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**REPORT OF ECOSYSTEM STUDIES CONDUCTED
DURING THE 1990 EASTERN TROPICAL PACIFIC DOLPHIN SURVEY
ON THE RESEARCH VESSEL *McARTHUR***

Valerie A. Philbrick
Paul C. Fiedler
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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Science Center

NOAA Technical Memorandum NMFS

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Valerie A. Philbrick¹
Paul C. Fiedler¹
Stephen B. Reilly¹
Robert L. Pitman¹
Lisa T. Ballance¹
David W. Behringer²

¹Southwest Fisheries Science Center
National Marine Fisheries Service, NOAA
P.O. Box 271
La Jolla, California 92038

²Atlantic Oceanographic and Meteorological Laboratory
Environmental Research Laboratories, NOAA
4301 Rickenbacker Causeway
Miami, Florida 33149

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U.S. DEPARTMENT OF COMMERCE
Robert A. Mosbacher, Secretary
National Oceanic and Atmospheric Administration
John A. Knauss, Under Secretary for Oceans and Atmosphere
National Marine Fisheries Service
William W. Fox, Jr., Assistant Administrator for Fisheries

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INTRODUCTION

The National Marine Fisheries Service (NMFS) has the responsibility of assessing the status of dolphin stocks affected by the tuna purse-seine fishery in the eastern tropical Pacific (ETP). In 1990, the Southwest Fisheries Science Center (SWFSC) conducted the fifth survey of a six-year program to monitor population trends in ETP dolphin stocks (Hill *et al.* 1991). Two NOAA research vessels were used, the *McArthur* and the *David Starr Jordan* (hereafter referred to as *Jordan*). The vessels operated concurrently in the ETP from July 28 through December 6, 1990. Approximately the same area and time period are surveyed during each year of the program. As part of this monitoring program, the SWFSC is also studying the physical and biological environment inhabited by the dolphins. This ecosystem approach will facilitate the interpretation of dolphin population trends detected by these surveys, and will provide information necessary for understanding the biological basis of ETP dolphin distribution and abundance.

The physical oceanographic research of the program is being carried out jointly with NOAA's Atlantic Oceanographic and Meteorological Laboratory (AOML), as part of their contribution to the long-term Eastern Pacific Ocean Climate Study (EPOCS) and Tropical Ocean Global Atmosphere (TOGA) programs.

This report describes the types of data collected and sampling techniques used, and summarizes data collected (including disposition of the data) for the environmental studies conducted aboard the *McArthur*. Results from the *Jordan* are available in a separate report (Philbrick *et al.* 1991).

OBJECTIVES

The primary objective of the dolphin habitat monitoring portion of the program is to provide information about the effects of large-scale environmental variation on the estimates of trends in dolphin abundance. These environmental effects are monitored by examining the relationships between dolphin distribution and oceanographic patterns and processes. These phenomena are sampled concurrently with the dolphin sighting survey by measuring regional and local changes in chlorophyll, nutrients, temperature, salinity and the occurrence of seabirds and other animals. These parameters can fluctuate both seasonally and as a result of large scale ocean-atmosphere interactions such as the El Niño Southern Oscillation (ENSO) phenomena. Studying oceanographic patterns and variability in the ETP concurrently with the fauna may reveal regional or local associations.

The studies of surface and subsurface physical properties which are conducted jointly with AOML also contribute to the objectives of the EPOCS and TOGA programs, which include developing the ability to forecast ENSO occurrences.

STUDY AREA AND ITINERARY

The *McArthur* departed San Diego, California on 28 July 1990 and returned on 6 December 1990. The cruise was conducted in four legs of approximately 30 days each, with port calls in Hilo, Hawaii; Puerto Caldera, Costa Rica and Guayaquil, Ecuador. The cruise tracks of both vessels were chosen to maximize coverage of the known ranges of the two target species, the spotted dolphin (*Stenella attenuata*) and the spinner dolphin (*Stenella longirostris*) in the ETP (Perrin *et al.* 1983).

The itinerary for the *McArthur* was as follows:

Leg 1

Departure	28 July	San Diego, California
Arrival	26 August	Hilo, Hawaii

Leg 2

Departure	30 August	Hilo, Hawaii
Arrival/Departure	27 September	Isla del Coco, Costa Rica
Arrival	29 September	Puerto Caldera, Costa Rica

Leg 3

Departure	4 October	Puerto Caldera, Costa Rica
Arrival	2 November	Guayaquil, Ecuador

Leg 4

Departure	7 November	Guayaquil, Ecuador
Arrival/Departure	4 December	Isla de Guadalupe, Mexico
Arrival	6 December	San Diego, California

MATERIALS AND METHODS

Oceanography

While the ship was underway, temperature and salinity of surface water were measured and recorded continuously in digital form. Sea water was sampled continuously from a bow intake 3 meters below the surface. Temperature and salinity were measured with a Seabird SEACAT 21 thermosalinograph¹. These data were recorded on a data acquisition system consisting of an AI08 A/D board (Industrial Computer Source) connected to an IBM PC compatible microcomputer (Holland 1990).

Conductivity, temperature and depth (CTD) device casts were made two times per night using a Seabird CTD. Each CTD cast lasted approximately 60 minutes. The CTD was lowered to 1000

¹ Reference to trade names does not imply endorsement by the NMFS.

meters and sensors connected to shipboard computers measured conductivity (salinity), temperature and pressure (depth). Water samples were collected on all CTD casts for salinity calibration and phytoplankton pigment analysis. Water samples were collected on morning CTD casts for nutrient analysis and ^{14}C -uptake incubations.

Acid-washed 1.7-liter General Oceanics Niskin bottles were retrofitted with silicon rubber o-rings in the valves and endcaps. Silicon rubber tubing was used as the closing mechanism. The ten rosette-mounted bottles collected water from eight standard depths (0, 20, 40, 60, 80, 100, 125, and 150 m) plus two additional standard light depths for primary productivity casts as described below. Ten 275 ml samples (0-150 m) were collected for chlorophyll analysis at each morning station and eight at each evening station. Extracted chlorophyll and phaeophytin were measured with a Turner Designs Model 10-005R fluorometer. At morning primary productivity stations, ten 20 ml samples (0-150 m) were collected and immediately frozen for nutrient analysis following the cruise. Three 150 ml salinity samples were collected from each cast and analyzed for the purpose of CTD calibration.

Water samples for determination of dissolved inorganic carbon uptake were collected from depths to which 100, 50, 30, 15, 5, 1 and 0.1% of the incident light penetrated. Light depths were estimated from expected euphotic zone depths calculated from pigment profiles observed on previous MOPS cruises (1986-1989) according to Morel (1988). Samples were drawn into screw cap "Vitro" glass 150 ml bottles (Wheaton Corporation) rinsed twice with sample water. $10\ \mu\text{Ci}$ of $\text{NaH}^{14}\text{CO}_3$ were added to each sample bottle. The sample bottles were incubated in nickel screens (Perforated Products) in an on-deck seawater-cooled Plexiglass incubator for 24 hours with natural sunlight as the light source. The screens act as neutral density filters, reducing the light intensity to the same level as that occurring at the depth from which the sample was collected. Two extra samples at the 100% and 0.1% light levels were inoculated with radioactive tracer and filtered immediately with no incubation to determine abiotic particulate ^{14}C incorporation (Chavez and Barber 1987). For determination of particulate carbon fixation, the water was filtered onto Whatman GF/F filters at <10 psi of vacuum, acidified with 0.5 N HCl and counted in 10 ml of CytoScint ES on a liquid scintillation counter following the end of the cruise. The total inorganic carbon activity was determined (at the 100% and 30% light levels) by adding 1.0 ml of incubated sample water to a scintillation vial containing 20 ml of CytoScint ES cocktail. An average of these values was used as the total amount of added activity in the calculation of carbon uptake for each sample.

Expendable bathythermograph (XBT) drops were made daily at 0000, 0800, 1200, and 1600 hours (local time). A Shipboard Environmental data Acquisition System (SEAS) was utilized. XBT data were transmitted to shore via the GOES (Geostationary Operational Environmental Satellite) every four hours. Position, date and time for each drop were recorded on NOAA XBT logs and diskettes.

Eight satellite-tracked drift buoys were deployed at predetermined locations. These buoys transmit signals which are received by NOAA satellites and transferred to the ARGOS service facility in Toulouse, France. The deployments, arranged by Don Hansen of AOML, were for EPOCS and TOGA investigations of surface currents.

Biological Observations

Seabird censuses were conducted using standard 300 m strip-transect methodology and hand-held binoculars. Weather permitting, bird observers stood shifts on the flying bridge throughout the

daylight hours when the ship was underway. Species identification, numbers and behaviors of birds were recorded, as well as associations with marine mammals, fish or flotsam. Flock compositions and occasionally individual identifications were verified using mounted 25X binoculars.

Manta tows were conducted each night immediately following the CTD station, using a 505 μ m-mesh manta net with a mouth opening of 15 cm x 86 cm. A General Oceanics digital flowmeter was suspended in the center of the net mouth. The net was towed from the starboard hydrographic wire for fifteen minutes. Samples were preserved in formalin, labeled and stored.

Surface organisms were sampled during evening CTD stations to collect information on the occurrence, relative abundance and distribution of flying fishes in the ETP. Two 500-watt lamps were suspended over the side of the ship to attract animals, and a long-handled dipnet was used to collect them. Other information collected during these stations included species observed, relative abundance and pertinent environmental data (e.g., sea surface temperature and salinity, sea state and moon phase).

As part of a long-term study of the distribution and ecology of sea turtles in the ETP, all sightings of marine turtles made incidental to the systematic marine mammal and seabird surveys were recorded. The angle and distance of the turtle from the track line, an estimate of the size of the turtle and associations with birds, fish, flotsam and other turtles were also recorded. Under normal field conditions, specific identification of sea turtles other than leatherbacks (*Dermochelys coriacea*) is difficult. Therefore, in order to obtain a sample of identified individuals, turtles that passed close by the ship (usually within 50 meters) were photographed with a telephoto lens. Dead turtles were salvaged to obtain life history data, stomach contents and reproductive tracts. The salvage of dead turtles in international waters is covered by Endangered Species Permit No. 691, Modification No. 1. Importation of endangered species parts is covered by CITES permit US742057.

RESULTS

Hill *et al.* (1991) reported on the dolphin assessment methods and data collected from the 1990 *McArthur* cruise.

The cruise track for the *McArthur* is plotted in Figure 1. Table 1 lists the total numbers of environmental and biological samples, by category, collected on the *McArthur*.

Oceanography

Digital records of continuous surface data from the thermosalinograph are now being analyzed at the SWFSC. Plots of continuous environmental data from the 1986-1989 surveys have been published in a separate report².

Figure 2 shows the locations of the 204 CTD casts. Analysis of discrete salinity samples for CTD calibration was performed on the *McArthur*. Uncorrected CTD temperature and salinity data are included in Appendix A.

²Fiedler, P.C., S.B. Reilly, S.N. Sexton, R.S. Holt and D.P. DeMaster. 1990. Atlas of eastern tropical Pacific oceanographic variability and cetacean sightings, 1986-1989. NOAA-TM-NMFS-SWFSC-144, 142 pp.

The SEAS XBT data were sent to the National Ocean Service, NOAA³. Figure 3 shows XBT deployment locations.

Discrete chlorophyll samples were analyzed at sea and data were processed at the SWFSC in La Jolla. Results for all four legs are presented in Appendix A. Surface chlorophyll concentrations from both the *Jordan* and the *McArthur* are mapped in Figure 4.

Selected frozen nutrient samples were shipped to Monterey Bay Aquarium Research Institute to be analyzed. Nutrient and chlorophyll data will be submitted to NOAA/National Oceanographic Data Center.

Primary productivity samples were analyzed after the cruise at Scripps Institution of Oceanography. The data were processed at the SWFSC in La Jolla. A manuscript describing the results has been submitted for a special issue of *Limnology and Oceanography* (Fiedler *et al.* 1991).

Table 2 lists the locations and dates of the eight drifting buoy deployments. Figure 5 shows the tracks of these buoys.

Biological Observations

A total of 923.1 hours during 109 days was spent on effort for the seabird distribution and abundance survey. During this time, 6656 individuals of 63 seabird species were recorded (Tables 3 and 4).

Abundance of seabirds varied according to the area surveyed, a fact evidenced by the differences in abundance by leg (Tables 3 and 4). In general, the most abundant family of seabirds was Procellariidae (petrels and shearwaters), primarily represented by Juan Fernandez Petrels and Wedge-tailed Shearwaters. The second most abundant family was Oceanitidae (storm-petrels), primarily represented by Leach's and Galapagos Storm-Petrels. Red-footed Boobies were also abundant.

Manta tow samples have been sorted and are now being identified at SWFSC.⁴

Figure 6 shows the location of 144 dipnet stations occupied during the cruise. Table 5 summarizes data and specimens collected for each of the stations. A total of 235 flying fish of approximately 11 species were collected, along with 100 *Oxyporhamphus micropterus* and 620 miscellaneous fish, including 584 myctophids. Most of the specimens, including all of the flying fish, will be processed and housed at the Museum of Natural History, Los Angeles.

A total of 20 mahi mahi (*Coryphaena hippurus*) were examined for stomach contents. There were 28 sightings of sea turtles, all unidentified, which are plotted in Figure 7.

³ Persons wishing to receive copies of these data should write to: National Ocean Service, Universal Bldg. South, Rm. 618, 1825 Connecticut Ave., NW, Washington, D.C., 20235.

⁴ Questions concerning these samples may be addressed to Dr. Geoff Moser at the SWFSC.

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Table 1. Summary of environmental and biological data collected, McArthur, 28 July - 6 December, 1990¹

Leg	XBT	CTD	Chl a	Nutrients	Primary Productivity	Manta Tows	Flying Fish Collected	Fish Stomach Samples	Bird Stomach Samples	Turtle Sightings	Turtle Captures	Bird Sightings	Bird Effort
I	107	49	549	211	157	24	37	0	0	4	0	1356	187.2 hours 26 tot.days
II	101	51	577	259	179	23	89	0	0	5	0	1119	246.2 hours 29 tot.days
III	111	54	693	268	178	23	63	5	0	14	0	1002	239.6 hours 27 tot.days
IV	106	50	640	228	157	20	46	15	0	5	0	939	250.1 hours 27 tot.days
Total	425	204	2459	966	671	90	235	20	0	28	0	4416	923.1 hours 109 tot.days 8.5 average hours/day

1. Continuous sea surface temperature and salinity recorded during all four legs.

Table 2. Deployment locations of eight drift buoys, *McArthur*,
28 July - 6 December 1990.

DATE	LATITUDE	LONGITUDE
18 September	00°00.0'	093°00.0' W
23 September	01°57.1' S	089°37.7' W
24 September	00°00.3' N	084°47.9' W
14 October	00°00.4' N	100°01.7' W
26 October	02°06.7' S	084°59.0' W
29 October	11°14.1' S	084°46.3' W
30 October	06°36.0' S	083°09.5' W
25 November	00°12.7' S	124°28.3' W

Table 3. Number of seabirds recorded from the McArthur, 28 July - 6 December, 1990, listed by family.

	Leg Number:					TOTAL
	I	II	III	IV		
ALBATROSSES (Diomedidae)	0	3	18	5	26	
PETRELS AND SHEARWATERS (Procellariidae)	1021	835	297	136	2289	
PTERODROMA PETRELS						
OTHER PETRELS	10	8	7	5	30	
(Bulweria, Procellaria, Fulmarus, Daption)	275	283	64	51	673	
SHEARWATERS (Puffinus)						
STORM-PETRELS (Oceanitidae)	351	271	659	854	2135	
TROPICBIRDS (Phaethontidae)	13	27	27	21	88	
PELICANS (Pelecanidae)	0	0	4	0	4	
BOOBIES (Sulidae)	39	553	90	47	729	
CORMORANTS (Phalacrocoracidae)	0	0	0	0	0	
FRIGATEBIRDS (Fregatidae)	17	27	39	0	83	
PHALAROPES (Phalaropodidae)	2	39	288	25	354	
JAEAGERS (Stercorariidae)	12	12	30	13	67	
GULLS, TERNS AND NODDIES (Laridae)						
GULLS (Larus)	0	10	6	6	22	
TERNs (Sterna, Chlidonias, Gygis)	135	170	75	16	396	
NODDIES (Anous)	0	7	0	0	7	
ALCIDS (Alcidae)	0	0	0	0	0	

Table 4. Identity and numbers of seabirds recorded from the McArthur, 28 July - 6 December, 1990.

Common Name	Scientific Name	Leg Number:	I	II	III	IV	TOTAL
Juan Fernandez Petrel	<i>Pterodroma externa</i>		836	669	177	66	1748
Leach's Storm-Petrel (White-Rumped)	<i>Oceanodroma leucorhoa</i>		161	54	232	615	1062
Galapagos Storm-Petrel	<i>Oceanodroma tethys</i>		77	158	234	114	583
Red-footed Booby	<i>Sula sula</i>		0	525	17	4	546
Wedge-tailed Shearwater (Dark Morph)	<i>Puffinus pacificus</i>		165	205	5	5	380
Sooty Tern	<i>Sterna fuscata</i>		133	153	8	10	304
White-winged Petrel	<i>Pterodroma leucoptera</i>		22	76	89	21	208
Red Phalarope	<i>Phalaropus fulcarius</i>		1	34	92	23	150
Tahiti Petrel	<i>Pterodroma rostrata</i>		73	31	0	15	119
Wedge-tailed Shearwater (Light Morph)	<i>Puffinus pacificus</i>		25	24	48	20	117
Hornby's Storm-Petrel	<i>Oceanodroma hornbyi</i>		0	0	54	60	114
Masked Booby (Unidentified Morph)	<i>Sula dactylatra</i>		34	11	28	34	107
Harcourt's Storm-Petrel	<i>Oceanodroma castro</i>		17	31	49	3	100
Markham's Storm-Petrel	<i>Oceanodroma markhami</i>		1	9	61	12	83
Cook's Petrel	<i>Pterodroma cookii</i>		44	11	3	14	72
Christmas Island Shearwater	<i>Puffinus nativitatus</i>		65	6	1	0	72
Arctic Tern	<i>Sterna paradisaea</i>		0	8	59	4	71
Northern Phalarope	<i>Phalaropus lobatus</i>		0	5	53	1	59
Red-billed Tropicbird	<i>Phaethon aethereus</i>		1	15	26	16	58
Dark-rumped Petrel	<i>Pterodroma phaeopygia</i>		1	27	12	17	57
Leach's Storm-Petrel (Dark-Rumped)	<i>Oceanodroma leucorhoa</i>		35	1	1	15	52
Blue-footed Booby	<i>Sula nebouxii</i>		0	0	38	2	40
Great Frigatebird	<i>Fregata minor</i>		1	16	21	0	38
Unidentified Frigatebird	<i>Fregata sp.</i>		14	9	8	0	31
Parasitic Jaeger	<i>Stercorarius parasiticus</i>		3	10	10	7	30
New Zealand Shearwater	<i>Puffinus bulleri</i>		4	23	0	1	28
Black-winged Petrel	<i>Pterodroma nigripennis</i>		14	11	1	2	28
Kermadec Petrel	<i>Pterodroma neglecta</i>		14	5	8	0	27
Red-tailed Tropicbird	<i>Phaethon rubricauda</i>		9	10	1	5	25
Waved Albatross	<i>Diomedea irrorata</i>		0	3	18	3	24
Sooty Shearwater	<i>Puffinus griseus</i>		0	7	0	17	24
Newell's Shearwater	<i>Puffinus auricularis newelli</i>		8	7	0	6	21
Long-tailed Jaeger	<i>Stercorarius longicaudus</i>		6	1	12	1	20
White Tern	<i>Gygis alba</i>		2	9	6	2	19
White-bellied Storm-Petrel	<i>Fregatta grallaria</i>		1	2	4	11	18
Pink-footed Shearwater	<i>Puffinus creatopus</i>		5	8	5	0	18
Brown Booby	<i>Sula leucogaster</i>		0	7	5	6	18
Swallow-tailed Gull	<i>Larus furcatus</i>		0	10	5	2	17
Magnificent Frigatebird	<i>Fregata magnificens</i>		2	2	10	0	14
Bulwer's Petrel	<i>Bulweria bulweri</i>		10	4	0	0	14
Passerine			0	3	7	3	13
Black Storm-Petrel	<i>Oceanodroma melania</i>		3	0	4	5	12
Pomarine Jaeger	<i>Stercorarius pomarinus</i>		1	1	6	4	12
Masked Booby (Orange Billed Morph)	<i>Sula dactylatra</i>		0	9	1	1	11
Shore Bird			0	8	1	0	9
Cape Petrel	<i>Daption capense</i>		0	0	6	3	9
Audubon's Shearwater	<i>Puffinus lherminieri</i>		0	3	5	0	8
White-vented Storm-Petrel	<i>Oceanites gracilis</i>		0	0	6	1	7
Masked Booby (Yellow Billed Morph)	<i>Sula dactylatra</i>		5	1	1	0	7
Parkinson's Petrel	<i>Procellaria parkinsoni</i>		0	4	1	1	6
Stejneger's Petrel	<i>Pterodroma longirostris</i>		3	1	1	1	6
Brown Noddy	<i>Anous stolidus</i>		0	5	0	0	5
Townsend's Shearwater	<i>Puffinus auricularis</i>		2	0	0	2	4
White-throated Storm-Petrel	<i>Nesofregatta albigularis</i>		0	2	0	2	4
Brown Pelican	<i>Pelecanus occidentalis</i>		0	0	4	0	4
White-tailed Tropicbird	<i>Phaethon lepturus</i>		2	2	0	0	4
Laughing Gull	<i>Larus atricilla</i>		0	0	1	1	2
Herald Petrel	<i>Pterodroma heraldica</i>		0	0	2	0	2
Franklin's Gull	<i>Larus pupixcan</i>		0	0	0	2	2
Black Noddy	<i>Anous tenuirostris</i>		0	2	0	0	2
Phoenix Petrel	<i>Pterodroma alba</i>		2	0	0	0	2
Mascarene Petrel	<i>Pterodroma aterrima</i>		0	0	1	0	1

Common Name	Scientific Name	Leg Number:	I	II	III	IV	TOTAL
Skua	Catharacta sp.		1	0	0	0	1
Black-footed Albatross	Diomedea nigripes		0	0	0	1	1
White-faced Storm-Petrel	Pelagodroma marina		1	0	0	0	1
Sabine's Gull	Larus sabini		0	0	0	1	1
Black Tern	Chilonias niger		0	0	1	0	1
Royal Tern	Sterna maxima		0	0	1	0	1
Northern Fulmar	Fulmarus glacialis		0	0	0	1	1
Laysan Albatross	Diomedea immutabilis		0	0	0	1	1
TOTAL			1804	2238	1450	1164	6656

Table 5. Results of night-light dipnet sampling, McARTHUR, 28 July - 6 December, 1990.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
2	90-07-30	1.0	23 19 N 119 53 W	1.0	2	2	24.3	34.22	100	2	5	1	3	
2	90-07-30	1.0	23 19 N 119 53 W	1.0	2	2	24.3	34.22	125	2	3	2	3	
3	90-07-31	.8	22 07 N 119 24 W	1.0	2	3	24.6	33.18	125	1	1	2	3	

¹ - Records without Station numbers reflect opportunistic, or non-standard specimen collections.

² - Beaufort Scale

³ - 1 = quarter moon; 2 = half moon; 3 = 3/quarter moon; 4 = full moon; 5 = no moon; 6 = new moon.

⁴ - 1 = clear; 2 = partly cloudy; 3 = overcast; 4 = rain; 5 = other or unknown.

⁵ - 005 = Unidentified flying fish
 010 = Oxyporhamphus micropterus
 015 = Fodiator spp.
 020 = Exocetus spp.
 030 = Unidentified 4-wing flying fish
 060 = Elassichthys
 080 = Hemiramphidae (halfbeaks)
 090 = Belonidae (needlefish)
 100 = Myctophidae (lanternfish)
 125 = Vinciguerria spp.
 200 = Scombridae (tunas)
 300 = Gempylidae (snake mackerel)
 400 = Coryphaenidae (dolphinfish)
 500 = Other
 700 = Octopoda (pelagic octopus)
 900 = Sea Snake

⁶ - 1 = "a couple" (1-3)
 2 = "a few" (4-8); uncommon
 3 = "several" (9-15); fairly common
 4 = "common" (16-50)
 5 = "abundant" (51-150)
 6 = "superabundant" (150+)
 7 = 1000's
 8 = "present"
 9 = "possibly present"

⁷ - 1 = Large (mantle length > 8 inches)
 2 = Medium (3 inches ≤ mantle length ≤ 8 inches)
 3 = Small (mantle length < 3 inches)

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
3	90-07-31	.8	22 07 N 119 24 W	1.0	2	3	24.6	33.18	500	1				
4	90-07-31	1.0	19 49 N 118 28 W	1.0	3	1	26.4	34.75	125	2		2	4	
									100	2				
5	90-08-01	1.0	16 16 N 119 28 W	4.0	3	2	28.1	34.32	30	2		2	2	
									100	1				
									125	1				
6	90-08-02	.5	15 45 N 118 35 W	3.0	5	1	27.7	34.31						
7	90-08-02	1.0	14 32 N 116 19 W	4.0	3	4	28.3	32.69	5	4		1	2	
									10	1		2	2	
									20	4	4			
									30	1	1			
									125	1				
									400	3				
8	90-08-03	1.0	13 50 N 117 05 W	3.0	5	1	28.3	34.05	5	2		2	2	
									10	1				
									30	1	2			
									400	1				
									500	1				
9	90-08-03	1.0	12 32 N 117 00 W	3.0	3	2	28.4	33.66	5	1				
									10	2				
									20	1				
									100	2	4			
									125	1				
10	90-08-04	.7	12 07 N 116 21 W	3.0	3	1	28.3	33.64	10	1		3	1	
									100	1		2	1	
									500	2	2			
11	90-08-05	1.0	11 10 N 114 40 W	4.0	4	2	28.2	33.50	20	2	2	2	2	
									100	2	3			
									300	1				
12	90-08-05	1.0	10 38 N 113 42 W				28.4	31.99	30	1		2	1	
13	90-08-05	1.0	9 37 N 112 09 W	2.0	3	4	28.0	33.10	10	1		2	4	
									30	1				
									100	1	2			
									300	1				
14	90-08-06	.6	8 49 N 111 15 W	4.0	4	3	27.6	32.29	20	1				
15	90-08-06	1.0	6 49 N 109 51 W	5.0	4	2	27.4	33.57	10	1				
									30	1	1			
									100	4	5			
16	90-08-07	1.0	4 30 N 108 25 W	5.0	4	2	25.3	34.31	10	1		2	1	
												1	1	
17	90-08-08	1.0	5 16 N 111 01 W	3.0	5	3	27.1	33.83	10	4	4	1	2	
									20	2	7	2	4	
									100	4	6			
18	90-08-09	1.0	5 30 N 111 52 W	4.0	3	3	27.2	32.02	100	2		3	1	
19	90-08-09	1.0	6 11 N 113 51 W	5.0	5	3	27.4	31.97	5	1		1	2	
									10	3	1	2	3	
									30	1	1	3	2	

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
19	90-08-09	1.0	6 11 N 113 51 W	5.0	5	3	27.4	31.97	100 300	4 1	5			
20	90-08-10	.3	6 30 N 114 49 W	4.0	3	3	27.5	33.96	100	1				
21	90-08-10	.5	7 15 N 117 10 W	4.0	3	3	27.6	32.68	5 10 100	1 1 1	1 1	3	1	
22	90-08-11	1.0	7 41 N 118 33 W	3.0	2	2	27.6	33.84	30 100	1 1	1 1	1	1	
23	90-08-11	1.0	8 55 N 120 43 W	6.0	2	3	27.7	33.71	5 20	1 1		2	1	
24	90-08-12	1.0	10 56 N 123 56 W	5.0	2	3	28.0	34.03	20	2	2	2	1	
25	90-08-13	.7	11 40 N 125 08 W	4.0	2	3	28.1	33.52	5 30 100	1 1 1	1 1	2	1	
26	90-08-13	1.0	12 51 N 127 19 W	3.0	2	2	27.9	34.66	100	3	2	2 3	2 3	
27	90-08-14	.7	13 40 N 128 28 W		1	2	27.8	33.47						
28	90-08-14	1.0	14 43 N 130 23 W		2	2	27.8	34.47	100	4		2	1	
29	90-08-15	.9	15 36 N 131 43 W	3.0	1	2	26.8	34.48	5 300	1 1	1	2	1	
30	90-08-15	1.0	13 21 N 132 30 W	3.0	5	3	28.3	34.40	10 30 100 300	3 1 1 1	1			
31	90-08-16	1.0	9 28 N 133 53 W	2.0	5	3	28.1	32.24	100 400	3 1	3	4	2	
32	90-08-17	1.0	5 34 N 134 42 W	6.0	5	2	28.0	34.58	5 10 20 30 100 300	2 2 2 2 2 1	1 1 1	2	3	
33	90-08-17		5 34 N 134 42 W	0.0					30		1			
33	90-08-18	.7	6 50 N 135 10 W	6.0	6	3	28.4	33.82	5 10 30	2 2 1	1 1	2	2	
34	90-08-18	1.0	6 50 N 135 10 W	0.0					30		1			
34	90-08-18	1.0	9 28 N 135 42 W	5.0	1	3	28.4	32.06	5 100	1 1		2	1	
35	90-08-19	1.0	11 59 N 136 41 W	5.0	5	2	28.5	32.51	5 20 30 400	1 1 1 1		2	3	
36	90-08-20	.5	11 08 N 137 28 W	3.0	1	2	28.3	33.94				3	1	
37	90-08-20	1.0	8 58 N 138 35 W	5.0	6	2	28.3	33.42	5 100	1 1	1	2	3	
38	90-08-21	.8	7 44 N 139 13 W	5.0	6	2	28.4	33.29	10 100	1 1	1			

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
39	90-08-21	1.0	8 58 N 140 15 W	6.0	6	2	28.4	33.89	10	1		1	1	
									20	1		2	4	
									100	3				
									400	1				
40	90-08-22	.7	10 07 N 141 12 W	3.0	1	3	28.2	34.02	10	1	1	2	3	
41	90-08-22	1.0	11 55 N 142 41 W	3.0	6	2	28.5	33.77	10	2		1	2	
									100	3		2	3	
42	90-08-22		0 00 N 00 00 W	0.0					30		1			
									90-08-23	.8	12 47 N 143 47 W	2.0	1	2
43	90-08-25	1.0	18 58 N 153 43 W	6.0	1	2	26.4	33.39	10	1		2	3	
									20	4	6			
									100	2				
									5	1				
44	90-08-25	1.0	19 04 N 153 50 W	5.0	1	2	26.4	34.69	5	1		2	2	
									20	1	1			
									100	1				
45	90-08-26	1.0	19 37 N 154 43 W	5.5	1	4	26.8	34.80	20	3	2			
									30	1				
46	90-09-03	.8	12 14 N 147 08 W	4.0	4	2	28.6	34.27						
47	90-09-03	1.0	10 39 N 145 31 W	6.0	4	4	28.6	33.60	10	1	1	2	2	
48	90-09-04	.8	9 32 N 144 27 W	3.0	4	4	28.3	33.27	100	1				
									10	2	1	2	1	
									100	2	1			
									125	1	1			
49	90-09-04	1.0	7 46 N 142 41 W	2.0	4	3	28.8	33.54	10	2	1	2	3	
									100	4	13			
									300	1				
									400	1				
									500	2				
									5	1	1	2	1	
50	90-09-05	.5	6 43 N 141 37 W	1.0	4	2	28.4	34.33	20	2	3			
									5	1	1	2	1	
51	90-09-05	1.0	4 59 N 139 59 W	3.0	4	2	27.9	34.71	20	1	1	2	2	
									100	1				
									400	1				
52	90-09-06	.9	5 02 N 138 36 W	3.0	4	2	28.0	34.71	30	1				
									100	1				
									400	1				
53	90-09-06	1.0	5 06 N 136 20 W	4.0	4	2	28.3	34.69	10	4	4	2	3	
									20	5	8			
									30	1				
									100	2				
									400	1				
54	90-09-07	.8	5 11 N 134 56 W	3.0	4	2	27.2	34.80	20	1	2			
55	90-09-07	1.0	5 12 N 133 14 W	4.0	3	2	27.8	34.72	10	2	1	2	4	
									30	1		1	1	

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
55	90-09-07	1.0	5 12 N 133 14 W	4.0	3	2	27.8	34.72	100 300 400 500	4 1 1 1	8 2			
56	90-09-08	.8	5 20 N 131 51 W	3.0	4	2	27.8	34.55	10 20 30 100	1 2 1 1	1 4 1	3	1	
57	90-09-08	1.0	6 52 N 130 09 W	5.0	2	2	28.1	34.45	5 10 100	2 2 3	1 1	2	2	
58	90-09-09	.8	7 48 N 129 01 W	5.0	2	2	28.3	34.22			1			
59	90-09-09	1.0	6 47 N 127 20 W	5.0	5	2	28.0	34.28	10 20 100	2 1 2		2	2	
60	90-09-10	1.0	4 17 N 124 38 W	5.0	5	2	26.0	34.67	10 30 100 300	2 2 3 1	2 3	2	2	
61	90-09-11	.6	3 28 N 123 45 W	5.0	2	2	26.7	34.57	5 20	1 1		2	1	
62	90-09-11	1.0	2 57 N 122 07 W	5.0	5	2	24.9	34.55	5 10 100	2 1 1		2	1	
63	90-09-12	.7	3 10 N 120 58 W	4.0	2	2	25.2	34.49	5	2				
64	90-09-12	1.0	3 40 N 119 00 W	5.0	5	2	26.9	34.49	10 20 30 100 500	2 1 1 3 1	1 1 2	2 3	2 1	
65	90-09-13	.6	2 44 N 115 21 W	4.0		2	25.9	34.46	30 100	2 2		1	2	
66	90-09-14	.8	2 25 N 114 00 W	4.0			26.1	34.24	5 10 20 30 100	2 1 1 3 1	2 1 1 2	1	1	
67	90-09-14	1.0	2 09 N 112 00 W	5.0		2	24.5	34.26	10 20 100 300	1 1 4 1	1 1 5	1 2	2 2	
68	90-09-15	1.0	1 50 N 109 25 W	5.0		3	25.7	34.20	10 100	1 4	3	1 3	1 1	
69	90-09-16	.9	1 40 N 108 16 W	5.0	5	3	26.0	34.06	5 100 300	2 3 1	1	3	1	

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
70	90-09-16	1.0	3 03 N 106 59 W	5.0		3	26.4	34.05	10	1	1	1	1	
									30	1		2	1	
									100	3	3			
									300	1				
71	90-09-17	.9	3 23 N 105 40 W	5.0	6	2	26.7	33.72	10	2	1	2	1	
									30	3				
72	90-09-17	1.0	2 45 N 103 29 W	5.0	5	3	26.2	34.05	10	2	2	3	1	
									20	1				
									30	1				
									100	3	2			
73	90-09-18	.8	1 42 N 102 53 W	5.0	5	3	25.9	33.90	5	2		3	1	
									100	2				
74	90-09-18	1.0	0 16 N 101 41 W	3.0		3	21.8	34.69	10	1	1	1	2	
									30	1	1	2	4	
									100	5	16			
75	90-09-19	.8	0 29 N 100 21 W	3.0	5	3	21.4	31.78	5	1		3	4	
									80	1	1			
									100	4	9			
									300	1				
76	90-09-19	1.0	0 49 N 98 29 W	4.0		3	23.6	34.22	5	1		1	4	
									20	1	2	2	5	
									30	2	2	3	4	
									100	6	16			
77	90-09-20	.8	1 01 N 97 10 W	4.0		2	24.1	34.03	5	1		2	2	
									10	1				
									30	1	1			
									100	2	2			
									700	1	1			
78	90-09-20	1.0	1 24 N 95 03 W	4.0		2	24.7	33.86	10	3	3	2	2	
									20	6	31	3	2	
									30	4	22			
									100	3	3			
79	90-09-21	.8	1 23 N 93 52 W	5.0		3	25.4	33.60	10	4	3	2	2	
									30	1	1			
									100	2				
									300	1				
80	90-09-22	.9	1 19 S 92 13 W	3.0	5	3	20.0	34.71	100	3	7	3	3	
81	90-09-22	1.0	1 49 S 90 49 W	3.0	1	2	21.6	34.34	10	2	3	3	1	
									100	4	6			
82	90-09-23	1.0	2 01 S 87 26 W	4.0	1	2	20.2	35.07	100	4	8	1	2	
												2	2	
83	90-09-24	.8	1 08 N 86 16 W	3.0	5	3	20.4	34.73	100	2				
84	90-09-24	1.0	0 10 N 85 04 W	5.0		2	24.3	33.75	10	5	8	1	2	
									20	2	1	2	2	
									30	3	1	3	2	
									100	2	1			
85	90-09-25	.7	0 42 N 85 56 W	4.0	5	3	24.7	33.88	10	1				

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)	
86	90-09-25	1.0	1 58 N 87 57 W	5.0		2	24.8	33.91	10	1		2	1		
									100	4	12	3	1		
									300	1					
									400	1					
87	90-09-26	1.0	4 04 N 87 42 W	6.0	2	3	27.1	32.65	10	2	3	1	2		
									20	1		2	4		
									100	3	1	3	1		
									300	1					
88	90-09-27	1.0	5 38 N 86 55 W	5.0	2	3	27.4	32.81	10	3	2	2	3		
									20	1	1				
									100	2					
89	90-09-28	.8	6 24 N 86 33 W	6.0	5	3	27.2	32.55	10	4	2	2	1		
									20	1		3	3		
90	90-09-28	1.0	8 23 N 85 31 W	4.0		3	27.6	31.45	10	1		2	3		
									30	1		3	2		
									100	2	1				
									400	1					
91	90-09-29	1.0	9 32 N 84 52 W	3.0	5	3	28.8		90	1					
92	90-10-05	1.0	6 06 N 85 19 W	5.0	5	4	27.0	31.69	10	3	10	1	2		
									20	3		2	2		
									30	1	1	3	1		
									100	3	5				
									300	1					
93	90-10-06	1.0	3 22 N 84 40 W	5.0	5	2	26.6	32.60	10	4	4	1	4		
									100	4					
									300	1					
94	90-10-07	1.0	3 16 N 88 38 W	4.0	5	5	26.3	32.86	5	1		1	4		
									10	3	1				
									20	1					
									30	1					
									100	4	10				
95	90-10-08	1.0	5 43 N 88 57 W	5.0	5	3	26.8	32.18	10	4	9	1	4		
									20	1					
									30	1	1				
									100	5					
96	90-10-09	1.0	9 10 N 87 28 W	4.0	5	2	27.2	32.76	10	4	3	1	2		
									20	2	2	2	4		
									30	1		3	2	1	
									100	2	2			1	
97	90-10-10	1.0	9 26 N 90 02 W	4.0	5	1	28.4	32.57	10	4	4	1	4		
									20	3	7	2	4		
									30	1	1	3	1		
									100	2	1				
								400	1				1		

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
98	90-10-11	1.0	7 28 N 92 50 W	4.0	5	3	26.7	33.43	10	6	9	1	3	
									20	5	16	2	4	
									30	2	4	3	1	
									100	3	6			
									300	1				
99	90-10-12	1.0	5 16 N 95 13 W	3.0	5	2	26.9	33.34	10	1	1	1	1	
									20	2	3	2	1	
									30	1	2			
									100	3	6			
									300	1				
100	90-10-13	1.0	1 59 N 97 11 W	4.0	5	3	24.9	33.78	20	1	1			
									30	4	3			
									100	5	20			
101	90-10-14	1.0	0 28 S 100 32 W	3.0	5	1	20.4	34.88	100	6	42	1	4	
												2	5	
												3	4	
102	90-10-15	1.0	2 48 S 103 54 W	4.0	5	2	22.6	34.75	5	1		1	1	
									10	1		3	1	
									100	3	3			
103	90-10-16	1.0	4 59 S 106 45 W	4.0	5	2	23.0	34.84	20	1		1	2	
									30	2	1	3	1	
									100	4				
104	90-10-17	1.0	5 23 S 105 50 W	4.0	5	3	23.0	34.96	20	1		1	1	
									30	2	1	3	1	
									100	4	11			
									300	1				
									400	1	1			
105	90-10-18	1.0	4 20 S 102 26 W	5.0	5	2	22.6	35.05	10	1		1	2	
									20	1		3	2	
									30	1				
									100	4	11			
106	90-10-19	1.0	3 26 S 99 20 W	4.0	5	2	22.0	34.92	10	1	1	1	2	
									20	1	1	3	1	
									30	1				
									100	9	12			
107	90-10-20	1.0	2 24 S 95 52 W	4.0	1	2	20.9	34.94	20	3	7	1	1	
									30	4	2	3	1	
									100	5	24			
									300	1				
108	90-10-21	1.0	5 28 S 95 21 W	4.0	5	3	21.8	34.98	10	2	1	1	3	
									20	2	3	3	1	
									30	4	1			
									100	4	7			
109	90-10-22	1.0	8 44 S 94 50 W	5.0	1	2	21.4	35.16	20	1	1	1	1	
									30	2				

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude		Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
109	90-10-22	1.0	8 44 S	94 50 W	5.0	1	2	21.4	35.16	100	2				
										60	1	1			
110	90-10-23	1.0	8 16 S	92 42 W	4.0	5	3	21.6	35.14	10	1		1	1	
										30	2	1			
										100	4	5			
										300	1				
										400	1				
111	90-10-24	1.0	5 43 S	89 54 W	4.0	1	1	20.7	35.13	20	1	1	1	2	
										30	1	2			
										60	1	1			
										100	3	4			
										300	1				
112	90-10-25	1.0	3 07 S	87 08 W	4.0	5	3	19.6	34.79	30	1		1	2	
										100	6	75			
										300	1	1			
										500	1	1			
113	90-10-26	1.0	2 45 S	84 57 W	4.0	2	2	19.8	34.67	30	1	1	1	2	
										100	5	32	3	1	
114	90-10-27	1.0	6 28 S	84 56 W	4.0	5	3	19.3	34.83	20	1		1	2	
										100	3		3	1	
115	90-10-28	1.0	10 20 S	84 47 W	4.0	2	2	18.9	34.95	100	2	3	1	1	
116	90-10-29	1.0	8 57 S	83 54 W	4.0	3	2	19.5	34.84	100	2		1	2	
117	90-10-30	1.0	5 50 S	82 56 W	4.0	3	3	19.3	34.75				1	1	
118	90-10-31	1.0	3 47 S	82 18 W	4.0	5	3	18.6	34.06	80	1	1	1	1	
										125	1		2	2	
													3	1	
119	90-11-01	1.0	3 05 S	80 59 W	4.0	5	3	22.2	33.48	100	3	1	2	2	
										500	1				
										500	4				
										500	1	1			
120	90-11-08	1.0	4 22 S	83 35 W	4.0	5	2	19.0	34.53	100	2	4	1	5	
										125	1		3	2	
										500	4				
										500	1	1			
121	90-11-09	1.0	7 18 S	86 02 W	4.0	5	3	20.1	34.83	10	1		1	3	
										20	2	2	3	2	
										30	3	1			
										100	3	2			
										300	1				
122	90-11-10	1.0	10 20 S	88 27 W	5.0	5	2	20.5	35.14	20	3	3	1	4	
										30	1				
										100	3	9			
123	90-11-11	1.0	9 19 S	90 22 W	4.0	5	3	21.4	35.05	20	3	1	1	3	
										30	2		2	1	
										100	4	7			
										400	2				
										500	1	1			

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude		Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
123	90-11-11	1.0	9 19 S	90 22 W	4.0	5	3	21.4	35.05	500	1	1			
124	90-11-12	1.0	5 43 S	91 54 W	4.0	5	2	21.8	34.45	30	2	1	1	6	
										60	1	2	3	2	
										100	6	17			
125	90-11-13	1.0	5 22 S	94 44 W	4.0	5	1	21.7	34.75	30	1		1	3	
										100	3		3	1	
										300	1				
126	90-11-14	1.0	6 31 S	97 56 W	5.0	5	2	22.4	34.98	10	1		1	2	
										30	2				
										100	3	2			
127	90-11-16	1.0	4 27 S	103 51 W	4.0	5	1	22.5	34.94	10	1		1	1	
										20	2	2	3	2	
										30	2	1			
										100	5	12			
128	90-11-17	1.0	1 59 S	106 21 W	4.0	5	3	22.8	34.87	10	2	2	1	3	
										20	2	2	3	2	
										30	3	1			
										100	5	11			
										300	1				
129	90-11-18	1.0	2 52 S	109 00 W	4.0	1	2	22.9	34.83	10	1		1	3	
										20	1	2	3	1	
										100	6	20			
130	90-11-19	1.0	4 47 S	111 06 W	5.0	1	2	23.6	34.88	30	2	1	1	2	
										100	5	6			
										300	1				
131	90-11-20	1.0	4 00 S	115 19 W	5.0	1	2	24.1	34.89	20	3	2	1	1	
										30	1		2	3	
										100	4	2	3	1	
										300	1				
										400	1				
132	90-11-21	1.0	3 08 S	119 24 W	5.0	1	1	24.8	35.05	10	1		1	2	
										20	4	3	2	3	
										30	1				
										100	2	3			
										300	1				
133	90-11-22	1.0	2 30 S	123 32 W	4.0	1	4	24.7	35.00	20	3	6	1	1	
										30	1	1			
										100	2				
										200	2				
134	90-11-23	1.0	1 26 S	126 20 W	5.0	1	2	24.6	34.97	20	3	4	1	1	
										30	1	1			
										100	1	1			
										300	1				
135	90-11-24	1.0	0 36 N	124 28 W	4.0	2	1	24.2	34.67	20	1		1	1	
										30	1		3	1	
										100	5	9			
										300	1				

Table 5. continued.

Station ¹ Number	Date Y/M/D	Hours of Effort	Location Latitude Longitude	Sea ² State	Moon ³ Phase	Sky ⁴ Cond.	SST (C)	SSS (%)	Fish ⁵ Species	Relative ⁶ Abundance (Fish)	Number Collected (Fish)	Squid ⁷ Type	Relative ⁶ Abundance (Squid)	Number Collected (Squid)
136	90-11-25	1.0	3 54 N 124 16 W	4.0	2	2	26.5	34.48	30 100	1 3		1	1	
137	90-11-26	1.0	6 54 N 124 04 W	1.0	2	2	28.1	34.34	10 20 30 100	1 1 2 5	1 1 2 20	2	2	
138	90-11-27	1.0	10 05 N 123 12 W	4.0	3	2	27.4	33.41	10 30 100	2 1 2		2	1	
139	90-11-28	1.0	13 20 N 121 57 W	4.0	3	2	27.3	33.66	10 20 30 100 500	1 5 4 1 1		2	1	
140	90-11-30	1.0	18 10 N 116 53 W	4.0	4	2	25.2	33.94	10 30 500	1 1 3	2	2	2	
141	90-12-01	1.0	20 24 N 115 06 W	4.0	4	1	26.0	34.05	30 100 300	1 1 1		2	1	
142	90-12-02	1.0	23 19 N 116 01 W	4.0	4	2	22.3	34.14	30 100	2 3	1 4			
143	90-12-03	1.0	26 13 N 117 02 W	4.0	4	2	19.5	33.65	30 100 300	1 2 1		4		
144	90-12-04	1.0	28 58 N 118 09 W	5.0	5	1	20.1	33.84	100	4	1	1 3	2 1	
145	90-12-05	1.0	31 17 N 117 20 W	3.0	5	1	17.2	33.43	30 100 500	3 2 4				

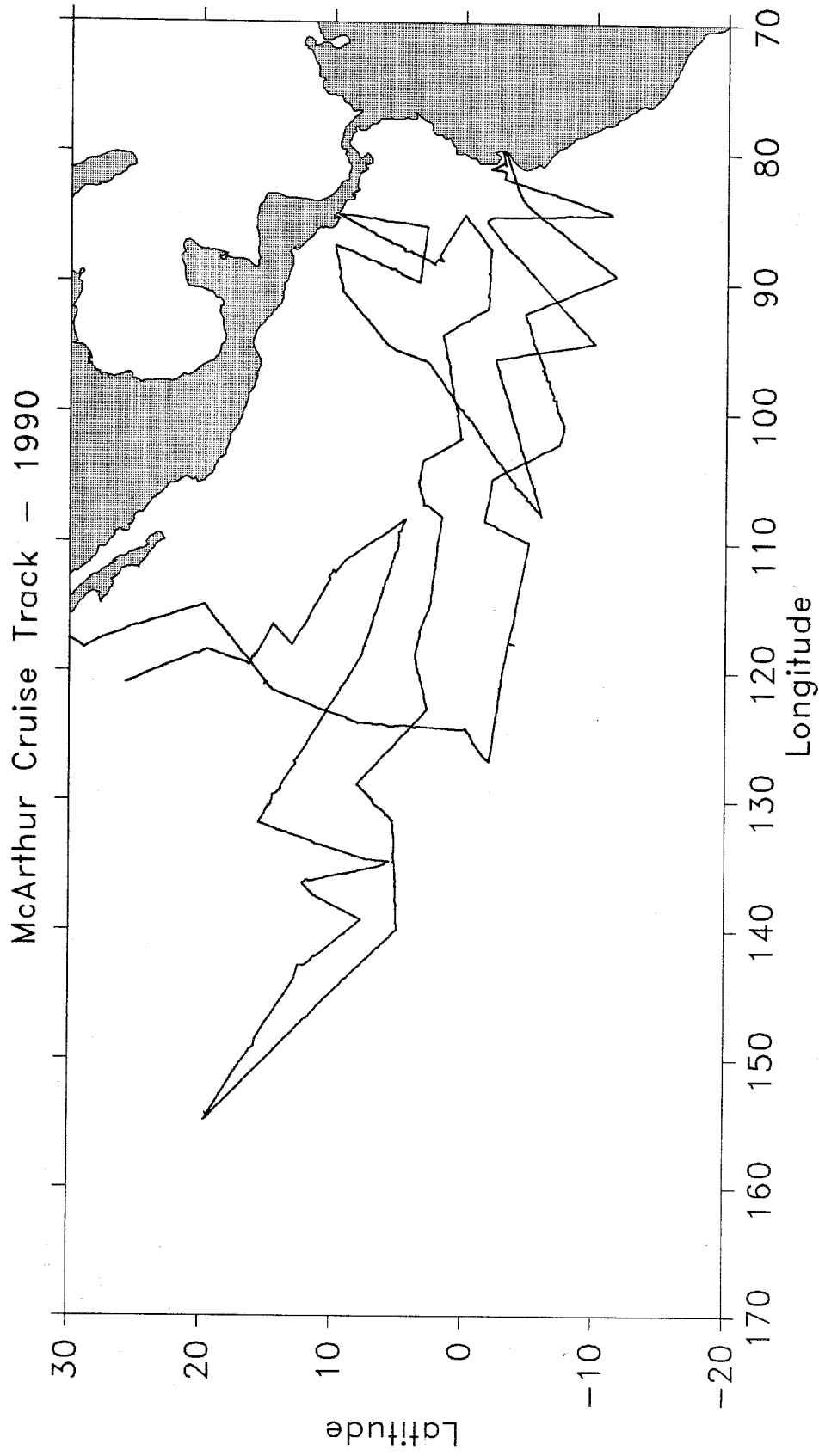


Figure 1. Cruise track, *McArthur*, 28 July - 6 December, 1990

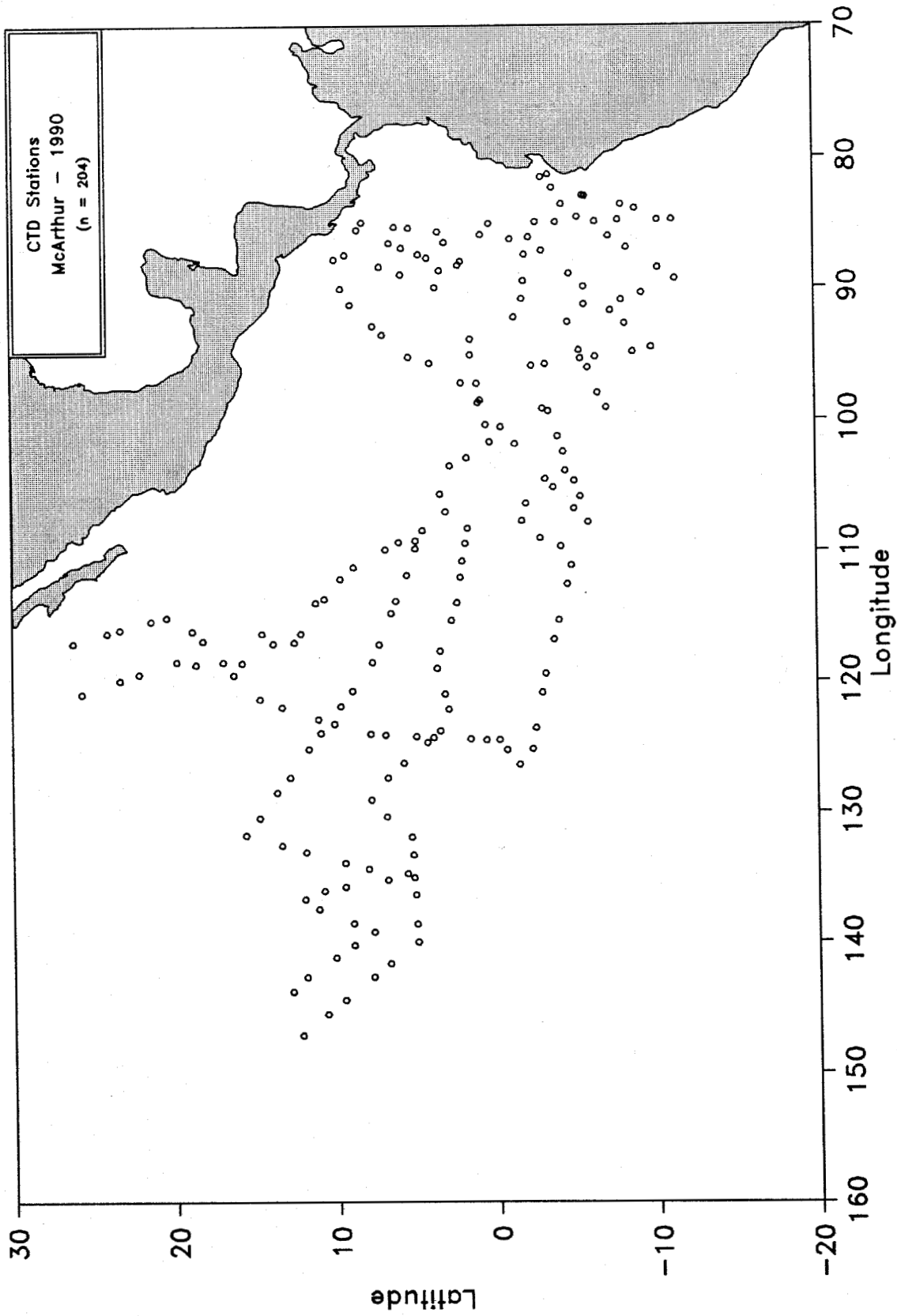
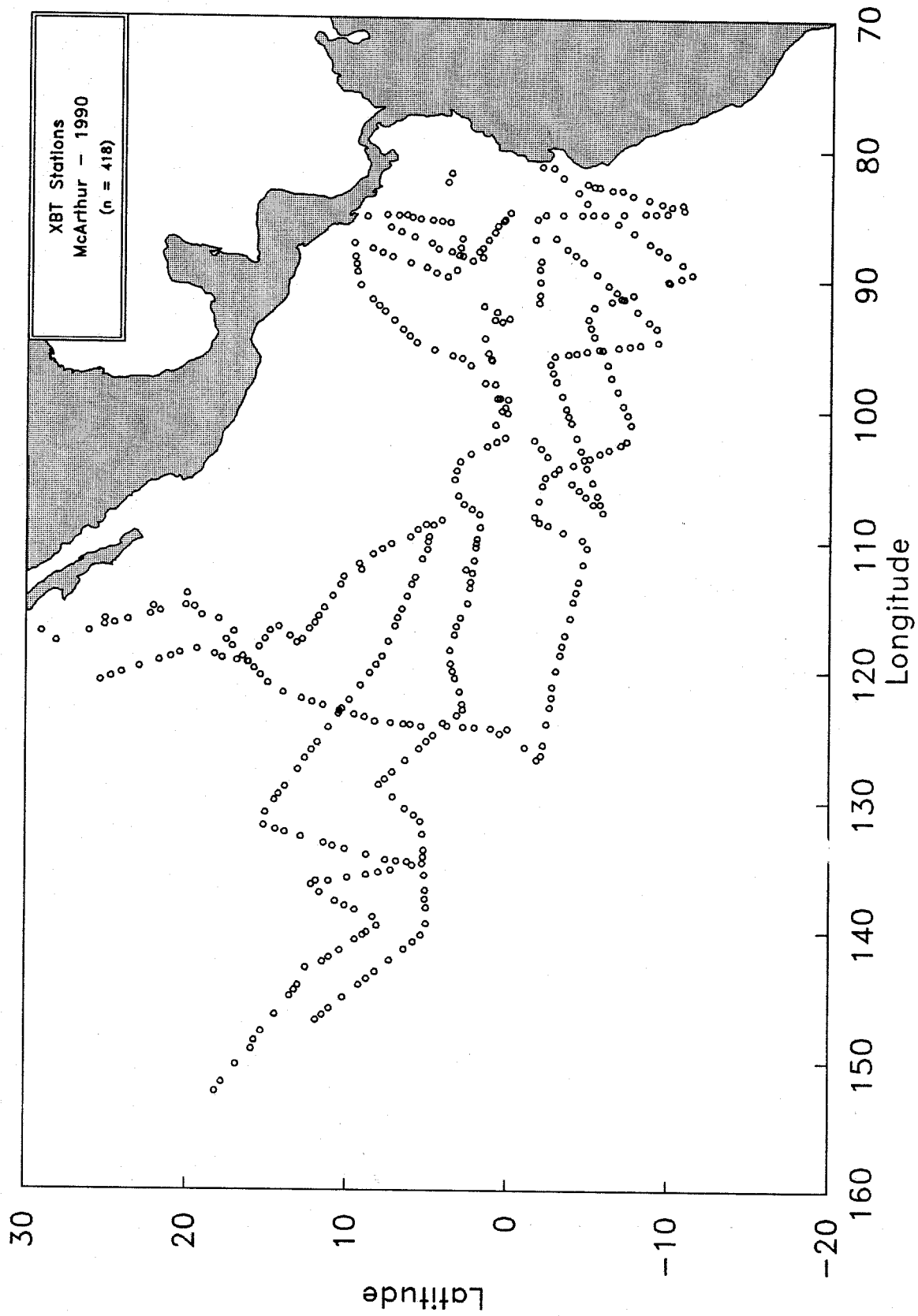


Figure 2. CTD stations, McArthur, 28 July - 6 December, 1990



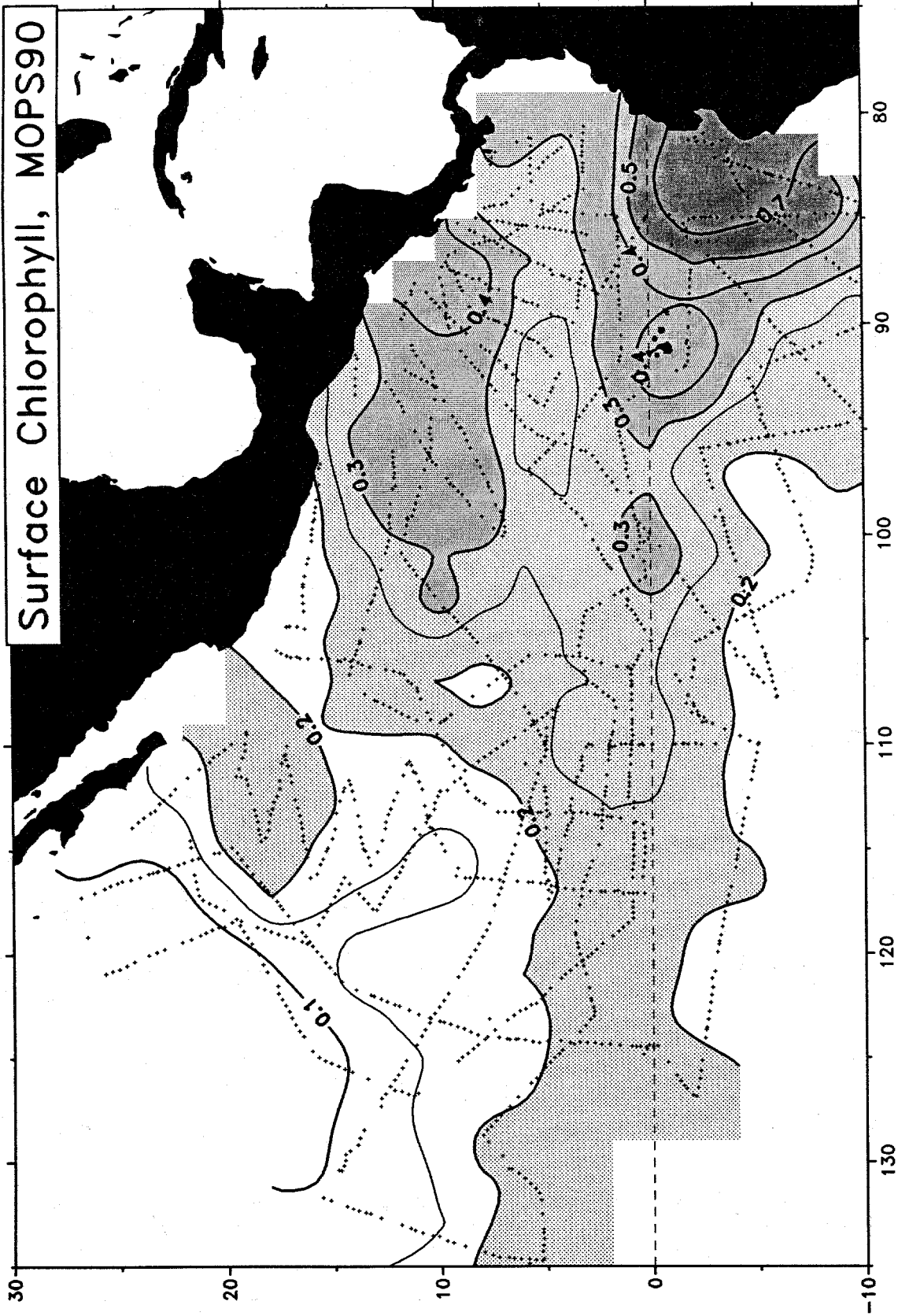


Figure 4. Surface chlorophyll II ($\text{mg} \cdot \text{m}^{-3}$), Jordan and McArthur, 28 July - 6 December, 1990

MCARTHUR DEPLOYMENTS - MOPPS90

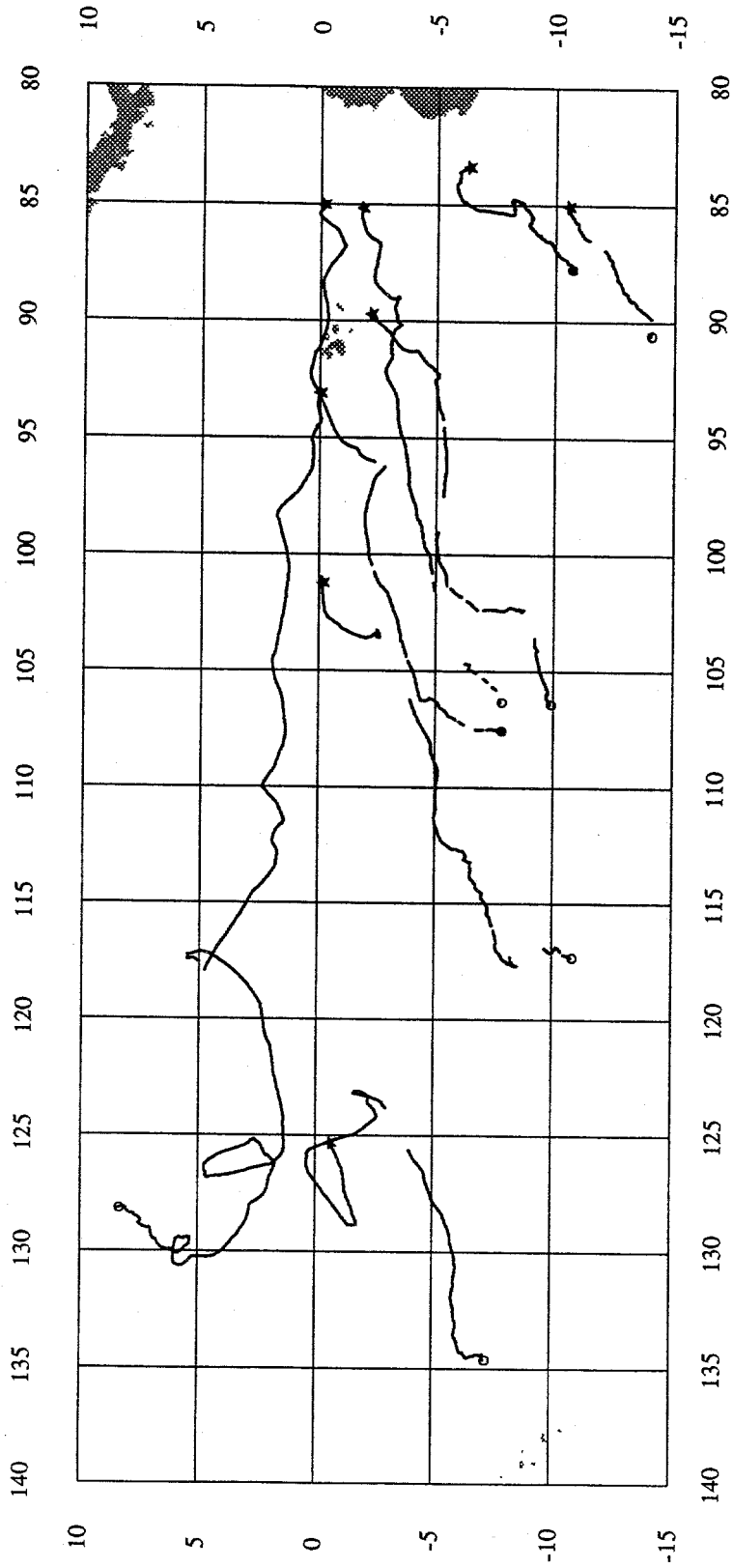


Figure 5. Tracks of eight drifting buoys, McArthur, 28 July - 6 December, 1990

- ★ Location of buoy deployment
- Location of last signal from buoy

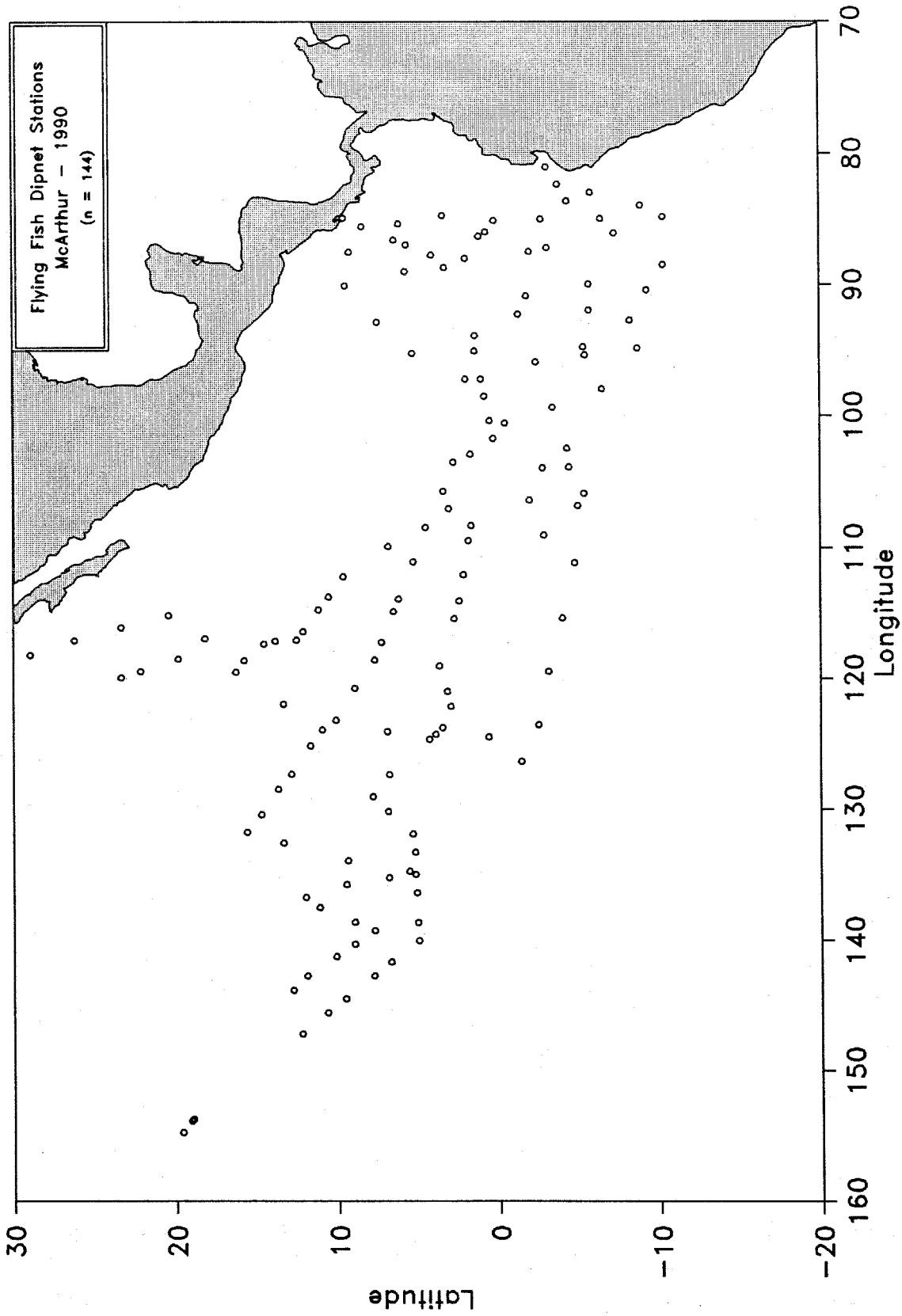


Figure 6. Locations of dipnet stations, McArthur, 28 July - 6 December, 1990

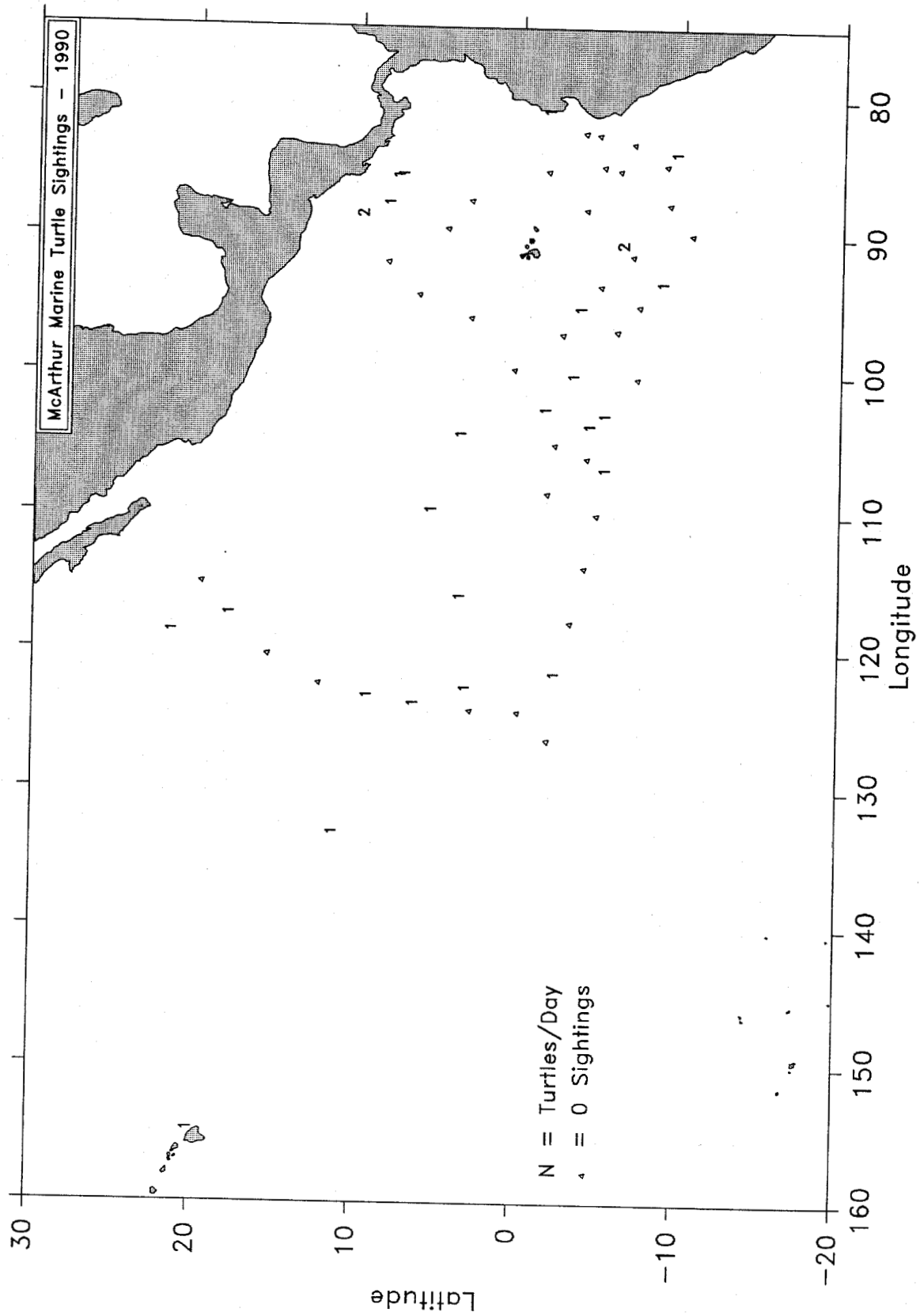


Figure 7. Locations of turtle sightings, McArthur, 28 July - 6 December 1990

APPENDIX A

Station No.	1-001	Date - GMT	30 JUL 90
Station Name	M901-001	Time - GMT	1215
Latitude	25.40.9 N	Date - LOC	30 JUL 90
Longitude	120.54.2 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.19	33.89	0.10	0.03	--
20	22.18	33.81	0.11	0.03	--
40	18.53	33.33	0.11	0.03	--
60	17.03	33.18	0.06	0.01	--
80	15.24	32.89	0.27	0.30	--
100	14.81	32.96	--	--	--
125	13.41	32.80	0.16	0.22	--
150	12.18	33.14	0.04	0.08	--

Station No.	1-002	Date - GMT	31 JUL 90
Station Name	M901-002	Time - GMT	0340
Latitude	23.18.6 N	Date - LOC	30 JUL 90
Longitude	119.53.3 W	Time - LOC	2040

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.26	34.20	0.06	0.01	--
20	23.66	34.12	0.07	0.01	--
40	22.99	34.26	0.08	0.01	--
60	20.36	33.97	0.13	0.03	--
80	18.85	33.86	0.20	0.09	--
100	17.43	33.72	0.32	0.42	--
125	15.37	33.59	0.17	0.30	--
150	13.71	33.38	0.09	0.17	--

Station No.	1-003	Date - GMT	31 JUL 90
Station Name	M901-003	Time - GMT	1215
Latitude	22. 7.1 N	Date - LOC	31 JUL 90
Longitude	119.24.0 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.90	34.38	0.08	0.01	1.09
11	23.85	34.31	--	--	1.02
20	23.52	34.31	0.08	0.01	1.48
31	22.06	34.30	--	--	0.98
40	22.09	34.29	0.10	0.02	0.62
60	20.66	34.12	0.12	0.04	--
80	18.92	34.00	0.19	0.07	0.32
100	17.35	33.91	0.24	0.37	--
125	15.18	33.61	0.15	0.30	0.08
150	13.87	33.46	--	--	--

Station No.	1-004	Date - GMT	01 AUG 90
Station Name	M901-004	Time - GMT	0327
Latitude	19.48.1 N	Date - LOC	31 JUL 90
Longitude	118.27.6 W	Time - LOC	2027

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.68	34.61	0.07	0.02	--
20	26.78	34.63	0.06	0.02	--
40	25.46	34.50	0.10	0.03	--
60	21.91	34.32	0.15	0.06	--
80	19.82	34.03	0.17	0.07	--
100	18.60	33.76	0.22	0.16	--
125	16.09	33.65	0.31	0.38	--
150	13.76	33.59	0.12	0.22	--

Station No.	1-005	Date - GMT	01 AUG 90
Station Name	M901-005	Time - GMT	1248
Latitude	18.36.6 N	Date - LOC	01 AUG 90
Longitude	118.42.1 W	Time - LOC	0548

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.55	34.52	0.10	0.02	0.62
11	25.48	34.41	--	--	0.63
20	25.22	34.46	0.09	0.02	0.87
31	25.00	34.41	--	--	0.95
40	24.49	34.38	0.11	0.02	0.59
60	21.91	34.31	0.17	0.08	--
80	20.57	34.11	0.22	0.10	0.33
100	17.48	33.74	--	--	--
125	14.97	33.72	0.17	0.31	0.15
150	14.33	34.07	0.06	0.14	--

Station No.	1-006	Date - GMT	02 AUG 90
Station Name	M901-006	Time - GMT	0335
Latitude	16.16.8 N	Date - LOC	01 AUG 90
Longitude	119.29.3 W	Time - LOC	2035

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.24	34.21	0.08	0.02	--
20	28.13	34.25	0.07	0.02	--
40	27.77	34.35	0.08	0.03	--
60	23.67	34.33	0.18	0.07	--
80	20.56	34.09	0.24	0.22	--
100	17.39	33.90	0.31	0.31	--
125	15.25	33.72	0.12	0.27	--
150	13.86	33.79	0.06	0.12	--

Station No.	1-007	Date - GMT	02 AUG 90
Station Name	M901-007	Time - GMT	1214
Latitude	15.44.8 N	Date - LOC	02 AUG 90
Longitude	118.34.7 W	Time - LOC	0514

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.90	34.18	0.10	0.03	2.42
11	27.83	34.22	--	--	0.47
20	27.31	34.22	0.10	0.03	2.86
31	26.74	34.38	--	--	1.80
40	25.97	34.43	0.09	0.03	0.63
60	25.34	34.40	0.11	0.04	--
80	21.98	34.26	0.24	0.15	0.48
100	17.58	33.98	0.29	0.31	--
125	14.45	34.01	0.09	0.17	0.52
150	13.39	34.23	0.01	0.10	--

Station No.	1-008	Date - GMT	03 AUG 90
Station Name	M901-008	Time - GMT	0310
Latitude	14.30.7 N	Date - LOC	02 AUG 90
Longitude	116.18.9 W	Time - LOC	2010

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.42	33.87	0.17	0.17	--
20	28.50	33.86	0.11	0.04	--
40	26.86	34.28	0.19	0.08	--
60	22.08	34.26	0.46	0.35	--
80	17.76	33.75	0.33	0.36	--
100	15.17	33.81	0.17	0.24	--
125	14.21	33.64	0.07	0.14	--
150	12.81	34.12	0.01	0.11	--

Station No.	1-009	Date - GMT	03 AUG 90
Station Name	M901-009	Time - GMT	1213
Latitude	13.49.8 N	Date - LOC	03 AUG 90
Longitude	117. 5.4 W	Time - LOC	0513

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.32	33.95	0.15	0.04	2.29
10	28.41	33.99	--	--	0.36
20	28.29	34.13	0.12	0.03	2.66
27	28.26	34.17	--	--	2.27
40	27.78	34.15	0.16	0.04	1.27
60	24.75	34.32	0.30	0.15	1.01
80	17.67	34.07	0.36	0.39	--
100	14.94	34.19	0.16	0.23	0.37
125	14.07	34.20	0.04	0.51	--
150	13.49	34.18	0.03	0.28	--

Station No.	1-010	Date - GMT	04 AUG 90
Station Name	M901-010	Time - GMT	0321
Latitude	12.31.0 N	Date - LOC	03 AUG 90
Longitude	117. 0.4 W	Time - LOC	2021

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.51	33.59	0.08	0.13	--
20	28.40	33.59	0.12	0.04	--
40	26.63	34.39	0.24	0.11	--
60	20.66	34.32	0.35	0.32	--
80	16.11	34.35	0.23	0.28	--
100	14.01	34.30	0.17	0.25	--
125	13.26	34.26	0.09	0.20	--
150	12.78	34.26	0.03	0.10	--

Station No.	1-011	Date - GMT	04 AUG 90
Station Name	M901-011	Time - GMT	1213
Latitude	12. 6.8 N	Date - LOC	04 AUG 90
Longitude	116.20.5 W	Time - LOC	0513

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.38	33.53	0.15	0.03	3.16
10	28.39	33.55	--	--	0.17
20	28.39	33.54	0.15	0.03	3.54
27	28.39	33.55	--	--	3.43
40	28.19	33.82	0.17	0.05	1.26
60	19.94	34.32	0.37	0.37	0.58
80	15.20	34.30	0.21	0.32	--
100	14.20	34.31	0.10	0.36	0.45
125	13.44	34.23	0.05	0.15	--
150	12.56	34.28	0.01	0.05	--

Station No.	1-012	Date - GMT	05 AUG 90
Station Name	M901-012	Time - GMT	0302
Latitude	11.10.9 N	Date - LOC	04 AUG 90
Longitude	114.40.3 W	Time - LOC	2002

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.28	33.41	0.17	0.06	--
20	28.23	33.46	0.23	0.08	--
40	27.97	33.96	0.54	0.30	--
60	20.65	34.39	0.36	0.39	--
80	16.44	34.43	0.21	0.28	--
100	13.86	34.51	0.07	0.35	--
125	13.01	34.38	0.03	0.07	--
150	12.60	34.39	0.01	0.05	--

Station No.	1-013	Date - GMT	05 AUG 90
Station Name	M901-013	Time - GMT	1215
Latitude	10.38.1 N	Date - LOC	05 AUG 90
Longitude	113.42.0 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.52	33.24	0.16	0.04	3.81
9	28.53	33.29	--	--	5.02
16	28.45	33.33	--	--	4.38
20	28.31	33.41	0.15	0.04	3.15
40	28.17	33.69	0.24	0.09	1.66
60	22.45	34.42	0.34	0.28	0.62
80	18.88	34.39	0.37	0.38	0.20
100	15.40	34.40	0.18	0.35	--
125	13.56	34.46	0.06	0.15	--
150	12.88	34.38	0.02	0.05	--

Station No.	1-014	Date - GMT	06 AUG 90
Station Name	M901-014	Time - GMT	0242
Latitude	9.38.3 N	Date - LOC	05 AUG 90
Longitude	112. 9.3 W	Time - LOC	1942

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.24	33.20	0.17	0.05	--
20	28.16	33.49	0.16	0.06	--
40	27.99	33.55	0.24	0.11	--
60	23.38	34.18	0.14	0.49	--
80	18.22	34.37	0.30	0.35	--
100	14.78	34.46	0.19	0.29	--
125	13.76	34.49	--	--	--
150	13.11	34.42	0.01	0.07	--

Station No.	1-015	Date - GMT	06 AUG 90
Station Name	M901-015	Time - GMT	1211
Latitude	8.48.9 N	Date - LOC	06 AUG 90
Longitude	111.14.5 W	Time - LOC	0511

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.70	33.40	0.24	0.08	6.68
9	27.73	33.44	--	--	7.51
16	27.75	33.42	--	--	6.66
20	27.77	33.42	0.27	0.10	5.83
40	27.92	33.67	0.32	0.18	2.22
60	25.38	34.22	0.34	0.39	0.91
80	17.23	34.48	0.20	0.24	0.23
100	14.31	34.49	0.09	0.17	--
125	13.70	34.43	0.04	0.11	--
150	13.22	34.43	0.00	0.05	--

Station No.	1-016	Date - GMT	07 AUG 90
Station Name	M901-016	Time - GMT	0249
Latitude	6.49.0 N	Date - LOC	06 AUG 90
Longitude	109.52.1 W	Time - LOC	1949

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.55	33.48	0.27	0.08	--
20	27.55	33.49	0.27	0.09	--
40	27.53	33.46	0.27	0.10	--
60	26.34	33.89	0.50	0.33	--
80	17.59	34.39	0.22	0.25	--
100	14.19	34.52	0.14	0.20	--
125	13.62	34.46	0.08	0.13	--
150	13.22	34.38	0.03	0.06	--

Station No.	1-017	Date - GMT	07 AUG 90
Station Name	M901-017	Time - GMT	1210
Latitude	5.58.8 N	Date - LOC	07 AUG 90
Longitude	109.19.7 W	Time - LOC	0510

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.12	33.65	0.24	0.08	7.75
9	27.05	33.71	--	--	8.96
16	26.94	33.86	--	--	9.79
20	26.28	34.13	0.29	0.13	7.62
40	25.96	34.23	0.29	0.14	2.83
60	25.17	34.22	0.32	0.19	1.10
80	22.91	34.70	0.26	0.18	0.18
100	16.81	34.42	0.18	0.27	--
125	13.91	34.47	0.10	0.16	--
150	13.06	34.50	0.05	0.07	--

Station No.	1-018	Date - GMT	08 AUG 90
Station Name	M901-018	Time - GMT	0258
Latitude	4.29.8 N	Date - LOC	07 AUG 90
Longitude	108.25.6 W	Time - LOC	1958

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.41	34.22	0.31	0.12	--
20	25.33	34.16	0.32	0.12	--
40	24.57	34.28	0.34	0.17	--
60	22.90	34.51	0.32	0.22	--
80	22.64	34.57	0.26	0.20	--
100	22.53	34.65	0.22	0.16	--
125	19.44	34.66	0.14	0.16	--
150	15.20	34.39	0.14	0.21	--

Station No.	1-019	Date - GMT	08 AUG 90
Station Name	M901-019	Time - GMT	1216
Latitude	4.56.6 N	Date - LOC	08 AUG 90
Longitude	109.13.0 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.17	34.18	0.28	0.10	11.25
9	25.21	34.20	--	--	13.37
16	25.24	34.20	--	--	11.28
20	25.20	34.24	0.28	0.09	7.30
40	24.79	34.33	0.27	0.11	2.14
60	22.27	34.65	0.28	0.18	1.16
80	21.88	34.68	0.21	0.17	0.29
100	21.59	34.69	0.22	0.18	--
125	19.95	34.63	0.21	0.22	--
150	13.55	34.42	0.08	0.13	--

Station No.	1-020	Date - GMT	09 AUG 90
Station Name	M901-020	Time - GMT	0250
Latitude	5.16.7 N	Date - LOC	08 AUG 90
Longitude	111. 1.3 W	Time - LOC	1950

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.24	33.75	0.27	0.08	--
20	27.20	33.87	0.24	0.07	--
40	27.22	33.97	0.27	0.10	--
60	27.25	34.01	0.25	0.10	--
80	20.59	34.10	0.33	0.32	--
100	17.81	34.32	0.21	0.24	--
125	13.18	34.18	0.05	0.09	--
150	12.30	34.13	0.02	0.03	--

Station No.	1-021	Date - GMT	09 AUG 90
Station Name	M901-021	Time - GMT	1219
Latitude	5.30.1 N	Date - LOC	09 AUG 90
Longitude	111.51.5 W	Time - LOC	0519

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.33	33.69	0.24	0.08	10.22
9	27.33	33.64	--	--	13.94
16	27.32	33.62	--	--	8.79
20	27.37	33.80	0.27	0.12	7.16
40	27.36	33.90	0.26	0.10	1.79
60	27.19	33.99	0.23	0.12	0.90
80	22.18	34.19	0.45	0.81	0.23
100	17.20	34.29	0.17	0.30	--
125	13.87	34.23	0.08	0.12	--
150	12.15	34.26	0.02	0.04	--

Station No.	1-022	Date - GMT	10 AUG 90
Station Name	M901-022	Time - GMT	0300
Latitude	6.11.7 N	Date - LOC	09 AUG 90
Longitude	113.52.1 W	Time - LOC	2000

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.51	33.96	0.23	0.08	--
20	27.49	33.98	0.23	0.08	--
40	27.48	34.01	0.25	0.09	--
60	27.45	33.99	0.26	0.11	--
80	27.51	34.29	0.29	0.15	--
100	17.20	34.36	0.18	0.25	--
125	13.13	34.48	0.08	0.11	--
150	12.56	34.40	0.03	0.06	--

Station No.	1-023	Date - GMT	10 AUG 90
Station Name	M901-023	Time - GMT	1215
Latitude	6.29.2 N	Date - LOC	10 AUG 90
Longitude	114.47.6 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.57	33.83	0.22	0.07	4.88
9	27.55	33.86	--	--	5.36
16	27.59	33.85	--	--	3.42
20	27.53	33.91	0.22	0.07	3.02
40	27.62	33.90	0.24	0.08	1.18
60	27.64	34.19	0.28	0.16	0.41
80	27.21	34.41	0.29	0.22	0.25
100	16.69	34.39	0.17	0.41	--
125	14.00	34.47	0.10	0.25	--
150	12.99	34.43	0.02	0.03	--

Station No.	1-024	Date - GMT	11 AUG 90
Station Name	M901-024	Time - GMT	0315
Latitude	7.15.0 N	Date - LOC	10 AUG 90
Longitude	117.10.4 W	Time - LOC	2015

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.64	33.76	0.17	0.04	--
20	27.64	33.83	0.18	0.05	--
40	27.67	33.83	0.21	0.09	--
60	24.32	34.58	0.40	0.27	--
80	17.97	34.43	0.31	0.40	--
100	15.02	34.48	0.16	0.25	--
125	13.60	34.47	0.08	0.13	--
150	13.13	34.44	0.04	0.07	--

Station No.	1-025	Date - GMT	11 AUG 90
Station Name	M901-025	Time - GMT	1216
Latitude	7.41.0 N	Date - LOC	11 AUG 90
Longitude	118.31.1 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.74	33.75	0.16	0.04	4.04
11	27.64	33.76	--	--	4.18
20	27.68	33.75	0.16	0.05	2.85
27	27.66	33.82	--	--	2.81
40	27.69	33.82	0.26	0.09	1.45
60	24.80	34.59	0.41	0.31	0.65
80	16.98	34.27	0.20	0.25	--
100	15.12	34.37	0.10	0.18	0.14
125	13.11	34.37	0.04	0.08	--
150	12.89	34.31	0.01	0.02	--

Station No.	1-026	Date - GMT	12 AUG 90
Station Name	M901-026	Time - GMT	0317
Latitude	8.55.5 N	Date - LOC	11 AUG 90
Longitude	120.42.6 W	Time - LOC	2017

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.96	33.69	0.23	0.05	--
20	27.90	33.76	0.22	0.06	--
40	27.95	33.86	0.28	0.10	--
60	25.21	34.58	0.40	0.21	--
80	17.60	34.38	0.31	0.30	--
100	14.36	34.45	0.13	0.24	--
125	13.19	34.52	0.05	0.07	--
150	12.66	34.48	0.02	0.04	--

Station No.	1-027	Date - GMT	12 AUG 90
Station Name	M901-027	Time - GMT	1216
Latitude	9.40.1 N	Date - LOC	12 AUG 90
Longitude	121.52.6 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.85	33.94	0.21	0.08	3.59
9	27.86	33.95	--	--	4.09
16	27.81	33.98	--	--	3.59
20	27.84	33.95	0.22	0.08	3.74
40	27.84	34.03	0.24	0.09	1.56
60	20.50	34.38	0.36	0.35	0.54
80	15.63	34.41	0.19	0.24	0.23
100	13.88	34.38	0.07	0.18	--
125	12.94	34.46	0.06	0.15	--
150	12.55	34.21	0.01	0.04	--

Station No.	1-028	Date - GMT	13 AUG 90
Station Name	M901-028	Time - GMT	0317
Latitude	10.55.6 N	Date - LOC	12 AUG 90
Longitude	123.55.0 W	Time - LOC	2017

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.10	33.94	0.12	0.02	--
20	28.03	33.96	0.14	0.03	--
40	24.63	34.59	0.42	0.22	--
60	18.81	34.45	0.43	0.39	--
80	15.41	34.32	0.24	0.36	--
100	13.74	34.38	--	--	--
125	12.70	34.48	0.02	0.38	--
150	12.32	34.34	0.02	0.04	--

Station No.	1-029	Date - GMT	13 AUG 90
Station Name	M901-029	Time - GMT	1215
Latitude	11.40.3 N	Date - LOC	13 AUG 90
Longitude	125. 7.8 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.22	34.19	0.13	0.03	2.37
9	28.21	34.20	--	--	3.38
16	28.25	34.18	--	--	--
20	28.68	34.19	0.13	0.03	3.01
40	27.90	34.51	0.23	0.07	1.74
60	17.69	34.16	0.25	0.23	0.40
80	14.34	34.16	0.20	0.19	0.11
100	13.40	34.31	0.11	0.23	--
125	12.37	34.21	0.01	0.03	--
150	12.14	34.27	0.01	0.03	--

Station No.	1-030	Date - GMT	14 AUG 90
Station Name	M901-030	Time - GMT	0348
Latitude	12.51.3 N	Date - LOC	13 AUG 90
Longitude	127.18.3 W	Time - LOC	2048

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.03	34.55	0.11	0.02	--
20	27.57	34.55	0.12	0.02	--
40	26.67	34.54	0.20	0.07	--
60	20.87	34.25	0.37	0.22	--
80	16.44	34.11	0.31	0.28	--
100	14.35	34.27	0.17	0.22	--
125	12.94	34.24	0.05	0.09	--
150	12.37	34.41	0.04	0.12	--

Station No.	1-031	Date - GMT	14 AUG 90
Station Name	M901-031	Time - GMT	1315
Latitude	13.39.9 N	Date - LOC	14 AUG 90
Longitude	128.27.6 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.96	34.11	0.09	0.01	--
20	27.66	34.17	0.09	0.01	--
40	27.34	34.45	0.13	0.04	--
60	25.53	34.44	0.18	0.05	--
80	19.61	34.11	0.39	0.32	--
100	14.62	34.12	0.20	0.23	--
125	13.16	34.14	0.10	0.13	--
150	12.81	34.23	0.03	0.03	--

Station No.	1-032	Date - GMT	15 AUG 90
Station Name	M901-032	Time - GMT	0418
Latitude	14.44.5 N	Date - LOC	14 AUG 90
Longitude	130.23.7 W	Time - LOC	2018

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.82	34.38	0.09	0.01	--
20	27.37	34.41	0.11	0.02	--
40	26.39	34.52	0.16	0.05	--
60	24.73	34.24	0.21	0.12	--
80	20.08	34.16	0.32	0.30	--
100	16.12	34.07	0.20	0.28	--
125	14.34	34.10	0.21	0.13	--
150	12.82	34.95	0.03	0.05	--

Station No.	1-033	Date - GMT	15 AUG 90
Station Name	M901-033	Time - GMT	1315
Latitude	15.36.3 N	Date - LOC	15 AUG 90
Longitude	131.43.3 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.98	34.39	0.08	0.00	1.74
10	26.81	34.38	--	--	2.28
20	26.66	34.39	0.08	0.01	2.11
27	26.67	34.37	--	--	1.70
40	24.28	34.33	0.13	0.03	0.87
60	22.51	34.26	--	--	--
80	21.07	34.21	0.16	0.07	--
100	18.41	34.11	0.24	0.10	0.22
125	15.70	34.08	0.32	0.25	--
150	14.30	34.05	0.09	0.10	--

Station No.	1-034	Date - GMT	16 AUG 90
Station Name	M901-034	Time - GMT	0416
Latitude	13.22.6 N	Date - LOC	15 AUG 90
Longitude	132.30.4 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.44	34.29	0.09	0.01	--
20	27.65	34.23	0.08	0.01	--
40	26.31	34.45	0.13	0.03	--
60	25.08	34.38	0.23	0.10	--
80	18.20	33.09	0.32	0.29	--
100	14.29	34.00	0.19	0.24	--
125	12.90	34.20	0.05	0.06	--
150	12.63	34.27	0.00	0.04	--

Station No.	1-035	Date - GMT	16 AUG 90
Station Name	M901-035	Time - GMT	1314
Latitude	11.54.2 N	Date - LOC	16 AUG 90
Longitude	133. 1.9 W	Time - LOC	0514

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.18	33.84	0.10	0.01	2.97
10	28.16	34.14	--	--	2.76
20	28.00	34.14	0.09	0.01	4.46
27	27.88	34.26	--	--	2.21
40	26.85	34.53	0.13	0.03	0.91
60	18.38	34.07	--	--	--
80	15.73	34.68	--	--	--
100	13.27	34.07	--	--	--
125	12.21	34.28	0.30	0.23	--
150	11.76	34.20	0.31	0.28	--

Station No.	1-036	Date - GMT	17 AUG 90
Station Name	M901-036	Time - GMT	0415
Latitude	9.28.3 N	Date - LOC	16 AUG 90
Longitude	133.52.4 W	Time - LOC	2015

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.14	33.76	0.12	0.02	--
20	28.10	34.02	0.11	0.02	--
40	28.10	34.58	0.19	0.06	--
60	22.65	34.81	0.26	0.12	--
80	15.58	34.25	0.31	0.26	--
100	13.53	34.36	0.20	0.25	--
125	12.51	34.38	0.09	0.14	--
150	12.54	34.25	0.05	0.06	--

Station No.	1-037	Date - GMT	17 AUG 90
Station Name	M901-037	Time - GMT	1317
Latitude	8. 0.5 N	Date - LOC	17 AUG 90
Longitude	134.19.8 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.42	34.16	0.16	0.05	3.03
10	28.44	34.15	--	--	3.88
20	28.37	34.14	0.18	0.06	4.46
27	28.39	34.19	--	--	3.08
40	28.39	34.20	0.21	0.08	3.18
60	28.22	34.45	0.33	0.19	0.64
80	22.53	34.65	0.27	0.23	--
100	18.25	34.24	0.20	0.25	0.12
125	14.45	34.17	0.10	0.18	--
150	12.87	34.09	0.03	1.04	--

Station No.	1-038	Date - GMT	18 AUG 90
Station Name	M901-038	Time - GMT	0416
Latitude	5.36.0 N	Date - LOC	17 AUG 90
Longitude	134.41.8 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.19	34.48	0.23	0.08	--
20	28.16	34.50	0.27	0.09	--
40	28.12	34.50	0.27	0.12	--
60	27.30	34.71	0.29	0.12	--
80	27.26	34.76	0.24	0.13	--
100	25.84	34.78	0.30	0.27	--
125	22.14	34.72	0.19	0.22	--
150	16.26	34.22	0.12	0.17	--

Station No.	1-039	Date - GMT	18 AUG 90
Station Name	M901-039	Time - GMT	1316
Latitude	6.49.8 N	Date - LOC	18 AUG 90
Longitude	135.10.7 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.54	34.40	0.24	0.11	3.00
10	28.56	34.38	--	--	4.31
20	28.59	34.39	0.24	0.11	5.12
27	28.48	34.40	--	--	5.62
40	28.58	34.37	0.23	0.11	2.57
60	28.54	34.39	0.25	0.10	0.60
80	26.94	34.64	0.28	0.29	--
100	21.38	34.63	0.19	0.21	0.15
125	17.11	34.35	0.16	0.21	--
150	13.50	34.28	0.06	0.08	--

Station No.	1-040	Date - GMT	19 AUG 90
Station Name	M901-040	Time - GMT	0416
Latitude	9.28.0 N	Date - LOC	18 AUG 90
Longitude	135.42.8 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.51	33.93	0.18	0.06	--
20	28.52	33.93	0.18	0.06	--
40	28.59	34.07	0.23	0.09	--
60	26.56	34.49	0.28	0.18	--
80	18.28	34.36	0.26	0.26	--
100	14.11	34.05	0.18	0.21	--
125	12.98	34.23	0.06	0.14	--
150	12.47	34.08	0.02	0.03	--

Station No.	1-041	Date - GMT	19 AUG 90
Station Name	M901-041	Time - GMT	1317
Latitude	10.47.2 N	Date - LOC	19 AUG 90
Longitude	136. 1.7 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.20	33.51	0.17	0.04	4.53
10	28.28	34.72	--	--	5.58
20	28.57	34.08	0.18	0.05	4.85
27	28.63	34.08	--	--	4.03
40	28.67	34.26	0.23	0.08	2.65
60	25.24	34.53	0.28	0.15	0.65
80	17.18	34.14	0.20	0.17	--
100	14.35	34.13	0.19	0.23	0.03
125	13.20	34.21	0.08	0.19	--
150	12.49	34.13	0.04	0.08	--

Station No.	1-042	Date - GMT	20 AUG 90
Station Name	M901-042	Time - GMT	0415
Latitude	11.59.6 N	Date - LOC	19 AUG 90
Longitude	136.40.5 W	Time - LOC	2015

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.62	33.82	0.10	0.02	--
20	28.61	33.93	0.14	0.03	--
40	28.25	34.48	0.19	0.06	--
60	20.43	34.24	0.29	0.18	--
80	15.37	34.20	0.21	0.19	--
100	13.72	34.29	0.17	0.24	--
125	13.01	34.22	0.07	0.10	--
150	12.49	34.22	0.04	0.05	--

Station No.	1-043	Date - GMT	20 AUG 90
Station Name	M901-043	Time - GMT	1415
Latitude	11. 7.5 N	Date - LOC	20 AUG 90
Longitude	137.27.8 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.42	33.83	0.23	0.08	3.42
10	28.36	33.90	--	--	4.62
20	28.35	33.89	0.17	0.05	3.99
27	28.35	34.90	--	--	3.93
40	28.35	34.30	0.25	0.10	2.47
60	27.39	34.57	0.27	0.12	0.74
80	15.34	34.16	0.21	0.25	--
100	13.78	34.17	0.19	0.27	0.23
125	12.80	34.33	0.10	0.19	--
150	12.17	34.41	0.03	0.06	--

Station No.	1-044	Date - GMT	21 AUG 90
Station Name	M901-044	Time - GMT	0425
Latitude	8.59.2 N	Date - LOC	20 AUG 90
Longitude	138.34.0 W	Time - LOC	1945

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.43	33.89	0.14	0.03	--
20	28.42	33.94	0.14	0.04	--
40	28.47	34.03	0.21	0.09	--
60	22.22	34.46	0.30	0.22	--
80	14.88	34.22	0.10	0.16	--
100	13.34	34.38	0.01	0.05	--
125	12.56	--	0.09	0.14	--
150	11.86	34.21	0.21	0.24	--

Station No.	1-045	Date - GMT	21 AUG 90
Station Name	M901-045	Time - GMT	1345
Latitude	7.43.3 N	Date - LOC	21 AUG 90
Longitude	139.12.5 W	Time - LOC	0445

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.46	34.17	0.19	0.07	2.58
11	28.49	34.17	--	--	3.83
20	28.51	34.17	0.20	0.07	3.51
29	28.55	34.22	--	--	4.44
40	28.46	34.22	0.20	0.08	2.23
60	26.63	34.58	0.39	0.08	1.02
80	20.47	34.58	0.22	0.24	--
100	16.99	34.31	0.20	0.21	0.21
125	13.71	34.32	0.09	0.16	--
150	12.49	34.20	0.05	0.08	--

Station No.	1-046	Date - GMT	22 AUG 90
Station Name	M901-046	Time - GMT	0444
Latitude	8.57.8 N	Date - LOC	21 AUG 90
Longitude	140.14.3 W	Time - LOC	1944

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.48	33.93	0.12	0.03	--
20	28.47	33.97	0.11	0.07	--
40	28.67	34.18	--	--	--
60	25.20	34.57	--	--	--
80	18.88	34.33	0.27	0.26	--
100	14.43	34.05	0.20	0.23	--
125	13.02	34.28	0.07	0.15	--
150	12.39	34.19	0.03	0.04	--

Station No.	1-047	Date - GMT	22 AUG 90
Station Name	M901-047	Time - GMT	1421
Latitude	10. 7.2 N	Date - LOC	22 AUG 90
Longitude	141.11.6 W	Time - LOC	0521

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.31	33.88	0.16	0.06	3.89
10	28.26	33.94	--	--	9.85
20	28.30	34.91	0.17	0.05	3.18
27	28.27	34.93	--	--	2.68
40	27.62	34.56	0.22	0.10	1.52
60	20.37	34.36	0.25	0.29	0.46
80	14.18	34.15	0.21	0.22	--
100	13.25	34.22	0.11	0.22	0.23
125	12.59	34.37	0.05	0.14	--
150	12.05	34.28	0.04	0.13	--

Station No.	1-048	Date - GMT	23 AUG 90
Station Name	M901-048	Time - GMT	0444
Latitude	11.55.0 N	Date - LOC	22 AUG 90
Longitude	142.41.5 W	Time - LOC	1944

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.49	33.98	0.14	0.04	--
20	28.31	33.98	0.14	0.04	--
40	28.22	34.11	0.21	0.08	--
60	19.72	34.23	0.32	0.24	--
80	14.69	34.10	0.20	0.24	--
100	13.34	34.24	0.12	0.36	--
125	12.92	34.28	0.06	0.15	--
150	12.09	34.21	0.01	0.03	--

Station No.	1-049	Date - GMT	23 AUG 90
Station Name	M901-049	Time - GMT	1417
Latitude	12.48.0 N	Date - LOC	23 AUG 90
Longitude	143.47.4 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.15	34.37	0.12	0.02	1.28
10	28.14	34.38	--	--	3.12
20	27.99	34.46	0.12	0.02	3.07
27	27.96	34.45	--	--	3.04
40	27.56	34.69	0.12	0.03	1.25
60	26.75	34.57	0.18	0.06	0.49
80	22.65	34.48	0.24	0.13	--
100	20.36	34.68	0.28	0.34	0.98
125	17.54	34.35	0.13	0.23	--
150	13.99	33.59	0.09	0.12	--

Station No.	2-050	Date - GMT	03 SEP 90
Station Name	M902-050	Time - GMT	1416
Latitude	12.13.3 N	Date - LOC	03 SEP 90
Longitude	147. 8.8 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.66	34.22	0.08	0.01	0.96
11	28.76	34.23	--	--	3.42
20	28.74	34.20	0.10	0.01	2.76
29	28.59	34.23	--	--	2.04
40	28.29	34.34	0.11	0.02	1.14
60	26.77	34.52	0.22	0.10	0.55
80	20.07	34.26	0.30	0.25	--
100	16.33	34.20	0.25	0.28	0.54
125	13.32	34.02	0.10	0.20	--
150	12.03	33.89	0.05	0.04	--

Station No.	2-051	Date - GMT	04 SEP 90
Station Name	M902-051	Time - GMT	0504
Latitude	10.38.8 N	Date - LOC	03 SEP 90
Longitude	145.31.0 W	Time - LOC	2004

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.75	33.82	0.12	0.03	--
20	28.79	34.04	0.13	0.03	--
40	27.50	34.60	0.24	0.14	--
60	22.08	34.50	0.27	0.23	--
80	17.90	34.18	0.17	0.26	--
100	15.01	33.99	0.07	0.11	--
125	12.23	33.90	0.02	0.02	--
150	11.87	33.90	--	--	--

Station No.	2-052	Date - GMT	04 SEP 90
Station Name	M902-052	Time - GMT	1415
Latitude	9.32.8 N	Date - LOC	04 SEP 90
Longitude	144.26.9 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.56	33.47	0.14	0.04	2.55
11	28.76	33.81	--	--	3.88
20	28.80	33.86	0.14	0.04	2.82
29	28.73	34.21	--	--	2.34
40	27.87	34.60	0.16	0.05	0.96
60	21.21	34.42	0.20	0.14	0.19
80	17.99	34.16	0.26	0.22	--
100	13.89	34.01	0.20	0.19	0.08
125	12.67	34.23	0.07	0.34	--
150	12.36	34.31	0.03	0.05	--

Station No.	2-053	Date - GMT	05 SEP 90
Station Name	M902-053	Time - GMT	0447
Latitude	7.45.7 N	Date - LOC	04 SEP 90
Longitude	142.41.0 W	Time - LOC	1947

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.30	34.66	0.11	0.02	--
20	28.64	34.05	0.12	0.02	--
40	28.87	34.11	--	--	--
60	28.75	34.18	0.22	0.08	--
80	22.03	34.52	0.26	0.29	--
100	17.10	34.20	0.26	0.29	--
125	13.81	34.08	0.12	0.24	--
150	12.46	34.17	0.03	0.02	--

Station No.	2-054	Date - GMT	05 SEP 90
Station Name	M902-054	Time - GMT	1349
Latitude	6.44.0 N	Date - LOC	05 SEP 90
Longitude	141.39.1 W	Time - LOC	0449

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.59	34.34	0.15	0.03	1.63
11	28.66	34.33	--	--	3.06
20	28.65	34.33	0.15	0.04	3.60
29	28.65	34.31	--	--	3.67
40	28.65	34.45	0.22	0.07	2.60
60	28.70	34.56	0.33	0.14	1.05
80	28.16	34.81	0.32	0.26	--
100	22.34	34.48	0.23	0.26	0.24
125	17.87	34.25	0.18	0.26	--
150	13.22	34.13	0.06	0.09	--

Station No.	2-055	Date - GMT	06 SEP 90
Station Name	M902-055	Time - GMT	0438
Latitude	4.59.2 N	Date - LOC	05 SEP 90
Longitude	139.59.7 W	Time - LOC	1938

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.01	34.67	0.24	0.08	--
20	28.06	34.68	0.24	0.09	--
40	27.86	34.86	0.27	0.12	--
60	27.75	34.68	0.30	0.13	--
80	27.08	34.79	0.27	0.13	--
100	26.07	34.93	0.19	0.12	--
125	24.33	34.71	0.17	0.12	--
150	16.59	34.40	0.08	0.12	--

Station No.	2-056	Date - GMT	06 SEP 90
Station Name	M902-056	Time - GMT	1347
Latitude	5. 2.5 N	Date - LOC	06 SEP 90
Longitude	138.36.2 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.13	34.64	0.31	0.13	7.49
11	28.15	34.62	--	--	9.65
20	28.16	34.65	0.32	0.13	9.50
29	28.23	--	--	--	9.60
40	28.16	34.64	0.31	0.15	4.36
60	28.20	34.63	0.32	0.15	0.93
80	28.08	34.68	0.26	0.15	--
100	27.96	34.62	0.22	0.15	0.08
125	26.11	34.74	0.22	0.19	--
150	17.72	34.44	0.10	0.12	--

Station No.	2-057	Date - GMT	07 SEP 90
Station Name	M902-057	Time - GMT	0412
Latitude	5. 6.0 N	Date - LOC	06 SEP 90
Longitude	136.19.6 W	Time - LOC	1912

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.42	34.61	0.25	0.10	--
20	28.46	34.56	0.23	0.09	--
40	28.39	34.58	0.28	0.13	--
60	28.32	34.59	0.31	0.15	--
80	28.31	34.58	0.27	0.15	--
100	27.55	34.70	0.18	0.11	--
125	23.66	34.67	0.16	0.17	--
150	17.98	34.43	0.08	0.14	--

Station No.	2-058	Date - GMT	07 SEP 90
Station Name	M902-058	Time - GMT	1344
Latitude	5.11.2 N	Date - LOC	07 SEP 90
Longitude	135. 0.7 W	Time - LOC	0444

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.36	34.74	0.23	0.09	7.62
10	27.35	34.73	--	--	9.67
20	27.37	34.72	0.23	0.09	8.15
27	27.42	34.72	--	--	7.79
40	27.40	34.70	0.25	0.12	3.57
60	27.13	34.74	0.31	0.18	0.97
80	26.70	34.80	0.32	0.10	--
100	26.44	34.87	0.15	0.10	0.15
125	23.14	34.71	0.15	0.16	--
150	15.86	34.26	0.06	0.09	--

Station No.	2-059	Date - GMT	08 SEP 90
Station Name	M902-059	Time - GMT	0413
Latitude	5.13.6 N	Date - LOC	07 SEP 90
Longitude	133.14.7 W	Time - LOC	1914

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.81	34.63	0.26	0.10	--
20	27.79	34.63	0.28	0.11	--
40	27.79	34.62	0.36	0.15	--
60	27.53	34.64	0.38	0.22	--
80	27.30	34.69	--	--	--
100	26.79	34.80	0.31	0.19	--
125	25.96	34.84	0.20	0.17	--
150	17.60	34.47	0.07	0.15	--

Station No.	2-060	Date - GMT	08 SEP 90
Station Name	M902-060	Time - GMT	1318
Latitude	5.19.5 N	Date - LOC	08 SEP 90
Longitude	131.51.6 W	Time - LOC	0518

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.99	34.47	0.21	0.08	5.24
11	27.93	34.47	--	--	7.31
20	27.95	34.47	0.20	0.07	6.41
29	28.01	34.45	--	--	6.01
40	27.95	34.48	0.24	0.12	3.10
60	27.94	34.47	0.24	0.12	0.68
80	26.27	34.77	0.21	0.21	--
100	24.44	34.80	--	--	--
125	18.10	34.47	0.10	0.15	--
150	13.23	34.16	0.03	0.07	--

Station No.	2-061	Date - GMT	09 SEP 90
Station Name	M902-061	Time - GMT	0349
Latitude	6.51.3 N	Date - LOC	08 SEP 90
Longitude	130.19.3 W	Time - LOC	1949

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.25	34.33	0.20	0.07	--
20	28.21	34.36	0.19	0.07	--
40	28.24	34.34	0.19	0.07	--
60	28.17	34.42	0.28	0.16	--
80	28.07	34.47	0.31	0.22	--
100	21.98	34.58	0.20	0.31	--
125	16.41	34.21	0.11	0.15	--
150	13.29	34.23	0.04	0.08	--

Station No.	2-062	Date - GMT	09 SEP 90
Station Name	M902-062	Time - GMT	1316
Latitude	7.48.8 N	Date - LOC	09 SEP 90
Longitude	129. 1.5 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.52	34.18	0.23	0.09	2.60
11	28.55	34.13	--	--	3.43
20	28.50	34.11	0.22	0.08	5.35
29	28.47	34.14	--	--	3.93
40	28.53	34.10	0.21	0.09	1.65
60	28.47	34.17	0.23	0.09	0.38
80	23.78	34.53	0.31	0.31	--
100	20.24	34.41	0.27	0.30	0.56
125	16.65	34.11	0.21	0.29	--
150	14.01	34.97	0.10	0.17	--

Station No. 2-063
 Station Name M902-063
 Latitude 6.46.7 N
 Longitude 127.20.3 W

Date - GMT 10 SEP 90
 Time - GMT 0344
 Date - LOC 09 SEP 90
 Time - LOC 1944

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.16	34.19	0.24	0.09	--
20	28.14	34.21	0.26	0.11	--
40	28.14	34.22	0.26	0.11	--
60	28.04	34.40	0.40	0.23	--
80	26.71	34.69	0.32	0.38	--
100	20.68	34.61	0.23	0.30	--
125	15.99	34.19	0.11	0.23	--
150	13.43	34.29	0.05	0.12	--

Station No. 2-064
 Station Name M902-064
 Latitude 5.47.0 N
 Longitude 126.13.5 W

Date - GMT 10 SEP 90
 Time - GMT 1314
 Date - LOC 10 SEP 90
 Time - LOC 0514

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.60	34.37	0.22	0.10	5.68
10	27.60	34.36	--	--	7.95
20	27.67	34.33	0.25	0.08	8.23
27	27.64	34.34	--	--	6.19
40	27.33	34.59	0.28	0.12	3.47
60	27.23	34.55	0.30	0.14	0.74
80	27.03	34.63	0.27	0.14	--
100	24.02	34.71	0.21	0.23	0.10
125	17.25	34.38	0.13	0.21	--
150	13.68	34.33	0.05	0.10	--

Station No.	2-065	Date - GMT	11 SEP 90
Station Name	M902-065	Time - GMT	0342
Latitude	4.17.9 N	Date - LOC	10 SEP 90
Longitude	124.37.8 W	Time - LOC	1942

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.14	34.58	0.26	0.09	--
20	26.13	34.58	0.25	0.09	--
40	26.04	34.55	0.26	0.10	--
60	26.04	34.59	0.28	0.12	--
80	25.71	34.55	0.26	0.15	--
100	23.47	34.59	0.19	0.20	--
125	16.01	34.47	0.13	0.15	--
150	13.77	34.56	0.04	0.07	--

Station No.	2-066	Date - GMT	11 SEP 90
Station Name	M902-066	Time - GMT	1243
Latitude	3.28.9 N	Date - LOC	11 SEP 90
Longitude	123.44.7 W	Time - LOC	0443

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.79	34.50	0.24	0.10	7.93
9	26.84	34.48	--	--	10.26
16	26.90	34.45	--	--	9.57
20	26.90	34.46	0.23	0.09	8.02
40	26.19	34.57	0.34	0.20	4.24
60	24.46	34.55	0.31	0.24	1.10
80	23.82	34.63	0.30	0.25	0.50
100	15.58	34.54	0.15	0.25	--
125	14.28	34.51	0.07	0.12	--
150	13.88	34.49	0.04	0.07	--

Station No.	2-067	Date - GMT	12 SEP 90
Station Name	M902-067	Time - GMT	0315
Latitude	2.56.8 N	Date - LOC	11 SEP 90
Longitude	122. 6.6 W	Time - LOC	1915

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.08	34.43	0.21	0.13	--
20	25.14	34.40	0.26	0.10	--
40	24.49	34.51	0.32	0.18	--
60	23.55	34.70	0.30	0.18	--
80	22.95	34.65	0.27	0.20	--
100	17.85	34.51	0.22	0.35	--
125	14.25	34.44	0.07	0.12	--
150	13.89	34.59	0.04	0.08	--

Station No.	2-068	Date - GMT	12 SEP 90
Station Name	M902-068	Time - GMT	1245
Latitude	3.10.7 N	Date - LOC	12 SEP 90
Longitude	120.57.7 W	Time - LOC	0445

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.34	34.40	0.30	0.13	10.27
10	25.32	34.42	--	--	11.62
20	25.44	34.37	0.29	0.14	10.95
27	25.36	34.38	--	--	9.10
40	25.34	34.41	0.26	0.18	3.07
60	24.49	34.53	0.21	0.17	0.79
80	23.10	34.62	0.22	0.21	--
100	22.27	34.63	0.19	0.25	0.13
125	16.93	34.49	0.19	0.27	--
150	14.29	34.49	0.09	0.14	--

Station No.	2-069	Date - GMT	13 SEP 90
Station Name	M902-069	Time - GMT	0314
Latitude	3.39.7 N	Date - LOC	12 SEP 90
Longitude	119. 0.1 W	Time - LOC	1914

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.99	34.36	0.24	0.08	--
20	26.96	34.40	0.23	0.11	--
40	26.73	34.43	0.33	0.15	--
60	26.31	34.34	0.31	0.19	--
80	25.45	34.47	0.20	0.17	--
100	22.75	34.49	0.18	0.25	--
125	16.42	34.44	0.14	0.16	--
150	14.36	34.50	0.07	0.13	--

Station No.	2-070	Date - GMT	13 SEP 90
Station Name	M902-070	Time - GMT	1215
Latitude	3.27.4 N	Date - LOC	13 SEP 90
Longitude	117.40.3 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.39	34.13	0.18	0.07	3.57
9	27.40	34.12	--	--	5.79
16	27.39	34.15	--	--	5.48
20	27.45	34.13	0.20	0.07	4.17
40	27.38	34.14	0.22	0.08	2.14
60	27.25	34.29	0.22	0.08	0.40
80	25.25	34.57	0.31	0.13	0.36
100	17.84	34.49	0.16	0.17	--
125	14.31	34.37	0.07	0.10	--
150	13.81	34.51	0.02	0.04	--

Station No.	2-071	Date - GMT	14 SEP 90
Station Name	M902-071	Time - GMT	0244
Latitude	2.44.4 N	Date - LOC	13 SEP 90
Longitude	115.21.1 W	Time - LOC	1944

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.08	34.35	--	--	--
20	25.97	34.34	--	--	--
40	25.93	34.34	0.22	0.07	--
60	25.75	34.36	0.23	0.07	--
80	22.73	34.49	0.25	0.12	--
100	14.96	34.52	0.26	0.10	--
125	14.13	34.53	0.35	0.29	--
150	13.49	34.63	0.08	0.10	--

Station No.	2-072	Date - GMT	14 SEP 90
Station Name	M902-072	Time - GMT	1217
Latitude	2.23.4 N	Date - LOC	14 SEP 90
Longitude	114. 0.2 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.28	34.17	0.28	0.10	11.08
9	26.26	34.19	--	--	13.82
16	26.25	34.16	--	--	10.56
20	24.88	34.36	0.28	0.11	7.80
40	23.88	34.49	0.30	0.14	3.49
60	23.23	34.65	0.25	0.14	0.70
80	21.20	34.57	0.22	0.24	0.19
100	15.04	34.54	0.22	0.24	--
125	14.16	34.61	0.12	0.17	--
150	13.86	34.54	0.06	0.05	--

Station No.	2-073	Date - GMT	15 SEP 90
Station Name	M902-073	Time - GMT	0242
Latitude	2. 9.9 N	Date - LOC	14 SEP 90
Longitude	112. 1.1 W	Time - LOC	1942

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.74	34.09	0.26	0.08	--
20	24.63	34.21	0.27	0.09	--
40	24.50	34.18	0.27	0.10	--
60	21.95	34.53	0.49	0.38	--
80	19.22	34.57	0.37	0.39	--
100	16.37	34.53	0.27	0.27	--
125	14.53	34.52	0.11	0.13	--
150	13.97	34.53	0.04	0.05	--

Station No.	2-074	Date - GMT	15 SEP 90
Station Name	M902-074	Time - GMT	1214
Latitude	2. 2.3 N	Date - LOC	15 SEP 90
Longitude	110.46.3 W	Time - LOC	0514

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.68	34.30	0.32	0.18	11.78
9	23.68	34.27	--	--	13.58
16	23.69	34.29	--	--	8.91
20	23.74	34.26	0.31	0.17	7.91
40	23.63	34.26	0.32	0.19	3.18
60	23.25	34.27	0.34	0.21	0.94
80	18.57	34.67	0.31	0.29	0.29
100	15.46	34.57	0.15	0.26	--
125	14.33	34.52	0.11	0.15	--
150	14.14	34.58	0.06	0.11	--

Station No.	2-075	Date - GMT	16 SEP 90
Station Name	M902-075	Time - GMT	0214
Latitude	1.50.2 N	Date - LOC	15 SEP 90
Longitude	109.24.4 W	Time - LOC	1914

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.89	34.11	0.24	0.10	--
20	25.94	34.07	0.24	0.10	--
40	24.63	34.27	0.36	0.25	--
60	21.51	34.59	0.34	0.31	--
80	17.23	34.59	0.23	0.38	--
100	15.71	34.42	0.20	0.27	--
125	14.56	34.33	0.08	0.11	--
150	14.29	34.47	0.03	0.06	--

Station No.	2-076	Date - GMT	16 SEP 90
Station Name	M902-076	Time - GMT	1150
Latitude	1.41.1 N	Date - LOC	16 SEP 90
Longitude	108.15.4 W	Time - LOC	0450

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.10	34.06	0.25	0.13	10.36
9	26.11	34.03	--	--	11.35
16	26.12	34.04	--	--	9.28
20	26.16	34.04	0.25	0.13	6.57
40	25.72	34.08	0.22	0.14	2.37
60	21.59	34.42	0.34	0.33	1.00
80	17.24	34.62	0.24	0.41	0.12
100	15.14	34.51	0.13	0.31	--
125	14.55	34.58	0.05	0.09	--
150	14.11	34.60	0.05	0.07	--

Station No.	2-077	Date - GMT	17 SEP 90
Station Name	M902-077	Time - GMT	0212
Latitude	3. 3.1 N	Date - LOC	16 SEP 90
Longitude	106.59.1 W	Time - LOC	1912

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.58	34.96	0.23	0.09	--
20	26.59	34.95	0.26	0.09	--
40	24.72	34.32	0.31	0.20	--
60	23.69	34.33	0.30	0.33	--
80	21.86	34.55	0.20	0.27	--
100	15.28	34.45	0.11	0.22	--
125	14.74	34.33	0.05	0.11	--
150	14.45	34.45	0.04	0.07	--

Station No.	2-078	Date - GMT	17 SEP 90
Station Name	M902-078	Time - GMT	1119
Latitude	3.23.4 N	Date - LOC	17 SEP 90
Longitude	105.38.9 W	Time - LOC	0519

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.85	33.85	0.24	0.11	6.32
8	26.87	33.83	--	--	7.30
14	26.85	33.83	--	--	7.23
20	26.84	33.84	0.24	0.10	5.06
40	26.84	33.87	0.24	0.06	1.82
60	24.03	34.47	0.29	0.24	0.74
80	19.89	34.48	0.27	0.32	0.22
100	14.68	34.59	0.12	0.17	--
125	14.10	34.45	0.06	0.10	--
150	13.87	34.56	0.17	0.21	--

Station No.	2-079	Date - GMT	18 SEP 90
Station Name	M902-079	Time - GMT	0214
Latitude	2.45.3 N	Date - LOC	17 SEP 90
Longitude	103.29.3 W	Time - LOC	2014

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.37	34.01	0.23	0.07	--
20	25.67	34.00	0.33	0.24	--
40	24.36	34.18	--	--	--
60	22.98	34.40	0.39	0.19	--
80	16.50	34.60	0.37	0.23	--
100	14.91	34.51	0.25	0.24	--
125	14.31	34.50	0.15	0.22	--
150	13.89	34.49	0.07	0.10	--

Station No.	2-080	Date - GMT	18 SEP 90
Station Name	M902-080	Time - GMT	1115
Latitude	1.42.7 N	Date - LOC	18 SEP 90
Longitude	102.53.5 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.14	33.73	0.26	0.10	8.03
8	26.11	33.73	--	--	11.21
13	26.13	33.74	--	--	7.88
20	26.11	33.80	0.26	0.11	5.05
40	22.58	34.32	0.34	0.31	1.74
60	18.13	34.58	0.34	0.46	0.42
80	15.98	34.45	0.24	0.29	0.05
100	15.11	34.50	0.16	0.23	--
125	14.43	34.51	0.05	0.10	--
150	13.88	34.38	0.02	0.05	--

Station No.	2-081	Date - GMT	19 SEP 90
Station Name	M902-081	Time - GMT	0213
Latitude	0.15.9 N	Date - LOC	18 SEP 90
Longitude	101.40.9 W	Time - LOC	2013

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.02	34.47	0.34	0.10	--
20	21.21	34.54	0.52	0.22	--
40	21.06	34.49	0.51	0.25	--
60	18.34	34.56	0.49	0.39	--
80	16.02	34.44	0.25	0.23	--
100	15.39	34.50	0.17	0.16	--
125	14.64	34.65	0.06	0.05	--
150	13.99	34.50	0.02	0.02	--

Station No.	2-082	Date - GMT	19 SEP 90
Station Name	M902-082	Time - GMT	1114
Latitude	0.29.4 N	Date - LOC	19 SEP 90
Longitude	100.21.8 W	Time - LOC	0514

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.67	34.62	0.34	0.12	17.05
8	21.61	34.59	--	--	16.59
14	21.54	34.62	--	--	13.90
20	21.42	34.66	0.39	0.16	10.08
40	21.04	34.59	0.46	0.23	4.11
60	20.83	34.56	0.23	0.11	1.09
80	15.28	34.52	0.17	0.15	0.10
100	14.79	34.45	0.08	0.09	--
125	14.84	34.64	0.06	0.04	--
150	14.39	34.50	0.04	0.04	--

Station No.	2-083	Date - GMT	20 SEP 90
Station Name	M902-083	Time - GMT	0145
Latitude	0.49.6 N	Date - LOC	19 SEP 90
Longitude	98.28.9 W	Time - LOC	1945

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.78	34.05	0.25	0.10	--
20	23.67	34.09	0.25	0.10	--
40	21.87	34.56	0.29	0.10	--
60	21.24	34.61	0.38	0.14	--
80	16.34	34.68	0.36	0.36	--
100	14.57	34.61	0.12	0.12	--
125	14.01	34.55	0.05	0.07	--
150	13.72	34.53	0.02	0.04	--

Station No.	2-084	Date - GMT	20 SEP 90
Station Name	M902-084	Time - GMT	1116
Latitude	1. 1.7 N	Date - LOC	20 SEP 90
Longitude	97.12.3 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.30	33.88	0.26	0.13	9.07
8	24.32	33.91	--	--	4.25
13	24.42	33.89	--	--	6.33
20	24.32	33.91	0.25	0.13	5.15
40	21.15	34.51	0.30	0.22	1.38
60	21.06	34.62	0.09	0.06	0.33
80	16.03	34.51	0.26	0.21	0.15
100	15.43	34.52	0.20	0.19	--
125	14.44	34.45	0.07	0.12	--
150	13.74	34.48	0.06	0.08	--

Station No.	2-085	Date - GMT	21 SEP 90
Station Name	M902-085	Time - GMT	0144
Latitude	1.25.3 N	Date - LOC	20 SEP 90
Longitude	95. 4.1 W	Time - LOC	1944

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.86	33.73	0.37	0.15	--
20	24.83	33.76	0.35	0.14	--
40	20.24	34.42	0.34	0.30	--
60	18.04	34.56	0.33	0.40	--
80	15.64	34.55	0.33	0.40	--
100	14.51	34.52	0.13	0.16	--
125	14.20	34.53	0.04	0.07	--
150	13.88	34.51	0.03	0.05	--

Station No.	2-086	Date - GMT	21 SEP 90
Station Name	M902-086	Time - GMT	1046
Latitude	1.24.4 N	Date - LOC	21 SEP 90
Longitude	93.51.5 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.58	33.46	0.30	0.13	12.57
8	25.61	33.44	--	--	11.10
13	25.56	33.53	--	--	6.29
20	25.61	33.44	0.29	0.14	5.72
40	20.76	34.33	0.29	0.14	2.13
60	18.23	34.43	0.41	0.44	0.50
80	17.13	34.49	0.25	0.38	0.09
100	15.43	34.45	0.18	0.30	--
125	14.04	34.34	0.02	0.06	--
150	14.11	34.31	0.08	0.15	--

Station No.	2-087	Date - GMT	22 SEP 90
Station Name	M902-087	Time - GMT	1051
Latitude	1.19.0 S	Date - LOC	22 SEP 90
Longitude	92.13.9 W	Time - LOC	0451

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.28	34.54	0.54	0.17	38.17
8	20.35	34.51	--	--	28.32
13	20.14	34.51	--	--	13.62
20	19.80	34.65	0.49	0.20	10.24
40	19.19	34.69	0.43	0.33	2.51
60	16.46	34.76	0.29	0.31	0.49
80	14.83	34.61	0.15	0.19	0.04
100	14.35	34.53	0.06	0.07	--
125	13.98	34.56	0.02	0.04	--
150	13.83	34.54	0.04	0.06	--

Station No.	2-088	Date - GMT	23 SEP 90
Station Name	M902-088	Time - GMT	0115
Latitude	1.49.1 S	Date - LOC	22 SEP 90
Longitude	90.49.0 W	Time - LOC	1915

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.76	34.22	0.63	0.15	20.39
20	19.09	34.51	0.64	0.32	15.58
40	18.26	34.67	0.55	0.45	6.03
60	16.33	34.66	0.25	0.25	0.90
80	15.83	34.63	0.19	0.18	0.08
100	15.02	34.53	0.10	0.16	--
125	14.41	34.58	0.10	0.16	--
150	14.24	34.57	0.04	0.05	--

Station No.	2-089	Date - GMT	23 SEP 90
Station Name	M902-089	Time - GMT	1043
Latitude	1.55.8 S	Date - LOC	23 SEP 90
Longitude	89.27.9 W	Time - LOC	0443

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.78	34.61	0.38	0.14	--
8	20.69	34.63	--	--	--
13	20.60	34.64	--	--	--
20	19.90	34.57	0.47	0.24	--
40	18.21	34.65	0.55	0.51	--
60	16.80	34.69	0.38	0.47	--
80	16.30	34.75	0.25	0.28	--
100	15.11	34.71	0.12	0.17	--
125	15.01	34.67	0.10	0.14	--
150	15.00	34.57	0.10	0.14	--

Station No.	2-090	Date - GMT	24 SEP 90
Station Name	M902-090	Time - GMT	0113
Latitude	2. 0.3 S	Date - LOC	23 SEP 90
Longitude	87.26.5 W	Time - LOC	1913

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.46	34.87	0.38	0.13	--
20	19.29	34.86	0.46	0.29	--
40	18.32	34.72	0.47	0.44	--
60	16.31	34.69	0.19	0.25	--
80	16.03	34.63	0.15	0.18	--
100	15.58	34.67	0.15	0.18	--
125	15.02	34.71	0.02	0.06	--
150	14.94	34.61	0.02	0.05	--

Station No.	2-091	Date - GMT	24 SEP 90
Station Name	M902-091	Time - GMT	1046
Latitude	1. 7.7 S	Date - LOC	24 SEP 90
Longitude	86.15.6 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.78	34.46	0.32	0.15	18.84
12	20.35	34.63	--	--	16.07
20	18.64	34.78	0.42	0.34	11.19
29	18.13	34.77	--	--	4.15
40	16.99	34.75	0.21	0.20	0.41
60	16.20	34.69	0.16	0.18	0.06
80	15.97	34.49	0.11	0.21	--
100	15.60	34.55	0.05	0.10	--
125	15.15	34.37	0.02	0.05	--
150	14.95	34.52	0.02	0.06	--

Station No.	2-092	Date - GMT	25 SEP 90
Station Name	M902-092	Time - GMT	0111
Latitude	0.10.7 N	Date - LOC	24 SEP 90
Longitude	85. 3.7 W	Time - LOC	1911

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.50	33.62	0.66	0.22	--
20	24.54	33.59	0.66	0.18	--
40	18.16	34.44	0.57	0.50	--
60	16.79	34.52	0.33	0.37	--
80	16.03	34.50	0.18	0.24	--
100	15.52	34.48	0.08	0.14	--
125	15.00	34.45	0.03	0.18	--
150	14.80	34.45	0.05	0.06	--

Station No.	2-093	Date - GMT	25 SEP 90
Station Name	M902-093	Time - GMT	1046
Latitude	0.42.6 N	Date - LOC	25 SEP 90
Longitude	85.55.0 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.85	33.76	0.28	0.13	17.24
12	25.00	33.75	--	--	13.22
20	25.01	33.73	0.27	0.14	8.18
29	25.03	33.70	--	--	3.09
40	18.05	34.43	0.35	0.40	0.41
60	16.91	34.51	0.40	0.47	0.22
80	15.90	34.54	0.17	0.25	--
100	15.70	34.43	0.10	0.19	--
125	15.29	34.47	0.04	0.06	--
150	15.04	34.37	0.02	0.08	--

Station No.	2-094	Date - GMT	26 SEP 90
Station Name	M902-094	Time - GMT	0117
Latitude	1.58.0 N	Date - LOC	25 SEP 90
Longitude	87.56.9 W	Time - LOC	1917

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.00	33.77	0.25	0.11	--
20	24.97	33.74	0.27	0.12	--
40	18.98	34.69	0.30	0.28	--
60	16.86	34.67	0.31	0.33	--
80	16.10	34.64	0.16	0.27	--
100	15.93	34.66	0.09	0.18	--
125	15.36	34.66	0.02	0.12	--
150	15.20	34.38	0.02	0.05	--

Station No.	2-099	Date - GMT	28 SEP 90
Station Name	M902-099	Time - GMT	1043
Latitude	6.23.9 N	Date - LOC	28 SEP 90
Longitude	86.33.0 W	Time - LOC	0443

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.47	32.61	0.35	0.19	13.26
8	27.48	32.51	--	--	11.40
13	27.46	32.55	--	--	8.61
20	23.18	34.22	0.38	0.51	4.75
40	16.86	34.56	0.23	0.28	0.75
60	15.44	34.44	0.15	0.18	0.10
80	14.88	34.55	0.09	0.16	0.06
100	14.59	34.50	0.06	0.11	--
125	14.26	34.45	0.03	0.06	--
150	14.10	34.51	0.02	0.05	--

Station No.	2-100	Date - GMT	29 SEP 90
Station Name	M902-100	Time - GMT	0044
Latitude	8.23.1 N	Date - LOC	28 SEP 90
Longitude	85.31.3 W	Time - LOC	1855

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.65	31.34	0.54	0.39	--
20	22.37	33.80	0.40	0.49	--
40	18.51	34.45	0.25	0.30	--
60	17.35	34.46	0.22	0.24	--
80	16.49	34.46	0.08	0.13	--
100	15.10	34.49	0.04	0.06	--
125	14.76	34.40	0.02	0.05	--
150	14.23	34.46	0.17	0.07	--

Station No.	3-101	Date - GMT	05 OCT 90
Station Name	M903-101	Time - GMT	1026
Latitude	8. 5.9 N	Date - LOC	05 OCT 90
Longitude	84.57.6 W	Time - LOC	0526

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.87	31.52	0.18	0.07	6.71
12	27.73	31.76	--	--	0.32
20	26.53	32.98	0.29	0.14	6.08
29	20.24	34.45	--	--	2.99
40	19.76	34.45	0.64	0.74	7.87
60	18.18	34.54	0.53	0.47	0.24
80	16.99	34.57	0.38	0.28	--
100	16.12	34.62	0.20	0.18	--
125	14.98	34.57	0.09	0.17	--
150	14.31	34.52	0.03	0.07	--

Station No.	3-102	Date - GMT	06 OCT 90
Station Name	M903-102	Time - GMT	0051
Latitude	6. 4.5 N	Date - LOC	05 OCT 90
Longitude	85.18.8 W	Time - LOC	1951

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.24	31.68	0.29	0.09	--
20	27.10	31.84	0.34	0.15	--
40	18.23	34.54	0.58	0.50	--
60	16.98	34.35	0.21	0.23	--
80	15.65	34.35	0.07	0.11	--
100	15.36	34.52	0.05	0.08	--
125	14.85	34.26	0.02	0.05	--
150	14.41	34.31	0.01	0.05	--

Station No.	3-103	Date - GMT	06 OCT 90
Station Name	M903-103	Time - GMT	1015
Latitude	5.10.8 N	Date - LOC	06 OCT 90
Longitude	85.23.4 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.07	32.36	0.32	0.14	20.06
8	27.13	32.37	--	--	22.49
13	27.09	32.37	--	--	18.39
20	27.02	32.35	0.32	0.13	12.29
40	19.98	34.34	0.50	0.44	5.10
60	16.56	34.43	0.28	0.36	0.66
80	15.42	34.45	0.12	0.13	0.17
100	14.86	34.45	0.06	0.08	--
125	14.63	34.43	0.01	0.06	--
150	14.19	34.39	0.01	0.04	--

Station No.	3-104	Date - GMT	07 OCT 90
Station Name	M903-104	Time - GMT	0045
Latitude	3.22.4 N	Date - LOC	06 OCT 90
Longitude	85.40.2 W	Time - LOC	1945

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.77	32.48	0.25	0.09	--
20	26.76	32.48	0.26	0.09	--
40	18.85	34.52	0.48	0.35	--
60	16.78	34.48	0.33	0.39	--
80	16.26	34.48	0.16	0.27	--
100	15.64	34.47	0.06	0.15	--
125	15.09	34.40	0.02	0.06	--
150	14.78	34.34	0.01	0.05	--

Station No.	3-105	Date - GMT	07 OCT 90
Station Name	M903-105	Time - GMT	1016
Latitude	2.58.7 N	Date - LOC	07 OCT 90
Longitude	86.29.7 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.55	32.48	0.24	0.11	18.35
8	26.56	32.54	--	--	12.17
13	26.57	32.49	--	--	17.92
20	26.62	32.47	0.23	0.09	10.43
40	17.98	34.52	0.44	0.40	2.48
60	16.53	34.53	0.31	0.45	0.68
80	16.02	34.53	0.19	0.28	0.70
100	15.84	34.37	0.10	0.20	--
125	15.70	34.53	0.04	0.09	--
150	15.40	34.55	0.04	0.08	--

Station No.	3-106	Date - GMT	08 OCT 90
Station Name	M903-106	Time - GMT	0047
Latitude	3.17.2 N	Date - LOC	07 OCT 90
Longitude	88.39.2 W	Time - LOC	1947

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.49	32.83	0.26	0.11	--
20	26.49	32.82	0.28	0.12	--
40	22.46	34.26	0.48	0.36	--
60	17.31	34.57	0.34	0.50	--
80	16.20	34.54	0.16	0.29	--
100	15.63	34.40	0.07	0.12	--
125	14.97	34.41	0.01	0.04	--
150	14.49	34.34	0.01	0.03	--

Station No.	3-107	Date - GMT	08 OCT 90
Station Name	M903-107	Time - GMT	1016
Latitude	3.34.6 N	Date - LOC	08 OCT 90
Longitude	89.56.3 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.37	32.92	0.19	0.08	--
20	26.49	32.90	0.19	0.06	--
40	20.01	34.39	0.41	0.30	--
60	17.83	34.53	0.41	0.43	--
80	16.93	34.45	0.30	0.40	--
100	16.36	34.56	0.18	0.25	--
125	15.80	34.38	0.08	0.12	--
150	15.02	34.39	0.05	0.08	--

Station No.	3-108	Date - GMT	09 OCT 90
Station Name	M903-108	Time - GMT	0049
Latitude	5.43.0 N	Date - LOC	08 OCT 90
Longitude	88.57.9 W	Time - LOC	1949

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.91	32.10	0.17	0.08	--
20	27.00	32.06	0.17	0.08	--
40	26.19	33.28	0.43	0.28	--
60	19.69	34.35	0.37	0.52	--
80	17.27	34.35	0.23	0.39	--
100	15.38	34.36	0.11	0.26	--
125	14.58	34.32	0.05	0.10	--
150	14.13	34.44	0.04	0.08	--

Station No.	3-109	Date - GMT	09 OCT 90
Station Name	M903-109	Time - GMT	1016
Latitude	7. 2.1 N	Date - LOC	09 OCT 90
Longitude	88.21.1 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.07	32.76	0.29	0.15	15.92
8	27.09	32.75	--	--	20.09
13	--	32.72	--	--	18.05
20	27.07	32.88	0.29	0.16	12.68
40	22.02	34.17	0.38	0.51	3.41
60	17.46	34.42	0.21	0.28	0.42
80	15.38	34.35	0.10	0.23	0.19
100	14.64	34.36	0.08	0.12	--
125	14.26	34.38	0.01	0.05	--
150	13.82	34.31	0.00	0.04	--

Station No.	3-110	Date - GMT	10 OCT 90
Station Name	M903-110	Time - GMT	0048
Latitude	9.10.0 N	Date - LOC	09 OCT 90
Longitude	87.27.3 W	Time - LOC	1948

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.39	33.49	1.50	0.26	--
20	16.45	34.38	1.44	0.32	--
40	14.79	34.33	0.33	0.51	--
60	14.18	34.35	0.19	0.34	--
80	13.90	34.34	0.06	0.08	--
100	13.67	34.39	0.03	0.05	--
125	13.30	34.33	0.01	0.03	--
150	13.29	--	0.01	0.02	--

Station No.	3-111	Date - GMT	10 OCT 90
Station Name	M903-111	Time - GMT	1017
Latitude	9.49.6 N	Date - LOC	10 OCT 90
Longitude	87.47.1 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.14	33.16	1.31	0.26	60.63
12	21.23	34.24	0.57	0.77	18.28
20	17.52	34.29	0.47	0.79	6.94
29	16.15	34.33	0.22	0.43	1.12
40	14.99	34.33	0.17	0.34	0.35
60	14.35	34.26	0.07	0.17	0.17
80	14.14	34.31	0.03	0.10	--
100	13.58	34.32	0.02	0.06	--
125	13.40	34.22	0.01	0.05	--
150	13.02	34.14	0.01	0.06	--

Station No.	3-112	Date - GMT	11 OCT 90
Station Name	M903-112	Time - GMT	0121
Latitude	9.27.2 N	Date - LOC	10 OCT 90
Longitude	90. 2.5 W	Time - LOC	2021

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.62	32.44	0.15	0.05	--
20	20.40	34.34	0.34	0.25	--
40	16.43	34.26	0.33	0.36	--
60	14.82	34.39	0.14	0.21	--
80	14.27	34.33	0.04	0.06	--
100	14.06	34.19	0.02	0.06	--
125	13.69	34.17	0.01	0.04	--
150	12.95	34.20	0.02	0.04	--

Station No.	3-113	Date - GMT	11 OCT 90
Station Name	M903-113	Time - GMT	1016
Latitude	8.52.0 N	Date - LOC	11 OCT 90
Longitude	91.15.4 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.85	33.47	0.31	0.12	34.63
12	26.26	33.66	0.29	0.12	27.63
20	17.00	34.46	0.38	0.24	5.02
29	15.76	34.46	0.68	0.97	11.91
40	14.68	34.47	0.18	0.64	1.59
60	14.40	34.30	0.05	0.17	0.25
80	14.12	34.35	0.07	0.10	--
100	13.52	34.31	0.02	0.11	--
125	13.16	34.23	0.01	0.10	--
150	12.92	34.10	0.01	0.06	--

Station No.	3-114	Date - GMT	12 OCT 90
Station Name	M903-114	Time - GMT	0114
Latitude	7.29.0 N	Date - LOC	11 OCT 90
Longitude	92.52.0 W	Time - LOC	2014

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.90	33.30	0.38	0.16	--
20	24.02	33.72	0.60	0.48	--
40	17.57	34.29	0.47	0.64	--
60	14.19	34.27	0.10	0.21	--
80	14.05	34.24	0.07	0.13	--
100	13.67	34.23	0.04	0.06	--
125	13.48	34.16	0.02	0.05	--
150	13.01	34.17	0.01	0.04	--

Station No.	3-115	Date - GMT	12 OCT 90
Station Name	M903-115	Time - GMT	1016
Latitude	6.53.3 N	Date - LOC	12 OCT 90
Longitude	93.32.7 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.21	32.73	--	--	--
8	27.24	32.76	0.25	0.11	19.05
13	27.23	32.78	0.22	0.11	9.67
20	27.31	32.69	0.23	0.11	4.01
40	22.45	34.30	0.38	0.39	0.67
60	17.09	34.38	0.25	0.37	16.65
80	14.00	34.24	0.14	0.20	0.12
100	13.24	34.28	0.09	0.14	--
125	13.13	34.19	0.02	0.04	--
150	12.84	34.12	0.01	0.04	--

Station No.	3-116	Date - GMT	13 OCT 90
Station Name	M903-116	Time - GMT	0113
Latitude	5.16.4 N	Date - LOC	12 OCT 90
Longitude	95.12.7 W	Time - LOC	2013

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.03	33.19	0.16	0.06	--
20	27.04	33.23	0.16	0.06	--
40	27.01	33.21	0.19	0.07	--
60	22.99	34.34	0.36	0.32	--
80	19.68	34.43	0.27	0.37	--
100	14.29	34.12	0.10	0.18	--
125	13.19	34.05	0.04	0.09	--
150	12.63	34.08	0.00	0.05	--

Station No.	3-117	Date - GMT	13 OCT 90
Station Name	M903-117	Time - GMT	1018
Latitude	3.57.6 N	Date - LOC	13 OCT 90
Longitude	95.40.1 W	Time - LOC	0518

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.29	33.57	0.20	0.09	5.07
8	26.39	33.63	0.19	0.09	6.91
14	26.38	33.63	0.19	0.08	6.08
20	26.33	33.59	0.19	0.09	3.98
40	26.36	33.55	0.24	0.11	1.96
60	21.89	34.52	0.33	0.35	0.68
80	14.68	34.32	0.20	0.24	0.20
100	14.23	34.46	0.12	0.18	--
125	13.94	34.49	0.07	0.09	--
150	13.85	34.48	0.04	0.06	--

Station No.	3-118	Date - GMT	14 OCT 90
Station Name	M903-118	Time - GMT	0121
Latitude	2. 0.8 N	Date - LOC	13 OCT 90
Longitude	97. 9.9 W	Time - LOC	2021

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.08	33.59	0.31	0.09	--
20	25.09	33.64	0.30	0.12	--
40	22.65	34.03	0.34	0.19	--
60	18.93	34.51	0.29	0.27	--
80	15.51	34.54	0.19	0.20	--
100	14.69	34.48	0.10	0.19	--
125	14.46	34.38	0.05	0.08	--
150	14.03	34.39	0.01	0.03	--

Station No.	3-119	Date - GMT	14 OCT 90
Station Name	M903-119	Time - GMT	1117
Latitude	0.58.1 N	Date - LOC	14 OCT 90
Longitude	98.40.9 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.82	33.93	0.25	0.09	12.96
8	23.03	34.00	0.25	0.11	16.67
13	22.61	34.11	0.23	0.10	13.86
20	22.47	33.99	0.23	0.10	10.64
40	21.21	34.57	0.26	0.15	3.27
60	15.30	34.53	0.22	0.22	0.47
80	14.34	34.55	0.16	0.17	0.03
100	13.94	34.53	0.04	0.06	--
125	13.62	34.55	0.02	0.07	--
150	13.54	34.53	0.01	0.28	--

Station No.	3-120	Date - GMT	15 OCT 90
Station Name	M903-120	Time - GMT	0147
Latitude	0.26.1 S	Date - LOC	14 OCT 90
Longitude	100.32.6 W	Time - LOC	1947

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.68	34.67	0.35	0.11	--
20	20.29	34.60	0.42	0.22	--
40	18.34	34.49	0.42	0.37	--
60	16.13	34.46	0.31	0.34	--
80	15.67	34.43	0.19	0.21	--
100	14.93	34.55	0.12	0.12	--
125	14.39	34.44	0.06	0.05	--
150	13.91	34.52	0.03	0.04	--

Station No.	3-121	Date - GMT	15 OCT 90
Station Name	M903-121	Time - GMT	1116
Latitude	1.18.9 S	Date - LOC	15 OCT 90
Longitude	101.49.1 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.10	34.71	0.26	0.11	13.78
8	21.11	34.59	0.27	0.12	14.49
14	--	34.69	0.27	0.13	9.58
20	21.02	34.69	0.30	0.16	6.65
40	20.41	34.66	0.43	0.34	2.89
60	16.86	34.67	0.37	0.44	0.65
80	15.26	34.56	0.15	0.32	0.99
100	14.61	34.37	0.12	0.21	--
125	13.71	34.37	0.08	0.07	--
150	13.27	34.40	0.27	0.17	--

Station No.	3-122	Date - GMT	16 OCT 90
Station Name	M903-122	Time - GMT	1118
Latitude	3.40.7 S	Date - LOC	16 OCT 90
Longitude	105. 8.3 W	Time - LOC	0518

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.92	34.54	0.24	0.11	8.91
9	22.94	34.51	0.22	0.12	11.69
16	22.91	34.57	0.23	0.12	9.56
20	22.91	34.55	0.24	0.12	6.38
40	22.97	34.50	0.24	0.12	2.69
60	22.87	34.61	0.29	0.16	0.88
80	16.53	34.69	0.28	0.31	0.19
100	15.00	34.37	0.21	0.27	--
125	14.77	34.35	0.12	0.23	--
150	14.16	34.39	0.25	0.12	--

Station No.	3-123	Date - GMT	17 OCT 90
Station Name	M903-123	Time - GMT	0216
Latitude	4.58.1 S	Date - LOC	16 OCT 90
Longitude	106.45.9 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.30	34.79	0.20	0.06	--
20	23.29	34.73	0.18	0.09	--
40	23.14	34.77	0.21	0.11	--
60	19.87	34.61	0.28	0.24	--
80	16.18	34.49	0.26	0.27	--
100	14.77	34.38	0.16	0.27	--
125	14.26	34.32	0.08	0.14	--
150	13.91	34.45	0.02	0.05	--

Station No.	3-124	Date - GMT	17 OCT 90
Station Name	M903-124	Time - GMT	1116
Latitude	5.50.9 S	Date - LOC	17 OCT 90
Longitude	107.47.3 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.44	34.91	0.22	0.12	8.51
10	23.48	35.00	0.20	0.11	8.57
20	23.47	35.99	0.21	0.12	6.65
27	23.55	34.92	0.17	0.09	4.56
40	23.53	34.99	0.21	0.12	1.33
60	23.57	34.97	0.20	0.12	0.45
80	--	35.00	0.21	0.12	--
100	17.67	34.96	0.19	0.26	0.10
125	15.52	34.50	0.10	0.16	--
150	14.45	34.28	0.06	0.10	--

Station No.	3-125	Date - GMT	18 OCT 90
Station Name	M903-125	Time - GMT	0212
Latitude	5.22.1 S	Date - LOC	17 OCT 90
Longitude	105.50.5 W	Time - LOC	2012

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.31	34.77	0.11	0.05	--
20	23.45	34.80	--	--	--
40	23.28	34.80	0.11	0.05	--
60	23.02	35.00	0.13	0.06	--
80	18.90	34.68	0.20	0.13	--
100	16.00	34.55	0.23	0.19	--
125	14.20	34.42	0.09	0.16	--
150	13.77	34.39	0.04	0.07	--

Station No.	3-126	Date - GMT	18 OCT 90
Station Name	M903-126	Time - GMT	1116
Latitude	4.59.9 S	Date - LOC	18 OCT 90
Longitude	104.38.7 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.29	34.73	0.18	0.09	8.35
10	23.26	34.80	0.17	0.08	9.08
20	23.28	34.76	0.19	0.10	8.20
27	23.21	34.74	0.17	0.09	6.70
40	23.29	34.69	0.18	0.08	2.94
60	23.28	34.98	0.31	0.19	1.10
80	20.55	35.02	0.30	0.30	--
100	16.26	34.56	0.23	0.32	0.16
125	14.42	34.25	0.09	0.15	--
150	13.67	34.31	0.03	0.05	--

Station No.	3-127	Date - GMT	19 OCT 90
Station Name	M903-127	Time - GMT	0212
Latitude	4.19.0 S	Date - LOC	18 OCT 90
Longitude	102.26.0 W	Time - LOC	2012

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.89	34.74	0.23	0.09	--
20	22.94	34.79	0.23	0.09	--
40	22.72	34.79	0.25	0.12	--
60	17.84	34.88	0.33	0.19	--
80	14.80	34.37	0.20	0.34	--
100	14.20	34.32	0.10	0.24	--
125	13.87	34.15	0.06	0.09	--
150	13.68	34.20	0.01	0.03	--

Station No.	3-128	Date - GMT	19 OCT 90
Station Name	M903-128	Time - GMT	1116
Latitude	3.59.5 S	Date - LOC	19 OCT 90
Longitude	101.14.8 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.40	34.72	0.25	0.12	13.06
9	22.36	34.76	0.25	0.13	13.32
16	22.34	34.68	0.24	0.13	11.63
20	22.41	34.69	0.27	0.12	8.38
40	22.47	34.64	0.27	0.12	3.45
60	15.57	34.43	0.30	0.35	0.93
80	14.56	34.66	0.22	0.39	0.12
100	14.45	34.40	0.14	0.25	--
125	14.26	34.32	0.10	0.17	--
150	13.83	34.26	0.02	0.06	--

Station No.	3-129	Date - GMT	20 OCT 90
Station Name	M903-129	Time - GMT	0152
Latitude	3.25.2 S	Date - LOC	19 OCT 90
Longitude	99.19.8 W	Time - LOC	1952

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.22	34.79	0.22	0.07	--
20	22.08	34.66	0.23	0.10	--
40	17.30	34.59	0.31	0.26	--
60	15.04	34.35	0.27	0.28	--
80	15.05	34.30	0.22	0.31	--
100	14.50	34.47	0.11	0.18	--
125	14.05	34.29	0.03	0.07	--
150	13.81	34.36	0.01	0.05	--

Station No.	3-130	Date - GMT	20 OCT 90
Station Name	M903-130	Time - GMT	1116
Latitude	3. 2.9 S	Date - LOC	20 OCT 90
Longitude	99. 8.6 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.79	34.70	0.20	0.07	11.27
8	21.63	34.84	0.21	0.07	11.91
14	21.80	34.73	0.19	0.07	7.54
20	21.74	34.82	0.19	0.07	6.57
40	20.12	34.74	0.30	0.21	3.97
60	15.25	34.54	0.23	0.26	0.56
80	14.78	34.31	0.19	0.27	0.08
100	14.37	34.47	0.08	0.11	--
125	14.20	34.18	0.02	0.06	--
150	13.92	34.18	0.19	0.06	--

Station No.	3-131	Date - GMT	21 OCT 90
Station Name	M903-131	Time - GMT	0146
Latitude	2.23.5 S	Date - LOC	20 OCT 90
Longitude	95.52.7 W	Time - LOC	1946

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.19	34.70	0.14	0.03	--
20	21.02	34.67	0.15	0.04	--
40	19.35	34.58	0.31	0.16	--
60	15.52	34.52	0.20	0.14	--
80	14.45	34.56	0.17	0.19	--
100	14.45	34.21	0.13	0.14	--
125	13.82	34.28	0.05	0.10	--
150	13.83	34.10	0.03	0.06	--

Station No.	3-132	Date - GMT	21 OCT 90
Station Name	M903-132	Time - GMT	1012
Latitude	3.14.9 S	Date - LOC	21 OCT 90
Longitude	95.44.8 W	Time - LOC	0512

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.55	34.82	0.20	0.09	9.65
8	21.66	34.80	0.19	0.09	10.53
13	21.60	34.78	0.19	0.09	8.59
20	21.56	34.71	0.20	0.09	5.35
40	15.12	34.42	0.28	0.22	2.02
60	14.59	34.37	0.27	0.26	0.63
80	14.39	34.37	0.23	0.22	0.09
100	14.06	34.33	0.10	0.09	--
125	13.88	34.30	0.02	0.05	--
150	13.93	34.31	0.01	0.04	--

Station No.	3-133	Date - GMT	22 OCT 90
Station Name	M903-133	Time - GMT	0116
Latitude	5.26.7 S	Date - LOC	21 OCT 90
Longitude	95.21.2 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.13	34.75	0.31	0.13	--
20	22.15	34.85	0.29	0.14	--
40	22.08	34.76	0.30	0.15	--
60	21.09	34.62	0.36	0.27	--
80	15.17	34.54	0.33	0.35	--
100	14.45	34.45	0.11	0.22	--
125	13.89	34.31	0.05	0.10	--
150	13.69	34.40	0.00	0.03	--

Station No.	3-134	Date - GMT	22 OCT 90
Station Name	M903-134	Time - GMT	1012
Latitude	6.22.5 S	Date - LOC	22 OCT 90
Longitude	95.12.7 W	Time - LOC	0512

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.99	34.66	0.21	0.13	12.60
9	22.06	34.64	0.21	0.13	11.95
16	22.10	34.68	0.22	0.13	6.81
20	22.07	34.62	0.21	0.12	5.43
40	22.08	34.71	0.22	0.12	1.93
60	18.69	34.68	0.31	0.44	0.62
80	15.51	34.29	0.34	0.41	0.13
100	14.35	34.45	0.14	0.23	--
125	14.25	34.33	0.05	0.06	--
150	14.20	34.30	0.01	0.05	--

Station No.	3-135	Date - GMT	23 OCT 90
Station Name	M903-135	Time - GMT	0113
Latitude	8.44.1 S	Date - LOC	22 OCT 90
Longitude	94.51.0 W	Time - LOC	2013

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.76	34.92	0.25	0.12	--
20	21.75	34.89	0.25	0.18	--
40	21.67	34.90	0.25	0.14	--
60	21.16	35.25	0.28	0.27	--
80	18.82	35.07	0.26	0.29	--
100	16.64	34.65	0.17	0.25	--
125	14.55	34.44	0.06	0.10	--
150	13.72	34.49	0.02	0.03	--

Station No.	3-136	Date - GMT	23 OCT 90
Station Name	M903-136	Time - GMT	1016
Latitude	9.52.6 S	Date - LOC	23 OCT 90
Longitude	94.30.2 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.49	35.23	0.20	0.10	9.14
9	21.46	35.26	0.18	0.09	9.16
16	21.48	35.26	0.20	0.10	5.61
20	21.62	35.12	0.20	0.10	4.65
40	21.55	35.25	0.20	0.10	1.66
60	21.50	35.30	0.21	0.10	0.32
80	21.45	35.14	0.20	0.15	0.26
100	20.07	35.09	0.23	0.24	--
125	16.88	34.56	0.12	0.18	--
150	14.76	34.28	--	--	--

Station No.	3-137	Date - GMT	24 OCT 90
Station Name	M903-137	Time - GMT	0116
Latitude	8.14.3 S	Date - LOC	23 OCT 90
Longitude	92.42.8 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.80	34.98	0.24	0.14	--
20	21.95	34.91	0.23	0.13	--
40	21.97	34.88	0.28	0.16	--
60	19.84	35.17	0.29	0.34	--
80	16.22	34.68	0.19	0.28	--
100	14.34	34.28	0.06	0.11	--
125	13.91	34.40	0.02	0.05	--
150	13.82	34.25	0.01	0.04	--

Station No.	3-138	Date - GMT	24 OCT 90
Station Name	M903-138	Time - GMT	1016
Latitude	7.21.2 S	Date - LOC	24 OCT 90
Longitude	91.43.9 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.94	34.90	0.25	0.15	9.23
8	21.83	34.84	0.24	0.16	11.44
14	21.70	34.98	0.23	0.16	6.30
20	21.78	34.90	0.33	0.15	5.25
40	21.85	34.88	0.24	0.16	1.98
60	20.54	34.97	0.24	0.15	0.38
80	15.47	34.55	0.21	0.31	0.13
100	14.68	34.37	0.11	0.18	--
125	13.89	34.19	0.02	0.14	--
150	13.25	34.30	--	--	--

Station No.	3-139	Date - GMT	25 OCT 90
Station Name	M903-139	Time - GMT	0116
Latitude	5.41.8 S	Date - LOC	24 OCT 90
Longitude	89.54.5 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.99	34.90	0.29	0.12	--
20	20.88	34.90	0.31	0.12	--
40	20.86	34.83	0.31	0.14	--
60	20.11	35.02	0.32	0.28	--
80	14.77	34.51	0.20	0.29	--
100	14.23	34.32	0.11	0.20	--
125	13.92	34.43	0.03	0.06	--
150	13.76	34.40	0.01	0.03	--

Station No.	3-140	Date - GMT	25 OCT 90
Station Name	M903-140	Time - GMT	1012
Latitude	4.47.3 S	Date - LOC	25 OCT 90
Longitude	88.54.3 W	Time - LOC	0512

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.76	34.88	0.21	0.10	9.02
8	20.78	34.82	0.21	0.12	8.73
14	20.84	34.80	0.20	0.11	4.07
20	20.73	34.87	0.19	0.10	4.02
40	20.84	34.79	0.20	0.10	1.51
60	19.92	34.73	0.20	0.12	0.32
80	15.34	34.63	0.25	0.26	0.08
100	14.96	34.46	0.15	0.26	--
125	14.32	34.39	0.03	0.08	--
150	14.18	34.31	0.08	0.10	--

Station No.	3-141	Date - GMT	26 OCT 90
Station Name	M903-141	Time - GMT	0114
Latitude	3. 5.1 S	Date - LOC	25 OCT 90
Longitude	87. 7.7 W	Time - LOC	2014

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.11	34.47	0.43	0.12	--
20	19.71	34.47	0.46	0.18	--
40	17.31	34.61	0.44	0.33	--
60	16.67	34.61	0.36	0.39	--
80	16.25	34.54	0.12	0.23	--
100	15.97	34.47	0.09	0.19	--
125	15.59	34.49	0.06	0.16	--
150	14.68	34.23	0.03	0.09	--

Station No.	3-142	Date - GMT	26 OCT 90
Station Name	M903-142	Time - GMT	1015
Latitude	2.17.3 S	Date - LOC	26 OCT 90
Longitude	86. 7.2 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.17	34.07	0.48	0.19	27.76
12	21.24	33.97	0.47	0.18	12.67
20	20.83	34.14	0.47	0.20	9.22
29	16.97	34.64	0.41	0.41	2.40
40	15.87	34.63	0.27	0.31	0.27
60	15.63	34.62	0.15	0.17	0.08
80	15.36	34.49	0.08	0.10	--
100	15.04	34.38	0.08	0.10	--
125	15.09	34.30	0.01	0.06	--
150	14.83	34.44	0.01	0.05	--

Station No.	3-143	Date - GMT	27 OCT 90
Station Name	M903-143	Time - GMT	0045
Latitude	2.43.5 S	Date - LOC	26 OCT 90
Longitude	84.56.8 W	Time - LOC	1945

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.19	34.43	0.41	0.13	--
20	17.99	34.61	0.36	0.33	--
40	16.26	34.62	0.29	0.36	--
60	15.90	34.50	0.27	0.29	--
80	15.33	34.52	0.10	0.11	--
100	15.23	34.54	0.02	0.09	--
125	14.91	34.56	0.02	0.06	--
150	14.70	34.52	0.01	0.05	--

Station No.	3-144	Date - GMT	27 OCT 90
Station Name	M903-144	Time - GMT	0943
Latitude	3.58.9 S	Date - LOC	27 OCT 90
Longitude	84.57.9 W	Time - LOC	0443

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.72	34.53	0.51	0.25	19.62
12	19.66	34.59	0.48	0.23	14.32
20	19.71	34.56	0.49	0.25	4.23
29	19.70	34.52	0.46	0.31	10.74
40	19.71	34.64	0.32	0.40	0.43
60	16.77	34.71	0.13	0.17	0.06
80	15.73	34.60	0.04	0.09	--
100	15.06	34.49	--	--	--
125	14.75	34.59	0.03	0.07	--
150	14.42	34.42	0.01	0.12	--

Station No.	3-145	Date - GMT	28 OCT 90
Station Name	M903-145	Time - GMT	0047
Latitude	6.26.0 S	Date - LOC	27 OCT 90
Longitude	84.55.7 W	Time - LOC	1947

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.61	34.81	0.59	0.17	--
20	19.70	34.75	0.57	0.17	--
40	19.45	34.73	0.80	0.25	--
60	17.94	34.64	0.77	0.40	--
80	15.73	34.50	0.15	0.26	--
100	14.98	34.51	0.07	0.16	--
125	14.83	34.40	0.05	0.09	--
150	14.47	34.43	0.04	0.07	--

Station No.	3-146	Date - GMT	28 OCT 90
Station Name	M903-146	Time - GMT	0946
Latitude	7.52.0 S	Date - LOC	28 OCT 90
Longitude	84.48.7 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.45	34.71	0.68	0.27	27.97
12	19.55	34.72	0.58	0.28	19.15
20	19.52	34.72	0.63	0.27	10.12
29	19.52	34.63	0.87	0.36	3.45
40	19.47	34.75	1.53	0.71	0.90
60	18.78	34.68	0.61	0.38	0.17
80	15.75	34.59	0.19	0.26	--
100	14.77	34.51	0.20	0.17	--
125	14.49	34.40	0.08	0.16	--
150	14.07	34.07	0.11	0.14	--

Station No.	3-147	Date - GMT	29 OCT 90
Station Name	M903-147	Time - GMT	0043
Latitude	10.19.0 S	Date - LOC	28 OCT 90
Longitude	84.47.8 W	Time - LOC	1943

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.28	34.93	0.27	0.10	--
20	19.38	34.95	0.29	0.12	--
40	19.27	34.87	0.32	0.14	--
60	16.86	34.44	0.44	0.28	--
80	14.55	34.39	0.06	0.38	--
100	14.00	34.41	0.04	0.58	--
125	13.85	34.27	0.02	0.36	--
150	13.41	34.30	0.00	0.22	--

Station No.	3-148	Date - GMT	29 OCT 90
Station Name	M903-148	Time - GMT	0946
Latitude	11.13.6 S	Date - LOC	29 OCT 90
Longitude	84.46.8 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	18.91	34.98	0.34	0.12	13.01
12	19.02	34.94	0.32	0.13	12.44
20	18.99	34.96	0.33	0.13	7.20
29	19.00	34.96	0.34	0.12	2.62
40	19.05	34.84	0.31	0.12	0.36
60	17.46	34.81	0.31	0.23	0.19
80	14.82	34.29	0.07	0.15	--
100	14.14	34.33	0.04	0.51	--
125	13.72	34.19	0.01	0.14	--
150	13.20	34.21	0.03	0.25	--

Station No.	3-149	Date - GMT	30 OCT 90
Station Name	M903-149	Time - GMT	0051
Latitude	8.56.0 S	Date - LOC	29 OCT 90
Longitude	83.54.7 W	Time - LOC	1951

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.95	34.74	0.50	0.10	--
20	19.59	34.76	0.42	0.09	--
40	16.47	34.84	0.45	0.12	--
60	14.70	34.52	0.70	0.35	--
80	14.48	34.33	0.14	0.32	--
100	14.35	34.28	0.05	0.66	--
125	14.04	34.39	0.02	0.26	--
150	13.73	34.28	0.03	0.25	--

Station No.	3-150	Date - GMT	30 OCT 90
Station Name	M903-150	Time - GMT	0946
Latitude	8. 3.9 S	Date - LOC	30 OCT 90
Longitude	83.36.0 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.09	34.94	0.28	0.10	13.66
10	20.09	34.94	0.28	0.09	8.64
20	20.16	34.88	0.27	0.11	6.39
26	20.15	34.92	0.27	0.11	1.89
40	20.08	34.96	0.35	0.15	0.32
60	16.56	34.59	0.35	0.34	0.11
80	14.94	34.51	0.09	0.19	--
100	14.37	34.43	0.03	0.08	--
125	14.11	34.31	0.01	0.07	--
150	13.79	34.33	0.09	0.08	--

Station No.	3-151	Date - GMT	31 OCT 90
Station Name	M903-151	Time - GMT	0046
Latitude	5.49.3 S	Date - LOC	30 OCT 90
Longitude	82.56.5 W	Time - LOC	1946

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.73	34.88	0.51	0.16	--
20	19.55	34.81	0.53	0.17	--
40	18.50	34.65	0.80	0.37	--
60	15.49	34.38	0.16	0.17	--
80	15.08	34.43	0.07	0.19	--
100	15.03	34.43	0.04	0.19	--
125	14.62	34.44	0.03	0.15	--
150	14.55	34.33	0.16	0.11	--

Station No.	3-152	Date - GMT	31 OCT 90
Station Name	M903-152	Time - GMT	0943
Latitude	5.40.0 S	Date - LOC	31 OCT 90
Longitude	82.54.3 W	Time - LOC	0443

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.22	34.74	0.54	0.18	26.72
10	19.35	34.70	0.54	0.17	15.42
20	19.13	34.66	0.54	0.19	8.47
26	18.93	34.65	0.60	0.23	2.09
40	18.61	34.59	0.65	0.32	0.45
60	16.02	34.56	0.42	0.23	0.19
80	15.05	34.51	0.16	0.32	--
100	14.80	34.40	0.05	0.19	--
125	14.68	34.48	0.03	0.18	--
150	14.42	34.41	0.01	0.18	--

Station No.	3-153	Date - GMT	01 NOV 90
Station Name	M903-153	Time - GMT	0043
Latitude	3.46.2 S	Date - LOC	31 OCT 90
Longitude	82.17.1 W	Time - LOC	1943

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.06	34.20	3.37	2.42	--
20	18.79	34.22	2.67	1.90	--
40	17.39	34.51	0.53	2.70	--
60	15.17	34.52	0.30	1.68	--
80	14.87	34.55	0.25	1.21	--
100	14.73	34.48	0.16	0.89	--
125	14.59	34.49	0.12	0.55	--
150	14.35	34.31	0.07	0.38	--

Station No.	3-154	Date - GMT	01 NOV 90
Station Name	M903-154	Time - GMT	0944
Latitude	3. 4.6 S	Date - LOC	01 NOV 90
Longitude	81.28.7 W	Time - LOC	0444

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.78	34.21	0.62	0.26	62.49
10	20.51	34.21	0.64	0.22	17.84
20	17.31	34.51	0.40	0.30	5.23
26	16.79	34.54	0.34	0.34	0.97
40	16.13	34.53	0.28	0.39	0.34
60	15.50	34.49	0.21	0.29	0.20
80	15.44	34.27	0.07	0.15	--
100	15.01	34.31	0.03	0.22	--
125	14.55	34.30	0.04	0.26	--
150	14.52	34.35	0.01	0.28	--

Station No.	4-155	Date - GMT	08 NOV 90
Station Name	M904-155	Time - GMT	0935
Latitude	3.31.6 S	Date - LOC	08 NOV 90
Longitude	81.16.6 W	Time - LOC	0435

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.46	34.28	0.05	1.39	37.41
10	18.40	34.41	0.77	0.41	35.55
20	16.09	34.62	0.38	0.19	10.25
26	15.54	34.66	0.31	0.17	2.34
40	15.35	34.59	0.15	0.14	0.92
60	14.97	34.57	0.12	0.14	0.47
80	14.77	34.56	0.11	0.12	--
100	14.68	34.53	0.06	0.08	--
125	14.64	34.52	--	--	--
150	14.41	34.50	0.05	0.09	--

Station No.	4-156	Date - GMT	09 NOV 90
Station Name	M904-156	Time - GMT	0051
Latitude	4.21.0 S	Date - LOC	08 NOV 90
Longitude	83.34.9 W	Time - LOC	1951

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.34	34.51	0.71	0.38	--
20	18.04	34.49	0.47	0.36	--
40	15.30	34.53	0.09	0.23	--
60	14.82	34.43	0.08	0.34	--
80	14.74	34.39	0.06	0.26	--
100	14.51	34.47	0.04	0.25	--
125	14.44	34.41	0.03	0.25	--
150	14.35	34.31	0.04	0.32	--

Station No.	4-157	Date - GMT	09 NOV 90
Station Name	M904-157	Time - GMT	0947
Latitude	5.20.6 S	Date - LOC	09 NOV 90
Longitude	84.34.4 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.15	34.64	0.74	0.24	34.78
10	18.92	34.77	0.71	0.22	33.54
20	18.91	34.75	0.71	0.25	28.78
26	18.79	34.66	0.74	0.25	7.46
40	18.45	34.64	0.88	0.39	1.49
60	16.11	34.68	0.43	0.29	0.72
80	14.95	34.46	0.15	0.13	--
100	14.56	34.32	0.08	0.09	--
125	14.49	34.22	0.02	0.07	--
150	14.33	34.34	0.07	0.09	--

Station No.	4-158	Date - GMT	10 NOV 90
Station Name	M904-158	Time - GMT	0116
Latitude	7.15.8 S	Date - LOC	09 NOV 90
Longitude	86. 2.4 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.64	34.64	0.35	0.10	--
20	20.15	34.66	0.40	0.12	--
40	19.11	34.70	0.67	0.38	--
60	16.15	34.49	0.24	0.36	--
80	14.42	34.38	0.06	0.10	--
100	14.18	34.33	0.05	0.00	--
125	14.07	34.24	0.01	0.16	--
150	13.57	34.36	0.00	0.05	--

Station No.	4-159	Date - GMT	10 NOV 90
Station Name	M904-159	Time - GMT	1017
Latitude	8.22.0 S	Date - LOC	10 NOV 90
Longitude	86.56.1 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.56	34.86	0.16	0.06	7.72
8	20.58	34.83	0.16	0.06	9.03
13	20.57	34.78	0.16	0.07	9.10
20	20.57	34.85	0.16	0.07	6.09
40	20.60	34.80	0.17	0.07	1.74
60	19.76	35.00	0.29	0.19	0.66
80	15.58	34.61	0.24	0.44	0.33
100	14.30	34.51	0.08	0.15	--
125	13.82	34.47	0.03	0.08	--
150	13.32	34.30	0.02	0.08	--

Station No.	4-160	Date - GMT	11 NOV 90
Station Name	M904-160	Time - GMT	0115
Latitude	10.19.4 S	Date - LOC	10 NOV 90
Longitude	88.27.8 W	Time - LOC	2015

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.85	35.10	0.24	0.11	--
20	20.76	35.15	0.31	0.10	--
40	20.63	35.20	0.29	0.11	--
60	18.88	35.05	0.34	0.15	--
80	14.72	34.56	0.08	0.22	--
100	14.09	34.58	0.06	0.16	--
125	13.65	34.41	0.03	0.10	--
150	13.32	34.22	0.02	0.04	--

Station No.	4-161	Date - GMT	11 NOV 90
Station Name	M904-161	Time - GMT	1015
Latitude	11.23.6 S	Date - LOC	11 NOV 90
Longitude	89.17.3 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	20.52	35.22	0.25	0.12	7.72
8	20.55	35.19	--	--	--
14	20.52	35.22	0.23	0.12	8.60
20	20.60	35.18	0.23	0.12	7.18
40	20.57	35.17	0.24	0.13	2.42
60	20.69	35.19	0.26	0.13	0.48
80	19.70	35.09	0.24	0.21	0.22
100	16.07	34.80	0.14	0.20	--
125	14.17	34.38	0.04	0.05	--
150	13.57	34.39	0.12	0.12	--

Station No.	4-162	Date - GMT	12 NOV 90
Station Name	M904-162	Time - GMT	0114
Latitude	9.18.0 S	Date - LOC	11 NOV 90
Longitude	90.22.8 W	Time - LOC	2014

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.66	35.05	0.19	0.12	--
20	21.73	35.05	0.20	0.10	--
40	21.65	35.15	0.21	0.13	--
60	21.57	35.10	0.22	0.14	--
80	17.49	34.74	0.26	0.43	--
100	15.29	34.14	0.16	0.40	--
125	13.90	34.37	0.01	0.02	--
150	13.44	34.23	0.01	0.05	--

Station No.	4-163	Date - GMT	12 NOV 90
Station Name	M904-163	Time - GMT	1015
Latitude	8. 1.6 S	Date - LOC	12 NOV 90
Longitude	90.55.4 W	Time - LOC	0515

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.38	35.01	0.26	0.17	6.28
8	21.39	35.03	0.27	0.14	8.99
14	21.38	35.05	0.25	0.14	8.59
20	21.39	35.07	0.26	0.14	7.74
40	21.45	34.91	0.25	0.15	2.15
60	21.24	34.93	0.29	0.17	0.37
80	16.20	34.51	--	--	--
100	14.64	34.46	0.19	0.31	--
125	13.71	34.41	0.08	0.16	--
150	13.22	34.30	0.25	0.16	--

Station No.	4-164	Date - GMT	13 NOV 90
Station Name	M904-164	Time - GMT	0116
Latitude	5.41.7 S	Date - LOC	12 NOV 90
Longitude	91.15.5 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.07	34.65	0.18	0.09	--
20	22.01	34.85	0.26	0.16	--
40	21.59	34.80	0.26	0.38	--
60	15.39	34.49	0.00	0.37	--
80	14.43	34.60	--	--	--
100	14.18	34.45	0.08	0.16	--
125	13.89	34.24	0.02	0.07	--
150	13.59	34.46	0.03	0.03	--

Station No.	4-165	Date - GMT	13 NOV 90
Station Name	M904-165	Time - GMT	1047
Latitude	4.40.6 S	Date - LOC	13 NOV 90
Longitude	92.36.2 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.83	34.83	0.21	0.09	12.11
8	21.86	34.84	0.22	0.09	10.62
14	21.86	34.80	0.21	0.09	9.65
20	21.87	34.84	0.23	0.10	6.98
40	21.84	34.85	0.21	0.09	1.75
60	21.60	34.74	0.25	0.14	0.58
80	17.54	34.75	0.27	0.23	0.27
100	15.11	34.46	0.08	0.17	--
125	14.18	34.59	0.04	0.07	--
150	13.96	34.45	0.02	0.05	--

Station No.	4-166	Date - GMT	14 NOV 90
Station Name	M904-166	Time - GMT	0147
Latitude	5.21.5 S	Date - LOC	13 NOV 90
Longitude	94.44.2 W	Time - LOC	1947

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.02	34.65	0.19	0.09	--
20	22.01	34.68	0.19	0.10	--
40	22.05	34.74	0.21	0.14	--
60	20.68	34.74	0.27	0.30	--
80	18.83	34.50	0.23	0.39	--
100	15.62	34.58	0.15	0.32	--
125	14.38	34.32	0.06	0.19	--
150	14.00	34.34	0.00	0.09	--

Station No.	4-167	Date - GMT	14 NOV 90
Station Name	M904-167	Time - GMT	1047
Latitude	5.53.9 S	Date - LOC	14 NOV 90
Longitude	96. 1.5 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	21.87	34.51	0.21	0.12	16.71
9	21.93	34.49	0.20	0.14	10.98
16	21.89	34.50	0.22	0.14	10.57
20	21.79	34.44	0.20	0.12	8.44
40	21.81	34.49	0.21	0.13	2.37
60	20.37	34.47	0.28	0.27	0.65
80	16.68	34.70	0.17	0.29	0.24
100	14.54	34.43	0.07	0.18	--
125	13.75	34.37	0.04	0.10	--
150	13.43	34.41	0.03	0.06	--

Station No.	4-168	Date - GMT	15 NOV 90
Station Name	M904-168	Time - GMT	0149
Latitude	6.30.8 S	Date - LOC	14 NOV 90
Longitude	97.56.4 W	Time - LOC	1949

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.61	34.84	0.16	0.09	--
20	22.66	34.80	0.17	0.09	--
40	22.62	34.86	0.17	0.11	--
60	22.75	34.76	0.20	0.12	--
80	19.67	34.89	0.27	0.33	--
100	15.24	34.58	0.09	0.20	--
125	13.95	34.44	0.04	0.10	--
150	13.43	34.39	0.01	0.04	--

Station No.	4-169	Date - GMT	15 NOV 90
Station Name	M904-169	Time - GMT	1049
Latitude	7. 2.2 S	Date - LOC	15 NOV 90
Longitude	99. 4.3 W	Time - LOC	0449

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.17	34.97	0.24	0.13	8.58
9	23.17	35.02	0.22	0.14	9.49
16	23.17	34.96	0.24	0.12	9.03
20	23.13	34.99	0.23	0.12	6.07
40	23.10	34.96	0.23	0.12	2.33
60	23.12	34.99	0.24	0.13	0.79
80	17.57	34.90	0.24	0.39	0.48
100	14.69	34.34	0.08	0.16	--
125	13.61	34.36	0.03	0.04	--
150	13.03	34.26	0.01	0.02	--

Station No.	4-170	Date - GMT	17 NOV 90
Station Name	M904-170	Time - GMT	0215
Latitude	4.26.4 S	Date - LOC	16 NOV 90
Longitude	103.51.3 W	Time - LOC	2015

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.76	34.81	0.15	0.06	--
20	22.69	34.74	0.16	0.07	--
40	20.10	34.74	0.24	0.21	--
60	14.59	34.65	--	--	--
80	14.24	34.43	0.08	0.20	--
100	14.04	34.50	0.06	0.12	--
125	13.84	34.47	0.01	0.05	--
150	13.80	34.38	0.01	0.04	--

Station No.	4-171	Date - GMT	17 NOV 90
Station Name	M904-171	Time - GMT	1117
Latitude	3.11.4 S	Date - LOC	17 NOV 90
Longitude	104.30.3 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.94	34.69	0.18	0.07	8.92
9	22.90	34.73	0.18	0.07	10.76
16	22.90	34.73	0.18	0.07	8.70
20	22.90	34.76	0.18	0.07	8.04
40	22.94	34.69	0.17	0.07	2.77
60	16.23	34.59	0.35	0.23	1.03
80	14.33	34.52	0.39	0.34	0.21
100	13.72	34.53	0.03	0.73	--
125	13.81	34.16	0.07	0.07	--
150	13.32	34.45	0.15	0.10	--

Station No.	4-172	Date - GMT	18 NOV 90
Station Name	M904-172	Time - GMT	0215
Latitude	1.58.1 S	Date - LOC	17 NOV 90
Longitude	106.21.6 W	Time - LOC	2015

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.17	34.78	0.25	0.12	--
20	23.18	34.77	0.26	0.12	--
40	23.18	34.81	0.27	0.15	--
60	18.31	34.49	0.36	0.35	--
80	14.38	34.55	0.14	0.28	--
100	14.02	34.41	0.03	0.07	--
125	13.52	34.35	0.02	0.06	--
150	13.31	34.27	0.01	0.04	--

Station No.	4-173	Date - GMT	18 NOV 90
Station Name	M904-173	Time - GMT	1116
Latitude	1.42.4 S	Date - LOC	18 NOV 90
Longitude	107.42.2 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.20	34.78	0.30	0.15	8.12
8	23.15	34.80	0.28	0.15	13.31
14	23.18	34.78	0.29	0.15	11.66
20	23.20	34.76	0.29	0.14	11.93
40	23.28	34.78	0.30	0.16	3.85
60	18.96	34.72	0.36	0.45	1.12
80	15.26	34.47	0.21	0.28	0.21
100	14.20	34.39	0.11	0.19	--
125	13.57	34.42	0.05	0.10	--
150	13.48	34.34	0.06	0.11	--

Station No.	4-174	Date - GMT	19 NOV 90
Station Name	M904-174	Time - GMT	0213
Latitude	2.50.9 S	Date - LOC	18 NOV 90
Longitude	109. 0.9 W	Time - LOC	2013

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.26	34.62	0.17	0.09	--
20	23.25	34.68	0.17	0.08	--
40	23.16	34.74	0.21	0.13	--
60	22.70	34.80	0.28	0.19	--
80	16.11	34.72	0.31	0.45	--
100	15.27	34.60	0.25	0.37	--
125	14.60	34.33	0.08	0.20	--
150	13.91	34.49	0.03	0.09	--

Station No.	4-175	Date - GMT	19 NOV 90
Station Name	M904-175	Time - GMT	1147
Latitude	4. 8.7 S	Date - LOC	19 NOV 90
Longitude	109.37.6 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.65	34.69	0.21	0.10	13.02
9	23.63	34.70	0.22	0.11	8.21
16	23.71	34.65	0.21	0.10	6.31
20	23.63	34.70	0.21	0.11	5.93
40	23.66	34.71	0.21	0.10	1.96
60	22.92	35.09	0.33	0.28	0.81
80	16.32	34.57	0.28	0.38	0.19
100	14.58	34.57	0.17	0.27	--
125	14.07	34.45	0.08	0.17	--
150	13.73	34.40	0.14	0.18	--

Station No.	4-176	Date - GMT	20 NOV 90
Station Name	M904-176	Time - GMT	0246
Latitude	4.47.1 S	Date - LOC	19 NOV 90
Longitude	111. 5.7 W	Time - LOC	1946

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.87	34.76	0.12	0.07	--
20	23.89	34.76	0.13	0.07	--
40	23.83	34.77	0.11	0.08	--
60	23.86	34.67	0.13	0.07	--
80	18.51	34.70	0.26	0.23	--
100	14.92	34.41	0.19	0.32	--
125	14.23	34.44	0.10	0.23	--
150	13.63	34.46	0.03	0.06	--

Station No.	4-177	Date - GMT	20 NOV 90
Station Name	M904-177	Time - GMT	1144
Latitude	4.30.3 S	Date - LOC	20 NOV 90
Longitude	112.34.2 W	Time - LOC	0444

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	23.81	34.90	0.19	0.10	8.26
10	23.85	34.89	0.19	0.10	10.24
20	23.85	34.88	0.20	0.10	8.27
27	23.85	34.90	0.18	0.10	6.76
40	23.78	34.86	0.20	0.11	1.64
60	23.79	34.86	0.21	0.12	0.58
80	22.47	34.67	0.25	0.27	--
100	15.64	34.53	0.19	0.31	0.47
125	14.49	34.36	0.15	0.32	--
150	13.94	34.40	0.16	0.19	--

Station No.	4-178	Date - GMT	21 NOV 90
Station Name	M904-178	Time - GMT	0246
Latitude	3.58.5 S	Date - LOC	20 NOV 90
Longitude	115.19.2 W	Time - LOC	1946

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.45	34.84	0.17	0.11	--
20	24.41	34.90	0.18	0.09	--
40	24.41	34.88	0.20	0.11	--
60	24.36	34.91	0.22	0.13	--
80	16.26	34.82	0.26	0.28	--
100	14.39	34.49	0.20	0.31	--
125	13.97	34.49	0.07	0.11	--
150	13.75	34.30	0.02	0.05	--

Station No.	4-179	Date - GMT	21 NOV 90
Station Name	M904-179	Time - GMT	1216
Latitude	3.39.7 S	Date - LOC	21 NOV 90
Longitude	116.48.2 W	Time - LOC	0516

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.35	34.72	0.22	0.10	9.67
10	24.38	34.76	0.22	0.10	9.95
20	24.45	34.79	0.21	0.10	7.94
27	24.40	34.76	0.21	0.09	6.63
40	24.42	34.76	0.21	0.10	2.13
60	24.27	34.93	0.18	0.10	0.74
80	23.98	34.90	0.20	0.14	--
100	17.78	34.78	0.28	0.32	0.30
125	14.16	34.51	0.16	0.26	--
150	13.65	34.38	0.09	0.16	--

Station No.	4-180	Date - GMT	22 NOV 90
Station Name	M904-180	Time - GMT	0318
Latitude	3. 7.0 S	Date - LOC	21 NOV 90
Longitude	119.24.4 W	Time - LOC	2018

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.04	35.01	0.15	0.05	--
20	25.04	35.02	0.14	0.06	--
40	25.02	35.06	0.15	0.06	--
60	25.01	35.02	0.16	0.07	--
80	20.65	35.18	--	--	--
100	14.33	34.46	0.16	0.34	--
125	13.76	34.41	0.07	0.15	--
150	13.43	34.29	0.02	0.03	--

Station No.	4-181	Date - GMT	22 NOV 90
Station Name	M904-181	Time - GMT	1217
Latitude	2.53.9 S	Date - LOC	22 NOV 90
Longitude	120.51.0 W	Time - LOC	0517

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.79	34.81	0.20	0.08	2.56
9	24.69	34.83	0.20	0.08	5.94
16	24.72	34.80	0.19	0.08	5.80
20	24.74	34.82	0.18	0.07	4.92
40	24.68	34.85	0.19	0.08	1.62
60	24.72	34.98	0.19	0.09	0.54
80	20.20	34.98	0.29	0.32	0.43
100	15.39	34.64	0.23	0.32	--
125	14.11	34.41	0.10	0.17	--
150	13.68	34.34	0.07	0.12	--

Station No.	4-182	Date - GMT	23 NOV 90
Station Name	M904-182	Time - GMT	0320
Latitude	2.29.7 S	Date - LOC	22 NOV 90
Longitude	123.32.2 W	Time - LOC	2020

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.94	34.97	0.15	0.06	--
20	24.94	34.97	0.15	0.06	--
40	24.84	34.95	0.18	0.09	--
60	25.01	35.24	--	--	--
80	19.98	35.03	0.25	0.30	--
100	15.17	34.73	0.15	0.29	--
125	13.85	34.52	0.07	0.15	--
150	13.83	34.43	0.02	0.07	--

Station No.	4-183	Date - GMT	23 NOV 90
Station Name	M904-183	Time - GMT	1246
Latitude	2.16.0 S	Date - LOC	23 NOV 90
Longitude	125. 8.5 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.77	34.84	0.23	0.12	5.41
8	24.76	34.80	0.24	0.13	10.05
14	24.84	34.79	0.23	0.14	7.96
20	24.74	34.87	0.23	0.12	5.91
40	24.80	34.80	0.25	0.12	2.28
60	24.75	34.85	0.26	0.15	0.73
80	24.69	34.82	0.23	0.18	0.39
100	16.25	34.61	0.17	0.20	--
125	14.04	34.46	0.10	0.13	--
150	13.51	34.32	0.05	0.09	--

Station No.	4-184	Date - GMT	24 NOV 90
Station Name	M904-184	Time - GMT	0347
Latitude	1.26.4 S	Date - LOC	23 NOV 90
Longitude	126.20.2 W	Time - LOC	1947

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.94	34.87	0.25	0.12	--
20	24.85	34.81	0.25	0.12	--
40	24.72	34.86	0.32	0.18	--
60	24.65	34.78	0.35	0.18	--
80	24.57	34.82	0.32	0.20	--
100	17.03	34.78	0.14	0.14	--
125	14.31	34.49	0.04	0.08	--
150	13.68	34.56	0.04	0.07	--

Station No.	4-185	Date - GMT	24 NOV 90
Station Name	M904-185	Time - GMT	1245
Latitude	0.40.3 S	Date - LOC	24 NOV 90
Longitude	125.12.9 W	Time - LOC	0445

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.69	34.71	0.26	0.14	5.93
8	24.54	34.83	0.26	0.14	9.50
14	24.52	34.85	0.25	0.13	10.26
20	24.55	34.79	0.26	0.14	7.63
40	24.63	34.76	0.25	0.15	2.08
60	24.47	34.77	0.30	0.23	0.70
80	18.11	34.63	0.11	0.13	0.23
100	16.57	34.80	0.06	0.04	--
125	15.29	34.69	0.02	0.02	--
150	14.05	34.40	0.02	0.04	--

Station No.	4-186	Date - GMT	24 NOV 90
Station Name	M904-186	Time - GMT	2044
Latitude	0.12.0 S	Date - LOC	24 NOV 90
Longitude	124.26.3 W	Time - LOC	1244

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.65	34.70	0.25	0.09	--
20	24.47	34.75	0.26	0.11	--
40	24.35	34.75	0.31	0.16	--
60	23.08	35.02	0.38	0.28	--
80	20.48	34.07	0.23	0.17	--
100	17.26	34.71	0.08	0.06	--
125	15.49	34.48	0.11	0.03	--
150	14.11	34.37	0.03	0.02	--

Station No.	4-187	Date - GMT	25 NOV 90
Station Name	M904-187	Time - GMT	0347
Latitude	0.36.8 N	Date - LOC	24 NOV 90
Longitude	124.27.6 W	Time - LOC	1947

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	24.57	34.59	0.20	0.08	--
20	24.54	34.62	0.26	0.12	--
40	24.19	34.71	0.23	0.10	--
60	23.50	34.68	0.37	0.23	--
80	20.64	34.66	0.28	0.29	--
100	15.40	34.40	0.10	0.11	--
125	14.19	34.49	0.04	0.05	--
150	13.55	34.37	0.02	0.04	--

Station No.	4-188	Date - GMT	25 NOV 90
Station Name	M904-188	Time - GMT	1246
Latitude	1.36.2 N	Date - LOC	25 NOV 90
Longitude	124.22.4 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.14	34.28	0.22	0.12	8.03
8	25.15	34.27	0.22	0.12	8.40
14	25.09	34.32	0.21	0.11	7.26
20	25.10	34.28	0.22	0.11	5.75
40	25.01	34.31	0.23	0.13	1.86
60	24.25	34.57	0.28	0.22	0.90
80	23.90	34.54	0.23	0.16	0.22
100	19.00	34.41	0.20	0.26	--
125	14.51	34.33	0.07	0.13	--
150	14.10	34.44	0.11	0.18	--

Station No.	4-189	Date - GMT	26 NOV 90
Station Name	M904-189	Time - GMT	0316
Latitude	3.55.0 N	Date - LOC	25 NOV 90
Longitude	124.16.4 W	Time - LOC	1916

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.71	34.45	0.19	0.09	--
20	26.72	34.42	0.20	0.09	--
40	26.47	34.48	0.21	0.11	--
60	26.29	34.39	0.25	0.13	--
80	24.96	34.45	0.19	0.16	--
100	24.45	34.58	0.15	0.15	--
125	19.85	34.46	0.09	0.13	--
150	13.19	34.22	0.05	0.04	--

Station No.	4-190	Date - GMT	26 NOV 90
Station Name	M904-190	Time - GMT	1246
Latitude	4.59.6 N	Date - LOC	26 NOV 90
Longitude	124.11.2 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.77	34.40	0.20	0.09	8.15
10	26.74	34.36	0.21	0.09	10.94
20	26.59	34.41	0.21	0.11	8.14
27	26.54	34.39	0.23	0.12	6.59
40	26.46	34.44	0.25	0.18	2.01
60	26.12	34.44	0.23	0.17	0.66
80	25.71	34.61	0.23	0.29	--
100	24.36	34.56	0.14	0.15	0.32
125	18.86	34.28	0.10	0.15	--
150	13.62	34.15	0.04	0.06	--

Station No.	4-191	Date - GMT	27 NOV 90
Station Name	M904-191	Time - GMT	0314
Latitude	6.54.0 N	Date - LOC	26 NOV 90
Longitude	124. 4.5 W	Time - LOC	1914

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.39	34.26	0.06	0.12	--
20	28.05	34.19	0.11	0.04	--
40	28.02	34.23	0.16	0.07	--
60	27.85	34.32	0.25	0.15	--
80	27.06	34.52	0.26	0.24	--
100	23.97	34.56	0.27	0.35	--
125	16.12	34.25	0.10	0.19	--
150	13.69	34.35	0.06	0.05	--

Station No.	4-192	Date - GMT	27 NOV 90
Station Name	M904-192	Time - GMT	1248
Latitude	7.49.5 N	Date - LOC	27 NOV 90
Longitude	123.59.1 W	Time - LOC	0448

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	28.11	34.23	0.14	0.05	3.32
10	28.15	34.20	0.14	0.05	3.97
20	28.12	34.22	0.15	0.05	3.46
27	28.08	34.23	0.15	0.06	2.40
40	28.10	34.22	0.18	0.07	0.69
60	28.10	34.22	0.18	0.07	0.54
80	24.84	34.57	0.31	0.26	--
100	18.31	34.31	0.25	0.29	0.25
125	14.65	34.02	0.10	0.23	--
150	13.43	34.10	--	--	--

Station No.	4-193	Date - GMT	28 NOV 90
Station Name	M904-193	Time - GMT	035
Latitude	10. 4.0 N	Date - LOC	27 NOV 90
Longitude	123.12.6 W	Time - LOC	1915

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.68	33.25	0.16	0.06	--
20	24.45	33.98	0.35	0.18	--
40	15.78	34.11	0.25	0.25	--
60	13.91	34.15	0.12	0.32	--
80	13.11	34.28	0.03	0.35	--
100	12.79	34.25	0.05	0.20	--
125	12.42	34.18	0.03	0.09	--
150	12.02	34.91	0.01	0.07	--

Station No.	4-194	Date - GMT	28 NOV 90
Station Name	M904-194	Time - GMT	1247
Latitude	11. 3.7 N	Date - LOC	28 NOV 90
Longitude	122.52.4 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.53	33.42	0.16	0.06	4.90
9	27.60	33.48	0.16	0.06	6.37
16	27.60	34.39	0.15	0.06	5.03
20	22.85	34.20	0.22	0.12	5.66
40	16.66	34.09	0.26	0.37	0.88
60	14.08	34.01	0.18	0.37	0.46
80	13.34	34.21	0.06	0.27	0.26
100	13.00	34.28	0.03	0.18	--
125	12.27	34.27	0.01	0.04	--
150	12.06	34.04	0.01	0.09	--

Station No.	4-195	Date - GMT	29 NOV 90
Station Name	M904-195	Time - GMT	0316
Latitude	13.18.4 N	Date - LOC	28 NOV 90
Longitude	121.57.0 W	Time - LOC	1916

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.51	33.55	0.21	0.08	--
20	27.59	33.49	0.21	0.08	--
40	21.36	--	0.09	0.42	--
60	16.29	34.19	0.27	0.30	--
80	14.68	34.20	0.09	0.41	--
100	13.63	34.20	0.04	0.69	--
125	13.12	34.12	0.02	0.22	--
150	12.76	34.10	0.02	0.16	--

Station No.	4-196	Date - GMT	29 NOV 90
Station Name	M904-196	Time - GMT	1248
Latitude	14.40.7 N	Date - LOC	29 NOV 90
Longitude	121.18.9 W	Time - LOC	0448

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	27.38	33.50	0.23	0.11	7.28
10	27.41	33.49	0.23	0.11	7.93
20	27.31	33.59	0.23	0.11	5.89
27	27.27	33.51	0.26	0.15	5.15
40	24.31	34.18	0.35	0.28	2.53
60	17.77	34.00	0.28	0.33	0.54
80	14.70	33.85	0.12	0.26	--
100	14.02	34.24	0.06	0.18	0.14
125	13.52	34.30	0.05	0.24	--
150	12.28	34.04	0.06	0.13	--

Station No.	4-197	Date - GMT	30 NOV 90
Station Name	M904-197	Time - GMT	1247
Latitude	16.55.8 N	Date - LOC	30 NOV 90
Longitude	118.30.3 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.06	34.08	0.14	0.05	1.77
11	26.08	34.07	0.15	0.04	1.82
20	26.11	34.04	0.14	0.04	1.05
29	26.09	34.05	0.14	0.05	0.74
40	25.08	34.25	0.17	0.07	0.33
60	20.49	33.81	0.24	0.20	0.20
80	16.32	33.59	0.25	0.26	--
100	14.62	33.79	0.14	0.19	0.16
125	13.61	33.91	0.05	0.09	--
150	13.26	34.06	0.06	0.10	--

Station No.	4-198	Date - GMT	01 DEC 90
Station Name	M904-198	Time - GMT	0311
Latitude	18. 9.6 N	Date - LOC	30 NOV 90
Longitude	116.53.7 W	Time - LOC	1911

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.46	33.75	0.32	0.09	--
20	25.47	33.78	0.30	0.12	--
40	19.82	33.92	0.02	0.69	--
60	16.50	33.86	0.13	0.21	--
80	14.59	33.88	0.11	0.04	--
100	13.95	34.13	0.02	0.08	--
125	12.84	34.07	--	--	--
150	12.80	34.16	0.00	0.06	--

Station No.	4-199	Date - GMT	01 DEC 90
Station Name	M904-199	Time - GMT	1247
Latitude	18.48.4 N	Date - LOC	01 DEC 90
Longitude	116. 8.6 W	Time - LOC	0447

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.43	33.66	0.19	0.09	7.33
11	25.46	33.64	0.23	0.09	6.72
20	25.51	33.59	0.21	0.13	4.11
31	21.38	33.90	0.35	0.34	2.94
40	19.50	33.88	0.35	0.34	0.89
60	14.88	34.05	0.08	0.28	0.28
80	14.08	33.79	0.12	0.19	--
100	13.37	34.12	0.03	0.11	0.11
125	12.83	34.98	0.02	0.05	--
150	12.67	34.04	0.02	0.06	--

Station No.	4-200	Date - GMT	02 DEC 90
Station Name	M904-200	Time - GMT	0316
Latitude	20.23.2 N	Date - LOC	01 DEC 90
Longitude	115. 6.5 W	Time - LOC	1916

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	26.21	33.95	0.28	0.09	--
20	26.21	34.01	0.28	0.13	--
40	26.29	33.99	0.29	0.17	--
60	21.14	33.96	0.24	0.28	--
80	17.99	33.91	0.12	0.19	--
100	15.02	33.96	0.08	0.16	--
125	13.97	34.00	0.06	0.10	--
150	12.36	34.00	0.02	0.05	--

Station No.	4-201	Date - GMT	02 DEC 90
Station Name	M904-201	Time - GMT	1245
Latitude	21.22.1 N	Date - LOC	02 DEC 90
Longitude	115.22.9 W	Time - LOC	0445

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	25.47	33.94	0.18	0.13	--
11	25.54	33.89	0.18	0.13	--
20	25.60	33.87	0.18	0.12	--
29	25.54	33.88	0.17	0.11	--
40	25.54	33.89	0.15	0.16	--
60	22.39	33.84	0.30	0.34	--
80	18.77	33.76	0.15	0.18	--
100	15.17	33.60	0.10	0.12	--
125	13.75	33.87	0.05	0.07	--
150	13.08	34.09	0.01	0.04	--

Station No.	4-202	Date - GMT	03 DEC 90
Station Name	M904-202	Time - GMT	0316
Latitude	23.17.7 N	Date - LOC	02 DEC 90
Longitude	116. 1.0 W	Time - LOC	1916

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.56	33.97	0.06	0.02	--
20	22.59	34.03	0.06	0.02	--
40	22.60	34.00	0.07	0.02	--
60	19.37	33.49	0.13	0.07	--
80	17.91	33.54	0.14	0.14	--
100	17.39	33.67	0.20	0.22	--
125	14.77	33.41	0.10	0.15	--
150	13.21	33.62	0.04	0.07	--

Station No.	4-203	Date - GMT	03 DEC 90
Station Name	M904-203	Time - GMT	1248
Latitude	24. 4.8 N	Date - LOC	03 DEC 90
Longitude	116.16.6 W	Time - LOC	0448

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	22.25	34.10	0.06	0.02	--
11	22.26	34.17	0.07	0.02	--
20	22.25	34.11	0.07	0.02	--
31	22.33	34.06	0.06	0.01	--
40	22.20	34.17	0.06	0.02	--
60	22.28	34.10	0.06	0.01	--
80	18.83	33.63	0.10	0.07	--
100	17.05	33.61	0.15	0.13	--
125	14.60	33.53	0.12	0.12	--
150	12.89	33.37	0.08	0.09	--

Station No.	4-204	Date - GMT	04 DEC 90
Station Name	M904-204	Time - GMT	0316
Latitude	26.12.0 N	Date - LOC	03 DEC 90
Longitude	117. 2.2 W	Time - LOC	1916

Depth (m)	Temp (deg C)	Salinity (psu)	Chloro (mg/m3)	Phaeo (mg/m3)	Productivity (mgC/m3/day)
0	19.86	33.46	0.11	0.05	--
20	19.81	33.50	0.09	0.03	--
40	17.80	33.46	0.11	0.03	--
60	15.10	32.93	0.24	0.17	--
80	14.08	32.85	0.19	0.19	--
100	12.85	32.65	0.10	0.12	--
125	12.13	33.04	0.09	0.11	--
150	11.34	32.98	0.07	0.17	--

APPENDIX B

SCIENTIFIC PERSONNEL

<u>Cruise Leaders</u>	<u>Leg</u>
Tim Gerrodette, SWFSC	1
Paul Wade, SWFSC	2
Paul Fiedler, SWFSC	3
Debbie Palka, SWFSC	4
 <u>Assistant Cruise Leaders</u>	
Stephanie Phibbs, SWFSC	1
Cheryl Glick, SWFSC	2
 <u>Environmental Data Collection</u>	
Julie Ellingson, NOAA ship <i>McArthur</i>	1,2,4
Deanna Niemer, NOAA ship <i>McArthur</i>	1-4
 <u>Bird Observers</u>	
Mike Force, Contractor	1-4
Tom Staudt, Contractor	1-4
 <u>Marine Mammal Identification experts</u>	
Gary Friedrichsen, SWFSC	1-2
Jim Cotton, SWFSC	1-2
Scott Benson, SWFSC	3-4
Rick LeDuc, SWFSC	3-4
 <u>Marine Mammal Observers</u>	
Wes Armstrong, SWFSC	1-2
Brian Smith, SWFSC	1-2
Scott Leopold, SWFSC	1-2
Bill Irwin, SWFSC	1-2
Darlene Everhart, SWFSC	3-4
Jim Carretta, SWFSC	3-4
Joe Raffetto, SWFSC	3-4
Carrie LeDuc, SWFSC	3-4
 <u>Other Scientific Crew Members</u>	
Angel Herrera, Costa Rica	3
Pedro Ramirez, Peru	4

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