.36	0.0	0.00	0.10	0.02	30
1	33	18.03	18.02	33.299	23.965	394.5	0.130	5.53	102.1	2.3	0.36	0.0	0.00	0.10	0.02	33
1	42	17.60	17.59	33.345	24.104	381.5	0.165	5.65	103.5	2.2	0.36	0.0	0.00	0.19	0.06	42
	50 ISL	16.58	16.57	33.280	24.295	363.5	0.195	5.85	105.0	2.2	0.36	0.0	0.00	0.25	0.08	50
1	52	16.30	16.29	33.261	24.345	358.8	0.202	5.90	105.3	2.2	0.36	0.0	0.00	0.26	0.08	52
1	62	15.46	15.45	33.251	24.526	341.8	0.237	6.01	105.5	1.8	0.37	0.0	0.00	0.27	0.12	62
1	73	15.09	15.08	33.341	24.677	327.7	0.274	6.08	106.0	2.0	0.39	0.0	0.00	0.37	0.22	73
	75 ISL	14.96	14.95	33.349	24.711	324.5	0.280	6.07	105.5	2.1	0.40	0.1	0.00	0.38	0.24	75
1	82	14.42	14.41	33.365	24.839	312.5	0.303	6.00	103.2	2.3	0.44	0.3	0.01	0.40	0.29	82
1	97	13.16	13.15	33.338	25.077	290.1	0.348	5.91	99.0	3.1	0.51	1.0	0.13	0.21	0.19	97
	100 ISL	12.94	12.93	33.340	25.122	285.8	0.357	5.83	97.2	3.4	0.55	1.8	0.12	0.18	0.18	100
1	112	12.17	12.16	33.354	25.282	270.8	0.390	5.47	89.8	4.9	0.72	5.4	0.06	0.10	0.16	112
	125 ISL	11.44	11.42	33.357	25.420	257.8	0.424	5.17	83.5	7.2	0.89	8.5	0.02	0.09	0.14	126
1	128	11.29	11.27	33.359	25.449	255.1	0.432	5.10	82.1	7.8	0.93	9.1	0.02	0.09	0.13	129
	150 ISL	10.43	10.41	33.440	25.664	234.9	0.486	4.60	72.7	12.2	1.21	13.9	0.02	0.06	0.10	151
1	153	10.32	10.30	33.459	25.698	231.7	0.493	4.52	71.3	13.0	1.25	14.6	0.02	0.05	0.10	154
1	178	9.08	9.06	33.735	26.118	192.0	0.546	3.63	55.8	23.5	1.70	22.4	0.01	0.01	0.03	179
	200 ISL	8.74	8.72	33.877	26.283	176.7	0.586	3.34	51.0	27.6	1.82	24.5	0.01	0.00	0.02	201
1	210	8.68	8.66	33.917	26.324	173.0	0.604	3.29	50.2	28.8	1.83	24.7	0.01	0.00	0.02	211
1	239	8.20	8.18	33.994	26.458	160.6	0.652	3.12	47.1	33.7	1.95	26.5	0.00			240
	250 ISL	8.06	8.03	34.006	26.488	157.9	0.670	3.07	46.2	35.1	1.99	27.0	0.00			251
1	279	7.75	7.72	34.025	26.549	152.5	0.715	2.84	42.4	39.0	2.10	28.6	0.01			281
	300 ISL	7.53	7.50	34.053	26.603	147.6	0.746	2.44	36.3	43.5	2.26	30.5	0.01			302
1	334	7.22	7.19	34.103	26.686	140.1	0.795	1.75	25.8	50.8	2.53	33.5	0.01			336
1	396	6.87	6.83	34.166	26.785	131.5	0.879	1.09	16.0	58.6	2.79	36.0	0.01			398
	400 ISL	6.85	6.81	34.172	26.792	130.8	0.885	1.05	15.4	59.1	2.81	36.2	0.01			402
1	462	6.51	6.47	34.247	26.898	121.5	0.963	0.56	8.1	66.7	3.01	38.4	0.01			465
	500 ISL	6.18	6.14	34.255	26.947	117.1	1.008	0.47	6.8	72.0	3.07	39.5	0.00			503
1	533	5.89	5.84	34.263	26.990	113.1	1.046	0.40	5.7	76.6	3.12	40.4	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 19.2 N	121 43.2 W	02/08/90	1217 UTC	4040 m	290 06 kn			1014.6 mb	17.6 C	16.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.13	18.13	33.275	23.921	397.6	0.000	5.53	102.3	2.2	0.37	0.0	0.00	0.11	0.03	0
1	1	18.13	18.13	33.275	23.921	397.6	0.004	5.53	102.3	2.2	0.37	0.0	0.00	0.11	0.03	1
	10 ISL	18.12	18.12	33.275	23.924	397.7	0.040	5.54	102.5	2.2	0.36	0.0	0.00	0.11	0.03	10
1	11	18.12	18.12	33.275	23.924	397.7	0.044	5.54	102.5	2.2	0.36	0.0	0.00	0.11	0.03	11
	20 ISL	18.12	18.12	33.276	23.925	397.9	0.080	5.54	102.5	2.1	0.36	0.0	0.00	0.11	0.02	20
1	21	18.12	18.12	33.276	23.925	397.9	0.084	5.54	102.5	2.1	0.36	0.0	0.00	0.11	0.02	21
	30 ISL	18.01	18.00	33.269	23.947	396.2	0.119	5.56	102.6	2.0	0.36	0.0	0.00	0.12	0.03	30
1	31	17.98	17.97	33.264	23.950	395.9	0.123	5.56	102.5	2.0	0.36	0.0	0.00	0.12	0.03	31
1	41	17.45	17.44	33.251	24.068	384.9	0.162	5.66	103.3	1.9	0.36	0.0	0.00	0.16	0.05	41
	50 ISL	16.74	16.73	33.256	24.240	368.8	0.196	5.78	104.1	1.9	0.36	0.0	0.00	0.19	0.06	50
1	51	16.65	16.64	33.258	24.262	366.7	0.200	5.79	104.1	1.9	0.36	0.0	0.00	0.19	0.06	51
1	61	15.55	15.54	33.319	24.558	338.7	0.235	5.96	104.8	1.8	0.34	0.0	0.00	0.26	0.09	61
1	71	14.64	14.63	33.247	24.701	325.3	0.268	6.12	105.6	1.9	0.35	0.0	0.00	0.27	0.11	71
	75 ISL	14.29	14.28	33.244	24.773	318.6	0.281	6.10	104.6	1.9	0.36	0.0	0.00	0.27	0.14	75
1	85	13.54	13.53	33.267	24.945	302.3	0.312	6.04	101.9	2.1	0.37	0.0	0.00	0.28	0.22	85
1	100	12.88	12.87	33.308	25.109	287.0	0.356	5.83	97.1	3.0	0.48	1.2	0.06	0.26	0.24	100
1	120	11.43	11.42	33.257	25.344	264.9	0.412	5.51	88.9	5.7	0.76	6.2	0.08	0.13	0.17	121
	125 ISL	11.17	11.15	33.286	25.414	258.3	0.425	5.34	85.7	6.9	0.85	7.8	0.07	0.11	0.15	126
1	146	10.38	10.36	33.456	25.685	232.8	0.476	4.57	72.2	12.5	1.21	14.2	0.01	0.05	0.08	147
	150 ISL	10.28	10.26	33.475	25.717	229.8	0.486	4.49	70.8	13.2	1.25	14.9	0.01	0.04	0.07	151
1	176	9.70	9.68	33.610	25.920	211.0	0.543	3.99	62.2	18.5	1.49	19.0	0.01	0.02	0.05	177
	200 ISL	9.02	9.00	33.856	26.223	182.5	0.590	3.26	50.1	27.0	1.80	24.0	0.01	0.01	0.05	201
1	206	8.86	8.84	33.914	26.294	175.9	0.601	3.10	47.5	29.1	1.87	25.1	0.01	0.01	0.05	207
1	236	8.47	8.45	33.996	26.419	164.4	0.652	2.94	44.7	33.5	1.98	26.6	0.01			237
	250 ISL	8.33	8.30	34.035	26.471	159.7	0.675	2.68	40.6	36.3	2.08	27.8	0.01			251
1	277	8.10	8.07	34.101	26.557	151.9	0.717	2.12	31.9	41.8	2.29	30.1	0.00			278
	300 ISL	7.98	7.95	34.141	26.607	147.5	0.751	1.79	26.9	45.1	2.42	31.4	0.00			302
1	333	7.78	7.75	34.175	26.663	142.6	0.799	1.43	21.4	49.4	2.57	32.9	0.00			335
1	394	6.96	6.92	34.183	26.786	131.4	0.883	1.05	15.4	59.9	2.79	36.0	0.00			396
	400 ISL	6.88	6.84	34.184	26.798	130.4	0.890	1.01	14.8	61.0	2.81	36.3	0.00			402
1	462	6.26	6.22	34.210	26.901	120.9	0.968	0.65	9.4	70.8	3.00	38.9	0.00			465
	500 ISL	6.17	6.13	34.258	26.951	116.7	1.013	0.48	6.9	74.2	3.07	39.4	0.00			503
1	533	6.09	6.04	34.300	26.994	113.0	1.051	0.34	4.9	77.2	3.14	39.9	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	KEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 59.3 N	122 23.9 W	02/08/90	1743 UTC	4147 m	320 06)cn	320 04 06	2	1015.9 mb	18.0 C	17.1 C	26m 02	9/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.12	18.12	33.298	23.941	395.7	0.000	5.57	103.0	1.9	0.36	0.0	0.00	0.15	0.04	0
1	1	18.12	18.12	33.298	23.941	395.7	0.004	5.57	103.0	1.9	0.36	0.0	0.00	0.15	0.04	1
	10 ISL	18.05	18.05	33.300	23.960	394.2	0.040	5.58	103.1	2.0	0.36	0.0	0.00	0.15	0.04	10
1	11	18.04	18.04	33.300	23.962	394.0	0.043	5.58	103.1	2.0	0.36	0.0	0.00	0.15	0.04	11
	20 ISL	18.02	18.02	33.296	23.964	394.1	0.079	5.59	103.2	1.9	0.36	0.0	0.00	0.16	0.05	20
1	21	18.02	18.02	33.295	23.964	394.2	0.083	5.59	103.2	1.9	0.36	0.0	0.00	0.16	0.05	21
	30 ISL	17.63	17.62	33.270	24.039	387.3	0.118	5.72	104.8	1.9	0.36	0.0	0.00	0.24	0.08	30
1	31	17.59	17.58	33.267	24.047	386.6	0.122	5.74	105.1	1.9	0.36	0.0	0.00	0.25	0.08	31
1	41	15.65	15.64	33.229	24.466	346.9	0.159	6.06	106.8	2.0	0.36	0.0	0.00	0.30	0.11	41
	50 ISL	14.76	14.75	33.128	24.583	335.9	0.189	6.16	106.5	1.9	0.37	0.0	0.00	0.33	0.14	50
1	51	14.69	14.68	33.119	24.591	335.2	0.193	6.16	106.4	1.9	0.37	0.0	0.00	0.33	0.15	51
1	62	13.95	13.94	33.223	24.827	313.0	0.228	6.18	105.2	2.5	0.43	0.2	0.01	0.61	0.33	62
1	72	13.35	13.34	33.336	25.037	293.2	0.259	6.20	104.3	2.7	0.41	0.0	0.00	0.33	0.21	72
	75 ISL	13.20	13.19	33.360	25.086	288.7	0.267	6.13	102.8	3.2	0.45	0.7	0.03	0.32	0.21	75
1	86	12.57	12.56	33.397	25.238	274.3	0.298	5.75	95.2	5.3	0.66	4.0	0.15	0.26	0.21	86
	100 ISL	11.39	11.38	33.325	25.404	258.7	0.336	5.31	85.7	7.3	0.87	7.7	0.12	0.21	0.20	100
1	101	11.31	11.30	33.320	25.415	257.7	0.338	5.28	85.0	7.5	0.88	8.0	0.12	0.21	0.20	101
1	122	10.39	10.38	33.459	25.685	232.3	0.390	4.46	70.5	13.1	1.24	14.5	0.03	0.13	0.20	123
	125 ISL	10.27	10.26	33.489	25.729	228.2	0.397	4.37	68.9	14.1	1.28	15.3	0.03	0.11	0.19	126
1	147	9.50	9.48	33.707	26.028	200.0	0.444	3.80	59.0	21.2	1.55	20.2	0.01	0.02	0.08	148
	150 ISL	9.43	9.41	33.729	26.057	197.4	0.450	3.73	57.8	22.0	1.58	20.7	0.01	0.02	0.08	151
1	178	8.98	8.96	33.890	26.255	179.0	0.502	3.17	48.7	28.5	1.83	24.5	0.01	0.01	0.06	179
	200 ISL	8.79	8.77	33.982	26.358	169.7	0.541	2.76	42.2	32.5	2.00	26.4	0.01	0.01	0.05	201
1	209	8.69	8.67	34.006	26.392	166.5	0.556	2.68	40.9	33.8	2.04	26.9	0.01	0.01	0.05	210
1	239	7.85	7.83	34.001	26.515	155.0	0.604	3.23	48.4	37.0	1.96	26.8	0.01			240
	250 ISL	7.70	7.68	34.008	26.542	152.6	0.621	3.14	46.9	38.8	2.01	27.5	0.01			251
1	280	7.46	7.43	34.032	26.596	147.8	0.666	2.61	38.7	44.1	2.23	30.0	0.01			282
	300 ISL	7.28	7.25	34.048	26.634	144.5	0.695	2.35	34.7	47.3	2.34	31.3	0.01			302
1	337	6.91	6.88	34.071	26.704	138.2	0.748	1.93	28.3	53.3	2.51	33.6	0.00			339
1	398	6.14	6.11	34.074	26.808	128.6	0.829	1.39	20.0	65.4	2.77	37.2	0.00			400
	400 ISL	6.12	6.08	34.076	26.812	128.3	0.831	1.37	19.7	65.8	2.78	37.3	0.00			402
1	465	5.81	5.77	34.175	26.930	117.7	0.911	0.70	10.0	76.3	3.02	40.0	0.00			468
	500 ISL	5.85	5.81	34.234	26.972	114.3	0.952	0.52	7.4	78.6	3.09	40.2	0.00			503
1	536	5.90	5.85	34.294	27.013	111.0	0.993	0.33	4.7	80.9	3.17	40.5	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 39.2 N	123 4.7 W	03/08/90	0026 UTC	4103 m	290 08 kn	330 06 05	2	1015.6 mb	19.5 C	17.5 C	28m 01	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.95	18.95	33.390	23.805	408.7	0.000	5.45	102.5	2.3	0.31	0.1	0.00	0.10	0.02	0
1	1	18.95	18.95	33.390	23.805	408.7	0.004	5.45	102.5	2.3	0.31	0.1	0.00	0.10	0.02	1
	10 ISL	18.68	18.68	33.385	23.869	402.9	0.041	5.48	102.5	2.5	0.32	0.0	0.00	0.11	0.03	10
1	11	18.64	18.64	33.385	23.879	401.9	0.045	5.48	102.4	2.5	0.32	0.0	0.00	0.11	0.03	11
	20 ISL	18.59	18.59	33.383	23.891	401.2	0.081	5.48	102.3	2.4	0.32	0.0	0.00	0.12	0.03	20
1	21	18.59	18.59	33.383	23.891	401.2	0.085	5.48	102.3	2.4	0.32	0.0	0.00	0.12	0.03	21
	30 ISL	17.39	17.39	33.316	24.132	378.5	0.120	5.76	105.1	2.3	0.34	0.0	0.00	0.15	0.03	30
1	31	17.24	17.23	33.309	24.162	375.6	0.124	5.79	105.3	2.3	0.34	0.0	0.00	0.15	0.03	31
1	41	16.60	16.59	33.283	24.292	363.5	0.161	5.86	105.2	2.3	0.34	0.0	0.00	0.18	0.06	41
	50 ISL	16.05	16.04	33.313	24.442	349.5	0.193	5.93	105.4	2.0	0.32	0.0	0.00	0.23	0.08	50
1	51	15.98	15.97	33.316	24.460	347.8	0.196	5.94	105.4	2.0	0.32	0.0	0.00	0.23	0.08	51
1	61	14.97	14.96	33.264	24.643	330.6	0.230	6.06	105.3	2.4	0.31	0.0	0.00	0.23	0.09	61
1	71	14.27	14.26	33.289	24.812	314.8	0.262	6.09	104.4	2.4	0.33	0.0	0.00	0.29	0.23	71
	75 ISL	13.98	13.97	33.304	24.884	308.0	0.275	6.07	103.4	2.5	0.35	0.2	0.00	0.29	0.24	75
1	85	13.21	13.20	33.321	25.053	292.0	0.305	5.96	99.9	3.0	0.43	0.7	0.05	0.29	0.26	85
1	100	12.00	11.99	33.229	25.217	276.6	0.347	5.75	93.9	4.6	0.61	4.1	0.25	0.18	0.26	100
1	120	11.06	11.05	33.349	25.482	251.7	0.400	5.09	81.6	7.5	0.91	9.9	0.02	0.09	0.14	121
	125 ISL	10.78	10.77	33.375	25.552	245.1	0.413	4.91	78.2	9.3	1.01	11.6	0.02	0.07	0.12	126
1	145	9.81	9.79	33.502	25.817	220.1	0.459	4.22	65.9	17.1	1.38	17.7	0.01	0.03	0.05	146
	150 ISL	9.68	9.66	33.552	25.878	214.4	0.470	4.07	63.4	18.6	1.44	18.8	0.01	0.02	0.05	151
1	175	9.29	9.27	33.795	26.132	190.8	0.521	3.47	53.6	24.6	1.66	22.6	0.00	0.01	0.04	176
	200 ISL	8.89	8.87	33.926	26.298	175.3	0.566	3.22	49.4	28.6	1.79	24.6	0.00	0.00	0.03	201
1	205	8.81	8.79	33.943	26.324	172.9	0.575	3.19	48.8	29.4	1.81	24.9	0.00	0.00	0.03	206
1	235	8.35	8.33	34.021	26.456	160.8	0.625	2.85	43.2	36.9	1.98	27.2	0.00			236
	250 ISL	8.20	8.17	34.054	26.505	156.4	0.649	2.61	39.4	39.4	2.08	28.3	0.00			251
1	275	7.94	7.91	34.090	26.572	150.3	0.687	2.25	33.8	43.0	2.24	30.1	0.00			276
	300 ISL	7.52	7.49	34.084	26.629	145.2	0.724	2.10	31.2	47.4	2.32	31.6	0.00			302
1	331	6.97	6.94	34.062	26.688	139.6	0.768	1.98	29.1	52.9	2.43	33.4	0.00			333
1	391	6.20	6.17	34.066	26.794	129.9	0.849	1.53	22.1							393
	400 ISL	6.15	6.11	34.079	26.811	128.4	0.861	1.41	20.3							402
1	457	5.98	5.94	34.174	26.908	119.9	0.932	0.72	10.3							460
	500 ISL	5.76	5.72	34.204	26.959	115.4	0.982	0.59	8.4							503
1	528	5.62	5.58	34.224	26.992	112.5	1.014	0.51	7.3							531

RV NEK HORIZON CALCOFI CRUISE 9007 STATION 87 IIO

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 18.8 N	123 45.8 W	03/08/90	0603 UTC	4011 m	320 09 kn			1015.9 mb	18.6 C	16.9 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.71	18.71	33.313	23.806	408.5	0.000	5.47	102.3	3.1	0.33	0.0	0.00	0.20	0.06	0
1	10	18.71	18.71	33.312	23.806	408.9	0.041	5.48	102.5	2.5	0.33	0.0	0.00	0.11	0.03	10
1	20	18.62	18.62	33.306	23.824	407.5	0.082	5.49	102.5	2.5	0.33	0.0	0.00	0.13	0.03	20
	30 ISL	18.11	18.10	33.287	23.936	397.2	0.122	5.63	104.1	2.5	0.33	0.0	0.00	0.18	0.05	30
1	31	18.02	18.01	33.285	23.956	395.3	0.126	5.65	104.3	2.5	0.33	0.0	0.00	0.19	0.05	31
1	42	16.41	16.40	33.272	24.328	360.1	0.167	5.98	107.0	2.5	0.33	0.0	0.00	0.22	0.07	42
	50 ISL	15.93	15.92	33.315	24.470	346.8	0.196	5.98	106.0	2.4	0.33	0.0	0.00	0.30	0.11	50
1	52	15.84	15.83	33.326	24.499	344.1	0.203	5.98	105.8	2.3	0.33	0.0	0.00	0.32	0.12	52
1	61	15.12	15.11	33.333	24.664	328.6	0.233	6.02	105.0	2.0	0.32	0.0	0.00	0.32	0.16	61
1	73	14.56	14.55	33.348	24.796	316.3	0.272	6.08	104.9	2.2	0.34	0.0	0.00	0.34	0.26	73
	75 ISL	14.42	14.41	33.349	24.827	313.5	0.278	6.07	104.4	2.3	0.35	0.1	0.00	0.34	0.26	75
1	87	13.51	13.50	33.334	25.004	296.9	0.315	5.99	101.1	2.7	0.41	0.6	0.03	0.34	0.27	87
	100 ISL	12.70	12.69	33.267	25.113	286.7	0.352	5.90	97.9	3.2	0.45	1.3	0.09	0.27	0.24	100
1	102	12.58	12.57	33.259	25.130	285.1	0.358	5.87	97.1	3.3	0.46	1.4	0.10	0.26	0.23	102
1	123	11.41	11.39	33.371	25.437	256.2	0.415	5.13	82.8	7.9	0.87	9.1	0.02	0.07	0.10	124
	125 ISL	11.28	11.26	33.375	25.463	253.7	0.420	5.08	81.8	8.4	0.90	9.7	0.02	0.07	0.10	126
1	148	9.97	9.95	33.459	25.757	225.9	0.475	4.44	69.5	14.7	1.26	15.8	0.01	0.04	0.07	149
	150 ISL	9.93	9.91	33.482	25.782	223.6	0.480	4.35	68.1	15.4	1.30	16.4	0.01	0.04	0.07	151
1	179	9.60	9.58	33.810	26.093	194.6	0.540	3.20	49.8	24.7	1.71	22.7	0.00	0.01	0.04	180
	200 ISL	9.11	9.09	33.881	26.228	182.1	0.580	3.29	50.7	26.7	1.74	23.6	0.00	0.00	0.03	201
1	210	8.89	8.87	33.902	26.280	177.3	0.598	3.35	51.3	27.6	1.75	23.8	0.00	0.00	0.03	211
1	239	8.70	8.67	34.063	26.436	163.0	0.647	2.40	36.7	35.5	2.08	28.0	0.00			240
	250 ISL	8.54	8.51	34.077	26.472	159.7	0.665	2.38	36.2	37.1	2.12	28.7	0.00			251
1	280	8.06	8.03	34.076	26.544	153.2	0.712	2.32	34.9	40.3	2.18	29.7	0.00			282
	300 ISL	7.91	7.88	34.108	26.591	149.0	0.742	2.05	30.8	43.5	2.29	30.8	0.00			302
1	337	7.60	7.57	34.153	26.672	141.8	0.796	1.52	22.7	50.2	2.51	33.1	0.00			339
1	398	6.33	6.29	34.080	26.788	130.7	0.879	1.41	20.4	62.6	2.66	36.9	0.00			400
	400 ISL	6.31	6.27	34.081	26.792	130.4	0.882	1.40	20.2	62.9	2.67	37.0	0.00			402
1	465	5.99	5.95	34.145	26.884	122.3	0.964	0.86	12.3	72.2	2.90	39.2	0.00			468
	500 ISL	5.74	5.70	34.174	26.938	117.4	1.006	0.68	9.7	77.5	2.99	40.3	0.00			503
1	536	5.49	5.44	34.205	26.993	112.3	1.047	0.49	6.9	83.0	3.08	41.5	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 28.9 N	117 46.1 W	31/07/90	1721 UTC	70 m	290 07 kn	290 02 04	0	1014.4 mb	20.0 C	19.2 C	05m 05	0/8

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.34	19.34	33.579	23.850	404.3	0.000	6.10	115.7	3.8	0.27	0.1	0.00	1.73	0.18	0
1	1	19.34	19.34	33.579	23.850	404.4	0.004	6.10	115.7	3.8	0.27	0.1	0.00	1.73	0.18	1
1	6	19.23	19.23	33.579	23.878	401.9	0.024	6.11	115.6	3.7	0.27	0.0	0.00	1.65	0.19	6
	10 ISL	16.81	16.81	33.541	24.441	348.4	0.039	6.43	116.1	3.8	0.31	0.0	0.00	0.82	0.20	10
1	11	16.13	16.13	33.540	24.596	333.5	0.043	6.52	116.2	3.8	0.32	0.0	0.00	0.60	0.20	11
	20 ISL	14.15	14.15	33.465	24.971	298.1	0.071	6.41	109.7	4.0	0.41	0.0	0.00	0.80	0.44	20
1	22	13.72	13.72	33.449	25.048	290.8	0.077	6.38	108.2	4.1	0.43	0.0	0.00	0.84	0.50	22
	30 ISL	13.16	13.16	33.449	25.161	280.2	0.100	6.07	101.8	4.9	0.54	1.4	0.08	0.93	0.52	30
1	32	13.12	13.12	33.453	25.172	279.3	0.105	5.97	100.0	5.2	0.57	2.0	0.11	0.95	0.53	32
1	42	12.15	12.14	33.432	25.345	263.0	0.132	5.37	88.1	7.2	0.81	6.9	0.42	0.41	0.28	42
	50 ISL	11.65	11.64	33.449	25.451	253.0	0.153	4.92	79.9	9.6	1.01	9.9	0.20	0.29	0.28	50
1	51	11.61	11.60	33.452	25.461	252.1	0.156	4.88	79.2	9.8	1.03	10.2	0.17	0.29	0.28	51
1	55	11.56	11.55	33.456	25.474	251.0	0.166	4.81	78.0	10.0	1.07	10.8	0.14	0.25	0.28	55

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 25.4 N	117 54.2 W	31/07/90	1444 UTC	611 m	330 08 kn	250 03 04	1	1013.5 mb	19.5 C	18.4 C	08m 04	7/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	21.51	21.51	33.669	23.344	452.7	0.000	5.67	112.0	3.8	0.17	0.1	0.01	0.97	0.12	0
1	10	21.15	21.15	33.660	23.435	444.3	0.045	5.77	113.2	3.4	0.21	0.1	0.01	0.78	0.11	10
	20 ISL	16.19	16.19	33.535	24.579	335.5	0.084	6.43	114.7	2.7	0.31	0.1	0.01	0.24	0.06	20
1	21	15.66	15.66	33.536	24.700	324.0	0.087	6.49	114.6	2.7	0.32	0.1	0.01	0.20	0.06	21
	30 ISL	13.99	13.99	33.491	25.025	293.3	0.115	6.47	110.4	2.9	0.40	0.0	0.02	0.41	0.18	30
1	31	13.89	13.89	33.483	25.039	291.9	0.118	6.47	110.2	2.9	0.41	0.0	0.02	0.45	0.20	31
1	41	12.59	12.58	33.421	25.252	271.9	0.146	5.75	95.3	5.3	0.69	4.1	0.24	0.69	0.40	41
	50 ISL	11.95	11.94	33.450	25.396	258.3	0.170	5.15	84.2	8.1	0.93	8.3	0.42	0.46	0.34	50
1	51	11.89	11.88	33.454	25.411	256.9	0.172	5.09	83.1	8.4	0.95	8.8	0.42	0.42	0.32	51
1	61	11.05	11.04	33.449	25.561	242.8	0.197	4.71	75.5	11.4	1.15	12.4	0.06	0.21	0.20	61
1	72	10.76	10.75	33.525	25.671	232.6	0.224	4.24	67.6	14.3	1.31	15.1	0.05	0.14	0.19	72
	75 ISL	10.70	10.69	33.540	25.694	230.5	0.231	4.17	66.4	14.8	1.33	15.5	0.04	0.12	0.17	75
1	86	10.51	10.50	33.597	25.771	223.3	0.256	3.95	62.6	16.5	1.41	16.7	0.02	0.07	0.11	86
	100 ISL	10.27	10.26	33.709	25.901	211.4	0.286	3.43	54.1	20.0	1.58	19.5	0.01	0.03	0.08	100
1	101	10.26	10.25	33.717	25.908	210.6	0.288	3.40	53.7	20.2	1.59	19.7	0.01	0.03	0.08	101
1	122	10.14	10.13	33.761	25.964	205.8	0.332	3.27	51.5	21.5	1.66	20.6	0.01	0.02	0.08	123
	125 ISL	10.12	10.11	33.773	25.976	204.7	0.338	3.24	51.0	21.8	1.67	20.8	0.01	0.02	0.08	126
1	147	9.97	9.95	33.868	26.076	195.6	0.382	2.99	46.9	24.6	1.79	22.4	0.01	0.01	0.07	148
	150 ISL	9.93	9.91	33.879	26.092	194.3	0.388	2.97	46.6	24.9	1.80	22.6	0.01	0.01	0.07	151
1	178	9.52	9.50	33.978	26.238	180.9	0.440	2.74	42.6	28.3	1.93	24.5	0.01	0.01	0.05	179
	200 ISL	9.26	9.24	34.062	26.346	171.0	0.479	2.48	38.4	31.6	2.04	26.0	0.01	0.00	0.05	201
1	208	9.19	9.17	34.087	26.377	168.2	0.493	2.40	37.1	32.7	2.07	26.4	0.01	0.00	0.05	209
1	238	9.08	9.05	34.116	26.418	164.9	0.543	2.32	35.8	34.8	2.13	27.1	0.01			239
	250 ISL	9.04	9.01	34.134	26.438	163.2	0.562	2.23	34.3	35.8	2.17	27.4	0.01			251
1	279	8.90	8.87	34.174	26.492	158.6	0.609	1.97	30.2	38.4	2.26	28.4	0.01			281
	300 ISL	8.71	8.68	34.185	26.531	155.2	0.642	1.86	28.4	40.6	2.32	29.2	0.01			302
1	335	8.37	8.33	34.196	26.592	149.9	0.695	1.68	25.5	44.4	2.43	30.5	0.00			337
1	396	8.02	7.98	34.241	26.681	142.3	0.784	1.15	17.3	50.5	2.65	32.6	0.00			399
	400 ISL	7.98	7.94	34.241	26.687	141.8	0.790	1.13	17.0	51.0	2.66	32.8	0.00			403
1	463	7.20	7.16	34.253	26.809	130.6	0.876	0.77	11.4	60.8	2.85	35.8	0.01			466
	500 ISL	6.72	6.67	34.292	26.906	121.6	0.923	0.52	7.6	68.8	3.00	37.7	0.00			503
1	534	6.28	6.23	34.331	26.995	113.2	0.962	0.29	4.2	76.1	3.13	39.4	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 15.1 N	118 15.4 W	31/07/90	1045 UTC	491 m	270 14 kn			1012.9 mb	18.3 C	17.6 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.21	19.21	33.593	23.894	400.1	0.000	5.54	104.8	2.5	0.34	0.2	0.00	0.21	0.05	0
1	1	19.21	19.21	33.593	23.894	400.2	0.004	5.54	104.8	2.5	0.34	0.2	0.00	0.21	0.05	1
1	10	19.19	19.19	33.591	23.898	400.1	0.040	5.53	104.6	2.4	0.34	0.1	0.00	0.21	0.05	10
	20 ISL	17.12	17.12	33.546	24.372	355.2	0.078	5.97	108.5	2.3	0.34	0.1	0.00	0.23	0.07	20
1	22	16.62	16.62	33.539	24.484	344.7	0.085	6.07	109.2	2.3	0.34	0.1	0.00	0.23	0.07	22
	30 ISL	15.36	15.36	33.505	24.743	320.2	0.111	6.14	107.7	3.1	0.40	0.5	0.02	0.36	0.16	30
1	32	15.08	15.08	33.492	24.794	315.4	0.118	6.16	107.5	3.3	0.42	0.6	0.03	0.40	0.19	32
1	43	13.50	13.49	33.374	25.035	292.6	0.151	6.00	101.3	4.3	0.52	1.4	0.06	0.53	0.35	43
	50 ISL	12.64	12.63	33.376	25.207	276.3	0.171	5.66	93.8	6.0	0.69	4.0	0.19	0.49	0.36	50
1	53	12.37	12.36	33.383	25.265	270.9	0.179	5.52	91.0	6.7	0.75	5.1	0.24	0.46	0.36	53
1	63	12.17	12.16	33.368	25.292	268.6	0.206	5.47	89.8	6.6	0.74	5.2	0.17	0.36	0.35	63
1	73	11.60	11.59	33.382	25.409	257.6	0.233	5.15	83.5	8.3	0.88	7.9	0.15	0.24	0.31	73
	75 ISL	11.47	11.46	33.393	25.442	254.6	0.238	5.06	81.8	8.9	0.92	8.7	0.14	0.22	0.30	75
1	87	10.73	10.72	33.477	25.640	235.9	0.267	4.55	72.4	12.9	1.19	13.3	0.06	0.15	0.22	87
	100 ISL	10.27	10.26	33.564	25.787	222.1	0.297	4.17	65.8	16.2	1.35	16.3	0.04	0.11	0.14	100
1	102	10.22	10.21	33.578	25.807	220.3	0.301	4.12	64.9	16.7	1.37	16.7	0.04	0.10	0.13	102
1	122	9.61	9.60	33.767	26.057	196.9	0.343	3.50	54.5	23.0	1.66	21.4	0.02	0.02	0.06	123
	125 ISL	9.54	9.53	33.788	26.085	194.3	0.349	3.45	53.6	23.6	1.68	21.8	0.02	0.02	0.06	126
1	147	9.25	9.23	33.933	26.245	179.4	0.390	3.08	47.6	27.8	1.83	24.2	0.02	0.00	0.05	148
	150 ISL	9.27	9.25	33.962	26.265	177.6	0.395	2.95	45.6	28.6	1.87	24.6	0.02	0.00	0.05	151
1	177	9.40	9.38	34.175	26.411	164.4	0.442	1.90	29.5	35.5	2.23	27.6	0.01	0.00	0.03	178
	200 ISL	9.00	8.98	34.178	26.478	158.4	0.479	1.98	30.5	38.2	2.27	28.5	0.01	0.00	0.04	201
1	207	8.84	8.82	34.165	26.494	157.0	0.490	2.01	30.8	38.8	2.28	28.7	0.01	0.00	0.04	208
1	240	8.25	8.23	34.166	26.585	148.6	0.540	1.85	28.0	43.7	2.38	30.2	0.01			241
	250 ISL	8.18	8.15	34.176	26.604	147.1	0.555	1.74	26.3	44.9	2.42	30.6	0.01			251
1	291	8.05	8.02	34.223	26.661	142.3	0.614	1.30	19.6	48.9	2.60	32.2	0.01			293
	300 ISL	8.01	7.98	34.228	26.671	141.5	0.627	1.25	18.8	49.6	2.63	32.4	0.01			302
1	346	7.73	7.70	34.238	26.720	137.5	0.691	1.07	16.0	53.4	2.75	33.6	0.00			348
	400 ISL	7.25	7.21	34.237	26.789	131.6	0.764	0.85	12.6	59.4	2.85	35.5	0.01			403
1	416	7.11	7.07	34.237	26.808	129.8	0.785	0.79	11.6	61.2	2.88	36.1	0.01			419

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 11.0 N	118 23.2 W	31/07/90	0726 UTC	1176 m	290 15 kn			1013.7 mb	18.8 C	17.8 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.64	18.64	33.584	24.031	387.1	0.000	5.61	105.0	3.2	0.31	0.0	0.00	0.20	0.05	0
1	1	18.64	18.64	33.584	24.031	387.1	0.004	5.61	105.0	3.2	0.31	0.0	0.00	0.20	0.05	1
	10 ISL	18.39	18.39	33.580	24.090	381.8	0.038	5.66	105.4	3.2	0.30	0.0	0.00	0.22	0.06	10
1	11	18.36	18.36	33.580	24.098	381.1	0.042	5.67	105.5	3.2	0.30	0.0	0.00	0.22	0.06	11
1	20	15.79	15.79	33.416	24.578	335.6	0.075	6.30	111.4	3.3	0.35	0.1	0.00	0.29	0.10	20
	30 ISL	13.55	13.55	33.237	24.919	303.3	0.106	6.24	105.3	3.8	0.49	1.1	0.06	0.58	0.21	30
1	31	13.37	13.37	33.223	24.944	300.9	0.109	6.23	104.8	3.8	0.51	1.3	0.07	0.61	0.22	31
1	42	11.97	11.96	33.187	25.188	277.9	0.141	5.75	93.9	6.8	0.78	4.8	0.22	0.64	0.30	42
	50 ISL	11.71	11.70	33.254	25.289	268.5	0.163	5.53	89.8	8.4	0.88	6.8	0.39	0.49	0.27	50
1	52	11.69	11.68	33.280	25.313	266.3	0.169	5.46	88.7	8.8	0.90	7.3	0.41	0.44	0.26	52
1	62	11.33	11.32	33.451	25.512	247.5	0.194	4.82	77.7	10.8	1.09	11.4	0.12	0.21	0.21	62
1	72	10.82	10.81	33.497	25.639	235.6	0.218	4.45	71.0	13.7	1.25	14.3	0.03	0.12	0.15	72
	75 ISL	10.71	10.70	33.510	25.669	232.9	0.225	4.36	69.4	14.4	1.29	15.0	0.03	0.11	0.13	75
1	85	10.39	10.38	33.558	25.762	224.2	0.248	4.11	65.0	16.5	1.40	16.9	0.03	0.09	0.09	85
1	100	10.00	9.99	33.657	25.906	210.8	0.281	3.75	58.8	19.4	1.53	19.2	0.02	0.05	0.09	100
1	121	9.53	9.52	33.848	26.133	189.6	0.323	3.07	47.7	25.9	1.80	23.2	0.02	0.02	0.07	122
	125 ISL	9.50	9.49	33.872	26.157	187.4	0.330	2.95	45.8	26.9	1.84	23.8	0.02	0.02	0.07	126
1	148	9.39	9.37	33.969	26.251	178.9	0.373	2.43	37.7	31.4	2.03	26.2	0.02	0.02	0.09	149
	150 ISL	9.36	9.34	33.975	26.261	178.0	0.376	2.42	37.5	31.7	2.04	26.3	0.02	0.02	0.09	151
1	178	8.89	8.87	34.039	26.386	166.6	0.424	2.34	35.9	35.2	2.10	27.6	0.01	0.02	0.08	179
	200 ISL	8.70	8.68	34.083	26.451	160.8	0.460	2.20	33.6	37.5	2.18	28.4	0.01	0.01	0.07	201
1	209	8.61	8.59	34.093	26.473	158.9	0.475	2.17	33.1	38.3	2.20	28.7	0.01	0.01	0.07	210
1	239	8.04	8.02	34.068	26.540	152.8	0.522	2.43	36.6	40.7	2.18	29.1	0.01			240
	250 ISL	7.99	7.96	34.091	26.565	150.5	0.538	2.24	33.7	42.5	2.25	29.8	0.01			251
1	281	7.93	7.90	34.167	26.634	144.6	0.584	1.54	23.1	48.5	2.49	32.0	0.01			283
	300 ISL	7.67	7.64	34.173	26.677	140.7	0.611	1.38	20.6	51.8	2.57	33.1	0.01			302
1	338	7.14	7.11	34.169	26.750	134.1	0.663	1.23	18.1	57.2	2.68	34.8	0.00			340
1	398	7.05	7.01	34.226	26.808	129.5	0.742	0.86	12.7	61.4	2.82	35.9	0.00			401
	400 ISL	7.03	6.99	34.227	26.811	129.2	0.745	0.85	12.5	61.7	2.83	36.0	0.00			403
1	465	6.46	6.42	34.262	26.916	119.8	0.826	0.50	7.3	71.1	3.00	38.4	0.00			468
	500 ISL	6.34	6.29	34.289	26.953	116.7	0.867	0.41	5.9	74.1	3.05	38.9	0.00			503
1	538	6.21	6.16	34.318	26.993	113.3	0.911	0.32	4.6	77.3	3.11	39.5	0.00			542

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 55.1 N	118 56.4 W	31/07/90	0150 UTC	1685 o	280 19 kn	310 04 04	1	1013.1 mb	18.9 C	17.5 C	16m 03	2/8	CI

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.46	19.46	33.714	23.922	397.4	0.000	5.55	105.6	2.7	0.30	0.0	0.00	0.24	0.05	0
1	1		19.46	19.46	33.714	23.922	397.5	0.004	5.55	105.6	2.7	0.30	0.0	0.00	0.24	0.05	1
	10	ISL	19.43	19.43	33.713	23.930	397.1	0.040	5.56	105.7	2.6	0.30	0.0	0.00	0.26	0.06	10
1	11		19.43	19.43	33.713	23.930	397.1	0.044	5.56	105.7	2.6	0.30	0.0	0.00	0.26	0.06	11
	20	ISL	18.31	18.31	33.692	24.196	372.0	0.078	5.80	107.9	2.9	0.32	0.0	0.00	0.45	0.16	20
1	22		18.03	18.03	33.684	24.259	366.1	0.086	5.83	107.9	3.0	0.33	0.0	0.00	0.52	0.18	22
	30	ISL	13.84	13.84	33.537	25.091	286.9	0.112	5.54	94.3	7.3	0.73	5.2	0.23	1.00	0.54	30
1	32		12.70	12.70	33.528	25.313	265.8	0.117	5.44	90.4	8.4	0.84	6.6	0.29	1.09	0.61	32
1	42		11.92	11.91	33.493	25.435	254.4	0.143	5.05	82.5	10.1	1.00	9.3	0.46	0.78	0.42	42
	50	ISL	11.17	11.16	33.570	25.633	235.7	0.163	4.35	70.0	14.7	1.30	14.2	0.30	0.44	0.24	50
1	52		10.99	10.98	33.592	25.682	231.1	0.168	4.18	67.0	15.9	1.37	15.4	0.24	0.37	0.21	52
1	62		10.48	10.47	33.615	25.790	221.0	0.190	3.88	61.5	18.1	1.49	17.7	0.08	0.25	0.22	62
1	72		10.08	10.07	33.702	25.927	208.2	0.212	3.47	54.6	21.4	1.65	20.2	0.04	0.14	0.21	72
	75	ISL	10.00	9.99	33.732	25.964	204.8	0.218	3.35	52.6	22.4	1.70	20.9	0.03	0.12	0.20	75
1	86		9.75	9.74	33.833	26.084	193.5	0.240	2.99	46.7	25.8	1.84	23.1	0.02	0.05	0.16	86
	100	ISL	9.47	9.46	33.899	26.182	184.5	0.266	2.84	44.1	28.4	1.92	24.4	0.01	0.02	0.11	100
1	101		9.45	9.44	33.902	26.188	183.9	0.268	2.84	44.1	28.5	1.92	24.5	0.01	0.02	0.11	102
1	122		9.01	9.00	33.990	26.328	171.0	0.305	2.82	43.4	31.5	1.97	25.5	0.01	0.01	0.07	123
	125	ISL	8.96	8.95	33.998	26.342	169.7	0.310	2.81	43.2	31.8	1.98	25.6	0.01	0.01	0.07	126
1	147		8.63	8.61	34.038	26.426	162.1	0.347	2.76	42.1	34.5	2.03	26.6	0.01	0.01	0.09	148
	150	ISL	8.59	8.57	34.043	26.436	161.2	0.352	2.73	41.6	35.0	2.04	26.8	0.01	0.01	0.09	151
1	179		8.22	8.20	34.086	26.526	153.1	0.397	2.38	36.0	40.4	2.21	28.8	0.01	0.01	0.07	180
	200	ISL	8.03	8.01	34.113	26.576	148.7	0.429	2.08	31.3	43.7	2.33	30.3	0.01	0.01	0.07	201
1	211		7.93	7.91	34.123	26.599	146.7	0.445	1.94	29.1	45.4	2.39	31.0	0.01	0.01	0.07	212
2	240		7.54	7.52	34.128	26.660	141.2	0.487	1.71	25.4	50.4	2.50	32.5	0.01			241
	250	ISL	7.56	7.54	34.157	26.680	139.5	0.501	1.52	22.6	51.8	2.57	33.0	0.01			251
2	281		7.64	7.61	34.238	26.732	135.1	0.544	0.92	13.7	55.6	2.78	34.4	0.01			283
	300	ISL	7.57	7.54	34.258	26.758	132.9	0.569	0.83	12.4	57.7	2.85	35.0	0.01			302
2	338		7.30	7.27	34.266	26.804	129.2	0.619	0.65	9.6	61.7	2.92	36.0	0.00			340
2	399		6.71	6.67	34.249	26.872	123.2	0.696	0.61	8.9	67.5	2.97	37.5	0.00			402
	400	ISL	6.70	6.66	34.249	26.873	123.1	0.697	0.61	8.9	67.6	2.97	37.5	0.00			403
2	466		6.29	6.25	34.273	26.947	116.7	0.776	0.42	6.1	74.7	3.09	39.1	0.00			469
	500	ISL	6.09	6.05	34.302	26.995	112.4	0.815	0.34	4.9	78.9	3.14	39.8	0.00			503
2	540		5.86	5.81	34.336	27.052	107.4	0.859	0.24	3.4	83.9	3.20	40.6	0.00			544

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 39.1 N	119 28.7 W	30/07/90	1743 UTC	*m*	310 12 kn	310 04 06	2	1016.0 mb	17.6 C	16.3 C	16m 03	8/8	SC

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.34	18.34	33.718	24.208	370.2	0.000	5.60	104.3	3.0	0.30	0.2	0.00	0.36	0.12	0
1	1		18.34	18.34	33.718	24.208	370.2	0.004	5.60	104.3	3.0	0.30	0.2	0.00	0.36	0.12	1
1	10		18.33	18.33	33.718	24.211	370.3	0.037	5.59	104.1	2.9	0.30	0.1	0.00	0.33	0.13	10
	20	ISL	18.12	18.12	33.711	24.258	366.2	0.074	5.63	104.4	3.0	0.31	0.1	0.00	0.42	0.17	20
1	21		18.10	18.10	33.710	24.262	365.8	0.078	5.63	104.4	3.0	0.31	0.1	0.00	0.43	0.17	21
	30	ISL	16.30	16.30	33.669	24.658	328.3	0.109	5.60	100.2	4.5	0.45	1.5	0.05	0.95	0.41	30
1	31		16.02	16.02	33.664	24.718	322.7	0.112	5.60	99.6	4.7	0.46	1.7	0.06	1.00	0.43	31
1	42		12.02	12.01	33.621	25.516	246.8	0.143	4.36	71.5	13.9	1.18	12.2	0.35	0.54	0.33	42
	50	ISL	11.24	11.23	33.629	25.666	232.6	0.162	4.04	65.1	16.2	1.33	15.2	0.34	0.30	0.23	50
1	52		11.18	11.17	33.629	25.677	231.6	0.167	4.00	64.4	16.5	1.35	15.7	0.34	0.26	0.21	52
1	62		10.32	10.31	33.658	25.851	215.2	0.189	3.67	58.0	19.5	1.52	19.2	0.11	0.13	0.18	62
1	72		9.98	9.97	33.695	25.938	207.1	0.211	3.52	55.2	21.1	1.59	20.6	0.06	0.09	0.15	72
	75	ISL	9.82	9.81	33.691	25.962	204.9	0.217	3.60	56.3	21.2	1.58	20.6	0.05	0.08	0.13	75
1	87		9.22	9.21	33.692	26.061	195.7	0.241	3.88	59.8	21.9	1.54	20.9	0.03	0.03	0.07	87
	100	ISL	8.94	8.93	33.811	26.199	182.8	0.265	3.50	53.7	25.9	1.68	23.3	0.02	0.01	0.09	100
1	102		8.92	8.91	33.832	26.218	181.0	0.269	3.42	52.4	26.6	1.71	23.7	0.02	0.01	0.10	103
1	124		8.82	8.81	33.952	26.328	171.0	0.308	2.82	43.2	31.8	1.92	26.7	0.02	0.01	0.08	125
	125	ISL	8.82	8.81	33.959	26.334	170.5	0.309	2.78	42.6	32.1	1.93	26.9	0.02	0.01	0.08	126
1	149		8.75	8.73	34.117	26.469	158.1	0.349	1.81	27.7	39.4	2.25	30.2	0.01	0.01	0.08	150
	150	ISL	8.74	8.72	34.120	26.473	157.8	0.350	1.80	27.5	39.6	2.26	30.3	0.01	0.01	0.08	151
1	179		8.53	8.51	34.163	26.540	151.9	0.395	1.54	23.5	43.3	2.36	31.4	0.01	0.01	0.08	180
	200	ISL	8.33	8.31	34.179	26.583	148.1	0.427	1.42	21.5	45.4	2.42	32.2	0.01	0.01	0.08	201
1	210		8.24	8.22	34.186	26.602	146.5	0.442	1.36	20.6	46.4	2.45	32.5	0.01	0.01	0.08	211
1	241		8.03	8.01	34.220	26.661	141.4	0.486	1.13	17.0	49.9	2.57	33.5	0.01			242
	250	ISL	7.94	7.91	34.230	26.682	139.5	0.499	1.05	15.8	51.3	2.61	33.9	0.01			251
1	280		7.63	7.60	34.253	26.746	133.8	0.540	0.83	12.4	55.9	2.72	35.1	0.01			282
	300	ISL	7.42	7.39	34.249	26.773	131.5	0.566	0.79	11.7	58.2	2.75	35.7	0.01			302
1	337		7.06	7.03	34.239	26.816	127.8	0.614	0.76	11.2	62.3	2.79	36.8	0.01			339
1	397		6.61	6.57	34.286	26.914	119.1	0.688	0.46	6.7	70.4	2.96	38.6	0.00			**400**
	400	ISL	6.60	6.56	34.288	26.917	118.8	0.692	0.45	6.6	70.6	2.96	38.6	0.00			**403**
1	465		6.42	6.38	34.313	26.961	115.5	0.768	0.32	4.6	75.0	3.03	39.3	0.00			**468**
	500	ISL	6.25	6.21	34.325	26.993	112.8	0.808	0.30	4.3	78.0	3.05	39.8	0.00			503
1	537		6.07	6.02	34.338	27.027	110.0	0.849	0.28	4.0	81.1	3.08	40.4	0.01			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 25.2 N	119 58.0 W	30/07/90	1300 UTC	799 m	320 13 kn	290 03 02	2	1014.6 Bib	16.3 C	15.4 C		8/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.27	18.27	33.724	24.230	368.1	0.000	5.57	103.6	2.8	0.33	0.1	0.00	0.49	0.18	0
1	1	18.27	18.27	33.724	24.230	368.1	0.004	5.57	103.6	2.8	0.33	0.1	0.00	0.49	0.18	1
	10 ISL	18.26	18.26	33.724	24.233	368.2	0.037	5.59	103.9	2.6	0.32	0.1	0.00	0.49	0.18	10
1	11	18.26	18.26	33.724	24.233	368.2	0.040	5.59	103.9	2.6	0.32	0.1	0.00	0.49	0.18	11
	20 ISL	18.25	18.25	33.724	24.236	368.3	0.074	5.58	103.7	2.6	0.32	0.1	0.00	0.51	0.18	20
1	22	18.25	18.25	33.724	24.236	368.4	0.081	5.58	103.7	2.6	0.32	0.1	0.00	0.51	0.18	22
	30 ISL	16.90	16.90	33.709	24.549	338.7	0.109	5.47	99.1	5.5	0.48	2.0	0.05	0.99	0.53	30
1	32	16.47	16.46	33.707	24.648	329.4	0.116	5.42	97.3	6.4	0.53	2.7	0.07	1.11	0.62	32
1	42	14.42	14.41	33.695	25.093	287.2	0.147	5.01	86.3	10.0	0.82	6.5	0.19	1.13	0.68	42
	50 ISL	13.59	13.58	33.690	25.261	271.3	0.169	4.73	80.1	11.7	0.99	8.8	0.26	0.91	0.62	50
1	52	13.38	13.37	33.689	25.303	267.4	0.175	4.63	78.1	12.3	1.04	9.5	0.28	0.82	0.60	52
1	62	11.25	11.24	33.730	25.744	225.5	0.199	3.65	58.9	19.3	1.48	16.7	0.34	0.25	0.19	62
1	72	10.67	10.66	33.770	25.878	212.9	0.221	3.32	52.9	21.6	1.62	19.5	0.26	0.17	0.16	72
	75 ISL	10.47	10.46	33.786	25.926	208.5	0.227	3.22	51.1	22.6	1.67	20.4	0.21	0.14	0.15	75
1	86	9.86	9.85	33.849	26.079	194.1	0.250	2.90	45.4	26.2	1.83	23.4	0.04	0.05	0.14	86
	100 ISL	9.63	9.62	33.911	26.166	186.1	0.276	2.63	41.0	28.8	1.95	24.9	0.02	0.04	0.14	100
1	101	9.62	9.61	33.915	26.170	185.6	0.278	2.62	40.8	28.9	1.96	25.0	0.02	0.04	0.14	101
1	122	9.32	9.31	33.990	26.278	175.8	0.316	2.33	36.1	32.3	2.08	26.9	0.02	0.03	0.14	123
	125 ISL	9.25	9.24	33.998	26.296	174.1	0.321	2.32	35.9	32.8	2.10	27.1	0.02	0.03	0.14	126
1	147	8.76	8.74	34.043	26.409	163.7	0.358	2.24	34.3	36.3	2.18	28.5	0.01	0.01	0.11	148
	150 ISL	8.71	8.69	34.045	26.419	162.9	0.363	2.25	34.4	36.5	2.18	28.6	0.01	0.01	0.11	151
1	177	8.36	8.34	34.060	26.485	157.0	0.406	2.28	34.6	38.6	2.19	29.3	0.01	0.01	0.08	178
	200 ISL	8.10	8.08	34.087	26.545	151.6	0.442	2.09	31.5	41.8	2.28	30.2	0.02	0.01	0.08	201
1	208	8.02	8.00	34.096	26.564	149.9	0.454	2.02	30.4	43.0	2.31	30.6	0.02	0.01	0.08	209
1	237	7.76	7.74	34.103	26.608	146.1	0.497	1.92	28.7	46.1	2.37	31.7	0.02			238
	250 ISL	7.62	7.60	34.109	26.633	143.9	0.516	1.82	27.1	48.0	2.42	32.4	0.02			251
1	278	7.32	7.29	34.129	26.692	138.7	0.555	1.55	23.0	52.8	2.54	33.9	0.01			280
	300 ISL	7.08	7.05	34.154	26.745	133.8	0.585	1.29	19.0	57.1	2.66	35.2	0.01			302
1	334	6.77	6.74	34.198	26.823	126.9	0.630	0.90	13.2	63.5	2.83	37.0	0.01			336
1	394	6.48	6.44	34.271	26.920	118.4	0.703	0.46	6.7	71.9	3.03	38.9	0.00			397
	400 ISL	6.46	6.42	34.277	26.927	117.8	0.710	0.44	6.4	72.5	3.04	39.0	0.00			403
1	461	6.27	6.23	34.325	26.990	112.5	0.781	0.29	4.2	77.6	3.12	39.8	0.01			464
	500 ISL	6.06	6.02	34.335	27.025	109.6	0.824	0.26	3.7	80.9	3.15	40.5	0.00			503
1	531	5.90	5.85	34.343	27.052	107.3	0.857	0.23	3.3	83.6	3.17	41.1	0.00			535

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 4.8 N	120 38.2 W	30/07/90	0654 UTC	3814 m	330 16 k.n			1015.5 mb	17.5 C	16.6 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.21	18.21	33.277	23.903	399.3	0.000	5.51	102.1	2.8	0.37	0.2	0.00	0.08	0.02	0
1	1	18.21	18.21	33.277	23.903	399.4	0.004	5.51	102.1	2.8	0.37	0.2	0.00	0.08	0.02	1
	10 ISL	18.22	18.22	33.277	23.901	399.9	0.040	5.52	102.3	2.8	0.38	0.2	0.00	0.08	0.02	10
1	11	18.22	18.22					5.52	102.3	2.8	0.38	0.2	0.00	0.08	0.02	11
	20 ISL	18.20	18.20	33.277	23.906	399.7	0.080	5.51	102.1	2.9	0.36	0.2	0.00	0.08	0.02	20
1	22	18.20	18.20	33.277	23.906	399.8	0.088	5.51	102.1	2.9	0.36	0.2	0.00	0.08	0.02	22
	30 ISL	18.20	18.19	33.276	23.905	400.1	0.120	5.51	102.1	2.8	0.36	0.3	0.00	0.09	0.02	30
1	32	18.20	18.19	33.276	23.906	400.2	0.128	5.51	102.1	2.7	0.36	0.3	0.00	0.09	0.02	32
1	43	18.17	18.16	33.275	23.913	399.9	0.172	5.52	102.2	2.5	0.36	0.3	0.00	0.09	0.02	43
	50 ISL	17.57	17.56	33.258	24.045	387.4	0.199	5.67	103.7	2.3	0.36	0.4	0.00	0.12	0.03	50
1	53	17.25	17.24	33.253	24.118	380.6	0.211	5.74	104.4	2.2	0.36	0.4	0.00	0.13	0.04	53
1	64	16.22	16.21	33.282	24.380	355.9	0.252	5.88	104.8	2.0	0.35	0.6	0.00	0.17	0.07	64
1	74	15.50	15.49	33.334	24.582	336.9	0.286	5.98	105.1	2.1	0.34	0.7	0.00	0.23	0.09	74
	75 ISL	15.43	15.42	33.334	24.597	335.5	0.290	5.98	104.9	2.1	0.34	0.7	0.00	0.23	0.09	75
1	89	14.38	14.37	33.309	24.805	316.0	0.335	6.05	103.9	2.3	0.35	0.7	0.00	0.26	0.15	89
	100 ISL	13.29	13.28	33.322	25.039	293.8	0.369	5.91	99.3	3.0	0.47	1.3	0.06	0.23	0.23	100
2	101	13.19	13.18	33.323	25.060	291.8	0.372	5.89	98.7	3.1	0.48	1.4	0.07	0.23	0.24	101
2	121	11.63	11.61	33.269	25.317	267.5	0.428	5.56	90.1	5.3	0.69	5.2	0.12	0.16	0.22	121
	125 ISL	11.39	11.37	33.275	25.366	263.0	0.438	5.48	88.4	5.9	0.74	6.1	0.11	0.15	0.21	126
2	148	10.38	10.36	33.384	25.629	238.2	0.496	4.91	77.5	10.7	1.07	11.9	0.01	0.08	0.12	149
	150 ISL	10.33	10.31	33.401	25.651	236.1	0.501	4.84	76.3	11.2	1.10	12.5	0.01	0.07	0.11	151
2	178	9.77	9.75	33.660	25.948	208.4	0.563	3.83	59.8	19.3	1.52	19.6	0.00	0.02	0.06	179
	200 ISL	9.20	9.18	33.819	26.165	188.0	0.606	3.36	51.8	25.1	1.74	23.3	0.00	0.01	0.04	201
2	209	8.98	8.96	33.871	26.241	181.0	0.623	3.24	49.7	27.2	1.81	24.4	0.00	0.01	0.03	210
2	239	8.56	8.53	33.962	26.378	168.4	0.675	3.08	46.9	31.5	1.91	26.1	0.00			240
	250 ISL	8.35	8.32	33.982	26.426	163.9	0.694	3.01	45.6	33.7	1.96	26.9	0.00			251
2	280	7.76	7.73	34.017	26.541	153.2	0.741	2.78	41.6	39.9	2.10	29.1	0.00			281
	300 ISL	7.46	7.43	34.022	26.589	148.9	0.771	2.64	39.2	43.4	2.18	30.4	0.00			302
2	337	6.98	6.95	34.025	26.658	142.6	0.825	2.30	33.8	49.9	2.33	32.8	0.00			339
2	398	6.29	6.25	34.078	26.792	130.3	0.909	1.36	19.6	63.9	2.72	37.9	0.00			400
	400 ISL	6.29	6.25	34.082	26.795	130.0	0.911	1.33	19.2	64.2	2.73	38.0	0.00			402
2	465	6.22	6.18	34.206	26.903	120.7	0.993	0.63	9.1	72.8	2.99	40.0	0.00			468
	500 ISL	5.92	5.88	34.215	26.948	116.7	1.034	0.55	7.9	77.9	3.04	41.0	0.00			503
2	537	5.60	5.55	34.227	26.997	112.1	1.077	0.47	6.7	83.2	3.10	42.0	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	MIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 45.4 N	121 19.3 W	30/07/90	0104 UTC	3738 m	330 10 kn	310 03 04	2	1015.6 mb	18.9 C	17.0 C	21m 02	8/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.00	18.00	33.240	23.926	397.1	0.000	5.57	102.8	2.8	0.38	0.0	0.00	0.13	0.03	0
	10 ISL	17.92	17.92	33.241	23.946	395.5	0.040	5.59	103.0	2.8	0.39	0.0	0.00	0.14	0.03	10
1	11	17.91	17.91	33.241	23.949	395.3	0.044	5.59	103.0	2.8	0.39	0.0	0.00	0.14	0.03	11
	20 ISL	17.80	17.80	33.240	23.975	393.1	0.079	5.63	103.5	2.7	0.39	0.0	0.00	0.16	0.04	20
1	21	17.79	17.79	33.239	23.977	393.0	0.083	5.63	103.4	2.7	0.39	0.0	0.00	0.16	0.04	21
	30 ISL	17.67	17.66	33.232	24.001	391.0	0.118	5.66	103.7	2.7	0.38	0.0	0.00	0.18	0.05	30
1	31	17.65	17.64	33.231	24.005	390.7	0.122	5.66	103.7	2.7	0.38	0.0	0.00	0.18	0.05	31
1	41	17.20	17.19	33.230	24.112	380.8	0.161	5.71	103.7	2.5	0.38	0.0	0.00	0.14	0.04	41
	50 ISL	16.72	16.71	33.266	24.252	367.7	0.194	5.80	104.4	2.3	0.37	0.0	0.00	0.15	0.04	50
1	51	16.66	16.65	33.27	24.269	366.1	0.198	5.81	104.4	2.3	0.37	0.0	0.00	0.15	0.04	51
1	60	16.00	15.99	33.287	24.433	350.6	0.230	5.91	104.9	2.2	0.36	0.0	0.00	0.19	0.06	60
1	72	15.12	15.11	33.339	24.669	328.5	0.271	6.04	105.3	2.3	0.35	0.0	0.00	0.25	0.08	72
	75 ISL	14.90	14.89	33.332	24.711	324.5	0.281	6.05	105.0	2.3	0.35	0.0	0.00	0.26	0.09	75
1	86	14.10	14.09	33.288	24.847	311.8	0.316	6.08	103.8	2.4	0.36	0.0	0.00	0.28	0.15	86
	100 ISL	13.13	13.12	33.263	25.025	295.1	0.358	5.97	99.9	3.1	0.43	0.7	0.01	0.31	0.23	100
1	101	13.06	13.05	33.261	25.037	293.9	0.361	5.96	99.6	3.2	0.44	0.8	0.01	0.31	0.24	101
1	120	11.49	11.48	33.218	25.303	268.8	0.415	5.66	91.5	5.2	0.69	5.5	0.13	0.24	0.25	120
	125 ISL	11.16	11.14	33.226	25.369	262.6	0.428	5.57	89.4	6.0	0.76	6.7	0.12	0.21	0.24	126
1	145	10.08	10.06	33.333	25.640	237.0	0.478	5.07	79.5	10.6	1.05	11.9	0.02	0.10	0.16	146
	150 ISL	9.86	9.84	33.395	25.725	228.9	0.490	4.85	75.7	12.7	1.16	13.7	0.02	0.08	0.13	151
1	176	9.03	9.01	33.738	26.129	191.0	0.544	3.69	56.7	24.0	1.67	22.5	0.00	0.01	0.02	177
	200 ISL	8.66	8.64	33.911	26.322	173.0	0.588	3.15	48.0	30.1	1.90	25.9	0.00	0.00	0.02	201
1	206	8.60	8.58	33.939	26.354	170.1	0.598	3.07	46.8	31.3	1.93	26.3	0.00	0.00	0.02	207
1	236	8.19	8.17	34.024	26.483	158.2	0.647	2.79	42.1	36.8	2.06	28.2	0.00			237
	250 ISL	8.01	7.98	34.048	26.529	154.0	0.669	2.59	38.9	39.6	2.15	29.2	0.00			251
1	278	7.72	7.69	34.088	26.603	147.3	0.712	2.13	31.8	45.2	2.34	31.2	0.00			279
	300 ISL	7.63	7.60	34.133	26.652	143.1	0.743	1.72	25.6	49.0	2.49	32.6	0.00			302
1	334	7.54	7.51	34.198	26.716	137.5	0.791	1.15	17.1	54.3	2.69	34.5	0.00			336
1	394	7.09	7.05	34.252	26.822	128.1	0.871	0.68	10.0	62.9	2.91	36.9	0.01			396
	400 ISL	7.05	7.01	34.255	26.830	127.4	0.879	0.65	9.6	63.6	2.93	37.1	0.01			402
1	460	6.63	6.59	34.282	26.909	120.5	0.953	0.43	6.3	70.0	3.05	38.8	0.00			463
	500 ISL	6.38	6.33	34.301	26.958	116.3	1.000	0.35	5.1	74.7	3.11	39.7	0.00			503
1	529	6.20	6.15	34.316	26.993	113.2	1.034	0.30	4.3	78.1	3.15	40.4	0.00			532

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 25.4 N	121 59.6 W	29/07/90	1827 UTC	3817 m	340 08 kn	340 02 05	2	1016.2 mb	18.8 C	17.1 C	36m 01	8/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.39	19.39	33.602	23.855	403.9	0.000	5.37	101.9	2.5	0.35	0.0	0.00	0.10	0.02	0
1	10	19.38	19.38	33.603	23.859	403.9	0.040	5.39	102.3	2.5	0.35	0.0	0.00	0.10	0.02	10
	20 ISL	19.36	19.36	33.601	23.863	403.9	0.081	5.40	102.4	2.5	0.34	0.0	0.00	0.11	0.03	20
1	22	19.35	19.35	33.601	23.865	403.7	0.089	5.40	102.4	2.5	0.34	0.0	0.00	0.11	0.03	22
	30 ISL	18.36	18.35	33.520	24.053	386.1	0.120	5.59	104.0	2.5	0.35	0.0	0.00	0.11	0.03	30
1	31	18.23	18.22	33.510	24.077	383.8	0.124	5.62	104.3	2.5	0.35	0.0	0.00	0.11	0.03	31
1	41	17.68	17.67	33.491	24.197	372.7	0.162	5.69	104.5	2.4	0.34	0.0	0.00	0.14	0.03	41
	50 ISL	16.51	16.50	33.392	24.397	353.8	0.195	5.88	105.5	2.3	0.35	0.0	0.00	0.17	0.05	50
1	51	16.36	16.35	33.382	24.424	351.3	0.198	5.90	105.5	2.3	0.35	0.0	0.00	0.17	0.05	51
1	61	14.97	14.96	33.375	24.729	322.5	0.232	6.12	106.4	2.4	0.36	0.0	0.00	0.20	0.07	61
1	72	13.69	13.68	33.351	24.979	298.8	0.266	6.19	104.9	2.5	0.39	0.0	0.00	0.28	0.18	72
	75 ISL	13.34	13.33	33.348	25.048	292.2	0.275	6.10	102.6	2.9	0.44	0.8	0.03	0.32	0.21	75
1	85	12.23	12.22	33.342	25.261	272.1	0.303	5.69	93.5	4.9	0.67	4.3	0.12	0.41	0.29	85
1	100	10.93	10.92	33.324	25.485	250.9	0.342	5.09	81.3	9.0	0.99	9.9	0.09	0.25	0.26	100
1	121	10.18	10.17	33.494	25.748	226.2	0.393	4.33	68.1	15.1	1.33	15.7	0.03	0.12	0.23	122
	125 ISL	10.07	10.06	33.528	25.794	222.0	0.402	4.20	65.9	16.2	1.39	16.6	0.02	0.10	0.21	126
1	146	9.60	9.58	33.697	26.004	202.3	0.446	3.64	56.6	21.6	1.63	20.7	0.01	0.04	0.08	147
	150 ISL	9.51	9.49	33.728	26.043	198.7	0.454	3.56	55.3	22.6	1.67	21.3	0.01	0.03	0.07	151
1	177	8.95	8.93	33.904	26.271	177.5	0.505	3.13	48.0	28.9	1.86	24.6	0.00	0.01	0.04	178
	200 ISL	8.57	8.55	33.989	26.397	165.8	0.544	2.87	43.7	33.2	1.98	26.3	0.00	0.00	0.04	201
1	207	8.45	8.43	34.005	26.428	163.0	0.556	2.80	42.5	34.5	2.02	26.8	0.00	0.00	0.04	208
1	237	7.70	7.68	34.044	26.571	149.7	0.603	2.43	36.3	42.5	2.23	29.9	0.00			238
	250 ISL	7.56	7.54	34.047	26.593	147.7	0.622	2.34	34.8	44.3	2.28	30.6	0.00			251
1	278	7.37	7.34	34.045	26.619	145.6	0.663	2.16	32.0	47.4	2.36	31.7	0.00			280
	300 ISL	7.13	7.10	34.059	26.664	141.6	0.695	1.94	28.6	51.5	2.46	33.0	0.00			302
1	334	6.71	6.68	34.083	26.740	134.6	0.742	1.59	23.2	58.3	2.62	35.0	0.00			336
1	395	5.96	5.93	34.085	26.839	125.5	0.821	1.21	17.3	69.0	2.82	38.0	0.00			397
	400 ISL	5.92	5.89	34.090	26.848	124.7	0.827	1.17	16.8	69.8	2.84	38.2	0.00			402
1	462	5.63	5.59	34.170	26.948	115.8	0.902	0.65	9.2	79.3	3.04	40.5	0.00			465
	500 ISL	5.50	5.46	34.212	26.997	111.5	0.945	0.50	7.1	83.7	3.10	41.2	0.00			503
1	533	5.39	5.35	34.249	27.040	107.8	0.981	0.37	5.2	87.5	3.15	41.9	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 5.5 N	122 39.7 W	29/07/90	1236 UTC	3966 m	340 09 kn			1014.9 mb	17.7 C	16.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.40	19.40	33.574	23.831	406.2	0.000	5.37	101.9	2.5	0.37	0.0	0.00	0.10	0.02	0
1	1	19.40	19.40	33.574	23.831	406.2	0.004	5.37	101.9	2.5	0.37	0.0	0.00	0.10	0.02	1
	10 ISL	19.40	19.40	33.574	23.831	406.5	0.041	5.40	102.5	2.3	0.36	0.0	0.00	0.11	0.04	10
1	11	19.40	19.40	33.574	23.831	406.5	0.045	5.40	102.5	2.3	0.36	0.0	0.00	0.11	0.04	11
	20 ISL	19.39	19.39	33.573	23.834	406.6	0.081	5.38	102.1	2.3	0.35	0.0	0.00	0.10	0.02	20
1	21	19.39	19.39	33.573	23.834	406.7	0.085	5.38	102.1	2.3	0.35	0.0	0.00	0.10	0.02	21
	30 ISL	18.90	18.89	33.559	23.948	396.1	0.121	5.51	103.6	2.4	0.35	0.0	0.00	0.14	0.03	30
1	31	18.82	18.81	33.557	23.966	394.3	0.125	5.53	103.8	2.4	0.35	0.0	0.00	0.14	0.03	31
1	41	17.93	17.92	33.524	24.162	376.1	0.164	5.68	104.8	2.4	0.36	0.0	0.00	0.14	0.04	41
	50 ISL	16.10	16.09	33.391	24.490	344.9	0.196	6.03	107.3	2.2	0.37	0.0	0.00	0.28	0.10	50
1	51	15.89	15.88	33.381	24.530	341.1	0.200	6.07	107.5	2.2	0.37	0.0	0.00	0.30	0.11	51
1	61	14.84	14.83	33.454	24.818	314.0	0.233	6.13	106.4	3.0	0.43	0.3	0.01	0.58	0.34	61
1	71	13.06	13.05	33.358	25.112	286.0	0.263	6.17	103.2	3.6	0.47	0.4	0.02	0.54	0.30	71
	75 ISL	12.65	12.64	33.346	25.183	279.3	0.274	6.03	100.0	4.0	0.54	1.5	0.10	0.47	0.31	75
1	85	11.97	11.96	33.341	25.309	267.5	0.301	5.56	90.8	5.5	0.74	5.1	0.26	0.27	0.33	85
	100 ISL	11.15	11.14	33.352	25.468	252.6	0.340	5.07	81.4	8.8	1.01	9.9	0.05	0.12	0.18	100
1	101	11.10	11.09	33.355	25.479	251.5	0.343	5.04	80.8	9.1	1.03	10.2	0.03	0.11	0.17	101
1	121	10.19	10.18	33.533	25.777	223.5	0.390	4.19	66.0	16.2	1.40	16.9	0.01	0.04	0.08	122
	125 ISL	10.07	10.06	33.573	25.829	218.7	0.399	4.04	63.4	17.5	1.46	17.9	0.01	0.03	0.07	126
1	146	9.60	9.58	33.768	26.060	197.1	0.443	3.41	53.1	23.4	1.69	21.7	0.01	0.01	0.05	147
	150 ISL	9.51	9.49	33.797	26.097	193.6	0.451	3.36	52.2	24.2	1.72	22.1	0.01	0.01	0.05	151
1	177	8.97	8.95	33.951	26.305	174.3	0.500	3.11	47.8	29.4	1.86	24.5	0.01	0.00	0.05	178
	200 ISL	8.64	8.62	34.034	26.422	163.5	0.539	2.63	40.1	34.6	2.05	27.0	0.01	0.00	0.04	201
1	207	8.54	8.52	34.049	26.449	161.0	0.550	2.51	38.2	36.1	2.10	27.7	0.01	0.00	0.04	208
1	237	7.84	7.82	34.043	26.550	151.7	0.597	2.69	40.3	40.7	2.13	28.7	0.01			238
	250 ISL	7.65	7.63	34.053	26.585	148.5	0.617	2.52	37.6	43.3	2.20	29.7	0.01			251
1	278	7.38	7.35	34.086	26.650	142.7	0.658	1.98	29.3	48.9	2.40	32.1	0.00			280
	300 ISL	7.26	7.23	34.118	26.692	139.0	0.689	1.65	24.4	52.3	2.54	33.4	0.00			302
1	335	7.09	7.06	34.165	26.753	133.7	0.736	1.21	17.8	57.1	2.72	35.0	0.00			337
1	395	6.58	6.54	34.202	26.852	124.9	0.814	0.78	11.4	65.7	2.91	37.5	0.00			397
	400 ISL	6.50	6.46	34.198	26.859	124.2	0.820	0.77	11.2	66.7	2.92	37.7	0.00			402
1	462	5.62	5.58	34.155	26.937	116.8	0.895	0.71	10.1	78.3	3.02	40.3	0.00			465
	500 ISL	5.46	5.42	34.190	26.984	112.7	0.938	0.58	8.2	82.9	3.08	41.1	0.00			503
1	533	5.33	5.29	34.220	27.024	109.2	0.975	0.46	6.5	86.9	3.13	41.8	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 45.2 N	123 20.0 W	29/07/90	0638 UTC	4018 m	340 09 kn			1015.7 mb	18.0 C	17.2 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.41	19.41	33.513	23.782	410.8	0.000	5.40	102.5	3.3	0.35	0.0	0.00	0.10	0.02	0
1	1	19.41	19.41	33.513	23.782	410.9	0.004	5.40	102.5	3.3	0.35	0.0	0.00	0.10	0.02	1
	10 ISL	19.41	19.41	33.520	23.788	410.7	0.041	5.40	102.5	3.4	0.35	0.0	0.00	0.10	0.01	10
1	11	19.41	19.41	33.521	23.788	410.6	0.045	5.40	102.5	3.4	0.35	0.0	0.00	0.10	0.01	11
	20 ISL	18.84	18.84	33.499	23.917	398.7	0.082	5.55	104.2	3.2	0.35	0.0	0.00	0.11	0.02	20
1	22	18.64	18.64	33.492	23.961	394.5	0.090	5.60	104.7	3.1	0.35	0.0	0.00	0.11	0.02	22
	30 ISL	17.44	17.43	33.478	24.244	367.8	0.120	5.80	106.0	3.1	0.34	0.0	0.00	0.13	0.04	30
1	32	17.15	17.14	33.476	24.312	361.4	0.127	5.85	106.3	3.1	0.34	0.0	0.00	0.14	0.04	32
1	42	16.57	16.56	33.441	24.421	351.3	0.163	5.94	106.7	3.0	0.35	0.0	0.00	0.20	0.06	42
	50 ISL	15.45	15.44	33.414	24.653	329.3	0.190	6.09	107.0	3.1	0.37	0.0	0.00	0.24	0.10	50
1	52	15.14	15.13	33.408	24.717	323.3	0.197	6.13	107.0	3.1	0.37	0.0	0.00	0.25	0.11	52
1	62	14.02	14.01	33.367	24.924	303.8	0.228	6.27	107.0	3.4	0.39	0.0	0.00	0.35	0.16	62
1	72	12.97	12.96	33.355	25.127	284.6	0.257	6.11	102.0	4.3	0.48	0.8	0.03	0.57	0.34	72
	75 ISL	12.73	12.72	33.351	25.171	280.5	0.266	6.02	100.0	4.6	0.52	1.5	0.05	0.55	0.33	75
1	87	11.90	11.89	33.334	25.317	266.8	0.299	5.60	91.4	6.3	0.72	5.2	0.11	0.34	0.29	87
	100 ISL	10.92	10.91	33.310	25.476	251.8	0.332	5.24	83.7	8.4	0.91	8.8	0.04	0.21	0.21	100
1	102	10.79	10.78	33.311	25.500	249.5	0.338	5.18	82.5	8.8	0.94	9.4	0.03	0.19	0.20	102
1	122	10.26	10.25	33.492	25.733	227.7	0.385	4.36	68.7	15.1	1.31	15.7	0.01	0.10	0.15	123
	125 ISL	10.18	10.17	33.514	25.764	224.8	0.392	4.28	67.3	15.9	1.35	16.4	0.01	0.09	0.14	126
1	148	9.60	9.58	33.673	25.985	204.2	0.441	3.74	58.2	21.6	1.59	20.5	0.00	0.02	0.05	149
	150 ISL	9.57	9.55	33.692	26.005	202.3	0.445	3.67	57.0	22.1	1.61	20.8	0.00	0.02	0.05	151
1	179	9.11	9.09	33.929	26.266	178.1	0.501	2.88	44.4	29.6	1.91	25.0	0.00	0.00	0.03	180
	200 ISL	8.59	8.57	33.998	26.401	165.4	0.537	2.87	43.7	33.7	1.99	26.7	0.00	0.00	0.03	201
1	209	8.37	8.35	34.010	26.444	161.4	0.551	2.86	43.3	35.2	2.00	27.2	0.00	0.00	0.03	210
1	239	7.87	7.85	34.010	26.519	154.6	0.599	2.92	43.8	38.8	2.04	28.2	0.00			240
	250 ISL	7.69	7.67	34.014	26.549	152.0	0.616	2.81	41.9	40.9	2.10	29.0	0.00			251
1	280	7.25	7.22	34.035	26.628	144.7	0.660	2.35	34.7	47.5	2.29	31.7	0.00			282
	300 ISL	7.02	6.99	34.057	26.677	140.2	0.689	2.02	29.7	51.9	2.43	33.3	0.00			302
1	336	6.69	6.66	34.098	26.755	133.2	0.738	1.46	21.3	59.3	2.65	35.9	0.00			338
1	396	6.23	6.19	34.146	26.853	124.4	0.815	0.93	13.4	68.5	2.86	38.5	0.00			398
	400 ISL	6.23	6.19	34.153	26.859	124.0	0.820	0.89	12.8	68.9	2.87	38.6	0.00			402
1	463	6.18	6.14	34.260	26.950	116.2	0.896	0.44	6.3	75.2	3.06	40.0	0.00			466
	500 ISL	6.00	5.96	34.288	26.996	112.2	0.938	0.36	5.2	79.1	3.11	40.6	0.00			503
1	533	5.84	5.79	34.313	27.036	108.7	0.974	0.29	4.2	82.6	3.15	41.1	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 25.4 N	124 0.2 W	29/07/90	0059 UTC	4189 m	030 09 kn	340 02 05	2	1015.6 mb	19.5 C	17.1 C	31m 01	8/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.29	19.29	33.377	23.709	417.8	0.000	5.46	103.3	3.6	0.33	0.0	0.00	0.07	0.01	0
1	1	19.29	19.29	33.377	23.709	417.9	0.004	5.46	103.3	3.6	0.33	0.0	0.00	0.07	0.01	1
	10 ISL	19.17	19.17	33.396	23.754	413.9	0.042	5.45	102.9	3.6	0.34	0.0	0.00	0.08	0.01	10
1	16	19.09	19.09	33.409	23.785	411.2	0.066	5.45	102.8	3.5	0.34	0.0	0.00	0.08	0.01	16
	20 ISL	18.84	18.84	33.395	23.837	406.3	0.083	5.50	103.2	3.5	0.34	0.0	0.00	0.08	0.01	20
	30 ISL	18.01	18.00	33.368	24.022	389.0	0.122	5.65	104.3	3.4	0.33	0.0	0.00	0.08	0.02	30
1	31	17.91	17.90	33.366	24.045	386.8	0.126	5.67	104.5	3.4	0.33	0.0	0.00	0.08	0.02	31
1	41	16.92	16.91	33.405	24.312	361.7	0.164	5.83	105.4	3.1	0.32	0.0	0.00	0.10	0.02	41
	50 ISL	15.66	15.65	33.375	24.577	336.6	0.195	6.03	106.3	3.1	0.32	0.0	0.00	0.12	0.03	50
1	51	15.53	15.52	33.373	24.604	334.0	0.199	6.05	106.4	3.1	0.32	0.0	0.00	0.12	0.03	51
1	61	14.84	14.83	33.442	24.808	314.8	0.231	6.00	104.1	3.0	0.31	0.0	0.00	0.17	0.08	61
1	71	14.77	14.76	33.542	24.901	306.4	0.262	5.89	102.1	2.9	0.30	0.0	0.00	0.23	0.13	71
	75 ISL	14.43	14.42	33.524	24.959	300.8	0.274	5.86	100.9	3.0	0.32	0.1	0.01	0.30	0.19	75
1	79	14.04	14.03	33.493	25.017	295.4	0.286	5.84	99.7	3.1	0.35	0.1	0.02	0.36	0.26	79
1	95	13.05	13.04	33.427	25.168	281.4	0.332	5.71	95.5	3.6	0.46	1.4	0.14	0.28	0.33	95
	100 ISL	12.62	12.61	33.400	25.231	275.4	0.346	5.65	93.6	4.1	0.52	2.5	0.13	0.27	0.30	100
1	110	11.77	11.76	33.357	25.359	263.3	0.373	5.53	90.0	5.4	0.64	4.9	0.08	0.24	0.23	110
1	125	10.96	10.94	33.350	25.501	250.0	0.412	5.32	85.1	7.6	0.83	8.1	0.02	0.14	0.23	126
1	150	9.78	9.76	33.509	25.828	219.2	0.470	4.50	70.2	15.6	1.30	15.8	0.01	0.04	0.07	151
1	176	9.41	9.39	33.698	26.036	199.8	0.525	3.77	58.4	21.6	1.59	20.7	0.01	0.01	0.03	177
	200 ISL	8.71	8.69	33.911	26.315	173.7	0.570	3.26	49.8	29.6	1.83	24.7	0.01	0.00	0.03	201
1	206	8.53	8.51	33.956	26.378	167.8	0.580	3.17	48.2	31.5	1.88	25.5	0.01	0.00	0.03	207
1	236	8.15	8.13	34.004	26.473	159.1	0.629	2.97	44.8	35.9	1.99	27.2	0.01			237
	250 ISL	7.90	7.87	34.008	26.513	155.4	0.651	2.94	44.1	38.1	2.03	27.9	0.01			251
1	277	7.42	7.39	34.012	26.586	148.7	0.692	2.82	41.8	42.8	2.13	29.3	0.01			278
	300 ISL	7.21	7.18	34.042	26.639	143.9	0.726	2.42	35.7	47.3	2.28	31.1	0.01			302
1	333	6.96	6.93	34.080	26.704	138.2	0.772	1.80	26.4	54.0	2.50	33.9	0.01			335
1	394	6.07	6.04	34.054	26.801	129.2	0.854	1.49	21.4	66.1	2.71	37.4	0.01			396
	400 ISL	6.00	5.97	34.055	26.810	128.3	0.861	1.45	20.8	67.2	2.73	37.7	0.01			402
1	461	5.45	5.41	34.096	26.911	119.1	0.937	1.00	14.2	77.2	2.92	40.1	0.01			464
	500 ISL	5.31	5.27	34.148	26.969	113.9	0.982	0.74	10.4	82.4	3.02	41.1	0.01			503
1	533	5.19	5.15	34.192	27.018	109.6	1.019	0.52	7.3	86.8	3.10	42.0	0.01			536

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 57.6 N	117 18.4 W	25/07/90	1834 UTC	65 m	230 10 kn	270 02 04	0	1014.5 mb	22.9 C	19.2 C	04m 07	0/8	

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	23.30	23.30	33.734	22.889	496.1	0.000	6.13	125.0	4.3	0.10	0.1	0.02	4.19	0.30	0
1	1	23.30	23.30	33.734	22.889	496.1	0.005	6.13	125.0	4.3	0.10	0.1	0.02	4.19	0.30	1
	10 ISL	17.52	17.52	33.518	24.255	366.1	0.044	6.46	118.3	5.5	0.31	0.1	0.02	4.05	0.73	10
1	11	16.67	16.67	33.515	24.453	347.2	0.047	6.50	117.1	5.6	0.34	0.1	0.02	4.04	0.78	11
	20 ISL	14.19	14.19	33.452	24.953	299.9	0.076	6.33	108.4	3.7	0.41	0.3	0.02	1.57	0.57	20
1	22	13.93	13.93	33.434	24.993	296.1	0.082	6.29	107.2	3.3	0.43	0.3	0.02	1.01	0.50	22
	30 ISL	13.10	13.10	33.426	25.155	280.8	0.105	5.82	97.5	5.1	0.61	2.1	0.23	0.87	0.55	30
1	33	12.94	12.94	33.424	25.186	278.0	0.114	5.61	93.6	6.1	0.70	3.1	0.33	0.82	0.59	33
1	43	12.37	12.36	33.416	25.290	268.3	0.141	4.90	80.8	8.8	1.04	6.8	0.58	0.31	0.55	43
	50 ISL	12.07	12.06	33.450	25.374	260.5	0.160	4.84	79.3	9.2	1.01	8.7	0.38	0.27	0.46	50
1	53	11.95	11.94	33.465	25.408	257.3	0.167	4.82	78.8	9.2	0.99	9.4	0.27	0.25	0.41	53
1	64	11.54	11.53	33.468	25.487	250.0	0.195	4.64	75.2	10.7	1.11	11.2	0.21	0.17	0.30	64

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.3 N	117 24.1 W	25/07/90	2245 UTC	565 m	240 08 kn	280 02 04	0	1013.8 mb	20.7 C	18.3 C	16m 03	0/8	

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	23.17	23.17	33.759	22.945	490.7	0.000	5.41	110.1	2.6	0.31	0.3	0.01	0.36	0.06	0
1	10	18.12	18.12	33.562	24.143	376.8	0.043	6.00	111.2	2.1	0.35	0.2	0.00	0.28	0.08	10
1	20	15.79	15.79	33.495	24.639	329.8	0.079	6.28	111.1	2.5	0.41	0.2	0.00	0.53	0.16	20
	30 ISL	14.24	14.24	33.466	24.953	300.1	0.110	6.19	106.1	5.5	0.52	0.7	0.10	2.61	0.91	30
1	31	14.11	14.11	33.463	24.978	297.7	0.113	6.18	105.7	5.8	0.54	0.8	0.11	2.76	0.97	31
1	42	12.55	12.54	33.425	25.263	270.9	0.144	5.09	84.3	8.2	0.93	5.4	0.56	0.41	0.57	42
	50 ISL	12.36	12.35	33.463	25.329	264.8	0.166	5.02	82.8	8.3	0.91	7.1	0.71	0.30	0.53	50
1	52	12.31	12.30	33.460	25.336	264.1	0.171	5.00	82.4	8.3	0.91	7.4	0.75	0.27	0.52	52
1	61	12.05	12.04	33.451	25.379	260.3	0.195	4.96	81.2	8.7	0.98	8.7	0.44	0.26	0.40	61
1	71	11.63	11.62	33.459	25.464	252.4	0.220	4.79	77.8	9.7	1.06	10.6	0.08	0.17	0.23	71
	75 ISL	11.45	11.44	33.470	25.505	248.5	0.230	4.65	75.2	10.5	1.12	11.5	0.07	0.15	0.22	75
1	87	10.98	10.97	33.515	25.625	237.3	0.260	4.25	68.1	13.1	1.28	14.1	0.04	0.10	0.18	87
	100 ISL	10.66	10.65	33.559	25.716	228.9	0.290	4.11	65.4	14.8	1.35	15.6	0.04	0.07	0.15	100
1	102	10.62	10.61	33.566	25.729	227.8	0.294	4.10	65.2	15.0	1.36	15.8	0.04	0.07	0.14	102
1	122	10.22	10.21	33.629	25.847	216.9	0.339	3.79	59.7	18.8	1.54	19.0	0.02	0.04	0.09	123
	125 ISL	10.20	10.19	33.638	25.857	216.0	0.345	3.75	59.1	19.1	1.55	19.2	0.02	0.04	0.09	126
1	149	10.06	10.04	33.724	25.949	207.8	0.396	3.41	53.6	21.1	1.65	20.5	0.02	0.03	0.09	150
	150 ISL	10.05	10.03	33.730	25.955	207.2	0.398	3.39	53.3	21.3	1.66	20.6	0.02	0.03	0.09	151
1	180	9.62	9.60	33.897	26.158	188.5	0.458	2.92	45.5	26.5	1.85	23.6	0.01	0.01	0.06	181
	200 ISL	9.41	9.39	33.951	26.235	181.6	0.495	2.87	44.5	28.0	1.90	24.3	0.01	0.00	0.05	201
1	211	9.32	9.30	33.975	26.268	178.6	0.515	2.85	44.1	28.8	1.93	24.6	0.01	0.00	0.05	212
1	241	9.17	9.14	34.085	26.379	168.7	0.567	2.43	37.5	32.9	2.10	26.5	0.01			242
	250 ISL	9.12	9.09	34.112	26.408	166.1	0.582	2.30	35.5	34.2	2.14	27.0	0.01			251
1	282	8.92	8.89	34.182	26.495	158.4	0.634	1.90	29.2	38.7	2.28	28.7	0.01			284
	300 ISL	8.73	8.70	34.193	26.534	154.9	0.662	1.80	27.5	41.0	2.34	29.4	0.01			302
1	339	8.28	8.24	34.197	26.607	148.5	0.721	1.63	24.7	45.9	2.46	30.9	0.01			341
	400 ISL	7.63	7.59	34.234	26.733	137.2	0.808	1.08	16.1	54.8	2.72	33.8	0.01			403
1	401	7.62	7.58	34.234	26.734	137.1	0.809	1.07	16.0	55.0	2.72	33.8	0.01			404
1	466	7.03	6.99	34.250	26.830	128.5	0.896	0.74	10.9	64.0	2.88	36.3	0.01			469
	500 ISL	6.77	6.72	34.278	26.888	123.3	0.939	0.57	8.3	69.1	2.97	37.4	0.01			503
1	538	6.48	6.43	34.311	26.953	117.4	0.984	0.37	5.4	74.7	3.08	38.7	0.02			542

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 50.3 N	117 32.1 W	26/07/90	0211 UTC	869 m	290 06 kn	270 02 05	1	1013.0 mb	20.3 C	19.5 C	08m 06	2/8	SC

CAST	DEPTH in		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	21.76	21.76	33.705	23.302	456.6	0.000	5.66	112.3	2.7	0.22	0.1	0.01	0.98	0.11	0
1	1		21.76	21.76	33.705	23.302	456.7	0.005	5.66	112.3	2.7	0.22	0.1	0.01	0.98	0.11	1
	10	ISL	19.32	19.32	33.587	23.862	403.6	0.043	5.73	108.6	2.0	0.31	0.1	0.00	0.34	0.06	10
1	11		18.91	18.91	33.573	23.955	394.7	0.047	5.74	108.0	1.9	0.32	0.1	0.00	0.25	0.06	11
	20	ISL	15.90	15.90	33.499	24.617	331.8	0.080	6.12	108.5	2.4	0.36	0.1	0.00	0.28	0.10	20
1	21		15.61	15.61	33.496	24.680	325.9	0.083	6.16	108.6	2.5	0.36	0.1	0.00	0.28	0.11	21
	30	ISL	14.60	14.60	33.474	24.883	306.7	0.112	6.28	108.5	2.6	0.40	0.1	0.01	0.48	0.21	30
1	31		14.54	14.54	33.471	24.894	305.8	0.115	6.29	108.5	2.6	0.41	0.1	0.01	0.50	0.22	31
1	42		13.45	13.44	33.438	25.095	286.9	0.147	5.96	100.5	3.6	0.59	2.3	0.17	0.66	0.41	42
	50	ISL	12.69	12.68	33.438	25.246	272.7	0.170	5.49	91.1	5.5	0.76	5.4	0.38	0.34	0.31	50
1	52		12.52	12.51	33.438	25.279	269.6	0.175	5.38	89.0	6.0	0.80	6.2	0.42	0.25	0.28	52
1	62		11.81	11.80	33.407	25.390	259.2	0.202	5.11	83.3	7.7	0.90	8.1	0.21	0.17	0.24	62
1	72		11.21	11.20	33.423	25.512	247.8	0.227	4.82	77.5	9.9	1.06	11.1	0.07	0.12	0.18	72
	75	ISL	11.09	11.08	33.434	25.542	245.0	0.234	4.72	75.7	10.6	1.10	11.8	0.06	0.11	0.18	75
1	86		10.80	10.79	33.487	25.635	236.3	0.261	4.37	69.7	13.2	1.22	13.8	0.03	0.07	0.17	86
	100	ISL	10.54	10.53	33.568	25.744	226.3	0.293	4.05	64.3	15.9	1.35	16.0	0.02	0.06	0.13	100
1	101		10.53	10.52	33.575	25.751	225.6	0.295	4.03	63.9	16.1	1.36	16.1	0.02	0.06	0.13	101
1	122		10.35	10.34	33.741	25.912	210.8	0.341	3.42	54.1	20.6	1.60	19.6	0.01	0.02	0.11	123
	125	ISL	10.32	10.31	33.761	25.933	208.9	0.348	3.35	53.0	21.2	1.63	20.0	0.01	0.02	0.11	126
1	147		10.06	10.04	33.874	26.066	196.7	0.392	2.94	46.2	24.8	1.80	22.7	0.01	0.01	0.09	148
	150	ISL	10.02	10.00	33.882	26.079	195.5	0.398	2.92	45.9	25.1	1.81	22.9	0.01	0.01	0.09	151
1	178		9.75	9.73	33.948	26.176	186.8	0.452	2.75	43.0	27.5	1.90	24.2	0.01	0.01	0.07	179
	200	ISL	9.70	9.68	34.047	26.262	179.1	0.492	2.39	37.3	30.7	2.03	25.8	0.01	0.01	0.05	201
1	209		9.67	9.65	34.087	26.299	175.8	0.508	2.24	35.0	32.1	2.09	26.5	0.01	0.01	0.04	210
1	239		9.25	9.22	34.159	26.424	164.4	0.559	2.03	31.4	36.1	2.21	28.1	0.01			240
	250	ISL	9.14	9.11	34.170	26.451	162.1	0.577	1.99	30.7	37.0	2.23	28.4	0.01			251
1	280		8.88	8.85	34.184	26.503	157.5	0.625	1.88	28.9	39.6	2.28	29.1	0.01			282
	300	ISL	8.68	8.65	34.201	26.548	153.6	0.656	1.72	26.3	42.3	2.36	29.9	0.01			302
1	336		8.30	8.27	34.227	26.627	146.5	0.710	1.39	21.1	47.7	2.53	31.6	0.01			338
1	397		7.62	7.58	34.24	26.739	136.6	0.796	0.98	14.6	56.1	2.73	34.4	0.00			400
	400	ISL	7.60	7.56	34.242	26.743	136.2	0.800	0.96	14.3	56.5	2.74	34.5	0.00			403
1	464		7.05	7.01	34.277	26.849	126.8	0.884	0.59	8.7	65.0	2.91	36.7	0.00			467
	500	ISL	6.59	6.54	34.266	26.902	121.7	0.929	0.52	7.6	71.2	2.98	38.2	0.00			503
1	534		6.15	6.10	34.258	26.954	116.9	0.970	0.45	6.5	77.1	3.04	39.7	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 40.1 N	117 52.9 W	26/07/90	0628 UTC	560 m	310 09 k.n			1014.2 mb	19.0 C	17.7 C			

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.11	19.11	33.560	23.894	400.1	0.000	5.51	104.0	1.5	0.35	0.1	0.01	0.18	0.04	0
1	1		19.11	19.11	33.560	23.894	400.2	0.004	5.51	104.0	1.5	0.35	0.1	0.01	0.18	0.04	1
	10	ISL	19.09	19.09	33.559	23.899	400.0	0.040	5.51	104.0	1.5	0.38	0.1	0.01	0.17	0.04	10
1	11		19.09	19.09	33.559	23.899	400.1	0.044	5.51	104.0	1.5	0.38	0.1	0.01	0.17	0.04	11
	20	ISL	18.62	18.62	33.546	24.008	390.0	0.080	5.59	104.5	1.5	0.36	0.1	0.01	0.16	0.05	20
1	22		18.52	18.52	33.544	24.031	387.9	0.087	5.61	104.7	1.5	0.35	0.1	0.01	0.16	0.05	22
	30	ISL	16.66	16.66	33.487	24.435	349.6	0.117	6.02	108.4	1.6	0.37	0.1	0.01	0.21	0.07	30
1	32		16.13	16.12	33.473	24.546	339.0	0.124	6.12	109.0	1.6	0.38	0.1	0.01	0.23	0.08	32
1	42		14.27	14.26	33.371	24.874	308.0	0.156	6.15	105.5	2.4	0.40	0.1	0.01	0.34	0.20	42
	50	ISL	13.59	13.58	33.347	24.996	296.5	0.180	6.13	103.6	2.7	0.42	0.5	0.03	0.38	0.25	50
1	52		13.47	13.46	33.345	25.019	294.4	0.186	6.13	103.4	2.8	0.43	0.6	0.03	0.38	0.26	52
1	62		12.55	12.54	33.343	25.199	277.4	0.215	5.78	95.6	4.0	0.60	2.8	0.11	0.37	0.28	62
1	73		11.92	11.91	33.348	25.323	265.8	0.245	5.45	89.0	5.6	0.75	6.0	0.17	0.30	0.36	73
	75	ISL	11.80	11.79	33.360	25.355	262.8	0.250	5.35	87.1	6.2	0.80	6.9	0.16	0.28	0.35	75
1	87		11.13	11.12	33.449	25.547	244.8	0.280	4.77	76.6	10.3	1.09	12.1	0.06	0.18	0.22	87
	100	ISL	10.62	10.61	33.517	25.690	231.4	0.311	4.39	69.8	13.2	1.22	14.8	0.04	0.13	0.18	100
1	102		10.55	10.54	33.527	25.710	229.5	0.316	4.34	68.9	13.6	1.23	15.1	0.04	0.13	0.18	102
1	123		9.88	9.87	33.684	25.947	207.3	0.362	3.79	59.3	19.2	1.52	19.3	0.03	0.06	0.10	124
	125	ISL	9.83	9.82	33.700	25.968	205.4	0.366	3.74	58.5	19.8	1.54	19.7	0.03	0.05	0.09	126
1	148		9.34	9.32	33.875	26.186	185.1	0.411	3.14	48.6	25.9	1.73	23.4	0.02	0.01	0.05	149
	150	ISL	9.31	9.29	33.888	26.201	183.7	0.415	3.09	47.8	26.4	1.75	23.7	0.02	0.01	0.05	151
1	179		8.92	8.90	34.024	26.370	168.1	0.466	2.47	37.9	33.1	2.03	27.0	0.01	0.01	0.06	180
	200	ISL	8.55	8.53	34.062	26.458	160.1	0.500	2.37	36.1	36.4	2.11	28.0	0.02	0.01	0.06	201
1	210		8.40	8.38	34.076	26.492	157.0	0.516	2.31	35.1	37.9	2.14	28.4	0.02	0.01	0.06	211
1	240		8.34	8.32	34.171	26.576	149.6	0.562	1.59	24.1	43.5	2.41	30.9	0.01			241
	250	ISL	8.30	8.27	34.190	26.597	147.8	0.577	1.44	21.8	44.9	2.47	31.4	0.01			251
1	281		8.07	8.04	34.214	26.651	143.1	0.622	1.20	18.1	48.7	2.57	32.6	0.01			283
	300	ISL	7.77	7.74	34.193	26.678	140.6	0.649	1.24	18.6	51.0	2.55	33.2	0.01			302
1	338		7.11	7.08	34.145	26.735	135.5	0.701	1.36	20.0	56.1	2.51	34.4	0.02			340
1	399		6.51	6.47	34.182	26.845	125.5	0.781	0.89	12.9	66.2	2.84	37.4	0.01			402
	400	ISL	6.51	6.47	34.183	26.846	125.4	0.782	0.88	12.8	66.3	2.84	37.4	0.01			403
1	466		6.46	6.42	34.254	26.910	120.4	0.863	0.55	8.0	70.7	2.97	38.4	0.01			469
	500	ISL	6.29	6.24	34.284	26.956	116.4	0.903	0.44	6.4	74.5	3.04	39.1	0.01			503
1	537		6.11	6.06	34.317	27.005	112.0	0.946	0.31	4.5	78.7	3.11	39.8	0.01			541

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 30.8 N	118 13.1 W	26/07/90	1054 UTC	1668 m	330 08 k.n			1015.2 nb	18.0 C	16.8 C		

CAST	DEPTH n	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.07	19.07	33.723	24.029	387.3	0.000	5.56	105.0	2.7	0.29	0.1	0.00	0.20	0.08	0
1	10	19.03	19.03	33.711	24.030	387.5	0.039	5.59	105.5	2.7	0.29	0.1	0.00	0.22	0.07	10
	20 ISL	15.01	15.01	33.498	24.813	313.1	0.074	6.04	105.2	3.8	0.47	1.1	0.07	0.58	0.36	20
1	21	14.56	14.56	33.482	24.898	305.1	0.077	6.08	105.0	3.9	0.49	1.3	0.08	0.62	0.39	21
	30 ISL	12.80	12.80	33.323	25.135	282.7	0.103	5.84	97.1	5.3	0.72	4.3	0.22	0.60	0.31	30
1	31	12.66	12.66	33.308	25.150	281.3	0.106	5.79	96.0	5.5	0.75	4.7	0.23	0.60	0.30	31
1	41	11.13	11.13	33.310	25.438	254.1	0.133	5.23	83.9	10.3	1.06	10.1	0.26	0.46	0.36	41
	50 ISL	11.03	11.02	33.568	25.657	233.5	0.155	4.20	67.4	16.2	1.39	15.6	0.37	0.19	0.25	50
1	51	11.02	11.01	33.589	25.675	231.8	0.157	4.10	65.7	16.8	1.42	16.1	0.38	0.16	0.24	51
1	61	10.86	10.85	33.598	25.710	228.6	0.180	4.06	64.9	17.6	1.46	17.0	0.35	0.10	0.21	61
1	72	10.00	9.99	33.548	25.820	218.3	0.205	3.98	62.4	18.8	1.53	18.8	0.06	0.05	0.17	72
	75 ISL	9.96	9.95	33.585	25.856	215.0	0.211	3.87	60.6	19.7	1.57	19.4	0.06	0.05	0.16	75
1	86	9.81	9.80	33.723	25.989	202.6	0.234	3.34	52.2	23.7	1.74	21.9	0.04	0.05	0.13	86
	100 ISL	9.73	9.72	33.903	26.143	188.3	0.262	2.63	41.1	28.9	1.95	24.8	0.04	0.04	0.11	100
1	102	9.72	9.71	33.925	26.162	186.5	0.265	2.54	39.7	29.6	1.98	25.1	0.04	0.04	0.11	103
1	122	9.39	9.38	34.000	26.275	176.1	0.302	2.32	36.0	32.5	2.09	26.6	0.03	0.02	0.09	123
	125 ISL	9.37	9.36	34.008	26.284	175.3	0.307	2.29	35.5	32.7	2.10	26.7	0.03	0.02	0.09	126
1	148	9.23	9.21	34.051	26.341	170.3	0.347	2.11	32.6	34.4	2.16	27.6	0.02	0.01	0.10	149
	150 ISL	9.19	9.17	34.054	26.350	169.5	0.350	2.10	32.4	34.7	2.17	27.7	0.02	0.01	0.10	151
1	179	8.58	8.56	34.105	26.486	157.0	0.397	1.96	29.9	40.0	2.27	29.6	0.02	0.01	0.09	180
	200 ISL	8.48	8.46	34.146	26.534	152.8	0.430	1.71	26.0	42.5	2.35	30.4	0.02	0.01	0.08	201
1	210	8.46	8.44	34.163	26.551	151.5	0.445	1.59	24.2	43.6	2.39	30.8	0.02	0.01	0.08	211
1	240	8.13	8.11	34.196	26.627	144.6	0.490	1.35	20.4	48.2	2.53	32.2	0.02			241
	250 ISL	8.07	8.04	34.206	26.644	143.2	0.504	1.28	19.3	49.3	2.56	32.5	0.02			251
1	281	7.90	7.87	34.231	26.689	139.4	0.548	1.07	16.1	52.5	2.64	33.5	0.01			283
	300 ISL	7.75	7.72	34.238	26.717	137.0	0.574	0.93	13.9	55.0	2.71	34.2	0.01			302
1	338	7.37	7.34	34.24	26.773	132.1	0.625	0.71	10.5	60.4	2.84	35.5	0.01			340
1	397	6.58	6.54	34.227	26.872	123.0	0.700	0.68	9.9	68.8	2.94	37.6	0.01			400
	400 ISL	6.56	6.52	34.227	26.874	122.8	0.704	0.67	9.8	69.2	2.95	37.7	0.01			403
1	465	6.20	6.16	34.256	26.945	116.8	0.782	0.48	6.9	76.3	3.06	39.2	0.01			468
	500 ISL	6.09	6.05	34.292	26.988	113.1	0.822	0.38	5.5	79.3	3.11	39.8	0.01			503
1	535	5.97	5.92	34.329	27.032	109.3	0.861	0.27	3.9	82.3	3.15	40.4	0.01			539

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 21.0 N	118 33.4 W	26/07/90	1516 UTC	1346 m	320 09 kn	300 03 04	2	1016.4 mb	16.9 C	15.3 C	16m O2	8/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.10	19.10	33.742	24.036	386.6	0.000	5.56	105.1	1.7	0.27	0.0	0.00	0.32	0.12	0
1	1	19.10	19.10	33.742	24.036	386.6	0.004	5.56	105.1	1.7	0.27	0.0	0.00	0.32	0.12	1
	10 ISL	19.00	19.00	33.741	24.061	384.6	0.039	5.57	105.0	1.9	0.27	0.0	0.00	0.32	0.15	10
1	11	18.99	18.99	33.741	24.063	384.4	0.042	5.57	105.0	1.9	0.27	0.0	0.00	0.32	0.15	11
	20 ISL	15.31	15.31	33.690	24.896	305.3	0.073	5.45	95.6	5.9	0.62	4.6	0.14	0.53	0.26	20
1	22	14.42	14.42	33.695	25.092	286.7	0.079	5.40	93.1	6.9	0.71	5.8	0.18	0.58	0.29	22
	30 ISL	13.06	13.06	33.627	25.319	265.2	0.101	5.16	86.4	8.8	0.88	7.8	0.31	0.59	0.38	30
1	32	12.84	12.84	33.607	25.347	262.6	0.107	5.06	84.4	9.4	0.93	8.4	0.33	0.59	0.39	32
1	42	11.19	11.18	33.642	25.685	230.6	0.131	3.99	64.2	16.3	1.42	15.9	0.34	0.32	0.22	42
	50 ISL	10.72	10.71	33.677	25.797	220.2	0.149	3.66	58.3	18.8	1.55	18.3	0.25	0.22	0.16	50
1	52	10.68	10.67	33.687	25.811	218.8	0.154	3.62	57.7	19.2	1.56	18.6	0.23	0.21	0.15	52
1	62	10.48	10.47	33.755	25.899	210.6	0.175	3.30	52.4	21.8	1.68	20.6	0.21	0.16	0.12	62
1	72	10.13	10.12	33.828	26.017	199.7	0.196	2.91	45.8	25.3	1.81	22.9	0.05	0.12	0.13	72
	75 ISL	10.02	10.01	33.835	26.041	197.5	0.202	2.91	45.7	25.8	1.83	23.2	0.05	0.10	0.12	75
1	87	9.60	9.59	33.849	26.122	189.9	0.225	2.89	45.0	27.3	1.88	24.0	0.03	0.05	0.07	87
	100 ISL	9.23	9.22	33.900	26.222	180.6	0.249	2.81	43.4	29.4	1.94	25.2	0.03	0.04	0.36	101
1	102	9.18	9.17	33.910	26.238	179.1	0.253	2.79	43.1	29.8	1.95	25.4	0.03	0.04	0.40	103
1	123	8.88	8.87	34.030	26.380	166.1	0.289	2.39	36.7	34.6	2.11	27.5	0.02	0.01	0.08	124
	125 ISL	8.87	8.86	34.037	26.387	165.4	0.292	2.36	36.2	34.9	2.12	27.6	0.02	0.01	0.08	126
1	148	8.71	8.69	34.083	26.448	160.0	0.330	2.12	32.4	37.5	2.22	28.7	0.02	0.01	0.11	149
	150 ISL	8.67	8.65	34.083	26.455	159.4	0.333	2.14	32.7	37.7	2.22	28.7	0.02	0.01	0.11	151
1	179	8.11	8.09	34.088	26.544	151.3	0.378	2.35	35.4	41.0	2.22	29.1	0.02	0.01	0.06	180
	200 ISL	7.98	7.96	34.141	26.605	145.9	0.409	1.93	29.0	45.5	2.37	30.6	0.02	0.00	0.05	201
1	210	7.94	7.92	34.165	26.630	143.7	0.424	1.70	25.5	47.5	2.45	31.4	0.02	0.00	0.04	211
1	240	7.69	7.67	34.153	26.658	141.5	0.466	1.63	24.3	50.0	2.49	32.3	0.01			241
	250 ISL	7.58	7.56	34.149	26.671	140.4	0.480	1.59	23.7	51.2	2.51	32.7	0.01			252
1	282	7.25	7.22	34.150	26.719	136.2	0.525	1.43	21.1	55.1	2.61	34.0	0.02			284
	300 ISL	7.18	7.15	34.166	26.741	134.3	0.549	1.28	18.9	57.0	2.68	34.6	0.02			302
1	338	7.09	7.06	34.214	26.792	130.1	0.599	0.93	13.7	60.9	2.82	35.8	0.01			340
1	399	6.84	6.80	34.290	26.887	121.9	0.676	0.48	7.0	67.8	3.01	37.5	0.01			402
	400 ISL	6.83	6.79	34.290	26.888	121.8	0.677	0.48	7.0	68.0	3.01	37.5	0.01			403
1	465	6.07	6.03	34.256	26.961	115.1	0.754	0.45	6.5	77.8	3.09	39.7	0.01			468
	500 ISL	6.03	5.99	34.300	27.001	111.7	0.794	0.33	4.7	80.5	3.14	39.9	0.01			503
1	534	6.00	5.95	34.342	27.039	108.7	0.832	0.22	3.2	83.2	3.19	40.1	0.01			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 10.1 N	118 53.5 W	26/07/90	2002 UTC	1472 m	320 12 kn	300 03 04	2	1016.6 mb	19.1 C	17.1 C	16m 03	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.58	19.58	33.753	23.921	397.5	0.000	5.45	103.9	2.9	0.29	0.0	0.00	0.43	0.13	0
1	1	19.58	19.58	33.753	23.921	397.6	0.004	5.45	103.9	2.9	0.29	0.0	0.00	0.43	0.13	1
	10 ISL	19.52	19.52	33.756	23.939	396.2	0.040	5.47	104.2	2.7	0.28	0.0	0.00	0.45	0.12	10
1	11	19.51	19.51	33.756	23.942	396.0	0.044	5.47	104.2	2.7	0.28	0.0	0.00	0.45	0.12	11
	20 ISL	16.62	16.62	33.649	24.568	336.6	0.077	5.94	107.0	4.1	0.39	0.9	0.04	0.99	0.34	20
1	22	15.84	15.84	33.632	24.733	320.9	0.083	6.02	106.7	4.6	0.43	1.1	0.06	1.09	0.39	22
	30 ISL	13.65	13.65	33.577	25.161	280.3	0.107	5.66	96.0	7.3	0.70	4.7	0.18	0.79	0.41	30
1	32	13.18	13.18	33.570	25.251	271.8	0.113	5.49	92.2	8.1	0.78	5.9	0.22	0.69	0.41	32
1	42	11.52	11.51	33.594	25.588	239.8	0.138	4.37	70.8	13.4	1.22	13.0	0.42	0.62	0.49	42
	50 ISL	11.16	11.15	33.611	25.667	232.5	0.157	4.13	66.4	15.3	1.33	15.1	0.39	0.47	0.40	50
1	52	11.13	11.12	33.616	25.676	231.7	0.162	4.10	65.9	15.7	1.35	15.4	0.38	0.43	0.37	52
1	62	10.67	10.66	33.680	25.808	219.4	0.184	3.54	56.4	18.6	1.53	18.5	0.14	0.30	0.26	62
1	72	10.24	10.23	33.769	25.952	205.9	0.206	3.17	50.0	22.0	1.69	21.2	0.03	0.13	0.17	72
	75 ISL	10.15	10.14	33.786	25.980	203.2	0.212	3.14	49.5	22.6	1.71	21.7	0.03	0.11	0.15	75
1	86	9.88	9.87	33.831	26.061	195.7	0.234	3.03	47.5	24.3	1.76	22.7	0.02	0.06	0.10	86
	100 ISL	9.51	9.50	33.881	26.162	186.4	0.261	3.11	48.3	25.7	1.77	23.3	0.02	0.02	0.07	100
1	102	9.46	9.45	33.887	26.175	185.2	0.264	3.13	48.6	25.9	1.77	23.3	0.02	0.02	0.07	103
1	122	9.08	9.07	33.937	26.275	176.0	0.300	3.15	48.5	28.5	1.81	24.3	0.01	0.01	0.07	123
	125 ISL	9.03	9.02	33.945	26.290	174.7	0.306	3.14	48.3	28.9	1.82	24.4	0.01	0.01	0.07	126
1	148	8.71	8.69	33.996	26.380	166.5	0.345	3.06	46.7	31.5	1.88	25.4	0.01	0.01	0.07	149
	150 ISL	8.69	8.67	33.999	26.386	166.0	0.348	3.05	46.6	31.7	1.89	25.5	0.01	0.01	0.07	151
1	179	8.39	8.37	34.031	26.457	159.7	0.395	2.92	44.3	35.1	1.97	26.8	0.01	0.01	0.05	180
	200 ISL	8.15	8.13	34.045	26.505	155.4	0.428	2.78	41.9	37.7	2.05	27.8	0.01	0.01	0.07	201
1	210	8.02	8.00	34.050	26.528	153.3	0.444	2.69	40.5	39.2	2.10	28.4	0.01	0.01	0.08	211
1	240	7.56	7.54	34.067	26.609	146.0	0.489	2.29	34.1	45.4	2.27	30.8	0.01			241
	250 ISL	7.58	7.56	34.103	26.634	143.8	0.503	2.04	30.4	47.3	2.36	31.5	0.01			251
1	281	7.65	7.62	34.203	26.703	137.9	0.547	1.26	18.8	52.9	2.64	33.4	0.01			283
	300 ISL	7.48	7.45	34.216	26.738	134.8	0.573	1.06	15.8	55.8	2.72	34.4	0.01			302
1	338	7.07	7.04	34.218	26.798	129.5	0.623	0.88	13.0	61.0	2.82	36.1	0.01			340
1	399	6.84	6.80	34.280	26.879	122.7	0.700	0.50	7.3	68.2	2.99	37.6	0.01			402
	400 ISL	6.83	6.79	34.281	26.881	122.5	0.701	0.50	7.3	68.3	2.99	37.6	0.01			403
1	466	6.39	6.35	34.310	26.963	115.3	0.780	0.33	4.8	75.6	3.09	39.3	0.01			469
	500 ISL	6.22	6.18	34.322	26.995	112.6	0.818	0.29	4.2	78.8	3.13	39.7	0.01			503
1	536	6.05	6.00	34.334	27.026	110.0	0.859	0.25	3.6	82.1	3.17	40.2	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 0.8 N	119 14.3 W	27/07/90	0038 UTC	1576 m	360 18 kn	300 04 04	1	1015.9 mb	17.7 C	16.2 C	18m 03	6/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.52	17.52	33.602	24.319	359.6	0.000	5.71	104.6	3.4	0.31	0.1	0.00	0.19	0.08	0
1	1	17.52	17.52	33.602	24.319	359.7	0.004	5.71	104.6	3.4	0.31	0.1	0.00	0.19	0.08	1
	10 ISL	17.47	17.47	33.594	24.325	359.4	0.036	5.73	104.9	3.1	0.31	0.1	0.00	0.20	0.08	10
1	11	17.46	17.46	33.593	24.327	359.3	0.040	5.73	104.8	3.1	0.31	0.1	0.00	0.20	0.08	11
	20 ISL	14.73	14.73	33.286	24.710	322.9	0.070	6.15	106.4	3.5	0.44	0.8	0.04	0.36	0.14	20
1	22	14.08	14.08	33.241	24.813	313.2	0.077	6.22	106.2	3.7	0.48	1.1	0.05	0.39	0.16	22
	30 ISL	13.23	13.23	33.406	25.114	284.7	0.101	5.93	99.6	4.6	0.74	3.5	0.16	0.24	0.19	30
1	32	13.12	13.12	33.450	25.170	279.5	0.106	5.84	97.8	4.8	0.79	4.1	0.18	0.20	0.20	32
1	42	12.15	12.14	33.280	25.227	274.2	0.134	5.86	96.1	5.3	0.74	4.2	0.17	0.24	0.31	42
	50 ISL	11.27	11.26	33.184	25.315	266.0	0.155	5.66	91.0	7.5	0.87	6.9	0.19	0.23	0.25	50
1	52	11.06	11.05	33.169	25.341	263.6	0.161	5.60	89.6	8.1	0.91	7.7	0.19	0.23	0.23	52
1	63	10.09	10.08	33.165	25.506	248.0	0.189	5.33	83.5	11.0	1.08	11.1	0.05	0.14	0.20	63
1	73	9.84	9.83	33.333	25.679	231.7	0.213	4.84	75.5	13.7	1.20	13.7	0.04	0.10	0.15	73
	75 ISL	9.83	9.82	33.378	25.716	228.3	0.217	4.67	72.9	14.7	1.25	14.6	0.04	0.09	0.14	75
1	87	9.80	9.79	33.618	25.908	210.2	0.244	3.74	58.4	20.9	1.58	19.8	0.03	0.06	0.12	87
	100 ISL	9.43	9.42	33.700	26.033	198.6	0.270	3.47	53.8	24.1	1.70	22.2	0.04	0.04	0.11	100
1	102	9.37	9.36	33.708	26.049	197.1	0.274	3.45	53.4	24.5	1.71	22.4	0.04	0.04	0.11	102
1	123	9.30	9.29	33.968	26.265	177.1	0.314	2.42	37.5	32.3	2.05	26.5	0.02	0.02	0.09	124
	125 ISL	9.30	9.29	33.981	26.275	176.2	0.317	2.37	36.7	32.7	2.07	26.7	0.02	0.02	0.09	126
1	148	9.19	9.17	34.073	26.365	168.1	0.357	2.02	31.2	35.9	2.19	28.2	0.01	0.01	0.11	149
	150 ISL	9.16	9.14	34.079	26.374	167.2	0.360	1.99	30.7	36.3	2.20	28.4	0.01	0.01	0.11	151
1	179	8.76	8.74	34.140	26.486	157.1	0.407	1.70	26.0	40.7	2.34	30.1	0.01	0.01	0.09	180
	200 ISL	8.72	8.70	34.149	26.500	156.2	0.440	1.68	25.7	41.1	2.35	30.2	0.01	0.01	0.12	201
1	210	8.68	8.66	34.148	26.505	155.9	0.456	1.67	25.5	41.3	2.35	30.3	0.01	0.01	0.13	211
1	240	8.06	8.04	34.162	26.611	146.1	0.501	1.57	23.7	46.7	2.45	31.9	0.01			241
	250 ISL	7.94	7.91	34.176	26.640	143.5	0.515	1.46	21.9	48.6	2.51	32.4	0.01			251
1	281	7.69	7.66	34.221	26.712	137.1	0.559	1.07	16.0	53.9	2.68	33.9	0.01			283
	300 ISL	7.55	7.52	34.234	26.743	134.5	0.585	0.93	13.9	56.3	2.74	34.6	0.01			302
1	337	7.29	7.26	34.252	26.794	130.0	0.634	0.73	10.8	60.6	2.83	35.9	0.01			339
1	398	6.75	6.71	34.298	26.905	120.1	0.710	0.42	6.1	69.5	2.99	38.1	0.01			401
	400 ISL	6.73	6.69	34.299	26.908	119.8	0.712	0.41	6.0	69.7	2.99	38.2	0.01			403
1	465	6.33	6.29	34.319	26.978	113.8	0.788	0.30	4.3	76.4	3.09	39.5	0.00			468
	500 ISL	6.21	6.17	34.328	27.001	112.0	0.828	0.27	3.9	78.4	3.11	39.9	0.00			503
1	536	6.09	6.04	34.338	27.024	110.2	0.868	0.24	3.5	80.4	3.14	40.4	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 50.3 N	119 34.3 W	27/07/90	0447 UTC	1953 m	310 14 kn			1015.9 mb	17.3 C	16.3 C		

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.53	18.53	33.741	24.178	373.0	0.000	5.52	103.2	2.2	0.27	0.0	0.00	0.20	0.07	0
1	1		18.53	18.53	33.741	24.178	373.0	0.004	5.52	103.2	2.2	0.27	0.0	0.00	0.20	0.07	1
	10	ISL	18.50	18.50	33.739	24.185	372.8	0.037	5.54	103.5	2.0	0.27	0.0	0.00	0.19	0.08	10
1	11		18.50	18.50	33.739	24.185	372.8	0.041	5.54	103.5	2.0	0.27	0.0	0.00	0.19	0.08	11
	20	ISL	17.95	17.95	33.672	24.269	365.1	0.074	5.64	104.2	1.8	0.28	0.0	0.00	0.24	0.13	20
1	21		17.89	17.89	33.675	24.286	363.5	0.078	5.66	104.5	1.8	0.28	0.0	0.00	0.25	0.13	21
	30	ISL	15.44	15.44	33.301	24.568	336.8	0.109	6.12	107.4	2.2	0.39	0.0	0.00	0.27	0.13	30
1	32		14.84	14.84	33.226	24.641	329.9	0.116	6.22	107.8	2.3	0.42	0.0	0.00	0.27	0.13	32
1	42		13.20	13.19	33.162	24.931	302.4	0.148	6.28	105.2	3.1	0.50	0.8	0.05	0.32	0.25	42
	50	ISL	12.72	12.71	33.204	25.059	290.5	0.171	6.11	101.4	4.0	0.63	2.5	0.14	0.30	0.22	50
1	52		12.68	12.67	33.222	25.080	288.5	0.177	6.06	100.5	4.2	0.67	3.0	0.16	0.29	0.21	52
1	62		12.56	12.55	33.322	25.181	279.1	0.206	5.88	97.3	4.8	0.79	4.5	0.23	0.24	0.23	62
1	72		12.22	12.21	33.427	25.328	265.4	0.233	5.55	91.2	7.0	0.98	7.5	0.33	0.24	0.21	72
	75	ISL	11.87	11.86	33.392	25.367	261.7	0.241	5.51	89.9	7.3	0.99	8.0	0.30	0.22	0.21	75
1	87		10.42	10.41	33.250	25.516	247.6	0.271	5.34	84.3	9.3	1.04	10.4	0.12	0.13	0.21	87
	100	ISL	9.97	9.96	33.356	25.676	232.6	0.302	4.75	74.3	14.7	1.33	15.8	0.04	0.08	0.14	100
1	102		9.95	9.94	33.384	25.701	230.3	0.307	4.64	72.6	15.6	1.38	16.7	0.03	0.08	0.13	102
1	122		9.80	9.79	33.657	25.939	208.0	0.351	3.65	57.0	21.9	1.64	20.7	0.02	0.05	0.11	123
	125	ISL	9.69	9.68	33.688	25.982	204.0	0.357	3.66	57.0	22.5	1.65	21.0	0.02	0.04	0.10	126
1	148		8.78	8.76	33.880	26.279	176.1	0.401	3.71	56.7	27.2	1.69	23.0	0.01	0.01	0.04	149
	150	ISL	8.75	8.73	33.893	26.293	174.8	0.404	3.64	55.6	27.8	1.71	23.3	0.01	0.01	0.04	151
1	178		8.53	8.51	34.004	26.415	163.7	0.452	2.67	40.6	36.0	2.07	27.9	0.00	0.01	0.05	179
	200	ISL	8.04	8.02	34.016	26.498	156.0	0.487	2.71	40.8	40.0	2.12	29.0	0.01	0.01	0.06	201
1	209		7.84	7.82	34.016	26.528	153.3	0.501	2.72	40.7	41.4	2.13	29.2	0.01	0.01	0.07	210
1	238		7.65	7.63	34.063	26.593	147.6	0.544	2.34	34.9	46.4	2.28	30.6	0.01			239
	250	ISL	7.68	7.66	34.108	26.624	144.8	0.562	1.97	29.4	49.2	2.40	31.7	0.01			251
1	279		7.76	7.73	34.217	26.699	138.4	0.603	1.06	15.9	55.9	2.70	34.3	0.01			281
	300	ISL	7.67	7.64	34.246	26.735	135.2	0.632	0.93	13.9	58.9	2.79	35.2	0.01			302
1	335		7.40	7.37	34.262	26.786	130.8	0.678	0.71	10.5	62.6	2.86	36.0	0.00			337
1	395		6.89	6.85	34.291	26.881	122.5	0.754	0.46	6.7	68.3	3.04	37.8	0.01			397
	400	ISL	6.85	6.81	34.294	26.889	121.8	0.760	0.44	6.4	68.9	3.05	37.9	0.01			403
1	461		6.39	6.35	34.323	26.973	114.3	0.832	0.31	4.5	76.5	3.13	39.5	0.00			464
	500	ISL	6.20	6.16	34.332	27.005	111.6	0.876	0.27	3.9	79.6	3.16	40.2	0.01			503
1	532		6.04	5.99	34.340	27.032	109.3	0.912	0.24	3.5	82.2	3.18	40.7	0.01			536

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 30.7 N	120 15.3 W	27/07/90	1041 UTC	3928 m	330 14 kn			1015.9 mb	17.0 C	15.5 C		

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	17.46	17.46	33.236	24.053	385.0	0.000	5.65	103.2	2.7	0.38	0.0	0.00	0.12	0.04	0
1	1		17.46	17.46	33.236	24.053	385.0	0.004	5.65	103.2	2.7	0.38	0.0	0.00	0.12	0.04	1
	10	ISL	17.46	17.46	33.236	24.053	385.3	0.039	5.66	103.3	2.5	0.38	0.0	0.00	0.12	0.04	10
1	11		17.46	17.46	33.236	24.053	385.3	0.042	5.66	103.3	2.5	0.38	0.0	0.00	0.12	0.04	11
	20	ISL	17.46	17.46	33.235	24.053	385.7	0.077	5.67	103.5	2.5	0.38	0.0	0.00	0.12	0.04	20
1	21		17.46	17.46	33.235	24.053	385.7	0.081	5.67	103.5	2.5	0.38	0.0	0.00	0.12	0.04	21
1	30		17.46	17.45	33.240	24.057	385.6	0.116	5.66	103.3	2.5	0.38	0.0	0.00	0.12	0.04	30
1	40		17.32	17.31	33.234	24.086	383.2	0.154	5.70	103.8	2.3	0.38	0.0	0.00	0.13	0.04	40
	50	ISL	15.63	15.62	33.169	24.425	351.1	0.191	6.00	105.6	2.3	0.36	0.0	0.00	0.18	0.07	50
1	51		15.44	15.43	33.163	24.462	347.5	0.194	6.03	105.7	2.3	0.36	0.0	0.00	0.19	0.07	51
1	61		14.39	14.38	33.120	24.656	329.3	0.228	6.17	105.9	2.1	0.38	0.0	0.00	0.21	0.10	61
1	70		13.95	13.94	33.288	24.877	308.4	0.257	6.12	104.2	2.2	0.38	0.0	0.00	0.24	0.18	70
	75	ISL	13.64	13.63	33.268	24.926	303.9	0.272	6.13	103.7	2.4	0.39	0.1	0.01	0.26	0.20	75
1	85		12.93	12.92	33.173	24.994	297.5	0.302	6.15	102.4	3.0	0.45	0.3	0.02	0.28	0.23	85
1	100		11.78	11.77	33.218	25.249	273.5	0.345	5.73	93.2	4.9	0.68	4.2	0.15	0.20	0.26	100
1	120		10.48	10.47	33.269	25.522	247.8	0.397	5.27	83.3	8.2	0.92	8.8	0.02	0.11	0.17	121
	125	ISL	10.29	10.28	33.302	25.580	242.3	0.409	5.07	79.9	9.9	1.03	10.7	0.02	0.09	0.14	126
1	145		9.77	9.75	33.475	25.803	221.5	0.456	4.30	67.0	17.2	1.45	17.9	0.01	0.04	0.06	146
	150	ISL	9.63	9.61	33.533	25.871	215.1	0.467	4.20	65.3	18.4	1.49	18.7	0.01	0.03	0.05	151
1	174		9.02	9.00	33.794	26.174	186.6	0.515	3.87	59.4	23.5	1.59	21.2	0.01	0.01	0.03	175
	200	ISL	8.49	8.47	33.922	26.357	169.6	0.561	3.40	51.6	30.2	1.83	25.2	0.00	0.00	0.02	201
1	205		8.41	8.39	33.937	26.381	167.4	0.570	3.30	50.0	31.5	1.88	25.9	0.00	0.00	0.02	206
1	234		8.19	8.17	34.035	26.491	157.4	0.617	2.73	41.2	37.4	2.07	28.2	0.00			235
	250	ISL	8.01	7.98	34.056	26.535	153.4	0.642	2.52	37.9	40.3	2.15	29.3	0.00			251
1	275		7.71	7.68	34.077	26.596	148.0	0.679	2.22	33.2	44.9	2.27	31.0	0.00			276
	300	ISL	7.50	7.47	34.126	26.665	141.7	0.715	1.72	25.6	50.3	2.47	33.0	0.00			302
1	332		7.29	7.26	34.187	26.743	134.8	0.760	1.12	16.6	56.7	2.71	35.2	0.00			334
1	391		6.98	6.94	34.224	26.815	128.6	0.837	0.79	11.6	63.2	2.86	36.8	0.00			393
	400	ISL	6.94	6.90	34.231	26.827	127.7	0.849	0.74	10.9	64.1	2.88	37.0	0.00			402
1	457		6.63	6.59	34.275	26.904	121.0	0.920	0.48	7.0	70.0	3.01	38.6	0.00			460
	500	ISL	6.33	6.28	34.298	26.962	115.9	0.971	0.37	5.4	75.2	3.08	39.8	0.00			503
1	528		6.13	6.08	34.313	27.000	112.5	1.003	0.30	4.3	78.6	3.12	40.6	0.00			531

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 10.6 N	120 56.1 W	27/07/90	1617 UTC	3858 m	210 12 kn	340 04 04	2	1017.0 ob	18.0 C	16.5 C	30m 02	8/8	ST

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		19.49	19.49	33.561	23.798	409.3	0.000	5.38	102.3	2.2	0.36	0.1	0.00	0.08	0.02	0
	10	ISL	19.48	19.48	33.561	23.801	409.4	0.041	5.38	102.3	2.2	0.35	0.1	0.00	0.08	0.02	10
1	16		19.48	19.48	33.561	23.801	409.6	0.066	5.38	102.3	2.2	0.35	0.1	0.00	0.08	0.02	16
	20	ISL	19.17	19.17	33.546	23.869	403.2	0.082	5.45	103.0	2.1	0.35	0.1	0.00	0.08	0.02	20
	30	ISL	18.15	18.14	33.502	24.091	382.5	0.121	5.66	104.9	2.0	0.35	0.1	0.00	0.08	0.02	30
1	31		18.03	18.02	33.498	24.117	380.0	0.125	5.68	105.0	2.0	0.35	0.1	0.00	0.08	0.02	31
1	42		16.81	16.80	33.462	24.381	355.1	0.165	5.85	105.6	2.0	0.35	0.1	0.00	0.14	0.05	42
	50	ISL	16.16	16.15	33.429	24.506	343.4	0.193	6.01	107.1	2.0	0.37	0.1	0.00	0.15	0.07	50
1	51		16.09	16.08	33.426	24.520	342.2	0.197	6.03	107.3	2.0	0.37	0.1	0.00	0.15	0.07	51
1	63		15.25	15.24	33.461	24.734	322.0	0.237	6.14	107.4	2.3	0.41	0.1	0.01	0.30	0.12	63
1	72		13.78	13.77	33.403	25.001	296.7	0.264	6.08	103.2	2.8	0.49	0.7	0.03	0.36	0.20	72
	75	ISL	13.29	13.28	33.383	25.085	288.7	0.273	6.04	101.5	3.1	0.52	1.1	0.03	0.36	0.53	75
1	81		12.41	12.40	33.355	25.236	274.4	0.290	5.92	97.6	4.0	0.60	2.4	0.05	0.35	1.15	81
1	97		11.43	11.42	33.375	25.436	255.7	0.332	5.27	85.1	7.2	0.90	8.0	0.17	0.18	0.23	97
	100	ISL	11.32	11.31	33.401	25.476	251.9	0.340	5.08	81.9	8.3	0.97	9.3	0.15	0.17	0.23	100
1	113		10.89	10.88	33.545	25.665	234.1	0.372	4.21	67.3	13.9	1.31	15.1	0.05	0.14	0.24	113
	125	ISL	10.38	10.37	33.683	25.862	215.6	0.399	3.49	55.2	19.3	1.61	19.7	0.01	0.10	0.16	126
1	127		10.29	10.28	33.704	25.894	212.6	0.403	3.39	53.5	20.1	1.65	20.4	0.01	0.09	0.14	128
	150	ISL	9.59	9.57	33.838	26.116	191.8	0.449	3.05	47.5	25.3	1.84	23.7	0.00	0.03	0.04	151
1	153		9.52	9.50	33.848	26.135	190.0	0.455	3.00	46.6	25.7	1.84	23.8	0.00	0.02	0.03	154
1	180		8.88	8.86	33.925	26.299	174.9	0.504	3.15	48.3	28.9	1.87	24.9	0.00	0.00	0.03	181
	200	ISL	8.46	8.44	33.966	26.396	165.9	0.538	3.11	47.2	32.0	1.91	25.9	0.00	0.00	0.03	201
1	210		8.28	8.26	33.985	26.438	162.0	0.555	3.09	46.7	33.9	1.95	26.6	0.00	0.00	0.03	211
1	240		7.90	7.88	34.047	26.544	152.4	0.602	2.56	38.4	40.8	2.18	29.4	0.00			241
	250	ISL	7.75	7.73	34.049	26.568	150.2	0.617	2.50	37.4	42.3	2.22	30.0	0.00			251
1	281		7.30	7.27	34.039	26.624	145.1	0.663	2.37	35.1	46.6	2.31	31.5	0.00			283
	300	ISL	7.09	7.06	34.046	26.659	142.0	0.690	2.17	31.9	50.1	2.40	32.7	0.00			302
1	337		6.73	6.70	34.072	26.729	135.7	0.742	1.69	24.7	57.3	2.59	35.2	0.00			339
1	397		6.18	6.14	34.131	26.848	124.9	0.820	0.98	14.1	68.7	2.88	38.8	0.00			399
	400	ISL	6.14	6.10	34.133	26.854	124.3	0.823	0.96	13.8	69.4	2.89	39.0	0.00			402
1	463		5.55	5.51	34.174	26.960	114.5	0.899	0.63	8.9	81.5	3.06	41.3	0.00			466
	500	ISL	5.56	5.52	34.226	27.001	111.2	0.941	0.48	6.8	83.7	3.11	41.6	0.00			503
1	534		5.57	5.52	34.273	27.037	108.3	0.978	0.34	4.8	85.7	3.16	41.9	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 51.2 N	121 35.3 W	27/07/90	2337 UTC	4083 Hi	340 14 kn	340 03 04	2	1016.8 mb	19.8 C	18.1 C	29m 02	8/8	SC

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		19.74	19.74	33.601	23.764	412.6	0.000	5.36	102.4	2.6	0.35	0.0	0.00	0.07	0.02	0
1	10		19.49	19.49	33.596	23.825	407.1	0.041	5.39	102.5	2.4	0.35	0.0	0.00	0.08	0.02	10
	20	ISL	18.38	18.38	33.520	24.047	386.2	0.081	5.59	104.1	2.4	0.35	0.0	0.00	0.08	0.02	20
1	21		18.27	18.27	33.513	24.069	384.2	0.085	5.61	104.2	2.4	0.35	0.0	0.00	0.08	0.02	21
	30	ISL	17.96	17.95	33.517	24.149	376.9	0.119	5.66	104.5	2.7	0.35	0.0	0.00	0.10	0.03	30
1	32		17.85	17.84	33.513	24.172	374.7	0.126	5.68	104.7	2.7	0.35	0.0	0.00	0.11	0.03	32
1	42		15.93	15.92	33.386	24.525	341.4	0.162	6.06	107.5	2.4	0.37	0.0	0.00	0.20	0.08	42
	50	ISL	15.08	15.07	33.394	24.719	323.0	0.189	6.18	107.7	2.5	0.38	0.0	0.00	0.22	0.10	50
1	52		14.89	14.88	33.399	24.764	318.8	0.195	6.20	107.7	2.5	0.38	0.0	0.00	0.23	0.11	52
1	61		13.53	13.52	33.374	25.030	293.7	0.223	6.30	106.4	3.3	0.41	0.0	0.00	0.31	0.20	61
1	71		12.29	12.28	33.362	25.264	271.4	0.251	5.94	97.7	4.8	0.58	2.4	0.04	0.32	0.25	71
	75	ISL	11.94	11.93	33.362	25.331	265.2	0.262	5.73	93.6	5.7	0.68	4.1	0.07	0.30	0.25	75
1	86		11.23	11.22	33.378	25.474	251.7	0.290	5.14	82.7	8.5	0.94	8.9	0.14	0.23	0.25	86
	100	ISL	10.67	10.66	33.435	25.618	238.3	0.324	4.68	74.4	11.7	1.16	12.7	0.07	0.17	0.24	100
1	101		10.64	10.63	33.440	25.627	237.4	0.327	4.65	73.9	11.9	1.17	12.9	0.06	0.17	0.24	101
1	121		10.14	10.13	33.597	25.836	217.9	0.372	3.98	62.6	17.8	1.46	17.7	0.01	0.03	0.07	122
	125	ISL	10.04	10.03	33.630	25.878	214.0	0.381	3.85	60.4	19.0	1.52	18.6	0.01	0.03	0.07	126
1	147		9.49	9.47	33.792	26.097	193.6	0.426	3.32	51.5	24.5	1.74	22.4	0.01	0.01	0.04	148
	150	ISL	9.42	9.40	33.808	26.120	191.4	0.431	3.33	51.6	24.8	1.74	22.5	0.01	0.01	0.04	151
1	177		8.82	8.80	33.913	26.299	174.8	0.481	3.52	53.9	27.4	1.73	23.1	0.01	0.00	0.04	178
	200	ISL	8.49	8.47	33.970	26.395	166.0	0.520	3.15	47.9	31.6	1.89	25.5	0.01	0.00	0.03	201
1	208		8.39	8.37	33.983	26.420	163.7	0.533	3.00	45.5	33.2	1.95	26.4	0.01	0.00	0.03	209
1	238		7.89	7.87	34.007	26.514	155.2	0.581	2.87	43.0	37.7	2.05	28.1	0.01			239
	250	ISL	7.67	7.65	34.010	26.548	152.0	0.600	2.82	42.1	40.1	2.09	28.8	0.01			251
1	279		7.17	7.14	34.014	26.623	145.1	0.643	2.62	38.6	46.5	2.22	30.6	0.00			281
	300	ISL	6.89	6.86	34.023	26.668	141.0	0.673	2.35	34.4	51.2	2.34	32.1	0.00			302
1	335		6.48	6.45	34.043	26.739	134.5	0.721	1.84	26.7	59.0	2.54	34.8	0.00			337
1	395		5.85	5.82	34.089	26.856	123.8	0.798	1.16	16.6	70.8	2.84	38.8	0.00			397
	400	ISL	5.82	5.79	34.094	26.864	123.1	0.805	1.11	15.9	71.7	2.86	39.0	0.00			402
1	462		5.55	5.51	34.176	26.962	114.4	0.878	0.61	8.7	80.7	3.04	40.7	0.00			465
	500	ISL	5.53	5.49	34.239	27.015	109.9	0.921	0.44	6.2	84.1	3.11	41.2	0.00			503
1	533		5.51	5.47	34.294	27.061	106.0	0.956	0.30	4.3	87.0	3.17	41.7	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 30.6 N	122 15.6 W	28/07/90	0548 UTC	4154 m	360 14 kn			1016.5 mb	18.8 C	16.9 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	19.63	19.63	33.566	23.766	412.4	0.000	5.38	102.6	2.8	0.35	0.0	0.00	0.09	0.02	0
1	1	19.63	19.63	33.566	23.766	412.4	0.004	5.38	102.6	2.8	0.35	0.0	0.00	0.09	0.02	1
	10 ISL	19.63	19.63	33.567	23.767	412.6	0.041	5.38	102.6	2.7	0.35	0.0	0.00	0.09	0.02	10
1	11	19.63	19.63	33.567	23.767	412.7	0.045	5.38	102.6	2.7	0.35	0.0	0.00	0.09	0.02	11
	20 ISL	18.35	18.35	33.471	24.017	389.1	0.081	5.63	104.7	2.5	0.34	0.0	0.00	0.10	0.03	20
1	21	18.19	18.19	33.461	24.049	386.1	0.085	5.66	104.9	2.5	0.34	0.0	0.00	0.10	0.03	21
	30 ISL	17.60	17.59	33.467	24.197	372.2	0.119	5.72	104.9	2.4	0.34	0.0	0.00	0.13	0.04	30
1	32	17.49	17.48	33.471	24.227	369.5	0.127	5.73	104.8	2.4	0.34	0.0	0.00	0.14	0.04	32
1	42	16.41	16.40	33.430	24.449	348.6	0.163	5.91	105.8	2.4	0.35	0.0	0.00	0.17	0.07	42
	50 ISL	15.74	15.73	33.398	24.577	336.6	0.190	6.04	106.7	2.5	0.37	0.0	0.00	0.21	0.09	50
1	52	15.58	15.57	33.392	24.608	333.7	0.197	6.07	106.9	2.5	0.38	0.0	0.00	0.22	0.09	52
1	63	14.52	14.51	33.406	24.849	311.0	0.232	6.12	105.5	2.8	0.42	0.2	0.01	0.53	0.27	63
1	73	13.80	13.79	33.412	25.004	296.4	0.263	6.03	102.4	3.4	0.48	0.7	0.04	0.65	0.35	73
	75 ISL	13.58	13.57	33.402	25.042	292.9	0.269	6.00	101.4	3.6	0.50	1.0	0.05	0.61	0.34	75
1	87	12.27	12.26	33.349	25.259	272.4	0.303	5.70	93.7	5.3	0.66	3.9	0.12	0.30	0.28	87
	100 ISL	11.35	11.34	33.362	25.440	255.3	0.337	5.15	83.0	8.1	0.91	8.6	0.07	0.19	0.27	100
1	102	11.24	11.23	33.367	25.464	253.1	0.342	5.07	81.6	8.6	0.95	9.3	0.06	0.18	0.27	102
1	123	10.60	10.59	33.435	25.630	237.6	0.393	4.63	73.5	12.2	1.19	13.3	0.03	0.11	0.23	124
	125 ISL	10.51	10.50	33.450	25.658	235.0	0.398	4.56	72.2	12.9	1.22	13.9	0.03	0.10	0.22	126
1	148	9.49	9.47	33.652	25.987	204.0	0.449	3.87	60.0	20.5	1.56	19.8	0.01	0.02	0.06	149
	150 ISL	9.44	9.42	33.669	26.008	202.0	0.453	3.87	60.0	20.8	1.56	20.0	0.01	0.02	0.06	151
1	179	8.93	8.91	33.866	26.245	180.0	0.508	3.91	60.0	24.3	1.58	21.2	0.01	0.00	0.06	180
	200 ISL	8.57	8.55	33.935	26.355	169.8	0.545	3.51	53.4	29.2	1.76	23.9	0.01	0.00	0.05	201
1	210	8.39	8.37	33.954	26.397	165.9	0.562	3.31	50.2	31.7	1.85	25.2	0.01	0.00	0.04	211
1	239	7.85	7.83	33.995	26.510	155.5	0.608	3.26	48.8	36.8	1.93	26.6	0.01			240
	250 ISL	7.72	7.70	34.013	26.544	152.5	0.625	3.04	45.4	39.3	2.01	27.7	0.01			251
1	280	7.44	7.41	34.054	26.616	145.9	0.670	2.31	34.3	46.5	2.28	31.0	0.01			282
	300 ISL	7.18	7.15	34.065	26.661	141.8	0.699	2.02	29.8	50.7	2.41	32.6	0.01			302
1	337	6.73	6.70	34.083	26.737	134.9	0.750	1.61	23.5	57.8	2.61	35.1	0.01			339
1	398	6.32	6.28	34.161	26.854	124.5	0.829	0.91	13.2	68.4	2.89	38.2	0.01			400
	400 ISL	6.31	6.27	34.163	26.856	124.3	0.831	0.89	12.9	68.7	2.90	38.3	0.01			402
1	464	6.01	5.97	34.224	26.943	116.7	0.909	0.51	7.3	76.6	3.05	40.0	0.00			467
	500 ISL	5.82	5.78	34.258	26.994	112.2	0.950	0.41	5.9	80.7	3.10	40.7	0.00			503
1	536	5.62	5.57	34.292	27.046	107.5	0.989	0.30	4.3	84.7	3.14	41.4	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 10.9 N	122 55.4 W	28/07/90	1155 UTC	m	360 12 kll			1015.6 mb	18.1 C	16.3 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	19.58	19.58	33.515	23.740	414.9	0.000	5.38	102.4	3.3	0.35	0.0	0.00	0.08	0.03	0
1	1	19.58	19.58	33.515	23.740	414.9	0.004	5.38	102.4	3.3	0.35	0.0	0.00	0.08	0.03	1
	10 ISL	19.57	19.57	33.515	23.743	414.9	0.041	5.38	102.4	3.2	0.34	0.0	0.00	0.08	0.02	10
1	11	19.57	19.57	33.515	23.743	415.0	0.046	5.38	102.4	3.2	0.34	0.0	0.00	0.08	0.02	11
	20 ISL	19.56	19.56	33.514	23.745	415.1	0.083	5.38	102.4	3.1	0.35	0.0	0.00	0.08	0.02	20
1	22	19.56	19.56	33.514	23.745	415.2	0.091	5.38	102.4	3.1	0.35	0.0	0.00	0.08	0.02	22
	30 ISL	18.61	18.60	33.470	23.953	395.6	0.124	5.58	104.3	2.8	0.35	0.0	0.00	0.08	0.02	30
1	32	18.36	18.35	33.461	24.008	390.4	0.132	5.63	104.7	2.7	0.35	0.0	0.00	0.08	0.02	32
1	42	18.01	18.00	33.469	24.100	381.9	0.170	5.66	104.6	2.8	0.34	0.0	0.00	0.08	0.03	42
	50 ISL	17.63	17.62	33.448	24.177	374.9	0.200	5.72	104.9	2.9	0.35	0.0	0.00	0.10	0.03	50
1	52	17.47	17.46	33.439	24.208	372.0	0.208	5.74	104.9	2.9	0.35	0.0	0.00	0.11	0.03	52
1	62	15.91	15.90	33.375	24.521	342.3	0.244	5.99	106.2	2.8	0.35	0.0	0.00	0.15	0.05	62
1	72	14.95	14.94	33.348	24.713	324.3	0.277	6.08	105.7	2.7	0.35	0.1	0.00	0.18	0.07	72
	75 ISL	14.69	14.68	33.343	24.765	319.4	0.287	6.08	105.1	2.7	0.35	0.1	0.00	0.21	0.10	75
1	87	13.71	13.70	33.333	24.962	300.8	0.324	6.10	103.4	2.9	0.40	0.0	0.00	0.32	0.24	87
	100 ISL	12.76	12.75	33.339	25.157	282.5	0.362	5.92	98.4	4.1	0.54	1.8	0.09	0.29	0.24	100
1	102	12.63	12.62	33.341	25.184	280.0	0.367	5.88	97.4	4.3	0.57	2.2	0.10	0.29	0.24	102
1	122	11.44	11.42	33.352	25.416	258.1	0.421	5.21	84.2	7.6	0.90	8.4	0.06	0.14	0.15	122
	125 ISL	11.28	11.26	33.360	25.452	254.8	0.429	5.16	83.1	8.1	0.93	9.0	0.05	0.13	0.14	126
1	148	10.23	10.21	33.464	25.717	229.8	0.485	4.83	76.1	12.2	1.10	12.7	0.02	0.06	0.10	149
	150 ISL	10.15	10.13	33.479	25.742	227.4	0.489	4.78	75.1	12.7	1.12	13.2	0.02	0.06	0.09	151
1	179	9.29	9.27	33.712	26.067	197.0	0.551	4.14	63.9	20.4	1.46	19.2	0.01	0.01	0.03	180
	200 ISL	8.94	8.92	33.840	26.223	182.5	0.591	3.95	60.6	23.9	1.58	21.2	0.01	0.00	0.03	201
1	210	8.81	8.79	33.886	26.280	177.3	0.609	3.90	59.7	25.3	1.61	21.8	0.01	0.00	0.03	211
1	240	8.37	8.35	33.952	26.399	166.3	0.660	3.79	57.4	29.6	1.70	23.6	0.01			241
	250 ISL	8.22	8.19	33.964	26.432	163.3	0.677	3.68	55.6	31.4	1.76	24.5	0.01			251
1	281	7.76	7.73	33.992	26.522	155.1	0.726	3.21	48.0	37.7	1.97	27.4	0.00			282
	300 ISL	7.53	7.50	34.011	26.570	150.7	0.755	2.86	42.5	41.8	2.11	29.2	0.00			302
1	338	7.11	7.08	34.047	26.658	142.8	0.811	2.16	31.8	50.2	2.38	32.7	0.00			340
1	398	6.42	6.38	34.103	26.795	130.1	0.893	1.31	19.0	63.7	2.73	37.2	0.00			400
	400 ISL	6.39	6.35	34.103	26.799	129.8	0.895	1.30	18.8	64.2	2.74	37.3	0.00			**402**
1	465	5.45	5.41	34.095	26.910	119.2	0.976	0.99	14.0	78.0	2.92	40.5	0.00			**468**
	500 ISL	5.26	5.22	34.130	26.960	114.7	1.017	0.79	11.1	83.4	3.01	41.6	0.00			503
1	535	5.06	5.02	34.166	27.012	109.9	1.056	0.59	8.3	88.7	3.09	42.6	0.00			538

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
29 50.7 N	123 35.2 W	28/07/90	1737 UTC	4058 m	360 08 kn	330 03 04	2	1017.0 mb	19.0 C	17.0 C	34m 01	8/8	SC

CAST	DEPTH ▪		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN «1/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.71	19.71	33.586	23.760	412.9	0.000	5.36	102.3	2.4	0.30	0.1	0.00	0.07	0.01	0
1	1		19.71	19.71	33.586	23.760	412.9	0.004	5.36	102.3	2.4	0.30	0.1	0.00	0.07	0.01	1
	10	ISL	19.70	19.70	33.593	23.769	412.5	0.041	5.36	102.3	2.3	0.30	0.1	0.00	0.08	0.01	10
1	11		19.70	19.70	33.594	23.769	412.4	0.045	5.36	102.3	2.3	0.30	0.1	0.00	0.08	0.01	11
	20	ISL	19.90	19.90	33.743	23.832	406.9	0.082	5.35	102.6	2.3	0.27	0.1	0.00	0.08	0.01	20
1	21		19.91	19.91	33.763	23.844	405.7	0.086	5.35	102.6	2.3	0.27	0.1	0.00	0.08	0.01	21
	30	ISL	19.43	19.42	33.888	24.064	385.0	0.122	5.48	104.3	1.9	0.24	0.1	0.00	0.07	0.02	30
1	31		19.37	19.36	33.901	24.090	382.6	0.126	5.49	104.3	1.9	0.24	0.1	0.00	0.07	0.02	31
1	41		19.23	19.22	34.031	24.225	370.1	0.163	5.51	104.5	1.9	0.22	0.1	0.00	0.07	0.02	41
	50	ISL	18.98	18.97	34.010	24.273	365.8	0.197	5.55	104.8	1.8	0.22	0.1	0.00	0.09	0.02	50
1	52		18.88	18.87	33.990	24.283	364.9	0.204	5.56	104.8	1.8	0.22	0.1	0.00	0.09	0.02	52
1	62		17.92	17.91	33.838	24.405	353.6	0.240	5.70	105.4	1.7	0.24	0.1	0.00	0.09	0.02	62
1	72		16.62	16.61	33.674	24.589	336.3	0.274	5.87	105.7	1.8	0.25	0.1	0.00	0.10	0.03	72
	75	ISL	16.42	16.41	33.676	24.637	331.8	0.284	5.87	105.3	1.8	0.25	0.1	0.00	0.11	0.03	75
1	86		16.05	16.04	33.740	24.771	319.3	0.320	5.89	104.9	1.8	0.23	0.1	0.00	0.15	0.05	86
	100	ISL	15.83	15.81	33.774	24.847	312.5	0.364	5.85	103.8	1.9	0.23	0.1	0.00	0.21	0.08	100
1	102		15.81	15.79	33.777	24.854	311.9	0.371	5.84	103.5	1.9	0.23	0.1	0.00	0.22	0.09	102
1	121		15.50	15.48	33.810	24.950	303.4	0.429	5.74	101.2	2.0	0.24	0.1	0.00	0.24	0.20	121
	125	ISL	15.17	15.15	33.784	25.002	298.4	0.441	5.69	99.6	2.3	0.28	0.5	0.02	0.23	0.20	125
1	147		13.05	13.03	33.651	25.343	266.2	0.503	5.38	90.1	4.4	0.54	3.9	0.09	0.15	0.17	148
	150	ISL	12.84	12.82	33.650	25.383	262.3	0.511	5.35	89.2	4.7	0.57	4.4	0.08	0.14	0.16	151
1	177		11.27	11.25	33.702	25.721	230.5	0.578	5.01	80.8	8.4	0.82	9.2	0.01	0.05	0.06	178
	200	ISL	10.08	10.06	33.771	25.983	205.7	0.628	4.49	70.6	15.3	1.18	15.1	0.01	0.02	0.03	201
1	208		9.74	9.72	33.802	26.064	198.0	0.644	4.31	67.3	17.9	1.31	17.1	0.01	0.01	0.02	209
1	237		9.00	8.97	33.956	26.305	175.5	0.698	3.87	59.5	25.6	1.58	21.5	0.01			238
	250	ISL	8.73	8.70	33.986	26.371	169.3	0.720	3.77	57.6	28.0	1.65	22.6	0.01			251
1	279		8.18	8.15	34.008	26.472	160.0	0.768	3.58	54.0	32.9	1.79	24.6	0.01			280
	300	ISL	7.80	7.77	34.009	26.530	154.7	0.801	3.34	50.0	37.1	1.91	26.5	0.01			302
1	334		7.24	7.21	34.003	26.605	147.8	0.853	2.86	42.2	44.6	2.13	29.8	0.01			336
1	394		6.40	6.36	34.039	26.747	134.6	0.937	1.86	26.9	59.0	2.55	35.1	0.00			396
	400	ISL	6.38	6.34	34.049	26.757	133.6	0.945	1.76	25.5	59.9	2.58	35.4	0.00			402
1	462		6.27	6.23	34.155	26.856	125.2	1.026	0.93	13.4	68.6	2.88	38.2	0.00			465
	500	ISL	5.94	5.90	34.193	26.928	118.5	1.072	0.69	9.9	75.3	2.99	39.6	0.00			503
1	533		5.66	5.61	34.227	26.990	112.8	1.110	0.48	6.8	81.2	3.08	40.9	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 53.4 N	121 12.0 W	8/ 8/90	1924 UTC	11 m	04	1209 - 1945 PST	1211 PST	1922 PST	2910.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 UM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	17.08	33.607	24.427	6.42	116.6	4.9	0.25	0.0	0.00	0.53	0.13	87. A	18.0	17.4	17.7	0.19
8	16.56	33.586	24.533	7.31	131.4	4.9	0.28	0.0	0.00	23.98	1.30	33.	340.9	400.1	370.5	2.5
13	15.75	33.575	24.709	6.57	116.2	5.8	0.28	0.0	0.00	12.25	0.87	16.	58.3	74.2	66.2	0.83
25	14.30	33.549	25.005	5.49	94.3	7.5	0.47	1.2	0.09	0.49	0.30	3.1	2.5	2.7	2.6	0.13
47	10.91	33.622	25.720	3.94	63.0	17.4	1.32	16.9	0.22	0.20	0.18	0.14	0.07	0.07	0.07	0.05

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 44.0 N	123 38.9 W	7/ 8/90	1940 UTC	30 m	02	1220 - 1937 PST	1220 PST	1936 PST	210.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	18.55	33.178	23.743	5.51	102.7	3.5	0.32	0.1	0.00	0.09	0.02	100. A	1.9	1.7	1.8	0.10
19	18.38	33.175	23.783	5.52	102.5	3.3	0.32	0.0	0.00	0.10	0.02	38.	2.7	2.6	2.7	0.11
33	17.24	33.117	24.015	5.83	105.9	3.1	0.32	0.0	0.00	0.14	0.04	18.	2.9	2.6	2.8	0.16
64	13.05	32.976	24.818	6.36	106.1	3.4	0.34	0.0	0.00	0.24	0.12	3.8	1.9	2.0	1.9	0.07
120	10.29	33.152	25.463	5.41	85.1	9.1	0.88	9.9	0.03	0.11	0.25	0.22	0.12	0.12	0.12	0.03

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.0 N	122 32.0 W	6/ 8/90	1956 UTC	24 *m*	02	1215 - 1937 PST	1216 PST	1935 PST	223.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	17.09	33.072	24.015	5.75	104.1	4.0	0.33	0.1	0.00	0.14	0.03	100. A	3.0	2.9	2.9	0.07
15	16.94	33.074	24.052	5.75	103.8	3.6	0.33	0.1	0.00	0.16	0.03	38.	4.1	3.3	3.7	0.09
26	16.81	33.111	24.111	5.84	105.2	3.4	0.32	0.1	0.00	0.19	0.05	19.	2.7	2.9	2.8	0.13
51	13.31	33.064	24.834	6.30	105.7	3.5	0.37	0.1	0.00	0.44	0.22	3.8	2.7	3.2	3.0	0.07
94	10.63	33.200	25.441	5.38	85.3	11.1	0.99	11.4	0.03	0.12	0.11	0.24	0.05	0.06	0.05	0.03

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 16.7 N	120 1.2 W	5/ 8/90	1952 UTC	12 m	04	1210 - 1923 PST	1206 PST	1922 PST	3310.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	18.68	33.654	24.074	5.84	109.4	2.2	0.21	0.1	0.00	1.07	0.17	100. A	18.7	20.5	19.6	0.18
2	17.48	33.634	24.353	6.07	111.1	2.1	0.22	0.1	0.00	2.16	0.46	77.	45.2	39.3	42.2	0.34
15	15.74	33.601	24.732	6.47	114.5	5.0	0.33	0.1	0.01	8.28	1.10	15.	242.8	208.6	225.7	1.0
27	12.91	33.552	25.290	5.05	84.3	9.2	0.78	7.0	0.35	0.72	0.59	3.2	7.9	8.8	8.3	0.13
51	11.33	33.624	25.646	3.97	64.1	16.4	1.26	15.5	0.32	0.27	0.33	0.15	0.26	0.28	0.27	0.06

RV NEW HORIZON CALCOFI CRUISE 9007 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 34.8 N	120 46.0 W	4/ 8/90	1916 UTC	19 m	03	1208 - 1930 PST	1209 PST	1927 PST	440.2 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3} 1	2	MEAN	DARK
1	17.09	33.340	24.220	5.82	105.6	3.0	0.35	0.0	0.00	0.24	0.06	92. A	4.7	4.8	4.8	0.13
13	16.95	33.335	24.250	5.82	105.3	2.9	0.35	0.0	0.00	0.26	0.07	35.	9.8	9.0	9.4	0.17
22	15.06	33.340	24.681	6.28	109.4	3.1	0.37	0.0	0.00	0.41	0.14	17.	10.2	11.0	10.6	0.18
41	12.63	33.327	25.171	5.97	98.9	5.9	0.80	5.9	0.30	0.52	0.30	3.6	5.8	6.2	6.0	0.07
75	10.06	33.500	25.772	4.27	67.0	19.2	1.49	19.2	0.03	0.06	0.09	0.23	0.03	0.03	0.03	0.04

A) INCUBATION LIGHT INTENSITIES WERE 99, 39, 19, 3.9, 0.22 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 16.0 N	123 30.0 W	3/ 8/90	1939 UTC	40 m	01	1219 - 1936 PST	1220 PST	1937 PST	248.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (rag C/n>3) 1	2	MEAN	DARK
1	19.27	33.416	23.744	5.40	102.2	2.8	0.32	0.1	0.00	0.08	0.02	96. A	2.0	2.3	2.1	0.08
26	19.25	33.418	23.751	5.41	102.3	2.6	0.32	0.1	0.00	0.09	0.02	37.	2.4	2.6	2.5	0.09
46	17.23	33.398	24.233	5.79	105.3	2.5	0.31	0.1	0.00	0.13	0.04	17.	2.2	2.3	2.2	0.02
86	14.25	33.322	24.842	6.08	104.2	2.7	0.33	0.1	0.00	0.31	0.17	3.7	1.6	1.8	1.7	0.03
161	10.15	33.574	25.817	4.04	63.5	17.5	1.38	17.9	0.00	0.02	0.04	0.21	0.01	0.00	0.01	0.02

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.4 N	120 0.6 W	1/ 8/90	1945 UTC	16 m	03	1207 - 1927 PST	1206 PST	1927 PST	518.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	18.75	33.736	24.120	5.52	103.6	2.9	0.30	0.0	0.00	0.35	0.12	91. A	14.4	13.8	14.1	0.15
11	18.76	33.735	24.117	5.52	103.6	2.8	0.30	0.0	0.00	0.35	0.11	35.	14.9	14.7	14.8	0.15
20	18.40	33.702	24.182	5.57	103.8	2.7	0.30	0.0	0.00	0.40	0.12	15.	11.3	11.7	11.5	0.12
36	11.73	33.519	25.491	4.90	79.8	10.7	1.05	10.4	0.43	0.69	0.40	3.2	5.8	6.5	6.2	0.08
68	10.32	33.637	25.835	3.72	58.8	19.3	1.55	19.1	0.08	0.26	0.22	0.15	0.06	0.07	0.07	0.03

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 59.5 N	122 25.6 W	2/ 8/90	1941 UTC	26 m	02	1213 - 1935 PST	1216 PST	1934 PST	302.2 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	18.25	33.297	23.908	5.57	103.3	2.2	0.40	0.0	0.00	0.15	0.03	89. A	2.5	2.5	2.5	0.03
18	18.04	33.300	23.962	5.59	103.2	2.2	0.36	0.0	0.00	0.16	0.04	35.	3.8	3.7	3.7	0.05
30	17.36	33.261	24.097	5.77	105.2	2.1	0.37	0.0	0.00	0.29	0.09	17.	4.2	4.3	4.2	0.08
57	14.11	33.136	24.727	6.24	106.5	2.2	0.40	0.0	0.00	0.56	0.28	3.5	3.7	3.9	3.8	0.14
105	11.75	33.318	25.333	5.39	87.6	6.9	0.82	7.0	0.13	0.23	0.21	0.20	0.03	0.04	0.04	0.09

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 29.1 N	117 46.1 W	31/ 7/90	1901 UTC	5 m	05	1157 - 1927 PST	1157 PST	1924 PST	356.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	20.23	33.581	23.621	6.06	116.8	2.9	0.24	0.1	0.01	1.68	0.18	100. A	30.9	31.7	31.3	0.71
4	20.16	33.581	23.639	6.07	116.9	2.8	0.23	0.1	0.00	1.68	0.19	29.	41.8	42.5	42.1	0.73
6	18.69	33.578	24.014	6.26	117.3	3.0	0.26	0.1	0.00	1.21	0.16	16.	31.5	31.9	31.7	0.53
12	16.38	33.545	24.543	6.54	117.1	3.1	0.31	0.0	0.00	0.49	0.14	2.5	4.8	5.1	4.9	0.29
22	14.41	33.474	24.923	6.41	110.3	3.0	0.39	0.0	0.00	1.14	0.43	0.12	0.32	0.43	0.37	0.32

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 40.1 N	119 29.8 W	30/ 7/90	1946 UTC	16 m	03	1208 - 1924 PST	1204 PST	1923 PST	642.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	18.37	33.719	24.201	5.60	104.3	3.6	0.31	0.2	0.00	0.32	0.11	100. A	6.8	6.7	6.8	0.20
9	18.37	33.721	24.203	5.61	104.5	3.4	0.30	0.2	0.00	0.31	0.10	42.	13.4	13.4	13.4	0.18
17	18.26	33.720	24.230	5.62	104.5	3.3	0.31	0.1	0.00	0.33	0.18	20.	13.1	13.5	13.3	0.23
33	14.17	33.625	25.091	5.15	88.3	9.2	0.77	5.8	0.21	1.11	0.62	4.2	14.5	15.6	15.0	0.17
62	10.20	33.680	25.889	3.59	56.6	21.5	1.57	20.4	0.06	0.10	0.17	0.26	0.05	0.05	0.05	0.05

A) INCUBATION LIGHT INTENSITIES WERE 99, 39, 19, 3.9, 0.22 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 25.9 N	121 59.9 W	29/ 7/90	1929 UTC	36 m	01	1210 - 1933 PST	1214 PST	1932 PST	273.1 mg C/m2

DEPTH in	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	19.41	33.603	23.850	5.37	102.0	2.5	0.36	0.0	0.00	0.09	0.02	100. A	2.1	2.1	2.1	0.04
22	19.35	33.602	23.866	5.38	102.0	2.5	0.35	0.0	0.00	0.10	0.02	39.	2.5	2.6	2.6	0.05
39	17.99	33.504	24.132	5.66	104.6	2.5	0.35	0.0	0.00	0.13	0.03	19.	2.2	2.2	2.2	0.06
77	12.86	33.350	25.145	6.02	100.2	4.0	0.51	1.4	0.05	0.41	0.25	3.8	2.5	2.6	2.6	0.04
145	9.80	33.690	25.966	3.65	57.0	21.8	1.61	20.5	0.01	0.05	0.10	0.21	0.03	0.03	0.03	0.01

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 93 26.7

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.6 N	117 18.3 W	25/ 7/90	1935 UTC	4 m	07	1209 - 1923 PST	1156 PST	1921 PST	816.7 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	23.36	33.731	22.869	6.20	126.6	3.8	0.13	0.2	0.02	3.81	0.39	100. A	88.2	86.6	87.4	0.97
2	23.34	33.730	22.875	6.24	127.3	3.5	0.08	0.1	0.02	3.73	0.35	46.	83.0	85.4	84.2	0.94
4	23.26	33.729	22.897	6.26	127.6	3.3	0.08	0.0	0.02	3.73	0.37	22.	77.5	83.3	80.4	0.89
8	18.93	33.605	23.974	6.63	124.8	4.2	0.18	0.0	0.02	4.65	0.58	4.6	46.4	51.3	48.8	0.92
17	14.19	33.443	24.946	6.30	107.9	2.5	0.40	0.1	0.01	1.29	0.59	0.15	0.65	0.44	0.55	0.07

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 10.3 N	118 53.6 W	26/ 7/90	1926 UTC	16 m	03	1206 - 1931 PST	1203 PST	1925 PST	868.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	19.54	33.752	23.931	5.46	104.0	2.7	0.28	0.0	0.00	0.42	0.12	91. A	11.9	11.4	11.6	0.09
11	18.94	33.727	24.065	5.58	105.1	2.7	0.31	0.1	0.01	0.58	0.19	35.	23.8	24.7	24.3	0.17
20	14.29	33.579	25.030	5.81	99.8	6.7	0.61	3.4	0.12	1.03	0.55	15.	31.1	30.1	30.6	0.15
36	11.52	33.601	25.593	4.42	71.7	13.5	1.23	12.8	0.42	0.64	0.56	3.2	8.1	7.5	7.8	0.07
67	10.49	33.761	25.902	3.20	50.8	21.9	1.68	20.8	0.04	0.19	0.23	0.16	0.13	0.09	0.11	0.03

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 11.0 N	120 55.7 W	27/ 7/90	1847 UTC	30 m	02	1201 - 1944 PST	1211 PST	1927 PST	370.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
0	19.50	33.562	23.796	5.38	102.3	2.7	0.36	0.1	0.00	0.10	0.03	100. A	2.9	2.7	2.8	0.08
19	19.47	33.558	23.802	5.50	104.5	2.4	0.35	0.1	0.00	0.11	0.03	38.	4.2	3.9	4.0	0.10
33	17.23	33.475	24.292	5.86	106.7	2.3	0.35	0.1	0.00	0.16	0.05	18.	4.7	4.3	4.5	0.07
63	13.82	33.383	24.977	6.21	105.5	3.2	0.43	0.3	0.01	0.37	0.21	4.0	4.0	4.1	4.1	0.06
119	10.87	33.604	25.715	3.92	62.7	16.6	1.42	17.1	0.03	0.11	0.22	0.23	0.07	0.10	0.08	0.03

RV NEW HORIZON — CALCOFI CRUISE 9007 — STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
29 52.3 N	123 35.8 W	28/ 7/90	1946 UTC	34 m	01	1212 - 1938 PST	1220 PST	1936 PST	119.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	19.84	33.583	23.724	5.36	102.6	3.1	0.31	0.1	0.00	0.07	0.01	96. A	1.7	1.6	1.7	0.05
22	19.82	33.603	23.746	5.35	102.4	2.8	0.30	0.1	0.00	0.07	0.01	37.	2.0	2.0	2.0	0.06
38	19.36	34.030	24.191	5.51	104.8	2.3	0.22	0.1	0.00	0.08	0.02	18.	1.4	1.6	1.5	0.11
74	17.08	33.856	24.621	5.80	105.5	2.1	0.23	0.1	0.00	0.12	0.03	3.5	0.42	0.42	0.42	0.11
137	14.01	33.691	25.178	5.53	94.5	3.4	0.41	1.7	0.19	0.19	0.28	0.21	0.09	0.10	0.10	0.02

A) INCUBATION LIGHT INTENSITIES WERE 99, 39, 19, 3.9, 0.22 PERCENT RESPECTIVELY.

CalCOFI Cruise 9007

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time (PST) Start	End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Total (cm)	Strained Small (cm)
77	49	35 05.5N	120 46.8W	08/08	1818	1824	113	50	505	505
77	51	35 01.8N	120 55.6W	08/08	1608	1630	430	218	601	233
77	55	34 54.1N	121 13.0W	08/08	1300	1322	450	200	688	120
77	60	34 43.9N	121 33.8W	08/08	0837	0859	445	210	207	108
77	70	34 23.4N	122 14.8W	08/07	2200	2222	450	215	156	156
77	80	34 03.8N	122 56.7W	08/07	1645	1707	444	214	36	36
77	90	33 43.6N	123 38.4W	08/07	1034	1056	452	214	31	31
80	51	34 28.0N	120 32.4W	08/05	1720	1727	127	56	95	95
80	55	34 20.0N	120 49.8W	08/05	2110	2132	454	213	88	88
80	60	34 09.3N	121 10.2W	08/06	0116	0138	437	214	1039	295
80	70	33 49.7N	121 51.3W	08/06	0653	0715	418	213	261	237
80	80	33 28.8N	122 33.4W	08/06	1345	1407	451	217	49	49
80	90	33 09.2N	123 14.0W	08/06	2005	2027	462	211	39	39
80	100	32 49.2N	123 55.2W	08/07	0155	0217	466	214	34	34
82	47	34 17.5N	120 01.6W	08/05	1240	1302	462	199	84	84
83	40.6	34 13.9N	119 25.6W	08/05	0635	0638	55	20	219	219
83	42	34 10.4N	119 30.4W	08/05	0440	0450	189	89	190	143
83	51	33 53.1N	120 10.2W	08/04	1958	2008	228	84	843	61
83	55	33 44.7N	120 26.2W	08/04	1605	1627	455	210	229	57
83	60	33 34.9N	120 46.1W	08/04	1139	1201	416	210	248	248
83	70	33 14.9N	121 26.1W	08/04	0510	0532	430	209	86	86
83	80	32 54.5N	122 07.5W	08/03	2325	2347	449	213	51	51
83	90	32 35.3N	122 48.8W	08/03	1730	1752	453	214	31	31
83	100	32 15.4N	123 29.7W	08/03	1034	1056	463	203	26	26
83	110	31 55.2N	124 1 LOW	08/03	0451	0513	471	210	23	23
87	33	33 52.7N	118 30.1W	07/31	1700	1705	102	43	207	207
87	35	33 48.3N	118 38.6W	07/31	1930	1952	446	209	215	168
87	40	33 38.9N	118 59.7W	07/31	2315	2337	435	206	466	94
87	45	33 28.8N	119 20.9W	08/01	0310	0332	437	216	85	64
87	50	33 19.1N	119 41.6W	08/01	0645	0653	158	66	120	120
87	55	33 10.1N	120 01.8W	08/01	1330	1352	432	217	819	125
87	60	32 58.9N	120 21.8W	08/01	1725	1747	451	212	959	515
87	70	32 38.9N	121 01.7W	08/01	2320	2342	473	210	36	36
87	80	32 19.3N	121 44.0W	08/02	0506	0528	464	214	30	30
87	90	31 59.4N	122 24.8W	08/02	1037	1059	465	212	41	41
87	100	31 39.1N	123 05.5W	08/02	1718	1740	471	211	42	42
87	110	31 19.1N	123 46.2W	08/02	2250	2312	474	214	42	42
90	28	33 29.1N	117 46.1W	07/31	1002	1009	134	57	1714	180
90	30	33 25.3N	117 54.4W	07/31	0740	0802	445	209	54	54
90	35	33 15.2N	118 16.5W	07/31	0334	0356	443	209	142	90
90	37	33 11.0N	118 24.5W	07/31	0019	0041	430	219	172	153
90	45	32 55.3N	118 57.1W	07/30	1905	1927	447	212	973	112
90	53	32 39.9N	119 29.5W	07/30	1103	1126	438	224	544	544
90	60	32 25.7N	119 58.7W	07/30	0547	0609	437	216	249	140
90	70	32 04.2N	120 38.4W	07/29	2357	0020	454	223	26	26
90	80	3146.1N	121 20.2W	07/29	1755	1818	481	216	21	21
90	90	31 26.4N	122 00.3W	07/29	1200	1222	448	214	40	40
90	100	31 05.9N	122 40.3W	07/29	0523	0545	455	217	48	48
90	110	3046.0N	123 20.1W	07/28	2332	2354	465	205	39	39
90	120	30 26.1N	124 00.6W	07/28	1750	1812	474	210	17	17
93	26.7	32 56.6N	117 19.3W	07/25	1300	1307	138	55	65	65
93	28	32 53.8N	117 25.0W	07/25	1556	1618	451	218	31	31
93	30	32 50.2N	117 33.0W	07/25	1908	1930	440	222	257	52
93	35	3240.6N	117 53.3W	07/25	2332	2354	429	223	275	224
93	40	32 31.3N	118 13.7W	07/26	0352	0414	439	215	396	232
93	45	32 21.2N	118 33.8W	07/26	0807	0829	439	215	531	399
93	50	32 10.1N	118 53.9W	07/26	1258	1320	427	229	134	75
93	55	32 01.1N	119 14.8W	07/26	1735	1758	466	229	84	84
93	60	31 50.3N	119 34.6W	07/26	2137	2159	429	216	233	128
93	70	31 31.0N	120 15.9W	07/27	0329	0352	454	218	31	31
93	80	31 11.3N	120 56.6W	07/27	0905	0927	457	211	50	50
93	90	30 51.8N	121 35.6W	07/27	1633	1655	458	211	35	35
93	100	30 30.6N	122 15.9W	07/27	2238	2300	484	209	60	50
93	110	3011.3N	122 55.4W	07/28	0448	0510	450	212	31	31
93	120	29 51.8N	123 35.7W	07/28	1055	1118	476	217	13	13

FIGURES

Cruise 9011

1. CalCOFI Cruise 9011, track and station positions.

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

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

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

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

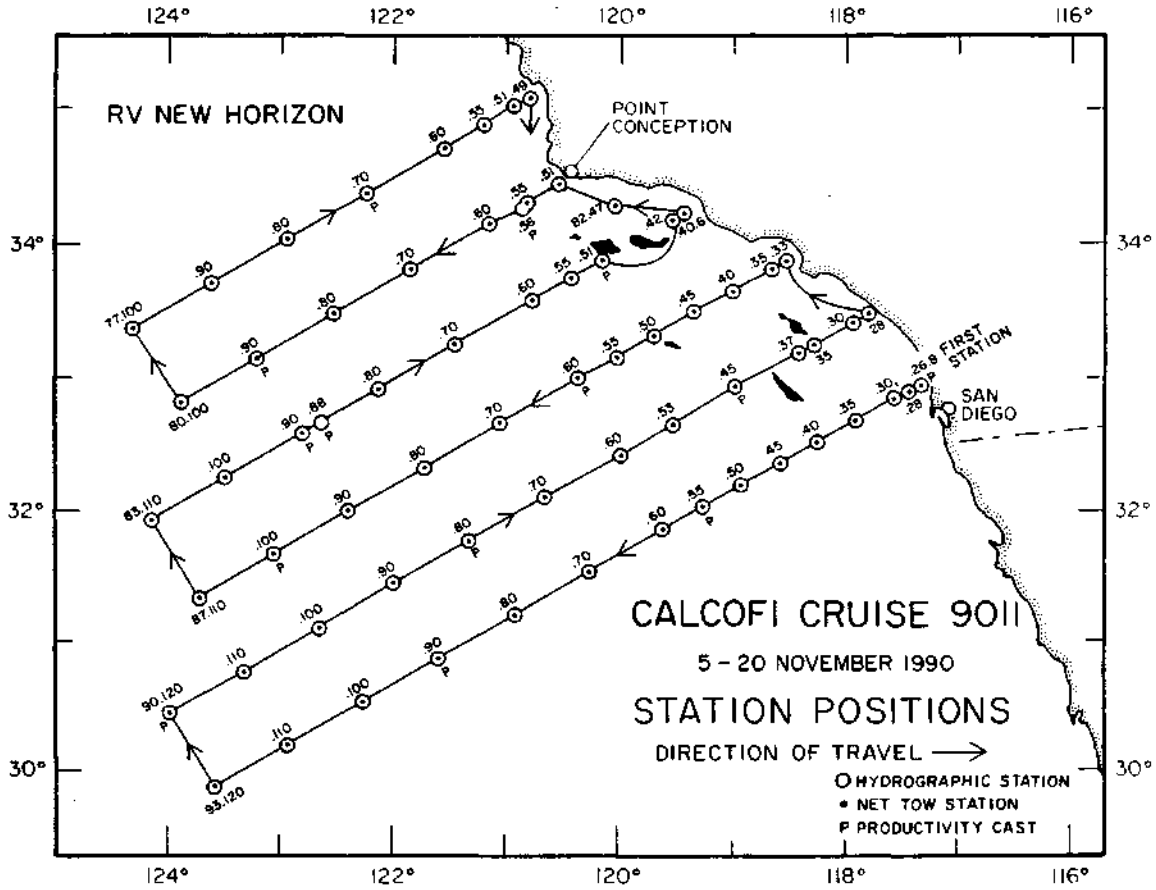

FIGURE 1

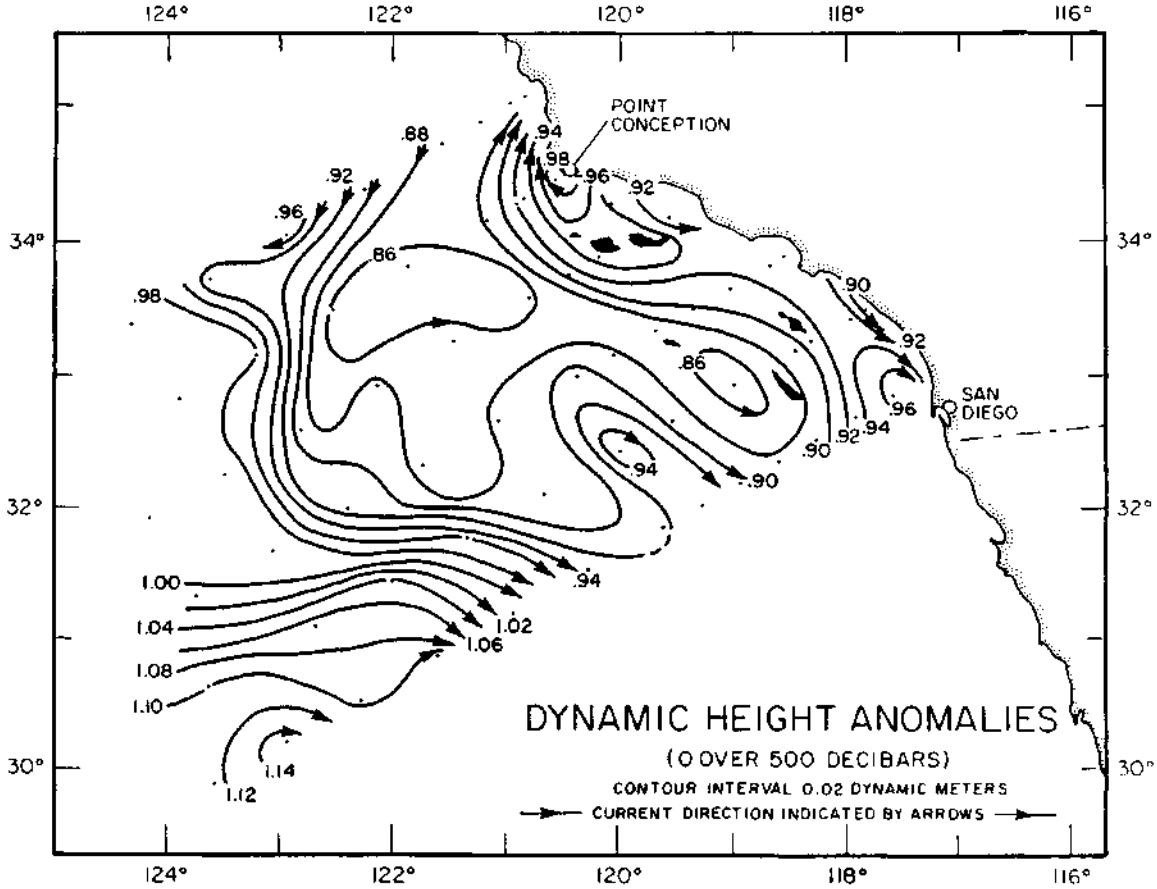

FIGURE 2

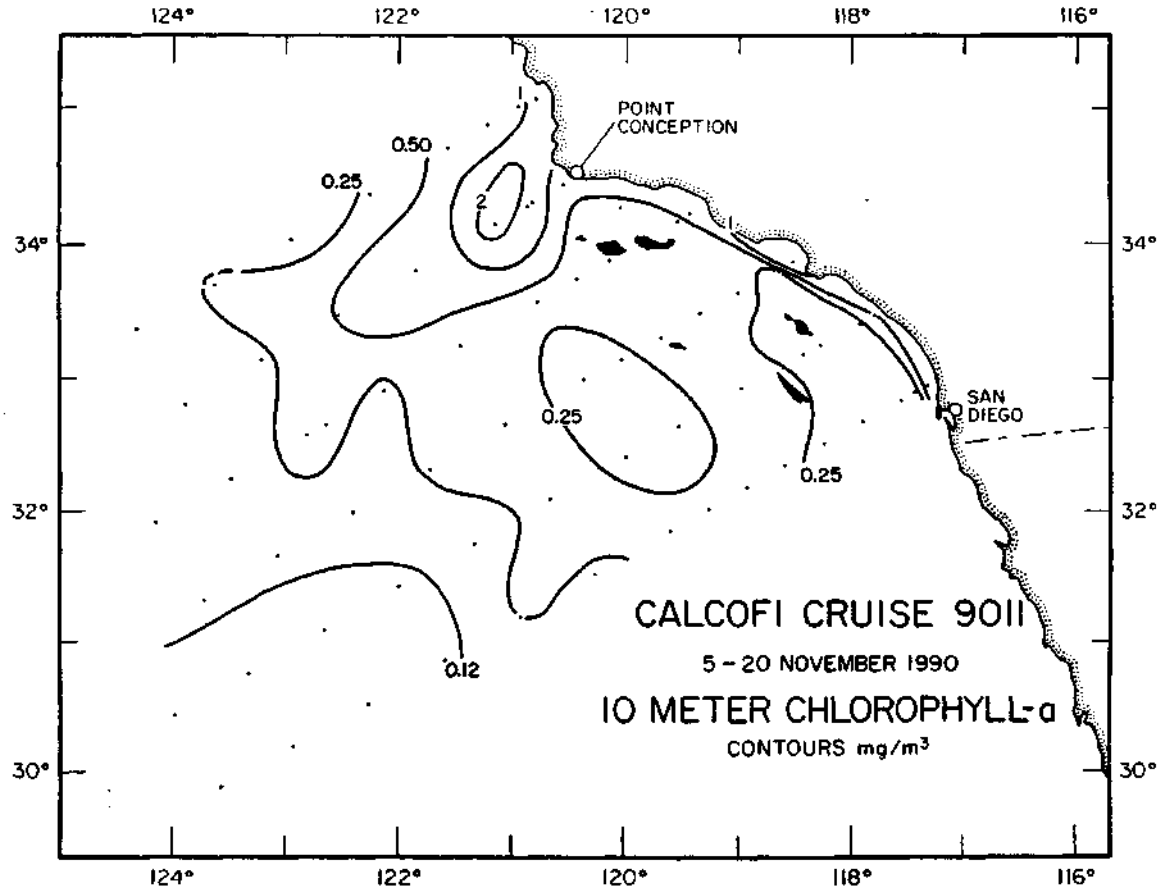

FIGURE 3A

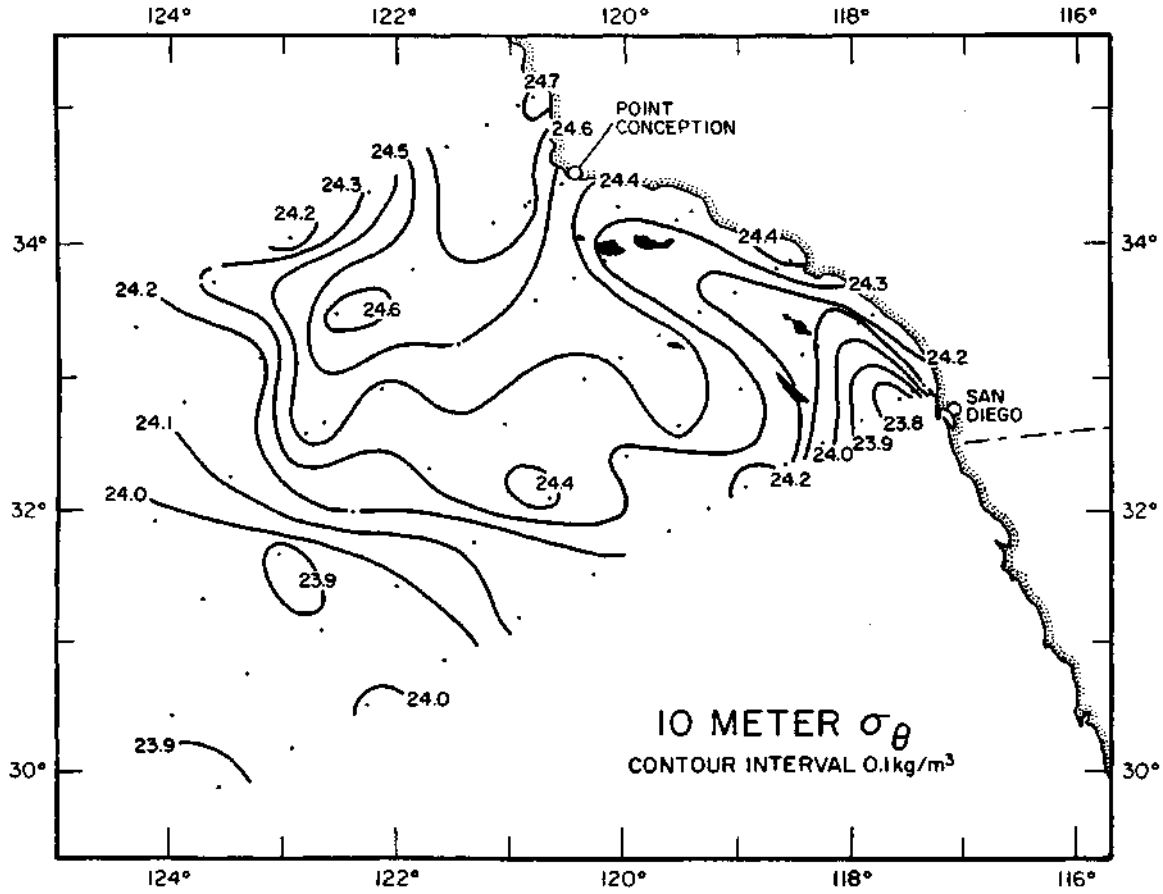

FIGURE 3B

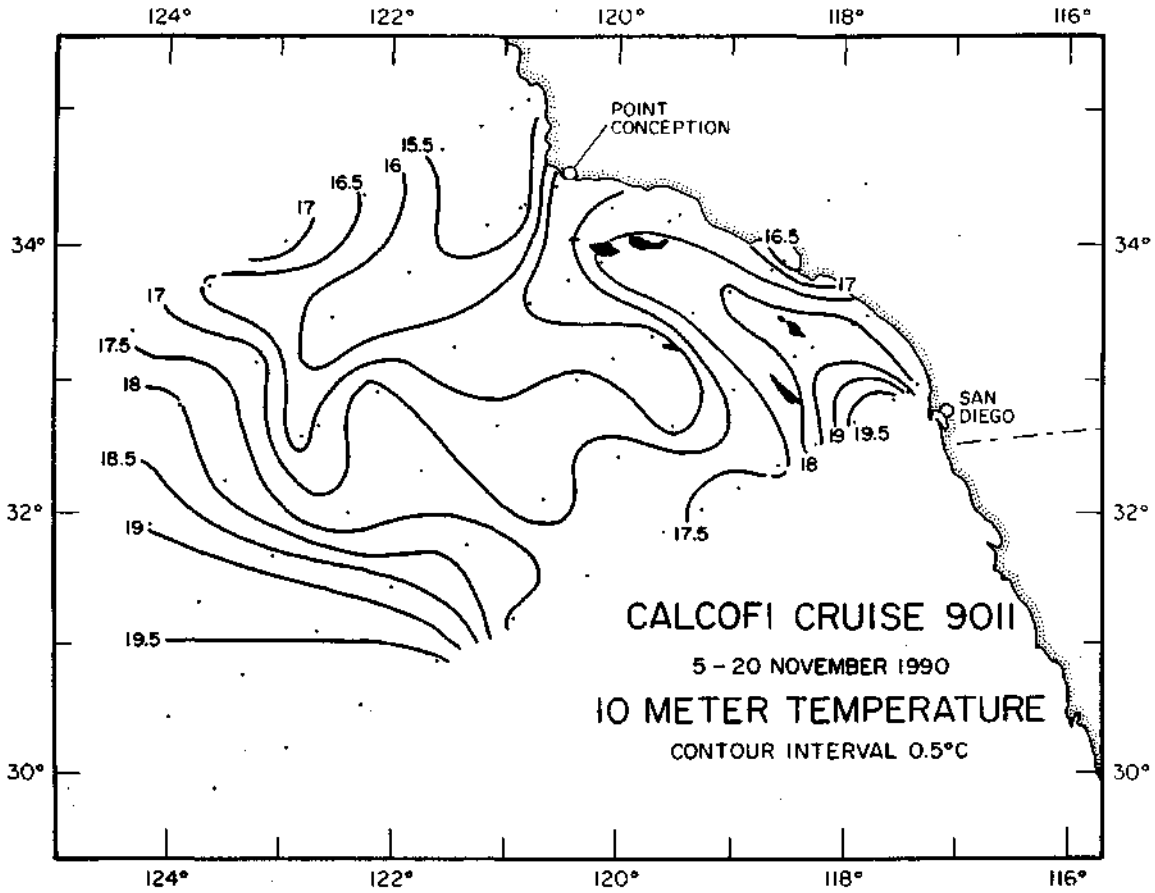

FIGURE 3C

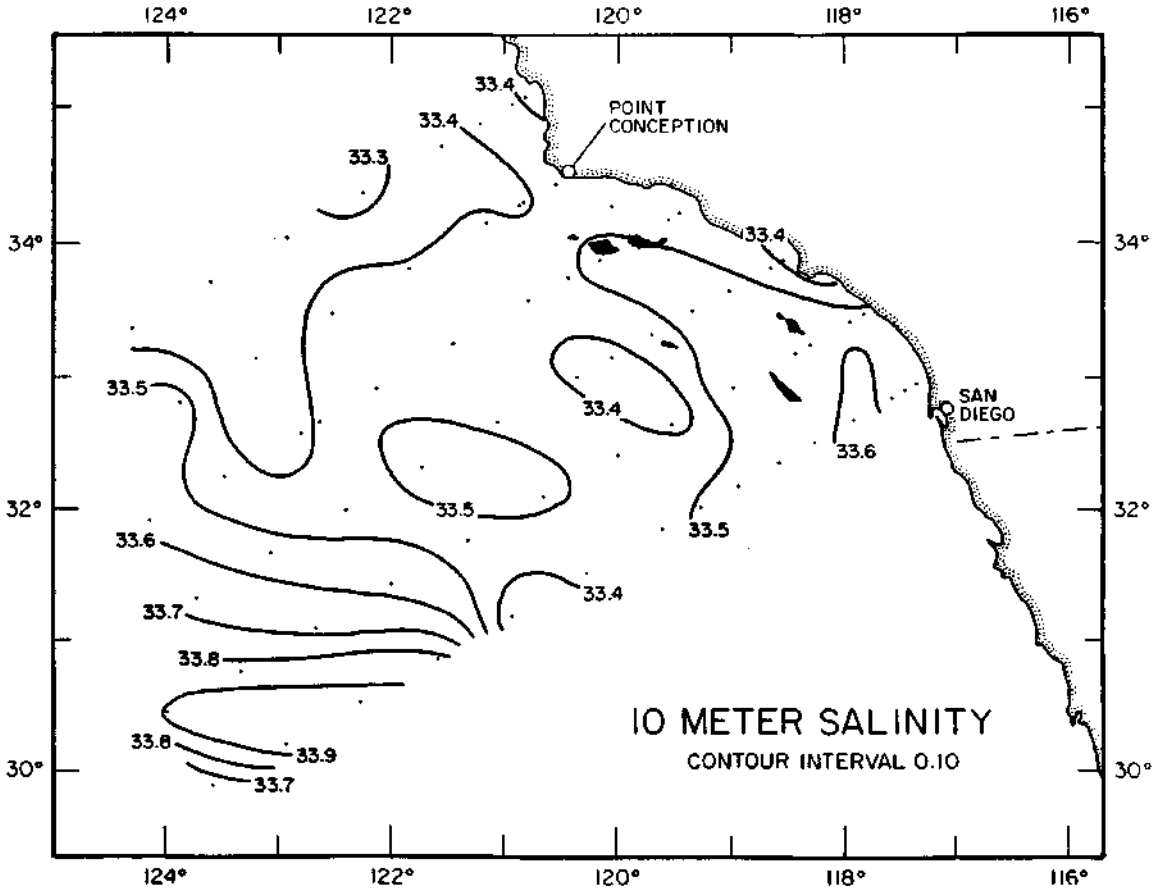

FIGURE 3D

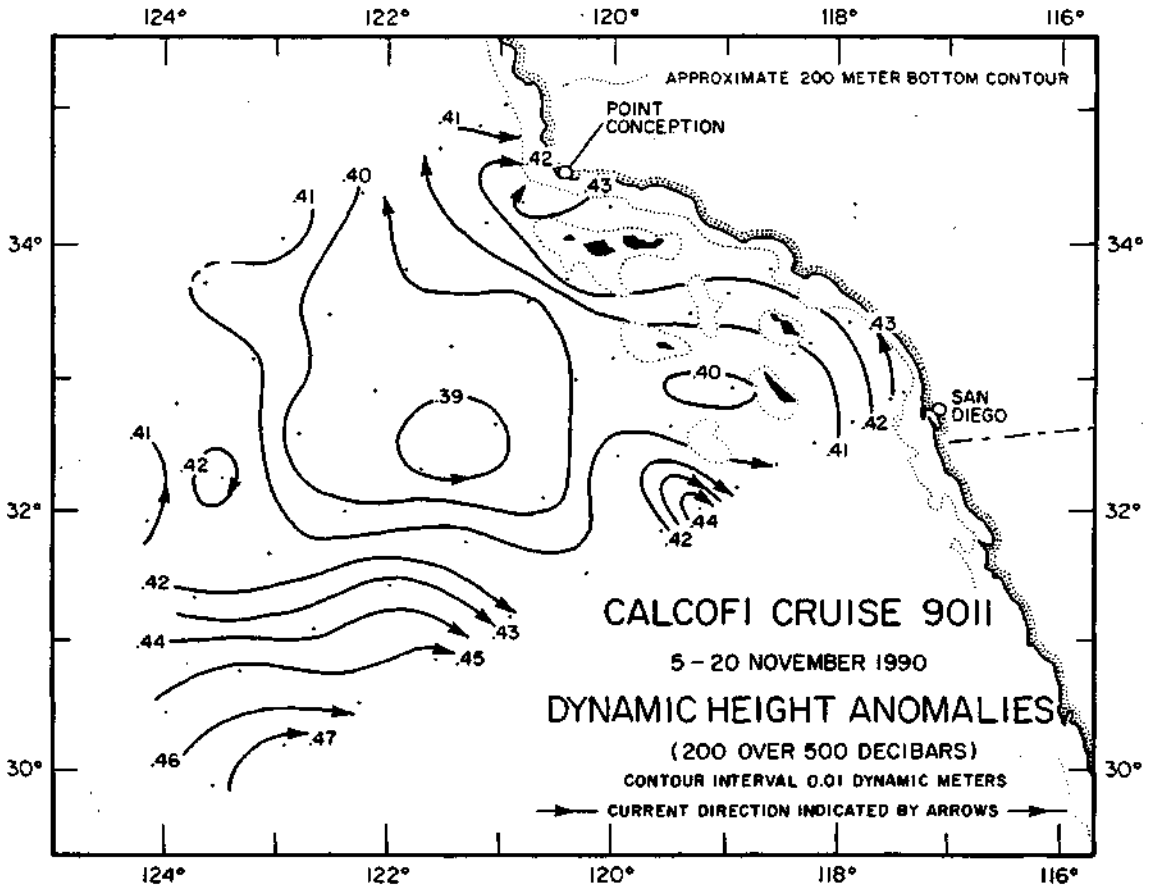

FIGURE 4A

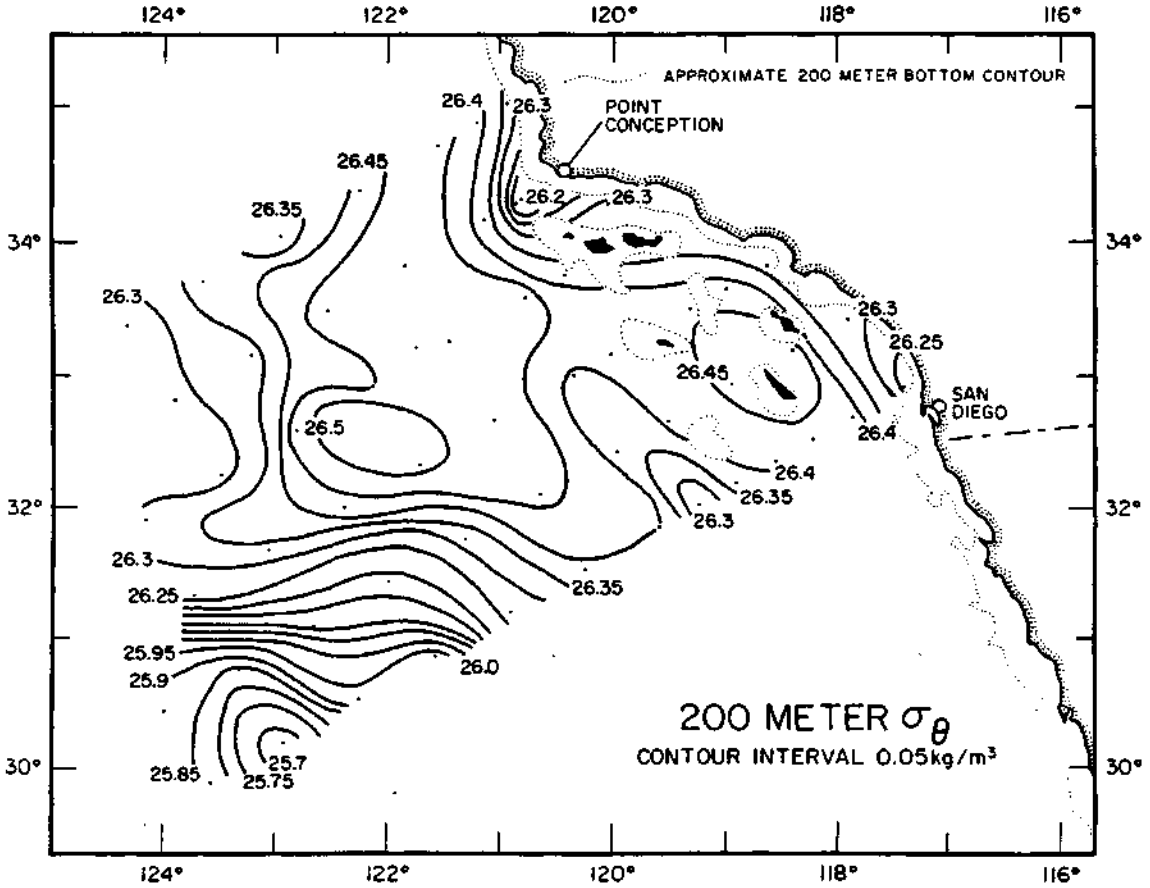

FIGURE 4B

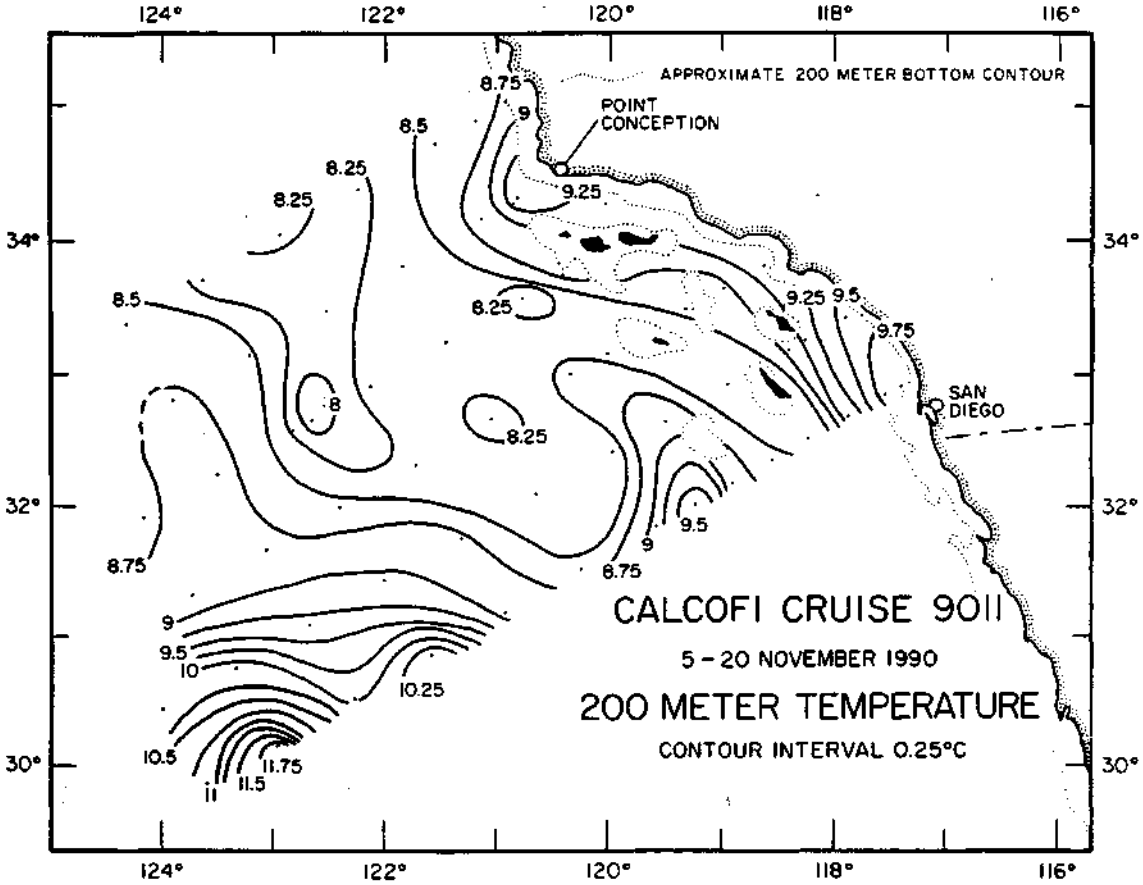

FIGURE 4C

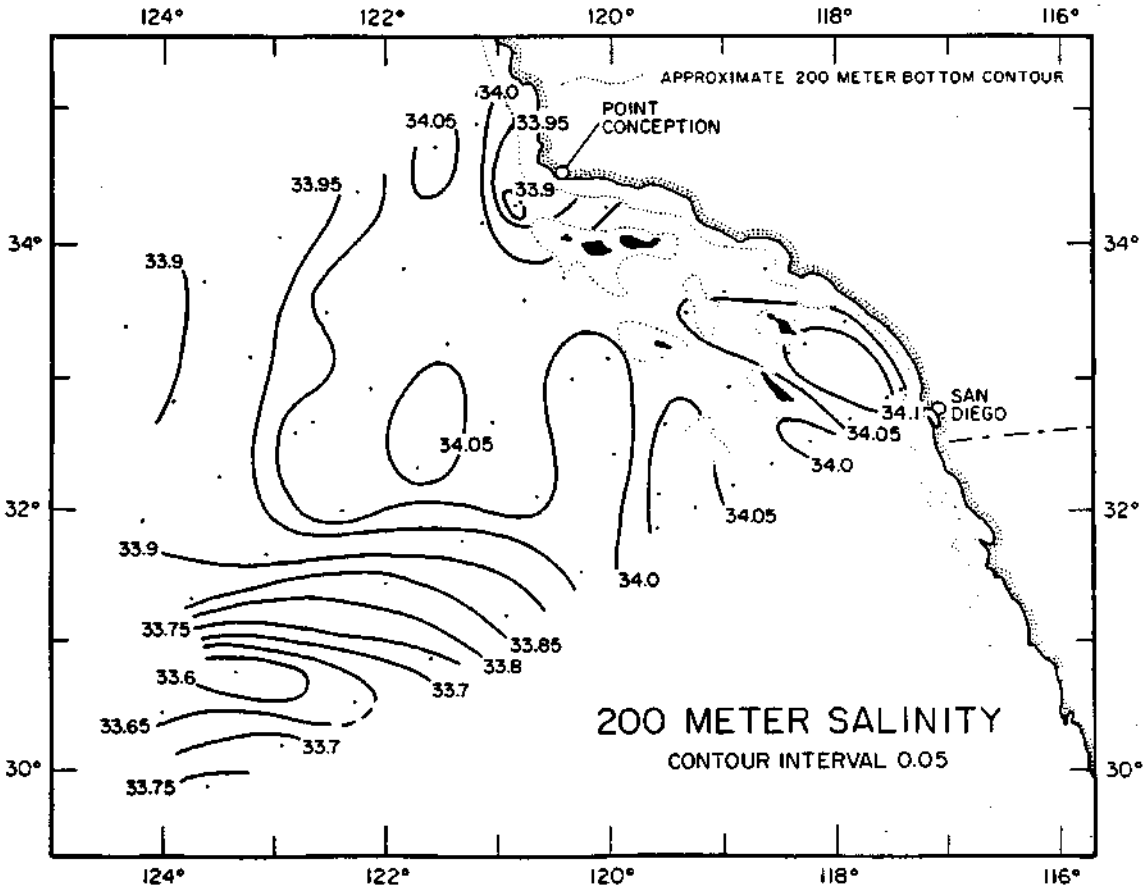

FIGURE 4D

CALCOFI CRUISE 9011

8 – 11 NOVEMBER 1990

POTENTIAL DENSITY (σ_θ) ALONG CALCOFI LINE 90

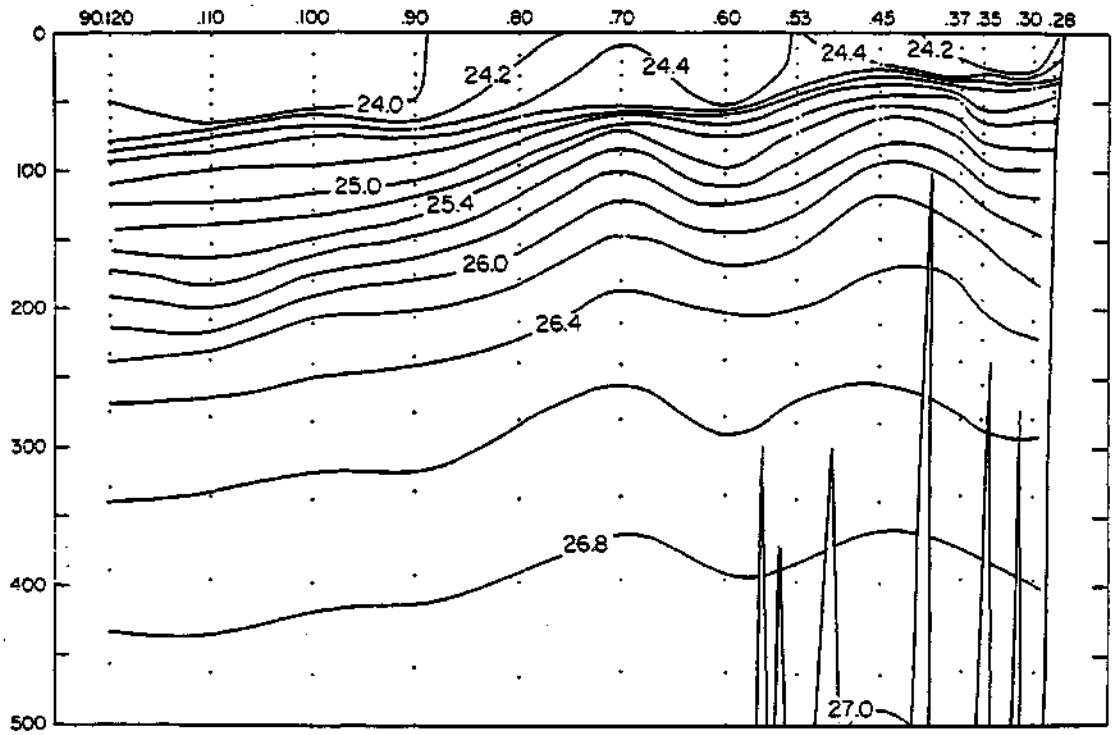

FIGURE 5A

TEMPERATURE (°C) ALONG CALCOFI LINE 90

DEPTH (m)

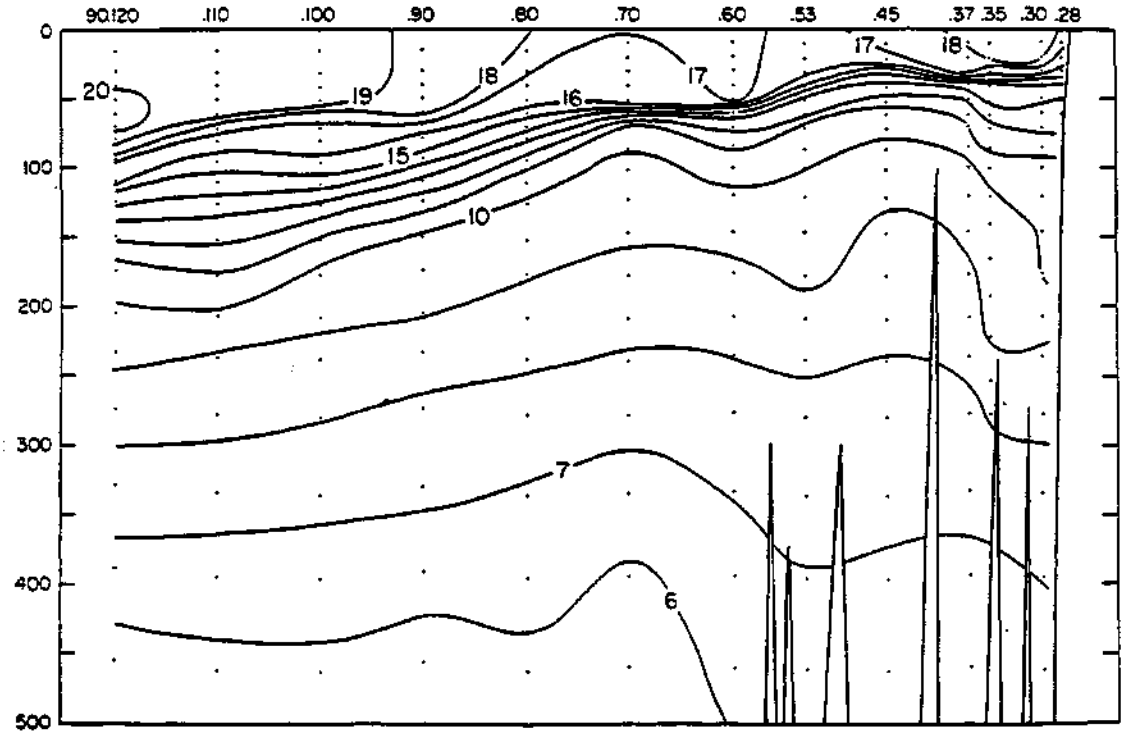

FIGURE 5B

CALCOFI CRUISE 9011

8–11 NOVEMBER 1990

SALINITY ALONG CALCOFI LINE 90

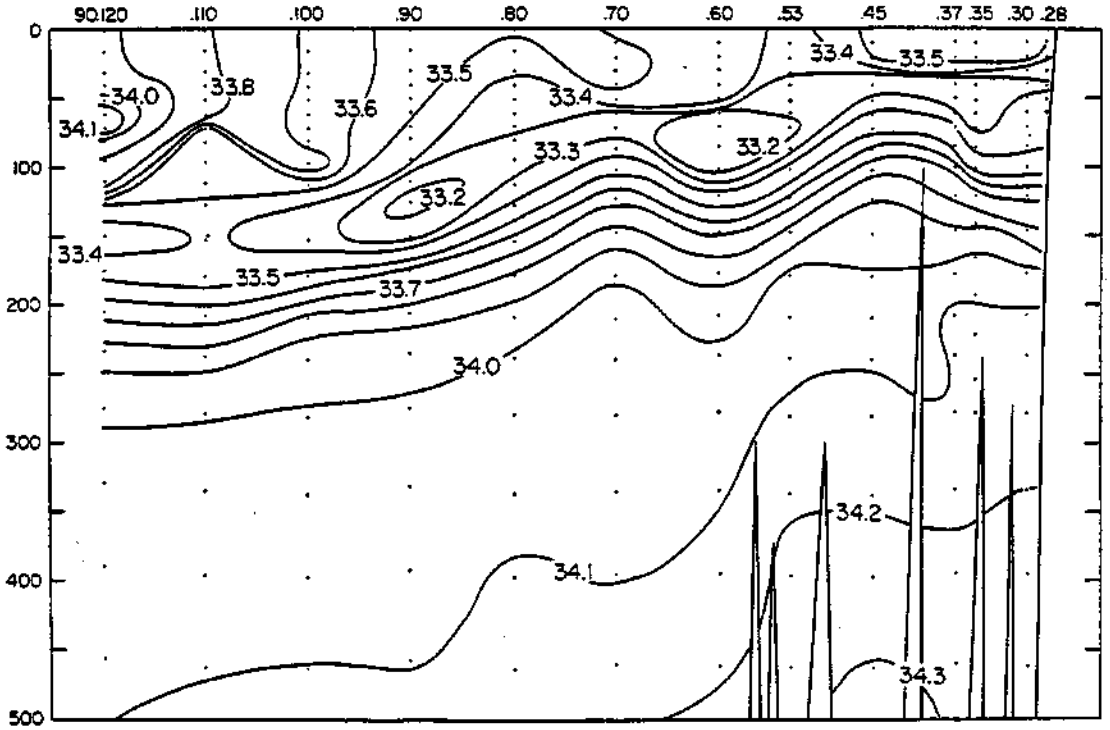

FIGURE 5C

SILICATE (μM/l) ALONG CALCOFI LINE 90

DEPTH (m)

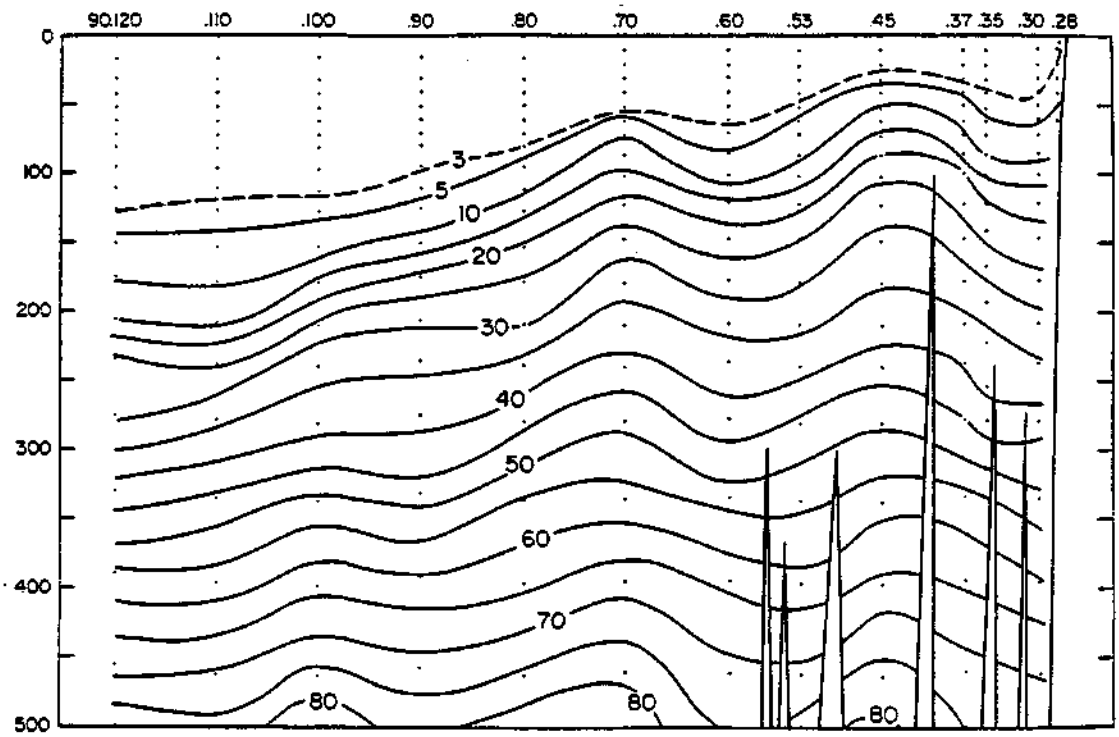

FIGURE 5D

CALCOFI CRUISE 9011
8 – 11 NOVEMBER 1990

NITRATE (μM/l) ALONG CALCOFI LINE 90

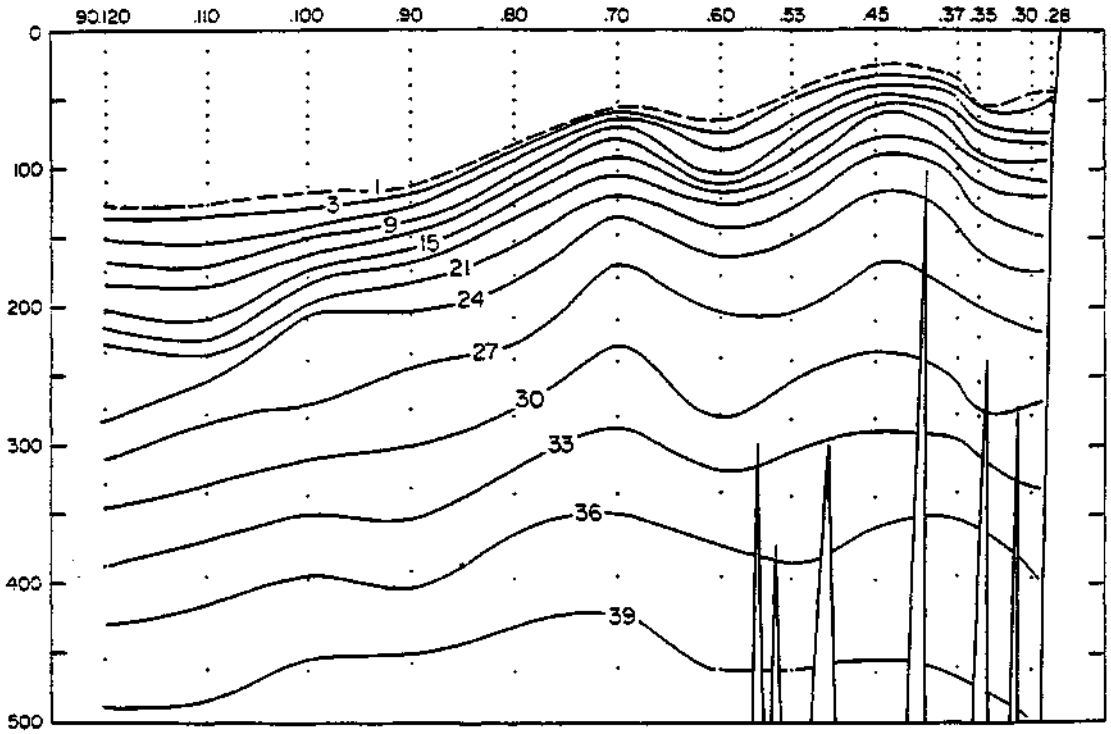

FIGURE 5E

DEPTH (m)

PHOSPHATE (μM/l) ALONG CALCOFI LINE 90

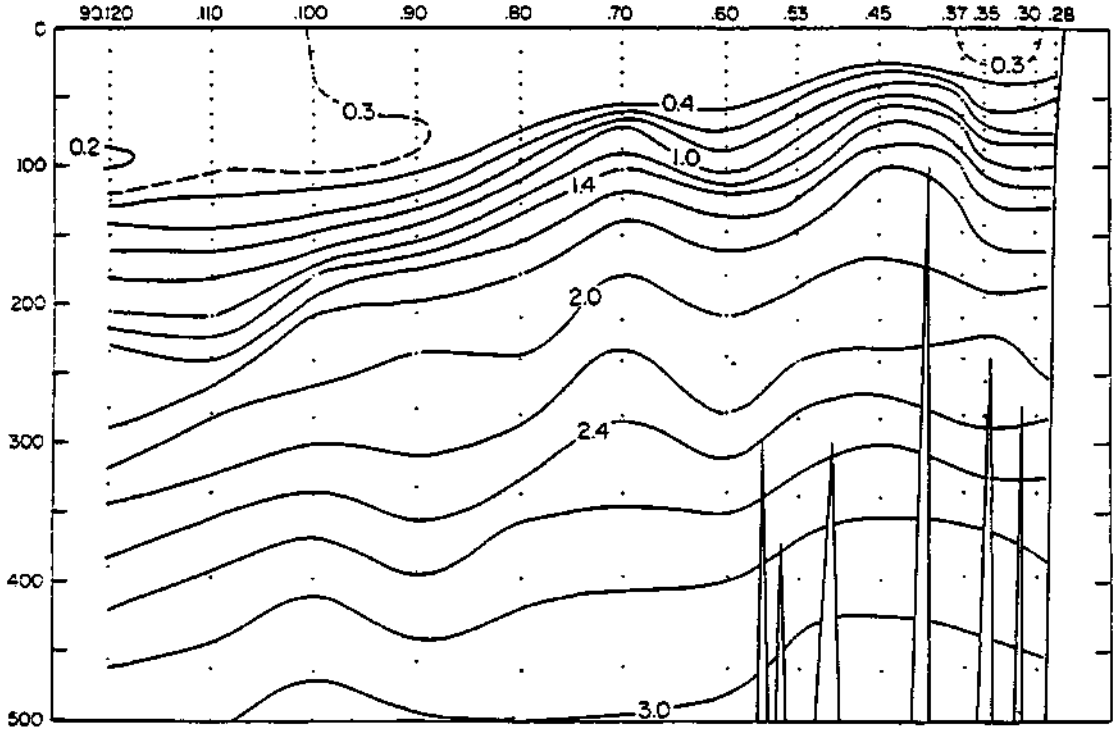

FIGURE 5F

CALCOFI CRUISE 9011

8–11 NOVEMBER 1990

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

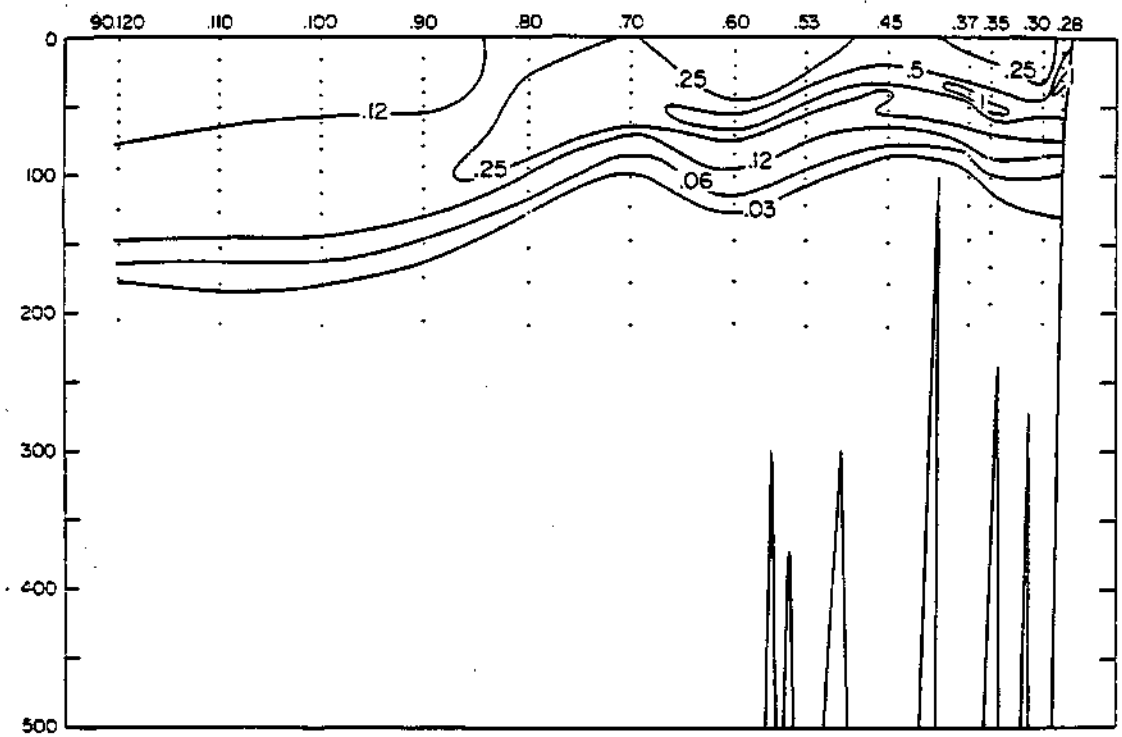

FIGURE 5G

OXYGEN SATURATION (%) ALONG CALCOFI LINE 90

DEPTH (m)

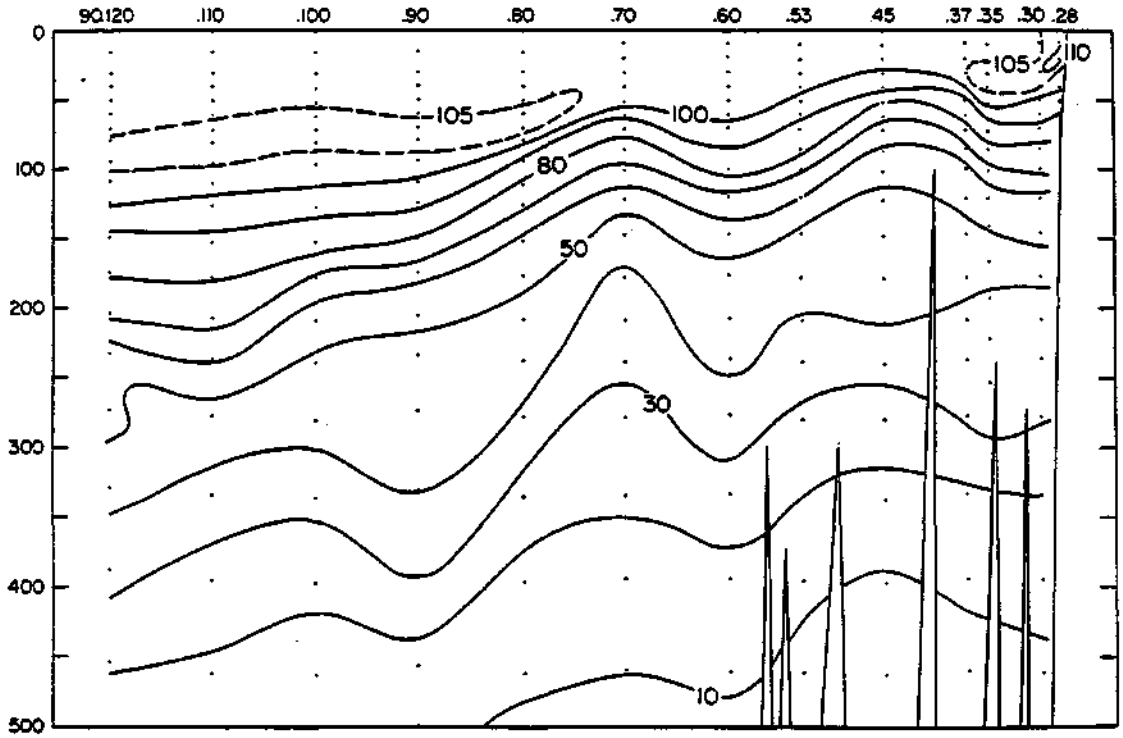

FIGURE 5H

CALCOFI CRUISE 9011
8–11 NOVEMBER 1990

OXYGEN (ml/l) ALONG CALCOFI LINE 90

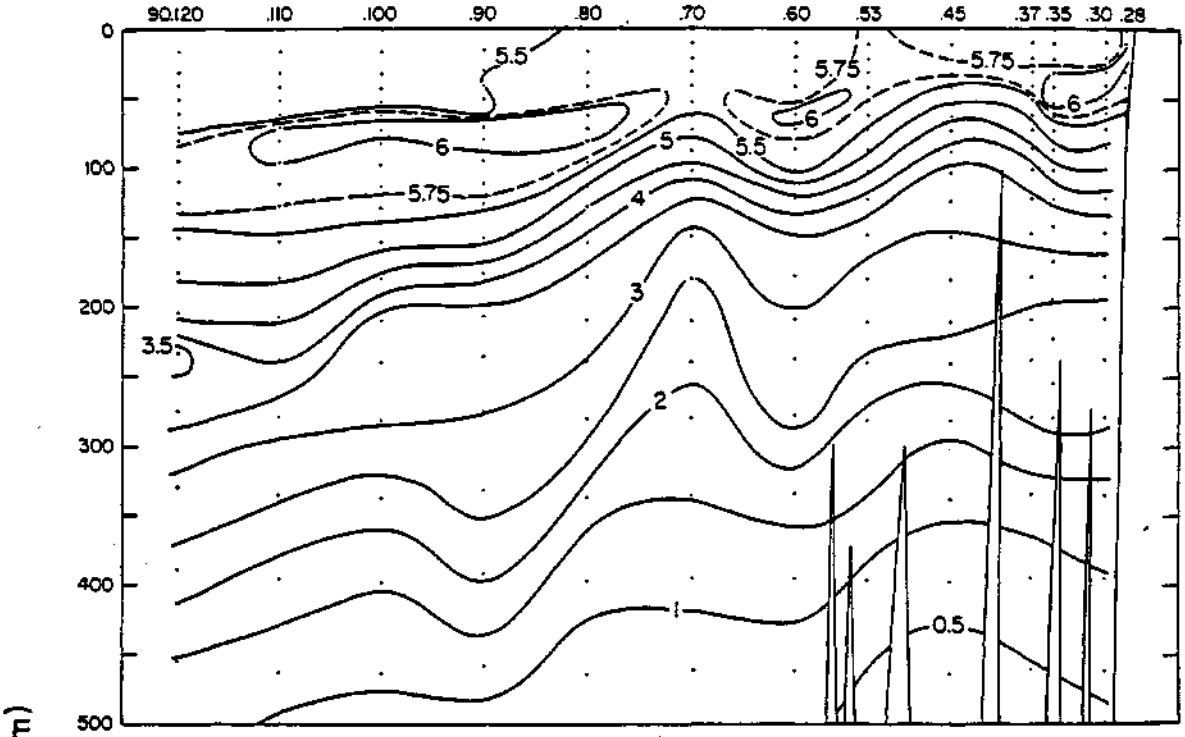

FIGURE 5I

NITRITE (μM/l) ALONG CALCOFI LINE 90

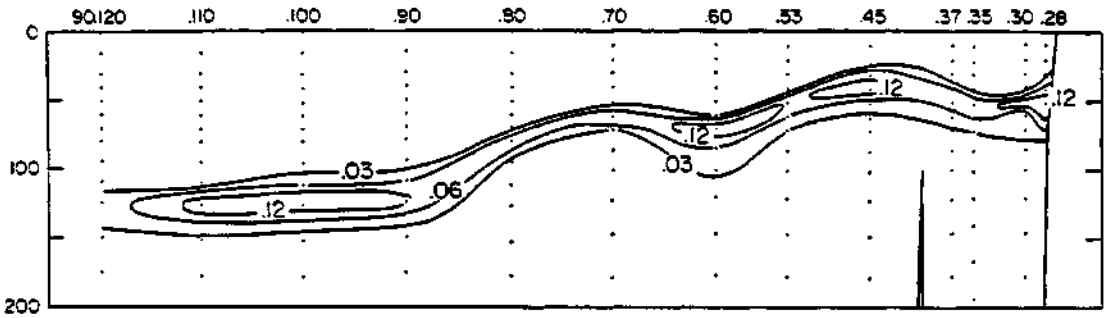

FIGURE 5J

PHAEOPIGMENTS (μg/l) ALONG CALCOFI LINE 90

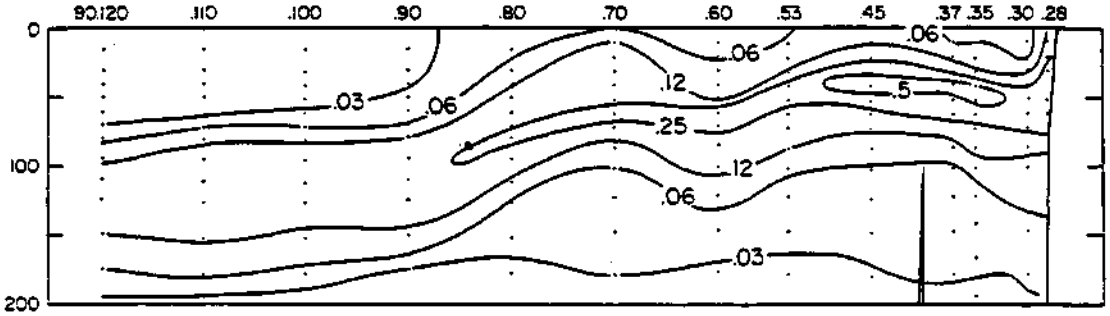

FIGURE 5K

PERSONNEL

CalCOFI Cruise 9011

SHIP'S CAPTAIN

Eric C. Buck, RV *New Horizon*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

Venrick, Elizabeth L. (Chief Scientist)	Research Oceanographer, SIO
Abramenkoff, Dimitry N.	Fishery Biologist, NMFS
Casal, Elizabeth H.	Staff Volunteer, SIO
Costello, James P.	Staff Research Associate, SIO
Cynar, Skip J.	Graduate Student, SIO
Dunn, Jon L.	Tour Director, WINGS, Inc.
Gripp, Sherry L.	Staff Research Associate, SIO
Gruber, Dennis W.	Marine Technician, SIO
Manion, Susan M.	Fishery Biologist, NMFS
Muus, David A.	Staff Research Associate, SIO
Renger, Edward H.	Staff Research Associate, SIO
Schweizer, Dominik P.	Staff Volunteer, SIO
Wilkinson, James R.	Staff Research Associate, SIO

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 49

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 5.4 N	120 46.6 W	19/11/90	1652 UTC	67 m	080 04 Jen	320 02 07	1	1012.7 mb	13.7 C	12.6 C	13m 04	7/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.03	15.03	33.390	24.725	320.9	0.000	5.96	103.8	2.0	0.36	0.3	0.06	1.93	0.54	0
1	10	15.01	15.01	33.388	24.728	320.9	0.032	5.99	104.3	2.0	0.36	0.3	0.06	1.78	0.54	10
	20 ISL	14.93	14.93	33.388	24.746	319.5	0.064	5.87	102.0	2.5	0.38	0.7	0.09	1.73	0.55	20
1	21	14.92	14.92	33.388	24.748	319.4	0.067	5.86	101.8	2.5	0.38	0.8	0.09	1.72	0.55	21
	30 ISL	14.89	14.89	33.388	24.755	319.0	0.096	5.85	101.6	2.6	0.38	1.0	0.10	1.79	0.64	30
1	31	14.89	14.89	33.388	24.755	319.0	0.099	5.85	101.6	2.6	0.38	1.0	0.10	1.79	0.65	31
1	42	14.50	14.49	33.381	24.833	311.9	0.134	5.73	98.7	3.3	0.43	1.8	0.14	1.54	0.60	42
	50 ISL	13.39	13.38	33.360	25.047	291.7	0.158	5.36	90.3	6.2	0.62	4.9	0.25	0.81	0.52	50
1	52	13.12	13.11	33.357	25.099	286.8	0.164	5.27	88.2	6.9	0.67	5.7	0.27	0.63	0.50	52
1	63	12.85	12.84	33.361	25.155	281.7	0.195	5.17	86.1	7.7	0.74	6.3	0.27	0.47	0.48	63

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
35 1.8 N	120 55.6 W	19/11/90	1441 UTC	252 m	110 07 kn	290 02 08	1	1011.4 mb	15.8 C	14.0 C		7/8	ST

CAST	DEPTH n>	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.34	15.34	33.398	24.664	326.8	0.000	5.98	104.8	1.8	0.28	0.1	0.00	0.57	0.20	0
1	10	15.31	15.31	33.402	24.674	326.1	0.033	5.96	104.4	1.7	0.27	0.0	0.00	0.58	0.20	10
1	20	15.33	15.33	33.398	24.667	327.1	0.065	5.97	104.6	1.7	0.26	0.0	0.00	0.55	0.19	20
	30 ISL	15.19	15.19	33.380	24.684	325.8	0.098	5.98	104.5	1.5	0.26	0.0	0.01	0.77	0.28	30
1	31	15.18	15.18	33.378	24.684	325.8	0.101	5.98	104.5	1.5	0.26	0.0	0.01	0.79	0.29	31
1	41	14.22	14.21	33.328	24.851	310.1	0.133	5.61	96.1	3.3	0.44	1.9	0.26	0.57	0.44	41
	50 ISL	11.77	11.76	33.356	25.357	262.0	0.159	4.89	79.6	10.0	0.89	10.1	0.15	0.32	0.35	50
1	51	11.51	11.50	33.365	25.412	256.8	0.161	4.81	77.8	10.7	0.94	11.0	0.13	0.29	0.33	51
1	61	10.91	10.90	33.414	25.558	243.0	0.186	4.59	73.3	12.7	1.09	13.5	0.05	0.18	0.25	61
1	71	10.53	10.52	33.525	25.712	228.7	0.210	4.13	65.5	16.1	1.26	16.2	0.03	0.11	0.18	71
	75 ISL	10.41	10.40	33.558	25.758	224.3	0.219	4.01	63.4	17.2	1.32	17.1	0.03	0.09	0.17	75
1	85	10.20	10.19	33.620	25.843	216.5	0.241	3.79	59.7	19.4	1.43	18.8	0.03	0.07	0.16	85
	100 ISL	10.08	10.07	33.668	25.901	211.3	0.273	3.64	57.2	20.7	1.50	19.9	0.04	0.05	0.15	101
1	101	10.08	10.07	33.671	25.903	211.1	0.275	3.63	57.1	20.8	1.50	19.9	0.04	0.05	0.15	102
1	121	9.84	9.83	33.762	26.015	200.9	0.316	3.34	52.2	23.7	1.62	21.7	0.02	0.03	0.12	122
	125 ISL	9.78	9.77	33.782	26.041	198.5	0.324	3.28	51.2	24.3	1.65	22.1	0.02	0.03	0.13	126
1	141	9.55	9.53	33.853	26.134	189.9	0.355	3.09	48.1	26.6	1.75	23.5	0.01	0.03	0.15	142
	150 ISL	9.48	9.46	33.871	26.160	187.6	0.372	3.02	46.9	27.5	1.78	24.0	0.02	0.02	0.14	151
1	167	9.36	9.34	33.895	26.198	184.3	0.404	2.90	44.9	29.4	1.84	24.8	0.05	0.01	0.12	168
1	192	9.01	8.99	33.969	26.313	173.8	0.449	2.63	40.4	33.6	1.98	26.5	0.08	0.01	0.14	193
	200 ISL	8.92	8.90	33.983	26.338	171.6	0.463	2.57	39.4	34.7	2.02	26.9	0.08			201
1	222	8.69	8.67	34.021	26.404	165.6	0.500	2.40	36.6	37.6	2.12	28.0	0.09			223

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 53.1 N	121 12.1 W	19/11/90	1100 UTC	557 m	200 04 Kn			1013.2 mb	15.0 C	13.6 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	15.34	15.34	33.414	24.676	325.6	0.000	5.89	103.3	2.2	0.29	0.2	0.01	0.59	0.24	0
1	1	15.34	15.34	33.414	24.676	325.6	0.003	5.89	103.3	2.2	0.29	0.2	0.01	0.59	0.24	1
	10 ISL	15.31	15.31	33.414	24.683	325.3	0.033	5.86	102.7	2.1	0.29	0.2	0.01	0.58	0.23	10
1	11	15.31	15.31	33.414	24.683	325.3	0.036	5.86	102.7	2.1	0.29	0.2	0.01	0.58	0.23	11
	20 ISL	15.32	15.32	33.413	24.680	325.8	0.065	5.89	103.2	1.8	0.27	0.2	0.01	0.57	0.25	20
1	21	15.32	15.32	33.413	24.680	325.8	0.068	5.89	103.2	1.8	0.27	0.2	0.01	0.57	0.25	21
	30 ISL	15.31	15.31	33.413	24.683	325.9	0.098	5.88	103.0	2.0	0.27	0.2	0.01	0.59	0.26	30
1	32	15.31	15.31	33.413	24.683	325.9	0.104	5.88	103.0	2.1	0.27	0.2	0.01	0.59	0.26	32
1	42	14.88	14.87	33.375	24.747	320.1	0.137	5.94	103.1	2.0	0.30	0.2	0.03	0.54	0.31	42
	50 ISL	13.26	13.25	33.332	25.051	291.3	0.161	5.45	91.5	6.9	0.61	5.4	0.11	0.37	0.30	50
1	53	12.60	12.59	33.329	25.179	279.1	0.170	5.23	86.6	9.0	0.75	7.7	0.13	0.30	0.29	53
1	63	11.58	11.57	33.370	25.403	257.9	0.196	4.75	77.0	11.5	1.01	11.9	0.04	0.15	0.24	63
1	72	10.34	10.33	33.498	25.723	227.6	0.218	4.15	65.5	17.0	1.34	17.6	0.03	0.08	0.26	72
	75 ISL	10.28	10.27	33.512	25.745	225.6	0.225	4.06	64.0	17.8	1.36	18.0	0.03	0.07	0.24	75
1	86	10.06	10.05	33.565	25.823	218.3	0.249	3.90	61.2	19.1	1.44	19.3	0.02	0.05	0.14	86
	100 ISL	9.88	9.87	33.653	25.922	209.2	0.279	3.59	56.2	21.5	1.55	21.0	0.02	0.04	0.14	101
1	102	9.86	9.85	33.665	25.935	208.0	0.284	3.55	55.5	21.8	1.56	21.2	0.02	0.04	0.14	103
1	123	9.47	9.46	33.733	26.053	197.2	0.326	3.29	51.0	24.8	1.70	23.3	0.02	0.02	0.09	124
	125 ISL	9.45	9.44	33.738	26.060	196.6	0.330	3.27	50.7	25.0	1.71	23.4	0.02	0.02	0.09	126
1	149	9.26	9.24	33.809	26.147	188.8	0.376	3.03	46.8	27.2	1.78	24.8	0.01	0.01	0.07	150
	150 ISL	9.25	9.23	33.813	26.152	188.3	0.378	3.02	46.6	27.3	1.79	24.9	0.01	0.01	0.07	151
1	180	8.80	8.78	33.951	26.331	171.7	0.432	2.66	40.7	32.3	1.95	27.5	0.01	0.01	0.06	181
	200 ISL	8.52	8.50	34.019	26.428	162.8	0.466	2.50	38.0	35.7	2.02	28.5	0.01	0.01	0.05	201
1	210	8.39	8.37	34.043	26.467	159.3	0.482	2.44	37.0	37.1	2.05	28.8	0.01	0.01	0.04	211
1	240	8.15	8.13	34.061	26.518	154.9	0.529	2.41	36.4	39.3	2.13	29.4	0.01			241
	250 ISL	8.01	7.98	34.066	26.543	152.7	0.544	2.33	35.0	41.0	2.16	30.0	0.01			251
1	281	7.60	7.57	34.091	26.623	145.4	0.590	2.00	29.8	46.9	2.29	32.0	0.01			283
	300 ISL	7.53	7.50	34.124	26.659	142.3	0.618	1.74	25.9	49.4	2.39	32.8	0.01			302
1	337	7.42	7.39	34.180	26.719	137.2	0.669	1.26	18.7	54.1	2.58	34.3	0.01			339
1	398	6.64	6.60	34.171	26.819	128.0	0.750	0.96	14.0	65.5	2.83	37.2	0.01			401
	400 ISL	6.61	6.57	34.171	26.823	127.6	0.753	0.95	13.8	65.8	2.84	37.3	0.01			403
1	463	5.96	5.92	34.184	26.918	119.0	0.831	0.71	10.2	74.5	2.97	39.7	0.01			466
	500 ISL	5.82	5.78	34.222	26.966	114.8	0.874	0.56	8.0	78.8	3.04	40.3	0.01			503
1	535	5.69	5.64	34.258	27.011	110.9	0.913	0.42	6.0	82.8	3.10	40.9	0.01			539

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RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 43.4 N	121 32.8 W	19/11/90	0634 UTC	924 m	290 08 k.n			1014.1 mb	14.8 C	13.9 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	15.31	15.31	33.386	24.661	327.0	0.000	5.96	104.4	2.0	0.32	0.2	0.00	0.77	0.24	0
1	1	15.31	15.31	33.386	24.661	327.1	0.003	5.96	104.4	2.0	0.32	0.2	0.00	0.77	0.24	1
	10 ISL	15.31	15.31	33.387	24.662	327.2	0.033	5.97	104.6	1.8	0.32	0.2	0.00	0.77	0.20	10
1	11	15.31	15.31	33.387	24.662	327.3	0.036	5.97	104.6	1.8	0.32	0.2	0.00	0.77	0.20	11
	20 ISL	15.23	15.23	33.382	24.676	326.2	0.065	5.95	104.0	1.7	0.33	0.2	0.01	1.01	0.30	20
1	22	15.21	15.21	33.380	24.679	326.0	0.072	5.95	104.0	1.7	0.33	0.2	0.01	1.07	0.33	22
	30 ISL	15.09	15.09	33.373	24.700	324.2	0.098	5.94	103.6	1.8	0.34	0.3	0.03	1.10	0.35	30
1	33	15.04	15.04	33.370	24.708	323.5	0.108	5.94	103.5	1.8	0.34	0.3	0.04	1.11	0.36	33
1	43	13.23	13.22	33.259	25.000	295.9	0.139	5.63	94.4	5.2	0.53	3.9	0.33	1.00	0.52	43
	50 ISL	12.28	12.27	33.185	25.129	283.8	0.159	5.54	91.0	6.4	0.64	5.8	0.27	0.83	0.48	50
1	52	12.04	12.03	33.169	25.161	280.7	0.165	5.52	90.2	6.7	0.67	6.4	0.25	0.77	0.47	52
1	62	10.78	10.77	33.182	25.401	258.0	0.191	5.21	82.9	9.8	0.90	10.6	0.06	0.30	0.30	62
1	74	10.44	10.43	33.299	25.551	244.0	0.222	4.84	76.5	12.5	1.07	13.5	0.04	0.18	0.24	74
	75 ISL	10.40	10.39	33.315	25.570	242.1	0.224	4.79	75.7	12.9	1.09	13.9	0.04	0.17	0.23	75
1	87	10.00	9.99	33.505	25.787	221.8	0.252	4.14	64.9	17.2	1.33	18.0	0.02	0.09	0.13	87
	100 ISL	9.84	9.83	33.618	25.902	211.1	0.280	3.79	59.2	20.0	1.46	20.1	0.02	0.05	0.10	100
1	102	9.83	9.82	33.631	25.914	210.0	0.284	3.75	58.6	20.3	1.47	20.3	0.02	0.05	0.10	103
1	123	9.50	9.49	33.791	26.094	193.4	0.327	3.30	51.2	24.4	1.63	22.9	0.01	0.03	0.09	124
	125 ISL	9.48	9.47	33.804	26.107	192.1	0.330	3.26	50.6	24.7	1.64	23.1	0.01	0.03	0.09	126
1	148	9.30	9.28	33.927	26.233	180.6	0.373	2.86	44.2	28.2	1.79	25.1	0.01	0.02	0.09	149
	150 ISL	9.28	9.26	33.936	26.243	179.7	0.377	2.83	43.8	28.5	1.80	25.3	0.01	0.02	0.09	151
1	179	8.91	8.89	34.040	26.384	166.8	0.427	2.40	36.8	33.5	2.00	27.6	0.01	0.02	0.06	180
	200 ISL	8.65	8.63	34.085	26.460	159.9	0.461	2.19	33.4	36.7	2.11	29.0	0.01	0.01	0.05	201
1	210	8.54	8.52	34.102	26.491	157.2	0.477	2.10	32.0	38.2	2.15	29.6	0.01	0.01	0.04	211
1	240	8.37	8.35	34.153	26.557	151.4	0.524	1.76	26.7	42.4	2.29	30.9	0.00			241
	250 ISL	8.30	8.27	34.164	26.577	149.7	0.539	1.68	25.4	43.6	2.33	31.2	0.00			251
1	282	8.08	8.05	34.186	26.627	145.4	0.586	1.49	22.5	47.1	2.42	32.0	0.00			284
	300 ISL	7.96	7.93	34.193	26.651	143.4	0.612	1.40	21.0	48.8	2.46	32.5	0.00			302
1	338	7.67	7.64	34.200	26.699	139.3	0.666	1.22	18.2	52.6	2.55	33.8	0.00			340
1	399	7.09	7.05	34.203	26.784	131.8	0.748	0.93	13.7	60.4	2.74	36.2	0.01			402
	400 ISL	7.08	7.04	34.202	26.785	131.8	0.750	0.93	13.7	60.5	2.74	36.2	0.01			403
1	466	6.35	6.31	34.182	26.867	124.3	0.834	0.83	12.0	69.4	2.84	38.3	0.01			469
	500 ISL	6.15	6.11	34.213	26.918	119.8	0.876	0.66	9.5	74.4	2.94	39.2	0.01			503
1	535	5.95	5.90	34.246	26.969	115.2	0.917	0.48	6.9	79.6	3.05	40.2	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 23.1 N	122 15.1 W	19/11/90	0056 UTC	4012 m	290 08 kn	320 02 06	1	1015.6 mb	15.5 C	13.2 C		6/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.47	16.47	33.272	24.312	360.3	0.000	5.75	103.0	2.5	0.28	0.0	0.00	0.28	0.09	0
1	1	16.47	16.47	33.272	24.313	360.3	0.004	5.75	103.0	2.5	0.28	0.0	0.00	0.28	0.09	1
	10 ISL	16.46	16.46	33.273	24.316	360.2	0.036	5.75	103.0	2.5	0.26	0.0	0.00	0.28	0.10	10
1	11	16.46	16.46	33.273	24.316	360.3	0.040	5.75	103.0	2.5	0.26	0.0	0.00	0.28	0.10	11
	20 ISL	16.42	16.42	33.272	24.325	359.7	0.072	5.74	102.7	2.2	0.26	0.0	0.00	0.29	0.09	20
1	21	16.41	16.41				0.076	5.74	102.7	2.2	0.26	0.0	0.00	0.29	0.09	21
	30 ISL	16.33	16.33	33.271	24.345	358.1	0.108	5.73	102.3	2.2	0.26	0.0	0.00	0.30	0.11	30
1	31	16.32	16.32	33.271	24.347	357.9	0.111	5.73	102.3	2.2	0.26	0.0	0.00	0.30	0.11	31
1	41	16.09	16.08	33.269	24.398	353.4	0.147	5.73	101.9	2.2	0.28	0.0	0.01	0.45	0.18	41
	50 ISL	14.16	14.15	33.182	24.751	319.9	0.177	5.92	101.2	3.1	0.34	0.4	0.24	0.68	0.43	50
1	51	13.90	13.89	33.171	24.797	315.5	0.181	5.94	101.0	3.2	0.35	0.4	0.26	0.69	0.45	51
1	60	12.09	12.08	33.050	25.060	290.6	0.208	6.01	98.3	4.2	0.47	2.0	0.25	0.36	0.29	60
1	70	11.43	11.42	33.092	25.215	276.0	0.236	5.70	91.9	6.0	0.63	5.7	0.05	0.20	0.18	70
	75 ISL	11.16	11.15	33.141	25.302	267.8	0.250	5.50	88.2	7.5	0.74	8.0	0.04	0.15	0.15	75
1	83	10.73	10.72	33.220	25.439	254.8	0.271	5.20	82.7	10.0	0.91	11.3	0.02	0.11	0.13	83
1	97	9.72	9.71	33.281	25.658	234.1	0.305	4.97	77.3	12.3	1.05	14.1	0.02	0.07	0.09	97
	100 ISL	9.67	9.66	33.313	25.692	231.0	0.312	4.88	75.8	12.9	1.09	14.7	0.02	0.06	0.09	100
2	121	9.35	9.34	33.481	25.875	214.0	0.359	4.19	64.7	17.8	1.38	19.0	0.02	0.03	0.07	122
	125 ISL	9.29	9.28	33.516	25.912	210.5	0.367	4.08	62.9	18.7	1.43	19.7	0.02	0.03	0.06	126
2	146	8.97	8.95	33.688	26.098	193.2	0.409	3.62	55.5	23.5	1.66	23.0	0.01	0.01	0.04	147
	150 ISL	8.89	8.87	33.719	26.135	189.8	0.417	3.55	54.3	24.5	1.69	23.5	0.01	0.01	0.04	151
2	177	8.39	8.37	33.892	26.348	169.9	0.466	3.19	48.3	30.7	1.84	26.1	0.01	0.01	0.05	178
	200 ISL	8.24	8.22	33.979	26.440	161.7	0.504	3.02	45.6	33.9	1.93	27.1	0.01	0.01	0.04	201
2	208	8.19	8.17	33.998	26.462	159.7	0.517	2.97	44.8	34.9	1.96	27.4	0.01	0.01	0.03	209
2	237	7.76	7.74	34.027	26.549	151.8	0.562	2.66	39.8	40.8	2.12	29.5	0.01			238
	250 ISL	7.60	7.58	34.042	26.584	148.6	0.581	2.44	36.3	43.7	2.21	30.6	0.01			251
2	279	7.27	7.24	34.072	26.654	142.2	0.624	1.96	29.0	49.9	2.39	32.8	0.01			281
	300 ISL	7.03	7.00	34.079	26.693	138.7	0.653	1.76	25.9	53.8	2.48	34.0	0.01			302
2	335	6.68	6.65	34.091	26.750	133.6	0.701	1.50	21.9	59.8	2.62	35.7	0.01			337
2	396	6.35	6.31	34.166	26.854	124.5	0.779	0.88	12.7	69.9	2.90	38.2	0.01			399
	400 ISL	6.32	6.28	34.168	26.859	124.0	0.784	0.86	12.4	70.4	2.91	38.3	0.01			403
2	463	5.82	5.78	34.187	26.938	117.0	0.860	0.63	9.0	78.1	3.05	40.2	0.01			466
	500 ISL	5.62	5.58	34.213	26.983	113.0	0.903	0.52	7.4	83.0	3.11	41.0	0.01			503
2	536	5.42	5.38	34.239	27.028	108.9	0.943	0.41	5.8	87.8	3.17	41.7	0.01			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 3.4 N	122 56.5 W	18/11/90	1451 UTC	4230 m	330 10 kn	360 03 08	1	1018.2 mb	15.6 C	13.4 C		7/8 AC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.29	17.29	33.365	24.192	371.7	0.000	5.67	103.3	2.5	0.29	0.1	0.01	0.18	0.05	0
1	1	17.29	17.29	33.365	24.192	371.7	0.004	5.67	103.3	2.5	0.29	0.1	0.01	0.18	0.05	1
	10 ISL	17.30	17.30	33.364	24.189	372.3	0.037	5.64	102.7	2.5	0.27	0.1	0.01	0.18	0.05	10
1	11	17.30	17.30	33.364	24.189	372.3	0.041	5.64	102.7	2.5	0.27	0.1	0.01	0.18	0.05	11
	20 ISL	17.29	17.29	33.365	24.193	372.3	0.074	5.65	102.9	2.6	0.26	0.1	0.01	0.20	0.06	20
1	22	17.29	17.29	33.365	24.193	372.4	0.082	5.65	102.9	2.6	0.26	0.1	0.01	0.20	0.06	22
	30 ISL	17.30	17.30	33.365	24.191	372.8	0.112	5.64	102.7	2.6	0.26	0.1	0.01	0.18	0.06	30
1	32	17.30	17.29	33.365	24.191	372.9	0.119	5.64	102.7	2.6	0.26	0.1	0.01	0.18	0.06	32
1	42	17.28	17.27	33.369	24.199	372.5	0.156	5.60	102.0	2.6	0.25	0.1	0.01	0.19	0.06	42
	50 ISL	16.11	16.10	33.310	24.426	351.0	0.185	5.78	102.8	2.7	0.27	0.1	0.01	0.49	0.21	50
1	52	15.73	15.72	33.287	24.494	344.6	0.192	5.84	103.1	2.8	0.28	0.1	0.01	0.55	0.25	52
1	62	13.97	13.96	33.103	24.730	322.2	0.226	6.11	104.0	3.2	0.32	0.1	0.12	0.38	0.28	62
1	73	12.87	12.86	33.041	24.904	305.8	0.260	6.19	102.9	3.8	0.38	0.5	0.17	0.36	0.23	73
	75 ISL	12.72	12.71	33.048	24.938	302.6	0.266	6.16	102.1	3.9	0.39	0.7	0.17	0.34	0.22	75
1	87	11.90	11.89	33.115	25.146	282.9	0.301	5.88	95.8	5.1	0.51	3.0	0.19	0.21	0.19	87
	100 ISL	10.84	10.83	33.130	25.350	263.7	0.337	5.56	88.5	7.6	0.71	7.5	0.04	0.13	0.15	100
1	102	10.70	10.69	33.133	25.377	261.2	0.342	5.51	87.5	8.1	0.74	8.2	0.02	0.12	0.14	102
1	123	10.21	10.20	33.295	25.588	241.5	0.395	4.97	78.1	13.4	1.14	14.0	0.01	0.06	0.08	124
	125 ISL	10.14	10.13	33.311	25.613	239.2	0.400	4.90	76.9	13.9	1.17	14.5	0.01	0.06	0.08	126
1	148	9.31	9.29	33.505	25.901	212.0	0.452	4.15	64.0	19.6	1.49	19.7	0.00	0.02	0.05	149
	150 ISL	9.25	9.23	33.524	25.926	209.8	0.456	4.11	63.4	20.1	1.50	20.0	0.00	0.02	0.05	151
1	179	8.67	8.65	33.775	26.214	182.8	0.513	3.70	56.4	26.6	1.63	23.4	0.00	0.00	0.06	180
	200 ISL	8.50	8.48	33.913	26.348	170.4	0.550	3.43	52.1	30.3	1.69	24.8	0.00	0.00	0.03	201
1	209	8.43	8.41	33.956	26.393	166.3	0.565	3.34	50.7	31.8	1.71	25.2	0.00	0.00	0.02	210
1	239	7.85	7.83	33.994	26.510	155.6	0.613	3.29	49.3	37.4	1.84	27.0	0.00			240
	250 ISL	7.71	7.69	34.006	26.539	152.9	0.630	3.11	46.4	39.9	1.90	28.0	0.00			251
1	279	7.38	7.35	34.028	26.604	147.0	0.674	2.55	37.8	46.6	2.08	30.7	0.00			281
	300 ISL	7.08	7.05	34.033	26.650	142.8	0.704	2.31	34.0	51.1	2.23	32.3	0.00			302
1	335	6.61	6.58	34.038	26.718	136.6	0.753	1.99	29.0	58.0	2.47	34.6	0.00			337
1	396	6.16	6.13	34.077	26.808	128.7	0.834	1.36	19.6	67.7	2.69	37.7	0.00			399
	400 ISL	6.13	6.09	34.079	26.813	128.2	0.839	1.32	19.0	68.4	2.71	37.9	0.00			403
1	461	5.63	5.59	34.123	26.910	119.3	0.915	0.85	12.1	78.7	2.96	40.5	0.00			464
	500 ISL	5.43	5.39	34.168	26.970	113.9	0.960	0.64	9.1	84.5	3.07	41.3	0.00			503
1	532	5.26	5.22	34.206	27.021	109.4	0.996	0.47	6.6	89.3	3.16	42.0	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 43.3 N	123 38.1 W	18/11/90	0939 UTC	4129 m	360 10 kn			1020.0 mb	15.2 C	13.2 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.70	16.70	33.350	24.319	359.6	0.000	5.66	101.9	3.1	0.29	0.2	0.00	0.20	0.06	0
1	1	16.70	16.70	33.350	24.319	359.6	0.004	5.66	101.9	3.1	0.29	0.2	0.00	0.20	0.06	1
	10 ISL	16.25	16.25	33.303	24.387	353.5	0.036	5.75	102.6	3.1	0.29	0.2	0.00	0.26	0.07	10
1	17	15.78	15.78	33.258	24.459	346.8	0.060	5.83	103.0	3.0	0.29	0.2	0.00	0.33	0.09	17
	20 ISL	15.74	15.74	33.254	24.465	346.4	0.071	5.83	102.9	3.0	0.28	0.2	0.00	0.35	0.10	20
	30 ISL	15.60	15.60	33.242	24.487	344.5	0.105	5.84	102.8	2.9	0.27	0.2	0.00	0.43	0.15	30
1	32	15.56	15.56	33.239	24.494	344.0	0.112	5.84	102.7	2.9	0.27	0.2	0.00	0.45	0.16	32
1	43	14.87	14.86	33.191	24.608	333.4	0.149	6.00	104.0	2.9	0.29	0.1	0.02	0.60	0.30	43
	50 ISL	14.35	14.34	33.158	24.693	325.4	0.172	6.06	103.9	3.0	0.30	0.1	0.02	0.45	0.28	50
1	53	14.14	14.13	33.147	24.729	322.1	0.182	6.07	103.7	3.1	0.30	0.1	0.02	0.36	0.26	53
1	63	13.60	13.59	33.136	24.831	312.5	0.214	6.08	102.7	3.4	0.32	0.3	0.14	0.23	0.22	63
1	74	12.60	12.59	33.115	25.013	295.4	0.247	5.81	96.1	5.0	0.51	3.2	0.06	0.15	0.18	74
	75 ISL	12.52	12.51	33.116	25.030	293.9	0.250	5.81	95.9	5.0	0.51	3.2	0.07	0.15	0.18	75
1	83	11.92	11.91	33.123	25.149	282.6	0.273	5.82	94.9	5.1	0.50	2.9	0.16	0.17	0.18	83
1	98	10.65	10.64	33.129	25.383	260.5	0.314	5.49	87.1	7.9	0.80	8.3	0.02	0.11	0.14	98
	100 ISL	10.52	10.51	33.128	25.404	258.5	0.319	5.48	86.7	8.0	0.81	8.6	0.02	0.11	0.14	100
1	114	9.87	9.86	33.162	25.541	245.6	0.354	5.39	84.1	9.5	0.91	10.5	0.02	0.08	0.11	115
	125 ISL	9.67	9.66	33.282	25.668	233.8	0.381	5.01	77.8	13.3	1.11	13.8	0.01	0.05	0.07	126
1	129	9.62	9.61	33.334	25.717	229.2	0.390	4.85	75.3	14.8	1.19	15.0	0.01	0.04	0.06	130
	150 ISL	9.01	8.99	33.585	26.011	201.5	0.435	4.47	68.6	19.9	1.35	18.4	0.00	0.01	0.02	151
1	155	8.86	8.84	33.639	26.077	195.3	0.445	4.39	67.1	21.0	1.38	19.0	0.00	0.01	0.02	156
1	180	8.48	8.46	33.818	26.276	176.8	0.492	3.69	56.0	29.1	1.68	23.7	0.00	0.00	0.03	181
	200 ISL	8.24	8.22	33.916	26.390	166.3	0.526	3.34	50.4	33.7	1.82	25.9	0.00	0.00	0.03	201
1	210	8.13	8.11	33.951	26.434	162.3	0.542	3.20	48.2	35.7	1.88	26.7	0.00	0.00	0.03	211
1	240	7.73	7.71	34.003	26.534	153.2	0.590	2.83	42.3	42.0	2.08	29.0	0.00			241
	250 ISL	7.59	7.57	34.009	26.559	150.9	0.605	2.75	40.9	44.0	2.13	29.6	0.00			251
1	280	7.17	7.14	34.016	26.624	145.0	0.649	2.50	36.9	50.0	2.29	31.4	0.00			282
	300 ISL	6.90	6.87	34.025	26.668	141.0	0.678	2.25	33.0	54.8	2.41	32.9	0.00			302
1	336	6.49	6.46	34.045	26.739	134.5	0.728	1.79	26.0	63.3	2.62	35.4	0.00			338
1	397	6.08	6.05	34.093	26.830	126.4	0.807	1.20	17.3	73.7	2.87	38.3	0.00			400
	400 ISL	6.05	6.02	34.093	26.834	126.1	0.811	1.18	17.0	74.3	2.88	38.4	0.00			403
1	463	5.42	5.38	34.109	26.924	117.8	0.888	0.92	13.0	86.5	3.05	40.5	0.00			466
	500 ISL	5.21	5.17	34.144	26.977	113.0	0.930	0.73	10.3	92.7	3.13	41.5	0.00			503
1	537	5.00	4.96	34.180	27.030	108.2	0.971	0.53	7.4	98.8	3.21	42.4	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 23.4 N	124 19.5 W	18/11/90	0415 UTC	4496 m	350 10 kn			1020.9 mb	15.4 C	12.9 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.31	17.31	33.318	24.151	375.6	0.000	5.62	102.4	2.5	0.27	0.2	0.00	0.23	0.06	0
1	1	17.31	17.31	33.318	24.151	375.6	0.004	5.62	102.4	2.5	0.27	0.2	0.00	0.23	0.06	1
	10 ISL	17.32	17.32	33.319	24.150	376.1	0.038	5.63	102.6	2.4	0.27	0.2	0.00	0.23	0.07	10
1	16	17.32	17.32	33.319	24.150	376.2	0.060	5.64	102.7	2.4	0.27	0.2	0.00	0.23	0.08	16
	20 ISL	17.32	17.32	33.319	24.151	376.4	0.075	5.64	102.7	2.4	0.26	0.2	0.00	0.23	0.08	20
	30 ISL	17.30	17.30	33.318	24.155	376.3	0.113	5.64	102.7	2.6	0.25	0.2	0.00	0.24	0.07	30
1	32	17.30	17.29	33.318	24.155	376.3	0.120	5.64	102.7	2.6	0.25	0.2	0.00	0.24	0.07	32
1	42	17.30	17.29	33.318	24.155	376.6	0.158	5.64	102.7	2.6	0.25	0.2	0.00	0.24	0.07	42
	50 ISL	17.15	17.14	33.304	24.180	374.5	0.188	5.65	102.6	2.7	0.25	0.2	0.00	0.29	0.08	50
1	52	17.10	17.09	33.300	24.189	373.7	0.196	5.65	102.5	2.7	0.25	0.2	0.00	0.30	0.09	52
1	62	16.76	16.75	33.283	24.256	367.6	0.233	5.71	102.9	2.8	0.25	0.2	0.00	0.31	0.12	62
1	72	14.54	14.53	33.135	24.636	331.5	0.268	6.05	104.2	3.0	0.30	0.2	0.08	0.50	0.36	72
	75 ISL	14.00	13.99	33.116	24.734	322.2	0.277	6.12	104.2	3.1	0.30	0.2	0.06	0.44	0.34	75
1	81	13.12	13.11	33.099	24.900	306.5	0.296	6.20	103.6	3.2	0.31	0.2	0.01	0.29	0.25	81
1	98	12.22	12.21	33.130	25.098	287.9	0.347	5.93	97.3	4.0	0.42	2.1	0.20	0.18	0.17	98
	100 ISL	12.06	12.05	33.127	25.126	285.2	0.352	5.90	96.5	4.2	0.45	2.6	0.19	0.17	0.17	100
1	112	11.12	11.11	33.117	25.291	269.7	0.386	5.71	91.5	5.9	0.64	5.9	0.08	0.14	0.14	112
	125 ISL	10.41	10.40	33.167	25.454	254.3	0.420	5.41	85.4	8.6	0.87	9.9	0.02	0.09	0.10	126
1	127	10.32	10.31	33.180	25.480	251.9	0.425	5.36	84.4	9.1	0.90	10.5	0.01	0.08	0.09	128
	150 ISL	9.35	9.33	33.414	25.823	219.5	0.479	4.79	73.9	15.2	1.16	15.7	0.01	0.02	0.04	151
1	152	9.29	9.27	33.437	25.851	216.9	0.483	4.74	73.1	15.8	1.18	16.1	0.01	0.02	0.04	153
1	178	8.95	8.93	33.652	26.074	196.2	0.537	4.00	61.3	21.9	1.48	20.8	0.00	0.01	0.03	179
	200 ISL	8.66	8.64	33.845	26.271	177.8	0.578	3.50	53.3	27.6	1.67	24.1	0.00	0.00	0.02	201
1	208	8.55	8.53	33.904	26.334	172.0	0.592	3.37	51.3	29.6	1.72	25.0	0.00	0.00	0.02	209
1	239	8.11	8.09	33.983	26.463	160.1	0.644	3.19	48.1	34.6	1.83	26.8	0.00			240
	250 ISL	7.94	7.91	33.994	26.497	157.0	0.661	3.11	46.7	36.7	1.88	27.5	0.00			251
1	279	7.51	7.48	34.008	26.570	150.3	0.706	2.86	42.5	42.5	2.02	29.5	0.00			281
	300 ISL	7.25	7.22	34.019	26.616	146.2	0.737	2.59	38.3	46.4	2.13	31.0	0.00			302
1	336	6.85	6.82	34.035	26.684	140.1	0.788	2.09	30.6	53.3	2.33	33.6	0.00			338
1	397	6.12	6.09	34.060	26.799	129.4	0.871	1.49	21.4	66.1	2.63	37.3	0.00			399
	400 ISL	6.09	6.06	34.061	26.804	129.0	0.875	1.47	21.1	66.7	2.64	37.4	0.00			402
1	464	5.49	5.45	34.093	26.903	119.8	0.954	1.04	14.7	78.2	2.84	40.0	0.00			467
	500 ISL	5.32	5.28	34.132	26.955	115.2	0.996	0.80	11.3	83.7	2.96	41.0	0.00			503
1	534	5.15	5.11	34.169	27.004	110.8	1.035	0.58	8.2	88.8	3.07	42.0	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 80 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 27.0 N	120 31.6 W	16/11/90	1113 UTC	73 m	00 kn			1019.5 mb	16.7 C	15.7 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.06	17.06	33.487	24.340	357.6	0.000	5.78	104.9	2.8	0.22	0.2	0.00	0.38	0.15	0
1	10	16.69	16.69	33.472	24.416	350.7	0.035	5.79	104.3	2.8	0.25	0.3	0.02	0.55	0.23	10
	20 ISL	15.91	15.91	33.432	24.564	337.0	0.070	5.80	102.8	3.1	0.30	0.6	0.06	1.27	0.56	20
1	21	15.83	15.83	33.428	24.579	335.5	0.073	5.80	102.7	3.1	0.31	0.6	0.07	1.33	0.59	21
	30 ISL	15.28	15.28	33.396	24.676	326.5	0.103	5.70	99.8	4.1	0.37	1.5	0.19	1.16	0.66	30
1	31	15.22	15.22	33.392	24.686	325.6	0.106	5.69	99.5	4.2	0.38	1.6	0.21	1.14	0.67	31
1	42	14.61	14.60	33.329	24.770	317.9	0.142	5.73	98.9	4.4	0.41	1.8	0.57	0.93	0.60	42
	50 ISL	14.33	14.32	33.325	24.826	312.8	0.167	5.69	97.7	4.8	0.44	2.0	0.52	0.80	0.61	50
1	52	14.26	14.25	33.326	24.842	311.3	0.173	5.67	97.2	5.0	0.45	2.1	0.51	0.77	0.61	52
1	62	13.81	13.80	33.328	24.937	302.5	0.204	5.51	93.6	6.1	0.54	3.6	0.39	0.54	0.38	62
1	72	13.44	13.43	33.340	25.022	294.7	0.234	5.42	91.3	6.8	0.57	4.2	0.35	0.52	0.41	72

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 18.9 N	120 48.6 W	16/11/90	1356 UTC	783 m	00 kn			1019.4 mb	15.8 C	15.1 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	15.78	15.78	33.417	24.581	334.7	0.000	5.97	105.6	2.2	0.29	0.2	0.00	0.67	0.31	0
1	10	15.46	15.46	33.397	24.637	329.7	0.033	6.09	107.0	1.7	0.27	0.2	0.01	1.31	0.49	10
	20 ISL	15.05	15.05	33.396	24.726	321.5	0.066	6.04	105.2	1.8	0.30	0.2	0.02	2.14	0.74	20
1	21	15.00	15.00	33.395	24.736	320.5	0.069	6.03	105.0	1.8	0.31	0.2	0.02	2.22	0.78	21
	30 ISL	14.26	14.26	33.359	24.866	308.3	0.097	5.87	100.6	2.8	0.39	1.4	0.11	2.80	1.31	30
1	31	14.15	14.15	33.354	24.886	306.5	0.100	5.84	99.9	3.0	0.40	1.5	0.12	2.87	1.34	31
1	41	12.39	12.38	33.335	25.224	274.6	0.129	5.20	85.7	6.9	0.70	6.8	0.07	0.46	0.45	41
	50 ISL	11.90	11.89	33.368	25.342	263.4	0.154	4.96	80.9	8.1	0.80	8.9	0.04	0.24	0.22	50
1	51	11.88	11.87	33.372	25.349	262.8	0.156	4.95	80.8	8.2	0.81	9.0	0.04	0.21	0.22	51
1	61	11.66	11.65	33.399	25.411	257.1	0.182	4.82	78.3	8.9	0.87	10.0	0.03	0.15	0.20	61
1	72	11.40	11.39	33.430	25.483	250.5	0.210	4.70	75.9	9.6	0.92	11.0	0.03	0.11	0.17	72
	75 ISL	11.36	11.35	33.437	25.496	249.4	0.218	4.67	75.4	9.8	0.93	11.2	0.03	0.10	0.16	75
1	86	11.27	11.26	33.460	25.530	246.4	0.245	4.57	73.6	10.4	0.99	12.0	0.03	0.09	0.15	86
	100 ISL	11.15	11.14	33.496	25.580	241.9	0.279	4.37	70.2	11.7	1.09	13.1	0.03	0.09	0.16	100
1	101	11.14	11.13	33.499	25.584	241.6	0.282	4.36	70.1	11.8	1.10	13.2	0.03	0.09	0.16	102
1	122	10.96	10.95	33.542	25.651	235.7	0.332	4.16	66.6	13.9	1.18	14.7	0.03	0.06	0.12	123
	125 ISL	10.90	10.88	33.556	25.672	233.7	0.339	4.10	65.6	14.4	1.21	15.1	0.03	0.06	0.11	126
1	147	10.36	10.34	33.670	25.855	216.7	0.388	3.65	57.7	18.7	1.44	18.6	0.02	0.03	0.08	148
	150 ISL	10.30	10.28	33.682	25.875	214.9	0.395	3.61	57.0	19.1	1.46	18.9	0.02	0.03	0.08	151
1	178	9.82	9.80	33.797	26.047	199.1	0.453	3.28	51.3	23.3	1.63	21.9	0.02	0.02	0.09	179
	200 ISL	9.36	9.34	33.911	26.212	183.7	0.495	2.90	44.9	28.0	1.81	24.7	0.02	0.01	0.08	201
1	209	9.18	9.16	33.956	26.276	177.8	0.511	2.75	42.4	30.0	1.89	25.8	0.02	0.01	0.07	210
1	239	8.77	8.74	34.052	26.416	164.9	0.562	2.40	36.7	35.0	2.07	28.2	0.02			240
	250 ISL	8.59	8.56	34.063	26.453	161.5	0.580	2.37	36.1	36.5	2.10	28.7	0.02			251
1	280	8.10	8.07	34.072	26.535	154.1	0.628	2.34	35.3	40.6	2.17	29.8	0.02			282
	300 ISL	7.87	7.84	34.088	26.581	149.9	0.658	2.17	32.5	43.9	2.26	30.9	0.02			302
1	336	7.53	7.50	34.118	26.655	143.3	0.711	1.78	26.5	50.3	2.44	32.9	0.02			338
1	396	6.94	6.90	34.157	26.768	133.1	0.794	1.17	17.2	60.6	2.73	35.8	0.01			399
	400 ISL	6.91	6.87	34.159	26.774	132.6	0.799	1.14	16.7	61.2	2.74	35.9	0.01			403
1	461	6.44	6.40	34.183	26.856	125.3	0.878	0.84	12.2	70.3	2.91	37.9	0.01			464
	500 ISL	6.16	6.12	34.205	26.910	120.5	0.926	0.69	9.9	75.3	2.98	39.0	0.01			503
1	533	5.93	5.88	34.224	26.954	116.5	0.965	0.56	8.0	79.5	3.03	39.9	0.01			537

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 80 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 9.5 N	121 9.3 W	16/11/90	2043 UTC	2222 m	200 03 kn	310 03 07	1	1019.6 mb	17.1 C	15.3 C	14m 04	7/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.00	16.00	33.436	24.546	338.0	0.000	6.08	108.0	1.8	0.26	0.0	0.00	1.29	0.30	0
1	10	15.38	15.38	33.410	24.664	327.0	0.033	6.12	107.4	0.9	0.27	0.0	0.00	2.30	0.67	10
	20 ISL	15.07	15.07	33.392	24.719	322.2	0.066	6.06	105.6	0.7	0.28	0.2	0.02	3.24	0.74	20
1	22	15.02	15.02	33.389	24.727	321.4	0.072	6.03	105.0	0.6	0.28	0.2	0.02	3.30	0.75	22
	30 ISL	14.72	14.72	33.386	24.790	315.7	0.098	5.90	102.1	1.9	0.34	0.8	0.07	2.24	0.86	30
1	32	14.64	14.64	33.385	24.806	314.2	0.104	5.84	100.9	2.5	0.36	1.0	0.09	1.88	0.87	32
1	41	12.92	12.91	33.356	25.137	282.8	0.131	5.24	87.4	6.8	0.65	6.0	0.24	0.69	0.58	41
	50 ISL	12.07	12.06	33.377	25.317	265.8	0.155	4.94	80.9	8.7	0.80	8.7	0.13	0.40	0.43	50
1	52	11.96	11.95	33.385	25.344	263.3	0.161	4.89	79.9	9.0	0.82	9.1	0.09	0.34	0.40	52
1	62	11.41	11.40	33.438	25.487	249.9	0.186	4.61	74.5	11.4	0.97	11.7	0.04	0.19	0.24	62
1	73	11.14	11.13	33.485	25.573	242.0	0.213	4.38	70.4	12.7	1.07	13.1	0.02	0.11	0.19	73
	75 ISL	11.07	11.06	33.493	25.592	240.2	0.218	4.34	69.6	13.1	1.09	13.5	0.02	0.11	0.19	75
1	87	10.68	10.67	33.545	25.702	230.0	0.247	4.12	65.6	15.5	1.24	15.8	0.02	0.09	0.17	87
	100 ISL	10.40	10.39	33.618	25.807	220.3	0.276	3.85	60.9	17.8	1.36	17.7	0.02	0.08	0.14	100
1	102	10.37	10.36	33.629	25.821	219.0	0.280	3.81	60.2	18.1	1.37	17.9	0.02	0.08	0.13	103
1	122	10.17	10.16	33.688	25.902	211.7	0.323	3.63	57.2	20.0	1.45	19.5	0.01	0.05	0.09	123
	125 ISL	10.13	10.12	33.703	25.920	210.0	0.330	3.58	56.3	20.5	1.47	19.8	0.01	0.05	0.09	126
1	148	9.76	9.74	33.824	26.077	195.5	0.376	3.17	49.5	24.3	1.64	22.4	0.00	0.03	0.10	149
	150 ISL	9.73	9.71	33.832	26.088	194.5	0.380	3.14	49.0	24.6	1.65	22.6	0.00	0.03	0.10	151
1	178	9.33	9.31	33.929	26.230	181.5	0.433	2.78	43.0	28.3	1.84	25.0	0.00	0.02	0.08	179
	200 ISL	8.91	8.89	34.013	26.363	169.2	0.471	2.52	38.7	32.4	1.99	27.1	0.00	0.01	0.07	201
1	209	8.74	8.72	34.042	26.413	164.6	0.486	2.43	37.1	34.1	2.04	27.9	0.00	0.01	0.06	210
1	239	8.34	8.32	34.082	26.506	156.2	0.534	2.24	33.9	38.7	2.13	29.2	0.00			240
	250 ISL	8.26	8.23	34.100	26.532	153.9	0.552	2.09	31.6	40.8	2.20	29.9	0.00			251
1	280	8.04	8.01	34.137	26.595	148.4	0.597	1.67	25.1	46.6	2.38	31.8	0.00			282
	300 ISL	7.77	7.74	34.136	26.634	144.8	0.626	1.60	23.9	49.2	2.43	32.7	0.00			302
1	336	7.24	7.21	34.128	26.703	138.5	0.677	1.52	22.5	54.2	2.50	34.1	0.00			338
1	397	6.54	6.50	34.179	26.839	126.1	0.758	0.88	12.8	68.2	2.81	37.4	0.00			400
	400 ISL	6.52	6.48	34.181	26.843	125.7	0.762	0.86	12.5	68.5	2.81	37.5	0.00			403
1	463	6.22	6.18	34.208	26.904	120.6	0.839	0.67	9.7	74.0	2.85	38.8	0.00			466
	500 ISL	5.94	5.90	34.225	26.953	116.1	0.883	0.56	8.0	78.7	2.95	39.9	0.01			503
1	535	5.67	5.62	34.242	27.000	111.8	0.923	0.45	6.4	83.2	3.05	40.9	0.01			539

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 49.0 N	121 50.6 W	17/11/90	0526 UTC	3624 m	300 09 K.D			1019.2 mb	15.2 C	14.5 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	15.76	15.76	33.402	24.573	335.4	0.000	5.86	103.6	2.0	0.30	0.0	0.00	0.63	0.20	0
1	1	15.76	15.76	33.402	24.574	335.4	0.003	5.86	103.6	2.0	0.30	0.0	0.00	0.63	0.20	1
	10 ISL	15.76	15.76	33.402	24.574	335.7	0.034	5.88	103.9	2.0	0.29	0.0	0.00	0.64	0.20	10
1	11	15.76	15.76	33.402	24.574	335.7	0.037	5.88	103.9	2.0	0.29	0.0	0.00	0.64	0.20	11
	20 ISL	15.76	15.76	33.402	24.574	335.9	0.067	5.87	103.8	1.9	0.29	0.0	0.00	0.68	0.23	20
1	21	15.76	15.76	33.402	24.574	336.0	0.070	5.87	103.8	1.9	0.29	0.0	0.00	0.68	0.23	21
	30 ISL	15.56	15.56	33.391	24.611	332.8	0.101	5.86	103.2	2.1	0.31	0.0	0.02	0.95	0.35	30
1	32	15.51	15.51	33.388	24.620	332.0	0.107	5.86	103.0	2.1	0.31	0.0	0.03	1.02	0.38	32
1	42	13.37	13.36	33.277	24.986	297.2	0.139	5.58	93.9	5.4	0.59	3.6	0.28	1.16	0.58	42
	50 ISL	11.76	11.75	33.296	25.312	266.3	0.161	5.13	83.4	9.4	0.91	8.8	0.12	0.53	0.37	50
1	52	11.44	11.43	33.312	25.384	259.5	0.166	5.01	80.9	10.3	0.98	10.1	0.06	0.36	0.31	52
1	62	10.95	10.94	33.400	25.540	244.8	0.192	4.63	74.0	12.8	1.13	13.1	0.03	0.24	0.30	62
1	72	10.53	10.52	33.457	25.659	233.7	0.216	4.31	68.3	15.0	1.26	15.7	0.03	0.14	0.20	72
	75 ISL	10.42	10.41	33.481	25.696	230.2	0.223	4.22	66.7	15.7	1.29	16.4	0.03	0.12	0.18	75
1	86	10.09	10.08	33.572	25.824	218.3	0.247	3.91	61.4	18.0	1.38	18.5	0.01	0.07	0.14	86
	100 ISL	9.89	9.88	33.658	25.925	209.0	0.277	3.64	57.0	19.2	1.47	20.3	0.01	0.04	0.10	100
1	101	9.88	9.87	33.664	25.931	208.4	0.279	3.62	56.6	19.3	1.48	20.4	0.01	0.04	0.10	101
1	122	9.63	9.62	33.806	26.084	194.3	0.322	3.20	49.8	22.5	1.71	22.5	0.01	0.02	0.09	123
	125 ISL	9.57	9.56	33.824	26.108	192.1	0.327	3.15	49.0	23.3	1.74	22.8	0.01	0.02	0.09	126
1	147	9.15	9.13	33.932	26.261	177.9	0.368	2.82	43.5	28.8	1.89	25.2	0.01	0.01	0.07	148
	150 ISL	9.10	9.08	33.941	26.276	176.5	0.373	2.80	43.1	29.3	1.90	25.4	0.01	0.01	0.07	151
1	179	8.69	8.67	33.997	26.385	166.7	0.423	2.64	40.3	33.0	2.01	27.2	0.01	0.01	0.05	180
	200 ISL	8.38	8.36	34.035	26.462	159.6	0.457	2.55	38.7	36.1	2.08	28.1	0.01	0.01	0.04	201
1	208	8.27	8.25	34.047	26.489	157.2	0.470	2.51	38.0	37.3	2.10	28.4	0.01	0.01	0.04	209
1	238	7.91	7.89	34.073	26.563	150.5	0.516	2.27	34.1	41.7	2.21	30.1	0.01			239
	250 ISL	7.79	7.77	34.085	26.590	148.1	0.534	2.12	31.7	43.9	2.27	30.9	0.01			251
1	280	7.51	7.48	34.114	26.654	142.5	0.578	1.73	25.7	49.5	2.44	32.7	0.00			282
	300 ISL	7.34	7.31	34.124	26.686	139.6	0.606	1.55	23.0	52.5	2.53	33.7	0.00			302
1	335	7.08	7.05	34.145	26.739	135.0	0.654	1.28	18.8	57.1	2.66	35.1	0.00			337
1	396	6.85	6.81	34.232	26.840	126.3	0.734	0.73	10.7	64.6	2.85	37.0	0.00			399
	400 ISL	6.80	6.76	34.230	26.845	125.8	0.739	0.73	10.7	65.2	2.86	37.2	0.00			403
1	462	6.05	6.01	34.195	26.916	119.3	0.815	0.66	9.5	73.9	3.00	39.4	0.00			465
	500 ISL	6.06	6.02	34.253	26.961	115.6	0.859	0.50	7.2	76.9	3.06	39.8	0.00			503
1	535	6.06	6.01	34.306	27.003	112.1	0.899	0.35	5.0	79.7	3.12	40.1	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 80 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 29.0 N	122 32.2 W	17/11/90	1050 UTC	3995 m	360 11 kn			1021.8 mb	15.8 C	14.4 C			

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	15.78	15.78	33.467	24.619	331.0	0.000	5.78	102.3	2.1	0.30	0.2	0.01	0.49	0.26	0
1	1		15.78	15.78	33.467	24.619	331.1	0.003	5.78	102.2	2.1	0.30	0.2	0.01	0.49	0.26	1
	10	ISL	15.79	15.79	33.467	24.617	331.5	0.033	5.79	102.4	2.1	0.30	0.2	0.01	0.50	0.26	10
1	11		15.79	15.79	33.467	24.617	331.6	0.036	5.79	102.4	2.1	0.30	0.2	0.01	0.50	0.26	11
	20	ISL	15.78	15.78	33.467	24.620	331.6	0.066	5.78	102.2	1.9	0.30	0.2	0.01	0.48	0.23	20
1	21		15.78	15.78	33.467	24.620	331.6	0.070	5.78	102.2	1.9	0.30	0.2	0.01	0.48	0.23	21
	30	ISL	15.79	15.79	33.471	24.621	331.8	0.099	5.77	102.1	1.8	0.28	0.2	0.01	0.50	0.29	30
1	31		15.79	15.79	33.471	24.621	331.8	0.103	5.77	102.1	1.8	0.28	0.2	0.01	0.50	0.30	31
1	41		15.29	15.28	33.429	24.700	324.6	0.136	5.67	99.3	2.9	0.35	1.0	0.09	0.51	0.32	41
	50	ISL	12.69	12.68	33.330	25.162	280.7	0.163	5.15	85.4	7.9	0.78	8.1	0.11	0.38	0.38	50
1	51		12.38	12.37	33.324	25.217	275.4	0.166	5.09	83.9	8.5	0.83	9.0	0.11	0.36	0.38	51
1	61		11.06	11.05	33.313	25.453	253.1	0.192	4.88	78.2	11.3	1.03	12.4	0.05	0.22	0.28	61
1	71		10.18	10.17	33.320	25.612	238.1	0.217	4.75	74.7	13.4	1.16	14.8	0.03	0.16	0.23	71
	75	ISL	9.97	9.96	33.352	25.672	232.4	0.226	4.66	72.9	14.4	1.20	15.6	0.03	0.13	0.20	75
1	85		9.67	9.66	33.452	25.800	220.4	0.249	4.39	68.3	16.9	1.31	17.4	0.02	0.07	0.12	85
1	100		9.49	9.48	33.566	25.919	209.5	0.281	4.05	62.8	19.7	1.47	19.6	0.01	0.02	0.13	100
1	120		9.27	9.26	33.785	26.126	190.1	0.321	3.13	48.4	26.6	1.76	24.5	0.01	0.01	0.07	121
	125	ISL	9.19	9.18	33.820	26.166	186.4	0.330	3.00	46.3	27.8	1.80	25.2	0.01	0.01	0.06	126
1	145		8.88	8.86	33.918	26.292	174.8	0.366	2.70	41.4	31.3	1.92	27.1	0.00	0.01	0.05	146
	150	ISL	8.82	8.80	33.939	26.318	172.4	0.375	2.65	40.6	32.1	1.94	27.4	0.00	0.01	0.05	151
1	176		8.54	8.52	34.019	26.425	162.7	0.419	2.53	38.5	35.4	2.00	28.2	0.00	0.01	0.05	177
	200	ISL	8.25	8.23	34.042	26.488	157.1	0.457	2.50	37.8	37.5	2.05	28.9	0.00	0.01	0.04	201
1	205		8.18	8.16	34.043	26.499	156.1	0.465	2.50	37.7	38.0	2.06	29.1	0.00	0.01	0.04	206
1	236		7.74	7.72	34.052	26.571	149.6	0.512	2.41	36.0	43.1	2.17	30.5	0.00			237
	250	ISL	7.56	7.54	34.053	26.598	147.2	0.533	2.35	35.0	45.0	2.22	31.1	0.00			251
1	276		7.25	7.22	34.058	26.646	142.9	0.571	2.19	32.4	48.4	2.32	32.2	0.00			278
	300	ISL	7.03	7.00	34.076	26.691	138.9	0.605	1.91	28.1	52.6	2.45	33.6	0.00			302
1	333		6.77	6.74	34.104	26.749	133.8	0.650	1.50	21.9	58.5	2.63	35.6	0.00			335
1	392		6.28	6.25	34.136	26.839	125.8	0.726	1.04	15.0	67.1	2.85	38.0	0.00			395
	400	ISL	6.22	6.18	34.140	26.850	124.8	0.736	0.99	14.3	68.2	2.87	38.3	0.00			403
1	460		5.88	5.84	34.184	26.928	117.9	0.809	0.69	9.9	75.8	3.01	40.0	0.00			463
	500	ISL	5.76	5.72	34.236	26.984	113.0	0.855	0.51	7.3	79.9	3.09	40.6	0.00			503
1	532		5.66	5.61	34.278	27.030	109.0	0.891	0.37	5.3	83.2	3.15	41.1	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 8.9 N	123 13.4 W	17/11/90	1620 UTC	4225 m	350 14 kn	340 04 06	1	1022.7 mb	16.0 C	14.1 C	29m O2	4/8	SC

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	17.25	17.25	33.324	24.170	373.8	0.000	5.62	102.2	1.4	0.29	0.1	0.01	0.23	0.08	0
1	1		17.25	17.25	33.324	24.170	373.8	0.004	5.62	102.2	1.4	0.29	0.1	0.01	0.23	0.08	1
	10	ISL	17.25	17.25	33.324	24.171	374.1	0.037	5.63	102.4	1.4	0.28	0.0	0.01	0.24	0.07	10
1	17		17.25	17.25	33.325	24.172	374.2	0.064	5.63	102.4	1.4	0.28	0.0	0.01	0.25	0.07	17
	20	ISL	17.25	17.25	33.325	24.172	374.3	0.075	5.63	102.4	1.4	0.28	0.0	0.01	0.25	0.07	20
	30	ISL	17.24	17.24	33.325	24.175	374.4	0.112	5.61	102.0	1.4	0.29	0.0	0.01	0.25	0.08	30
1	32		17.24	17.23	33.325	24.175	374.5	0.120	5.61	102.0	1.4	0.29	0.0	0.01	0.25	0.08	32
1	42		17.25	17.24	33.326	24.173	374.9	0.157	5.62	102.2	1.4	0.29	0.0	0.01	0.24	0.08	42
	50	ISL	17.24	17.23	33.326	24.176	374.9	0.187	5.61	102.0	1.4	0.29	0.0	0.01	0.25	0.09	50
1	53		17.23	17.22	33.326	24.179	374.8	0.198	5.61	102.0	1.4	0.29	0.0	0.01	0.25	0.09	53
1	63		16.96	16.95	33.322	24.240	369.3	0.236	5.63	101.8	1.3	0.28	0.1	0.01	0.24	0.08	63
1	73		13.69	13.68	33.089	24.777	318.0	0.270	6.25	105.7	1.9	0.33	0.1	0.02	0.39	0.28	73
	75	ISL	13.32	13.31	33.071	24.838	312.2	0.276	6.23	104.6	2.1	0.36	0.4	0.05	0.37	0.27	75
1	82		12.45	12.44	33.053	24.995	297.4	0.298	6.04	99.5	3.0	0.45	1.6	0.18	0.26	0.22	82
1	98		11.89	11.88	33.236	25.243	274.1	0.343	5.68	92.6	3.7	0.52	3.6	0.19	0.16	0.22	98
	100	ISL	11.65	11.64	33.219	25.274	271.1	0.349	5.66	91.8	4.0	0.55	4.3	0.17	0.15	0.22	100
1	113		10.16	10.15	33.131	25.468	252.6	0.383	5.47	85.8	7.0	0.80	9.5	0.03	0.10	0.19	113
	125	ISL	10.10	10.09	33.301	25.611	239.3	0.412	4.94	77.5	10.9	1.07	13.7	0.01	0.06	0.11	126
1	128		10.09	10.08	33.338	25.642	236.5	0.420	4.79	75.1	11.9	1.13	14.6	0.01	0.05	0.09	129
	150	ISL	9.63	9.61	33.505	25.849	217.1	0.469	4.12	64.0	16.8	1.41	19.2	0.01	0.02	0.04	151
1	153		9.55	9.53	33.525	25.878	214.4	0.476	4.05	62.8	17.4	1.43	19.7	0.01	0.02	0.04	154
1	179		9.03	9.01	33.819	26.192	185.0	0.528	3.44	52.9	23.8	1.62	23.4	0.01	0.00	0.03	180
	200	ISL	8.67	8.65	33.928	26.334	171.9	0.565	3.28	50.0	27.1	1.69	25.0	0.00	0.00	0.02	201
1	209		8.53	8.51	33.952	26.374	168.1	0.581	3.25	49.4	28.4	1.71	25.5	0.00	0.00	0.02	210
1	239		8.04	8.02	34.007	26.492	157.3	0.629	2.96	44.5	33.7	1.88	27.7	0.00			240
	250	ISL	7.92	7.89	34.016	26.517	155.1	0.647	2.86	42.9	35.2	1.93	28.4	0.00			251
1	279		7.62	7.59	34.029	26.571	150.3	0.691	2.57	38.3	39.2	2.06	30.1	0.00			281
	300	ISL	7.34	7.31	34.036	26.616	146.2	0.722	2.35	34.8	42.9	2.18	31.5	0.00			302
1	335		6.88	6.85	34.054	26.694	139.0	0.772	1.95	28.6	49.8	2.38	33.8	0.00			337
1	396		6.39	6.35	34.118	26.810	128.6	0.854	1.17	16.9	62.8	2.72	37.3	0.00			398
	400	ISL	6.36	6.32	34.121	26.817	128.0	0.859	1.14	16.5	63.5	2.74	37.5	0.00			402
1	465		5.90	5.86	34.159	26.906	120.1	0.939	0.78	11.2	73.9	2.98	39.6	0.00			468
	500	ISL	5.65	5.61	34.188	26.960	115.2	0.981	0.62	8.8	79.5	3.06	40.6	0.00			503
1	537		5.38	5.34	34.219	27.017	110.0	1.022	0.46	6.5	85.4	3.14	41.7	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 80 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 49.1 N	123 54.4 W	17/11/90	2235 UTC	4356 m	360 13 kn	330 04 07	1	1021.8 mb	16.5 C	14.8 C	25m 02	5/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.05	18.05	33.521	24.129	377.8	0.000	5.52	102.1	2.8	0.31	0.0	0.00	0.24	0.07	0
	10 ISL	18.06	18.06	33.520	24.126	378.4	0.038	5.53	102.3	2.7	0.30	0.0	0.00	0.24	0.06	10
1	16	18.07	18.07	33.519	24.123	378.9	0.061	5.53	102.3	2.7	0.29	0.0	0.00	0.24	0.06	16
	20 ISL	18.07	18.07	33.520	24.124	378.9	0.076	5.54	102.5	2.7	0.29	0.0	0.00	0.24	0.06	20
1	30	18.06	18.05	33.522	24.128	378.9	0.114	5.56	102.9	2.7	0.28	0.0	0.00	0.24	0.07	30
1	41	18.07	18.06	33.522	24.126	379.5	0.155	5.53	102.3	2.7	0.27	0.0	0.00	0.25	0.07	41
1	50	18.03	18.02	33.522	24.136	378.8	0.189	5.52	102.1	2.6	0.27	0.0	0.00	0.26	0.08	50
1	62	17.77	17.76	33.461	24.153	377.6	0.235	5.55	102.1	2.6	0.27	0.0	0.00	0.31	0.10	62
1	72	16.27	16.26	33.375	24.440	350.4	0.271	5.80	103.5	2.8	0.30	0.0	0.00	0.36	0.21	72
	75 ISL	15.47	15.46	33.352	24.602	335.0	0.281	5.92	104.0	3.1	0.31	0.1	0.01	0.35	0.24	75
1	81	13.91	13.90	33.333	24.921	304.6	0.301	6.11	104.0	3.9	0.35	0.3	0.02	0.31	0.29	81
1	96	12.75	12.74	33.343	25.162	281.9	0.345	5.76	95.7	5.5	0.53	3.0	0.23	0.23	0.28	96
	100 ISL	12.35	12.34	33.339	25.236	274.9	0.356	5.60	92.2	6.4	0.62	4.7	0.19	0.20	0.27	100
1	112	11.22	11.21	33.350	25.454	254.2	0.388	5.08	81.7	9.9	0.89	10.1	0.02	0.11	0.21	112
	125 ISL	10.41	10.40	33.429	25.659	234.9	0.419	4.56	72.1	14.4	1.12	14.6	0.00	0.06	0.12	126
1	127	10.32	10.31	33.444	25.686	232.3	0.424	4.49	70.8	15.1	1.15	15.2	0.00	0.05	0.11	128
	150 ISL	9.66	9.64	33.607	25.924	210.0	0.475	3.87	60.2	20.5	1.45	20.0	0.00	0.02	0.05	151
1	153	9.61	9.59	33.628	25.949	207.7	0.481	3.81	59.2	21.0	1.48	20.4	0.00	0.02	0.05	154
1	179	9.15	9.13	33.789	26.150	189.1	0.533	3.48	53.6	25.3	1.61	23.1	0.00	0.01	0.03	180
	200 ISL	8.80	8.78	33.904	26.295	175.6	0.571	3.26	49.9	29.0	1.71	24.8	0.00	0.00	0.03	201
1	209	8.65	8.63	33.944	26.350	170.5	0.587	3.18	48.5	30.7	1.75	25.5	0.00	0.00	0.03	210
1	239	8.03	8.01	34.009	26.495	157.0	0.636	2.98	44.8	37.0	1.91	27.7	0.00			240
	250 ISL	7.88	7.86	34.019	26.525	154.3	0.653	2.89	43.3	38.7	1.95	28.3	0.00			251
1	280	7.53	7.50	34.033	26.587	148.8	0.698	2.60	38.7	43.1	2.06	30.1	0.00			282
	300 ISL	7.27	7.24	34.045	26.633	144.6	0.728	2.32	34.3	47.2	2.18	31.6	0.00			302
1	337	6.83	6.80	34.070	26.714	137.2	0.780	1.80	26.3	54.9	2.42	34.4	0.00			339
1	398	6.32	6.28	34.112	26.815	128.1	0.861	1.22	17.6	64.8	2.70	37.3	0.00			400
	400 ISL	6.31	6.27	34.114	26.818	127.9	0.863	1.20	17.3	65.1	2.71	37.4	0.00			402
1	465	5.96	5.92	34.190	26.923	118.5	0.943	0.66	9.5	74.7	2.91	39.8	0.00			468
	500 ISL	5.80	5.76	34.225	26.971	114.4	0.984	0.53	7.6	79.5	3.01	40.5	0.00			503
1	536	5.63	5.58	34.261	27.021	109.9	1.024	0.39	5.6	84,4	3.12	41.2	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 82 47

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 16.5 N	120 1.7 W	16/11/90	0641 UTC	574 m	080 04 Jen			1019.5 mb	17.1 C	15.7 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0 A	17.11	17.11	33.474	24.318	359.7	0.000	5.86	106.4	2.8	0.26	0.2	0.00	0.30	0.11	0
1	10	17.13	17.13	33.473	24.313	360.5	0.036	5.86	106.5	2.5	0.25	0.2	0.00	0.31	0.11	10
	20 ISL	16.36	16.36	33.429	24.459	346.9	0.071	5.94	106.3	2.8	0.28	0.2	0.00	0.56	0.26	20
1	21	16.27	16.27	33.424	24.476	345.4	0.075	5.94	106.1	2.8	0.28	0.2	0.00	0.61	0.29	21
1	30	15.70	15.70	33.377	24.569	336.8	0.106	5.81	102.6	3.8	0.34	0.2	0.04	1.34	0.67	30
1	41	14.00	13.99	33.253	24.839	311.2	0.141	6.09	103.8	3.8	0.34	0.3	0.03	0.87	0.36	41
	50 ISL	12.98	12.97	33.307	25.087	287.8	0.168	5.55	92.6	6.0	0.56	4.4	0.11	0.49	0.26	50
1	51	12.88	12.87	33.316	25.114	285.3	0.171	5.48	91.3	6.3	0.59	4.9	0.12	0.45	0.26	51
1	61	12.11	12.10	33.324	25.269	270.7	0.199	5.34	87.5	6.6	0.66	6.4	0.03	0.27	0.27	61
1	71	11.76	11.75	33.397	25.391	259.3	0.225	4.87	79.2	9.6	0.86	9.0	0.09	0.16	0.23	71
	75 ISL	11.60	11.59	33.409	25.430	255.7	0.236	4.79	77.7	10.1	0.90	9.9	0.07	0.14	0.20	75
1	80	11.42	11.41	33.418	25.470	252.0	0.248	4.74	76.6	10.5	0.93	10.7	0.03	0.12	0.17	80
1	95	11.40	11.39	33.450	25.499	249.6	0.286	4.62	74.6	11.0	0.97	11.2	0.03	0.12	0.17	95
	100 ISL	11.20	11.19	33.493	25.569	243.0	0.298	4.39	70.6	13.0	1.07	12.8	0.03	0.10	0.16	100
1	110	10.76	10.75	33.593	25.725	228.3	0.322	3.89	62.0	17.3	1.30	16.4	0.04	0.07	0.15	111
	125 ISL	10.53	10.52	33.698	25.847	217.0	0.355	3.53	56.0	19.3	1.48	18.9	0.01	0.04	0.16	126
1	131	10.46	10.44	33.736	25.890	213.1	0.368	3.43	54.4	19.9	1.54	19.6	0.00	0.04	0.16	132
1	149	9.91	9.89	33.878	26.094	194.0	0.405	2.98	46.7	25.1	1.81	22.7	0.00	0.04	0.10	150
	150 ISL	9.89	9.87	33.882	26.101	193.4	0.407	2.97	46.5	25.3	1.82	22.8	0.00	0.04	0.10	151
1	179	9.36	9.34	33.949	26.241	180.5	0.461	2.71	42.0	29.4	1.98	25.3	0.00	0.01	0.07	180
	' 200 ISL	9.17	9.15	33.999	26.311	174.2	0.498	2.42	37.3	32.3	2.03	26.9	0.01			201
1	208	9.12	9.10	34.020	26.336	172.1	0.512	2.28	35.1	33.5	2.05	27.5	0.01			209
1	236	8.86	8.83	34.112	26.449	161.7	0.559	1.61	24.7	39.6	2.31	30.3	0.01			237
	250 ISL	8.76	8.73	34.138	26.485	158.6	0.581	1.40	21.4	42.1	2.39	31.2	0.01			251
1	276	8.57	8.54	34.167	26.538	154.0	0.622	1.13	17.2	46.5	2.49	32.4	0.00			278
	300 ISL	8.35	8.32	34.180	26.582	150.1	0.658	0.98	14.9	51.1	2.58	33.0	0.00			302
1	325	8.10	8.07	34.188	26.626	146.3	0.695	0.86	13.0	56.1	2.67	33.5	0.01			327
1	383	7.41	7.37	34.216	26.750	135.1	0.777	0.52	7.7	68.7	2.95	34.6	0.00			385
	400 ISL	7.20	7.16	34.223	26.785	131.9	0.800	0.42	6.2	73.5	3.03	34.4	0.00			403
1	441	6.76	6.72	34.238	26.857	125.3	0.852	0.22	3.2	85.6	3.21	33.0	0.01			444
	500 ISL	6.50	6.45	34.243	26.896	122.2	0.925	0.14	2.0	102.0	3.43	27.9	0.00			503
1	510	6.48	6.43	34.243	26.899	122.1	0.938	0.13	1.9	104.0	3.46	27.1	0.00			514
1	530	6.45	6.40	34.244	26.904	121.9	0.962	0.14	2.0	105.5	3.49	26.3	0.01			534
1	551	6.41	6.36	34.242	26.908	121.8	0.988	0.11	1.6	108.7	3.60	24.8	0.01			555
1	561	6.41	6.36	34.241	26.907	122.0	1.000	0.11	1.6	109.0	3.62	24.8	0.01			565
1	566	6.41	6.36	34.240	26.906	122.1	1.006	0.10	1.4	108.7	3.65	24.8	0.01			570
1	571	6.41	6.36	34.242	26.908	122.0	1.012	0.11	1.6	108.7	3.63	24.8	0.02			575

A) SANTA BARBARA BASIN STATION.

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 40.6

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
34 13.6 N	119 24.6 W	16/11/90	0233 UTC	32 m	180 04 kn			1018.6 mb	17.0 C	15.7 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.19	18.19	33.559	24.123	378.3	0.000	5.62	104.3	1.6	0.31	0.0	0.00	0.24	0.05	0
1	10	17.02	17.02	33.480	24.344	357.5	0.037	5.89	106.8	1.6	0.33	0.0	0.00	0.60	0.15	10
	20 ISL	16.43	16.43	33.443	24.454	347.4	0.072	6.03	108.0	1.6	0.34	0.0	0.00	1.10	0.32	20
1	21	16.39	16.39	33.440	24.461	346.8	0.076	6.03	107.9	1.6	0.34	0.0	0.00	1.16	0.34	21
	30 ISL	16.04	16.04	33.417	24.523	341.1	0.106	5.89	104.7	2.7	0.46	0.1	0.03	1.98	0.67	30
1	31	16.00	16.00	33.415	24.531	340.4	0.110	5.87	104.3	2.8	0.47	0.1	0.03	2.07	0.71	31

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
34 10.9 N	119 30.9 W	16/11/90	0034 UTC	125 m	180 05 kn	280 02 07	1	1018.4 mb	17.3 C	15.9 C	24m 03	6/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.96	17.96	33.539	24.164	374.4	0.000	5.75	106.2	1.6	0.32	0.1	0.01	0.42	0.06	0
	10 ISL	17.14	17.14	33.465	24.305	361.3	0.037	5.91	107.4	1.8	0.34	0.1	0.01	0.36	0.11	10
1	11	17.06	17.06	33.458	24.318	360.1	0.040	5.93	107.6	1.8	0.34	0.1	0.01	0.35	0.11	11
	20 ISL	15.36	15.36	33.324	24.603	333.2	0.072	6.01	105.3	2.7	0.45	0.2	0.05	0.77	0.28	20
1	21	15.18	15.18	33.311	24.632	330.4	0.075	6.02	105.1	2.8	0.46	0.2	0.06	0.82	0.30	21
	30 ISL	14.54	14.54	33.268	24.737	320.7	0.104	6.05	104.3	3.0	0.48	0.3	0.12	0.93	0.41	30
1	31	14.49	14.49	33.266	24.746	319.8	0.107	6.05	104.1	3.0	0.48	0.3	0.13	0.94	0.42	31
1	41	13.33	13.32	33.249	24.973	298.5	0.138	5.89	99.0	3.7	0.57	1.8	0.22	0.67	0.36	41
	50 ISL	12.81	12.80	33.289	25.107	285.9	0.165	5.54	92.1	4.6	0.72	3.9	0.39	0.44	0.32	50
1	51	12.76	12.75	33.295	25.121	284.6	0.167	5.49	91.2	4.8	0.74	4.2	0.40	0.41	0.32	51
1	61	11.99	11.98	33.363	25.322	265.7	0.195	5.09	83.2	7.5	0.92	7.6	0.07	0.18	0.26	61
1	71	11.54	11.53	33.417	25.447	253.9	0.221	4.78	77.4	9.4	1.05	10.0	0.03	0.12	0.18	71
	75 ISL	11.44	11.43	33.439	25.483	250.6	0.231	4.68	75.7	10.1	1.10	10.7	0.03	0.11	0.17	75
1	86	11.24	11.23	33.513	25.577	241.9	0.258	4.36	70.2	12.5	1.24	12.8	0.04	0.08	0.16	86
	100 ISL	10.92	10.91	33.650	25.741	226.6	0.291	3.72	59.5	17.4	1.49	16.6	0.02	0.04	0.10	100
1	101	10.90	10.89	33.660	25.752	225.6	0.293	3.67	58.7	17.7	1.51	16.9	0.02	0.04	0.10	101

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 53.0 N	120 8.3 W	15/11/90	1835 UTC	80 m	090 12 kn	270 03 07	1	1018.8 mb	17.8 C	16.2 C	23m 02	4/8 SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.54	17.54	33.533	24.261	365.1	0.000	5.65	103.5	2.3	0.28	0.1	0.01	0.26	0.07	0
1	10	17.51	17.51	33.533	24.269	364.8	0.036	5.67	103.8	2.3	0.28	0.1	0.01	0.26	0.08	10
	20 ISL	17.10	17.10	33.494	24.337	358.6	0.073	5.74	104.2	2.4	0.31	0.1	0.01	0.37	0.12	20
1	22	16.96	16.96	33.486	24.364	356.1	0.080	5.75	104.1	2.4	0.31	0.1	0.01	0.39	0.13	22
	30 ISL	15.66	15.66	33.438	24.625	331.4	0.107	5.65	99.7	3.8	0.45	1.7	0.05	0.44	0.21	30
1	32	15.26	15.26	33.428	24.705	323.8	0.114	5.60	98.0	4.2	0.49	2.2	0.06	0.44	0.23	32
1	44	13.49	13.48	33.399	25.057	290.6	0.151	5.33	90.0	6.7	0.68	5.1	0.11	0.34	0.23	44
	50 ISL	12.46	12.45	33.393	25.255	271.8	0.168	5.08	83.9	8.8	0.85	7.6	0.13	0.31	0.25	50
1	53	12.03	12.02	33.395	25.339	263.9	0.176	4.96	81.2	9.8	0.93	8.8	0.14	0.29	0.26	53
1	63	11.73	11.72	33.414	25.410	257.3	0.202	4.81	78.2	10.7	0.99	10.0	0.13	0.22	0.24	63
	75 ISL	11.50	11.49	33.423	25.459	252.9	0.232	4.74	76.7	11.3	1.03	10.8	0.11	0.17	0.25	75
1	76	11.48	11.47	33.424	25.464	252.5	0.235	4.73	76.5	11.3	1.03	10.9	0.11	0.17	0.25	76

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 44.9 N	120 24.9 W	15/11/90	1458 UTC	1024 m	360 10 kn	350 04 07	1	1017.3 mb	16.0 C	15.1 C	23m 03	7/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.75	16.75	33.490	24.415	350.5	0.000	5.73	103.3	2.3	0.34	0.1	0.01	0.39	0.13	0
1	1	16.75	16.75	33.490	24.415	350.5	0.004	5.73	103.3	2.3	0.34	0.1	0.01	0.39	0.13	1
	10 ISL	16.75	16.75	33.491	24.416	350.7	0.035	5.75	103.7	2.3	0.34	0.1	0.01	0.39	0.13	10
1	11	16.75	16.75	33.491	24.416	350.7	0.039	5.75	103.7	2.3	0.34	0.1	0.01	0.39	0.13	11
	20 ISL	16.74	16.74	33.489	24.417	350.9	0.070	5.76	103.9	2.3	0.34	0.1	0.01	0.40	0.12	20
1	22	16.74	16.74	33.489	24.417	351.0	0.077	5.76	103.9	2.3	0.34	0.1	0.01	0.40	0.12	22
	30 ISL	16.74	16.74	33.488	24.417	351.3	0.105	5.74	103.5	2.3	0.33	0.1	0.01	0.41	0.13	30
1	32	16.74	16.73	33.488	24.417	351.3	0.112	5.74	103.5	2.3	0.33	0.1	0.01	0.41	0.13	32
1	42	15.85	15.84	33.417	24.566	337.4	0.147	5.83	103.2	2.6	0.36	0.1	0.02	0.58	0.26	42
	50 ISL	14.27	14.26	33.321	24.836	311.9	0.173	5.76	98.7	4.2	0.54	2.1	0.10	0.73	0.36	50
1	52	13.85	13.84	33.301	24.907	305.0	0.179	5.73	97.4	4.7	0.59	2.7	0.12	0.75	0.38	52
1	62	12.36	12.35	33.251	25.165	280.7	0.208	5.53	91.1	6.8	0.77	5.7	0.17	0.51	0.46	62
	75 ISL	10.65	10.64	33.209	25.445	254.1	0.243	5.24	83.2	10.2	1.06	10.2	0.08	0.25	0.25	75
1	76	10.55	10.54	33.211	25.463	252.4	0.245	5.21	82.5	10.5	1.08	10.6	0.07	0.23	0.23	76
1	92	10.43	10.42	33.442	25.665	233.6	0.284	4.48	70.9	15.4	1.35	15.3	0.03	0.10	0.18	92
	100 ISL	10.21	10.20	33.531	25.772	223.6	0.303	4.15	65.4	18.2	1.48	17.4	0.03	0.06	0.14	100
1	112	9.85	9.84	33.649	25.925	209.2	0.329	3.72	58.2	22.4	1.66	20.2	0.02	0.03	0.08	113
	125 ISL	9.59	9.58	33.775	26.066	196.0	0.355	3.37	52.4	26.3	1.82	22.5	0.02	0.01	0.07	126
1	132	9.48	9.47	33.833	26.130	190.1	0.368	3.23	50.1	28.0	1.88	23.4	0.02	0.01	0.06	133
	150 ISL	9.30	9.28	33.914	26.223	181.6	0.402	2.99	46.3	30.5	1.95	24.6	0.02	0.00	0.05	151
1	158	9.24	9.22	33.934	26.248	179.4	0.416	2.92	45.1	31.2	1.96	24.9	0.02	0.00	0.05	159
1	189	8.95	8.93	33.997	26.344	170.8	0.471	2.68	41.2	34.2	2.08	26.4	0.01	0.00	0.03	190
	200 ISL	8.84	8.82	34.021	26.380	167.5	0.489	2.62	40.1	35.2	2.12	26.9	0.01	0.00	0.03	201
1	223	8.60	8.58	34.067	26.454	160.9	0.527	2.48	37.8	37.4	2.21	28.1	0.01	0.00	0.04	224
	250 ISL	8.35	8.32	34.104	26.522	154.9	0.570	2.20	33.3	41.0	2.31	29.5	0.01			251
1	259	8.28	8.25	34.113	26.540	153.3	0.583	2.11	31.9	42.2	2.34	29.9	0.01			261
1	300	8.12	8.09	34.144	26.589	149.4	0.646	1.87	28.2	45.8	2.43	31.1	0.01			302
1	355	7.75	7.71	34.172	26.666	142.8	0.726	1.53	22.9	51.1	2.58	32.8	0.01			357
	400 ISL	7.21	7.17	34.186	26.754	134.8	0.788	1.18	17.4	58.9	2.75	35.2	0.00			403
1	422	6.94	6.90	34.195	26.798	130.7	0.818	1.00	14.7	63.1	2.84	36.4	0.00			425
1	492	6.42	6.38	34.259	26.919	119.9	0.905	0.55	8.0	74.0	3.07	38.8	0.00			495
	500 ISL	6.38	6.33	34.261	26.926	119.3	0.915	0.53	7.7	74.8	3.08	39.0	0.00			503
1	575	5.97	5.92	34.279	26.993	113.5	1.002	0.38	5.5	81.9	3.15	40.4	0.00			579

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 34.8 N	120 45.9 W	15/11/90	1102 UTC	1457 m	330 15 kn			1016.5 mb	15.5 C	14.4 C		

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	16.73	16.73	33.470	24.404	351.5	0.000	5.70	102.7	2.6	0.35	0.1	0.00	0.28	0.10	0
1	3		16.73	16.73	33.470	24.404	351.6	0.011	5.70	102.7	2.6	0.35	0.1	0.00	0.28	0.10	3
	10	ISL	16.70	16.70	33.471	24.412	351.0	0.035	5.70	102.7	2.6	0.34	0.1	0.00	0.29	0.09	10
1	13		16.68	16.68	33.472	24.418	350.6	0.046	5.70	102.6	2.6	0.34	0.1	0.00	0.30	0.09	13
	20	ISL	16.59	16.59	33.479	24.444	348.3	0.070	5.71	102.6	2.5	0.34	0.0	0.00	0.34	0.10	20
1	22		16.54	16.54	33.480	24.457	347.2	0.077	5.71	102.5	2.5	0.34	0.0	0.00	0.35	0.10	22
	30	ISL	16.15	16.15	33.470	24.539	339.6	0.105	5.70	101.6	2.4	0.35	0.1	0.01	0.45	0.15	30
1	33		16.01	16.00	33.467	24.568	336.9	0.115	5.70	101.3	2.4	0.35	0.2	0.02	0.48	0.19	33
1	43		12.38	12.37	33.208	25.127	283.8	0.146	5.45	89.8	7.0	0.84	6.6	0.11	0.49	0.42	43
	50	ISL	11.47	11.46	33.236	25.319	265.6	0.165	5.18	83.7	9.6	1.03	9.7	0.08	0.35	0.36	50
1	55		11.20	11.19	33.270	25.394	258.5	0.178	5.04	81.0	10.8	1.10	11.0	0.05	0.25	0.27	55
1	65		10.38	10.37	33.215	25.496	249.0	0.203	5.20	82.0	10.3	1.09	11.2	0.02	0.20	0.19	65
	75	ISL	9.96	9.95	33.393	25.706	229.2	0.227	4.56	71.4	15.1	1.35	15.6	0.01	0.10	0.11	75
1	79		9.87	9.86	33.478	25.787	221.6	0.236	4.26	66.6	17.3	1.46	17.5	0.01	0.06	0.09	79
1	94		9.68	9.67	33.545	25.871	213.9	0.269	4.10	63.8	19.0	1.53	19.0	0.01	0.03	0.06	94
	100	ISL	9.58	9.57	33.601	25.932	208.3	0.282	3.88	60.3	20.8	1.61	20.2	0.01	0.02	0.05	100
1	115		9.34	9.33	33.752	26.089	193.6	0.312	3.29	50.9	25.6	1.81	23.4	0.01	0.01	0.04	116
	125	ISL	9.24	9.23	33.827	26.164	186.7	0.331	3.05	47.1	27.7	1.89	24.6	0.00	0.01	0.05	126
1	134		9.14	9.13	33.880	26.221	181.4	0.347	2.91	44.8	29.2	1.95	25.4	0.00	0.01	0.06	135
	150	ISL	8.86	8.84	33.934	26.308	173.4	0.376	2.80	42.9	31.7	2.01	26.5	0.01	0.01	0.05	151
1	159		8.70	8.68	33.953	26.348	169.7	0.391	2.77	42.3	32.9	2.03	27.0	0.01	0.01	0.04	160
1	189		8.35	8.33	34.016	26.452	160.3	0.441	2.59	39.2	37.0	2.12	28.4	0.00	0.01	0.03	190
	200	ISL	8.20	8.18	34.034	26.489	157.0	0.458	2.52	38.1	38.9	2.16	29.0	0.00	0.01	0.03	201
1	223		7.90	7.88	34.066	26.559	150.7	0.494	2.34	35.1	42.9	2.25	30.2	0.00	0.00	0.04	224
	250	ISL	7.70	7.68	34.104	26.618	145.4	0.534	1.98	29.6	47.1	2.40	31.7	0.00			251
1	259		7.64	7.61	34.114	26.635	144.0	0.547	1.86	27.7	48.5	2.45	32.2	0.00			261
1	299		7.19	7.16	34.131	26.712	137.0	0.603	1.48	21.8	56.3	2.64	34.7	0.00			301
	300	ISL	7.18	7.15	34.133	26.715	136.8	0.604	1.47	21.7	56.5	2.65	34.7	0.00			302
1	354		6.99	6.96	34.237	26.824	127.2	0.675	0.78	11.5	64.1	2.90	36.7	0.00			356
	400	ISL	6.73	6.69	34.260	26.878	122.7	0.733	0.59	8.6	69.1	3.00	37.8	0.00			403
1	419		6.61	6.57	34.263	26.896	121.1	0.756	0.57	8.3	70.9	3.02	38.1	0.00			422
1	491		6.25	6.21	34.296	26.970	114.8	0.841	0.38	5.5	77.3	3.11	39.5	0.00			494
	500	ISL	6.19	6.15	34.299	26.980	113.9	0.851	0.37	5.3	78.3	3.12	39.7	0.00			503
1	574		5.74	5.69	34.324	27.057	107.2	0.933	0.28	4.0	86.4	3.19	41.1	0.00			578

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 15.0 N	121 26.6 W	15/11/90	0451 UTC	3799 m	330 19 kn			1017.5 mb	15.0 C	13.9 C		

CAST	DEPTH ni		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	16.21	16.21	33.437	24.499	342.5	0.000	5.77	102.9	2.6	0.35	0.1	0.00	0.34	0.11	0
1	2		16.21	16.21	33.437	24.499	342.6	0.007	5.77	102.9	2.6	0.35	0.1	0.00	0.34	0.11	2
	10	ISL	16.20	16.20	33.436	24.501	342.6	0.034	5.78	103.1	0.3	0.34	0.1	0.00	0.35	0.11	10
1	11		16.20	16.20	33.436	24.501	342.7	0.038	5.78	103.1	0.0	0.34	0.1	0.00	0.35	0.11	11
	20	ISL	16.20	16.20	33.436	24.501	342.9	0.069	5.78	103.1	1.9	0.34	0.1	0.00	0.35	0.11	20
1	22		16.20	16.20	33.436	24.501	343.0	0.075	5.78	103.1	2.5	0.34	0.1	0.00	0.35	0.11	22
	30	ISL	15.97	15.97	33.407	24.531	340.4	0.103	5.83	103.5	2.7	0.33	0.1	0.00	0.48	0.19	30
1	32		15.89	15.89	33.400	24.544	339.2	0.110	5.84	103.5	2.8	0.33	0.1	0.00	0.53	0.22	32
1	41		15.57	15.56	33.409	24.623	332.0	0.140	5.72	100.7	3.1	0.41	0.6	0.04	0.85	0.42	41
	50	ISL	13.43	13.42	33.327	25.013	294.9	0.168	5.41	91.2	6.7	0.72	5.3	0.12	0.73	0.44	50
1	52		12.90	12.89	33.318	25.112	285.5	0.174	5.32	88.6	7.7	0.80	6.6	0.13	0.70	0.44	52
1	62		11.66	11.65	33.384	25.399	258.3	0.201	4.78	77.6	12.3	1.13	11.8	0.05	0.36	0.36	62
1	75		10.65	10.64	33.552	25.712	228.8	0.233	4.02	63.9	18.4	1.47	17.5	0.03	0.15	0.19	75
1	90		10.14	10.13	33.628	25.859	215.0	0.266	3.73	58.7	21.7	1.63	20.0	0.02	0.07	0.15	90
	100	ISL	9.90	9.89	33.679	25.939	207.6	0.287	3.56	55.7	23.6	1.70	21.3	0.01	0.04	0.12	100
1	110		9.71	9.70	33.733	26.014	200.7	0.307	3.39	52.9	25.5	1.77	22.5	0.01	0.03	0.10	111
	125	ISL	9.43	9.42	33.829	26.135	189.5	0.337	3.08	47.8	28.9	1.88	24.4	0.01	0.01	0.07	126
1	130		9.35	9.34	33.859	26.171	186.1	0.346	2.98	46.1	30.0	1.92	24.9	0.01	0.01	0.06	131
	150	ISL	9.04	9.02	33.940	26.285	175.7	0.382	2.79	42.9	33.1	2.01	26.2	0.01	0.01	0.06	151
1	155		8.97	8.95	33.955	26.307	173.6	0.391	2.76	42.4	33.8	2.03	26.5	0.01	0.01	0.06	156
1	185		8.49	8.47	34.026	26.438	161.6	0.441	2.59	39.4	39.1	2.16	28.2	0.01	0.01	0.05	186
	200	ISL	8.30	8.28	34.048	26.484	157.4	0.465	2.50	37.8	41.5	2.22	28.9	0.01	0.01	0.05	201
1	221		8.09	8.07	34.073	26.536	152.9	0.498	2.34	35.3	44.8	2.31	29.9	0.00	0.01	0.05	222
	250	ISL	7.88	7.85	34.121	26.605	146.7	0.541	1.94	29.1	50.2	2.48	31.5	0.00			251
1	255		7.85	7.82	34.128	26.615	145.9	0.549	1.87	28.0	51.2	2.51	31.8	0.00			256
1	296		7.40	7.37	34.135	26.686	139.6	0.607	1.55	23.0	58.5	2.67	33.9	0.00			298
	300	ISL	7.35	7.32	34.136	26.694	138.9	0.613	1.52	22.5	59.2	2.69	34.1	0.00			302
1	351		6.81	6.78	34.154	26.783	130.9	0.681	1.16	17.0	66.9	2.86	36.4	0.00			353
	400	ISL	6.45	6.41	34.184	26.855	124.5	0.744	0.85	12.3	72.8	2.95	38.1	0.00			403
1	418		6.33	6.29	34.195	26.879	122.4	0.766	0.75	10.9	74.8	2.98	38.6	0.00			421
1	492		5.71	5.67	34.218	26.976	113.6	0.854	0.54	7.7	83.6	3.10	40.8	0.00			495
	500	ISL	5.68	5.64	34.225	26.985	112.8	0.863	0.52	7.4	84.4	3.11	40.9	0.00			503
1	575		5.45	5.40	34.294	27.068	105.7	0.945	0.32	4.5	92.0	3.23	41.9	0.00			579

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 54.8 N	122 8.3 W	14/11/90	2300 UTC	4180 m	030 15 kn	360 03 05	2	1016.7 mb	16.3 C	14.5 C	21m 03	8/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.16	17.16	33.479	24.310	360.4	0.000	5.64	102.5	1.9	0.34	0.1	0.00	0.22	0.06	0
1	10	17.16	17.16	33.479	24.311	360.7	0.036	5.65	102.7	1.9	0.33	0.1	0.00	0.22	0.05	10
1	19	17.15	17.15	33.479	24.313	360.8	0.069	5.63	102.3	1.8	0.33	0.1	0.00	0.21	0.06	19
	20 ISL	17.15	17.15	33.479	24.314	360.8	0.072	5.63	102.3	1.8	0.33	0.1	0.00	0.21	0.06	20
1	29	17.15	17.15	33.477	24.312	361.2	0.105	5.66	102.9	1.8	0.33	0.1	0.00	0.25	0.07	29
	30 ISL	17.15	17.15	33.477	24.312	361.3	0.108	5.66	102.9	1.8	0.33	0.1	0.00	0.25	0.07	30
1	39	17.12	17.11	33.477	24.320	360.9	0.141	5.67	103.0	1.8	0.33	0.1	0.00	0.26	0.07	39
1	49	17.02	17.01	33.460	24.331	360.2	0.177	5.64	102.2	1.7	0.33	0.1	0.00	0.48	0.18	49
	50 ISL	16.66	16.65	33.429	24.391	354.4	0.180	5.64	101.5	2.0	0.36	0.4	0.01	0.54	0.23	50
1	59	13.02	13.01	33.238	25.026	293.8	0.210	5.66	94.5	5.9	0.73	4.8	0.06	0.90	0.56	59
1	68	11.11	11.10	33.317	25.447	253.8	0.234	4.88	78.3	11.4	1.18	12.7	0.02	0.25	0.24	68
	75 ISL	10.52	10.51	33.345	25.573	241.9	0.252	4.67	74.0	13.3	1.31	15.0	0.02	0.18	0.19	75
1	83	10.25	10.24	33.370	25.639	235.8	0.271	4.57	72.0	14.7	1.37	16.1	0.02	0.11	0.14	83
1	97	9.62	9.61	33.507	25.852	215.8	0.302	4.09	63.6	19.5	1.58	19.9	0.01	0.04	0.08	97
	100 ISL	9.56	9.55	33.546	25.892	212.0	0.309	3.95	61.3	20.5	1.62	20.6	0.01	0.03	0.07	100
1	118	9.39	9.38	33.754	26.082	194.3	0.345	3.22	49.9	25.3	1.80	23.9	0.01	0.01	0.04	119
	125 ISL	9.32	9.31	33.790	26.122	190.6	0.359	3.10	47.9	26.3	1.84	24.5	0.01	0.01	0.04	126
1	143	9.10	9.08	33.845	26.201	183.5	0.392	2.94	45.3	28.3	1.91	25.6	0.01	0.01	0.04	144
	150 ISL	8.99	8.97	33.876	26.243	179.7	0.405	2.87	44.1	29.5	1.94	26.1	0.01	0.01	0.03	151
1	171	8.65	8.63	33.961	26.363	168.6	0.442	2.72	41.5	33.2	2.03	27.5	0.01	0.00	0.02	172
	200 ISL	8.35	8.33	34.014	26.450	160.7	0.489	2.65	40.2	36.1	2.08	28.3	0.01	0.00	0.03	201
1	201	8.34	8.32	34.015	26.453	160.5	0.491	2.65	40.1	36.2	2.08	28.3	0.01	0.00	0.03	202
1	230	7.75	7.73	34.057	26.573	149.3	0.536	2.36	35.3	43.5	2.26	30.5	0.01			231
	250 ISL	7.57	7.55	34.071	26.611	146.0	0.565	2.25	33.5	46.1	2.32	31.2	0.01			251
1	269	7.45	7.42	34.079	26.634	144.1	0.593	2.15	31.9	48.1	2.36	31.8	0.01			271
	300 ISL	7.09	7.06	34.096	26.698	138.3	0.637	1.78	26.2	54.2	2.51	33.8	0.01			302
1	324	6.82	6.79	34.112	26.748	133.8	0.669	1.46	21.4	59.2	2.64	35.4	0.01			326
1	384	6.42	6.39	34.166	26.844	125.3	0.747	0.93	13.5	67.9	2.86	37.9	0.01			386
	400 ISL	6.33	6.29	34.181	26.868	123.2	0.767	0.82	11.9	70.0	2.91	38.4	0.01			403
1	450	6.09	6.05	34.230	26.938	117.1	0.827	0.56	8.1	75.9	3.04	39.6	0.00			453
	500 ISL	5.95	5.91	34.280	26.996	112.2	0.884	0.41	5.9	80.2	3.14	40.3	0.00			503
1	520	5.90	5.85	34.300	27.018	110.3	0.907	0.35	5.0	81.9	3.18	40.6	0.00			524

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 34.7 N	122 49.1 W	14/11/90	1542 UTC	4259 m	360 07 kn	330 02 07	1	1016.1 mb	16.0 C	13.4 C	16m 03	7/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.07	16.07	33.380	24.487	343.6	0.000	5.82	103.5	1.7	0.33	0.0	0.00	0.37	0.12	0
	10 ISL	16.08	16.08	33.389	24.492	343.5	0.034	5.81	103.3	1.8	0.33	0.0	0.00	0.38	0.13	10
1	15	16.08	16.08	33.394	24.496	343.3	0.052	5.81	103.3	1.8	0.33	0.0	0.00	0.38	0.13	15
	20 ISL	16.03	16.03	33.407	24.517	341.4	0.069	5.82	103.4	1.5	0.33	0.0	0.00	0.49	0.21	20
	30 ISL	15.78	15.78	33.424	24.587	335.0	0.102	5.84	103.3	1.0	0.33	0.0	0.01	0.71	0.38	30
1	31	15.75	15.75	33.425	24.594	334.3	0.106	5.84	103.2	1.0	0.33	0.0	0.01	0.73	0.40	31
1	41	15.26	15.25	33.410	24.692	325.4	0.139	5.90	103.2	1.2	0.36	0.0	0.02	0.80	A 0.49 A	41
	50 ISL	15.07	15.06	33.408	24.732	321.8	0.168	5.85	102.0	2.3	0.40	0.2	0.07	0.92	0.63	50
1	52	15.03	15.02	33.407	24.740	321.1	0.174	5.82	101.4	2.6	0.41	0.3	0.09	0.92	0.65	52
1	62	14.62	14.61	33.381	24.808	314.8	0.206	5.61	96.9	4.0	0.54	2.1	0.23	0.59	0.48	62
1	72	11.28	11.27	33.261	25.373	260.9	0.235	5.39	86.7	7.7	0.93	9.1	0.21	0.23	0.33	72
	75 ISL	11.04	11.03	33.271	25.424	256.2	0.243	5.10	81.7	8.6	1.00	10.3	0.16	0.22	0.31	75
1	82	10.60	10.59	33.284	25.512	247.9	0.260	4.96	78.7	10.6	1.12	12.4	0.05	0.18	0.29	82
1	97	9.85	9.84	33.432	25.755	225.0	0.296	4.36	68.1	15.8	1.42	17.7	0.02	0.11	0.17	97
	100 ISL	9.77	9.76	33.446	25.779	222.8	0.303	4.30	67.0	16.4	1.45	18.2	0.02	0.10	0.16	100
1	112	9.51	9.50	33.502	25.866	214.7	0.329	4.11	63.7	18.4	1.53	19.7	0.02	0.06	0.15	113
	125 ISL	9.16	9.15	33.627	26.020	200.3	0.356	3.72	57.3	21.8	1.64	22.1	0.01	0.03	0.10	126
1	128	9.09	9.08	33.660	26.057	196.8	0.362	3.63	55.8	22.6	1.67	22.7	0.01	0.03	0.09	129
	150 ISL	8.94	8.92	33.879	26.253	178.7	0.403	3.12	47.9	27.1	1.81	25.1	0.01	0.01	0.05	151
1	153	8.94	8.92	33.904	26.272	176.9	0.408	3.06	47.0	27.6	1.83	25.3	0.01	0.01	0.05	154
1	179	8.71	8.69	34.001	26.385	166.7	0.453	2.59	39.6	32.4	2.00	27.5	0.01	0.01	0.04	180
	200 ISL	8.23	8.21	34.023	26.476	158.3	0.487	2.61	39.4	35.4	2.04	28.5	0.01	0.00	0.04	201
1	210	8.01	7.99	34.030	26.514	154.7	0.503	2.62	39.4	36.9	2.06	29.0	0.01	0.00	0.04	211
1	240	7.87	7.85	34.105	26.594	147.6	0.548	1.98	29.7	43.3	2.28	31.4	0.01			241
	250 ISL	7.80	7.78	34.123	26.618	145.4	0.563	1.81	27.1	45.1	2.35	32.0	0.01			251
1	281	7.54	7.51	34.162	26.687	139.3	0.607	1.42	21.1	49.9	2.53	33.6	0.00			283
	300 ISL	7.36	7.33	34.169	26.718	136.6	0.633	1.29	19.1	52.4	2.60	34.5	0.00			302
1	337	7.02	6.99	34.175	26.771	132.0	0.683	1.10	16.2	56.8	2.69	35.8	0.00			339
1	398	6.62	6.58	34.226	26.866	123.7	0.761	0.70	10.2	64.3	2.86	36.9	0.01			401
	400 ISL	6.62	6.58	34.228	26.867	123.5	0.763	0.69	10.1	64.5	2.87	37.0	0.01			403
1	464	6.47	6.43	34.296	26.941	117.4	0.840	0.41	6.0	70.4	3.03	38.8	0.01			467
	500 ISL	6.21	6.17	34.311	26.987	113.3	0.882	0.35	5.1	74.9	3.09	39.6	0.01			503
1	535	5.95	5.90	34.326	27.032	109.2	0.921	0.29	4.2	79.2	3.15	40.3	0.01			539

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

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 14.7 N	123 29.6 W	14/11/90	0957 UTC	4139 m	360 10 kn			1015.4 mb	16.8 C	14.2 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.02	18.02	33.434	24.069	383.4	0.000			2.9	0.35	0.0	0.00	0.16	0.04	0
1	1	18.02	18.02	33.434	24.069	383.5	0.004	5.88 U	108.6 U	2.9	0.35	0.0	0.00	0.16	0.04	1
	10 ISL	17.80	17.80	33.408	24.103	380.5	0.038			2.8	0.35	0.0	0.00	0.15	0.04	10
1	17	17.58	17.58	33.382	24.137	377.6	0.065	5.60	102.6	2.7	0.35	0.0	0.00	0.15	0.04	17
	20 ISL	17.55	17.55	33.376	24.139	377.4	0.076	5.61	102.7	2.7	0.35	0.0	0.00	0.15	0.04	20
	30 ISL	17.48	17.47	33.363	24.146	377.1	0.114	5.63	102.9	2.6	0.35	0.0	0.00	0.17	0.06	30
1	32	17.47	17.46	33.362	24.148	377.0	0.121	5.63	102.9	2.6	0.35	0.0	0.00	0.17	0.06	32
1	42	17.37	17.36	33.358	24.169	375.3	0.159	5.64	102.9	2.6	0.34	0.0	0.00	0.23	0.10	42
	50 ISL	17.20	17.19	33.342	24.198	372.9	0.189	5.66	102.9	2.5	0.34	0.0	0.00	0.28	0.10	50
1	52	17.13	17.12	33.338	24.211	371.6	0.196	5.67	102.9	2.5	0.34	0.0	0.00	0.29	0.10	52
1	62	16.54	16.53	33.333	24.345	359.1	0.233	5.74	103.0	2.5	0.35	0.0	0.00	0.41	0.18	62
1	72	15.22	15.21	33.267	24.591	335.9	0.268	6.02	105.2	2.5	0.42	0.0	0.01	0.29	0.22	72
	75 ISL	14.80	14.79	33.267	24.682	327.3	0.278	6.05	104.8	2.6	0.43	0.1	0.01	0.27	0.23	75
1	82	13.90	13.89	33.285	24.886	308.0	0.300	6.12	104.1	3.0	0.45	0.2	0.03	0.23	0.25	82
1	97	12.75	12.74	33.324	25.147	283.3	0.344	5.79	96.2	4.3	0.60	2.7	0.18	0.21	0.21	97
	100 ISL	12.61	12.60	33.316	25.168	281.4	0.353	5.77	95.5	4.4	0.61	3.0	0.17	0.20	0.21	100
1	112	12.01	12.00	33.286	25.259	272.9	0.386	5.62	91.9	5.4	0.72	4.9	0.07	0.16	0.18	112
	125 ISL	10.80	10.79	33.326	25.511	249.0	0.420	5.10	81.2	10.0	1.05	10.6	0.02	0.08	0.10	126
1	127	10.61	10.59	33.340	25.555	244.9	0.425	5.00	79.3	10.8	1.11	11.6	0.01	0.07	0.09	128
	150 ISL	9.74	9.72	33.617	25.919	210.6	0.477	3.97	61.9	19.4	1.58	19.0	0.01	0.02	0.04	151
1	153	9.70	9.68	33.656	25.956	207.1	0.483	3.85	60.0	20.4	1.62	19.7	0.01	0.02	0.04	154
1	178	9.25	9.23	33.821	26.158	188.3	0.533	3.35	51.7	24.8	1.75	23.2	0.00	0.01	0.03	179
	200 ISL	8.93	8.91	33.907	26.277	177.3	0.573	3.18	48.8	27.6	1.82	24.8	0.00	0.00	0.03	201
1	209	8.82	8.80	33.932	26.314	174.0	0.589	3.15	48.2	28.6	1.85	25.2	0.00	0.00	0.03	210
1	238	8.47	8.45	34.005	26.426	163.8	0.638	3.01	45.7	32.3	1.96	26.5	0.00			239
	250 ISL	8.29	8.26	34.023	26.467	160.0	0.657	2.91	44.0	34.3	2.01	27.3	0.00			251
1	279	7.84	7.81	34.049	26.555	152.0	0.702	2.61	39.1	39.4	2.15	29.3	0.00			281
	300 ISL	7.53	7.50	34.056	26.605	147.4	0.734	2.41	35.8	42.8	2.25	30.7	0.00			302
1	335	7.06	7.03	34.062	26.676	140.9	0.784	2.05	30.2	49.0	2.42	33.0	0.00			337
1	395	6.38	6.34	34.103	26.800	129.6	0.865	1.34	19.4	62.6	2.74	36.9	0.00			397
	400 ISL	6.34	6.30	34.107	26.808	128.8	0.872	1.29	18.7	63.8	2.77	37.2	0.00			402
1	461	5.88	5.84	34.155	26.905	120.1	0.948	0.81	11.6	76.4	3.04	39.7	0.00			464
	500 ISL	5.67	5.63	34.192	26.961	115.2	0.994	0.62	8.8	81.6	3.14	40.6	0.00			503
1	532	5.50	5.46	34.223	27.006	111.1	1.030	0.46	6.5	85.9	3.22	41.4	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 83 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 54.5 N	124 10.3 W	14/11/90	0418 UTC	4180 m	270 10 kn			1015.2 mb	17.0 C	14.5 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.98	18.98	33.576	23.939	395.8	0.000	5.44	102.5	2.3	0.34	0.0	0.00	0.14	0.03	0
1	1	18.98	18.98	33.576	23.939	395.9	0.004	5.44	102.5	2.3	0.34	0.0	0.00	0.14	0.03	1
	10 ISL	18.96	18.96	33.576	23.945	395.7	0.040	5.44	102.4	2.2	0.34	0.0	0.00	0.13	0.03	10
1	17	18.94	18.94	33.575	23.949	395.5	0.067	5.45	102.6	2.1	0.34	0.0	0.00	0.13	0.03	17
	20 ISL	18.93	18.93	33.577	23.954	395.2	0.079	5.45	102.5	2.1	0.34	0.0	0.00	0.14	0.03	20
	30 ISL	18.90	18.89	33.575	23.960	394.9	0.119	5.46	102.7	2.2	0.34	0.0	0.00	0.16	0.04	30
1	32	18.89	18.88	33.574	23.962	394.8	0.127	5.46	102.6	2.2	0.34	0.0	0.00	0.16	0.04	32
1	42	18.81	18.80	33.550	23.964	395.0	0.166	5.45	102.3	2.2	0.34	0.0	0.00	0.15	0.04	42
	50 ISL	18.69	18.68	33.534	23.982	393.5	0.198	5.47	102.4	2.2	0.34	0.0	0.00	0.20	0.06	50
1	52	18.65	18.64	33.528	23.988	393.1	0.205	5.48	102.5	2.2	0.34	0.0	0.00	0.21	0.06	52
1	63	18.29	18.28	33.467	24.031	389.3	0.248	5.53	102.7	2.3	0.34	0.0	0.00	0.23	0.06	63
1	73	16.08	16.07	33.337	24.454	349.1	0.285	6.02	107.0	2.3	0.34	0.0	0.00	0.33	0.17	73
	75 ISL	15.56	15.55	33.338	24.571	337.9	0.292	6.09	107.2	2.5	0.35	0.0	0.00	0.34	0.20	75
1	82	13.92	13.91	33.373	24.950	301.9	0.315	6.23	106.1	3.4	0.43	0.0	0.01	0.36	0.29	82
1	97	12.60	12.59	33.353	25.198	278.4	0.358	5.71	94.6	5.1	0.67	3.6	0.22	0.33	0.29	97
	100 ISL	12.31	12.30	33.340	25.244	274.1	0.366	5.62	92.5	5.6	0.72	4.6	0.19	0.30	0.27	100
1	113	11.22	11.21	33.316	25.428	256.7	0.401	5.23	84.1	8.3	0.95	8.9	0.03	0.18	0.19	113
	125 ISL	10.74	10.73	33.391	25.572	243.2	0.431	4.81	76.6	11.6	1.15	12.4	0.02	0.11	0.14	126
1	128	10.66	10.64	33.416	25.605	240.1	0.438	4.70	74.7	12.5	1.20	13.2	0.02	0.10	0.13	129
	150 ISL	9.93	9.91	33.566	25.847	217.4	0.489	4.11	64.3	17.7	1.47	17.9	0.01	0.04	0.07	151
1	153	9.84	9.82	33.589	25.880	214.3	0.495	4.04	63.1	18.4	1.50	18.5	0.01	0.03	0.06	154
1	178	9.21	9.19	33.827	26.170	187.2	0.545	3.46	53.4	25.9	1.77	22.9	0.00	0.00	0.02	179
	200 ISL	8.67	8.65	33.937	26.341	171.2	0.585	3.41	52.0	30.2	1.86	24.7	0.00	0.00	0.02	201
1	208	8.49	8.47	33.960	26.387	166.9	0.598	3.39	51.5	31.5	1.87	25.0	0.00	0.00	0.02	209
1	237	7.95	7.93	34.000	26.500	156.5	0.645	3.49	52.4	36.0	1.90	25.9	0.00			238
	250 ISL	7.67	7.65	34.008	26.547	152.1	0.665	3.25	48.5	40.0	2.01	27.4	0.00			251
1	277	7.14	7.11	34.019	26.630	144.3	0.705	2.61	38.5	48.9	2.28	31.0	0.00			278
	300 ISL	6.86	6.83	34.026	26.675	140.4	0.738	2.32	34.0	53.9	2.41	32.7	0.00			302
1	333	6.57	6.54	34.038	26.723	136.1	0.783	2.00	29.1	59.3	2.54	34.5	0.00			335
1	392	6.07	6.04	34.084	26.824	126.9	0.861	1.33	19.1	67.7	2.75	37.7	0.00			394
	400 ISL	6.01	5.98	34.089	26.836	125.9	0.871	1.26	18.1	68.6	2.78	38.0	0.00			402
1	459	5.66	5.62	34.136	26.917	118.7	0.943	0.85	12.1	74.8	2.95	39.9	0.00			462
	500 ISL	5.53	5.49	34.190	26.976	113.5	0.991	0.63	8.9	78.8	3.05	40.8	0.00			503
1	531	5.43	5.39	34.230	27.020	109.7	1.026	0.47	6.7	81.9	3.13	41.4	0.00			535

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 33

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 53.4 N	118 29.7 W	11/11/90	1506 UTC	56 m	030 04 kn	270 01 04	1	1018.5 mb	17.9 C	16.1 C	3/8	CI

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.50	17.50	33.485	24.234	367.7	0.000	5.95	108.9	2.3	0.29	0.1	0.01	0.59	0.20	0
1	10	16.46	16.46	33.398	24.412	351.1	0.036	5.96	106.8	2.7	0.37	0.1	0.03	1.58	0.45	10
	20 ISL	15.02	15.02	33.304	24.662	327.6	0.070	5.85	101.8	3.5	0.57	0.6	0.34	1.47	0.69	20
1	21	14.87	14.87	33.297	24.689	325.0	0.073	5.84	101.3	3.6	0.59	0.7	0.37	1.46	0.70	21
	30 ISL	13.78	13.78	33.291	24.913	303.8	0.101	5.94	100.8	3.6	0.52	0.9	0.37	1.14	0.56	30
1	31	13.68	13.68	33.293	24.936	301.8	0.104	5.95	100.8	3.6	0.51	0.9	0.37	1.09	0.54	31
1	41	13.30	13.29	33.296	25.015	294.5	0.134	5.77	96.9	4.2	0.56	1.8	0.49	0.54	0.41	41
	50 ISL	13.17	13.16	33.301	25.045	291.8	0.161	5.66	94.8	4.4	0.61	2.4	0.48	0.42	0.33	50
1	52	13.14	13.13	33.302	25.052	291.2	0.166	5.64	94.4	4.5	0.62	2.5	0.48	0.39	0.31	52

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 48.9 N	118 37.1 W	11/11/90	2032 UTC	645 m	080 07 kn	310 01 06	1	1019.1 mb	19.8 C	17.8 C	28m 03	3/8	CI

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	18.15	18.15	33.542	24.120	378.6	0.000	5.63	104.4	2.0	0.31	0.2	0.01	0.21	0.04	0
1	1		18.15	18.15	33.542	24.120	378.6	0.004	5.63	104.4	2.0	0.31	0.2	0.01	0.21	0.04	1
	10	ISL	17.10	17.10	33.453	24.305	361.3	0.037	5.81	105.5	2.3	0.34	0.2	0.01	0.24	0.07	10
1	11		16.94	16.94	33.440	24.333	358.7	0.041	5.84	105.7	2.3	0.34	0.2	0.01	0.25	0.08	11
	20	ISL	16.30	16.30	33.383	24.437	349.0	0.073	5.95	106.3	2.5	0.35	0.2	0.01	0.32	0.11	20
1	22		16.14	16.14	33.372	24.466	346.4	0.079	5.97	106.3	2.5	0.35	0.2	0.01	0.33	0.12	22
	30	ISL	14.90	14.90	33.332	24.709	323.3	0.106	6.04	104.9	2.8	0.42	0.3	0.09	0.75	0.32	30
1	32		14.57	14.57	33.325	24.775	317.1	0.113	6.05	104.4	2.9	0.44	0.3	0.12	0.84	0.37	32
1	42		13.51	13.50	33.297	24.974	298.5	0.143	5.93	100.1	3.5	0.50	0.9	0.28	0.58	0.37	42
	50	ISL	13.08	13.07	33.304	25.065	289.9	0.167	5.68	95.0	4.2	0.62	2.6	0.37	0.37	0.29	50
1	52		13.01	13.00	33.307	25.082	288.4	0.173	5.61	93.7	4.4	0.65	3.1	0.39	0.33	0.27	52
1	62		12.72	12.71	33.320	25.149	282.2	0.201	5.39	89.5	5.4	0.75	4.5	0.42	0.23	0.29	62
1	72		12.27	12.26	33.342	25.253	272.6	0.229	5.26	86.5	6.3	0.80	6.2	0.09	0.18	0.20	72
	75	ISL	12.17	12.16	33.352	25.280	270.1	0.237	5.19	85.2	6.6	0.83	6.7	0.08	0.16	0.19	75
1	87		11.79	11.78	33.413	25.399	259.0	0.269	4.82	78.5	8.7	0.99	9.3	0.05	0.10	0.17	87
	100	ISL	11.19	11.18	33.529	25.599	240.2	0.301	4.24	68.2	12.5	1.25	13.5	0.03	0.06	0.11	100
1	102		11.10	11.09	33.549	25.630	237.2	0.306	4.15	66.6	13.1	1.29	14.2	0.03	0.05	0.10	102
2	122		10.77	10.76	33.738	25.837	218.0	0.352	3.33	53.2	19.0	1.62	18.9	0.02	0.02	0.06	123
	125	ISL	10.74	10.72	33.753	25.854	216.5	0.358	3.27	52.2	19.5	1.64	19.3	0.02	0.02	0.06	126
2	148		10.43	10.41	33.835	25.972	205.7	0.407	3.02	47.9	22.3	1.75	21.3	0.03	0.01	0.06	149
	150	ISL	10.37	10.35	33.846	25.991	203.9	0.411	2.99	47.3	22.7	1.77	21.6	0.03	0.01	0.06	151
2	178		9.51	9.49	33.987	26.246	180.1	0.465	2.72	42.3	28.6	1.98	25.0	0.03	0.01	0.05	179
	200	ISL	9.17	9.15	34.026	26.332	172.3	0.503	2.70	41.7	30.9	2.02	26.0	0.02	0.00	0.04	201
2	209		9.08	9.06	34.032	26.351	170.6	0.519	2.69	41.4	31.5	2.02	26.2	0.01	0.00	0.04	210
2	239		8.81	8.78	34.068	26.423	164.3	0.569	2.56	39.2	33.9	2.10	27.4	0.02			240
	250	ISL	8.69	8.66	34.080	26.451	161.8	0.587	2.47	37.7	35.4	2.14	28.0	0.02			251
2	281		8.33	8.30	34.112	26.532	154.5	0.636	2.17	32.9	40.4	2.28	29.7	0.03			283
	300	ISL	8.13	8.10	34.126	26.573	150.9	0.665	2.00	30.2	43.1	2.35	30.6	0.03			302
2	338		7.75	7.72	34.157	26.654	143.6	0.721	1.63	24.4	48.8	2.52	32.6	0.02			340
2	399		7.13	7.09	34.237	26.805	129.9	0.804	0.83	12.2	61.0	2.91	36.4	0.01			402
	400	ISL	7.12	7.08	34.238	26.807	129.7	0.806	0.82	12.1	61.1	2.91	36.4	0.01			403
2	464		6.66	6.62	34.276	26.901	121.4	0.886	0.51	7.4	69.0	3.04	38.3	0.01			467
	500	ISL	6.46	6.41	34.292	26.940	118.1	0.929	0.43	6.2	72.8	3.10	39.0	0.01			503
2	535		6.27	6.22	34.308	26.978	114.8	0.970	0.36	5.2	76.4	3.16	39.7	0.01			539

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 39.2 N	118 58.8 W	12/11/90	0021 UTC	688 m	160 04 Kn	280 01 05	1	1016.9 mb	19.8 C	18.7 C	23m 03	7/8	ST

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		18.41	18.41	33.557	24.067	383.6	0.000	5.64	105.1	3.0	0.31	0.2	0.00	0.34	0.09	0
1	10		18.11	18.11	33.555	24.140	377.0	0.038	5.65	104.7	2.9	0.31	0.2	0.00	0.33	0.08	10
	20	ISL	17.22	17.22	33.481	24.298	362.2	0.075	5.78	105.2	2.9	0.33	0.2	0.01	0.32	0.11	20
1	21		17.09	17.09	33.471	24.322	360.1	0.079	5.80	105.3	2.9	0.34	0.2	0.01	0.32	0.11	21
	30	ISL	15.39	15.39	33.369	24.631	330.8	0.110	5.87	103.0	3.7	0.43	0.9	0.04	0.86	0.37	30
1	31		15.18	15.18	33.359	24.670	327.2	0.113	5.88	102.7	3.8	0.44	1.0	0.04	0.91	0.39	31
1	41		13.19	13.18	33.286	25.029	293.1	0.144	5.66	94.9	5.5	0.66	4.0	0.12	0.57	0.29	41
	50	ISL	12.26	12.25	33.272	25.200	277.0	0.170	5.47	89.9	6.7	0.81	6.2	0.10	0.37	0.24	50
1	52		12.13	12.12	33.273	25.225	274.6	0.175	5.43	89.0	6.9	0.83	6.6	0.10	0.34	0.23	52
1	62		11.72	11.71	33.291	25.316	266.2	0.202	5.30	86.1	7.6	0.90	8.0	0.06	0.26	0.21	62
1	72		11.53	11.52	33.359	25.404	258.1	0.228	5.04	81.6	8.7	0.98	9.3	0.04	0.23	0.24	72
	75	ISL	11.41	11.40	33.381	25.443	254.4	0.236	4.93	79.6	9.4	1.02	10.1	0.03	0.20	0.23	75
1	87		10.92	10.91	33.466	25.598	239.9	0.266	4.49	71.8	12.3	1.21	13.3	0.02	0.10	0.15	87
	100	ISL	10.60	10.59	33.532	25.705	229.9	0.296	4.24	67.3	14.6	1.32	15.3	0.02	0.05	0.12	100
1	102		10.56	10.55	33.542	25.720	228.6	0.301	4.21	66.8	14.9	1.34	15.5	0.02	0.05	0.12	102
1	123		10.37	10.36	33.704	25.880	213.9	0.347	3.63	57.4	19.2	1.56	18.8	0.01	0.02	0.07	124
	125	ISL	10.33	10.32	33.715	25.895	212.4	0.352	3.59	56.7	19.6	1.58	19.1	0.01	0.02	0.07	126
1	148		9.75	9.73	33.824	26.079	195.4	0.399	3.21	50.1	24.6	1.79	22.4	0.01	0.01	0.05	149
	150	ISL	9.70	9.68	33.835	26.096	193.8	0.402	3.18	49.6	25.1	1.81	22.7	0.01	0.01	0.05	151
1	179		9.00	8.98	33.979	26.322	172.7	0.456	2.81	43.2	31.4	1.99	25.9	0.01	0.01	0.04	180
	200	ISL	8.70	8.68	34.036	26.414	164.3	0.491	2.61	39.9	35.0	2.10	27.4	0.01	0.01	0.04	201
1	210		8.59	8.57	34.054	26.445	161.5	0.507	2.53	38.5	36.6	2.14	27.9	0.01	0.01	0.04	211
1	240		8.20	8.18	34.096	26.538	153.1	0.554	2.28	34.4	41.0	2.26	29.6	0.01			241
	250	ISL	8.12	8.09	34.105	26.557	151.4	0.570	2.22	33.5	42.2	2.30	30.0	0.01			251
1	281		7.92	7.89	34.130	26.607	147.2	0.616	2.02	30.3	45.9	2.42	31.3	0.01			283
	300	ISL	7.75	7.72	34.148	26.646	143.7	0.644	1.78	26.6	49.1	2.51	32.3	0.01			302
1	339		7.39	7.36	34.186	26.728	136.4	0.698	1.27	18.8	55.8	2.70	34.4	0.01			341
1	398		7.03	6.99	34.238	26.820	128.4	0.776	0.81	11.9	63.4	2.90	36.4	0.01			401
	400	ISL	7.02	6.98	34.239	26.822	128.2	0.779	0.80	11.8	63.6	2.91	36.5	0.01			403
1	464		6.59	6.55	34.273	26.907	120.7	0.858	0.51	7.4	70.9	3.04	38.2	0.01			467
	500	ISL	6.37	6.32	34.297	26.956	116.5	0.901	0.41	5.9	75.4	3.11	38.8	0.01			503
1	536		6.15	6.10	34.323	27.005	112.1	0.942	0.30	4.3	79.9	3.17	39.4	0.01			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 29.7 N	119 19.1 W	12/11/90	0450 UTC	909 in	050 08 k.n			1017.6 mb	18.4 C	17.9 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.12	18.12	33.561	24.142	376.5	0.000	5.67	105.0	2.7	0.29	0.2	0.00	0.33	0.09	0
1	10	17.80	17.80	33.555	24.216	369.8	0.037	5.68	104.6	2.7	0.29	0.2	0.00	0.27	0.08	10
1	20	17.49	17.49	33.551	24.288	363.3	0.074	5.69	104.1	2.5	0.29	0.2	0.00	0.29	0.13	20
	30 ISL	16.70	16.70	33.487	24.426	350.5	0.110	5.76	103.8	3.0	0.34	0.4	0.02	0.63	0.27	30
1	31	16.57	16.57	33.476	24.447	348.4	0.113	5.77	103.7	3.0	0.34	0.4	0.02	0.66	0.28	31
1	41	14.12	14.11	33.333	24.876	307.7	0.146	5.69	97.2	5.2	0.59	3.3	0.15	0.58	0.28	41
	50 ISL	12.37	12.36	33.271	25.178	279.1	0.172	5.47	90.1	7.0	0.77	6.3	0.10	0.45	0.30	50
1	51	12.23	12.22	33.268	25.202	276.8	0.175	5.45	89.5	7.1	0.79	6.6	0.09	0.44	0.30	51
1	61	12.01	12.00	33.270	25.246	272.9	0.203	5.38	87.9	7.2	0.84	7.3	0.07	0.39	0.26	61
1	71	11.41	11.40	33.304	25.383	260.0	0.229	5.10	82.3	9.4	1.01	10.3	0.06	0.30	0.25	71
	75 ISL	11.19	11.18	33.338	25.450	253.8	0.240	4.94	79.4	10.5	1.08	11.4	0.05	0.26	0.23	75
1	85	10.73	10.72	33.438	25.609	238.8	0.264	4.52	72.0	13.6	1.24	14.0	0.04	0.16	0.17	85
1	100	10.28	10.27	33.569	25.790	221.9	0.299	4.05	63.9	18.1	1.44	17.4	0.04	0.08	0.11	100
1	120	9.93	9.92	33.677	25.933	208.6	0.342	3.65	57.2	21.1	1.61	20.3	0.01	0.02	0.07	121
	125 ISL	9.81	9.80	33.727	25.993	203.1	0.352	3.52	55.0	22.4	1.66	21.2	0.01	0.02	0.06	126
1	146	9.34	9.32	33.932	26.230	180.9	0.392	3.02	46.8	27.9	1.86	24.3	0.01	0.00	0.04	147
	150 ISL	9.28	9.26	33.952	26.256	178.5	0.400	2.98	46.1	28.6	1.88	24.6	0.01	0.00	0.04	151
1	176	8.95	8.93	34.021	26.363	168.8	0.445	2.80	43.0	32.4	1.97	26.0	0.01	0.00	0.04	177
	200 ISL	8.62	8.60	34.056	26.442	161.6	0.484	2.58	39.3	35.9	2.06	27.6	0.01	0.00	0.03	201
1	206	8.55	8.53	34.064	26.459	160.1	0.494	2.51	38.2	36.7	2.09	28.0	0.01	0.00	0.03	207
1	236	8.40	8.38	34.124	26.530	153.9	0.541	2.08	31.6	40.3	2.27	29.6	0.01			237
	250 ISL	8.31	8.28	34.140	26.556	151.6	0.562	1.94	29.4	42.1	2.34	30.3	0.01			251
1	278	8.12	8.09	34.164	26.604	147.5	0.604	1.69	25.5							280
	300 ISL	7.96	7.93	34.187	26.646	143.8	0.636	1.47	22.1	48.5	2.56	32.5	0.01			302
1	333	7.72	7.69	34.218	26.706	138.6	0.683	1.16	17.3	52.6	2.67	33.7	0.01			335
1	394	7.35	7.31	34.247	26.782	132.1	0.766	0.84	12.5	59.5	2.86	35.4	0.01			397
	400 ISL	7.32	7.28	34.250	26.789	131.6	0.773	0.81	12.0	60.1	2.88	35.5	0.01			403
1	461	6.98	6.94	34.280	26.861	125.5	0.852	0.55	8.1	66.8	3.05	36.9	0.01			464
	500 ISL	6.61	6.56	34.298	26.925	119.6	0.900	0.44	6.4	73.2	3.14	38.1	0.01			503
1	533	6.30	6.25	34.314	26.979	114.7	0.938	0.35	5.1	78.6	3.21	39.1	0.01			537

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 19.3 N	119 39.9 W	12/11/90	0814 UTC	75 m	190 08 k.n			1018.4 mb	17.5 C	17.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.36	16.36	33.410	24.444	347.7	0.000	5.88	105.2	2.8	0.34	0.2	0.00	0.37	0.12	0
1	10	16.31	16.31	33.425	24.467	345.8	0.035	5.84	104.4	2.8	0.34	0.2	0.00	0.29	0.10	10
	20 ISL	15.65	15.65	33.378	24.580	335.4	0.069	5.87	103.5	3.2	0.38	0.4	0.02	0.86	0.38	20
1	21	15.54	15.54	33.369	24.598	333.7	0.072	5.87	103.3	3.3	0.39	0.4	0.02	0.92	0.41	21
	30 ISL	13.82	13.82	33.227	24.856	309.3	0.101	5.91	100.3	4.3	0.50	1.7	0.08	0.84	0.52	30
1	31	13.61	13.61	33.212	24.887	306.4	0.104	5.91	99.9	4.4	0.52	1.9	0.09	0.83	0.52	31
1	40	12.12	12.11	33.128	25.114	284.9	0.131	5.78	94.6	6.1	0.68	4.5	0.11	0.55	0.39	40
	50 ISL	11.09	11.08	33.078	25.265	270.7	0.158	5.67	90.8	7.4	0.81	6.8	0.10	0.36	0.31	50
1	51	11.02	11.01	33.078	25.277	269.6	0.161	5.65	90.3	7.5	0.82	7.0	0.10	0.35	0.30	51
1	63	10.46	10.45	33.200	25.470	251.4	0.192	5.17	81.7	10.5	1.07	11.0	0.06	0.22	0.27	63
1	72	10.58	10.57	33.315	25.539	245.1	0.215	4.86	77.1	12.6	1.15	12.7	0.07	0.14	0.16	72

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 9.4 N	120 0.9 W	12/11/90	1401 UTC	1186 m	020 05 kn		4	1019.0 mb	14.9 C	14.7 C		8/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.48	16.48	33.363	24.380	353.8	0.000	5.77	103.4	3.1	0.34	0.2	0.00	0.25	0.05	0
	10 ISL	16.31	16.31	33.360	24.417	350.6	0.035	5.80	103.6	2.9	0.34	0.2	0.00	0.24	0.07	10
1	16	16.20	16.20	33.359	24.442	348.5	0.056	5.82	103.7	2.8	0.34	0.2	0.00	0.23	0.08	16
	20 ISL	16.13	16.13	33.357	24.456	347.2	0.070	5.83	103.8	2.8	0.34	0.2	0.00	0.27	0.10	20
	30 ISL	15.97	15.97	33.352	24.489	344.4	0.105	5.85	103.8	2.7	0.34	0.2	0.00	0.40	0.15	30
1	31	15.96	15.96	33.351	24.490	344.3	0.108	5.85	103.8	2.7	0.34	0.2	0.00	0.41	0.15	31
1	42	15.90	15.89	33.347	24.501	343.6	0.146	5.86	103.8	2.5	0.34	0.2	0.00	0.47	0.17	42
	50 ISL	13.03	13.02	33.116	24.930	302.8	0.172	6.04	100.8	3.8	0.48	1.2	0.05	0.50	0.34	50
1	52	12.28	12.27	33.076	25.044	291.9	0.178	6.07	99.7	4.2	0.53	1.6	0.06	0.51	0.38	52
1	62	11.32	11.31	33.104	25.244	273.0	0.206	5.74	92.4	6.2	0.74	5.4	0.09	0.31	0.29	62
1	73	11.03	11.02	33.122	25.310	266.9	0.236	5.65	90.4	7.0	0.83	6.8	0.07	0.26	0.26	73
	75 ISL	10.90	10.89	33.140	25.347	263.5	0.241	5.56	88.7	7.6	0.87	7.6	0.06	0.24	0.24	75
1	82	10.44	10.43	33.213	25.484	250.5	0.259	5.24	82.8	10.0	1.04	10.7	0.03	0.16	0.18	82
1	98	10.21	10.20	33.301	25.592	240.5	0.298	4.93	77.5	12.5	1.21	13.4	0.02	0.10	0.13	98
	100 ISL	10.17	10.16	33.330	25.622	237.8	0.303	4.82	75.7	13.3	1.25	14.1	0.02	0.09	0.12	100
1	113	9.86	9.85	33.537	25.836	217.7	0.333	4.07	63.6	18.8	1.54	18.9	0.01	0.03	0.05	114
	125 ISL	9.55	9.54	33.683	26.001	202.2	0.358	3.57	55.5	23.3	1.72	22.1	0.01	0.01	0.03	126
1	128	9.48	9.47	33.713	26.036	198.9	0.364	3.47	53.8	24.2	1.75	22.7	0.01	0.01	0.03	129
	150 ISL	9.13	9.11	33.840	26.192	184.5	0.406	3.11	47.9	27.6	1.86	24.8	0.01	0.00	0.03	151
1	154	9.08	9.06	33.853	26.210	182.8	0.413	3.09	47.5	27.9	1.86	24.9	0.01	0.00	0.03	155
1	180	8.69	8.67	33.942	26.342	170.7	0.459	3.04	46.4	30.7	1.89	25.9	0.01	0.00	0.02	181
	200 ISL	8.44	8.42	33.983	26.412	164.3	0.493	3.03	46.0	32.2	1.90	26.5	0.01	0.00	0.02	201
1	210	8.33	8.31	33.998	26.441	161.8	0.509	3.02	45.7	33.1	1.92	26.8	0.01	0.00	0.02	211
1	240	8.01	7.99	34.045	26.526	154.1	0.557	2.69	40.4	38.0	2.07	28.8	0.01			241
	250 ISL	7.91	7.88	34.056	26.550	152.0	0.572	2.59	38.9	39.4	2.11	29.4	0.01			251
1	280	7.63	7.60	34.084	26.613	146.4	0.617	2.25	33.5	43.7	2.25	31.1	0.01			282
	300 ISL	7.40	7.37	34.108	26.665	141.7	0.645	1.93	28.6	47.8	2.38	32.6	0.01			302
1	336	7.02	6.99	34.152	26.753	133.7	0.695	1.36	20.0	55.5	2.63	35.1	0.01			338
1	397	6.64	6.60	34.216	26.855	124.7	0.774	0.80	11.7	65.4	2.90	37.6	0.01			400
	400 ISL	6.63	6.59	34.220	26.860	124.3	0.778	0.78	11.4	65.9	2.91	37.7	0.01			403
1	463	6.34	6.30	34.299	26.961	115.4	0.853	0.43	6.2	75.3	3.09	39.2	0.01			466
	500 ISL	6.14	6.10	34.312	26.997	112.3	0.895	0.38	5.5	79.1	3.14	39.8	0.01			503
1	534	5.96	5.91	34.325	27.030	109.4	0.933	0.33	4.7	82.5	3.19	40.3	0.01			538

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 59.9 N	120 21.1 W	12/11/90	1812 UTC	686 m	190 03 kn	350 02 06	4	1020.6 mb	16.9 C	16.1 C	29m 02	6/8	ST

CAST	DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 UM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.96	16.96	33.399	24.296	361.8	0.000	5.71	103.3	2.4	0.34	0.2	0.00	0.17	0.04	0
1	1	16.96	16.96	33.399	24.296	361.8	0.004	5.71	103.3	2.4	0.34	0.2	0.00	0.17	0.04	1
	10 ISL	16.83	16.83	33.397	24.325	359.3	0.036	5.73	103.4	2.4	0.34	0.2	0.00	0.19	0.05	10
1	16	16.71	16.71	33.396	24.353	356.9	0.058	5.74	103.4	2.4	0.34	0.2	0.00	0.22	0.07	16
	20 ISL	16.68	16.68	33.397	24.361	356.3	0.072	5.74	103.3	2.4	0.34	0.2	0.00	0.25	0.08	20
	30 ISL	16.62	16.62	33.401	24.378	355.0	0.107	5.73	103.0	2.4	0.33	0.2	0.00	0.32	0.12	30
1	31	16.61	16.61	33.401	24.380	354.8	0.111	5.73	103.0	2.4	0.33	0.2	0.00	0.33	0.12	31
1	42	14.64	14.63	33.259	24.709	323.7	0.148	5.89	101.7	2.9	0.42	0.7	0.04	0.68	0.35	42
	50 ISL	13.35	13.34	33.164	24.903	305.3	0.173	5.99	100.7	3.4	0.48	1.1	0.06	0.60	0.39	50
1	51	13.21	13.20	33.155	24.924	303.4	0.176	6.00	100.5	3.5	0.49	1.2	0.06	0.59	0.40	51
1	61	12.25	12.24	33.138	25.098	287.0	0.206	5.90	96.9	4.2	0.60	2.7	0.12	0.35	0.34	61
1	71	11.34	11.33	33.143	25.271	270.7	0.234	5.64	90.8	6.2	0.79	6.2	0.04	0.22	0.24	71
	75 ISL	11.11	11.10	33.158	25.324	265.7	0.245	5.56	89.1	6.6	0.83	7.1	0.04	0.20	0.22	75
1	81	10.82	10.81	33.187	25.398	258.7	0.260	5.43	86.5	7.4	0.90	8.5	0.03	0.18	0.20	81
1	96	10.04	10.03	33.285	25.609	238.9	0.298	4.92	77.1	12.2	1.20	13.7	0.01	0.07	0.10	96
	100 ISL	9.90	9.89	33.344	25.678	232.4	0.307	4.73	73.9	13.7	1.27	15.1	0.01	0.05	0.08	100
1	111	9.64	9.63	33.496	25.840	217.2	0.332	4.26	66.2	17.3	1.43	18.1	0.01	0.03	0.05	112
	125 ISL	9.56	9.55	33.547	25.893	212.4	0.362	4.09	63.5	18.7	1.50	19.2	0.01	0.02	0.05	126
1	126	9.56	9.55	33.549	25.895	212.3	0.364	4.08	63.3	18.8	1.50	19.2	0.01	0.02	0.05	127
	150 ISL	9.34	9.32	33.736	26.077	195.4	0.413	3.41	52.7	24.4	1.76	23.1	0.01	0.01	0.03	151
1	152	9.32	9.30	33.753	26.094	193.9	0.417	3.35	51.8	24.9	1.78	23.4	0.01	0.01	0.03	153
1	176	9.05	9.03	33.879	26.236	180.8	0.462	2.93	45.1	28.8	1.93	25.7	0.01	0.00	0.02	177
	200 ISL	8.63	8.61	33.989	26.388	166.7	0.503	2.92	44.5	32.5	1.97	26.6	0.01	0.00	0.02	201
1	208	8.48	8.46	34.019	26.435	162.4	0.517	2.91	44.2	33.8	1.99	26.9	0.01	0.00	0.02	209
1	238	8.08	8.06	34.085	26.547	152.1	0.564	2.42	36.5	40.3	2.20	29.2	0.01			239
	250 ISL	7.96	7.93	34.106	26.582	149.0	0.582	2.21	33.2	42.8	2.29	30.1	0.01			251
1	279	7.69	7.66	34.140	26.648	143.1	0.624	1.78	26.6	48.5	2.47	32.1	0.00			281
	300 ISL	7.43	7.40	34.138	26.684	139.9	0.654	1.64	24.3	51.6	2.55	33.2	0.00			302
1	335	7.01	6.98	34.133	26.739	135.0	0.702	1.46	21.5	56.7	2.65	34.8	0.00			337
1	396	6.50	6.46	34.214	26.872	122.9	0.781	0.74	10.8	68.3	2.89	38.1	0.00			399
	400 ISL	6.48	6.44	34.217	26.877	122.5	0.786	0.72	10.5	68.8	2.90	38.2	0.00			403
1	463	6.23	6.19	34.255	26.940	117.2	0.861	0.52	7.5	74.4	2.96	39.3	0.00			466
	500 ISL	6.11	6.07	34.282	26.977	114.1	0.904	0.43	6.2	77.8	3.03	39.9	0.00			503
1	535	5.99	5.94	34.307	27.012	111.2	0.943	0.35	5.0	81.0	3.09	40.4	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 39.6 N	121 2.6 W	13/11/90	0022 UTC	3946 m	270 10 kn	310 02 06	1	1018.9 mb	15.3 C	14.9 C	19m 02	3/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	16.86	16.86	33.401	24.321	359.4	0.000	5.73	103.5	2.5	0.34	0.0	0.01	0.26	0.07	0
	10 ISL	16.75	16.75	33.436	24.374	354.7	0.036	5.73	103.3	2.5	0.33	0.0	0.00	0.33	0.09	10
1	15	16.69	16.69	33.453	24.401	352.3	0.053	5.73	103.2	2.5	0.33	0.0	0.00	0.36	0.10	15
	20 ISL	16.69	16.69	33.467	24.412	351.4	0.071	5.71	102.8	2.5	0.33	0.0	0.00	0.41	0.14	20
	30 ISL	16.66	16.66	33.476	24.426	350.4	0.106	5.68	102.2	2.4	0.34	0.0	0.01	0.51	0.21	30
1	31	16.66	16.65	33.475	24.426	350.5	0.110	5.68	102.2	2.4	0.34	0.0	0.01	0.52	0.22	31
1	41	16.52	16.51	33.444	24.434	350.0	0.145	5.69	102.1	2.3	0.34	0.0	0.01	0.59	0.23	41
	50 ISL	16.45	16.44	33.451	24.456	348.2	0.176	5.64	101.1	2.3	0.35	0.1	0.04	0.55	0.26	50
1	51	16.44	16.43	33.452	24.459	347.9	0.179	5.63	100.9	2.3	0.35	0.1	0.04	0.54	0.26	51
1	61	13.41	13.40	33.278	24.979	298.4	0.212	5.43	91.4	5.8	0.74	4.9	0.07	0.41	0.31	61
1	71	12.23	12.22	33.278	25.211	276.5	0.241	5.29	86.9	7.4	0.90	7.4	0.04	0.29	0.26	71
	75 ISL	11.61	11.60	33.282	25.330	265.2	0.251	5.15	83.5	8.7	1.00	9.3	0.03	0.22	0.22	75
1	81	10.76	10.75	33.307	25.502	248.8	0.267	4.89	77.8	11.1	1.17	12.4	0.03	0.12	0.16	81
1	96	9.99	9.98	33.477	25.767	223.9	0.302	4.20	65.8	17.6	1.49	18.1	0.01	0.04	0.07	96
	100 ISL	9.88	9.87	33.515	25.815	219.4	0.311	4.06	63.5	18.8	1.55	19.1	0.01	0.03	0.06	100
1	111	9.65	9.64	33.612	25.929	208.8	0.335	3.73	58.0	21.5	1.67	21.1	0.01	0.02	0.05	112
	125 ISL	9.28	9.27	33.732	26.083	194.3	0.363	3.35	51.7	25.1	1.81	23.5	0.01	0.01	0.04	126
1	126	9.26	9.25	33.740	26.093	193.4	0.365	3.32	51.3	25.4	1.82	23.7	0.01	0.01	0.04	127
	150 ISL	8.92	8.90	33.892	26.266	177.4	0.409	2.66	40.8	31.4	2.04	27.5	0.01	0.00	0.03	151
1	152	8.90	8.88	33.902	26.277	176.4	0.413	2.61	40.0	31.8	2.05	27.7	0.01	0.00	0.03	153
1	177	8.58	8.56	33.997	26.402	165.0	0.456	2.42	36.9	35.5	2.13	28.7	0.01	0.00	0.03	178
	200 ISL	8.24	8.22	34.031	26.480	157.8	0.493	2.43	36.7	38.3	2.17	29.4	0.01	0.00	0.03	201
1	208	8.12	8.10	34.036	26.502	155.8	0.505	2.44	36.8	39.3	2.19	29.7	0.01	0.00	0.03	209
1	238	7.70	7.68	34.055	26.579	148.9	0.551	2.27	33.9	44.4	2.31	31.1	0.01			239
	250 ISL	7.50	7.48	34.052	26.606	146.5	0.569	2.23	33.1	46.5	2.34	31.6	0.01			251
1	279	7.03	7.00	34.047	26.668	140.8	0.610	2.08	30.6	51.8	2.43	33.1	0.01			281
	300 ISL	6.81	6.78	34.065	26.712	136.8	0.639	1.81	26.5	55.9	2.54	34.5	0.01			302
1	335	6.50	6.47	34.101	26.782	130.5	0.686	1.33	19.3	62.8	2.73	36.8	0.00			337
1	396	5.92	5.89	34.132	26.881	121.5	0.763	0.91	13.0	73.4	2.94	39.4	0.00			399
	400 ISL	5.89	5.86	34.136	26.888	120.9	0.768	0.88	12.6	74.1	2.95	39.5	0.00			403
1	462	5.50	5.46	34.193	26.981	112.5	0.840	0.55	7.8	83.4	3.10	41.4	0.00			465
	500 ISL	5.31	5.27	34.206	27.015	109.6	0.882	0.48	6.8	87.3	3.13	42.0	0.00			503
1	534	5.14	5.10	34.219	27.045	107.0	0.919	0.42	5.9	90.8	3.16	42.5	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 19.2 N	121 43.0 W	13/11/90	0542 UTC	4065 in	300 06 k.n			1018.7 mb	16.5 C	16.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.17	17.17	33.551	24.363	355.4	0.000	5.65	102.8	2.7	0.35	0.2	0.01	0.25	0.09	0
	10 ISL	17.11	17.11	33.548	24.375	354.6	0.035	5.65	102.6	2.6	0.35	0.2	0.01	0.27	0.10	10
1	15	17.08	17.08	33.547	24.382	354.1	0.053	5.65	102.6	2.6	0.35	0.2	0.01	0.28	0.10	15
	20 ISL	17.05	17.05	33.547	24.389	353.6	0.071	5.65	102.5	2.6	0.35	0.2	0.01	0.31	0.12	20
	30 ISL	16.99	16.99	33.548	24.405	352.5	0.106	5.62	101.9	2.5	0.35	0.2	0.00	0.37	0.18	30
1	31	16.99	16.98	33.548	24.405	352.5	0.110	5.62	101.9	2.5	0.35	0.2	0.00	0.38	0.19	31
1	41	16.96	16.95	33.548	24.412	352.1	0.145	5.57	100.9	2.6	0.37	0.2	0.01	0.46	0.26	41
	50 ISL	14.33	14.32	33.459	24.930	302.9	0.174	5.19	89.2	6.6	0.73	5.4	0.22	0.54	0.41	50
1	51	13.99	13.98	33.455	24.998	296.4	0.177	5.13	87.5	7.2	0.78	6.1	0.24	0.54	0.42	51
1	62	11.85	11.84	33.516	25.467	251.9	0.208	4.37	71.3	13.8	1.24	13.9	0.04	0.27	0.28	62
1	72	11.60	11.59	33.558	25.546	244.6	0.232	4.15	67.4	15.3	1.33	15.4	0.02	0.22	0.24	72
	75 ISL	11.39	11.38	33.565	25.590	240.5	0.240	4.09	66.1	15.9	1.36	16.1	0.02	0.19	0.21	75
1	81	10.94	10.93	33.581	25.683	231.6	0.254	3.96	63.4	17.2	1.43	17.5	0.02	0.13	0.16	81
1	96	10.24	10.23	33.662	25.869	214.3	0.287	3.56	56.1	21.0	1.63	20.7	0.01	0.07	0.11	96
	100 ISL	10.07	10.06	33.682	25.913	210.1	0.296	3.49	54.8	21.9	1.67	21.3	0.01	0.05	0.10	100
1	112	9.64	9.63	33.747	26.036	198.6	0.320	3.29	51.2	24.2	1.76	22.8	0.01	0.02	0.06	113
	125 ISL	9.39	9.38	33.837	26.148	188.2	0.345	3.06	47.4	26.6	1.86	24.3	0.01	0.01	0.05	126
1	127	9.36	9.35	33.851	26.163	186.8	0.349	3.03	46.9	26.9	1.87	24.5	0.01	0.01	0.05	128
	150 ISL	8.99	8.97	33.942	26.294	174.8	0.391	2.75	42.3	30.7	2.01	26.4	0.01	0.00	0.05	151
1	153	8.95	8.93	33.950	26.307	173.6	0.396	2.72	41.8	31.2	2.03	26.6	0.01	0.00	0.05	154
1	178	8.60	8.58	34.023	26.419	163.4	0.438	2.60	39.6	35.9	2.13	27.8	0.01	0.01	0.05	179
	200 ISL	8.27	8.25	34.069	26.506	155.4	0.473	2.31	34.9	40.9	2.26	29.4	0.01	0.00	0.04	201
1	209	8.15	8.13	34.083	26.535	152.8	0.487	2.18	32.9	42.9	2.31	30.1	0.01	0.00	0.03	210
1	239	7.85	7.83	34.102	26.594	147.5	0.532	1.96	29.4	48.0	2.45	31.5	0.00			240
	250 ISL	7.67	7.65	34.101	26.620	145.2	0.548	1.88	28.1	50.4	2.51	32.2	0.00			251
1	280	7.16	7.13	34.100	26.692	138.6	0.591	1.65	24.3	57.1	2.66	34.3	0.00			282
	300 ISL	6.97	6.94	34.111	26.727	135.5	0.618	1.48	21.7	60.7	2.73	35.3	0.00			302
1	336	6.70	6.67	34.135	26.782	130.6	0.666	1.18	17.2	66.4	2.82	36.7	0.00			338
1	397	6.17	6.13	34.167	26.877	122.1	0.743	0.80	11.5	75.1	2.99	39.1	0.00			400
	400 ISL	6.15	6.11	34.169	26.882	121.8	0.747	0.79	11.4	75.4	3.00	39.2	0.00			403
1	464	5.74	5.70	34.208	26.964	114.4	0.822	0.53	7.6	82.1	3.12	40.7	0.00			467
	500 ISL	5.52	5.48	34.233	27.011	110.2	0.863	0.44	6.2	87.0	3.18	41.5	0.00			503
1	535	5.31	5.27	34.258	27.056	106.1	0.901	0.36	5.1	91.8	3.23	42.2	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 59.5 N	122 23.5 W	13/11/90	1103 UTC	4077 m	020 05 Jen			1017.5 mb	15.0 C	15.0 C		

CAST	DEPTH ni	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.26	17.26	33.368	24.202	370.8	0.000	5.66	103.0	2.5	0.34	0.1	0.00	0.20	0.05	0
1	1	17.26	17.26	33.368	24.202	370.8	0.004	5.66	103.0	2.5	0.34	0.1	0.00	0.20	0.05	1
	10 ISL	17.08	17.08	33.424	24.287	363.0	0.037	5.69	103.2	2.5	0.33	0.1	0.00	0.24	0.08	10
1	16	16.89	16.89	33.465	24.364	355.9	0.058	5.72	103.4	2.5	0.33	0.1	0.00	0.29	0.11	16
	20 ISL	16.84	16.84	33.464	24.375	355.0	0.073	5.73	103.5	2.4	0.33	0.1	0.00	0.30	0.11	20
	30 ISL	16.63	16.63	33.427	24.396	353.3	0.108	5.75	103.4	2.3	0.33	0.1	0.00	0.36	0.12	30
1	32	16.58	16.57	33.413	24.397	353.3	0.115	5.75	103.3	2.3	0.33	0.1	0.00	0.37	0.12	32
1	42	16.09	16.08	33.334	24.448	348.7	0.150	5.91	105.1	2.3	0.34	0.1	0.00	0.49	0.23	42
	50 ISL	15.55	15.54	33.332	24.568	337.4	0.178	5.85	102.9	2.5	0.38	0.2	0.05	0.47	0.31	50
1	52	15.34	15.33	33.324	24.608	333.6	0.184	5.84	102.3	2.6	0.39	0.2	0.06	0.47	0.32	52
1	63	13.21	13.20	33.083	24.869	308.9	0.220	6.23	104.3	3.2	0.42	0.2	0.02	0.44	0.35	63
1	73	11.99	11.98	33.056	25.084	288.6	0.249	6.05	98.7	4.3	0.58	2.2	0.10	0.25	0.29	73
	75 ISL	11.80	11.79	33.087	25.143	283.0	0.255	5.92	96.2	5.0	0.66	3.6	0.09	0.22	0.27	75
1	83	11.14	11.13	33.231	25.375	261.0	0.277	5.36	86.0	8.2	0.98	9.6	0.03	0.12	0.20	83
1	98	10.05	10.04	33.303	25.621	237.8	0.314	4.91	76.9	12.5	1.24	14.3	0.02	0.07	0.14	98
	100 ISL	10.04	10.03	33.347	25.657	234.4	0.319	4.76	74.6	13.5	1.29	15.2	0.02	0.07	0.13	100
1	113	9.96	9.95	33.610	25.876	213.9	0.348	3.73	58.4	20.0	1.62	20.4	0.01	0.04	0.08	114
	125 ISL	9.73	9.72	33.743	26.018	200.6	0.373	3.23	50.4	24.0	1.79	23.1	0.01	0.02	0.06	126
1	128	9.66	9.65	33.766	26.048	197.8	0.379	3.15	49.1	24.8	1.82	23.6	0.01	0.02	0.06	129
	150 ISL	9.15	9.13	33.897	26.234	180.6	0.421	2.83	43.6	28.8	1.97	25.9	0.01	0.01	0.04	151
1	154	9.06	9.04	33.913	26.260	178.1	0.428	2.81	43.2	29.4	1.98	26.1	0.01	0.01	0.04	155
1	180	8.64	8.62	34.002	26.396	165.5	0.473	2.60	39.7	34.1	2.08	27.8	0.00	0.00	0.02	181
	200 ISL	8.50	8.48	34.035	26.444	161.3	0.505	2.39	36.3	36.5	2.16	29.0	0.00	0.00	0.02	201
1	211	8.42	8.40	34.042	26.462	159.8	0.523	2.34	35.5	37.5	2.19	29.4	0.00	0.00	0.02	212
1	240	7.88	7.86	34.031	26.534	153.3	0.568	2.72	40.8	40.1	2.15	29.0	0.01			241
	250 ISL	7.74	7.72	34.036	26.559	151.1	0.583	2.65	39.6	41.9	2.19	29.6	0.01			251
1	282	7.38	7.35	34.062	26.631	144.5	0.631	2.19	32.5	48.5	2.39	32.1	0.00			284
	300 ISL	7.17	7.14	34.074	26.670	141.0	0.656	1.96	28.9	51.8	2.48	33.3	0.00			302
1	338	6.75	6.72	34.097	26.746	134.2	0.709	1.52	22.2	58.8	2.65	35.7	0.00			340
1	399	6.10	6.07	34.129	26.856	124.1	0.788	1.03	14.8	70.8	2.90	38.8	0.00			402
	400 ISL	6.09	6.05	34.130	26.858	123.9	0.789	1.02	14.7	71.0	2.90	38.8	0.00			403
1	465	5.83	5.79	34.222	26.964	114.5	0.866	0.53	7.6	80.1	3.16	40.6	0.00			468
	500 ISL	5.63	5.59	34.247	27.009	110.6	0.906	0.47	6.7	84.0	3.19	41.3	0.00			503
1	536	5.43	5.39	34.273	27.054	106.5	0.945	0.40	5.7	88.1	3.23	42.0	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 39.5 N	123 4.2 W	13/11/90	1634 UTC	4120 m	320 06 kn	350 02 06	1	1017.6 mb	17.9 C	16.5 C	43m 01	6/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.97	18.97	33.514	23.894	400.1	0.000	5.43	102.2	2.0	0.35	0.1	0.00	0.15	0.03	0
	10 ISL	18.95	18.95	33.513	23.899	400.0	0.040	5.44	102.4	2.0	0.34	0.1	0.00	0.14	0.03	10
1	17	18.94	18.94	33.513	23.902	400.0	0.068	5.45	102.5	2.0	0.34	0.1	0.00	0.14	0.03	17
	20 ISL	18.94	18.94	33.513	23.902	400.1	0.080	5.45	102.5	2.0	0.34	0.1	0.00	0.14	0.03	20
	30 ISL	18.93	18.92	33.513	23.905	400.2	0.120	5.45	102.5	1.9	0.34	0.1	0.00	0.15	0.04	30
1	32	18.93	18.92	33.513	23.905	400.3	0.128	5.45	102.5	1.9	0.34	0.1	0.00	0.15	0.04	32
1	42	18.94	18.93	33.513	23.903	400.8	0.168	5.43	102.1	1.8	0.34	0.1	0.00	0.16	0.04	42
	50 ISL	18.92	18.91	33.513	23.909	400.6	0.200	5.44	102.3	1.8	0.35	0.0	0.00	0.17	0.04	50
1	52	18.92	18.91	33.513	23.909	400.6	0.208	5.44	102.3	1.8	0.35	0.0	0.00	0.17	0.04	52
1	62	16.42	16.41	33.329	24.370	356.8	0.246	5.98	107.0	1.8	0.34	0.0	0.00	0.37	0.12	62
1	73	14.93	14.92	33.264	24.652	330.1	0.284	6.24	108.4	2.2	0.35	0.0	0.00	0.24	0.18	73
	75 ISL	14.62	14.61	33.258	24.714	324.2	0.290	6.23	107.5	2.3	0.36	0.0	0.00	0.25	0.20	75
1	82	13.63	13.62	33.256	24.919	304.8	0.312	6.18	104.5	2.9	0.40	0.0	0.01	0.30	0.27	82
1	97	12.48	12.47	33.353	25.222	276.2	0.356	5.66	93.5	5.0	0.69	4.1	0.24	0.22	0.28	97
	100 ISL	12.23	12.22	33.353	25.270	271.7	0.364	5.55	91.2	5.6	0.75	5.2	0.21	0.20	0.26	100
1	113	11.25	11.24	33.346	25.446	255.0	0.398	5.11	82.2	8.4	0.99	9.7	0.02	0.13	0.15	113
	125 ISL	10.70	10.69	33.385	25.574	243.0	0.428	4.80	76.3	11.0	1.15	12.4	0.01	0.08	0.11	126
1	128	10.60	10.58	33.400	25.603	240.3	0.436	4.73	75.1	11.7	1.18	13.0	0.01	0.07	0.11	129
	150 ISL	10.03	10.01	33.564	25.829	219.2	0.486	4.07	63.8	17.0	1.46	17.8	0.01	0.03	0.06	151
1	153	9.97	9.95	33.591	25.860	216.3	0.493	3.98	62.4	17.8	1.50	18.4	0.01	0.03	0.05	154
1	179	9.21	9.19	33.815	26.160	188.1	0.545	3.39	52.3	25.3	1.77	23.1	0.00	0.00	0.02	180
	200 ISL	8.75	8.73	33.917	26.313	173.9	0.583	3.20	48.9	29.3	1.89	25.2	0.00	0.00	0.02	201
1	210	8.57	8.55	33.947	26.365	169.1	0.600	3.17	48.2	30.9	1.92	25.8	0.00	0.00	0.02	211
1	239	8.09	8.07	33.991	26.472	159.2	0.648	3.16	47.6	35.3	1.98	26.8	0.00			240
	250 ISL	7.93	7.90	34.005	26.507	156.1	0.665	3.05	45.8	37.3	2.03	27.5	0.00			251
1	282	7.50	7.47	34.035	26.593	148.2	0.714	2.62	38.9	43.6	2.22	30.0	0.00			284
	300 ISL	7.24	7.21	34.039	26.633	144.6	0.740	2.41	35.6	47.4	2.33	31.4	0.00			302
1	337	6.72	6.69	34.044	26.708	137.7	0.793	1.99	29.0	55.3	2.54	34.1	0.00			339
1	398	6.00	5.97	34.079	26.829	126.5	0.873	1.33	19.1	68.4	2.84	38.0	0.00			400
	400 ISL	5.99	5.96	34.082	26.833	126.2	0.876	1.31	18.8	68.7	2.85	38.1	0.00			402
1	465	5.76	5.72	34.170	26.932	117.5	0.955	0.74	10.6	78.0	3.09	40.2	0.00			468
	500 ISL	5.68	5.64	34.209	26.973	114.0	0.995	0.57	8.1	81.2	3.18	40.8	0.00			503
1	536	5.60	5.55	34.250	27.015	110.4	1.036	0.40	5.7	84.5	3.28	41.4	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 87 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 19.1 N	123 44.3 W	13/11/90	2251 UTC	4118 m	250 04 kn	290 02 08	1	1015.2 mb	18.9 C	17.2 C	36m 01	7/8	SC

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.45	19.45	33.651	23.877	401.8	0.000	5.40	102.7	2.3	0.35	0.2	0.00	0.14	0.03	0
	10 ISL	19.29	19.29	33.647	23.915	398.5	0.040	5.41	102.5	2.4	0.35	0.1	0.00	0.14	0.03	10
1	16	19.20	19.20	33.644	23.936	396.7	0.064	5.41	102.3	2.4	0.35	0.1	0.00	0.14	0.03	16
	20 ISL	19.20	19.20	33.645	23.937	396.8	0.080	5.41	102.3	2.3	0.35	0.1	0.00	0.15	0.03	20
	30 ISL	19.20	19.19	33.647	23.939	396.9	0.119	5.41	102.3	2.1	0.35	0.1	0.00	0.16	0.04	30
1	31	19.20	19.19	33.647	23.939	397.0	0.123	5.41	102.3	2.1	0.35	0.1	0.00	0.16	0.04	31
1	41	19.19	19.18	33.642	23.938	397.4	0.163	5.40	102.1	2.1	0.35	0.1	0.00	0.21	0.05	41
	50 ISL	19.13	19.12	33.627	23.943	397.4	0.199	5.43	102.6	2.1	0.34	0.1	0.00	0.24	0.06	50
1	51	19.12	19.11	33.625	23.944	397.3	0.203	5.43	102.6	2.1	0.34	0.1	0.00	0.24	0.06	51
1	61	19.10	19.09	33.624	23.948	397.2	0.243	5.43	102.5	2.1	0.35	0.1	0.00	0.28	0.08	61
1	71	15.00	14.99	33.298	24.663	329.0	0.279	6.22	108.2	2.6	0.37	0.1	0.00	0.33	0.23	71
	75 ISL	14.40	14.39	33.309	24.800	316.0	0.292	6.20	106.5	2.7	0.39	0.1	0.00	0.36	0.28	75
1	81	13.96	13.95	33.358	24.930	303.8	0.310	6.18	105.3	3.0	0.43	0.2	0.01	0.38	0.32	81
1	96	12.48	12.47	33.337	25.209	277.3	0.354	5.69	94.0	5.0	0.67	3.9	0.20	0.26	0.25	96
	100 ISL	12.15	12.14	33.343	25.277	271.0	0.365	5.52	90.5	5.9	0.76	5.5	0.16	0.23	0.22	100
1	111	11.29	11.28	33.349	25.441	255.4	0.394	5.14	82.8	8.3	0.98	9.5	0.02	0.15	0.16	111
	125 ISL	10.19	10.18	33.281	25.581	242.2	0.429	5.17	81.2	9.6	1.07	11.2	0.02	0.09	0.12	126
1	127	10.06	10.05	33.276	25.599	240.5	0.434	5.17	81.0	9.8	1.08	11.4	0.02	0.08	0.12	128
	150 ISL	9.86	9.84	33.569	25.861	216.1	0.486	4.09	63.9	17.4	1.48	18.0	0.01	0.03	0.06	151
1	153	9.83	9.81	33.606	25.895	212.9	0.492	3.93	61.4	18.5	1.54	18.9	0.01	0.03	0.05	154
1	178	9.32	9.30	33.772	26.109	193.0	0.543	3.47	53.7	23.7	1.75	22.5	0.01	0.01	0.03	179
	200 ISL	8.88	8.86	33.896	26.276	177.4	0.584	3.22	49.3	27.7	1.87	24.7	0.00	0.00	0.03	201
1	210	8.71	8:69	33.939	26.337	171.8	0.601	3.15	48.1	29.3	1.90	25.4	0.00	0.00	0.03	211
1	239	8.37	8.35	33.992	26.431	163.3	0.650	3.08	46.7	32.5	1.96	26.5	0.01			240
	250 ISL	8.24	8.21	34.008	26.463	160.4	0.668	2.98	45.0	34.2	2.01	27.1	0.01			251
1	281	7.83	7.80	34.041	26.550	152.4	0.716	2.64	39.5	40.0	2.18	29.2	0.00			283
	300 ISL	7.50	7.47	34.044	26.600	147.8	0.745	2.46	36.6	44.0	2.27	30.6	0.00			302
1	338	6.87	6.84	34.045	26.689	139.6	0.799	2.08	30.5	52.2	2.47	33.4	0.01			340
1	399	6.25	6.21	34.087	26.804	129.1	0.881	1.35	19.5	64.9	2.85	37.1	0.01			401
	400 ISL	6.24	6.20	34.088	26.806	128.9	0.883	1.34	19.3	65.1	2.85	37.2	0.01			402
1	465	5.70	5.66	34.143	26.918	118.7	0.963	0.81	11.5	76.8	3.09	40.1	0.01			468
	500 ISL	5.46	5.42	34.165	26.964	114.5	1.004	0.67	9.5	82.3	3.12	41.0	0.01			503
1	537	5.20	5.16	34.190	27.015	109.9	1.046	0.53	7.5	88.2	3.16	42.0	0.01			541

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 28.9 N	117 46.3 W	11/11/90	0944 UTC	79 m	090 05 Jen			1017.7 mb	18.7 C	16.1 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN nl/1	OXY PCT	SIO3 UM/1	PO4 UM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.92	17.92	33.516	24.156	375.1	0.000	5.85	107.9	3.0	0.34	0.1	0.00	0.33	0.12	0
1	10	17.62	17.62	33.501	24.218	369.6	0.037	5.83	106.9	2.6	0.34	0.1	0.00	0.42	0.16	10
	20 ISL	16.76	16.76	33.427	24.365	355.9	0.074	6.21	112.0	3.4	0.36	0.1	0.00	0.64	0.21	20
1	21	16.65	16.65	33.419	24.385	354.1	0.077	6.24	112.3	3.5	0.36	0.1	0.00	0.68	0.22	21
	30 ISL	15.75	15.75	33.361	24.545	339.0	0.108	5.99	105.8	3.3	0.39	0.1	0.01	1.40	0.30	30
1	31	15.63	15.63	33.355	24.567	336.9	0.112	5.95	104.9	3.3	0.39	0.1	0.01	1.46	0.31	31
1	42	13.73	13.72	33.294	24.926	303.0	0.147	5.97	101.2	3.6	0.43	0.3	0.10	0.84	0.42	42
	50 ISL	13.04	13.03	33.313	25.080	288.5	0.170	5.65	94.4	4.9	0.58	2.5	0.18	0.57	0.40	50
1	52	12.93	12.92	33.320	25.107	285.9	0.176	5.56	92.7	5.2	0.62	3.1	0.20	0.53	0.39	52
1	62	12.61	12.60	33.333	2S.180	279.2	0.204	5.40	89.4	6.0	0.69	4.3	0.20	0.47	0.43	62

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 25.1 N	117 54.3 W	11/11/90	0725 UTC	609 m	010 07 kn			1017.1 mb	18.9 C	18.4 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.70	18.70	33.588	24.019	388.2	0.000	5.51	103.2	2.1	0.30	0.2	0.01	0.17	0.05	0
1	10	18.62	18.62	33.586	24.038	386.8	0.039	5.53	103.4	2.0	0.30	0.2	0.01	0.17	0.04	10
	20 ISL	18.40	18.40	33.565	24.077	383.4	0.077	5.58	103.9	1.7	0.30	0.1	0.01	0.20	0.05	20
1	21	18.38	18.38	33.563	24.080	383.1	0.081	5.58	103.9	1.7	0.30	0.1	0.01	0.20	0.05	21
	30 ISL	16.75	16.75	33.409	24.354	357.3	0.114	5.96	107.4	1.9	0.34	0.1	0.01	0.22	0.07	30
1	31	16.52	16.52	33.390	24.393	353.6	0.118	6.01	107.8	1.9	0.35	0.1	0.01	0.22	0.08	31
1	41	14.16	14.15	33.258	24.810	314.0	0.151	6.21	106.2	2.7	0.41	0.1	0.01	0.37	0.19	41
	50 ISL	13.19	13.18	33.306	25.045	291.8	0.179	5.89	98.7	3.6	0.53	1.5	0.13	0.57	0.38	50
1	51	13.13	13.12	33.313	25.062	290.2	0.182	5.84	97.8	3.7	0.54	1.7	0.14	0.58	0.40	51
1	61	12.46	12.45	33.305	25.187	278.5	0.210	5.62	92.8	4.6	0.68	4.2	0.04	0.37	0.34	61
1	72	12.40	12.39	33.362	25.243	273.5	0.240	5.34	88.1	5.7	0.77	5.7	0.04	0.30	0.29	72
	75 ISL	12.15	12.14	33.364	25.293	268.8	0.248	5.24	86.0	6.4	0.83	6.7	0.04	0.26	0.26	75
1	86	11.16	11.15	33.378	25.486	250.5	0.277	4.89	78.5	9.2	1.04	10.6	0.02	0.12	0.14	86
	100 ISL	10.81	10.80	33.459	25.612	238.9	0.311	4.53	72.2	11.7	1.19	13.3	0.02	0.06	0.09	100
1	101	10.80	10.79	33.467	25.620	238.1	0.314	4.50	71.8	11.9	1.20	13.5	0.02	0.06	0.09	101
1	122	10.39	10.38	33.684	25.861	215.6	0.361	3.64	57.6	18.2	1.56	18.6	0.01			123
	125 ISL	10.33	10.32	33.703	25.886	213.3	0.368	3.59	56.7	18.7	1.58	19.0	0.01	0.03	0.05	126
1	147	10.01	9.99	33.815	26.028	200.2	0.413	3.37	52.9	21.4	1.69	21.0	0.01	0.01	0.04	148
	150 ISL	10.01	9.99	33.837	26.046	198.6	0.419	3.29	51.7	21.9	1.72	21.3	0.01	0.01	0.04	151
1	178	10.01	9.99	34.022	26.190	185.6	0.473	2.61	41.0	27.1	1.97	24.4	0.01	0.00	0.03	179
	200 ISL	9.68	9.66	34.098	26.305	175.0	0.513	2.41	37.6	30.4	2.06	26.0	0.01	0.00	0.03	201
1	209	9.49	9.47	34.115	26.350	170.9	0.528	2.39	37.2	31.6	2.08	26.5	0.01	0.00	0.03	210
1	238	8.79	8.76	34.124	26.470	159.8	0.576	2.40	36.7	35.9	2.16	27.9	0.01			239
	250 ISL	8.59	8.56	34.127	26.503	156.8	0.595	2.32	35.4	37.8	2.21	28.6	0.01			251
1	280	8.20	8.17	34.141	26.574	150.4	0.641	2.01	30.4	42.5	2.37	30.3	0.01			282
	300 ISL	8.02	7.99	34.163	26.618	146.5	0.671	1.76	26.5	45.7	2.48	31.4	0.01			302
1	336	7.74	7.71	34.200	26.689	140.3	0.723	1.34	20.0	51.3	2.66	33.3	0.01			338
1	397	7.06	7.02	34.210	26.794	130.9	0.805	0.96	14.1	60.6	2.85	36.1	0.01			400
	400 ISL	7.04	7.00	34.212	26.798	130.5	0.809	0.94	13.8	61.0	2.86	36.2	0.01			403
1	464	6.64	6.60	34.266	26.895	121.9	0.890	0.53	7.7	69.9	3.03	38.1	0.01			467
	500 ISL	6.39	6.34	34.292	26.949	117.1	0.933	0.42	6.1	74.8	3.10	39.0	0.01			503
1	536	6.14	6.09	34.318	27.002	112.3	0.974	0.31	4.5	79.7	3.16	39.9	0.01			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
33 15.1 N	118 15.4 W	11/11/90	0354 UTC	355 m	080 04 k.n			1016.4 mb	19.2 C	17.9 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.60	18.60	33.570	24.030	387.2	0.000	5.58	104.3	2.4	0.28	0.2	0.01	0.18	0.05	0
1	1	18.60	18.60	33.570	24.030	387.2	0.004	5.58	104.3	2.4	0.28	0.2	0.01	0.18	0.05	1
	10 ISL	18.39	18.39	33.557	24.073	383.4	0.039	5.61	104.5	2.4	0.28	0.2	0.00	0.20	0.06	10
1	11	18.35	18.35	33.555	24.081	382.7	0.042	5.61	104.4	2.4	0.28	0.2	0.00	0.20	0.06	11
	20 ISL	18.10	18.10	33.537	24.129	378.4	0.077	5.66	104.8	2.3	0.29	0.2	0.00	0.26	0.07	20
1	22	18.04	18.04	33.533	24.141	377.4	0.084	5.67	104.9	2.3	0.29	0.2	0.00	0.27	0.08	22
	30 ISL	16.49	16.49	33.414	24.418	351.2	0.113	5.92	106.2	2.4	0.32	0.2	0.00	0.33	0.13	30
1	32	16.01	16.00	33.380	24.501	343.3	0.120	5.99	106.4	2.5	0.33	0.2	0.00	0.34	0.14	32
1	42	13.90	13.89	33.221	24.835	311.6	0.153	6.19	105.2	3.2	0.42	0.2	0.01	0.88	0.50	42
	50 ISL	13.52	13.51	33.215	24.908	304.9	0.178	6.08	102.6	3.5	0.46	0.8	0.08	0.98	0.58	50
1	53	13.46	13.45	33.223	24.927	303.2	0.187	6.04	101.8	3.7	0.49	1.0	0.10	1.02	0.61	53
1	63	12.34	12.33	33.244	25.163	280.9	0.216	5.62	92.5	5.7	0.71	4.9	0.06	0.40	0.35	63
1	73	11.65	11.64	33.287	25.326	265.5	0.243	5.28	85.7	7.8	0.91	8.3	0.03	0.21	0.22	73
	75 ISL	11.55	11.54	33.296	25.352	263.1	0.249	5.22	84.5	8.1	0.93	8.8	0.03	0.19	0.21	75
1	87	11.02	11.01	33.362	25.499	249.3	0.279	4.88	78.1	10.0	1.07	11.4	0.02	0.12	0.16	87
	100 ISL	10.42	10.41	33.462	25.682	232.1	0.311	4.39	69.4	14.2	1.31	15.6	0.01	0.06	0.09	100
1	102	10.34	10.33	33.481	25.711	229.4	0.315	4.31	68.0	14.9	1.35	16.2	0.01	0.05	0.08	102
1	122	9.94	9.93	33.725	25.969	205.2	0.359	3.64	57.1	20.1	1.57	19.9	0.01	0.01	0.04	123
	125 ISL	9.90	9.89	33.755	25.999	202.4	0.365	3.58	56.1	20.7	1.59	20.3	0.01	0.01	0.04	126
1	142	9.73	9.71	33.899	26.141	189.4	0.398	3.30	51.5	23.6	1.70	22.0	0.00	0.01	0.04	143
	150 ISL	9.63	9.61	33.947	26.195	184.4	0.413	3.16	49.3	25.2	1.76	22.9	0.00	0.01	0.04	151
1	167	9.43	9.41	34.022	26.286	176.0	0.444	2.89	44.9	28.3	1.89	24.7	0.00	0.00	0.03	168
1	194	9.20	9.18	34.090	26.377	167.9	0.490	2.54	39.2	32.0	2.02	26.4	0.01	0.00	0.02	195
	200 ISL	9.20	9.18	34.112	26.395	166.4	0.500	2.41	37.2	33.0	2.07	26.8	0.01			201
1	223	9.19	9.17	34.184	26.453	161.3	0.538	2.04	31.5	36.5	2.22	28.0	0.01			224
	250 ISL	8.68	8.65	34.134	26.495	157.6	0.581	2.25	34.4	38.0	2.21	28.4	0.01			251
1	255	8.56	8.53	34.121	26.503	156.9	0.589	2.30	35.0	38.4	2.21	28.5	0.01			256
1	280	8.06	8.03	34.120	26.578	149.9	0.627	2.10	31.6	43.3	2.32	30.3	0.01			282

RV NEW HORIZON CALCOFI CRUISE 9011 > STATION 90 37

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
33 11.3 N	118 24.0 W	11/11/90	0116 UTC	1176 m	280 09 kn	280 01 06	1	1015.9 mb	20.0 C	18.2 C		4/8	CI

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0		18.20	18.20	33.547	24.112	379.4	0.000	5.60	103.9	2.7	0.30	0.2	0.00	0.21	0.05	0
1	10		18.06	18.06	33.547	24.146	376.4	0.038	5.63	104.2	2.5	0.30	0.2	0.00	0.24	0.06	10
	20	ISL	17.72	17.72	33.521	24.209	370.8	0.075	5.68	104.4	2.5	0.30	0.2	0.00	0.30	0.09	20
1	21		17.67	17.67	33.517	24.219	369.9	0.079	5.69	104.5	2.5	0.30	0.2	0.00	0.31	0.10	21
	30	ISL	17.18	17.18	33.482	24.309	361.6	0.112	5.77	104.9	2.4	0.32	0.2	0.00	0.44	0.16	30
1	31		17.12	17.11	33.478	24.320	360.6	0.115	5.78	105.0	2.4	0.32	0.2	0.00	0.45	0.17	31
1	41		13.61	13.60	33.269	24.932	302.4	0.149	5.80	98.1	4.7	0.59	2.7	0.16	1.15	0.67	41
	50	ISL	12.20	12.19	33.282	25.219	275.2	0.175	5.40	88.6	7.1	0.85	6.8	0.07	0.47	0.37	50
1	51		12.12	12.11	33.287	25.238	273.4	0.177	5.35	87.7	7.4	0.87	7.3	0.06	0.37	0.32	51
1	62		11.67	11.66	33.322	25.349	263.0	0.207	5.09	82.6	8.9	0.99	9.6	0.05	0.29	0.26	62
1	72		10.99	10.98	33.403	25.536	245.5	0.232	4.66	74.6	12.3	1.21	13.3	0.02			72
	75	ISL	10.84	10.83	33.419	25.575	241.8	0.240	4.59	73.2	12.8	1.25	13.9	0.02	0.15	0.17	75
1	86		10.39	10.38	33.486	25.706	229.6	0.265	4.32	68.3	14.8	1.36	15.9	0.01	0.05	0.10	86
	100	ISL	9.86	9.85	33.658	25.930	208.5	0.296	3.71	58.0	20.2	1.61	20.0	0.01	0.01	0.05	100
1	101		9.83	9.82	33.670	25.944	207.1	0.298	3.67	57.4	20.6	1.63	20.3	0.01	0.01	0.05	101
1	122		9.40	9.39	33.767	26.091	193.6	0.340	3.41	52.8	24.2	1.77	22.8	0.01	0.01	0.05	123
	125	ISL	9.37	9.36	33.784	26.109	191.9	0.346	3.37	52.2	24.7	1.79	23.1	0.01	0.01	0.05	126
1	147		9.19	9.17	33.904	26.233	180.6	0.387	3.08	47.5	27.8	1.88	24.6	0.00	0.00	0.04	148
	150	ISL	9.16	9.14	33.920	26.250	179.0	0.392	3.06	47.2	28.2	1.89	24.8	0.00	0.00	0.04	151
1	178		8.87	8.85	34.045	26.394	165.8	0.441	2.83	43.4	32.1	1.99	26.2	0.01	0.00	0.03	179
	200	ISL	8.77	8.75	34.104	26.456	160.3	0.477	2.52	38.6	35.1	2.11	27.4	0.01	0.00	0.03	201
1	209		8.73	8.71	34.117	26.473	158.9	0.491	2.40	36.7	36.3	2.16	27.9	0.01	0.00	0.03	210
1	238		8.36	8.34	34.112	26.526	154.2	0.536	2.30	34.9	39.6	2.23	29.0	0.01			239
	250	ISL	8.19	8.16	34.108	26.549	152.2	0.555	2.25	34.0	41.1	2.26	29.6	0.01			251
1	279		7.81	7.78	34.108	26.606	147.2	0.598	2.06	30.8	45.2	2.37	31.2	0.01			281
	300	ISL	7.58	7.55	34.131	26.657	142.5	0.629	1.75	26.1	49.3	2.50	32.7	0.01			302
1	335		7.25	7.22	34.179	26.742	134.9	0.677	1.21	17.9	56.2	2.72	35.0	0.00			337
1	396		6.78	6.74	34.218	26.838	126.4	0.757	0.81	11.8	64.4	2.91	37.2	0.00			399
	400	ISL	6.76	6.72	34.222	26.844	125.9	0.762	0.78	11.4	64.9	2.92	37.3	0.00			403
1	462		6.47	6.43	34.276	26.926	118.8	0.838	0.47	6.8	71.7	3.06	38.7	0.00			465
	500	ISL	6.30	6.25	34.292	26.961	115.9	0.882	0.40	5.8	74.8	3.10	39.4	0.00			503
1	532		6.15	6.10	34.305	26.991	113.4	0.919	0.35	5.0	77.4	3.14	39.9	0.00			536

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 55.7 N	118 56.5 W	10/11/90	1800 UTC	1705 m	290 03 kn	040 01 07	1	1017.6 mb	19.3 C	17.9 C	20m 04	1/8	CI

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	17.41	17.41	33.532	24.292	362.2	0.000	5.69	104.0	2.1	0.32	0.2	0.00	0.31	0.08	0
1	1		17.41	17.41	33.532	24.292	362.3	0.004	5.69	104.0	2.1	0.32	0.2	0.00	0.31	0.08	1
	10	ISL	17.25	17.25	33.528	24.327	359.2	0.036	5.71	104.0	1.9	0.32	0.2	0.00	0.34	0.11	10
1	11		17.22	17.22	33.527	24.333	358.6	0.040	5.71	103.9	1.9	0.32	0.2	0.00	0.34	0.11	11
	20	ISL	16.90	16.90	33.503	24.391	353.5	0.072	5.74	103.8	2.1	0.34	0.2	0.01	0.48	0.20	20
1	22		16.83	16.83	33.498	24.403	352.3	0.079	5.75	103.9	2.2	0.34	0.2	0.01	0.52	0.23	22
	30	ISL	14.74	14.74	33.349	24.757	318.8	0.106	5.75	99.5	4.1	0.55	2.1	0.09	0.63	0.37	30
1	32		14.17	14.17	33.318	24.854	309.6	0.112	5.75	98.4	4.7	0.61	2.7	0.11	0.66	0.42	32
1	42		12.78	12.77	33.278	25.104	286.0	0.142	5.47	90.9	6.8	0.84	6.2	0.14	0.12	0.92	42
	50	ISL	11.78	11.77	33.310	25.319	265.6	0.164	5.08	82.7	9.3	1.07	10.1	0.08	0.23	0.52	50
1	53		11.44	11.43	33.332	25.399	258.1	0.172	4.93	79.6	10.3	1.15	11.6	0.05	0.30	0.32	53
1	63		10.54	10.53	33.410	25.620	237.2	0.196	4.53	71.8	13.9	1.38	15.3	0.02	0.13	0.21	63
1	73		10.26	10.25	33.463	25.710	228.9	0.220	4.32	68.1	15.8	1.47	16.8	0.02	0.09	0.14	73
	75	ISL	10.19	10.18	33.484	25.738	226.2	0.224	4.25	66.9	16.4	1.50	17.3	0.02	0.08	0.13	75
1	88		9.71	9.70	33.637	25.938	207.4	0.252	3.75	58.4	20.8	1.68	20.6	0.01	0.02	0.08	88
	100	ISL	9.43	9.42	33.753	26.075	194.6	0.277	3.42	53.0	23.9	1.81	22.6	0.01	0.01	0.05	100
1	103		9.37	9.36	33.778	26.104	191.9	0.282	3.36	52.0	24.6	1.84	23.0	0.01	0.01	0.05	104
1	124		9.07	9.06	33.898	26.247	178.8	0.321	3.11	47.9	28.3	1.95	24.7	0.01	0.00	0.05	125
	125	ISL	9.06	9.05	33.901	26.250	178.4	0.323	3.10	47.7	28.4	1.95	24.8	0.01	0.00	0.05	126
1	149		8.79	8.77	33.953	26.334	170.9	0.365	2.96	45.3	31.1	1.94	26.1	0.01	0.00	0.03	150
	150	ISL	8.78	8.76	33.956	26.338	170.5	0.367	2.95	45.1	31.2	1.94	26.2	0.01	0.00	0.03	151
1	180		8.52	8.50	34.017	26.427	162.6	0.417	2.74	41.7	34.9	2.05	27.5	0.01	0.00 A	0.03 A	181
	200	ISL	8.34	8.32	34.033	26.467	159.1	0.449	2.69	40.8	36.6	2.08	28.0	0.01	0.00	0.03	201
1	211		8.24	8.22	34.041	26.488	157.3	0.466	2.65	40.1	37.6	2.10	28.3	0.01	0.00	0.03	212
1	241		7.96	7.94	34.091	26.570	150.0	0.512	2.23	33.5	42.5	2.26	30.4	0.00			242
	250	ISL	7.90	7.87	34.105	26.590	148.2	0.526	2.10	31.5	44.1	2.31	30.9	0.00			251
1	282		7.70	7.67	34.149	26.654	142.6	0.572	1.65	24.6	49.9	2.50	32.6	0.01			284
	300	ISL	7.56	7.53	34.165	26.687	139.7	0.598	1.46	21.7	52.7	2.59	33.5	0.01			302
1	339		7.24	7.21	34.194	26.755	133.6	0.651	1.13	16.7	58.4	2.75	35.2	0.00			341
1	399		6.84	6.80	34.254	26.858	124.6	0.728	0.65	9.5	66.6	2.94	37.4	0.00			402
	400	ISL	6.83	6.79	34.255	26.860	124.4	0.730	0.64	9.4	66.8	2.94	37.4	0.00			403
1	465		6.35	6.31	34.303	26.963	115.3	0.808	0.37	5.4	76.5	3.09	39.3	0.00			468
	500	ISL	6.13	6.09	34.320	27.005	111.6	0.847	0.31	4.5	80.9	3.14	39.8	0.00			503
1	534		5.92	5.87	34.337	27.045	108.0	0.885	0.26	3.7	85.1	3.19	40.3	0.00			538

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

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 53

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 39.3 N	119 29.5 W	10/11/90	1031 UTC	1406 m	360 10 kn			1016.0 mb	17.0 C	16.2 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	16.38	16.38	3.1.363	24.403	351.6	0.000	5.77	103.2	2.0	0.37	0.2	0.00	0.19	0.06	0
1	1	16.38	16.38	33.363	24.403	351.6	0.004	5.77	103.2	2.0	0.37	0.2	0.00	0.19	0.06	1
	10 ISL	16.36	16.36	33.363	24.408	351.5	0.035	5.76	103.0	1.7	0.37	0.2	0.00	0.18	0.06	10
1	11	16.36	16.36	33.364	24.409	351.4	0.039	5.76	103.0	1.7	0.37	0.2	0.00	0.18	0.06	11
	20 ISL	16.29	16.29	33.359	24.421	350.5	0.070	5.78	103.2	1.7	0.37	0.2	0.00	0.22	0.08	20
1	22	16.27	16.27	33.356	24.424	350.4	0.077	5.78	103.2	1.7	0.37	0.2	0.00	0.24	0.09	22
	30 ISL	16.09	16.09	33.338	24.451	348.0	0.105	5.82	103.5	1.7	0.36	0.2	0.00	0.36	0.12	30
1	32	16.05	16.04	33.333	24.456	347.6	0.112	5.84	103.8	1.7	0.36	0.2	0.00	0.39	0.13	32
1	42	14.74	14.73	33.231	24.667	327.8	0.146	5.96	103.1	1.9	0.41	0.3	0.02	0.57	0.30	42
	50 ISL	13.07	13.06	33.215	24.998	296.3	0.171	5.80	96.9	3.6	0.61	2.9	0.09	0.37	0.28	50
1	52	12.68	12.67	33.220	25.079	288.6	0.177	5.74	95.1	4.1	0.66	3.7	0.11	0.31	0.27	52
1	62	12.04	12.03	33.228	25.208	276.6	0.205	5.57	91.1	5.3	0.76	5.7	0.06	0.18	0.23	62
1	72	10.68	10.67	33.162	25.403	258.1	0.232	5.45	86.5	6.5	0.92	8.6	0.03	0.14	0.19	72
	75 ISL	10.63	10.62	33.191	25.434	255.1	0.239	5.40	85.6	6.8	0.95	9.2	0.03	0.13	0.18	75
1	87	10.44	10.43	33.269	25.528	246.5	0.270	5.10	80.6	8.7	1.07	11.5	0.02	0.09	0.12	87
	100 ISL	10.08	10.07	33.399	25.691	231.2	0.301	4.63	72.6	12.3	1.27	15.2	0.01	0.05	0.08	100
1	102	10.02	10.01	33.420	25.717	228.7	0.305	4.55	71.3	12.9	1.30	15.8	0.01	0.04	0.07	102
1	122	9.74	9.73	33.607	25.910	210.8	0.349	3.84	59.9	17.6	1.59	20.2	0.01	0.01	0.04	123
	125 ISL	9.70	9.69	33.638	25.941	207.9	0.355	3.74	58.3	18.5	1.62	20.7	0.01	0.01	0.04	126
1	148	9.43	9.41	33.857	26.157	187.9	0.401	3.14	48.7	24.6	1.83	23.7	0.01	0.00	0.04	149
	150 ISL	9.41	9.39	33.871	26.171	186.5	0.405	3.11	48.2	25.0	1.84	23.9	0.01	0.00	0.04	151
1	179	9.10	9.08	34.015	26.334	171.6	0.457	2.86	44.1	29.4	1.96	25.5	0.01	0.00	0.02	180
	200 ISL	8.87	8.85	34.068	26.413	164.5	0.492	2.66	40.8	32.2	2.05	26.6	0.01	0.00	0.02	201
1	210	8.74	8.72	34.081	26.443	161.8	0.508	2.58	39.5	33.6	2.09	27.2	0.01	0.00	0.02	211
1	240	8.16	8.14	34.083	26.534	153.5	0.555	2.47	37.3	39.0	2.20	29.0	0.01			241
	250 ISL	8.01	7.98	34.089	26.561	151.0	0.571	2.35	35.3	40.9	2.25	29.7	0.01			251
1	282	7.64	7.61	34.119	26.639	144.0	0.618	1.91	28.5	46.5	2.44	31.9	0.00			284
	300 ISL	7.54	7.51	34.140	26.670	141.3	0.644	1.70	25.3	48.8	2.53	32.7	0.00			302
1	338	7.40	7.37	34.183	26.724	136.7	0.696			53.2	2.69	34.2	0.00			340
1	398	6.96	6.92	34.232	26.825	127.8	0.776	0.81	11.9	62.0	2.91	36.5	0.00			401
	400 ISL	6.94	6.90	34.234	26.829	127.5	0.778	0.80	11.7	62.3	2.92	36.6	0.00			403
1	464	6.37	6.33	34.273	26.936	117.8	0.857	0.48	7.0	71.7	3.08	39.0	0.00			467
	500 ISL	6.13	6.09	34.290	26.981	113.8	0.898	0.41	5.9	75.8	3.12	39.8	0.00			503
1	533	5.91	5.86	34.307	27.022	110.1	0.935	0.34	4.9	79.6	3.16	40.5	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 25.0 N	119 57.6 W	10/11/90	0546 UTC	845 ni	350 08 Kn			1018.2 mb	17.8 C	16.7 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.50	17.50	33.473	24.225	368.6	0.000	5.62	102.8	2.6	0.34	0.1	0.00	0.17	0.05	0
1	10	17.29	17.29	33.472	24.275	364.2	0.037	5.66	103.1	2.5	0.35	0.1	0.00	0.16	0.05	10
1	20	17.24	17.24	33.472	24.287	363.4	0.073	5.64	102.7	2.2	0.34	0.0	0.00	0.18	0.06	20
1	30	17.25	17.25	33.472	24.285	363.9	0.109	5.65	102.9	2.2	0.33	0.0	0.00	0.19	0.06	30
1	41	17.22	17.21	33.479	24.298	363.0	0.149	5.65	102.8	2.2	0.34	0.0	0.00	0.22	0.08	41
	50 ISL	17.21	17.20	33.469	24.293	363.8	0.182	5.62	102.2	1.9	0.34	0.0	0.00	0.26	0.10	50
1	51	17.21	17.20	33.468	24.292	363.9	0.186	5.62	102.2	1.9	0.34	0.0	0.00	0.26	0.10	51
1	61	13.45	13.44	33.165	24.884	307.5	0.219	6.13	103.2	2.9	0.42	0.2	0.03	0.67	0.45	61
1	71	12.35	12.34	33.185	25.116	285.6	0.249	5.90	97.1	3.7	0.56	1.9	0.16	0.29	0.27	71
	75 ISL	12.00	11.99	33.186	25.183	279.2	0.260	5.81	94.9	4.1	0.62	3.0	0.14	0.26	0.23	75
1	85	11.26	11.25	33.173	25.309	267.4	0.288	5.63	90.5	5.2	0.76	5.8	0.06	0.17	0.18	85
	100 ISL	10.44	10.43	33.119	25.411	257.8	0.327	5.56	87.8	6.5	0.89	8.0	0.04	0.14	0.15	100
1	101	10.40	10.39	33.119	25.418	257.2	0.330	5.55	87.5	6.7	0.90	8.2	0.04	0.14	0.15	101
1	121	9.87	9.86	33.421	25.744	226.6	0.378	4.39	68.6	15.9	1.44	17.3	0.01	0.04	0.07	122
	125 ISL	9.82	9.81	33.469	25.789	222.3	0.387	4.22	65.9	17.2	1.50	18.4	0.01	0.04	0.07	126
1	147	9.54	9.52	33.681	26.002	202.6	0.434	3.52	54.7	22.5	1.73	22.1	0.01	0.01	0.05	148
	150 ISL	9.46	9.44	33.704	26.032	199.7	0.440	3.46	53.6	23.1	1.75	22.5	0.01	0.01	0.05	151
1	177	8.69	8.67	33.866	26.282	176.3	0.490	3.12	47.6	28.1	1.89	25.3	0.01	0.00	0.02	178
	200 ISL	8.38	8.36	33.952	26.397	165.7	0.530	3.00	45.5	32.0	1.97	26.8	0.01	0.00	0.02	201
1	208	8.31	8.29	33.972	26.424	163.4	0.543	2.97	44.9	33.3	2.00	27.2	0.01	0.00	0.02	209
1	237	8.02	8.00	34.012	26.499	156.6	0.589	2.73	41.0	37.2	2.11	28.7	0.01			238
	250 ISL	7.91	7.88	34.018	26.520	154.8	0.610	2.69	40.3	38.4	2.14	29.1	0.01			251
1	278	7.68	7.65	34.027	26.561	151.3	0.652	2.59	38.6	41.4	2.20	29.9	0.01			280
	300 ISL	7.45	7.42	34.049	26.611	146.8	0.685	2.29	34.0	45.8	2.33	31.4	0.01			302
1	335	7.07	7.04	34.088	26.695	139.1	0.735	1.74	25.6	53.4	2.55	34.0	0.01			337
1	396	6.52	6.48	34.131	26.804	129.4	0.817	1.17	17.0	63.5	2.79	37.1	0.01			398
	400 ISL	6.49	6.45	34.132	26.809	128.9	0.822	1.15	16.7	64.0	2.80	37.2	0.01			402
1	463	6.14	6.10	34.168	26.883	122.5	0.901	0.82	11.8	71.2	2.95	39.0	0.01			466
	500 ISL	6.06	6.02	34.230	26.942	117.4	0.946	0.61	8.8	74.9	3.05	39.6	0.01			503
1	534	5.99	5.94	34.286	26.996	112.7	0.985	0.42	6.0	78.3	3.14	40.2	0.01			538

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 5.5 N	120 38.7 W	10/11/90	0019 UTC	3824 m	340 08 kn	340 02 05	1	1018.1 mb	17.9 C	17.2 C	20m 03	1/8	CI

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	17.05	17.05	33.443	24.309	360.6	0.000	5.69	103.2	2.5	0.33	0.1	0.00	0.26	0.06	0
1	10	16.83	16.83	33.520	24.420	350.3	0.036	5.67	102.4	2.2	0.33	0.1	0.00	0.33	0.12	10
	20 ISL	16.75	16.75	33.508	24.430	349.8	0.071	5.67	102.3	2.2	0.33	0.1	0.00	0.38	0.13	20
1	21	16.75	16.75	33.509	24.430	349.7	0.074	5.67	102.3	2.2	0.33	0.1	0.00	0.38	0.13	21
	30 ISL	16.75	16.75	33.507	24.429	350.1	0.106	5.68	102.4	1.9	0.33	0.1	0.00	0.41	0.15	30
1	31	16.75	16.74	33.507	24.429	350.1	0.109	5.68	102.4	1.9	0.33	0.1	0.00	0.41	0.15	31
1	41	16.72	16.71	33.509	24.438	349.6	0.144	5.68	102.4	1.9	0.33	0.1	0.00	0.44	0.17	41
	50 ISL	16.64	16.63	33.493	24.445	349.3	0.175	5.66	101.8	1.9	0.34	0.1	0.01	0.46	0.18	50
1	52	16.62	16.61	33.490	24.447	349.1	0.182	5.65	101.6	1.9	0.34	0.1	0.02	0.46	0.19	52
1	62	13.02	13.01	33.270	25.051	291.5	0.214	5.44	90.8	6.0	0.74	5.3	0.08	0.31	0.27	62
1	72	10.65	10.64	33.250	25.477	251.0	0.242	5.15	81.7	9.7	1.04	11.0	0.03	0.11	0.16	72
	75 ISL	10.53	10.52	33.303	25.539	245.2	0.249	5.06	80.1	10.2	1.08	11.8	0.03	0.10	0.14	75
1	87	10.06	10.05	33.378	25.677	232.2	0.278	4.72	74.0	12.0	1.18	13.8	0.02	0.05	0.09	87
	100 ISL	9.61	9.60	33.477	25.830	217.9	0.307	4.39	68.2	15.8	1.37	17.2	0.01	0.02	0.06	100
1	102	9.55	9.54	33.493	25.852	215.8	0.311	4.33	67.2	16.5	1.40	17.7	0.01	0.02	0.06	102
1	123	9.39	9.38	33.697	26.038	198.6	0.355	3.48	53.9	22.5	1.70	22.3	0.01	0.01	0.04	124
	125 ISL	9.37	9.36	33.712	26.053	197.2	0.359	3.42	52.9	23.0	1.72	22.6	0.01	0.01	0.04	126
1	148	9.13	9.11	33.853	26.202	183.5	0.403	2.86	44.1	27.7	1.89	25.4	0.00	0.00	0.03	149
	150 ISL	9.10	9.08	33.864	26.216	182.2	0.406	2.83	43.6	28.1	1.90	25.6	0.00	0.00	0.03	151
1	179	8.69	8.67	33.987	26.377	167.4	0.457	2.50	38.2	32.8	2.03	27.5	0.00	0.00	0.03	180
	200 ISL	8.40	8.38	34.035	26.459	159.9	0.491	2.39	36.3	36.0	2.10	28.5	0.00	0.00	0.03	201
1	210	8.27	8.25	34.049	26.490	157.1	0.507	2.35	35.5	37.4	2.13	29.0	0.00	0.00	0.03	211
1	240	7.92	7.90	34.070	26.559	151.0	0.553	2.10	31.5	41.3	2.25	30.5	0.00			241
	250 ISL	7.76	7.74	34.073	26.585	148.6	0.568	2.03	30.4	43.1	2.29	31.1	0.00			251
1	280	7.29	7.26	34.079	26.657	142.0	0.612	1.84	27.2	48.9	2.39	32.7	0.00			282
	300 ISL	7.06	7.03	34.082	26.692	138.9	0.640	1.73	25.5	52.0	2.45	33.5	0.00			302
1	336	6.67	6.64	34.085	26.747	133.9	0.689	1.53	22.3	57.5	2.56	35.0	0.00			338
1	396	5.89	5.86	34.093	26.854	124.0	0.766	1.16	16.6	69.3	2.77	38.1	0.00			399
	400 ISL	5.85	5.82	34.095	26.861	123.4	0.771	1.13	16.2	70.0	2.78	38.3	0.00			403
1	462	5.45	5.41	34.143	26.948	115.6	0.846	0.72	10.2	79.3	2.94	40.3	0.00			465
	500 ISL	5.30	5.26	34.184	26.998	111.1	0.889	0.59	8.3	83.9	3.01	40.9	0.00			503
1	533	5.17	5.13	34.219	27.042	107.3	0.925	0.48	6.8	87.9	3.07	41.5	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 45.0 N	121 18.7 W	09/11/90	1804 UTC	3655 m	360 11 £n	330 02 06	1	1021.5 mb	19.0 C	17.8 C	26m 02	3/8	CI

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.16	18.16	33.520	24.101	380.4	0.000	5.52	102.3	1.8	0.33	0.2	0.00	0.14	0.03	0
1	1	18.16	18.16	33.520	24.101	380.5	0.004	5.52	102.3	1.8	0.33	0.2	0.00	0.14	0.03	1
	10 ISL	17.90	17.90	33.486	24.139	377.2	0.038	5.55	102.3	1.9	0.33	0.2	0.00	0.15	0.04	10
1	16	17.62	17.62	33.453	24.181	373.3	0.060	5.58	102.3	1.9	0.33	0.2	0.00	0.17	0.05	16
	20 ISL	17.44	17.44	33.436	24.212	370.5	0.075	5.61	102.5	1.9	0.33	0.2	0.00	0.19	0.06	20
	30 ISL	17.05	17.05	33.404	24.280	364.4	0.112	5.66	102.6	1.8	0.33	0.2	0.00	0.25	0.09	30
1	31	17.02	17.01	33.401	24.285	363.9	0.116	5.67	102.7	1.8	0.33	0.2	0.00	0.26	0.09	31
1	41	16.91	16.90	33.394	24.306	362.3	0.152	5.68	102.7	1.7	0.33	0.2	0.00	0.33	0.11	41
	50 ISL	16.58	16.57	33.389	24.379	355.6	0.184	5.73	102.9	1.7	0.35	0.2	0.01	0.45	0.21	50
1	51	16.52	16.51	33.387	24.391	354.4	0.188	5.74	103.0	1.7	0.35	0.2	0.01	0.46	0.22	51
1	61	15.44	15.43	33.352	24.608	333.9	0.222	6.19	108.7	1.9	0.35	0.2	0.00	0.32	0.19	61
1	71	14.21	14.20	33.316	24.845	311.6	0.255	6.18	105.8	2.5	0.39	0.2	0.00	0.26	0.22	71
	75 ISL	13.72	13.71	33.306	24.939	302.7	0.267	6.12	103.7	2.7	0.42	0.4	0.04	0.31	0.25	75
1	80	13.12	13.11	33.292	25.049	292.3	0.282	6.01	100.6	3.0	0.47	0.7	0.08	0.36	0.28	80
1	95	11.37	11.36	33.223	25.328	265.8	0.324	5.52	89.0	6.1	0.80	7.0	0.02	0.13	0.16	95
	100 ISL	11.12	11.11	33.251	25.395	259.5	0.337	5.36	85.9	7.0	0.88	8.5	0.02	0.10	0.14	100
1	112	10.73	10.72	33.343	25.536	246.4	0.367	4.98	79.2	9.6	1.06	11.7	0.01	0.07	0.10	112
	125 ISL	10.03	10.02	33.405	25.704	230.4	0.398	4.60	72.1	13.7	1.28	15.4	0.01	0.03	0.06	126
1	127	9.93	9.92	33.415	25.729	228.1	0.403	4.54	71.0	14.3	1.31	15.9	0.01	0.03	0.05	128
	150 ISL	9.59	9.57	33.611	25.939	208.6	0.453	3.86	60.0	19.5	1.56	20.2	0.00	0.02	0.04	151
1	153	9.58	9.56	33.638	25.961	206.5	0.459	3.78	58.7	20.1	1.59	20.6	0.00	0.02	0.04	154
1	178	9.06	9.04	33.811	26.181	186.1	0.508	3.36	51.7	25.5	1.80	23.8	0.00	0.00	0.02	179
	200 ISL	8.82	8.80	33.918	26.303	174.9	0.548	3.17	48.5	28.7	1.86	25.2	0.00	0.00	0.02	201
1	209	8.72	8.70	33.950	26.344	171.1	0.563	3.12	47.6	30.0	1.88	25.6	0.00	0.00	0.02	210
1	239	8.10	8.08	34.013	26.488	157.7	0.613	2.98	44.9	36.1	2.02	27.6	0.00			240
	250 ISL	7.91	7.88	34.020	26.521	154.7	0.630	2.90	43.5	38.3	2.06	28.3	0.00			251
1	280	7.45	7.42	34.028	26.594	148.0	0.675	2.61	38.7	44.2	2.19	30.4	0.00			282
	300 ISL	7.21	7.18	34.044	26.641	143.8	0.705	2.32	34.2	48.2	2.30	31.9	0.00			302
1	337	6.86	6.83	34.078	26.716	137.0	0.756	1.76	25.8	55.3	2.50	34.6	0.00			339
1	398	6.38	6.34	34.118	26.812	128.5	0.837	1.18	17.1	64.4	2.75	37.5	0.00			400
	400 ISL	6.36	6.32	34.119	26.815	128.2	0.840	1.16	16.8	64.7	2.76	37.6	0.00			402
1	465	5.77	5.73	34.150	26.915	119.1	0.920	0.77	11.0	76.0	2.94	40.3	0.00			468
	500 ISL	5.53	5.49	34.171	26.961	115.0	0.961	0.64	9.1	81.2	3.00	41.1	0.00			503
1	536	5.28	5.24	34.193	27.008	110.6	1.002	0.51	7.2	86.6	3.07	42.0	0.00			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 26.0 N	121 59.9 W	09/11/90	1232 UTC	3813 *m*	330 14 kn			1021.0 mb	17.5 C	16.0 C		

CAST	DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
1	0	18.71	18.71	33.545	23.984	391.6	0.000	5.47	102.5	2.9	0.33	0.0	0.01	0.10	0.03	0
	10 ISL	18.71	18.71	33.544	23.983	392.0	0.039	5.48	102.7	2.8	0.33	0.1	0.01	0.10	0.02	10
1	15	18.71	18.71	33.544	23.983	392.1	0.059	5.48	102.7	2.7	0.33	0.1	0.01	0.10	0.02	15
	20 ISL	18.70	18.70	33.543	23.985	392.2	0.078	5.49	102.8	2.7	0.33	0.1	0.01	0.10	0.02	20
1	30	18.67	18.66	33.539	23.990	392.0	0.118	5.50	102.9	2.7	0.33	0.1	0.01	0.10	0.03	30
1	40	18.66	18.65	33.532	23.988	392.6	0.157	5.50	102.9	2.7	0.32	0.1	0.01	0.11	0.03	40
1	50	18.57	18.56	33.522	24.003	391.5	0.196	5.48	102.4	2.6	0.32	0.1	0.01	0.12	0.03	50
1	60	18.55	18.54	33.525	24.011	391.2	0.235	5.48	102.3	2.6	0.33	0.0	0.00	0.12	0.03	60
1	70	16.55	16.54	33.429	24.417	352.6	0.272	6.11	109.7	2.5	0.29	0.0	0.00	0.16	0.06	70
	75 ISL	15.97	15.96	33.456	24.570	338.1	0.290	6.09	108.1	2.5	0.29	0.1	0.00	0.18	0.09	75
1	79	15.63	15.62	33.487	24.671	328.6	0.303	6.07	107.0	2.5	0.29	0.1	0.00	0.19	0.12	79
1	94	14.83	14.82	33.482	24.842	312.6	0.351	5.97	103.6	2.7	0.31	0.2	0.00	0.20	0.19	94
	100 ISL	14.10	14.09	33.378	24.917	305.6	0.370	5.97	102.0	3.0	0.35	0.4	0.02	0.21	0.21	100
1	110	12.81	12.80	33.210	25.047	293.2	0.400	5.98	99.4	3.8	0.46	0.6	0.06	0.22	0.23	110
1	125	11.52	11.50	33.190	25.276	271.5	0.442	5.68	91.8	5.7	0.71	4.8	0.12	0.14	0.20	126
1	150	9.91	9.89	33.285	25.631	237.9	0.506	5.11	79.8	11.7	1.15	12.5	0.01	0.05	0.10	151
1	175	9.35	9.33	33.605	25.973	205.8	0.561	4.13	63.8	20.8	1.61	19.6	0.00	0.01	0.03	176
	200 ISL	9.08	9.06	33.821	26.186	186.0	0.610	3.47	53.4	27.5	1.86	23.6	0.00	0.00	0.02	201
1	206	9.02	9.00	33.858	26.225	182.5	0.621	3.36	51.6	28.7	1.90	24.2	0.00	0.00	0.02	207
1	235	8.55	8.53	33.960	26.378	168.3	0.672	3.16	48.1	32.7	2.00	26.4	0.00			236
	250 ISL	8.30	8.27	33.987	26.438	162.8	0.697	3.10	46.9	34.6	2.04	27.2	0.00			251
1	275	7.91	7.88	34.011	26.515	155.7	0.737	3.02	45.3	37.9	2.10	28.4	0.00			276
	300 ISL	7.59	7.56	34.019	26.568	151.0	0.775	2.92	43.5	41.4	2.16	29.5	0.00			302
1	332	7.18	7.15	34.017	26.624	145.8	0.822	2.73	40.3	46.6	2.26	31.1	0.00			334
1	393	6.21	6.18	34.019	26.755	133.6	0.908	2.09	30.1	60.1	2.59	35.5	0.00			395
	400 ISL	6.15	6.11	34.026	26.769	132.4	0.917	1.99	28.6	61.4	2.63	36.0	0.00			402
1	459	5.81	5.77	34.094	26.866	123.7	0.992	1.18	16.9	71.6	2.90	39.3	0.00			**462**
	500 ISL	5.51	5.47	34.132	26.932	117.6	1.042	0.89	12.6	78.5	3.01	40.8	0.00			503
1	528	5.30	5.26	34.159	26.979	113.3	1.074	0.69	9.7	83.2	3.08	41.8	0.00			531

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
31 5.0 N	122 39.8 W	09/11/90	0601 UTC	3981 m	360 11 kn			1022.9 mb	17.7 C	16.4 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	19.46	19.46	33.693	23.906	399.0	0.000	5.39	102.5	2.7	0.30	0.0	0.00	0.08	0.02	0
1	1	19.46	19.46	33.693	23.906	399.0	0.004	5.39	102.5	2.7	0.30	0.0	0.00	0.08	0.02	1
	10 ISL	19.46	19.46	33.692	23.906	399.4	0.040	5.40	102.7	2.7	0.30	0.0	0.00	0.08	0.02	10
1	16	19.46	19.46	33.692	23.906	399.6	0.064	5.40	102.7	2.7	0.30	0.0	0.00	0.08	0.02	16
	20 ISL	19.46	19.46	33.692	23.906	399.7	0.080	5.40	102.7	2.7	0.30	0.0	0.00	0.08	0.02	20
	30 ISL	19.46	19.45	33.692	23.907	400.0	0.120	5.40	102.7	2.6	0.30	0.0	0.00	0.08	0.03	30
1	32	19.46	19.45	33.692	23.907	400.1	0.128	5.40	102.7	2.6	0.30	0.0	0.00	0.08	0.03	32
1	42	19.47	19.46	33.691	23.904	400.7	0.168	5.40	102.7	2.6	0.30	0.0	0.00	0.09	0.02	42
	50 ISL	19.43	19.42	33.694	23.917	399.8	0.200	5.42	103.0	2.5	0.29	0.1	0.00	0.10	0.02	50
1	52	19.42	19.41	33.695	23.921	399.5	0.208	5.42	103.0	2.5	0.29	0.1	0.00	0.10	0.02	52
1	62	17.94	17.93	33.668	24.270	366.4	0.246	5.92	109.4	2.2	0.25	0.1	0.00	0.14	0.04	62
1	72	16.75	16.74	33.652	24.542	340.8	0.282	6.00	108.3	2.2	0.25	0.1	0.00	0.17	0.06	72
	75 ISL	16.54	16.53	33.661	24.598	335.5	0.292	5.99	107.7	2.2	0.25	0.1	0.00	0.18	0.08	75
1	81	16.25	16.24	33.687	24.685	327.4	0.312	5.94	106.2	2.1	0.25	0.1	0.00	0.19	0.11	81
1	97	15.86	15.84	33.754	24.825	314.5	0.363	5.82	103.3	2.2	0.25	0.2	0.00	0.22	0.18	97
	100 ISL	15.63	15.61	33.725	24.854	311.8	0.372	5.82	102.8	2.3	0.26	0.2	0.01	0.22	0.19	100
1	113	14.40	14.38	33.554	24.990	299.0	0.412	5.81	100.0	2.5	0.35	0.4	0.06	0.24	0.22	113
	125 ISL	13.15	13.13	33.423	25.146	284.3	0.447	5.70	95.5	3.5	0.50	2.1	0.14	0.20	0.19	125
1	128	12.85	12.83	33.397	25.185	280.6	0.456	5.66	94.2	3.8	0.54	2.7	0.16	0.18	0.18	129
	150 ISL	11.13	11.11	33.351	25.472	253.4	0.514	5.30	85.0	7.6	0.86	8.5	0.03	0.09	0.11	151
1	153	10.94	10.92	33.358	25.511	249.6	0.522	5.23	83.6	8.3	0.91	9.4	0.01	0.08	0.10	154
1	179	9.71	9.69	33.512	25.842	218.4	0.583	4.41	68.7	17.0	1.40	17.4	0.00	0.03	0.04	180
	200 ISL	9.25	9.23	33.753	26.106	193.7	0.626	**3.64**	56.2	24.9	1.73	22.5	0.00	0.01	0.03	201
1	210	9.12	9.10	33.860	26.210	184.0	0.645	3.35	51.6	28.2	1.84	24.3	0.00	0.00	0.02	211
1	240	8.62	8.59	33.945	26.356	170.6	0.698	3.25	49.5	32.4	1.92	25.5	0.00			241
	250 ISL	8.48	8.45	33.965	26.393	167.1	0.715	3.21	48.8	33.8	1.95	25.9	0.00			251
1	282	8.04	8.01	34.009	26.494	157.9	0.767	3.01	45.3	38.9	2.07	27.6	0.00			283
	300 ISL	7.76	7.73	34.024	26.547	153.0	0.795	2.80	41.8	43.1	2.18	29.0	0.00			302
1	338	7.20	7.17	34.047	26.645	144.0	0.851	2.29	33.8	52.4	2.43	32.2	0.00			340
1	399	6.56	6.52	34.084	26.761	133.4	0.936	1.52	22.1	64.3	2.77	36.1	0.00			**401**
	400 ISL	6.55	6.51	34.084	26.763	133.3	0.937	1.51	21.9	64.5	2.77	36.2	0.00			402
1	465	5.81	5.77	34.104	26.873	123.0	1.021	1.09	15.6	77.8	2.99	39.3	0.00			**468**
	500 ISL	5.57	5.53	34.143	26.934	117.5	1.063	0.86	12.2	83.2	3.06	40.5	0.00			503
1	534	5.34	5.30	34.181	26.992	112.2	1.102	0.63	8.9	88.5	3.13	41.6	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 45.4 N	123 19.9 W	09/11/90	0029 UTC	4016 m	360 12 kn	360 03 06	1	1022.6 mb	18.2 C	16.9 C	36m 02	1/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	19.69	19.69	33.807	23.934	396.3	0.000	5.37	102.6	2.8	0.28	0.1	0.00	0.08	0.02	0
1	1	19.69	19.69	33.807	23.934	396.4	0.004	5.37	102.6	2.8	0.28	0.1	0.00	0.08	0.02	1
	10 ISL	19.69	19.69	33.809	23.936	396.5	0.040	5.37	102.6	2.6	0.28	0.0	0.00	0.08	0.02	10
1	16	19.70	19.70	33.811	23.935	396.8	0.063	5.37	102.7	2.5	0.28	0.0	0.00	0.08	0.02	16
	20 ISL	19.71	19.71	33.818	23.938	396.7	0.079	5.37	102.7	2.5	0.28	0.0	0.00	0.08	0.02	20
	30 ISL	19.73	19.72	33.837	23.948	396.1	0.119	5.36	102.5	2.7	0.28	0.1	0.00	0.08	0.02	30
1	31	19.73	19.72	33.839	23.949	396.0	0.123	5.36	102.5	2.7	0.28	0.1	0.00	0.08	0.02	31
1	41	19.73	19.72	33.846	23.955	395.9	0.163	5.37	102.7	2.7	0.28	0.0	0.00	0.08	0.02	41
	50 ISL	19.70	19.69	33.844	23.962	395.6	0.198	5.37	102.7	2.6	0.28	0.0	0.00	0.08	0.02	50
1	51	19.70	19.69	33.844	23.962	395.6	0.202	5.37	102.7	2.6	0.28	0.0	0.00	0.08	0.02	51
1	62	19.67	19.66	33.847	23.973	395.0	0.246	5.36	102.4	2.6	0.27	0.0	0.00	0.10	0.02	62
1	72	17.16	17.15	33.516	24.341	359.9	0.283	6.00	109.1	2.6	0.26	0.0	0.00	0.17	0.06	72
	75 ISL	16.92	16.91	33.519	24.400	354.4	0.294	6.01	108.7	2.6	0.26	0.0	0.00	0.19	0.06	75
1	81	16.68	16.67	33.566	24.493	345.7	0.315	6.03	108.6	2.5	0.25	0.0	0.00	0.21	0.08	81
1	96	15.37	15.36	33.539	24.769	319.7	0.365	6.00	105.3	2.2	0.28	0.1	0.00	0.24	0.22	96
	100 ISL	15.17	15.15	33.538	24.812	315.7	0.378	5.98	104.5	2.3	0.29	0.1	0.00	0.24	0.23	100
1	111	14.71	14.69	33.529	24.905	307.2	0.412	5.92	102.5	2.4	0.32	0.2	0.00	0.25	0.24	111
	125 ISL	13.87	13.85	33.485	25.048	293.8	0.454	5.77	98.2	3.3	0.41	0.8	0.14	0.19	0.18	125
1	127	13.74	13.72	33.478	25.069	291.8	0.460	5.75	97.6	3.5	0.43	1.0	0.16	0.18	0.17	127
	150 ISL	12.29	12.27	33.408	25.302	269.9	0.524	5.47	90.0	5.6	0.67	5.1	0.05	0.10	0.13	151
1	153	12.11	12.09	33.403	25.332	267.0	0.532	5.43	89.0	5.9	0.70	5.7	0.02	0.09	0.13	154
1	179	10.95	10.93	33.431	25.567	245.0	0.599	5.03	80.4	9.6	0.98	10.4	0.01	0.04	0.07	180
	200 ISL	10.20	10.18	33.577	25.811	222.0	0.648	4.76	74.9	13.2	1.14	13.6	0.00	0.02	0.03	201
1	208	9.93	9.91	33.646	25.911	212.6	0.665	4.65	72.8	14.9	1.20	14.9	0.00	0.01	0.02	209
1	238	8.91	8.88	33.878	26.258	179.9	0.724	4.02	61.6	24.4	1.58	21.3	0.00			239
	250 ISL	8.66	8.63	33.929	26.337	172.5	0.745	3.75	57.2	27.6	1.71	23.2	0.00			251
1	279	8.20	8.17	33.997	26.461	161.1	0.794	3.15	47.5	34.5	1.97	26.6	0.00			280
	300 ISL	7.88	7.85	34.017	26.524	155.3	0.827	2.89	43.3	38.7	2.09	28.3	0.00			302
1	336	7.37	7.34	34.028	26.606	147.8	0.882	2.54	37.6	45.4	2.26	30.5	0.00			338
1	397	6.63	6.59	34.065	26.737	135.8	0.968	1.73	25.2	58.2	2.62	34.9	0.00			399
	400 ISL	6.59	6.55	34.064	26.742	135.3	0.972	1.71	24.9	58.8	2.63	35.1	0.00			402
1	464	5.80	5.76	34.068	26.846	125.6	1.056	1.33	19.0	70.6	2.85	38.1	0.00			467
	500 ISL	5.65	5.61	34.121	26.907	120.2	1.100	0.99	14.1	76.1	2.98	39.3	0.00			503
1	534	5.50	5.46	34.172	26.966	114.9	1.140	0.67	9.5	81.2	3.11	40.4	0.00			537

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
30 25.6 N	123 59.8 W	08/11/90	1833 UTC	4215 m	030 14 kn	030 04 06	1	1024.8 mb	19.8 C	16.9 C	33m 01	3/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0 ISL	19.93	19.93	33.907	23.948	395.0	0.000	5.32	102.2	1.8	0.27	0.3	0.01	0.08	0.02	0
1	1	19.93	19.93	33.907	23.948	395.1	0.004	5.32	102.2	1.8	0.27	0.3	0.01	0.08	0.02	1
	10 ISL	19.92	19.92	33.907	23.951	395.1	0.040	5.32	102.2	1.8	0.28	0.4	0.01	0.08	0.02	10
1	16	19.91	19.91	33.907	23.954	395.0	0.063	5.32	102.2	1.8	0.29	0.4	0.01	0.08	0.02	16
	20 ISL	19.91	19.91	33.908	23.955	395.1	0.079	5.32	102.1	1.8	0.29	0.4	0.01	0.08	0.02	20
	30 ISL	19.92	19.91	33.909	23.953	395.6	0.119	5.32	102.2	1.8	0.27	0.4	0.01	0.08	0.02	30
1	31	19.92	19.91	33.909	23.953	395.6	0.123	5.32	102.2	1.8	0.27	0.4	0.01	0.08	0.02	31
1	41	19.94	19.93	33.919	23.956	395.8	0.162	5.32	102.2	1.8	0.27	0.4	0.00	0.08	0.02	41
	50 ISL	20.10	20.09	34.030	23.999	392.0	0.198	5.30	102.2	1.7	0.25	0.4	0.00	0.09	0.03	50
1	51	20.12	20.11	34.044	24.005	391.5	0.201	5.30	102.2	1.7	0.25	0.4	0.00	0.09	0.03	51
1	61	20.19	20.18	34.114	24.040	388.5	0.240	5.31	102.6	2.0	0.24	0.4	0.00	0.09	0.02	61
1	71	20.19	20.18	34.151	24.069	386.2	0.279	5.28	102.0	2.0	0.23	0.5	0.00	0.09	0.03	71
	75 ISL	19.80	19.79	34.089	24.124	381.1	0.295	5.43	104.1	2.0	0.22	0.5	0.00	0.11	0.04	75
1	80	19.15	19.14	33.997	24.221	371.9	0.313	5.65	107.0	2.0	0.21	0.5	0.00	0.14	0.05	80
1	95	17.05	17.03	33.889	24.655	330.9	0.366	5.88	106.9	2.0	0.19	0.5	0.00	0.21	0.09	95
	100 ISL	16.70	16.68	33.883	24.732	323.6	0.382	5.86	105.8	2.0	0.20	0.5	0.00	0.21	0.13	100
1	110	16.04	16.02	33.827	24.841	313.4	0.414	5.80	103.3	2.1	0.22	0.5	0.00	0.22	0.20	110
1	125	14.15	14.13	33.508	25.007	297.7	0.460	5.86	100.3	2.8	0.36	0.6	0.05	0.21	0.20	125
1	150	12.06	12.04	33.388	25.330	267.1	0.531	5.44	89.1	5.6	0.70	5.8	0.02	0.11	0.12	151
1	175	10.85	10.83	33.487	25.628	239.1	0.594	5.07	80.9	9.4	0.91	10.3	0.01	0.03	0.06	176
	200 ISL	10.04	10.02	33.640	25.888	214.7	0.651	4.74	74.4	13.8	1.14	14.3	0.00	0.01	0.03	201
1	205	9.91	9.89	33.673	25.935	210.3	0.661	4.64	72.6	15.0	1.20	15.2	0.00	0.01	0.02	206
1	234	9.23	9.20	33.844	26.181	187.3	0.719	3.46	53.4	25.5	1.74	22.8	0.00			235
	250 ISL	8.92	8.89	33.915	26.286	177.5	0.748	3.58	54.9	27.5	1.73	23.0	0.00			251
1	275	8.48	8.45	33.993	26.415	165.5	0.791	3.78	57.4	29.3	1.72	23.4	0.00			276
	300 ISL	8.05	8.02	34.020	26.502	157.5	0.831	3.46	52.1	34.5	1.87	25.6	0.00			302
1	330	7.52	7.49	34.020	26.579	150.4	0.878	2.93	43.5	42.0	2.11	28.7	0.00			332
1	390	6.32	6.29	34.005	26.730	136.0	0.964	2.40	34.7	56.4	2.43	33.0	0.00			392
	400 ISL	6.23	6.19	34.011	26.747	134.5	0.977	2.26	32.6	58.2	2.48	33.7	0.00			402
1	457	5.84	5.80	34.057	26.833	126.8	1.052	1.47	21.0	68.6	2.78	37.1	0.00			460
	500 ISL	5.39	5.35	34.098	26.920	118.6	1.104	1.06	15.0	79.1	2.96	39.2	0.00			503
1	528	5.10	5.06	34.126	26.976	113.3	1.137	0.80	11.2	86.0	3.08	40.5	0.00			531

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 26.8

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 56.8 N	117 18.3 W	05/11/90	1950 UTC	68 m	210 03 kn	240 01 05	0	1013.3 mb	18.8 C	16.7 C	16m 03	0/8

CAST	DEPTH in	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	18.00	18.00	33.517	24.138	376.9	0.000	5.63	104.0	2.2	0.35	0.1	0.01	0.40	0.13	0
1	10	17.90	17.90	33.508	24.156	375.6	0.038	5.69	104.9	2.3	0.37	0.1	0.02	0.58	0.20	10
	20 ISL	16.11	16.11	33.355	24.459	346.9	0.074	6.02	107.1	2.8	0.43	0.0	0.06	1.05	0.47	20
1	21	15.89	15.89	33.340	24.497	343.3	0.077	6.05	107.2	2.9	0.44	0.0	0.06	1.09	0.49	21
	30 ISL	14.31	14.31	33.301	24.811	313.6	0.107	5.87	100.7	3.4	0.53	0.7	0.59	0.99	0.49	30
1	31	14.17	14.17	33.301	24.841	310.8	0.110	5.84	99.9	3.5	0.54	0.8	0.66	0.98	0.49	31
1	42	13.81	13.80	33.318	24.929	302.7	0.144	5.57	94.6	4.4	0.66	1.9	1.10	0.56	0.44	42
	50 ISL	13.27	13.26	33.331	25.048	291.5	0.167	5.37	90.2	5.5	0.74	3.5	0.67	0.29	0.33	50
1	52	13.12	13.11	33.334	25.081	288.5	0.173	5.33	89.2	5.8	0.76	3.9	0.53	0.24	0.31	52
1	63	12.46	12.45	33.351	25.223	275.2	0.204	5.17	85.4	6.7	0.82	5.6	0.19	0.11	0.30	63

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 28

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 54.4 N	117 23.5 W	05/11/90	2220 UTC	552 m	210 05 kn	280 02 04	1	1011.7 mb	20.1 C	18.8 C	35m 02	1/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.68	19.68	33.592	23.773	411.7	0.000	5.46	104.2	2.4	0.29	0.0	0.00	0.16	0.03	0
1	1	19.68	19.68	33.592	23.773	411.8	0.004	5.46	104.2	2.4	0.29	0.0	0.00	0.16	0.03	1
	10 ISL	19.19	19.19	33.579	23.889	401.0	0.041	5.50	104.0	2.4	0.29	0.0	0.00	0.16	0.04	10
1	11	19.12	19.12	33.576	23.904	399.5	0.045	5.51	104.0	2.4	0.29	0.0	0.00	0.16	0.04	11
	20 ISL	18.78	18.78	33.544	23.966	394.0	0.080	5.60	105.0	2.3	0.30	0.0	0.00	0.18	0.05	20
1	21	18.74	18.74	33.541	23.974	393.3	0.084	5.61	105.2	2.3	0.30	0.0	0.00	0.19	0.05	21
	30 ISL	16.07	16.07	33.356	24.469	346.2	0.118	6.09	108.3	2.7	0.36	0.1	0.00	0.29	0.13	30
1	31	15.75	15.75	33.340	24.529	340.6	0.121	6.14	108.5	2.8	0.37	0.1	0.00	0.30	0.14	31
1	42	14.49	14.48	33.288	24.764	318.5	0.157	6.16	106.0	3.0	0.38	0.2	0.00	0.29	0.18	42
	50 ISL	13.80	13.79	33.285	24.905	305.2	0.182	6.06	102.9	3.3	0.42	0.4	0.09	0.87	0.60	50
1	52	13.64	13.63	33.288	24.941	301.9	0.188	6.01	101.7	3.5	0.44	0.4	0.11	0.98	0.68	52
1	62	12.75	12.74	33.330	25.151	282.0	0.218	5.53	91.9	5.1	0.62	3.4	0.09	0.33	0.36	62
1	72	12.47	12.46	33.417	25.273	270.7	0.245	5.08	83.9	7.2	0.81	6.4	0.03	0.19	0.23	72
	75 ISL	12.30	12.29	33.424	25.311	267.1	0.253	5.00	82.3	7.7	0.85	7.1	0.03	0.16	0.21	75
1	86	11.69	11.68	33.440	25.438	255.2	0.282	4.76	77.4	9.6	0.98	9.5	0.02	0.09	0.18	86
	100 ISL	11.41	11.40	33.526	25.557	244.2	0.317	4.34	70.1	12.3	1.15	12.2	0.01	0.06	0.13	100
1	101	11.40	11.39	33.533	25.564	243.6	0.319	4.31	69.7	12.5	1.16	12.4	0.01	0.06	0.13	101
1	121	11.09	11.08	33.679	25.734	227.8	0.366	3.62	58.2	16.5	1.42	16.5	0.01	0.03	0.07	122
	125 ISL	11.05	11.03	33.707	25.763	225.2	0.376	3.51	56.4	17.3	1.46	17.1	0.01	0.03	0.06	126
1	147	10.84	10.82	33.842	25.906	212.1	0.424	3.05	48.8	21.1	1.66	20.0	0.01	0.02	0.05	148
	150 ISL	10.79	10.77	33.856	25.926	210.2	0.430	3.00	47.9	21.6	1.68	20.3	0.01	0.02	0.05	151
1	177	10.29	10.27	33.958	26.093	194.9	0.485	2.69	42.5	25.6	1.86	22.9	0.00	0.00	0.04	178
	200 ISL	9.87	9.85	34.033	26.223	182.9	0.528	2.57	40.3	28.4	1.94	24.4	0.01	0.00	0.03	201
1	207	9.74	9.72	34.051	26.259	179.6	0.541	2.55	39.9	29.2	1.96	24.8	0.01	0.00	0.03	208
1	237	9.11	9.08	34.081	26.385	167.9	0.593	2.55	39.3	32.9	2.01	26.3	0.01			238
	250 ISL	9.05	9.02	34.122	26.427	164.2	0.615	2.35	36.2	34.6	2.09	27.0	0.01			251
1	277	8.99	8.96	34.204	26.501	157.7	0.658	1.88	28.9	38.3	2.26	28.5	0.00			279
	300 ISL	8.73	8.70	34.218	26.554	153.1	0.694	1.71	26.2	41.4	2.34	29.5	0.00			302
1	333	8.22	8.19	34.207	26.624	146.8	0.743	1.56	23.6	46.3	2.44	30.9	0.00			335
1	395	7.18	7.14	34.196	26.766	133.5	0.830	1.12	16.5	57.9	2.69	34.6	0.00			397
	400 ISL	7.13	7.09	34.200	26.776	132.6	0.837	1.07	15.8	58.7	2.71	34.9	0.00			402
1	460	6.65	6.61	34.259	26.888	122.5	0.913	0.58	8.5	68.3	2.94	37.4	0.00			463
	500 ISL	6.34	6.29	34.290	26.954	116.6	0.961	0.44	6.4	74.6	3.02	38.3	0.01			503
1	532	6.10	6.05	34.316	27.006	111.9	0.998	0.33	4.8	79.6	3.09	39.0	0.01			536

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 50.6 N	117 32.0 W	06/11/90	0046 UTC	855 *m*	310 01 kn	260 02 03	1	1010.5 mb	17.5 C	16.0 C		1/8 ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.93	19.93	33.595	23.710	417.7	0.000	5.47	104.9	1.8	0.30	0.8	0.00	0.14	0.03	0
1	1	19.93	19.93	33.595	23.710	417.8	0.004	5.47	104.9	1.8	0.30	0.8	0.00	0.14	0.03	1
	10 ISL	19.62	19.62	33.593	23.789	410.5	0.041	5.46	104.1	1.7	0.30	0.8	0.01	0.15	0.03	10
1	11	19.57	19.57	33.592	23.802	409.4	0.046	5.46	104.0	1.7	0.30	0.8	0.01	0.15	0.03	11
	20 ISL	19.40	19.40	33.565	23.825	407.5	0.082	5.51	104.6	1.6	0.30	0.8	0.01	0.18	0.04	20
1	22	19.36	19.36	33.559	23.831	407.0	0.090	5.52	104.7	1.6	0.30	0.8	0.01	0.19	0.04	22
	30 ISL	16.26	16.26	33.360	24.429	350.1	0.121	6.00	107.1	2.4	0.36	0.7	0.01	0.41	0.11	30
1	32	15.45	15.45	33.327	24.586	335.2	0.128	6.12	107.5	2.6	0.38	0.7	0.01	0.48	0.15	32
1	42	14.35	14.34	33.286	24.792	315.8	0.160	6.09	104.5	2.7	0.40	0.8	0.01	0.92	0.49	42
	50 ISL	13.76	13.75	33.311	24.934	302.5	0.185	5.83	98.9	3.7	0.48	1.7	0.18	0.96	0.52	50
1	52	13.66	13.65	33.324	24.964	299.6	0.191	5.75	97.3	4.0	0.50	2.0	0.22	0.97	0.53	52
1	62	13.57	13.56	33.416	25.054	291.4	0.220	5.36	90.6	5.2	0.60	3.4	0.21	0.55	0.33	62
1	72	13.30	13.29	33.460	25.143	283.2	0.249	5.02	84.4	6.8	0.74	5.7	0.06	0.44	0.33	72
	75 ISL	13.12	13.11	33.452	25.173	280.4	0.258	5.01	83.9	6.8	0.76	6.1	0.05	0.39	0.32	75
1	86	12.40	12.39	33.430	25.297	268.8	0.288	4.96	81.8	7.1	0.84	7.7	0.03	0.21	0.24	86
	100 ISL	11.77	11.76	33.528	25.492	250.4	0.324	4.36	71.0	10.7	1.11	12.0	0.01	0.09	0.13	100
1	101	11.73	11.72	33.536	25.505	249.2	0.327	4.32	70.3	11.0	1.13	12.3	0.01	0.08	0.12	101
1	122	10.70	10.69	33.527	25.685	232.5	0.377	4.27	68.0	13.3	1.27	15.6	0.01	0.04	0.08	123
	125 ISL	10.69	10.68	33.556	25.709	230.2	0.384	4.18	66.5	13.9	1.31	16.2	0.01	0.04	0.08	126
1	147	10.58	10.56	33.767	25.893	213.2	0.433	3.35	53.3	19.4	1.60	20.3	0.01	0.02	0.05	148
	150 ISL	10.57	10.55	33.801	25.922	210.6	0.439	3.22	51.2	20.3	1.65	20.9	0.01	0.02	0.05	151
1	179	10.30	10.28	34.069	26.178	186.9	0.497	2.27	35.9	27.9	2.00	25.3	0.01	0.01	0.04	180
	200 ISL	9.76	9.74	34.108	26.300	175.6	0.535	2.34	36.6	30.6	2.06	26.5	0.01	0.01	0.03	201
1	208	9.56	9.54	34.110	26.335	172.4	0.549	2.36	36.8	31.3	2.07	26.7	0.01	0.01	0.03	209
1	238	9.27	9.24	34.166	26.426	164.2	0.599	2.08	32.2	34.8	2.19	28.2	0.01			239
	250 ISL	9.18	9.15	34.189	26.459	161.3	0.619	1.95	30.1	36.1	2.25	28.7	0.01			251
1	279	8.94	8.91	34.229	26.529	155.1	0.665	1.68	25.8	39.5	2.38	29.8	0.02			281
	300 ISL	8.64	8.61	34.226	26.574	151.1	0.697	1.61	24.6	42.3	2.43	30.7	0.01			302
1	336	8.03	8.00	34.200	26.646	144.5	0.750	1.54	23.2	47.7	2.50	32.3	0.00			338
1	396	7.01	6.97	34.161	26.762	133.8	0.834	1.23	18.1	57.8	2.67	35.7	0.00			398
	400 ISL	6.98	6.94	34.165	26.769	133.1	0.839	1.19	17.5	58.4	2.69	35.9	0.00			402
1	463	6.74	6.70	34.255	26.873	124.1	0.920	0.63	9.2	66.9	2.97	37.8	0.00			466
	500 ISL	6.48	6.43	34.278	26.926	119.4	0.965	0.50	7.3	71.4	3.03	38.7	0.00			503
1	535	6.23	6.18	34.300	26.976	114.8	1.006	0.37	5.3	75.6	3.09	39.6	0.00			539

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 40.7 N	117 52.4 W	06/11/90	0420 UTC	608 m	310 01 kn			1010.4 mb	17.6 C	16.0 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
1	0	19.66	19.66	33.631	23.807	408.4	0.000	5.42	103.4	2.6	0.26	0.3	0.01	0.16	0.04	0
1	10	19.59	19.59	33.629	23.824	407.1	0.041	5.44	103.7	2.6	0.25	0.2	0.00	0.18	0.05	10
1	20	19.51	19.51	33.626	23.843	405.7	0.081	5.45	103.7	2.4	0.26	0.2	0.02	0.20	0.06	20
	30 ISL	18.64	18.63	33.526	23.988	392.3	0.121	5.65	105.7	2.5	0.28	0.1	0.00	0.22	0.06	30
1	31	18.48	18.47	33.510	24.015	389.7	0.125	5.68	105.9	2.5	0.28	0.1	0.00	0.22	0.06	31
1	41	15.60	15.59	33.310	24.540	339.9	0.162	6.12	107.8	2.5	0.33	0.0	0.02	0.31	0.16	41
	50 ISL	14.48	14.47	33.288	24.766	318.5	0.191	6.11	105.2	2.9	0.36	0.0	0.01	0.37	0.23	50
1	51	14.40	14.39	33.291	24.785	316.7	0.195	6.11	105.0	2.9	0.37	0.0	0.01	0.37	0.24	51
1	61	13.15	13.14	33.385	25.114	285.5	0.225	5.47	91.7	5.0	0.58	3.0	0.13	0.33	0.27	61
1	71	12.76	12.75	33.428	25.225	275.3	0.253	5.20	86.4	6.1	0.68	4.9	0.05	0.24	0.24	71
	75 ISL	12.63	12.62	33.445	25.264	271.7	0.264	5.11	84.7	6.5	0.72	5.6	0.04	0.21	0.22	75
1	85	12.20	12.19	33.463	25.360	262.7	0.290	4.94	81.2	7.5	0.81	7.5	0.03	0.14	0.18	85
	100 ISL	11.00	10.99	33.388	25.523	247.3	0.329	4.87	78.0	9.8	1.00	10.9	0.03	0.09	0.13	100
1	101	10.92	10.91	33.385	25.535	246.2	0.331	4.86	77.7	10.0	1.01	11.2	0.03	0.09	0.13	101
1	121	10.13	10.12	33.570	25.816	219.8	0.378	4.11	64.6	16.3	1.32	17.2	0.01	0.02	0.06	122
	125 ISL	10.14	10.13	33.638	25.868	215.0	0.386	3.87	60.9	17.7	1.40	18.3	0.01	0.02	0.06	126
1	146	10.37	10.35	33.978	26.094	194.1	0.429	2.71	42.9	24.1	1.75	23.0	0.01	0.00	0.04	147
	150 ISL	10.34	10.32	34.012	26.126	191.2	0.437	2.67	42.3	24.9	1.79	23.5	0.01	0.00	0.04	151
1	178	9.82	9.80	34.112	26.293	175.8	0.488	2.38	37.3	29.4	1.92	25.6	0.01	0.00	0.04	179
	200 ISL	9.01	8.99	34.093	26.410	164.8	0.526	2.66	40.9	32.2	1.91	26.4	0.02	0.00	0.03	201
1	208	8.76	8.74	34.087	26.445	161.6	0.539	2.72	41.6	33.3	1.91	26.7	0.02	0.00	0.03	209
1	237	8.79	8.76	34.190	26.521	154.9	0.585	1.86	28.5	38.7	2.16	29.2	0.01			238
	250 ISL	8.71	8.68	34.210	26.550	152.5	0.605	1.76	26.9	40.3	2.22	29.8	0.01			251
1	279	8.39	8.36	34.220	26.607	147.4	0.648	1.55	23.5	43.6	2.31	30.9	0.01			281
	300 ISL	8.05	8.02	34.207	26.648	143.7	0.679	1.47	22.1	46.9	2.38	32.0	0.01			302
1	335	7.49	7.46	34.185	26.713	137.8	0.728	1.35	20.1	52.6	2.48	33.8	0.01			337
1	397	7.01	6.97	34.225	26.812	129.0	0.811	0.85	12.5	61.4	2.68	36.4	0.01			399
	400 ISL	6.99	6.95	34.226	26.816	128.7	0.815	0.84	12.3	61.7	2.69	36.5	0.01			403
1	465	6.61	6.57	34.249	26.886	122.8	0.896	0.62	9.0	68.2	2.80	38.1	0.01			468
	500 ISL	6.39	6.34	34.273	26.934	118.5	0.939	0.50	7.2	72.3	2.85	38.9	0.01			503
1	536	6.16	6.11	34.298	26.984	114.1	0.980	0.38	5.5	76.5	2.91	39.7	0.01			540

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
32 30.7 N	118 12.8 W	06/11/90	0750 UTC	1654 m	310 10 kn			1010.1 mb	17.5 C	16.4 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	18.53	18.53	33.564	24.043	385.9	0.000	5.53	103.3	2.5	0.27	0.5	0.00	0.19	0.05	0
1	1	18.53	18.53	33.564	24.043	386.0	0.004	5.53	103.3	2.5	0.27	0.5	0.00	0.19	0.05	1
	10 ISL	18.50	18.50	33.565	24.052	385.5	0.039	5.55	103.6	2.4	0.26	0.4	0.00	0.19	0.05	10
1	12	18.49	18.49	33.565	24.054	385.3	0.046	5.55	103.6	2.4	0.26	0.4	0.00	0.19	0.05	12
	20 ISL	17.07	17.07	33.424	24.290	363.0	0.076	5.89	106.8	2.4	0.29	0.4	0.00	0.22	0.07	20
1	21	16.83	16.83	33.405	24.332	359.1	0.080	5.94	107.2	2.4	0.30	0.4	0.00	0.22	0.07	21
	30 ISL	14.30	14.30	33.335	24.840	310.9	0.110	6.07	104.1	3.3	0.37	0.6	0.01	0.96	0.44	30
1	31	14.04	14.04	33.337	24.896	305.6	0.113	6.08	103.7	3.5	0.38	0.6	0.01	1.04	0.48	31
1	42	13.21	13.20	33.479	25.175	279.3	0.145	5.00	83.9	7.1	0.68	5.6	0.09	0.70	0.53	42
	50 ISL	12.86	12.85	33.541	25.292	268.3	0.167	4.46	74.4	9.6	0.87	8.8	0.05	0.46	0.40	50
1	52	12.80	12.79	33.552	25.313	266.4	0.172	4.35	72.4	10.1	0.91	9.5	0.04	0.41	0.36	52
1	62	12.51	12.50	33.586	25.396	258.7	0.199	4.00	66.2	11.9	1.02	11.8	0.02	0.23	0.25	62
1	72	12.28	12.27	33.616	25.464	252.5	0.224	3.80	62.6	13.1	1.10	13.3	0.02	0.17	0.17	72
	75 ISL	12.21	12.20	33.630	25.488	250.3	0.232	3.72	61.2	13.6	1.13	13.8	0.02	0.14	0.15	75
1	86	11.97	11.96	33.693	25.582	241.6	0.259	3.37	55.2	15.8	1.27	16.0	0.01	0.06	0.10	86
	100 ISL	11.64	11.63	33.792	25.721	228.7	0.292	2.87	46.7	19.3	1.46	19.1	0.01	0.02	0.06	100
1	101	11.62	11.61	33.799	25.730	227.8	0.294	2.84	46.2	19.5	1.47	19.3	0.01	0.02	0.06	101
1	122	11.39	11.37	33.914	25.862	215.8	0.341	2.35	38.1	23.1	1.64	22.0	0.01	0.01	0.05	123
	125 ISL	11.33	11.31	33.923	25.880	214.1	0.347	2.37	38.3	23.4	1.65	22.2	0.01	0.01	0.05	126
1	147	10.60	10.58	33.955	26.036	199.7	0.393	2.51	40.0	25.1	1.69	23.5	0.01	0.01	0.04	148
	150 ISL	10.42	10.40	33.952	26.065	197.0	0.399	2.57	40.8	25.5	1.69	23.8	0.01	0.01	0.04	151
1	178	8.81	8.79	33.939	26.321	172.7	0.450	3.00	45.9	30.0	1.70	26.3	0.00	0.00	0.03	179
	200 ISL	8.42	8.40	33.989	26.420	163.6	0.487	2.86	43.4	33.4	1.78	27.9	0.00	0.01	0.03	201
1	209	8.37	8.35	34.012	26.446	161.3	0.502	2.75	41.7	34.8	1.82	28.5	0.00	0.01	0.03	210
1	239	8.17	8.15	34.052	26.508	155.9	0.550	2.48	37.4	38.9	1.91	29.9	0.00			240
	250 ISL	8.24	8.21	34.104	26.538	153.2	0.567	2.19	33.1	40.7	1.99	30.5	0.00			251
1	279	8.39	8.36	34.236	26.620	146.2	0.610	1.41	21.4	45.6	2.22	32.3	0.00			281
	300 ISL	8.10	8.07	34.240	26.667	141.9	0.640	1.33	20.1	48.9	2.29	33.4	0.00			302
1	336	7.40	7.37	34.204	26.741	135.1	0.690	1.20	17.8	54.8	2.36	35.2	0.00			338
1	396	6.59	6.55	34.226	26.870	123.2	0.768	0.71	10.3	66.8	2.60	38.7	0.01			399
	400 ISL	6.57	6.53	34.229	26.875	122.8	0.773	0.69	10.0	67.3	2.61	38.8	0.01			403
1	461	6.37	6.33	34.276	26.939	117.5	0.846	0.44	6.4	72.5	2.70	40.2	0.00			464
	500 ISL	6.18	6.14	34.301	26.983	113.6	0.891	0.37	5.3	75.8	2.75	40.8	0.00			503
1	529	6.04	5.99	34.320	27.016	110.8	0.923	0.31	4.5	78.2	2.79	41.3	0.00			533

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 21.0 N	118 33.4 W	06/11/90	1137 UTC	1330 m	320 14 kn			1009.5 mb	17.1 C	16.2 C			

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
	0	ISL	17.41	17.41	33.523	24.285	362.9	0.000	5.68	103.8	2.2	0.30	0.1	0.00	0.38	0.12	0
1	2		17.41	17.41	33.523	24.285	363.0	0.007	5.68	103.8	2.2	0.30	0.1	0.00	0.38	0.12	2
	10	ISL	17.40	17.40	33.523	24.287	363.0	0.036	5.67	103.6	2.2	0.30	0.1	0.00	0.37	0.11	10
1	12		17.40	17.40	33.523	24.287	363.0	0.044	5.67	103.6	2.2	0.30	0.1	0.00	0.37	0.11	12
	20	ISL	17.34	17.34	33.521	24.301	362.1	0.073	5.69	103.8	2.0	0.29	0.1	0.00	0.38	0.13	20
1	22		17.33	17.33	33.520	24.302	362.0	0.080	5.69	103.8	2.0	0.29	0.1	0.00	0.38	0.13	22
	30	ISL	14.72	14.72	33.320	24.739	320.5	0.107	5.87	101.6	3.5	0.43	1.3	0.09	1.04	0.53	30
1	32		14.01	14.01	33.281	24.858	309.1	0.113	5.91	100.8	3.9	0.47	1.7	0.11	1.18	0.62	32
1	42		12.87	12.86	33.241	25.058	290.4	0.143	5.78	96.2	4.8	0.59	3.4	0.15	0.75	0.49	42
	50	ISL	12.37	12.36	33.222	25.140	282.7	0.166	5.71	94.0	5.1	0.63	4.2	0.11	0.53	0.40	50
1	51		12.32	12.31	33.222	25.150	281.8	0.169	5.69	93.6	5.2	0.64	4.3	0.10	0.51	0.39	51
1	62		11.43	11.42	33.293	25.371	261.0	0.199	5.19	83.8	7.6	0.84	8.6	0.03	0.22	0.24	62
1	72		10.84	10.83	33.377	25.542	244.9	0.224	4.80	76.6	10.8	1.03	11.9	0.02	0.12	0.17	72
	75	ISL	10.77	10.76	33.410	25.580	241.3	0.232	4.66	74.2	11.8	1.08	12.9	0.02	0.10	0.15	75
1	86		10.57	10.56	33.521	25.702	229.9	0.257	4.19	66.5	15.3	1.26	16.0	0.02	0.07	0.11	86
	100	ISL	10.05	10.04	33.587	25.843	216.8	0.289	3.93	61.7	18.4	1.41	18.7	0.02	0.03	0.07	100
1	101		10.01	10.00	33.592	25.853	215.8	0.291	3.91	61.3	18.6	1.42	18.9	0.02	0.03	0.07	101
1	121		9.80	9.79	33.840	26.082	194.5	0.332	3.14	49.1	24.3	1.65	22.5	0.00	0.01	0.05	122
	125	ISL	9.78	9.77	33.876	26.114	191.6	0.340	3.03	47.4	25.2	1.69	23.0	0.00	0.01	0.05	126
1	146		9.58	9.56	34.000	26.244	179.6	0.379	2.67	41.6	28.7	1.82	25.0	0.01	0.00	0.03	147
	150	ISL	9.48	9.46	34.006	26.266	177.6	0.386	2.67	41.5	29.2	1.82	25.2	0.01	0.00	0.03	151
1	177		8.80	8.78	34.009	26.377	167.4	0.432	2.82	43.2	32.2	1.85	26.2	0.00	0.00	0.04	178
	200	ISL	8.53	8.51	34.030	26.436	162.2	0.470	2.75	41.8	34.3	1.89	27.1	0.00	0.00	0.04	201
1	207		8.47	8.45	34.037	26.450	160.9	0.482	2.71	41.2	35.0	1.91	27.4	0.00	0.00	0.04	208
1	236		8.21	8.19	34.069	26.515	155.2	0.527	2.48	37.5	38.8	2.01	28.9	0.00			237
	250	ISL	8.05	8.02	34.081	26.549	152.2	0.549	2.34	35.2	41.0	2.06	29.7	0.00			251
1	277		7.77	7.74	34.103	26.607	146.9	0.589	2.03	30.4	45.3	2.17	31.2	0.01			279
	300	ISL	7.64	7.61	34.132	26.649	143.3	0.623	1.76	26.3	48.6	2.28	32.3	0.01			302
1	333		7.47	7.44	34.172	26.706	138.4	0.669	1.40	20.8	53.1	2.43	33.8	0.00			335
1	393		6.95	6.91	34.208	26.807	129.4	0.749	0.92	13.5	61.8	2.65	36.3	0.00			396
	400	ISL	6.91	6.87	34.215	26.818	128.5	0.759	0.87	12.8	62.8	2.67	36.6	0.00			403
1	459		6.58	6.54	34.278	26.913	120.1	0.832	0.49	7.1	70.7	2.81	38.4	0.00			462
	500	ISL	6.33	6.28	34.297	26.961	115.9	0.880	0.36	5.2	74.6	2.86	39.2	0.00			503
1	530		6.15	6.10	34.312	26.996	112.8	0.915	0.27	3.9	77.5	2.90	39.8	0.00			534

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 10.7 N	118 53.8 W	06/11/90	1522 UTC	1473 m	320 20 kn	300 06 05	1	1010.8 mb	16.6 C	15.3 C		4/8	ST

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL-A ug/l	PHAEO ug/l	PRESS db
1	0		17.95	17.95	33.541	24.168	374.0	0.000	5.60	103.4	2.4	0.28	0.1	0.00	0.34	0.10	0
1	10		17.95	17.95	33.542	24.169	374.2	0.037	5.62	103.8	2.1	0.27	0.0	0.00	0.32	0.10	10
1	20		17.94	17.94	33.545	24.174	374.1	0.075	5.61	103.6	1.9	0.27	0.0	0.00	0.33	0.10	20
	30	ISL	16.46	16.46	33.421	24.430	350.0	0.111	5.84	104.7	2.1	0.30	0.0	0.00	0.37	0.15	30
1	31		16.24	16.24	33.401	24.465	346.7	0.115	5.87	104.7	2.1	0.31	0.0	0.00	0.37	0.16	31
1	41		13.38	13.37	33.125	24.867	308.6	0.147	6.24	104.9	2.8	0.40	0.0	0.01	0.62	0.38	41
1	50		12.35	12.34	33.147	25.086	287.9	0.174	5.98	98.4	3.8	0.54	1.6	0.15	0.45	0.36	50
1	60		11.66	11.65	33.226	25.277	269.9	0.202	5.53	89.7	5.9	0.76	5.8	0.05	0.27	0.24	60
1	71		11.47	11.46	33.361	25.417	256.8	0.231	5.02	81.2	8.5	0.97	9.3	0.02	0.17	0.16	71
	75	ISL	11.16	11.15	33.373	25.482	250.7	0.241	4.91	78.9	9.6	1.04	10.7	0.02	0.13	0.14	75
1	83		10.53	10.52	33.386	25.604	239.2	0.261	4.75	75.3	11.8	1.16	13.2	0.02	0.07	0.10	83
1	100		10.27	10.26	33.501	25.738	226.8	0.300	4.34	68.4	14.6	1.31	15.6	0.01	0.04	0.07	100
1	121		10.02	10.01	33.663	25.907	211.1	0.346	3.70	58.1	19.6	1.56	19.5	0.01	0.02	0.04	122
	125	ISL	9.97	9.96	33.696	25.942	207.9	0.355	3.61	56.6	20.4	1.59	20.0	0.01	0.02	0.04	126
1	144		9.69	9.67	33.836	26.098	193.5	0.393	3.26	50.8	23.8	1.71	22.1	0.01	0.01	0.03	145
	150	ISL	9.59	9.57	33.867	26.139	189.7	0.404	3.18	49.5	24.8	1.75	22.7	0.01	0.01	0.03	151
1	175		9.21	9.19	33.963	26.276	177.1	0.450	2.95	45.6	28.7	1.87	24.6	0.01	0.00	0.03	176
	200	ISL	8.92	8.90	34.041	26.384	167.3	0.493	2.78	42.7	32.1	1.95	25.8	0.00	0.00	0.03	201
1	204		8.87	8.85	34.049	26.398	166.0	0.500	2.76	42.3	32.6	1.96	26.0	0.00	0.00	0.03	205
1	233		8.39	8.37	34.060	26.481	158.4	0.547	2.67	40.5	36.4	2.07	27.8	0.00			234
	250	ISL	8.13	8.10	34.068	26.527	154.3	0.573	2.55	38.5	39.0	2.13	28.8	0.00			251
1	274		7.82	7.79	34.084	26.585	149.0	0.610	2.32	34.7	42.9	2.23	30.1	0.00			276
	300	ISL	7.58	7.55	34.110	26.641	144.1	0.648	1.99	29.6	47.6	2.37	31.7	0.00			302
1	329		7.37	7.34	34.142	26.696	139.2	0.689	1.60	23.7	52.6	2.52	33.4	0.00			331
1	389		7.00	6.96	34.203	26.796	130.4	0.770	1.01	14.8	60.6	2.76	36.1	0.00			391
	400	ISL	6.92	6.88	34.214	26.816	128.7	0.784	0.92	13.5	62.2	2.80	36.5	0.00			403
1	455		6.57	6.53	34.260	26.900	121.3	0.853	0.58	8.4	69.5	2.95	38.4	0.00			458
	500	ISL	6.36	6.31	34.283	26.946	117.4	0.907	0.46	6.7	73.4	3.02	39.3	0.00			503
1	525		6.25	6.20	34.296	26.971	115.3	0.936	0.39	5.6	75.5	3.06	39.8	0.00			529

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
32 0.6 N	119 14.2 W	06/11/90	2003 UTC	1594 m	310 20 kn	300 06 06	1	1011.5 mb	17.8 C	16.1 C	18m 02	1/8	ST

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.61	17.61	33.512	24.228	368.3	0.000	5.66	103.8	1.7	0.30	0.1	0.02	0.30	0.08	0
1	1	17.61	17.61	33.512	24.228	368.3	0.004	5.66	103.8	1.7	0.30	0.1	0.02	0.30	0.08	1
	10 ISL	17.61	17.61	33.511	24.228	368.6	0.037	5.64	103.4	1.6	0.30	0.1	0.02	0.29	0.08	10
1	11	17.61	17.61	33.511	24.228	368.7	0.041	5.64	103.4	1.6	0.30	0.1	0.02	0.29	0.08	11
	20 ISL	17.59	17.59	33.511	24.233	368.5	0.074	5.66	103.8	1.6	0.28	0.1	0.01	0.29	0.08	20
1	21	17.59	17.59	33.511	24.233	368.5	0.077	5.67	103.9	1.6	0.28	0.1	0.01	0.29	0.08	21
	30 ISL	17.11	17.11	33.465	24.313	361.3	0.110	5.76	104.6	1.3	0.32	0.1	0.01	0.50	0.16	30
1	31	17.06	17.05	33.460	24.321	360.5	0.114	5.77	104.7	1.3	0.32	0.1	0.01	0.52	0.17	31
1	41	12.69	12.68	33.334	25.165	280.1	0.146	5.84	96.9	3.4	0.58	2.9	0.09	2.04	1.00	41
	50 ISL	11.75	11.74	33.481	25.458	252.4	0.170	4.56	74.2	9.6	1.03	10.5	0.07	0.90	0.69	50
1	52	11.58	11.57	33.516	25.517	246.9	0.175	4.27	69.3	11.2	1.14	12.3	0.07	0.55	0.56	52
1	62	11.48	11.47	33.742	25.711	228.7	0.199	3.06	49.6	16.9	1.48	17.9	0.03	0.20	0.23	62
1	72	11.50	11.49	33.839	25.783	222.1	0.221	2.58	41.9	19.9	1.67	20.1	0.03	0.09	0.12	72
	75 ISL	11.49	11.48	33.866	25.806	220.0	0.228	2.45	39.8	20.9	1.73	20.7	0.03	0.07	0.10	75
1	86	11.42	11.41	33.944	25.879	213.3	0.252	2.09	33.9	23.8	1.90	22.3	0.02	0.01	0.05	86
	100 ISL	11.32	11.31	33.978	25.925	209.3	0.281	1.96	31.7	25.0	1.95	23.1	0.02	0.01	0.05	100
1	101	11.31	11.30	33.979	25.927	209.1	0.283	1.96	31.7	25.0	1.95	23.1	0.02	0.01	0.05	101
1	122	11.16	11.14	34.016	25.984	204.2	0.327	1.88	30.3	26.4	2.00	23.8	0.02	0.00	0.05	123
	125 ISL	11.09	11.07	34.014	25.995	203.2	0.333	1.93	31.1	26.4	1.99	23.8	0.02	0.00	0.05	126
1	147	10.50	10.48	33.992	26.082	195.2	0.377	2.35	37.3	25.8	1.93	23.8	0.01	0.00	0.04	148
	150 ISL	10.43	10.41	33.991	26.094	194.2	0.382	2.39	37.9	25.8	1.93	23.8	0.01	0.00	0.04	151
1	179	9.87	9.85	34.017	26.210	183.7	0.437	2.59	40.6	27.1	1.93	24.6	0.01	0.00	0.03	180
	200 ISL	9.63	9.61	34.073	26.294	176.1	0.475	2.47	38.5	29.4	2.00	25.6	0.01	0.00	0.03	201
1	209	9.57	9.55	34.099	26.325	173.4	0.491	2.39	37.2	30.5	2.03	26.0	0.01	0.00	0.03	210
1	239	9.47	9.44	34.147	26.379	168.8	0.542	2.19	34.1	32.5	2.11	26.9	0.02			240
	250 ISL	9.43	9.40	34.163	26.398	167.2	0.561	2.12	32.9	33.3	2.14	27.2	0.02			251
1	280	9.26	9.23	34.197	26.453	162.5	0.610	1.94	30.0	35.6	2.22	27.9	0.01			282
	300 ISL	9.09	9.06	34.210	26.491	159.3	0.642	1.84	28.4	37.3	2.27	28.5	0.01			302
1	337	8.67	8.63	34.218	26.564	152.8	0.700	1.66	25.4	41.4	2.38	29.9	0.00			339
1	398	7.63	7.59	34.206	26.710	139.2	0.789	1.24	18.5	52.5	2.63	33.6	0.00			400
	400 ISL	7.60	7.56	34.207	26.716	138.8	0.792	1.22	18.2	52.9	2.64	33.7	0.00			403
1	466	6.87	6.83	34.242	26.846	126.9	0.879	0.72	10.6	64.0	2.90	36.8	0.00			469
	500 ISL	6.68	6.63	34.259	26.885	123.5	0.922	0.61	8.9	67.4	2.96	37.6	0.00			503
1	537	6.48	6.43	34.277	26.926	119.9	0.967	0.50	7.3	71.0	3.03	38.5	0.00			541

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 50.8 N	119 34.8 W	07/11/90	0006 UTC	1879 *m*	320 19 kn	300 08 06	0	1011.5 mb	18.0 C	16.2 C	15m 02	0/8	

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.21	17.21	33.475	24.295	361.9	0.000	5.71	103.9	2.4	0.33	0.1	0.00	0.34	0.08	0
1	1	17.21	17.21	33.475	24.295	361.9	0.004	5.71	103.9	2.4	0.33	0.1	0.00	0.34	0.08	1
	10 ISL	17.20	17.20	33.474	24.297	362.0	0.036	5.70	103.7	2.0	0.32	0.0	0.00	0.34	0.08	10
1	11	17.20	17.20	33.474	24.297	362.0	0.040	5.70	103.7	1.9	0.32	0.0	0.00	0.34	0.08	11
	20 ISL	17.20	17.20	33.474	24.298	362.3	0.072	5.71	103.9	2.0	0.32	0.2	0.00	0.35	0.08	20
1	21	17.20	17.20	33.474	24.298	362.4	0.076	5.71	103.9	2.0	0.32	0.2	0.00	0.35	0.08	21
1	30	17.20	17.20	33.473	24.297	362.7	0.109	5.70	103.7	1.6	0.31	0.4	0.00	0.35	0.08	30
1	41	15.49	15.48	33.336	24.584	335.6	0.147	6.03	106.0	2.3	0.38	0.4	0.01	0.63	0.26	41
1	50	13.41	13.40	33.273	24.975	298.5	0.176	6.04	101.7	3.3	0.48	1.3	0.09	1.18	0.74	50
1	60	12.67	12.66	33.304	25.146	282.4	0.205	5.60	92.9	5.1	0.65	4.4	0.11	0.51	0.48	60
1	74	11.66	11.65	33.337	25.363	262.0	0.243	5.09	82.6	8.0	0.96	9.0	0.04	0.19	0.22	74
	75 ISL	11.60	11.59	33.343	25.379	260.5	0.245	5.05	81.9	8.3	0.98	9.3	0.04	0.18	0.21	75
1	89	10.92	10.91	33.456	25.590	240.7	0.280	4.48	71.6	12.4	1.21	13.7	0.02	0.08	0.12	89
	100 ISL	10.70	10.69	33.573	25.720	228.6	0.306	4.00	63.7	15.6	1.38	16.5	0.02	0.04	0.08	100
1	108	10.61	10.60	33.660	25.804	220.8	0.324	3.68	58.5	17.8	1.50	18.2	0.02	0.02	0.06	108
	125 ISL	10.22	10.21	33.814	25.991	203.3	0.360	3.19	50.3	22.2	1.70	21.5	0.01	0.01	0.03	126
1	129	10.13	10.12	33.845	26.031	199.6	0.368	3.11	49.0	23.1	1.74	22.1	0.01	0.01	0.03	130
	150 ISL	9.76	9.74	33.953	26.178	186.0	0.409	2.84	44.4	26.7	1.88	24.2	0.01	0.00	0.03	151
1	153	9.71	9.69	33.964	26.195	184.5	0.414	2.82	44.0	27.1	1.89	24.4	0.01	0.00	0.03	154
1	182	9.29	9.27	34.064	26.342	171.0	0.466	2.61	40.4	31.0	2.03	26.3	0.01	0.00	0.02	183
	200 ISL	9.01	8.99	34.081	26.401	165.7	0.496	2.58	39.7	33.0	2.07	26.9	0.02	0.01	0.03	201
1	217	8.77	8.75	34.087	26.443	161.9	0.524	2.54	38.9	34.8	2.10	27.5	0.02	0.01	0.03	218
1	249	8.44	8.41	34.126	26.525	154.6	0.575	2.24	34.0	38.9	2.25	29.3	0.01			250
	250 ISL	8.43	8.40	34.127	26.528	154.4	0.576	2.23	33.9	39.1	2.25	29.4	0.01			251
1	289	7.90	7.87	34.140	26.618	146.3	0.635	1.90	28.5	45.6	2.42	31.4	0.01			291
	300 ISL	7.78	7.75	34.147	26.641	144.2	0.651	1.77	26.5	47.5	2.48	32.1	0.01			302
1	343	7.38	7.35	34.181	26.725	136.7	0.711	1.28	19.0	54.8	2.70	34.5	0.02			345
	400 ISL	6.97	6.93	34.231	26.823	128.1	0.787	0.80	11.8	63.0	2.94	36.8	0.02			403
1	407	6.92	6.88	34.237	26.834	127.1	0.796	0.75	11.0	63.9	2.96	37.0	0.02			410
1	476	6.47	6.43	34.269	26.920	119.5	0.881	0.50	7.3	72.4	3.11	38.8	0.01			479
	500 ISL	6.32	6.27	34.284	26.952	116.8	0.909	0.44	6.4	75.3	3.15	39.3	0.01			503
1	556	5.97	5.92	34.320	27.025	110.2	0.973	0.30	4.3	81.9	3.23	40.6	0.01			560

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 30.6 N	120 15.0 W	07/11/90	0549 UTC	3165 m	350 19 kn			1015.5 mb	16.9 C	14.9 C			

CAST	DEPTH is	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 UM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.46	17.46	33.416	24.191	371.9	0.000	5.63	102.9	2.8	0.36	0.3	0.00	0.19	0.06	0
1	1	17.46	17.46	33.416	24.191	371.9	0.004	5.63	102.9	2.8	0.36	0.3	0.00	0.19	0.06	1
	10 ISL	17.46	17.46	33.415	24.190	372.2	0.037	5.65	103.3	1.9	0.35	0.2	0.00	0.21	0.06	10
1	12	17.46	17.46	33.415	24.190	372.3	0.045	5.65	103.3	1.7	0.35	0.2	0.00	0.21	0.06	12
	20 ISL	17.33	17.33	33.416	24.222	369.5	0.074	5.65	103.0	1.5	0.35	0.2	0.00	0.21	0.06	20
1	21	17.31	17.31	33.416	24.227	369.1	0.078	5.65	103.0	1.5	0.35	0.2	0.00	0.21	0.06	21
1	30	16.65	16.65	33.439	24.400	352.9	0.111	5.73	103.1	1.4	0.35	0.1	0.00	0.57	0.25	30
1	41	16.43	16.42	33.428	24.443	349.2	0.149	5.69	101.9	2.4	0.33	0.3	0.04	0.53	0.25	41
1	50	14.05	14.04	33.196	24.785	316.7	0.179	6.05	103.2	3.2	0.44	0.8	0.16	0.30	0.27	50
1	60	13.31	13.30	33.195	24.935	302.6	0.210	6.07	101.9	3.4	0.44	0.8	0.07	0.33	0.30	60
1	75	11.91	11.90	33.160	25.179	279.5	0.254	5.80	94.5	4.8	0.63	3.6	0.17	0.20	0.30	75
1	89	11.06	11.05	33.212	25.375	261.1	0.292	5.44	87.1	7.2	0.86	8.3	0.02	0.11	0.14	89
	100 ISL	10.64	10.63	33.350	25.557	244.1	0.319	4.91	78.0	10.8	1.09	12.2	0.01	0.06	0.08	100
1	108	10.39	10.38	33.460	25.686	231.9	0.338	4.50	71.1	13.7	1.25	14.9	0.00	0.04	0.06	108
	125 ISL	9.82	9.81	33.587	25.882	213.6	0.376	3.96	61.8	18.6	1.51	19.3	0.00	0.02	0.04	126
1	128	9.73	9.72	33.605	25.911	210.9	0.383	3.89	60.6	19.4	1.54	19.9	0.00	0.02	0.04	129
	150 ISL	9.30	9.28	33.780	26.118	191.6	0.427	3.63	56.1	23.3	1.65	21.9	0.00	0.00	0.02	151
1	153	9.26	9.24	33.802	26.141	189.4	0.433	3.61	55.8	23.8	1.66	22.1	0.00	0.00	0.02	154
1	183	8.76	8.74	33.944	26.332	171.7	0.487	3.12	47.7	30.1	1.87	25.3	0.00	0.00	0.03	184
	200 ISL	8.51	8.49	33.979	26.399	165.6	0.515	3.04	46.2	32.5	1.93	26.3	0.00	0.00	0.03	201
1	218	8.30	8.28	34.001	26.448	161.2	0.545	2.95	44.6	34.8	2.00	27.2	0.00	0.00	0.02	219
	250 ISL	8.12	8.09	34.056	26.519	155.0	0.595	2.33	35.1	39.9	2.21	29.6	0.00			251
1	253	8.10	8.07	34.060	26.525	154.5	0.600	2.27	34.2	40.4	2.23	29.8	0.00			254
1	293	7.43	7.40	34.065	26.626	145.2	0.660	2.15	31.9	48.1	2.35	31.7	0.00			295
	300 ISL	7.32	7.29	34.063	26.641	143.9	0.670	2.12	31.4	49.3	2.37	32.0	0.00			302
1	349	6.62	6.59	34.053	26.729	135.8	0.739	1.87	27.2	57.3	2.52	34.2	0.00			351
	400 ISL	6.13	6.09	34.079	26.813	128.2	0.806	1.41	20.3	66.3	2.75	36.8	0.00			402
1	414	6.04	6.00	34.093	26.836	126.2	0.824	1.27	18.2	68.6	2.81	37.5	0.00			417
1	486	5.85	5.81	34.211	26.953	115.8	0.911	0.55	7.9	77.9	3.07	39.7	0.00			489
	500 ISL	5.80	5.76	34.228	26.973	114.1	0.927	0.50	7.1	79.5	3.09	39.9	0.00			503
1	566	5.56	5.51	34.311	27.069	105.7	1.000	0.29	4.1	86.8	3.21	40.8	0.00			570

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT	TYPE
31 11.0 N	120 55.3 W	07/11/90	1135 UTC	3835 m	360 15 kn			1017.6 mb	17.2 C	14.2 C			

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	17.48	17.48	33.383	24.161	374.7	0.000	5.60	102.4	2.8	0.34	0.3	0.00	0.24	0.08	0
1	1	17.48	17.48	33.383	24.161	374.7	0.004	5.60	102.4	2.8	0.34	0.3	0.00	0.24	0.08	1
	10 ISL	17.49	17.49	33.383	24.159	375.2	0.037	5.60	102.4	2.5	0.34	0.3	0.00	0.25	0.08	10
1	11	17.49	17.49	33.383	24.159	375.3	0.041	5.60	102.4	2.5	0.34	0.3	0.00	0.25	0.08	11
	20 ISL	17.49	17.49	33.382	24.158	375.6	0.075	5.61	102.6	2.4	0.34	0.3	0.00	0.25	0.08	20
1	21	17.49	17.49	33.382	24.158	375.7	0.079	5.61	102.6	2.4	0.34	0.3	0.00	0.25	0.08	21
	30 ISL	17.50	17.49	33.383	24.157	376.1	0.113	5.60	102.4	2.2	0.34	0.3	0.00	0.24	0.07	30
1	31	17.50	17.49	33.383	24.157	376.1	0.116	5.60	102.4	2.2	0.34	0.3	0.00	0.24	0.07	31
1	41	17.49	17.48	33.383	24.160	376.2	0.154	5.61	102.6	2.1	0.34	0.4	0.00	0.25	0.08	41
	50 ISL	17.50	17.49	33.383	24.158	376.7	0.188	5.62	102.8	2.0	0.34	0.3	0.00	0.25	0.08	50
1	51	17.50	17.49	33.383	24.158	376.7	0.192	5.62	102.8	2.0	0.34	0.3	0.00	0.25	0.08	51
1	61	17.50	17.49	33.383	24.158	377.0	0.229	5.61	102.6	1.9	0.34	0.3	0.00	0.24	0.07	61
1	75	16.28	16.27	33.343	24.413	353.1	0.280	5.87	104.8	1.8	0.34	0.3	0.00	0.31	0.14	75
1	89	14.37	14.36	33.275	24.780	318.3	0.327	6.15	105.6	2.1	0.34	0.3	0.00	0.22	0.18	89
	100 ISL	13.37	13.36	33.283	24.993	298.2	0.361	6.03	101.4	2.6	0.40	1.1	0.10	0.21	0.22	100
1	109	12.67	12.66	33.288	25.135	284.8	0.388	5.84	96.8	3.3	0.49	1.8	0.17	0.21	0.23	109
	125 ISL	11.19	11.17	33.208	25.349	264.4	0.432	5.57	89.4	5.8	0.75	6.5	0.06	0.14	0.18	126
1	129	10.87	10.85	33.198	25.399	259.8	0.442	5.48	87.4	6.6	0.82	7.9	0.02	0.12	0.16	130
	150 ISL	10.20	10.18	33.422	25.690	232.5	0.494	4.75	74.7	11.5	1.12	13.5	0.01	0.04	0.07	151
1	154	10.14	10.12	33.479	25.744	227.3	0.503	4.60	72.3	12.6	1.18	14.5	0.01	0.03	0.06	155
1	184	9.35	9.33	33.770	26.103	193.7	0.566	3.63	56.2	21.7	1.59	21.3	0.00	0.00	0.02	185
	200 ISL	8.92	8.90	33.872	26.251	179.8	0.596	3.57	54.7	25.2	1.67	23.0	0.00	0.00	0.02	201
1	219	8.47	8.45	33.954	26.385	167.3	0.629	3.49	53.0	28.8	1.73	24.2	0.00	0.00	0.02	220
1	248	8.04	8.01	34.009	26.494	157.3	0.676	3.17	47.7	34.3	1.88	26.4	0.00			249
	250 ISL	8.01	7.98	34.011	26.500	156.8	0.679	3.15	47.4	34.6	1.89	26.5	0.00			251
1	293	7.51	7.48	34.031	26.589	148.8	0.745	2.74	40.7	41.6	2.08	29.1	0.00			295
	300 ISL	7.43	7.40	34.036	26.604	147.4	0.755	2.63	39.0	43.0	2.12	29.6	0.00			302
1	349	6.90	6.87	34.073	26.707	138.1	0.825	1.86	27.3	52.6	2.42	33.2	0.00			351
	400 ISL	6.44	6.40	34.110	26.798	129.9	0.893	1.29	18.7	61.2	2.66	36.0	0.00			402
1	414	6.33	6.29	34.121	26.821	127.8	0.912	1.16	16.8	63.4	2.71	36.6	0.00			416
1	484	5.88	5.84	34.189	26.932	117.9	0.998	0.65	9.3	73.8	2.93	38.8	0.00			487
	500 ISL	5.80	5.76	34.202	26.953	116.1	1.016	0.60	8.6	75.5	2.96	39.1	0.00			503
1	567	5.48	5.43	34.257	27.036	108.7	1.092	0.39	5.5	82.8	3.07	40.5	0.00			571

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 50.8 N	121 35.4 W	07/11/90	1735 UTC	4095 in	040 12 kn		0	1020.2 mb	18.8 C	15.0 C	32m 02	0/8

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.75	19.75	33.815	23.925	397.2	0.000	5.35	102.4	2.5	0.28	0.4	0.01	0.11	0.02	0
1	1		19.75	19.75	33.815	23.925	397.3	0.004	5.35	102.4	2.5	0.28	0.4	0.01	0.11	0.02	1
	10	ISL	19.75	19.75	33.814	23.924	397.6	0.040	5.35	102.4	2.4	0.28	0.3	0.01	0.11	0.02	10
1	16		19.75	19.75	33.814	23.925	397.8	0.064	5.35	102.4	2.4	0.28	0.3	0.01	0.11	0.02	16
	20	ISL	19.74	19.74	33.814	23.927	397.7	0.080	5.35	102.3	2.4	0.28	0.3	0.01	0.11	0.02	20
	30	ISL	19.73	19.72	33.813	23.930	397.9	0.119	5.35	102.3	2.4	0.28	0.3	0.01	0.11	0.02	30
1	31		19.73	19.72	33.813	23.930	397.9	0.123	5.35	102.3	2.4	0.28	0.3	0.01	0.11	0.02	31
1	41		19.74	19.73	33.812	23.927	398.6	0.163	5.35	102.3	2.4	0.28	0.4	0.01	0.11	0.02	41
	50	ISL	19.72	19.71	33.810	23.931	398.5	0.199	5.35	102.3	2.3	0.29	0.5	0.01	0.11	0.03	50
1	52		19.72	19.71	33.810	23.931	398.6	0.207	5.35	102.3	2.3	0.29	0.5	0.01	0.11	0.03	52
1	62		19.74	19.73	33.812	23.928	399.3	0.247	5.35	102.3	2.3	0.28	0.5	0.01	0.12	0.04	62
1	72		17.17	17.16	33.530	24.350	359.1	0.285	6.03	109.6	2.3	0.27	0.5	0.01	0.21	0.07	72
	75	ISL	16.73	16.72	33.505	24.434	351.1	0.295	6.04	108.9	2.3	0.27	0.5	0.01	0.21	0.08	75
1	81		16.09	16.08	33.489	24.569	338.4	0.316	6.06	107.9	2.2	0.28	0.5	0.01	0.21	0.11	81
1	96		15.02	15.01	33.472	24.794	317.3	0.365	5.99	104.3	2.3	0.29	0.4	0.01	0.24	0.21	96
	100	ISL	14.78	14.77	33.455	24.832	313.7	0.378	5.98	103.6	2.4	0.30	0.4	0.01	0.24	0.21	100
1	111		14.14	14.12	33.412	24.935	304.2	0.412	5.91	101.1	2.7	0.35	0.4	0.02	0.23	0.20	111
	125	ISL	13.19	13.17	33.416	25.132	285.6	0.453	5.69	95.4	3.6	0.48	2.0	0.15	0.15	0.17	125
1	127		13.06	13.04	33.419	25.160	282.9	0.459	5.65	94.5	3.7	0.50	2.3	0.17	0.14	0.16	127
	150	ISL	11.88	11.86	33.405	25.377	262.6	0.522	5.40	88.1	5.4	0.69	5.8	0.04	0.08	0.11	151
1	152		11.80	11.78	33.407	25.393	261.1	0.527	5.38	87.6	5.6	0.70	6.1	0.02	0.08	0.11	153
1	178		11.00	10.98	33.572	25.668	235.4	0.591	5.03	80.6	8.9	0.87	9.6	0.00	0.03	0.05	179
	200	ISL	10.38	10.36	33.734	25.903	213.4	0.641	4.81	76.1	12.0	1.01	12.5	0.00	0.02	0.03	201
1	209		10.14	10.12	33.791	25.989	205.4	0.660	4.72	74.3	13.5	1.07	13.7	0.00	0.01	0,02	210
1	239		9.41	9.38	33.869	26.171	188.4	0.719	4.29	66.5	19.8	1.36	18.0	0.00			240
	250	ISL	9.15	9.12	33.900	26.238	182.2	0.739	4.20	64.7	21.9	1.43	19.1	0.00			251
1	279		8.49	8.46	33.976	26.401	166.9	0.790	3.99	60.6	27.4	1.59	21.5	0.00			280
	300	ISL	8.06	8.03	33.997	26.482	159.4	0.824	3.79	57.0	31.5	1.72	23.3	0.00			302
1	337				34.004			0.881	3.33	49.3	39.5	1.96	26.4	0.00			339
1	398		6.52	6.48	34.028	26.723	137.0	0.968	2.17	31.5	55.5	2.43	32.2	0.00			400
	400	ISL	6.50	6.46	34.029	26.726	136.7	0.971	2.14	31.1	55.9	2.44	32.3	0.00			402
1	465		5.94	5.90	34.079	26.838	126.6	1.057	1.27	18.2	67.8	2.76	36.2	0.00			468
	500	ISL	5.65	5.61	34.113	26.901	120.8	1.100	1.00	14.2	73.4	2.87	37.5	0.00			503
1	535		5.35	5.31	34.148	26.964	114.8	1.141	0.73	10.3	79.0	2.97	38.7	0.00			538

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 31.1 N	122 15.5 W	08/11/90	0022 UTC	3965 m	350 13 kn	350 04 07	0	1021.3 mb	19.2 C	15.9 C	34m 02	0/8

CAST	DEPTH m		TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0	ISL	19.96	19.96	33.989	24.002	389.8	0.000	5.34	102.7	2.4	0.27	0.1	0.01	0.08	0.02	0
1	1		19.96	19.96	33.989	24.002	389.8	0.004	5.34	102.7	2.4	0.27	0.1	0.01	0.08	0.02	1
	10	ISL	19.96	19.96	33.987	24.001	390.3	0.039	5.34	102.7	2.4	0.27	0.1	0.00	0.08	0.02	10
1	16		19.96	19.96	33.986	24.001	390.5	0.062	5.34	102.7	2.4	0.27	0.1	0.00	0.08	0.02	16
	20	ISL	19.95	19.95	33.985	24.003	390.5	0.078	5.34	102.7	2.3	0.27	0.1	0.00	0.08	0.02	20
	30	ISL	19.94	19.93	33.984	24.005	390.7	0.117	5.35	102.8	2.1	0.27	0.1	0.00	0.09	0.02	30
1	31		19.94	19.93	33.984	24.005	390.7	0.121	5.35	102.8	2.1	0.27	0.1	0.00	0.09	0.02	31
1	41		19.96	19.95	33.985	24.001	391.5	0.160	5.34	102.7	1.9	0.26	0.1	0.00	0.09	0.02	41
1	50		19.96	19.95	33.992	24.007	391.3	0.195	5.35	102.9	1.8	0.25	0.0	0.00	0.09	0.02	50
1	60		19.96	19.95	33.996	24.011	391.3	0.234	5.33	102.5	1.8	0.26	0.0	0.00	0.10	0.02	60
1	70		18.92	18.91	33.914	24.216	372.0	0.273	5.66	106.7	1.8	0.23	0.0	0.00	0.16	0.05	70
	75	ISL	17.70	17.69	33.771	24.408	353.8	0.291	5.84	107.4	1.9	0.24	0.0	0.00	0.18	0.06	75
1	79		16.71	16.70	33.661	24.559	339.4	0.305	5.97	107.7	1.9	0.24	0.0	0.00	0.20	0.08	79
1	94		15.34	15.33	33.524	24.764	320.2	0.354	6.01	105.4	2.0	0.29	0.0	0.00	0.24	0.21	94
	100	ISL	15.10	15.08	33.533	24.823	314.6	0.373	5.97	104.2	2.0	0.30	0.0	0.01	0.24	0.22	100
1	109		14.79	14.77	33.563	24.914	306.3	0.401	5.88	102.0	2.2	0.33	0.0	0.02	0.23	0.23	109
1	124		13.71	13.69	33.552	25.132	285.7	0.445	5.69	96.5	3.0	0.43	1.1	0.20	0.16	0.17	124
	125	ISL	13.67	13.65	33.554	25.142	284.8	0.448	5.68	96.3	3.1	0.43	1.1	0.20	0.16	0.17	125
1	149		12.65	12.63	33.556	25.348	265.6	0.514	5.42	89.9	4.5	0.58	4.3	0.02	0.09	0.13	150
	150	ISL	12.55	12.53	33.547	25.360	264.5	0.517	5.40	89.4	4.8	0.60	4.7	0.02	0.09	0.13	151
1	174		10.22	10.20	33.404	25.672	234.6	0.577	4.72	74.3	12.4	1.22	14.1	0.01	0.04	0.06	175
	200	ISL	9.79	9.77	33.616	25.911	212.4	0.635	3.93	61.3	18.9	1.55	19.6	0.00	0.01	0.03	201
1	205		9.71	9.69	33.651	25.951	208.7	0.646	3.84	59.8	19.8	1.57	20.1	0.00	0.01	0.03	206
1	234		9.37	9.34	33.930	26.225	183.1	0.702	4.37	67.7	20.3	1.37	18.8	0.00			235
	250	ISL	9.06	9.03	33.992	26.324	174.0	0.731	4.33	66.6	22.4	1.43	19.4	0.00			251
1	275		8.54	8.51	34.024	26.431	164.1	0.773	4.27	65.0	27.2	1.53	21.6	0.00			276
	300	ISL	8.16	8.13	34.032	26.495	158.3	0.814	3.68	55.5	33.1	1.78	24.9	0.00			302
1	332		7.72	7.69	34.025	26.554	152.9	0.863	2.81	42.0	41.2	2.13	29.3	0.00			334
1	393		6.80	6.76	34.059	26.710	138.4	0.952	1.99	29.1	55.3	2.52	34.1	0.00			395
	400	ISL	6.69	6.65	34.061	26.726	136.9	0.962	1.91	27.9	57.1	2.56	34.6	0.00			402
1	460		5.84	5.80	34.078	26.849	125.3	1.040	1.31	18.7	71.2	2.82	38.5	0.00			463
	500	ISL	5.57	5.53	34.098	26.898	120.9	1.090	1.11	15.8	77.0	2.90	39.7	0.00			503
1	531		5.36	5.32	34.114	26.936	117.4	1.127	0.95	13.4	81.5	2.97	40.7	0.00			534

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 110

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
30 10.6 N	122 55.5 W	08/11/90	0606 UTC	3520 m	360 15 kn			1023.2 mb	17.8 C	15.5 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.99	19.99	33.981	23.989	391.1	0.000	5.33	102.5	2.5	0.28	0.0	0.00	0.10	0.02	0
1	2	19.99	19.99	33.981	23.989	391.2	0.008	5.33	102.5	2.5	0.28	0.0	0.00	0.10	0.02	2
	10 ISL	19.98	19.98	33.978	23.989	391.4	0.039	5.33	102.5	2.3	0.28	0.0	0.00	0.11	0.03	10
1	17	19.98	19.98	33.976	23.988	391.8	0.067	5.34	102.7	2.1	0.28	0.0	0.00	0.11	0.03	17
	20 ISL	19.98	19.98	33.976	23.988	391.9	0.078	5.34	102.7	2.1	0.28	0.0	0.00	0.11	0.03	20
	30 ISL	19.99	19.98	33.977	23.987	392.4	0.118	5.35	102.9	2.1	0.29	0.0	0.00	0.10	0.02	30
1	31	19.99	19.98	33.977	23.987	392.5	0.121	5.35	102.9	2.1	0.29	0.0	0.00	0.10	0.02	31
1	41	20.00	19.99	33.995	23.999	391.8	0.161	5.33	102.6	2.2	0.29	0.1	0.00	0.10	0.03	41
	50 ISL	20.05	20.04	33.998	23.988	393.1	0.196	5.32	102.5	2.2	0.28	0.1	0.00	0.10	0.03	50
1	51	20.06	20.05	33.999	23.986	393.3	0.200	5.32	102.5	2.2	0.28	0.1	0.00	0.10	0.03	51
1	60	20.11	20.10	34.039	24.004	391.9	0.235	5.32	102.6	2.2	0.27	0.1	0.00	0.11	0.03	60
1	70	20.04	20.03	34.020	24.009	391.9	0.274	5.34	102.8	2.3	0.27	0.0	0.00	0.13	0.03	70
	75 ISL	19.55	19.54	33.966	24.095	383.8	0.294	5.47	104.3	2.3	0.26	0.0	0.00	0.16	0.04	75
1	79	19.04	19.03	33.922	24.192	374.6	0.309	5.59	105.6	2.3	0.26	0.0	0.00	0.18	0.06	79
1	93	17.18	17.16	33.887	24.622	333.9	0.359	5.81	105.9	2.3	0.25	0.0	0.00	0.21	0.11	93
	100 ISL	17.09	17.07	33.907	24.659	330.7	0.382	5.77	105.0	2.4	0.25	0.1	0.00	0.21	0.14	100
1	108	16.78	16.76	33.929	24.749	322.3	0.408	5.72	103.5	2.5	0.25	0.2	0.00	0.21	0.17	108
1	123	16.70	16.68	34.078	24.883	310.1	0.455	5.56	100.5	2.2	0.25	0.2	0.00	0.20	0.18	123
	125 ISL	16.65	16.63	34.090	24.904	308.1	0.462	5.53	99.9	2.2	0.25	0.2	0.01	0.19	0.18	125
1	148	15.56	15.54	34.100	25.160	284.2	0.530	5.28	93.3	3.2	0.36	1.5	0.14	0.12	0.13	149
	150 ISL	15.40	15.38	34.082	25.182	282.2	0.535	5.27	92.8	3.3	0.37	1.7	0.13	0.12	0.13	151
1	173	13.49	13.47	33.851	25.410	260.7	0.598	5.17	87.5	4.9	0.56	4.5	0.01	0.08	0.09	174
	200 ISL	11.79	11.76	33.744	25.658	237.2	0.665	4.95	80.8	8.3	0.85	8.9	0.00	0.04	0.05	201
1	203	11.63	11.60	33.742	25.687	234.5	0.672	4.92	80.0	8.8	0.88	9.5	0.00	0.03	0.05	204
1	232	10.23	10.20	33.832	26.006	204.3	0.736	4.55	71.8	15.1	1.21	15.2	0.00			233
	250 ISL	9.64	9.61	33.905	26.162	189.6	0.771	4.07	63.4	21.0	1.49	19.2	0.00			251
1	273	9.05	9.02	33.986	26.321	174.7	0.813	3.47	53.4	28.7	1.82	23.7	0.00			274
	300 ISL	8.41	8.38	34.016	26.444	163.1	0.859	3.30	50.1	34.4	1.96	26.0	0.00			301
1	329	7.84	7.81	34.021	26.534	154.9	0.905	3.22	48.2	39.5	2.03	27.5	0.00			331
1	389	7.06	7.02	34.045	26.663	143.0	0.994	2.35	34.6	52.3	2.45	32.4	0.00			391
	400 ISL	6.91	6.87	34.047	26.686	140.9	1.010	2.23	32.7	54.4	2.51	33.1	0.00			402
1	457	6.24	6.20	34.066	26.789	131.3	1.087	1.67	24.1	64.9	2.77	36.4	0.00			460
	500 ISL	5.92	5.88	34.110	26.865	124.4	1.142	1.20	17.2	73.1	2.96	38.5	0.00			503
1	528	5.71	5.66	34.140	26.915	119.8	1.177	0.90	12.8	78.4	3.09	39.9	0.00			531

RV NEW HORIZON CALCOFI CRUISE 9011 STATION 93 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM	WIND SPEED	WAVES	WEA	BAROMETER	DRY	WET	SECCHI/FOREL	CLD AMT TYPE
29 51.7 N	123 35.2 W	08/11/90	1218 UTC	4182 m	010 13 kn			1023.5 mb	18.0 C	14.6 C		

CAST	DEPTH m	TEMP DEG C	POT TEMP DEG C	SALINITY PSS 78	SIGMA THETA	SVA	DYN HT	OXYGEN ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL-A ug/1	PHAEO ug/1	PRESS db
	0 ISL	19.64	19.64	33.676	23.847	404.6	0.000	5.37	102.5	2.1	0.31	0.3	0.01	0.10	0.03	0
1	1	19.64	19.64	33.676	23.847	404.7	0.004	5.37	102.5	2.1	0.31	0.3	0.01	0.10	0.03	1
	10 ISL	19.65	19.65	33.676	23.845	405.2	0.040	5.36	102.3	2.0	0.31	0.3	0.01	0.10	0.03	10
1	16	19.65	19.65	33.676	23.845	405.4	0.065	5.36	102.3	1.9	0.31	0.3	0.01	0.10	0.03	16
	20 ISL	19.65	19.65	33.676	23.845	405.5	0.081	5.36	102.3	1.9	0.31	0.3	0.01	0.11	0.03	20
	30 ISL	19.65	19.64	33.676	23.846	405.9	0.122	5.36	102.3	2.0	0.31	0.3	0.01	0.12	0.03	30
1	31	19.65	19.64	33.676	23.846	405.9	0.126	5.36	102.3	2.0	0.31	0.3	0.01	0.12	0.03	31
1	40	19.66	19.65	33.679	23.846	406.2	0.162	5.37	102.5	1.8	0.31	0.2	0.01	0.10	0.02	40
	50 ISL	19.65	19.64	33.684	23.853	405.9	0.203	5.38	102.7	1.9	0.30	0.2	0.01	0.11	0.03	50
1	51	19.65	19.64	33.685	23.854	405.9	0.207	5.38	102.7	1.9	0.30	0.2	0.01	0.11	0.03	51
1	61	19.20	19.19	33.875	24.115	381.4	0.246	5.64	106.8	1.9	0.25	0.1	0.01	0.18	0.05	61
1	71	18.25	18.24	33.903	24.375	356.9	0.283	5.83	108.5	1.9	0.23	0.1	0.01	0.16	0.05	71
	75 ISL	17.89	17.88	33.906	24.465	348.3	0.297	5.84	107.9	1.9	0.23	0.1	0.01	0.17	0.06	75
1	80	17.49	17.48	33.907	24.563	339.2	0.314	5.85	107.3	1.9	0.23	0.0	0.01	0.19	0.08	80
1	96	16.81	16.79	33.920	24.735	323.3	0.367	5.74	103.9	1.9	0.24	0.0	0.01	0.21	0.18	96
	100 ISL	16.68	16.66	33.919	24.764	320.5	0.380	5.72	103.3	1.9	0.24	0.0	0.01	0.21	0.18	100
1	109	16.41	16.39	33.931	24.836	313.9	0.409	5.66	101.6	2.0	0.24	0.0	0.01	0.20	0.18	109
1	124	16.03	16.01	34.036	25.005	298.4	0.455	5.49	97.9	2.0	0.28	0.1	0.15	0.17	0.15	124
	125 ISL	15.94	15.92	34.026	25.017	297.2	0.458	5.48	97.5	2.0	0.29	0.2	0.15	0.17	0.15	125
1	149	13.43	13.41	33.734	25.331	267.5	0.526	5.34	90.2	3.9	0.52	3.2	0.03	0.08	0.10	150
	150 ISL	13.36	13.34	33.731	25.343	266.4	0.528	5.33	89.9	4.0	0.53	3.3	0.03	0.08	0.10	151
1	174	12.10	12.08	33.723	25.583	243.8	0.589	5.07	83.2	6.6	0.72	7.1	0.01	0.04	0.07	175
	200 ISL	10.89	10.87	33.761	25.835	220.1	0.650	4.82	77.1	10.8	0.97	11.6	0.00	0.01	0.04	201
1	204	10.72	10.70	33.772	25.874	216.4	0.658	4.78	76.2	11.5	1.01	12.3	0.00	0.01	0.03	205
1	234	9.69	9.66	33.906	26.154	190.0	0.719	4.50	70.2	17.9	1.28	16.8	0.00			235
	250 ISL	9.30	9.27	33.951	26.253	180.8	0.749	4.36	67.4	21.1	1.39	18.6	0.00			251
1	274	8.82	8.79	33.992	26.362	170.7	0.791	4.12	63.1	25.7	1.55	21.0	0.00			275
	300 ISL	8.35	8.32	34.010	26.449	162.7	0.835	3.81	57.7	30.7	1.72	23.4	0.00			302
1	329	7.89	7.86	34.017	26.523	155.9	0.881	3.41	51.1	36.4	1.91	26.0	0.00			331
1	390	7.11	7.07	34.053	26.663	143.1	0.972	2.31	34.0	50.2	2.35	31.3	0.00			392
	400 ISL	6.96	6.92	34.057	26.687	140.8	0.986	2.15	31.5	52.7	2.42	32.1	0.00			402
1	456	6.24	6.20	34.091	26.809	129.4	1.062	1.40	20.2	65.5	2.74	36.2	0.00			459
	500 ISL	5.98	5.94	34.139	26.880	123.0	1.117	1.02	14.6	71.8	2.91	37.8	0.00			503
1	527	5.82	5.77	34.169	26.924	119.1	1.150	0.78	11.1	75.6	3.02	38.8	0.00			530

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 77 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 22.4 N	122 16.6 W	18/11/90	1943 UTC	26 HI	03	1203 - 1735 PST	1154 PST	1731 PST	206.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.44	33.272	24.319	5.70	102.0	2.2	0.36	0.1	0.00	0.34	0.12	89. A	1.3	1.6	1.4	0.10
18	16.43	33.270	24.321	5.71	102.2	2.2	0.33	0.1	0.00	0.33	0.12	35.	4.2	3.7	3.9	0.10
30	16.44	33.271	24.320	5.73	102.6	2.2	0.31	0.1	0.00	0.32	0.12	17.	3.2	3.2	3.2	0.11
51	14.66	33.187	24.650	5.95	102.7	2.2	0.31	0.2	0.07	0.67	0.44	4.9	3.1	3.4	3.3	0.05
70	12.35	33.103	25.052	5.95	97.9	3.7	0.44	1.8	0.19	0.30	0.26	1.6	0.77	0.75	0.76	0.03
100	10.20	33.239	25.546	5.06	79.5	11.2	1.09	13.2	0.01	0.07	0.11	0.27	0.04	0.02	0.03	0.02

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 80 56

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 17.0 N	120 50.5 W	16/11/90	1807 UTC	12 m	04	1142 - 1727 PST	1149 PST	1727 PST	394.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	15.47	33.395	24.633	6.10	107.2	0.9	0.27	0.0	0.01	1.04	0.29	88. A	15.5	13.4	14.4	0.35
8	15.45	33.395	24.637	6.12	107.5	0.8	0.27	0.0	0.01	0.98	0.27	36.	12.1	15.3	13.7	0.35
15	15.03	33.387	24.723	6.06	105.5	1.8	0.30	0.2	0.03	2.67	0.78	15.	22.0	24.0	23.0	0.25
24	13.75	33.350	24.965	5.64	95.7	4.7	0.51	3.0	0.19	1.92	0.96	4.6	4.8	4.5	4.6	0.07
33	12.43	33.336	25.217	5.22	86.1	7.2	0.72	6.4	0.09	0.65	0.46	1.5	0.63	0.66	0.65	0.05
49	12.00	33.367	25.323	4.99	81.6	8.6	0.82	8.3	0.04	0.24	0.30	0.19	0.05	0.04	0.04	0.04
62	11.76	33.385	25.382	4.88	79.4	9.4	0.87	9.2	0.04	0.19	0.21					
71	11.55	33.414	25.443	4.72	76.5	10.5	0.95	10.4	0.03	0.13	0.19					
85	11.30	33.455	25.521	4.59	74.0	11.7	1.02	11.8	0.02	0.10	0.17					
100	11.07	33.513	25.608	4.28	68.7	13.2	1.14	13.6	0.02	0.04	0.18					
121	10.88	33.552	25.672	4.07	65.0	15.4	1.23	15.2	0.02	0.04 B	0.12 B					
141	10.53	33.635	25.799	3.74	59.3	18.7	1.39	17.6	0.01	0.04	0.09					
172	10.12	33.711	25.929	3.49	54.9	21.5	1.51	19.7	0.01	0.02	0.10					
207	9.34	33.917	26.220	2.85	44.1	29.0	1.82	24.8	0.01	0.01	0.07					

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

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 9.4 N	123 14.5 W	17/11/90	1813 UTC	29 m	02	1204 - 1742 PST	1159 PST	1740 PST	146.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.19	33.314	24.177	5.63	102.3	1.7	0.32	0.1	0.00	0.24	0.09	90. A	1.1	1.1	1.1	0.03
21	17.20	33.311	24.173	5.64	102.5	1.8	0.29	0.1	0.00	0.24	0.07	33.	3.2	3.1	3.1	0.05
33	17.20	33.311	24.173	5.63	102.3	1.8	0.29	0.1	0.00	0.24	0.09	17.	2.6	2.6	2.6	0.04
57	17.17	33.310	24.181	5.64	102.4	1.8	0.28	0.1	0.00	0.25	0.09	4.9	0.99	0.89	0.94	0.02
77	12.43	33.033	24.983	.6.12	100.8	3.2	0.43	1.2	0.19	0.26	0.22	1.7	0.63	0.61	0.62	0.02
113	10.00	33.184	25.536	5.31	83.1	8.9	0.88	11.0	0.02	0.08	0.15	0.25	0.06	0.06	0.06	0.01

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 83 51

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 52.7 N	120 8.1 W	15/11/90	1917 UTC	24 m	02	1145 - 1734 PST	1145 PST	1720 PST	300.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 UM/1	NO3 UM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	17.53	33.534	24.264	5.65	103.5	2.0	0.29	0.1	0.01	0.25	0.08	88. A	4.5	4.8	4.7	0.07
17	16.62	33.462	24.424	5.83	104.9	2.0	0.33	0.1	0.02	0.51	0.17	34.	8.9	9.1	9.0	0.06
27	14.28	33.373	24.873	5.62	96.4	4.6	0.55	2.7	0.11	0.58	0.31	18.	6.8	7.1	6.9	0.05
47	12.61	33.373	25.211	5.22	86.5	7.4	0.82	6.7	0.14	0.39	0.24	4.9	1.9	1.9	1.9	0.03
65	11.33	33.436	25.500	4.68	75.5	11.0	1.08	11.4	0.10	0.16	0.19	1.6	0.37	0.41	0.39	0.02

A) INCUBATION LIGHT INTENSITIES WERE 90, 34, 17, 5.0, 1.6, 0.20 PERCENT RESPECTIVELY.

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 83 88

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 40.0 N	122 38.5 W	14/11/90	1914 UTC	19 m	03	1150 - 1735 PST	1152 PST	1733 PST	216.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 uM/l	PO4 UM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.83	33.502	24.406	5.67	102.4	1.9	0.31	0.1	0.00	0.33	0.08	85. A	5.1	5.1	5.1	0.17
15	16.68	33.496	24.437	5.70	102.7	1.9	0.30	0.1	0.00	0.37	0.11	30.	5.2	5.0	5.1	0.13
24	16.24	33.453	24.505	5.75	102.6	1.8	0.33	0.0	0.00	0.51	0.25	14.	5.3	5.1	5.2	0.14
37	15.80	33.425	24.583	5.73	101.4	1.9	0.37	0.1	0.02	0.83	0.56	5.0	3.2	3.1	3.2	0.06
51	13.82	33.346	24.948	5.38	91.4	6.0	0.72	4.9	0.20	0.53	0.51	1.6	0.87	0.89	0.88	0.05
74	10.47	33.319	25.562	4.79	75.8	13.1	1.20	14.1	0.03	0.16	0.22	0.25	0.06	0.05	0.06	0.03
88	9.93	33.503	25.797	4.15	64.9	18.4	1.47	18.5	0.01	0.06	0.12					
103	9.63	33.658	25.968	3.56	55.4	22.7	1.67	21.8	0.01	0.03	0.07					
123	9.16	33.810	26.163	3.10	47.8	27.6	1.86	24.9	0.01	0.01	0.05					
144	8.81	33.942	26.322	2.74	41.9	32.5	2.01	27.2	0.00	0.01	0.05					
175	8.38	33.999	26.434	2.65	40.2	36.0	2.06	28.4	0.00	0.01	0.05					
205	7.83	34.027	26.538	2.56	38.3	41.2	2.17	29.8	0.00	0.00	0.03					

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 83 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 34.5 N	122 49.1 W	14/11/90	1732 UTC	16 m	03	1150 - 1735 PST	1152 PST	1733 PST	229.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 uM/l	PO4 UM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	16.04	33.409	24.516	5.82	103.5	1.8	0.33	0.0	0.00	0.38	0.10	91. A	6.0	6.4	6.2	0.15
11	16.03	33.421	24.528	5.83	103.6	1.6	0.32	0.0	0.00	0.41	0.13	35.	6.9	6.7	6.8	0.12
19	15.89	33.436	24.571	5.80	102.8	1.3	0.33	0.0	0.00	0.52	0.23	16.	6.2	6.4	6.3	0.15
32	15.62	33.424	24.623	5.76	101.5	1.1	0.36	0.1	0.02	0.86	0.52	4.6	3.3	3.5	3.4	0.08
45	15.12	33.405	24.719	5.69	99.3	2.6	0.43	0.9	0.13	0.80	0.44	1.3	1.2	1.2	1.2	0.05
66	11.16	33.236	25.375	5.35	85.9	8.0	0.94	9.6	0.14	0.22	0.29	0.18	0.07	0.08	0.07	0.03

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 87 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 59.4 N	120 20.9 W	12/11/90	1919 UTC	29 m	02	1142 - 1733 PST	1146 PST	1730 PST	247.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	16.99	33.407	24.295	5.70	103.2	2.7	0.34	0.3	0.00	0.21	0.05	90. A	3.1	2.9	3.0	0.11
21	16.75	33.403	24.349	5.74	103.5	2.6	0.33	0.2	0.00	0.26	0.07	33.	4.1	4.0	4.0	0.15
34	16.58	33.396	24.384	5.73	102.9	2.5	0.34	0.2	0.00	0.42	0.14	17.	4.6	4.3	4.4	0.16
59	12.39	33.135	25.069	5.94	97.8	4.3	0.57	2.3	0.12	0.40	0.33	4.4	2.2	2.2	2.2	0.05
80	10.65	33.179	25.421	5.41	85.8	7.8	0.92	9.1	0.02	0.15	0.19	1.4	0.48	0.50	0.49	0.03
117	9.70	33.554	25.875	4.05	63.1	18.6	1.49	19.2	0.01	0.02	0.05	0.20	0.04	0.02	0.03	0.01

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 87 100

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 39.4 N	123 4.1 W	13/11/90	1816 UTC	43 m	01	1152 - 1749 PST	1154 PST	1744 PST	211.1 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
3	18.95	33.517	23.902	5.42	102.0	2.2	0.35	0.1	0.01	0.14	0.03	90. A	1.7	1.8	1.7	0.05
31	18.92	33.513	23.908	5.45	102.5	2.0	0.35	0.1	0.01	0.15	0.03	33.	2.6	2.5	2.5	0.05
49	18.92	33.514	23.909	5.44	102.3	2.0	0.34	0.1	0.01	0.15	0.04	17.	2.0	2.0	2.0	0.04
84	13.38	33.356	25.047	6.14	103.4	3.1	0.41	0.1	0.01	0.34	0.25	5.0	1.7	1.7	1.7	0.02
117	11.18	33.356	25.466	5.06	81.3	8.7	0.99	10.0	0.02	0.12	0.17	1.5	0.33	0.31	0.32	0.01
171	9.63	33.739	26.032	3.51	54.6	22.6	1.68	21.8	0.01	0.01	0.03	0.22	0.01	0.00	0.00	0.01

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 56.1 N	118 56.9 W	10/11/90	1902 UTC	20 m	04	1138 - 1729 PST	1138 PST	1721 PST	370.8 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/l	OXY PCT	SIO3 uM/l	PO4 uM/l	NO3 uM/l	NO2 uM/l	CHL ug/l	PHAEO ug/l	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	17.83	33.537	24.194	5.67	104.5	2.1	0.33	0.2	0.00	0.34	0.08	93. A	6.2	5.9	6.1	0.24
14	17.24	33.535	24.335	5.69	103.6	2.0	0.32	0.2	0.00	0.33	0.11	34.	6.5	6.3	6.4	0.26
23	16.07	33.447	24.539	5.83	103.7	3.0	0.41	0.4	0.01	0.77	0.34	17.	15.6	14.7	15.2	0.16
39	12.24	33.283	25.212	5.33	87.6	7.7	0.93	7.8	0.12	0.51	0.44	5.0	3.7	3.4	3.5	0.08
53	10.69	33.379	25.570	4.67	74.3	13.0	1.34	14.2	0.03	0.17	0.22	1.7	0.58	0.65	0.62	0.05
77	10.19	33.536	25.779	4.09	64.4	17.8	1.59	18.4	0.02	0.05	0.10	0.27	0.04	0.02	0.03	0.03

A) INCUBATION LIGHT INTENSITIES WERE 90, 34, 17, 5.0, 1.6, 0.20 PERCENT RESPECTIVELY.

PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
31 45.2 N	121 18.6 W	9/11/90	1907 UTC	26 m	02	1139 - 1733 PST	1149 PST	1733 PST	271.5 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	18.13	33.517	24.106	5.53	102.4	2.5	0.34	0.2	0.00	0.14	0.03	89. A	0.90	0.97	0.94	0.05
18	17.14	33.405	24.259	5.66	102.8	2.1	0.34	0.2	0.00	0.23	0.08	35.	4.3	4.3	4.3	0.11
30	16.99	33.397	24.289	5.68	102.9	1.9	0.33	0.2	0.00	0.32	0.13	17.	5.0	4.9	4.9	0.09
50	16.05	33.359	24.477	5.88	104.5	1.9	0.35	0.2	0.01	0.51	0.29	5.2	4.7	4.6	4.7	0.04
70	14.56	33.380	24.821	6.21	107.1	2.7	0.40	0.2	0.00	0.30	0.23	1.6	1.1	1.1	1.1	0.02
100	11.26	33.200	25.330	5.49	88.3	6.5	0.82	7.6	0.02	0.12	0.14	0.27	0.11	0.14	0.13	0.02

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 90 120

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 26.5 N	123 59.7 W	8/11/90	1932 UTC	33 *m*	01	1146 - 1750 PST	1200 PST	1746 PST	103.0 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	19.93	33.927	23.963	5.31	102.0	2.2	0.27	0.0	0.01	0.09	0.02	91. A	0.51	0.49	0.50	0.06
23	19.94	33.920	23.956	5.33	102.4	1.9	0.27	0.0	0.01	0.08	0.02	34.	1.7	1.5	1.6	0.06
38	19.94	33.921	23.958	5.32	102.2	1.9	0.27	0.0	0.01	0.08	0.02	17.	1.4	1.4	1.4	0.06
65	20.18	34.121	24.048	5.31	102.6	1.9	0.25	0.1	0.01	0.10	0.02	4.9	0.65	0.76	0.71	0.05
88	17.71	33.925	24.524	5.89	108.5	1.8	0.21	0.1	0.01	0.20	0.07	1.7	0.50	0.51	0.51	0.04
129	13.67	33.418	25.037	5.84	98.9	2.9	0.43	0.6	0.09	0.20	0.19	0.25	0.22	0.22	0.22	0.01

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 93 26.8

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 57.0 N	117 18.4 W	5/11/90	1924 UTC	16 m	03	1156 - 1725 PST	1133 PST	1722 PST	608.6 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	18.08	33.519	24.120	5.66	104.8	2.5	0.38	0.4	0.00	0.38	0.12	91. A	8.5	10.7	9.6	0.10
11	17.71	33.506	24.200	5.67	104.2	2.6	0.43	0.3	0.02	0.56	0.21	35.	17.2	17.3	17.2	0.14
19	16.53	33.393	24.392	5.92	106.2	3.1	0.50	0.3	0.07	1.08	0.49	16.	22.1	22.9	22.5	0.13
32	14.20	33.296	24.831	5.90	101.0	3.6	0.55	0.5	0.45	1.17	0.58	4.6	9.1	9.5	9.3	0.07
45	13.83	33.316	24.923	5.59	95.0	4.6	0.65	1.9	1.06	0.63	0.48	1.3	2.0	2.3	2.2	0.09
66	12.25	33.377	25.284	5.01	82.4	8.1	0.88	7.2	0.13	0.12	0.25	0.18	0.18	0.14	0.16	0.03

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 93 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
32 0.7 N	119 14.0 W	6/11/90	1922 UTC	18 m	02	1154 - 1739 PST	1141 PST	1739 PST	290.9 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
1	17.58	33.513	24.236	5.62	103.0	1.4	0.27	0.0	0.00	0.29	0,08	92. A	1.2	1.5	1.3	0.10
12	17.59	33.512	24.234	5.64	103.4	1.5	0.27	0.0	0.00	0.30	0.07	36.	5.2	5.2	5.2	0.18
19	17.58	33.512	24.236	5.65	103.6	1.5	0.28	0.0	0.01	0.29	0.08	20.	4.8	4.6	4.7	0.13
33	14.80	33.376	24.765	5.90	102.3	1.9	0.44	0.9	0.03	1.42	0.55	6.0	10.0	9.4	9.7	0.13
45	11.77	33.423	25.409	4.88	79.4	8.2	0.89	9.0	0.08	0.93	0.73	2.2	3.4	3.7	3.5	0.06
67	11.63	33.856	25.772	2.49	40.5	20.4	1.60	20.2	0.02	0.08	0.12	0.33	0.06	0.05	0.06	0.02

RV NEW HORIZON — CALCOFI CRUISE 9011 — STATION 93 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
30 52.0 N	121 34.9 W	7/11/90	1923 UTC	32 m	02	1148 - 1743 PST	1150 PST	1742 PST	119.3 mg C/m2

DEPTH m	TEMP DEG C	SALINITY PSS 78	SIGMA THETA	DISS O2 ml/1	OXY PCT	SIO3 uM/1	PO4 uM/1	NO3 uM/1	NO2 uM/1	CHL ug/1	PHAEO ug/1	LIGHT PCT	UPTAKE (mg C/m3) 1	2	MEAN	DARK
2	19.63	33.761	23.914	5.56 U	106.1 U	2.7	0.29	0.2	0.01	0.10	0.02	91. A	0.75	0.66	0.70	0.07
23	19.67	33.771	23.913	5.36	102.4	2.5	0.28	0.2	0.01	0.10	0.02	33.	1.8	1.9	1.8	0.07
37	19.68	33.784	23.921	5.36	102.4	2.5	0.28	0.2	0.01	0.11	0.02	17.	1.7	1.7	1.7	0.07
64	19.72	33.801	23.925	5.36	102.5	2.5	0.28	0.2	0.01	0.11	0.03	4.6	0.69	0.78	0.74	0.07
85	16.05	33.475	24.567	6.07	107.9	2.4	0.28	0.3	0.01	0.23	0.11	1.7	0.65	0.64	0.64	0.04
127	13.73	33.396	25.008	5.84	99.0	3.2	0.41	0.5	0.11	0.07	0.06	0.23	0.21	0.39	0.30	0.01

A) INCUBATION LIGHT INTENSITIES WERE 90, 34, 17, 5.0, 1.6, 0.20 PERCENT RESPECTIVELY.

MACROZOOPLANKTON BIOMASS
Net Mesh Size: 0.505 mm

Line	Sta.	Position		Date Mo/Day	Time (PST) Start	End	Water Volume Strained (m)	Max. Tow Depth (m)	Volume per 1000 m Strained Total (cm)	Small (cm)
77	49	35 05.2N	120 46.7W	11/19	0930	0937	130	54	46	46
77	51	35 02.7N	120 56.1W	11/19	0715	0737	458	208	131	111
77	55	34 53.5N	121 12.6W	11/19	0340	0402	439	216	474	424
77	60	34 43.7N	121 33.2W	11/18	2319	2341	465	205	103	103
77	70	34 23.1N	122 15.6W	11/18	1757	1818	442	216	592	525
77	80	34 03.8N	122 56.8W	11/18	0732	0754	447	224	96	76
77	90	33 43.6N	123 38.4W	11/18	0216	0238	453	214	62	40
77	100	33 23.6N	124 19.7W	11/17	2055	2117	479	206	46	46
80	51	34 27.1N	120 32.4W	11/16	0335	0342	140	61	50	50
80	55	34 19.0N	120 49.9W	11/16	0640	0702	459	210	54	54
80	60	34 09.1N	121 09.4W	11/16	1305	1327	460	198	52	52
80	70	33 49.2N	121 51.2W	11/16	2206	2228	444	210	164	164
80	80	33 29.0N	122 33.1W	11/17	0335	0357	452	214	161	111
80	90	33 09.0N	123 13.9W	11/17	0905	0927	435	218	23	23
80	100	32 49.6N	123 54.4W	11/17	1512	1534	453	213	44	44
82	47	34 16.5N	120 01.2W	11/15	2329	2351	428	206	56	56
83	40.6	34 13.5N	119 25.1W	11/15	1857	1901	74	30	54	54
83	42	34 10.8N	119 31.6W	11/15	1702	1715	275	109	33	33
83	51	33 52.8N	120 08.0W	11/15	1135	1144	183	78	33	33
83	55	33 45.6N	120 25.7W	11/15	0745	0807	446	215	31	31
83	60	33 35.4N	120 46.4W	11/15	0345	0407	476	214	326	195
83	70	33 14.8N	121 27.6W	11/14	2139	2201	478	213	347	285
83	80	32 55.3N	122 09.1W	11/14	1538	1600	454	212	1322	1322
83	90	32 34.6N	122 49.1W	11/14	0830	0852	433	209	379	291
83	100	32 14.7N	123 30.1W	11/14	0240	0302	452	213	712	712
83	110	31 54.5N	124 10.9W	11/13	2057	2119	449	219	31	31
87	33	33 53.5N	118 30.6W	11/11	0735	0741	100	41	100	100
87	35	33 48.2N	118 37.4W	11/11	1327	1349	450	206	27	27
87	40	33 38.7N	118 59.4W	11/11	1708	1730	440	200	43	43
87	45	33 29.2N	119 18.7W	11/11	2133	2155	429	210	63	63
87	50	33 19.9N	119 39.4W	11/12	0045	0053	158	71	44	44
87	55	33 09.3N	120 01.7W	11/12	0645	0707	441	214	43	29
87	60	32 59.2N	120 20.7W	11/12	1125	1147	466	205	146	97
87	70	32 40.0N	121 02.7W	11/12	1706	1728	455	209	462	378
87	80	32 18.3N	121 42.9W	11/12	2223	2245	447	213	645	470
87	90	31 59.8N	122 23.6W	11/13	0345	0407	436	214	241	163
87	100	31 39.7N	123 04.5W	11/13	0918	0940	453	206	60	60
87	110	31 19.0N	123 44.7W	11/13	1531	1553	446	211	43	43
90	28	33 28.3N	117 46.7W	11/11	0215	0223	158	68	83	83
90	30	33 24.7N	117 54.8W	11/11	0008	0030	433	210	48	48
90	35	33 15.3N	118 16.4W	11/10	2031	2053	453	206	49	49
90	37	33 10.9N	118 24.9W	11/10	1758	1820	455	209	46	46
90	45	32 56.2N	118 57.0W	11/10	1112	1134	432	215	30	30
90	53	32 39.9N	119 30.3W	11/10	0408	0430	451	214	51	51
90	60	32 25.1N	119 58.0W	11/09	2228	2250	459	206	131	78
90	70	32 06.1N	120 39.2W	11/09	1702	1724	460	216	344	270
90	80	31 45.4N	121 18.6W	11/09	1118	1140	439	218	34	34
90	90	31 26.6N	122 00.4W	11/09	0518	0540	467	213	30	30
90	100	31 05.4N	122 40.0W	11/08	2243	2305	454	215	40	40
90	110	30 46.0N	123 20.0W	11/08	1715	1737	468	213	11	11
90	120	30 26.8N	123 59.7W	11/08	1145	1207	484	205	8	8
93	26.8	32 56.4N	117 18.8W	11/05	1232	1240	168	67	30	30
93	28	32 53.9N	117 24.1W	11/05	1509	1531	465	208	13	13
93	30	32 50.1N	117 32.7W	11/05	1734	1756	448	210	31	31
93	35	32 40.3N	117 53.0W	11/05	2103	2125	465	208	54	54
93	40	32 31.2N	118 13.8W	11/06	0035	0058	496	217	26	26
93	45	32 21.5N	118 34.2W	11/06	0425	0448	474	223	42	42
93	50	32 11.2N	118 54.4W	11/06	0820	0843	493	231	14	14
93	55	32 01.0N	119 15.0W	11/06	1253	1315	507	214	16	16
93	60	31 51.2N	119 35.8W	11/06	1654	1716	484	216	21	21
93	70	31 31.0N	120 16.1W	11/06	2241	2303	489	215	74	74
93	80	31 11.6N	120 55.4W	11/07	0420	0442	468	213	32	32
93	90	30 51.4N	121 35.2W	11/07	1030	1052	470	215	13	13
93	100	30 31.7N	122 15.6W	11/07	1707	1729	467	214	9	9
93	110	30 10.9N	122 56.0W	11/07	2249	2311	454	216	22	22
93	120	29 52.4N	123 35.4W	11/08	0502	0524	464	212	15	15