NOAA Technical Memorandum NMFS

MARCH 1988

REPORT OF ECOSYSTEM STUDIES CONDUCTED DURING THE 1986 EASTERN TROPICAL PACIFIC DOLPHIN SURVEY ON THE RESEARCH VESSEL *DAVID STARR JORDAN*

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Robert L. Pitman
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NOAA-TM-NMFS-SWFC-105

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Center

NOAA Technical Memorandum NMFS

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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 1986, the Southwest Fisheries Center (SWFC) conducted the first survey of a six-year survey program to monitor population trends in ETP dolphin stocks (Holt et al, 1987). Two ships were used, the *David Starr Jordan* (hereafter referred to as the *Jordan*) and the *McArthur*. The vessels operated concurrently in the ETP for four months, August through November. The same area and time period will be surveyed during subsequent years of the program. As part of this monitoring program SWFC is also studying the physical and biological environment inhabited by the dolphins. This ecosystem approach will not only facilitate the interpretation of dolphin population trends detected by these surveys, but will provide information necessary for understanding the biological basis of 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). Their participation is through their long term Eastern Pacific Ocean Climate Study (EPOCS) and Tropical Ocean Global Atmosphere (TOGA) programs.

This data report describes the types of data collected and sampling techniques used, and summarizes data collected (including the disposition of the data) for the major projects from the *David Starr Jordan*. Results from the *McArthur* are available in a separate data report (Thayer et al.,1988).

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. We are monitoring these environmental effects by examining relationships between dolphin distribution and oceanographic patterns and processes. We sample these phenomena, concurrently with the dolphin sighting census, by measuring the regional and local changes in such environmental parameters as chlorophyll, nutrients, temperature, salinity, oxygen 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 El Niños.

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 program, which include developing the ability to forecast occurrences of the El Niño Southern Oscillation phenomena.

MATERIALS AND METHODS

Oceanography

As the ship was underway, temperature, salinity, and fluorescence of surface water were measured and recorded on strip-charts. A Turner Designs[1] fluorometer was used to measure continuous fluorescence; a Turner 111[1] fluorometer was used to measure discrete fluorescence. An ODEC Model TSG-102 thermosalinograph measured continuous temperature and salinity. Discrete water samples were collected at regular intervals to calibrate continuous data.

Conductivity temperature and depth (CTD) device casts were made approximately two times per night with a Neil Brown CTD. The CTD casts lasted approximately 60 minutes each. The CTD was lowered to 1000 meters and sensors connected to shipboard computers measured conductivity, temperature, depth, pressure, oxygen and salinity.

Twelve Niskin bottles on the CTD rosette collected water from discrete depths (20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 500 and 1000 m). Samples were collected for chlorophyll, nutrients (nitrate, nitrite, phosphate and silicate), salinity, oxygen, and phytoplankton in the following quantities: chlorophyll, 10 270 ml bottles/cast; nutrient, 10 5 ml bottles/cast; salinity, 3 150 ml bottles/cast; oxygen, 3 250 ml bottles/cast; and phytoplankton, 4 500 ml bottles from 10 selected casts. At each CTD station, surface chlorophyll, nutrient, salinity and oxygen samples were collected from the ship's seawater intake which is located at a depth of 3 meters. At the 10 stations where phytoplankton samples were collected from the CTD, surface phytoplankton samples were also collected.

Expendable bathythermograph (XBT) drops were made daily at 0300, 0900, 1500, and 2100 hours. On about half of the sea days, when the vessel was in an area of particular interest for dolphin distribution studies, an additional XBT was deployed at 0600 and

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

1800 hrs. A SEAS XBT system was utilized. Position, time and data for each drop were recorded on NOAA XBT logs and tapes.

An acoustic data acquisition system (ADA) was operated during the entire cruise on the *Jordan*. Acoustic backscatter was recorded using a 38 kHz down-looking sonar. Backscatter was digitized and integrated in 10-meter intervals between the surface and a depth of 200 meters. Thirty pings were averaged and the results were stored every fifteen minutes. Five 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

Two concurrent seabird visual censuses were conducted during the cruise. As part of a distributional study of seabird ecology in the ETP, sightings of all marine birds were recorded, by selected mammal observers experienced in seabird censusing, during and incidental to regular dolphin survey watches on pedestal mounted 25X Fujinon binoculars. Additional information was also recorded on interspecific associations with other birds and mammals, behavior, plumage, and direction of travel.

A separate seabird abundance census was conducted utilizing standard strip-transect seabird censusing methodology. Volunteer observers stood shifts for a total of at least six hours a day (weather permitting) on the flying bridge. The observers used hand-held 7X Fujinon binoculars and recorded all birds which passed within 300 meters of the ship. Species, number, and behavior of birds were recorded as well as associations of seabirds with marine mammals, fish, or flotsam.

One of the authors (RLP) surveyed and sampled surface organisms during nightly CTD stations. The primary purpose of this survey was 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 dip net 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 an ongoing study of the distributional ecology of sea turtles in the ETP, all sightings of marine turtles made incidental to the systematic mammal and bird surveys were recorded during the cruise. Under normal field conditions, specific identification of sea turtles other than leatherbacks 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 for future identification.

As part of a study on sea snake (*Pelamis platurus*) distribution and abundance in the ETP, conducted by investigators at Scripps Institution of Oceanography and Smithsonian Tropical Research Institute in Panama, observers were requested to log any observations of sea snakes during the cruise.

STUDY AREA AND ITINERARY

The *Jordan* departed San Diego on 29 July, 1986 and returned on 5 December, 1986. The cruise was conducted in four legs of approximately 30 days each (Figure 1), with scheduled port calls in Manzanillo, Mexico and one in Panama City, Panama. In addition, two separate medical emergencies required unscheduled stops in San Jose, Guatemala and Baltra, Galapagos Islands. The cruise tracks were chosen to maximize coverage of the known ranges of the two target species, spotted dolphin (*Stenella attenuata*) and spinner dolphins, (*Stenella longirostris*) in the eastern tropical Pacific.

RESULTS

Holt and Sexton (1987) reported on the dolphin assessment methods and data from the 1986 *Jordan* cruise.

Oceanography

Continuous data from the thermosalinograph and fluorometer strip-chart recorders are now being digitized at SWFC.

Figures 2 and 3 show the locations of the 149 CTD casts. Information collected at each CTD station is contained in Appendix A.

The disposition of biological samples is as follows. Chlorophyll samples were processed at sea, and data (Appendix A) were processed at the SWFC in La Jolla. Salinity and temperature data (Appendix A) were recorded from the CTD sensor. Salinity samples collected for CTD calibration were shipped to AOML for analysis. Nutrient samples (frozen) were shipped to Duke University Marine Laboratory and are now being analyzed. An addendum containing nutrient data will be available from SWFC at a later date.

The oxygen sensor on the CTD was determined to be inoperative during the cruise and no data are reported. Whole water plankton samples were preserved in formalin and will be analyzed for microplankton floristics at SWFC.

XBT data are being processed by AOML. The data were copied from the hard disk to a floppy each day. Plots indicating total XBT stations are in Figure 4. XBT data were sent by the SEAS system daily to the National Ocean Service, NOAA[2] and are available from them through standard data transfer channels.

The acoustical depth analysis system data are now being edited and processed at SWFC.

Table 2 shows the locations of the five drifting buoy deployments. Figure 5 shows the tracks of these buoys.

Biological Observations

Observation effort and preliminary results of the distributional seabird survey are given in Table 3. Preliminary results and observation effort of the concurrent quantitative strip-transect bird surveys are shown in Table 4.

Figure 6 shows the location of 95 night-light dip net stations occupied during the cruise. Table 5 summarizes observations and specimens collected during these stations. Approximately 800 flying fish of at least 12 species were collected. These will be analyzed at SWFC and ultimately donated to the Marine Vertebrate Collection of Scripps Institution of Oceanography. Several hundred squids, mostly juveniles and subadults, were also collected. These will be identified at the Center, and eventually stored at the Santa Barbara Natural History Museum.

The location of 837 individual turtle sightings are plotted in Figure 7. The figure includes three sightings of leatherback turtles (*Dermochelys coriacea*); the remainder are unidentified sea turtles. Fifty-one individual turtles were photographed and identified to species. Preliminary results indicate that the olive ridley (*Lepidochelys olivacea*) is by far the most abundant and widespread sea turtle in the ETP south of Baja, California, while only the loggerhead turtle, (*Caretta caretta*) was identified off Baja.

Table 6 lists the dates, locations and numbers of snakes observed. Three sea snakes were seen on two occasions during daylight hours and seven seas snakes were seen on three occasions during 95 regular night-light stations (Figure 6).

Table 1 lists the total numbers of oceanographic and biological samples collected.

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[2]Persons wishing to receive copies of this information should write to: National Ocean Service; SEAS Office; N/OS1; Rm. 103; 6001 Exec. Blvd.; Rockville, MD 20852.

An addendum containing nutrient data will follow this data report. Persons interested in receiving this addendum should contact the SWFC.

ACKNOWLEDGEMENTS

Many people contributed to the success of this cruise. The authors especially wish to thank the following people whose invaluable efforts made this project possible: the officers and crew of the *David Starr Jordan* for their considerable time and skilled efforts, P. Stangl and W. Parks provided the necessary logistical support, and B. Engstrand and B. Watkins who provided indispensable support in procurement. C. Oliver and A. Schmidt (Duke University Marine Laboratory) contributed valuable data programming support. R. Owen and C. Kimbrell were of great assistance in vessel staging. W. Krug (AOML) staged the physical oceanography gear and acted as a liaison between AOML, Scripps Institution of Oceanography, Pacific Marine Center and Southwest Fisheries Center. Other AOML personnel the authors wish to thank include Michael Minton of AOML for development of computer software; Robert Roddy for drift buoy construction; Mayra Pazos for buoy data processing and Tom Miller for servicing computer hardware. R. Holland contributed many of the plots and assisted in computer logistics and procurement. K. Blum was of great assistance in data editing and procurement. D. DeMaster, R. Holt and P. Fiedler contributed valuable critical reviews. Part of the manuscript was typed by L. Prescott and C. Ratcliffe, and H. Orr drafted some of the figures. Dr. Ken Mooney of the U.S. TOGA Office kindly provided XBT probes to supplement the ship's normal supply, allowing us to study dolphin habitats with significantly increased resolution. We are grateful to I. Barrett, J. Carr, D.DeMaster, and B. Remington for their support during the cruise preparations and the cruise itself.

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Thayer, V.G., B.G. McDonald, J.M. Ellingson, C.W. Oliver, D.W. Behringer and S.B. Reilly, 1988. Report of ecosystem studies conducted during the 1986 eastern tropical Pacific dolphin survey on the research vessel *McArthur*. NOAA-TM-NMFS-SWFC-104, 6 p.

Table 1. Oceanographic and biological data collected, Jordan, 29 July-5 December 1986.

	Chlorophyll[a]	Nutrients	Salinity	Phytoplankton	XBT	CTD
Sample quantity	1639 @270ml	1639 @5ml	447 @250ml	50 @500ml	582	49
CTD depths	20,40,60,80, 100,120,140, 160,180,200m	20,40,60,890, 100,120,140, 160,180,200m	20,500, 1000m	40,80, 120,160	-	-
Surface	Yes	Yes	No	Yes	-	Yes
Data disposition	SWFC	Duke Univ.	AOML	SWFC	AOML	AOML
Sample disposition	Disposed	Duke Univ. Mar. Lab.	AOML	SWFC	Disposed	-

	Flying Fish	Squid	Post-Larvae Fish	Sea Turtles (sighted)	Birds (sighted (during mammal survey)	Birds (transect survey)
Sample quantity	778	Several hundred	Several hundred	837	19,371	10,363
Data disposition	SWFC	SWFC	SWFC	SWFC	SWFC	SWFC
Sample disposition	SWFC	SWFC	SWFC	-	-	-

Table 2. Locations of drifting buoys deployed, Jordan, 29 July-5 December, 1986.

Date	Latitude	Longitude
17 August	07°04.6N	117°29.3W
12 September	00°01.35S	110°01.20W
20 September	00°01.14S	103°21.79W
21 September	06°00.05S	95°27.71W
27 November	07°59.2N	124°25.6W

Table 3. Summary of distributional seabird survey made incidental to dolphin survey, using 25x mounted binoculars, Jordan, 29 July-5 December, 1986

	Leg I	Leg II	Leg III	Leg IV	Total
#Obs. hrs.	90.25	77.0	72.25	79.0	318.5
# birds	3,991	5,769	4,939	4,672	19,371
# species	46	44	39	42	52

Table 4. Summary of seabird abundance survey, using 7x hand-held binoculars, Jordan, 29 July-5 December 1986.

	Leg I	Leg II	Leg III	Leg IV	Total
#Obs. hrs.	191.73	93.48	131.97	140.47	557.65
# birds	2,122	2,084	2,390	3,767	10,363
# species	22	53	52	36	72

Table 5. Results of night-light dip-net sampling, JORDAN, 29 July - 5 December, 1986.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
1	86/08/05	1.0	17 56'N	112 49'W						5	8	4			
2	86/08/06	1.0	16 59'N	114 05'W						5	8	2			
3	86/08/09	1.0	17 07'N	108 54'W						5	8	3			
4	86/08/10	1.0	15 34'N	110 15'W						10	8	11			
4	86/08/10	1.0	15 34'N	110 15'W						20	8	1			
4	86/08/10	1.0	15 34'N	110 15'W						400	8	1			
5	86/08/11	1.0	15 53'N	106 40'W						10	8	13			
5	86/08/11	1.0	15 53'N	106 40'W						20	8	1			
6	86/08/12	1.0	15 36'N	106 26'W						20	8	10			
6	86/08/12	1.0	15 36'N	106 26'W						400	8	1			
7	86/08/13	1.0	10 19'N	109 14'W						5	8	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
100 = Myctophidae (lanternfish)
200 = Scombridae (tunas)
300 = Gempylidae (snake mackerel)
400 = Coryphaenidae (dolphinfish)
500 = Other

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 =
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	Location 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)
8	86/08/15	1.0	04 10'N	113 41'W	4.5					10	2	0	1	1	0
8	86/08/15	1.0	04 10'N	113 41'W	4.5					20	8	1			
8	86/08/15	1.0	04 10'N	113 41'W	4.5					30	3	2			
	86/08/16	0.0	04 17'N	113 55'W						30	8	4			
9	86/08/16	1.0	06 21'N	116 41'W	5.0			27.1		5	8	0	2	1	0
9	86/08/16	1.0	06 21'N	116 41'W	5.0			27.1		10	2	0			
9	86/08/16	1.0	06 21'N	116 41'W	5.0			27.1		20	2	3			
9	86/08/16	1.0	06 21'N	116 41'W	5.0			27.1		30	3	2			
	86/08/17	0.0	07 55'N	117 29'W						30	8	1			
10	86/08/18	0.5	08 00'N	116 00'W						5	1	0			
11	86/08/18	1.0	08 24'N	115 08'W		4	3	27.8		30	3	0	2	2	0
11	86/08/18	1.0	08 24'N	115 08'W		4	3	27.8		100	2	0			
	86/08/21	0.0	12 44'N	104 17'W		4	3			20	8	2			
12	86/08/21	1.0	14 18'N	101 14'W		3	3			10	3	0	2	4	0
12	86/08/21	1.0	14 18'N	101 14'W		3	3			20	2	3			
12	86/08/21	1.0	14 18'N	101 14'W		3	3			500	8	2			
13	86/08/22	1.0	14 26'N	097 40'W		3	3	29.7	34.30	5	1	1	1	2	2
13	86/08/22	1.0	14 26'N	097 40'W		3	3	29.7	34.30	10	4	1	2	4	1
13	86/08/22	1.0	14 26'N	097 40'W		3	3	29.7	34.30	400	2	0	3	4	10
13	86/08/22	1.0	14 26'N	097 40'W		3	3	29.7	34.30	500	8	8			
14	86/08/24	1.0	15 43'N	102 17'W				30.1	34.50	10	5	12	1	2	0
14	86/08/24	1.0	15 43'N	102 17'W				30.1	34.50	20	4	7	2	3	1
14	86/08/24	1.0	15 43'N	102 17'W				30.1	34.50	30	3	2			
14	86/08/24	1.0	15 43'N	102 17'W				30.1	34.50	100	8	0			
14	86/08/24	1.0	15 43'N	102 17'W				30.1	34.50	400	8	1			
14	86/08/24	1.0	15 43'N	102 17'W				30.1	34.50	500	8	2			
	86/08/24	0.0	15 43'N	102 17'W						20	8	2			
	86/08/24	0.0	15 43'N	102 17'W						400	8	1			
15	86/08/25	1.0	16 51'N	103 28'W		5		29.7	34.49	10	5	18	1	4	0
15	86/08/25	1.0	16 51'N	103 28'W		5		29.7	34.49	20	4	10	2	2	0
15	86/08/25	1.0	16 51'N	103 28'W		5		29.7	34.49	30	3	6	3	8	6
15	86/08/25	1.0	16 51'N	103 28'W		5		29.7	34.49	400	2	1			
15	86/08/25	1.0	16 51'N	103 28'W		5		29.7	34.49	500	8	1			
16	86/09/02	1.0	16 40'N	108 21'W		5		28.4	34.60	20	1	0	1	3	0
16	86/09/02	1.0	16 40'N	108 21'W		5		28.4	34.60	30	2	1	2	3	0
16	86/09/02	1.0	16 40'N	108 21'W		5		28.4	34.60	100	1	0			
16	86/09/02	1.0	16 40'N	108 21'W		5		28.4	34.60	400	1	0			
17	86/09/03	1.0	14 34'N	112 00'W	1.0	5	1	28.9	34.40	10	2	0	2	1	0
17	86/09/03	1.0	14 34'N	112 00'W	1.0	5	1	28.9	34.40	30	1	0			
17	86/09/03	1.0	14 34'N	112 00'W	1.0	5	1	28.9	34.40	100	1	0			
	86/09/04	0.0	14 23'N	112 20'W						20	8	1			
	86/08/04	0.0	14 23'N	112 20'W						30	8	2			
18	86/09/04	1.0	12 38'N	114 09'W	2.0	5	4	29.2	33.87	5	2	0	2	1	1
18	86/09/04	1.0	12 38'N	114 09'W	2.0	5	4	29.2	33.87	10	2	0			
18	86/09/04	1.0	12 38'N	114 09'W	2.0	5	4	29.2	33.87	20	8	1			
18	86/09/04	1.0	12 38'N	114 09'W	2.0	5	4	29.2	33.87	30	8	0			
18	86/09/04	1.0	12 38'N	114 09'W	2.0	5	4	29.2	33.87	100	2	0			

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
18	86/09/04	1.0	12 38'N	114 09'W	2.0	5	4	29.2	33.87	300	1	0			
	86/09/05	0.0	12 42'N	113 07'W						30	8	2			
19	86/09/05	1.0	12 50'N	110 51'W	2.5	5	4	29.2	34.03	5	2	0			
19	86/09/05	1.0	12 50'N	110 51'W	2.5	5	4	29.2	34.03	10	2	0			
19	86/09/05	1.0	12 50'N	110 51'W	2.5	5	4	29.2	34.03	300	1	0			
	86/09/06	0.0	12 52'N	109 42'W						30	8	1			
	86/09/06	0.0	12 59'N	107 08'W						30	8	1			
20	86/09/06	1.0	12 59'N	107 02'W	3.5	5	3	28.0	33.53	5	2	0	2	2	0
20	86/09/06	1.0	12 59'N	107 02'W	3.5	5	3	28.0	33.53	10	3	0			
20	86/09/06	1.0	12 59'N	107 02'W	3.5	5	3	28.0	33.53	20	8	0			
	86/09/07	0.0	13 02'N	106 46'W						20	8	1			
	86/09/07	0.0	13 02'N	106 46'W						30	8	2			
	86/09/07	0.0	13 03'N	106 00'W						20	8	2			
21	86/09/07	1.0	13 09'N	103 46'W	3.5	5	1	29.0	34.16	5	2	0	2	2	0
21	86/09/07	1.0	13 09'N	103 46'W	3.5	5	1	29.0	34.16	10	2	0			
21	86/09/07	1.0	13 09'N	103 46'W	3.5	5	1	29.0	34.16	20	8	0			
21	86/09/07	1.0	13 09'N	103 46'W	3.5	5	1	29.0	34.16	300	1	0			
22	86/09/08	2.0	13 21'N	100 33'W	1.0	1	3	29.2	34.02	5	4	0			
22	86/09/08	2.0	13 21'N	100 33'W	1.0	1	3	29.2	34.02	10	4	9			
22	86/09/08	2.0	13 21'N	100 33'W	1.0	1	3	29.2	34.02	20	4	8			
22	86/09/08	2.0	13 21'N	100 33'W	1.0	1	3	29.2	34.02	30	8	11			
23	86/09/09	1.0	12 02'N	101 34'W	1.0	2	1	28.0	33.45	5	2	0	2	6	0
23	86/09/09	1.0	12 02'N	101 34'W	1.0	2	1	28.0	33.45	10	3	1	3	1	0
23	86/09/09	1.0	12 02'N	101 34'W	1.0	2	1	28.0	33.45	30	8	1			
23	86/09/09	1.0	12 02'N	101 34'W	1.0	2	1	28.0	33.45	100	2	0			
24	86/09/10	1.0	09 34'N	104 22'W	3.0	2	3	28.1	33.54	10	2	1	1	2	0
24	86/09/10	1.0	09 34'N	104 22'W	3.0	2	3	28.1	33.54	100	2	0	2	3	0
24	86/09/10	1.0	09 34'N	104 22'W	3.0	2	3	28.1	33.54	300	1	0	3	2	0
24	86/09/10	1.0	09 34'N	104 22'W	3.0	2	3	28.1	33.54	400	5	0			
24	86/09/10	1.0	09 34'N	104 22'W	3.0	2	3	28.1	33.54	500	8	1			
25	86/09/11	1.0	07 32'N	106 53'W	3.0	2	2	27.6	33.30	5	1	0	1	1	0
25	86/09/11	1.0	07 32'N	106 53'W	3.0	2	2	27.6	33.30	10	1	0	2	2	0
25	86/09/11	1.0	07 32'N	106 53'W	3.0	2	2	27.6	33.30	20	8	1			
25	86/09/11	1.0	07 32'N	106 53'W	3.0	2	2	27.6	33.30	100	2	0			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	5	3	0			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	10	2	0			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	20	8	8			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	30	8	2			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	100	5	0			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	200	8	0			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	400	8	0			
26	86/09/13	1.0	05 00'N	110 00'W	4.5	5	3	26.8	34.00	500	8	0			
27	86/09/13	1.0	03 00'N	110 00'W	4.0	3	3	24.9	34.75	5	3	0	1	1	0
27	86/09/13	1.0	03 00'N	110 00'W	4.0	3	3	24.9	34.75	20	8	1	2	3	0
27	86/09/13	1.0	03 00'N	110 00'W	4.0	3	3	24.9	34.75	30	8	3			
27	86/09/13	1.0	03 00'N	110 00'W	4.0	3	3	24.9	34.75	100	5	0			
27	86/09/13	1.0	03 00'N	110 00'W	4.0	3	3	24.9	34.75	400	1	0			

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
28	86/09/14	0.8	00 30'N	110 00'W	4.5	3	2	23.3	34.98	5	2	0	2	3	0
28	86/09/14	0.8	00 30'N	110 00'W	4.5	3	2	23.3	34.98	10	1	1			
28	86/09/14	0.8	00 30'N	110 00'W	4.5	3	2	23.3	34.98	20	8	1			
28	86/09/14	0.8	00 30'N	110 00'W	4.5	3	2	23.3	34.98	100	4	0			
	86/09/15	0.0	00 00'N	110 00'W						10	8	3			
	86/09/15	0.0	00 00'N	110 00'W						20	8	3			
29	86/09/15	1.0	02 00'S	110 00'W	5.0	5	4	23.4	35.22	5	4	0	2	3	0
29	86/09/15	1.0	02 00'S	110 00'W	5.0	5	4	23.4	35.22	20	8	4			
29	86/09/15	1.0	02 00'S	110 00'W	5.0	5	4	23.4	35.22	30	8	4			
29	86/09/15	1.0	02 00'S	110 00'W	5.0	5	4	23.4	35.22	100	1	0			
29	86/09/15	1.0	02 00'S	110 00'W	5.0	5	4	23.4	35.22	400	1	0			
29	86/09/15	1.0	02 00'S	110 00'W	5.0	5	4	23.4	35.22	500	2	0			
	86/09/16	0.0	02 28'S	110 00'W						5	8	1			
30	86/09/16	1.0	05 00'S	110 00'W	4.5	4	3	23.4	35.29	5	1	0	2	4	0
30	86/09/16	1.0	05 00'S	110 00'W	4.5	4	3	23.4	35.29	20	1	0			
30	86/09/16	1.0	05 00'S	110 00'W	4.5	4	3	23.4	35.29	100	2	0			
30	86/09/16	1.0	05 00'S	110 00'W	4.5	4	3	23.4	35.29	400	3	3			
31	86/09/17	1.0	03 00'S	107 22'W	4.0	4	1	23.2	35.20	5	1	0	1	1	0
31	86/09/17	1.0	03 00'S	107 22'W	4.0	4	1	23.2	35.20	100	2	0	2	1	0
32	86/09/18	1.0	00 19'S	103 48'W	4.0	4	2	21.9	35.03	5	1	0	1	1	0
32	86/09/18	1.0	00 19'S	103 48'W	4.0	4	2	21.9	35.03	100	4	0	2	4	0
33	86/09/19	1.0	01 56'N	101 06'W	4.0	4	2	23.9	34.30	5	2	0	2	5	3
33	86/09/19	1.0	01 56'N	101 06'W	4.0	4	2	23.9	34.30	10	1	0			
33	86/09/19	1.0	01 56'N	101 06'W	4.0	4	2	23.9	34.30	20	8	1			
33	86/09/19	1.0	01 56'N	101 06'W	4.0	4	2	23.9	34.30	100	4	0			
33	86/09/19	1.0	01 56'N	101 06'W	4.0	4	2	23.9	34.30	300	1	0			
34	86/09/20	1.0	04 10'N	097 45'W	4.5	3	3	26.6	33.73	5	3	0	1	2	0
34	86/09/20	1.0	04 10'N	097 45'W	4.5	3	3	26.6	33.73	30	8	2	2	5	0
34	86/09/20	1.0	04 10'N	097 45'W	4.5	3	3	26.6	33.73	100	4	0			
34	86/09/20	1.0	04 10'N	097 45'W	4.5	3	3	26.6	33.73	300	1	0			
35	86/09/21	1.0	06 35'N	094 30'W	4.5	3	2	27.3	33.12	5	2	0			
35	86/09/21	1.0	06 35'N	094 30'W	4.5	3	2	27.3	33.12	10	2	3			
35	86/09/21	1.0	06 35'N	094 30'W	4.5	3	2	27.3	33.12	30	8	1			
36	86/09/22	2.0	09 04'N	091 12'W	2.0	3	3	27.6	33.56	5	4	0	1	6	0
36	86/09/22	2.0	09 04'N	091 12'W	2.0	3	3	27.6	33.56	10	4	18			
36	86/09/22	2.0	09 04'N	091 12'W	2.0	3	3	27.6	33.56	20	8	13			
36	86/09/22	2.0	09 04'N	091 12'W	2.0	3	3	27.6	33.56	30	8	5			
36	86/09/22	2.0	09 04'N	091 12'W	2.0	3	3	27.6	33.56	100	4	0			
36	86/09/22	2.0	09 04'N	091 12'W	2.0	3	3	27.6	33.56	200	1	2			
36	86/09/22	2.0	09 04'N	091 12'W	2.0	3	3	27.6	33.56	400	8	0			
37	86/09/23	1.0	09 03'N	090 06'W	2.0	3	3	27.2	34.15	5	3	0	1	6	0
37	86/09/23	1.0	09 03'N	090 06'W	2.0	3	3	27.2	34.15	10	3	3			
37	86/09/23	1.0	09 03'N	090 06'W	2.0	3	3	27.2	34.15	20	8	8			
37	86/09/23	1.0	09 03'N	090 06'W	2.0	3	3	27.2	34.15	30	8	1			
37	86/09/23	1.0	09 03'N	090 06'W	2.0	3	3	27.2	34.15	100	5	0			
38	86/09/24	1.0	09 13'N	091 42'W	3.0	5	1	28.6	33.28	5	2	0	2	3	3
38	86/09/24	1.0	09 13'N	091 42'W	3.0	5	1	28.6	33.28	10	5	12	3	8	2

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
38	86/09/24	1.0	09 13'N	091 42'W	3.0	5	1	28.6	33.28	20	8	1			
38	86/09/24	1.0	09 13'N	091 42'W	3.0	5	1	28.6	33.28	30	8	1			
38	86/09/24	1.0	09 13'N	091 42'W	3.0	5	1	28.6	33.28	200	8	4			
38	86/09/24	1.0	09 13'N	091 42'W	3.0	5	1	28.6	33.28	300	1	1			
38	86/09/24	1.0	09 13'N	091 42'W	3.0	5	1	28.6	33.28	400	1	1			
39	86/09/25	1.0	11 58'N	094 27'W	1.0	5	1	29.6	33.62	5	2	0	1	8	0
39	86/09/25	1.0	11 58'N	094 27'W	1.0	5	1	29.6	33.62	10	5	7	3	8	1
39	86/09/25	1.0	11 58'N	094 27'W	1.0	5	1	29.6	33.62	30	8	3			
39	86/09/25	1.0	11 58'N	094 27'W	1.0	5	1	29.6	33.62	100	2	0			
39	86/09/25	1.0	11 58'N	094 27'W	1.0	5	1	29.6	33.62	200	8	6			
	86/09/26	0.0	12 08'N	094 39'W						20	8	1			
40	86/09/26	1.0	13 54'N	094 14'W	4.0	5	1	29.6	34.03	5	2	0	1	5	0
40	86/09/26	1.0	13 54'N	097 14'W	4.0	5	1	29.6	34.03	10	2	1	2	8	1
40	86/09/26	1.0	13 54'N	097 14'W	4.0	5	1	29.6	34.03	20	8	2			
40	86/09/26	1.0	13 54'N	097 14'W	4.0	5	1	29.6	34.03	30	8	0			
40	86/09/26	1.0	13 54'N	097 14'W	4.0	5	1	29.6	34.03	200	8	4			
40	86/09/26	1.0	13 54'N	097 14'W	4.0	5	1	29.6	34.03	300	1	0			
40	86/09/26	1.0	13 54'N	097 14'W	4.0	5	1	29.6	34.03	400	8	3			
40	86/09/26	1.0	13 54'N	097 14'W	4.0	5	1	29.6	34.03	500	8	8			
41	86/09/27	1.0	16 00'N	100 10'W	4.0	5	1	29.6	34.27	5	2	0	1	4	0
41	86/09/27	1.0	16 00'N	100 10'W	4.0	5	1	29.6	34.27	10	4	13	2	1	1
41	86/09/27	1.0	16 00'N	100 10'W	4.0	5	1	29.6	34.27	30	8	1	3	2	1
41	86/09/27	1.0	16 00'N	100 10'W	4.0	5	1	29.6	34.27	200	8	1			
41	86/09/27	1.0	16 00'N	100 10'W	4.0	5	1	29.6	34.27	400	2	4			
41	86/09/27	1.0	16 00'N	100 10'W	4.0	5	1	29.6	34.27	500	3	1			
42	86/09/28	1.0	17 33'N	102 52'W	2.0	5	3	29.7	34.24	5	2	0	1	6	0
42	86/09/28	1.0	17 33'N	102 52'W	2.0	5	3	29.7	34.24	10	6	16	2	3	0
42	86/09/28	1.0	17 33'N	102 52'W	2.0	5	3	29.7	34.24	20	8	2			
42	86/09/28	1.0	17 33'N	102 52'W	2.0	5	3	29.7	34.24	30	8	2			
42	86/09/28	1.0	17 33'N	102 52'W	2.0	5	3	29.7	34.24	100	3	0			
42	86/09/28	1.0	17 33'N	102 52'W	2.0	5	3	29.7	34.24	400	2	1			
42	86/09/28	1.0	17 33'N	102 52'W	2.0	5	3	29.7	34.24	500	3	3			
	86/09/28	0.0	17 34'N	102 52'W						10	8	2			
	86/09/28	0.0	17 34'N	102 52'W						30	8	3			
43	86/09/29	1.0	18 24'N	104 16'W	4.0	5	4	29.1	34.28	5	2	0	1	2	0
43	86/09/29	1.0	18 24'N	104 16'W	4.0	5	4	29.1	34.28	10	4	9	2	2	1
43	86/09/29	1.0	18 24'N	104 16'W	4.0	5	4	29.1	34.28	30	8	1	3	2	4
43	86/09/29	1.0	18 24'N	104 16'W	4.0	5	4	29.1	34.28	200	8	20			
43	86/09/29	1.0	18 24'N	104 16'W	4.0	5	4	29.1	34.28	400	8	1			
43	86/09/29	1.0	18 24'N	104 16'W	4.0	5	4	29.1	34.28	500	4	4			
44	86/10/04	1.0	18 16'N	104 24'W	3.0	5	1	28.7	34.15	5	2	0	1	4	0
44	86/10/04	1.0	18 16'N	104 24'W	3.0	5	1	28.7	34.15	10	3	8	2	2	0
44	86/10/04	1.0	18 16'N	104 24'W	3.0	5	1	28.7	34.15	20	8	1	3	3	4
44	86/10/04	1.0	18 16'N	104 24'W	3.0	5	1	28.7	34.15	30	8	2			
44	86/10/04	1.0	18 16'N	104 24'W	3.0	5	1	28.7	34.15	100	2	0			
44	86/10/04	1.0	18 16'N	104 24'W	3.0	5	1	28.7	34.15	400	8	1			
44	86/10/04	1.0	18 16'N	104 24'W	3.0	5	1	28.7	34.15	500	2	1			

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
	86/10/05	0.0	17 53'N	104 26'W						30	8	2			
45	86/10/05	1.0	14 27'N	104 43'W	2.0		1	28.8	34.04	5	2	0	2	4	1
45	86/10/05	1.0	14 27'N	104 43'W	2.0		1	28.8	34.04	10	2	1	3	5	32
45	86/10/05	1.0	14 27'N	104 43'W	2.0		1	28.8	34.04	30	8	2			
45	86/10/05	1.0	14 27'N	104 43'W	2.0		1	28.8	34.04	100	4	0			
45	86/10/05	1.0	14 27'N	104 43'W	2.0		1	28.8	34.04	200	8	1			
45	86/10/05	1.0	14 27'N	104 43'W	2.0		1	28.8	34.04	300	1	1			
45	86/10/05	1.0	14 27'N	104 43'W	2.0		1	28.8	34.04	400	2	2			
	86/10/06	0.0	14 25'N	104 46'W						30	8	1			
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	5	2	5	2	4	2
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	10	3	0	3	4	9
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	20	8	2			
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	30	8	1			
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	100	3	0			
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	200	8	2			
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	300	2	0			
46	86/10/06	1.0	11 19'N	104 42'W	3.0	5	1	27.9	33.44	400	3	1			
	86/10/07	0.0	10 50'N	104 45'W						30	8	3			
	86/10/07	0.0	10 50'N	104 45'W						40	8	1			
47	86/10/07	1.0	07 47'N	105 13'W	4.0	1	2	27.5	33.33	5	3	0	1	4	0
47	86/10/07	1.0	07 47'N	105 13'W	4.0	1	2	27.5	33.33	10	2	1	2	2	0
47	86/10/07	1.0	07 47'N	105 13'W	4.0	1	2	27.5	33.33	20	8	1			
47	86/10/07	1.0	07 47'N	105 13'W	4.0	1	2	27.5	33.33	30	8	3			
47	86/10/07	1.0	07 47'N	105 13'W	4.0	1	2	27.5	33.33	100	1	0			
47	86/10/07	1.0	07 47'N	105 13'W	4.0	1	2	27.5	33.33	400	1	0			
48	86/10/08	1.0	07 00'N	103 50'W	4.5	1	2	27.3	33.36	5	2	0	1	1	0
48	86/10/08	1.0	07 00'N	103 50'W	4.5	1	2	27.3	33.36	10	1	0	2	2	0
48	86/10/08	1.0	07 00'N	103 50'W	4.5	1	2	27.3	33.36	20	8	1	3	1	1
48	86/10/08	1.0	07 00'N	103 50'W	4.5	1	2	27.3	33.36	30	8	1			
48	86/10/08	1.0	07 00'N	103 50'W	4.5	1	2	27.3	33.36	100	2	0			
	86/10/09	0.0	07 31'N	102 56'W						3	8	2			
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	5	2	2	1	3	1
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	10	3	4	2	4	2
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	20	8	2	2	4	15
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	30	8	1			
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	100	3	0			
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	200	8	2			
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	300	1	0			
49	86/10/09	1.0	09 11'N	100 35'W	3.0	5	4	27.6	33.42	400	8	4			
50	86/10/10	1.0	11 28'N	098 13'W	3.0	2	1	28.8	33.27	5	3	0	1	2	0
50	86/10/10	1.0	11 28'N	098 13'W	3.0	2	1	28.8	33.27	10	2	5	2	4	1
50	86/10/10	1.0	11 28'N	098 13'W	3.0	2	1	28.8	33.27	20	8	2	3	1	1
50	86/10/10	1.0	11 28'N	098 13'W	3.0	2	1	28.8	33.27	30	8	3			
50	86/10/10	1.0	11 28'N	098 13'W	3.0	2	1	28.8	33.27	100	3	0			
50	86/10/10	1.0	11 28'N	098 13'W	3.0	2	1	28.8	33.27	400	8	1			
51	86/10/11	1.0	13 23'N	095 32'W	1.0	2	1	29.6	33.72	5	3	0	1	2	0
51	86/10/11	1.0	13 23'N	095 32'W	1.0	2	1	29.6	33.72	10	5	6	2	5	1

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
51	86/10/11	1.0	13 23'N	095 32'W	1.0	2	1	29.6	33.72	20	8	4			
51	86/10/11	1.0	13 23'N	095 32'W	1.0	2	1	29.6	33.72	30	8	1			
51	86/10/11	1.0	13 23'N	095 32'W	1.0	2	1	29.6	33.72	400	1	0			
52	86/10/12	1.0	09 42'N	096 52'W	2.5	3	1	28.6	33.39	5	4	0	1	2	0
52	86/10/12	1.0	09 42'N	096 52'W	2.5	3	1	28.6	33.39	10	3	5	2	5	0
52	86/10/12	1.0	09 42'N	096 52'W	2.5	3	1	28.6	33.39	20	8	13	2	0	0
52	86/10/12	1.0	09 42'N	096 52'W	2.5	3	1	28.6	33.39	30	8	1			
52	86/10/12	1.0	09 42'N	096 52'W	2.5	3	1	28.6	33.39	100	2	0			
52	86/10/12	1.0	09 42'N	096 52'W	2.5	3	1	28.6	33.39	300	1	0			
52	86/10/12	1.0	09 42'N	096 52'W	2.5	3	1	28.6	33.39	400	8	0			
	86/10/13	0.0	09 13'N	097 04'W						30	8	2			
53	86/10/13	1.0	06 28'N	097 49'W	5.0	3	2	26.7	33.13	5	3	0	1	1	0
53	86/10/13	1.0	06 28'N	097 49'W	5.0	3	2	26.7	33.13	10	2	1			
53	86/10/13	1.0	06 28'N	097 49'W	5.0	3	2	26.7	33.13	20	8	1			
53	86/10/13	1.0	06 28'N	097 49'W	5.0	3	2	26.7	33.13	30	8	2			
53	86/10/13	1.0	06 28'N	097 49'W	5.0	3	2	26.7	33.13	100	4	0			
53	86/10/13	1.0	06 28'N	097 49'W	5.0	3	2	26.7	33.13	400	2	0			
54	86/10/14	1.0	05 51'N	097 59'W	4.5	3	3	27.2		5	3	0	1	1	0
54	86/10/14	1.0	05 51'N	097 59'W	4.5	3	3	27.2		10	1	0	2	2	1
54	86/10/14	1.0	05 51'N	097 59'W	4.5	3	3	27.2		20	8	2			
54	86/10/14	1.0	05 51'N	097 59'W	4.5	3	3	27.2		30	8	0			
54	86/10/14	1.0	05 51'N	097 59'W	4.5	3	3	27.2		400	2	0			
55	86/10/14	1.0	03 46'N	098 33'W	4.0	3	2	26.2	33.89	5	4	0	2	4	0
55	86/10/14	1.0	03 46'N	098 33'W	4.0	3	2	26.2	33.89	20	8	4			
55	86/10/14	1.0	03 46'N	098 33'W	4.0	3	2	26.2	33.89	30	8	3			
55	86/10/14	1.0	03 46'N	098 33'W	4.0	3	2	26.2	33.89	100	4	0			
	86/10/15	0.0	03 22'N	098 41'W						20	8	2			
	86/10/15	0.0	03 22'N	098 41'W						30	8	1			
56	86/10/15	1.2	04 46'N	097 31'W	4.5	4	2	26.6	33.66	5	3	0	2	2	0
56	86/10/15	1.2	04 46'N	097 31'W	4.5	4	2	26.6	33.66	20	8	1			
56	86/10/15	1.2	04 46'N	097 31'W	4.5	4	2	26.6	33.66	100	4	0			
	86/10/16	0.0	05 14'N	097 11'W						30	8	1			
57	86/10/16	1.2	08 10'N	095 27'W	4.0	4	2	26.5	33.64	5	3	0	1	1	0
57	86/10/16	1.2	08 10'N	095 27'W	4.0	4	2	26.5	33.64	20	8	1	2	4	2
57	86/10/16	1.2	08 10'N	095 27'W	4.0	4	2	26.5	33.64	30	8	5			
57	86/10/16	1.2	08 10'N	095 27'W	4.0	4	2	26.5	33.64	100	5	0			
57	86/10/16	1.2	08 10'N	095 27'W	4.0	4	2	26.5	33.64	400	3	2			
58	86/10/17	1.2	11 02'N	093 15'W	3.0	4	2	26.9	33.31	5	3	0	1	5	4
58	86/10/17	1.2	11 02'N	093 15'W	3.0	4	2	26.9	33.31	10	1	5	2	3	1
58	86/10/17	1.2	11 02'N	093 15'W	3.0	4	2	26.9	33.31	20	8	1	3	1	1
58	86/10/17	1.2	11 02'N	093 15'W	3.0	4	2	26.9	33.31	30	8	5			
58	86/10/17	1.2	11 02'N	093 15'W	3.0	4	2	26.9	33.31	100	4	0			
58	86/10/17	1.2	11 02'N	093 15'W	3.0	4	2	26.9	33.31	400	2	0			
58	86/10/17	1.2	11 02'N	093 15'W	3.0	4	2	26.9	33.31	500	8	11			
59	86/10/18	1.0	12 01'N	092 46'W	2.0	4	1	27.8	33.65	5	2	0	1	1	0
59	86/10/18	1.0	12 01'N	092 46'W	2.0	4	1	27.8	33.65	100	8	0	2	3	1
60	86/10/18	1.2	12 14'N	092 01'W	1.0	4	1	28.9	33.76	5	3	0	2	5	0

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
60	86/10/18	1.2	12 14'N	092 01'W	1.0	4	1	28.9	33.76	10	4	7			
60	86/10/18	1.2	12 14'N	092 01'W	1.0	4	1	28.9	33.76	20	8	3			
60	86/10/18	1.2	12 14'N	092 01'W	1.0	4	1	28.9	33.76	100	9	0			
60	86/10/18	1.2	12 14'N	092 01'W	1.0	4	1	28.9	33.76	400	1	0			
60	86/10/18	1.2	12 14'N	092 01'W	1.0	4	1	28.9	33.76	500	2	2			
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	5	4	0	1	2	2
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	10	4	6	2	3	1
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	20	8	1	3	4	6
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	30	8	6			
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	100	9	0			
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	200	8	0			
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	400	1	2			
61	86/10/20	1.2	12 20'N	091 03'W	1.0	3	1	28.4	33.18	500	4	13			
	86/10/21	0.0	11 28'N	093 05'W						20	8	1			
62	86/10/21	1.2	09 13'N	092 02'W	2.0	3	1	28.3	33.21	5	4	0	1	5	1
62	86/10/21	1.2	09 13'N	092 02'W	2.0	3	1	28.3	33.21	10	5	7	2	5	3
62	86/10/21	1.2	09 13'N	092 02'W	2.0	3	1	28.3	33.21	20	8	3	3	2	2
62	86/10/21	1.2	09 13'N	092 02'W	2.0	3	1	28.3	33.21	30	8	2			
62	86/10/21	1.2	09 13'N	092 02'W	2.0	3	1	28.3	33.21	100	4	0			
62	86/10/21	1.2	09 13'N	092 02'W	2.0	3	1	28.3	33.21	400	1	0			
63	86/10/22	1.0	05 32'N	092 08'W	2.0	3	1	26.9	32.25	5	1	1	1	1	0
63	86/10/22	1.0	05 32'N	092 08'W	2.0	3	1	26.9	32.25	10	4	4	2	2	0
63	86/10/22	1.0	05 32'N	092 08'W	2.0	3	1	26.9	32.25				3	1	1
64	86/10/23	1.0	01 52'N	092 11'W	5.0	5	3	26.0	33.74	10	1	0	1	1	0
64	86/10/23	1.0	01 52'N	092 11'W	5.0	5	3	26.0	33.74	100	4	0	2	2	0
64	86/10/23	1.0	01 52'N	092 11'W	5.0	5	3	26.0	33.74				3	2	3
65	86/10/24	1.0	00 55'N	092 10'W	4.5	3	3	25.0	33.99	100	4	0	2	1	0
65	86/10/24	1.0	00 55'N	092 10'W	4.5	3	3	25.0	33.99				3	3	0
66	86/10/24	1.0	02 26'N	090 50'W	3.0	5	3	26.2	33.58	5	1	0	1	4	0
66	86/10/24	1.0	02 26'N	090 50'W	3.0	5	3	26.2	33.58	10	2	0	2	3	0
66	86/10/24	1.0	02 26'N	090 50'W	3.0	5	3	26.2	33.58	100	4	0			
67	86/10/25	1.0	05 10'N	088 31'W	4.0	5	3	26.6	33.36	10	4	1	1	1	0
67	86/10/25	1.0	05 10'N	088 31'W	4.0	5	3	26.6	33.36	100	2	0	2	3	1
67	86/10/25	1.0	05 10'N	088 31'W	4.0	5	3	26.6	33.36	400	1	0			
68	86/10/26	1.0	05 00'N	087 17'W	3.5	5	4	26.2	33.35	10	2	3	1	4	0
68	86/10/26	1.0	05 00'N	087 17'W	3.5	5	4	26.2	33.35	100	4	0	2	1	0
68	86/10/26	1.0	05 00'N	087 17'W	3.5	5	4	26.2	33.35	300	1	0	3	1	1
68	86/10/26	1.0	05 00'N	087 17'W	3.5	5	4	26.2	33.35	400	2	1			
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	5	2	0	1	5	0
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	10	3	6	3	2	2
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	20	8	3			
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	30	8	19			
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	100	2	0			
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	200	8	3			
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	300	1	0			
69	86/10/27	1.0	08 00'N	087 29'W	0.0	5	2	27.6	33.87	400	2	3			
70	86/10/28	1.2	08 24'N	085 08'W	0.0	5	1	26.9	30.75	5	2	0	1	6	0

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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	86/10/28	1.2	08 24'N	085 08'W	0.0	5	1	26.9	30.75	10	4	10	2	2	0
70	86/10/28	1.2	08 24'N	085 08'W	0.0	5	1	26.9	30.75	20	8	4	3	4	11
70	86/10/28	1.2	08 24'N	085 08'W	0.0	5	1	26.9	30.75	100	2	0			
70	86/10/28	1.2	08 24'N	085 08'W	0.0	5	1	26.9	30.75	200	8	1			
70	86/10/28	1.2	08 24'N	085 08'W	0.0	5	1	26.9	30.75	400	1	1			
70	86/10/28	1.2	08 24'N	085 08'W	0.0	5	1	26.9	30.75	500	8	7			
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	5	3	0	1	5	0
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	10	4	6	2	4	5
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	20	8	9	3	2	2
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	30	8	5			
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	100	3	0			
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	300	1	0			
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	400	4	7			
71	86/10/29	1.2	06 52'N	082 00'W	3.0	5	1	27.2	30.37	500	1	0			
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	5	3	0	1	5	2
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	10	4	5	2	3	0
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	20	8	6	3	2	3
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	30	8	2			
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	100	4	0			
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	300	2	0			
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	400	1	1			
72	86/10/30	1.2	04 07'N	079 34'W	3.0	5	1	27.1	30.50	500	8	3			
73	86/10/31	1.0	05 30'N	077 50'W	3.0	5	2	28.1	25.14	5	1	0	2	1	1
73	86/10/31	1.0	05 30'N	077 50'W	3.0	5	2	28.1	25.14	10	1	0	3	3	7
73	86/10/31	1.0	05 30'N	077 50'W	3.0	5	2	28.1	25.14	100	2	0			
73	86/10/31	1.0	05 30'N	077 50'W	3.0	5	2	28.1	25.14	300	1	0			
73	86/10/31	1.0	05 30'N	077 50'W	3.0	5	2	28.1	25.14	500	2	0			
74	86/11/01	1.2	08 21'N	078 49'W	0.0	5	1	28.3	28.15	5	4	0			
74	86/11/01	1.2	08 21'N	078 49'W	0.0	5	1	28.3	28.15	10	2	0			
74	86/11/01	1.2	08 21'N	078 49'W	0.0	5	1	28.3	28.15	30	8	14			
74	86/11/01	1.2	08 21'N	078 49'W	0.0	5	1	28.3	28.15	500	8	5			
75	86/11/02	2.0	08 34'N	078 54'W	3.0	5	2	28.5	26.34	5	4	0	3	3	8
75	86/11/02	2.0	08 34'N	078 54'W	3.0	5	2	28.5	26.34	15	8	11			
75	86/11/02	2.0	08 34'N	078 54'W	3.0	5	2	28.5	26.34	30	8	2			
75	86/11/02	2.0	08 34'N	078 54'W	3.0	5	2	28.5	26.34	500	8	0			
76	86/11/07	1.0	08 48'N	079 18'W	0.0	2	1	28.7	28.03	5	2	0			
76	86/11/07	1.0	08 48'N	079 18'W	0.0	2	1	28.7	28.03	15	4	9			
76	86/11/07	1.0	08 48'N	079 18'W	0.0	2	1	28.7	28.03	30	8	1			
76	86/11/07	1.0	08 48'N	079 18'W	0.0	2	1	28.7	28.03	500	8	10			
77	86/11/08	1.2	06 54'N	080 15'W	3.0	2	2	28.1	29.57	5	2	0	1	1	0
77	86/11/08	1.2	06 54'N	080 15'W	3.0	2	2	28.1	29.57	100	2	0	2	2	0
77	86/11/08	1.2	06 54'N	080 15'W	3.0	2	2	28.1	29.57	300	1	0			
77	86/11/08	1.2	06 54'N	080 15'W	3.0	2	2	28.1	29.57	500	8	5			
78	86/11/09	1.2	04 50'N	083 15'W	2.0	2	1	27.1	33.14	5	3	0	1	1	1
78	86/11/09	1.2	04 50'N	083 15'W	2.0	2	1	27.1	33.14	10	1	1	2	1	0
78	86/11/09	1.2	04 50'N	083 15'W	2.0	2	1	27.1	33.14	20	8	2	3	1	0
78	86/11/09	1.2	04 50'N	083 15'W	2.0	2	1	27.1	33.14	30	8	3			

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
78	86/11/09	1.2	04 50'N	083 15'W	2.0	2	1	27.1	33.14	100	3	0			
79	86/11/10	1.0	02 41'N	086 18'W	3.5	5	4	26.3	33.34	5	3	0	1	4	0
79	86/11/10	1.0	02 41'N	086 18'W	3.5	5	4	26.3	33.34	10	2	1			
79	86/11/10	1.0	02 41'N	086 18'W	3.5	5	4	26.3	33.34	20	8	2			
79	86/11/10	1.0	02 41'N	086 18'W	3.5	5	4	26.3	33.34	30	8	1			
79	86/11/10	1.0	02 41'N	086 18'W	3.5	5	4	26.3	33.34	100	4	0			
80	86/11/11	1.2	01 09'N	089 20'W	3.5	3	1	24.5	33.93	5	2	0	1	5	0
80	86/11/11	1.2	01 09'N	089 20'W	3.5	3	1	24.5	33.93	10	1	1	2	2	0
80	86/11/11	1.2	01 09'N	089 20'W	3.5	3	1	24.5	33.93	20	8	3			
80	86/11/11	1.2	01 09'N	089 20'W	3.5	3	1	24.5	33.93	100	6	0			
81	86/11/12	1.0	01 38'N	092 26'W	4.0	3	2	26.2	33.76	5	2	0	1	4	0
81	86/11/12	1.0	01 38'N	092 26'W	4.0	3	2	26.2	33.76	10	2	2			
81	86/11/12	1.0	01 38'N	092 26'W	4.0	3	2	26.2	33.76	20	8	2			
81	86/11/12	1.0	01 38'N	092 26'W	4.0	3	2	26.2	33.76	100	5	0			
81	86/11/12	1.0	01 38'N	092 26'W	4.0	3	2	26.2	33.76	300	1	0			
82	86/11/13	1.0	01 31'N	093 53'W	4.0	5	3	25.6	33.84	5	2	0	1	4	0
82	86/11/13	1.0	01 31'N	093 53'W	4.0	5	3	25.6	33.84	10	2	1	2	1	0
82	86/11/13	1.0	01 31'N	093 53'W	4.0	5	3	25.6	33.84	20	8	2			
82	86/11/13	1.0	01 31'N	093 53'W	4.0	5	3	25.6	33.84	100	2	0			
83	86/11/13	1.2	01 32'N	096 34'W	4.0	3	2	25.9	34.01	5	4	0	1	5	0
83	86/11/13	1.2	01 32'N	096 34'W	4.0	3	2	25.9	34.01	10	1	0			
83	86/11/13	1.2	01 32'N	096 34'W	4.0	3	2	25.9	34.01	20	8	4			
83	86/11/13	1.2	01 32'N	096 34'W	4.0	3	2	25.9	34.01	30	8	3			
83	86/11/13	1.2	01 32'N	096 34'W	4.0	3	2	25.9	34.01	100	3	0			
83	86/11/13	1.2	01 32'N	096 34'W	4.0	3	2	25.9	34.01	500	1	0			
	86/11/14	0.0	01 33'N	097 05'W						30	8	2			
	86/11/17	0.0	00 26'N	090 17'W						15	8	11			
	86/11/17	0.0	00 26'N	090 17'W						500	8	2			
84	86/11/18	1.0	00 03'N	091 12'W	3.0	4	3	24.2	34.11	500	8	10	1	2	0
84	86/11/18	1.0	00 03'N	091 12'W	3.0	4	3	24.2	34.11				3	1	1
85	86/11/19	1.0	01 17'N	094 44'W	4.0	5	2	25.9	33.85	5	5	0	1	5	5
85	86/11/19	1.0	01 17'N	094 44'W	4.0	5	2	25.9	33.85	10	2	1			
85	86/11/19	1.0	01 17'N	094 44'W	4.0	5	2	25.9	33.85	20	8	23			
85	86/11/19	1.0	01 17'N	094 44'W	4.0	5	2	25.9	33.85	30	8	4			
85	86/11/19	1.0	01 17'N	094 44'W	4.0	5	2	25.9	33.85	100	4	0			
	86/11/20	0.0	01 14'N	095 20'W						30	8	1			
86	86/11/20	1.0	01 08'N	098 53'W	4.0	5	1	26.0	33.94	5	4	1	1	4	0
86	86/11/20	1.0	01 08'N	098 53'W	4.0	5	1	26.0	33.94	10	3	5	2	1	0
86	86/11/20	1.0	01 08'N	098 53'W	4.0	5	1	26.0	33.94	20	8	3			
86	86/11/20	1.0	01 08'N	098 53'W	4.0	5	1	26.0	33.94	30	8	3			
86	86/11/20	1.0	01 08'N	098 53'W	4.0	5	1	26.0	33.94	100	4	0			
87	86/11/21	1.0	01 04'N	103 01'W	4.0	5	3	23.6	34.90	5	5	0	1	4	0
87	86/11/21	1.0	01 04'N	103 01'W	4.0	5	3	23.6	34.90	10	3	3			
87	86/11/21	1.0	01 04'N	103 01'W	4.0	5	3	23.6	34.90	20	8	3			
87	86/11/21	1.0	01 04'N	103 01'W	4.0	5	3	23.6	34.90	30	8	6			
87	86/11/21	1.0	01 04'N	103 01'W	4.0	5	3	23.6	34.90	100	4	0			
	86/11/21	0.0	01 03'N	103 14'W						20	8	1			

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location 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)
	86/11/21	0.0	01 03'N	103 14'W						30	8	2			
	86/11/22	0.0	00 54'N	104 39'W						20	8	1			
	86/11/22	0.0	00 54'N	104 39'W						30	8	3			
88	86/11/22	1.0	00 54'N	107 26'W	4.5	5	1	24.5	34.41	5	3	0	1	2	0
88	86/11/22	1.0	00 54'N	107 26'W	4.5	5	1	24.5	34.41	10	4	4	2	3	0
88	86/11/22	1.0	00 54'N	107 26'W	4.5	5	1	24.5	34.41	20	8	0			
88	86/11/22	1.0	00 54'N	107 26'W	4.5	5	1	24.5	34.41	30	8	2			
88	86/11/22	1.0	00 54'N	107 26'W	4.5	5	1	24.5	34.41	100	4	0			
	86/11/23	0.0	00 54'N	108 14'W						20	8	2			
	86/11/23	0.0	00 54'N	108 14'W						30	8	2			
	86/11/23	0.0	00 58'N	109 07'W						20	8	1			
89	86/11/23	1.0	02 13'N	110 55'W	5.0	5	1	24.7	34.44	5	1	0	1	1	0
89	86/11/23	1.0	02 13'N	110 55'W	5.0	5	1	24.7	34.44	100	2	0			
	86/11/24	0.0	02 17'N	111 43'W						30	8	2			
90	86/11/24	1.0	02 54'N	115 12'W	4.0	5	1	26.0	34.48	5	3	0	1	3	0
90	86/11/24	1.0	02 54'N	115 12'W	4.0	5	1	26.0	34.48	10	1	0	2	1	0
90	86/11/24	1.0	02 54'N	115 12'W	4.0	5	1	26.0	34.48	20	8	2			
90	86/11/24	1.0	02 54'N	115 12'W	4.0	5	1	26.0	34.48	100	3	0			
	86/11/25	0.0	02 53'N	115 54'W						30	8	4			
	86/11/25	0.0	02 54'N	116 41'W						20	8	2			
91	86/11/25	1.0	03 46'N	119 08'W	3.5	5	1	26.5	34.70	5	3	0			
91	86/11/25	1.0	03 46'N	119 08'W	3.5	5	1	26.5	34.70	10	3	4			
91	86/11/25	1.0	03 46'N	119 08'W	3.5	5	1	26.5	34.70	20	8	1			
91	86/11/25	1.0	03 46'N	119 08'W	3.5	5	1	26.5	34.70	30	8	0			
91	86/11/25	1.0	03 46'N	119 08'W	3.5	5	1	26.5	34.70	100	6	0			
	86/11/25	0.0	03 51'N	119 15'W						30	8	1			
	86/11/26	0.0	04 07'N	119 38'W						20	8	3			
	86/11/26	0.0	04 07'N	119 38'W						30	8	2			
92	86/11/26	1.0	06 03'N	122 15'W	4.0	5	1	27.7	34.39	5	3	0	1	5	3
92	86/11/26	1.0	06 03'N	122 15'W	4.0	5	1	27.7	34.39	10	2	2			
92	86/11/26	1.0	06 03'N	122 15'W	4.0	5	1	27.7	34.39	20	8	4			
92	86/11/26	1.0	06 03'N	122 15'W	4.0	5	1	27.7	34.39	30	8	0			
92	86/11/26	1.0	06 03'N	122 15'W	4.0	5	1	27.7	34.39	100	5	0			
92	86/11/26	1.0	06 03'N	122 15'W	4.0	5	1	27.7	34.39	300	1	0			
92	86/11/26	1.0	06 03'N	122 15'W	4.0	5	1	27.7	34.39	400	1	0			
93	86/11/27	1.0	08 27'N	124 55'W	2.5	5	4	27.7	33.11	5	1	0	1	2	0
93	86/11/27	1.0	08 27'N	124 55'W	2.5	5	4	27.7	33.11	10	1	1	2	4	1
93	86/11/27	1.0	08 27'N	124 55'W	2.5	5	4	27.7	33.11	30	8	1			
93	86/11/27	1.0	08 27'N	124 55'W	2.5	5	4	27.7	33.11	100	4	0			
93	86/11/27	1.0	08 27'N	124 55'W	2.5	5	4	27.7	33.11	300	1	0			
93	86/11/27	1.0	08 27'N	124 55'W	2.5	5	4	27.7	33.11	400	2	0			
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	5	3	0	1	1	0
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	10	1	0	2	3	0
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	20	8	5			
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	30	8	2			
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	100	4	0			
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	200	5	3			

Table 5. Continued.

Station[1] Number	Date Y/M/D	Hours of Effort	Location Latitude	Location Longitude	See[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)
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	300	1	0			
94	86/11/28	1.0	10 11'N	127 22'W	2.0	5	1	27.3	33.65	400	2	1			
	86/11/29	0.0	13 45'N	125 56'W						20	8	1			
95	86/11/29	1.0	13 47'N	125 55'W	5.0	5	4	26.7	33.52	5	2	0	2	2	0
95	86/11/29	1.0	13 47'N	125 55'W	5.0	5	4	26.7	33.52	10	2	0			
95	86/11/29	1.0	13 47'N	125 55'W	5.0	5	4	26.7	33.52	30	8	1			
95	86/11/29	1.0	13 47'N	125 55'W	5.0	5	4	26.7	33.52	100	4	0			
95	86/11/29	1.0	13 47'N	125 55'W	5.0	5	4	26.7	33.52	300	1	0			
	86/11/30	0.0	14 04'N	125 48'W						20	8	1			

Table 6. Summary of sea snake (Pelamis platurus) observations Jordan, 29 July-5 December, 1986.

Date	Location	No.
15 Sept	11 58'N 94 27'W	2
31 Oct*	03 55'N 78 03'W	2
31 Oct	05 30'N 77 50'W	1
1 Nov*	07 46'N 78 31'W	1
8 Nov*	06 54'N 80 15'W	4

* night-light station

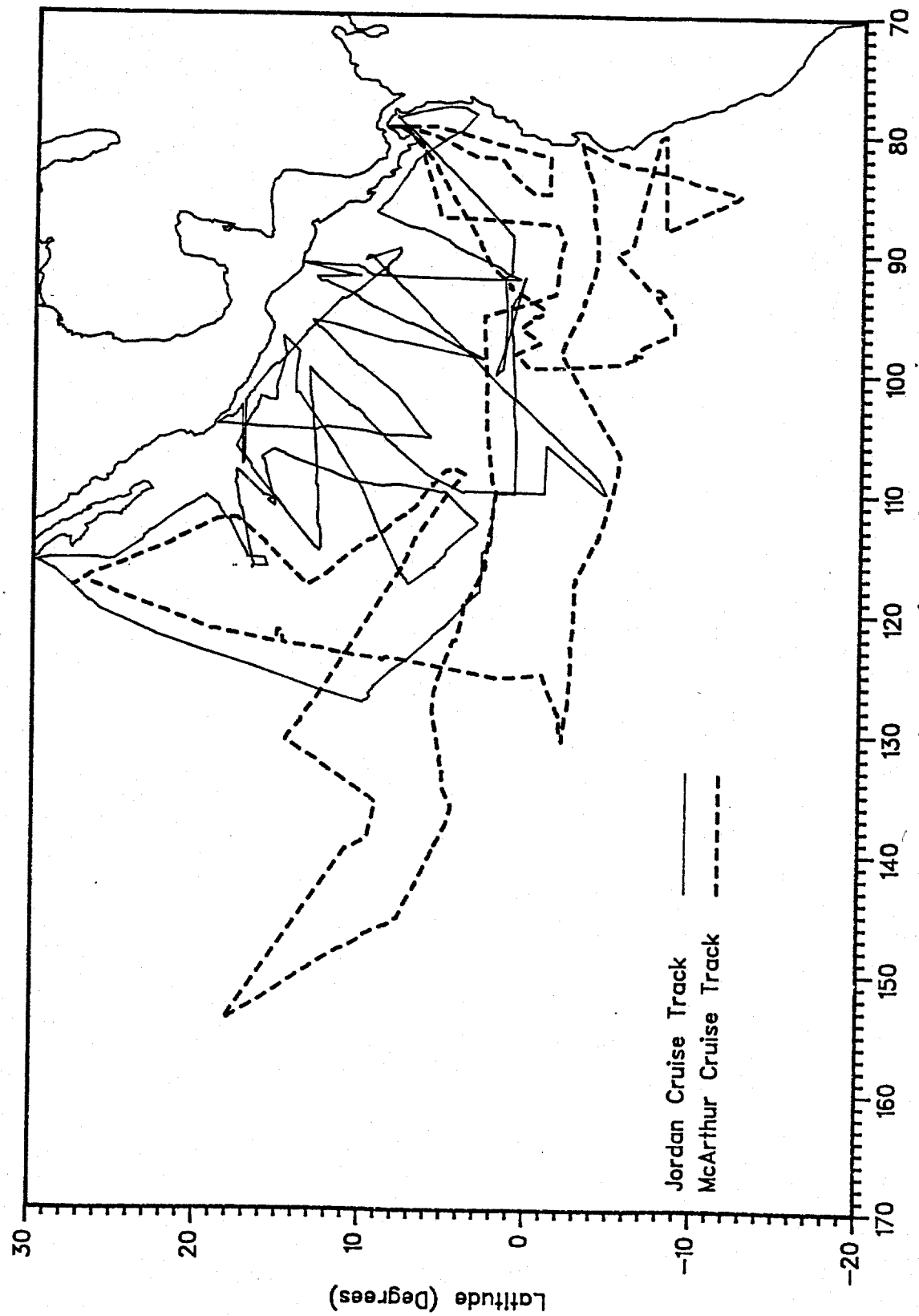

Figure 1. Cruise tracks, Jordan and McArthur, 29 July-5 December, 1986.

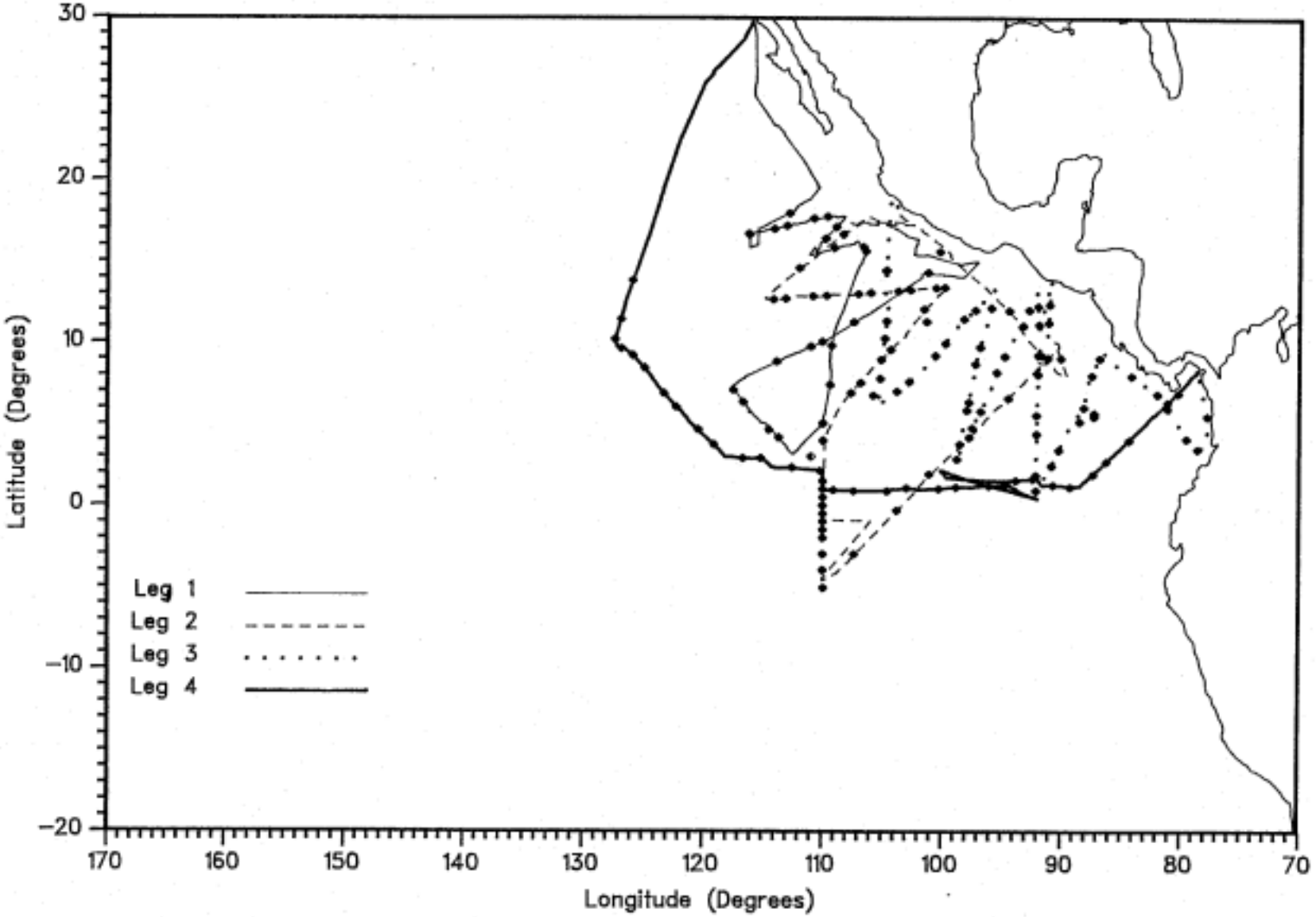

Figure 2. CTD stations, Jordan, 29 July-5 December, 1986.

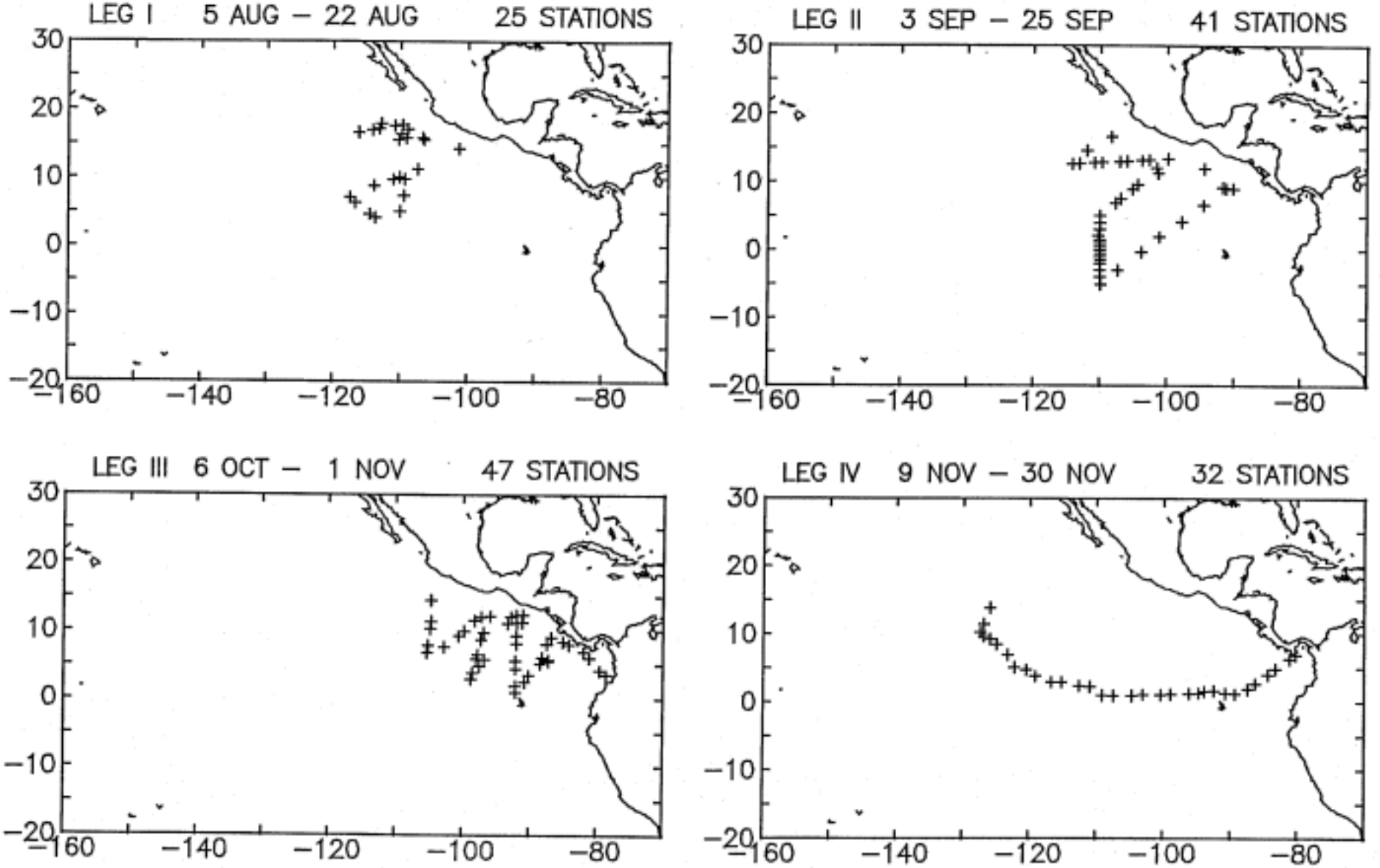

Figure 3. CTD stations by leg, Jordan, July 29 through December 5, 1986.

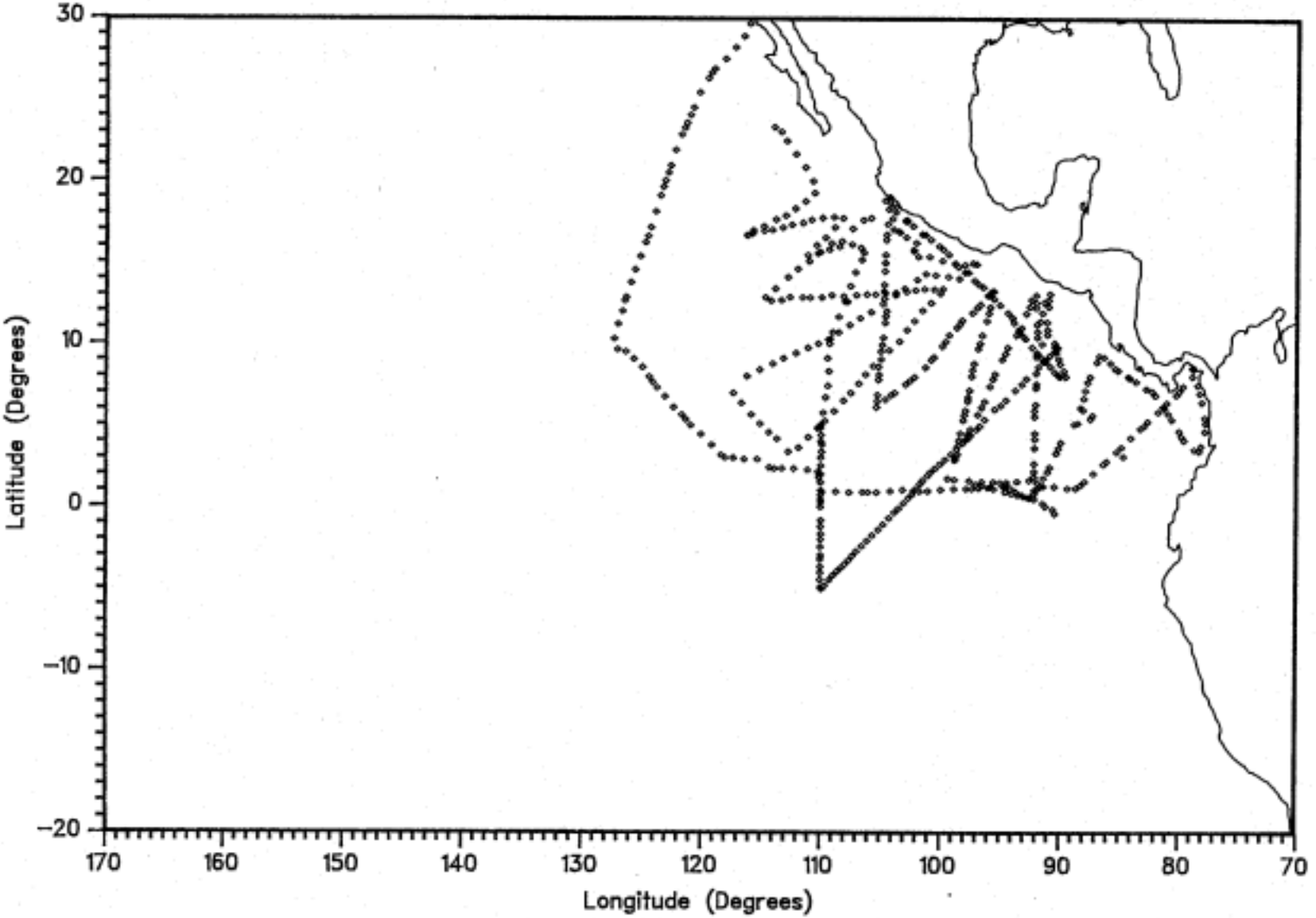

Figure 4. XBT deployments, Jordan, 29 July-5 December 1986.

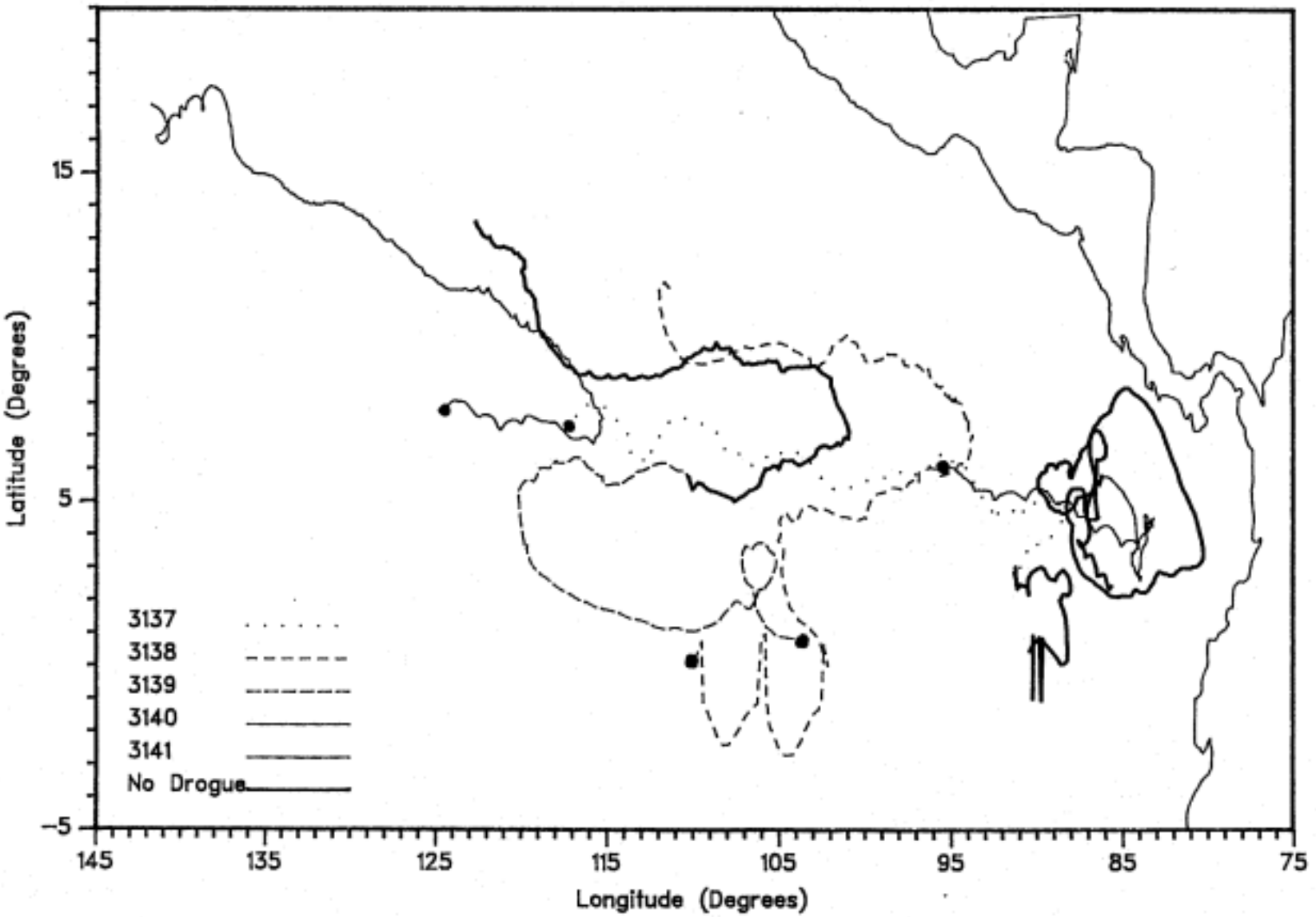

Figure 5. Tracks of five drifting buoys, Jordan, 29 July-5 December, 1986.

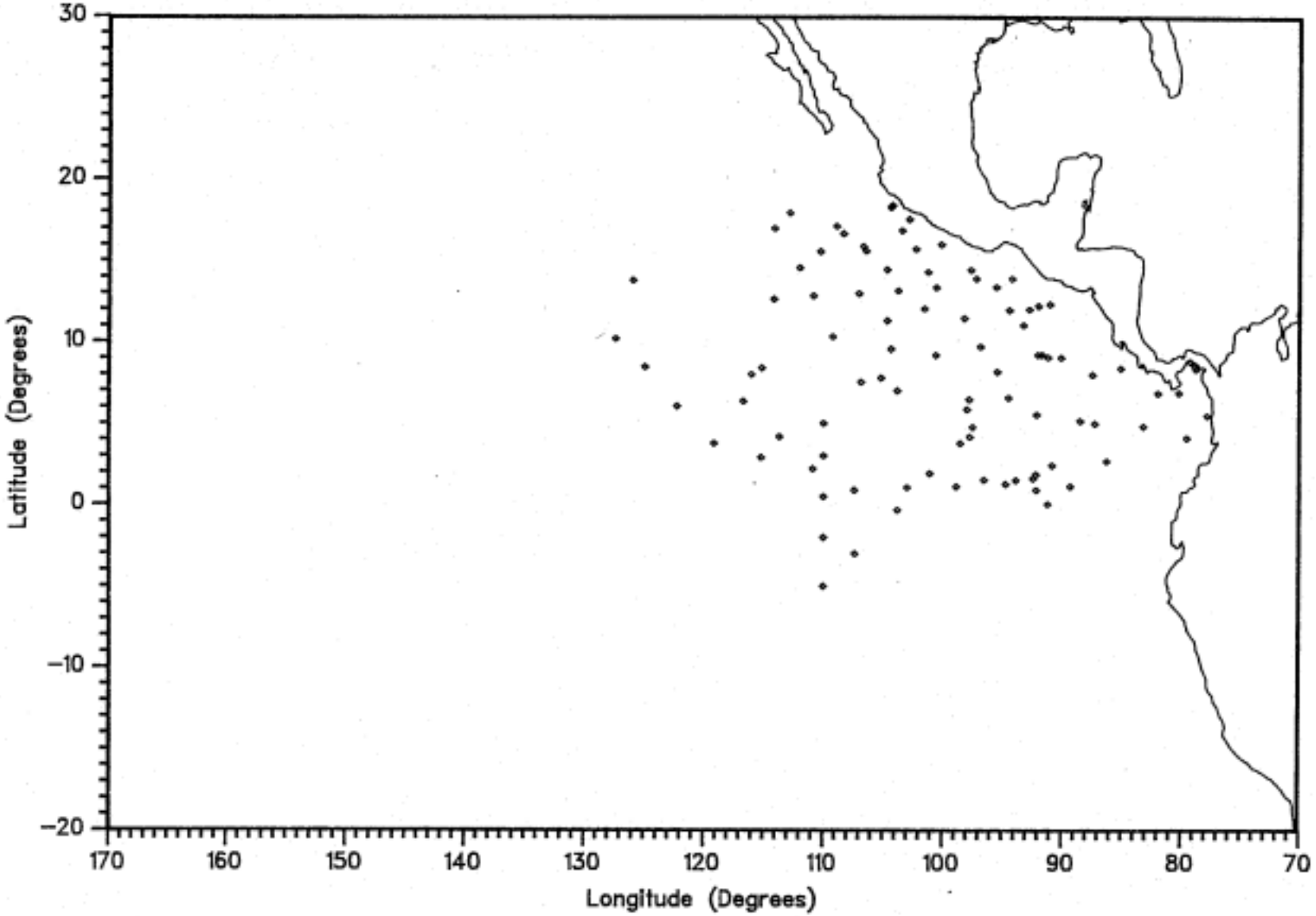

Figure 6. Locations of dip-net stations, Jordan, 29 July-5 December, 1986.

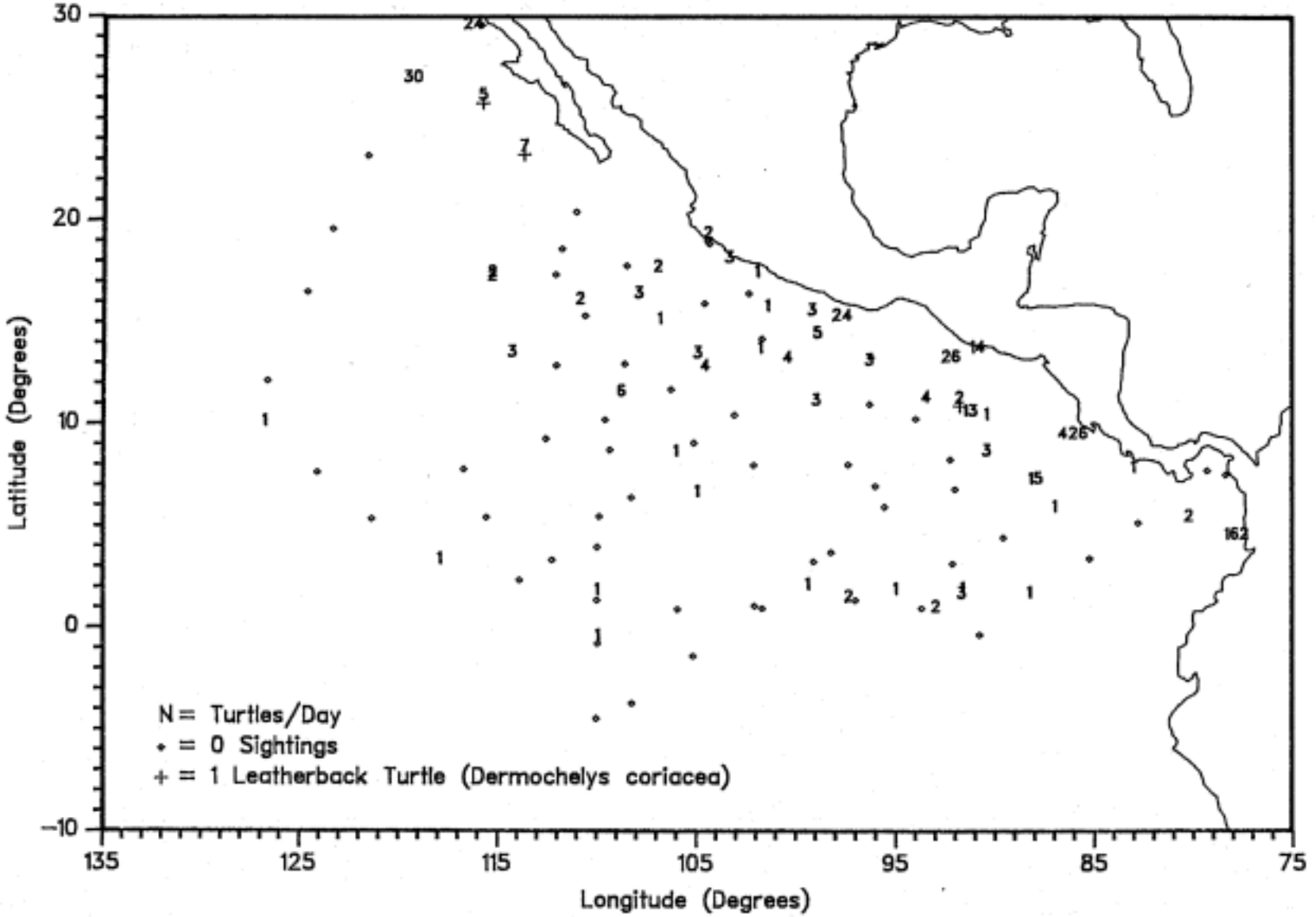

Figure 7. Locations of turtle sightings, Jordan, 29 July-5 December 1986.

APPENDIX A

Station No.	1-001	Date - GMT	04 AUG 86
Station Name	DSJ861-001	Time - GMT	0433
Latitude	17.56.0 N	Date - LOC	03 AUG 86
Longitude	112.48.7 W	Time - LOC	2133

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.00	34.622	0.047	0.024
20	27.40	34.575	0.065	0.005
40	22.82	34.447	0.076	0.030
60	21.35	34.293	--	--
80	17.55	33.880	0.179	0.277
100	15.53	34.024	0.131	0.388
120	14.20	34.486	0.079	0.218
140	13.41	34.632	0.015	0.055
160	13.10	34.656	0.001	0.041
180	12.47	34.713	0.000	0.049
200	12.04	34.726	0.003	0.050

Station No.	1-002	Date - GMT	05 AUG 86
Station Name	DSJ861-002	Time - GMT	0400
Latitude	16.40.1 N	Date - LOC	04 AUG 86
Longitude	116.13.2 W	Time - LOC	2100

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.05	34.420	0.038	0.018
20	28.00	34.420	--	--
40	27.68	34.433	0.042	0.022
60	25.31	34.451	0.086	0.051
80	22.37	34.340	0.156	0.117
100	19.34	34.174	0.224	0.310
120	15.78	34.222	0.119	0.227
140	14.58	34.390	0.046	0.111
160	13.34	34.604	0.007	0.050
180	12.66	34.670	0.004	0.037
200	12.15	34.688	0.003	0.035

Station No.	1-003	Date - GMT	06 AUG 86
Station Name	DSJ861-003	Time - GMT	1100
Latitude	16.38.0 N	Date - LOC	06 AUG 86
Longitude	116.10.0 W	Time - LOC	0400

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.91	34.415	0.078	0.029
20	27.91	34.412	0.082	0.019
40	27.50	34.432	0.101	0.038
60	23.99	34.334	0.216	0.170
80	20.14	34.121	0.140	0.127
100	16.43	34.193	0.107	0.476
120	14.31	34.427	0.073	0.197
140	13.79	34.526	0.038	0.151
160	13.18	34.624	0.009	0.066
180	12.62	34.664	0.001	0.051
200	12.00	34.689	0.001	0.041

Station No.	1-004	Date - GMT	07 AUG 86
Station Name	DSJ861-004	Time - GMT	0400
Latitude	16.59.2 N	Date - LOC	06 AUG 86
Longitude	114.04.8 W	Time - LOC	2100

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.62	34.484	0.059	0.013
20	28.27	34.474	0.070	0.017
40	27.18	34.365	0.125	0.009
60	24.33	34.413	0.137	0.057
80	21.59	34.307	0.268	0.298
100	16.87	34.260	0.178	0.367
120	15.07	34.458	0.080	0.172
140	13.78	34.590	0.022	0.081
160	12.86	34.699	0.002	0.051
180	12.33	34.726	0.000	0.032
200	11.99	34.726	0.000	0.047

Station No.	1-005	Date - GMT	07 AUG 86
Station Name	DSJ861-005	Time - GMT	1110
Latitude	17.10.5 N	Date - LOC	07 AUG 86
Longitude	113.01.6 W	Time - LOC	0410

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.58	34.561	0.075	0.027
20	28.24	34.522	0.075	0.016
40	27.43	34.491	0.096	0.039
60	25.31	34.464	0.171	0.035
80	21.18	34.179	0.006	0.192
100	17.98	34.091	0.285	0.368
120	15.09	34.221	--	--
140	14.33	34.507	--	--
160	13.62	34.605	0.003	0.260
180	12.87	34.684	0.000	0.041
200	12.14	34.720	0.000	0.044

Station No.	1-006	Date - GMT	08 AUG 86
Station Name	DSJ861-006	Time - GMT	0410
Latitude	17.37.7 N	Date - LOC	07 AUG 86
Longitude	110.46.4 W	Time - LOC	2110

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.11	34.586	0.068	0.018
20	28.39	34.541	0.056	0.011
40	25.03	34.430	0.091	0.026
60	21.17	34.207	0.129	0.066
80	17.08	34.107	0.367	0.109
100	16.04	34.401	0.218	0.297
120	14.36	34.585	0.067	0.169
140	13.33	34.670	0.011	0.068
160	12.56	34.701	0.000	0.066
180	12.12	34.733	0.003	0.069
200	11.87	34.732	0.000	0.130

Station No.	1-007	Date - GMT	08 AUG 86
Station Name	DSJ861-007	Time - GMT	1115
Latitude	17.44.0 N	Date - LOC	08 AUG 86
Longitude	109.38.6 W	Time - LOC	0415

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.28	34.650	0.079	0.024
20	28.59	34.593	0.090	0.015
40	25.53	34.431	0.142	0.000
60	22.42	34.275	0.178	0.066
80	17.50	34.097	0.304	0.171
100	15.15	34.248	0.178	0.272
120	14.84	34.463	0.039	0.138
140	13.32	34.735	0.006	0.134
160	12.75	34.766	0.007	0.190
180	12.37	34.772	0.006	0.189
200	12.09	34.745	0.006	0.217

Station No.	1-008	Date - GMT	09 AUG 86
Station Name	DSJ861-008	Time - GMT	0433
Latitude	17.06.6 N	Date - LOC	08 AUG 86
Longitude	108.53.8 W	Time - LOC	2133

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.71	34.310	0.075	0.022
20	29.36	34.279	0.074	0.022
40	28.11	34.305	0.035	0.257
60	23.79	34.384	0.246	0.084
80	19.94	34.174	0.415	0.280
100	15.45	34.491	0.130	0.197
120	14.47	34.630	0.038	0.138
140	13.56	34.715	0.003	0.190
160	12.83	34.744	0.003	0.356
180	12.44	34.762	0.027	0.912
200	12.09	34.761	0.008	0.687

Station No.	1-009	Date - GMT	09 AUG 86
Station Name	DSJ861-009	Time - GMT	1125
Latitude	16.23.9 N	Date - LOC	09 AUG 86
Longitude	109.48.0 W	Time - LOC	0425

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.02	34.534	0.076	0.032
20	28.56	34.463	0.064	0.032
40	27.09	34.387	0.037	0.258
60	22.27	34.312	0.295	0.376
80	15.97	34.297	0.279	0.345
100	14.60	34.422	0.135	0.263
120	14.27	34.628	0.046	0.122
140	13.54	34.712	0.000	0.150
160	12.90	34.727	0.000	0.245
180	12.45	34.744	0.000	0.236
200	12.08	34.762	0.000	0.198

Station No.	1-010	Date - GMT	10 AUG 86
Station Name	DSJ861-010	Time - GMT	0429
Latitude	15.34.2 N	Date - LOC	09 AUG 86
Longitude	100.14.8 W	Time - LOC	2129

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.43	34.279	0.062	0.031
20	27.90	34.526	0.062	0.023
40	25.54	34.407	0.096	0.016
60	21.74	34.345	0.339	0.391
80	19.56	34.199	0.332	0.270
100	15.38	34.506	0.224	0.363
120	14.49	34.615	0.000	0.275
140	13.61	34.715	0.011	0.242
160	12.75	34.728	0.062	0.158
180	12.48	34.749	0.011	0.275
200	12.11	34.755	0.070	0.203

Station No.	1-011	Date - GMT	10 AUG 86
Station Name	DSJ861-011	Time - GMT	1125
Latitude	15.49.9 N	Date - LOC	10 AUG 86
Longitude	109.05.6 W	Time - LOC	0425

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.03	34.431	0.069	0.046
20	28.23	34.494	0.075	0.030
40	23.66	34.343	0.111	0.069
60	17.49	34.164	0.360	0.275
80	15.41	34.413	0.291	0.479
100	14.21	34.586	0.140	0.264
120	13.43	34.713	0.036	0.122
140	12.95	34.748	0.000	0.332
160	12.55	34.754	0.005	0.243
180	12.06	34.767	0.000	0.289
200	11.70	34.752	0.003	0.273

Station No.	1-012	Date - GMT	11 AUG 86
Station Name	DSJ861-012	Time - GMT	0443
Latitude	15.53.2 N	Date - LOC	10 AUG 86
Longitude	106.39.9 W	Time - LOC	2143

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.64	34.198	0.108	0.002
20	29.20	34.123	0.105	0.006
40	28.38	34.237	0.184	0.000
60	27.47	34.329	0.338	0.097
80	25.23	34.382	0.440	0.183
100	20.00	34.306	0.250	0.301
120	17.60	34.524	0.150	0.206
140	15.51	34.516	0.030	0.163
160	13.75	34.710	0.023	0.076
180	13.35	34.733	0.009	0.240
200	13.02	34.744	0.001	0.203

Station No.	1-013	Date - GMT	11 AUG 86
Station Name	DSJ861-013	Time - GMT	1126
Latitude	15.36.1 N	Date - LOC	11 AUG 86
Longitude	106.26.3 W	Time - LOC	0426

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.67	34.216	0.142	0.000
20	29.18	34.110	0.004	0.264
40	28.51	34.190	0.106	0.059
60	27.15	34.329	0.285	0.000
80	22.07	34.373	0.302	0.319
100	19.32	34.377	0.094	0.235
120	15.59	34.557	0.025	0.150
140	14.25	34.666	0.009	0.102
160	13.55	34.734	0.000	0.352
180	12.75	34.753	0.000	0.284
200	12.44	34.764	0.000	0.238

Station No.	1-014	Date - GMT	13 AUG 86
Station Name	DSJ861-014	Time - GMT	1125
Latitude	9.48.5 N	Date - LOC	13 AUG 86
Longitude	109.18.4 W	Time - LOC	0425

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.34	33.211	0.091	0.052
20	28.22	33.561	0.126	0.068
40	25.70	34.246	0.192	0.086
60	19.83	34.503	0.309	0.378
80	16.21	34.460	0.095	0.348
100	13.69	34.801	0.001	0.335
120	13.18	34.812	0.008	0.116
140	12.71	34.795	0.002	0.074
160	12.18	34.774	0.000	0.057
180	11.81	34.764	0.000	0.068
200	11.61	34.753	0.000	0.080

Station No.	1-015	Date - GMT	14 AUG 86
Station Name	DSJ861-015	Time - GMT	0430
Latitude	7.24.5 N	Date - LOC	13 AUG 86
Longitude	109.25.4 W	Time - LOC	2130

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.73	33.399	0.098	0.041
20	27.73	33.399	0.113	0.050
40	27.74	33.401	0.092	0.040
60	27.74	33.475	0.105	0.068
80	24.07	34.426	0.335	0.335
100	17.53	34.628	0.160	0.355
120	14.56	34.735	0.089	0.149
140	13.43	34.775	0.046	0.150
160	12.65	34.793	0.025	0.078
180	12.21	34.790	0.002	0.073
200	11.95	34.774	0.000	0.152

Station No.	1-016	Date - GMT	14 AUG 86
Station Name	DSJ861-016	Time - GMT	2353
Latitude	5.02.8 N	Date - LOC	14 AUG 86
Longitude	110.00.5 W	Time - LOC	1653

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.96	34.784	0.271	0.100
20	24.93	34.792	0.270	0.079
40	24.71	34.818	0.331	0.134
60	24.36	34.886	0.359	0.176
80	24.06	34.936	0.225	0.166
100	22.49	34.925	0.104	0.076
120	21.98	34.949	0.091	0.083
140	20.27	34.938	0.086	0.119
160	15.40	34.810	0.106	0.180
180	14.43	34.902	0.077	0.164
200	13.56	34.905	0.025	0.083

Station No.	1-017	Date - GMT	16 AUG 86
Station Name	DSJ861-017	Time - GMT	0432
Latitude	4.10.3 N	Date - LOC	15 AUG 86
Longitude	113.41.1 W	Time - LOC	2132

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.78	34.724	0.257	0.061
20	23.33	34.888	0.312	0.080
40	22.45	34.871	0.287	0.175
60	21.97	34.885	0.330	0.165
80	21.67	34.898	0.290	0.200
100	15.91	34.893	0.207	0.313
120	14.35	34.915	--	--
140	13.84	34.917	0.073	0.172
160	13.57	34.907	0.029	0.118
180	13.33	34.899	0.011	0.046
200	13.17	34.898	0.004	0.038

Station No.	1-018	Date - GMT	16 AUG 86
Station Name	DSJ861-018	Time - GMT	1130
Latitude	4.39.6 N	Date - LOC	16 AUG 86
Longitude	114.31.6 W	Time - LOC	0430

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.59	33.904	0.186	0.123
20	26.59	33.907	0.241	0.086
40	26.59	33.905	0.228	0.087
60	26.42	34.132	0.284	0.088
80	24.40	34.770	0.263	0.368
100	20.23	34.724	0.173	0.308
120	14.35	34.674	--	--
140	12.88	34.793	0.041	0.127
160	12.60	34.829	0.024	0.081
180	12.43	34.840	0.014	0.046
200	12.07	34.820	0.006	0.031

Station No.	1-019	Date - GMT	17 AUG 86
Station Name	DSJ861-019	Time - GMT	0432
Latitude	6.21.6 N	Date - LOC	16 AUG 86
Longitude	116.40.7 W	Time - LOC	2132

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.25	33.961	0.226	0.002
20	27.27	34.023	0.192	0.061
40	27.24	34.358	0.315	0.117
60	27.20	34.380	0.289	0.140
80	27.10	34.486	0.269	0.162
100	18.36	34.635	0.205	0.371
120	16.34	34.693	0.131	0.191
140	13.41	34.792	0.111	0.279
160	12.73	34.796	0.019	0.094
180	12.32	34.765	0.010	0.103
200	11.73	34.751	0.013	0.116

Station No.	1-020	Date - GMT	17 AUG 86
Station Name	DSJ861-020	Time - GMT	1124
Latitude	7.05.5 N	Date - LOC	17 AUG 86
Longitude	117.29.3 W	Time - LOC	0424

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.72	33.699	0.101	0.044
20	27.72	33.699	0.120	0.041
40	27.73	33.706	--	--
60	27.75	33.718	0.188	0.029
80	19.96	34.583	0.312	0.274
100	15.71	34.569	0.151	0.305
120	12.99	34.735	0.061	0.117
140	12.43	34.736	0.002	0.036
160	11.95	34.761	0.013	0.061
180	11.61	34.738	0.004	0.031
200	11.21	34.724	0.002	0.032

Station No.	1-021	Date - GMT	18 AUG 86
Station Name	DSJ861-021	Time - GMT	1122
Latitude	8.50.1 N	Date - LOC	18 AUG 86
Longitude	113.50.8 W	Time - LOC	0422

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.80	33.700	--	--
20	27.75	33.340	0.149	0.028
40	27.75	33.347	0.134	0.061
60	24.26	34.251	0.312	0.246
80	16.22	34.610	0.146	0.419
100	14.06	34.767	0.077	0.211
120	13.30	34.798	0.035	0.210
140	12.70	34.791	0.017	0.073
160	12.23	34.774	0.001	0.047
180	11.87	34.755	0.000	0.051
200	11.70	34.753	0.000	0.039

Station No.	1-022	Date - GMT	19 AUG 86
Station Name	DSJ861-022	Time - GMT	0431
Latitude	9.45.3 N	Date - LOC	18 AUG 86
Longitude	111.00.8 W	Time - LOC	2131

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.06	33.580	0.105	0.030
20	28.08	33.579	0.107	0.019
40	27.97	33.586	0.132	0.050
60	24.87	34.288	0.124	0.120
80	17.62	34.630	0.233	0.354
100	14.42	34.764	0.090	0.332
120	13.56	34.790	0.040	0.175
140	12.66	34.796	0.017	0.049
160	12.27	34.785	0.002	0.044
180	11.92	34.766	0.000	0.043
200	11.68	34.751	0.003	0.041

Station No.	1-023	Date - GMT	19 AUG 86
Station Name	DSJ861-023	Time - GMT	1121
Latitude	10.03.3 N	Date - LOC	19 AUG 86
Longitude	110.02.9 W	Time - LOC	0421

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.14	33.331	0.126	0.041
20	28.14	33.325	0.137	0.048
40	28.08	33.516	--	--
60	22.86	34.100	0.355	0.180
80	16.92	34.549	0.170	0.181
100	14.32	34.712	0.028	0.703
120	12.88	34.801	0.003	0.285
140	12.54	34.799	0.001	0.088
160	12.30	34.789	0.003	0.056
180	12.00	34.771	0.004	0.052
200	11.59	34.741	0.001	0.050

Station No.	1-024	Date - GMT	20 AUG 86
Station Name	DSJ861-024	Time - GMT	1123
Latitude	11.15.3 N	Date - LOC	20 AUG 86
Longitude	107.25.0 W	Time - LOC	0423

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.81	33.960	0.110	0.043
20	28.76	33.954	0.119	0.046
40	28.14	34.139	0.188	0.088
60	24.36	34.384	0.367	0.129
80	16.16	34.689	0.171	0.333
100	13.92	34.787	0.047	0.241
120	13.65	34.794	0.047	0.190
140	12.97	34.790	0.029	0.111
160	12.54	34.784	--	--
180	12.18	34.773	0.007	0.062
200	11.77	34.761	0.010	0.045

Station No.	1-025	Date - GMT	20 AUG 86
Station Name	DSJ861-025	Time - GMT	0456
Latitude	14.18.0 N	Date - LOC	21 AUG 86
Longitude	101.13.9 W	Time - LOC	2156

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.32	34.156	0.101	0.044
20	29.32	34.155	0.099	0.044
40	28.90	34.203	0.181	0.034
60	27.20	34.441	0.351	0.160
80	19.82	34.582	0.206	0.367
100	16.85	34.673	0.024	0.183
120	14.63	34.768	0.017	0.124
140	13.48	34.823	0.007	0.177
160	12.98	34.817	0.004	0.095
180	12.66	34.807	0.005	0.070
200	12.31	34.799	0.003	0.099

Station No.	2-001	Date - GMT	03 SEP 86
Station Name	DSJ862-001	Time - GMT	0329
Latitude	16.39.7 N	Date - LOC	02 SEP 86
Longitude	108.20.7 W	Time - LOC	2129

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.48	34.505	0.009	0.003
20	28.29	34.484	--	--
40	26.76	34.379	0.140	0.037
60	20.13	34.117	0.305	0.162
80	17.09	34.138	0.286	0.486
100	15.30	34.390	0.185	0.330
120	14.44	34.668	0.043	0.215
140	13.78	34.688	0.019	0.091
160	13.37	34.717	0.014	0.233
180	12.73	34.752	0.009	0.289
200	12.23	34.774	0.015	0.235

Station No.	2-002	Date - GMT	04 SEP 86
Station Name	DSJ862-002	Time - GMT	0328
Latitude	14.34.6 N	Date - LOC	03 SEP 86
Longitude	112.00.1 W	Time - LOC	2128

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.11	34.292	0.027	0.029
20	28.63	34.266	0.046	0.016
40	27.61	34.356	0.066	0.011
60	24.99	34.345	0.185	0.073
80	20.69	34.367	0.344	0.354
100	17.58	34.484	0.142	0.291
120	14.67	34.587	0.020	0.228
140	13.57	34.646	0.001	0.115
160	12.95	34.739	0.000	0.282
180	12.13	34.743	0.009	0.229
200	12.01	34.739	0.000	0.229

Station No.	2-003	Date - GMT	05 SEP 86
Station Name	DSJ862-003	Time - GMT	0435
Latitude	12.38.1 N	Date - LOC	04 SEP 85
Longitude	114.09.1 W	Time - LOC	2135

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.32	34.680	0.061	0.024
20	28.88	33.831	0.076	0.013
40	28.48	33.820	0.070	0.001
60	27.12	34.139	0.218	0.055
80	19.20	34.363	0.294	0.314
100	16.73	34.530	0.085	0.306
120	14.14	34.752	0.019	0.507
140	13.26	34.796	0.005	0.371
160	12.94	34.798	0.014	0.198
180	12.48	34.786	0.017	0.191
200	12.16	34.780	0.000	0.174

Station No.	2-004	Date - GMT	05 SEP 86
Station Name	DSJ862-004	Time - GMT	1130
Latitude	12.41.7 N	Date - LOC	05 SEP 86
Longitude	113.07.3 W	Time - LOC	0430

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.55	33.823	0.087	0.017
20	28.56	33.915	0.063	0.018
40	28.42	34.027	0.084	0.014
60	26.15	34.336	--	--
80	20.24	34.418	0.180	0.101
100	16.49	34.630	0.318	0.249
120	15.00	34.735	0.107	0.285
140	13.63	34.778	0.038	0.199
160	12.80	34.796	0.001	0.059
180	12.38	34.791	0.000	0.074
200	12.27	34.784	0.002	0.036

Station No.	2-005	Date - GMT	06 SEP 86
Station Name	DSJ862-005	Time - GMT	0432
Latitude	12.50.3 N	Date - LOC	05 SEP 86
Longitude	110.51.1 W	Time - LOC	2132

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.18	33.685	0.071	0.003
20	28.75	34.059	0.048	0.027
40	28.55	34.169	0.056	0.025
60	25.24	34.335	0.123	0.062
80	20.28	34.353	0.321	0.526
100	16.88	34.476	0.161	0.354
120	14.46	34.649	0.009	0.270
140	13.23	34.750	0.028	0.384
160	12.63	34.774	0.011	0.212
180	12.26	34.768	0.001	0.186
200	11.82	34.764	0.021	0.141

Station No.	2-006	Date - GMT	06 SEP 86
Station Name	DSJ862-006	Time - GMT	1132
Latitude	12.52.3 N	Date - LOC	06 SEP 86
Longitude	109.42.5 W	Time - LOC	0432

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.70	34.048	0.097	0.027
20	28.11	34.079	0.090	0.030
40	26.63	34.145	0.122	0.043
60	19.24	34.394	0.100	0.143
80	16.10	34.497	0.147	0.147
100	13.81	34.771	0.014	0.254
120	13.15	34.799	0.004	0.216
140	12.71	34.798	0.004	0.078
160	12.36	34.783	0.011	0.060
180	12.11	34.788	0.006	0.078
200	11.83	34.763	0.013	0.134

Station No.	2-007	Date - GMT	07 SEP 86
Station Name	DSJ862-007	Time - GMT	0433
Latitude	12.59.7 N	Date - LOC	06 SEP 86
Longitude	107.02.1 W	Time - LOC	2133

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.15	33.457	0.087	0.014
20	28.15	33.463	0.088	0.026
40	28.11	33.607	0.044	0.005
60	25.46	34.187	0.458	0.127
80	19.75	34.517	0.256	0.311
100	17.33	34.569	0.071	0.125
120	14.44	34.742	0.000	0.325
140	13.44	34.788	0.000	0.639
160	13.16	34.797	0.028	0.276
180	12.55	34.796	0.001	0.194
200	12.25	34.782	0.013	0.099

Station No.	2-008	Date - GMT	07 SEP 86
Station Name	DSJ862-008	Time - GMT	1140
Latitude	13.03.3 N	Date - LOC	07 SEP 86
Longitude	106.00.4 W	Time - LOC	0440

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.77	33.805	0.086	0.054
20	28.79	33.806	0.083	0.054
40	28.84	33.851	0.070	0.043
60	28.04	34.366	0.237	0.206
80	22.33	34.468	0.256	0.440
100	17.88	34.629	0.114	0.345
120	15.07	34.751	0.033	0.302
140	13.90	34.797	0.000	0.157
160	13.27	34.811	0.000	0.141
180	12.80	34.801	0.000	0.093
200	12.45	34.801	0.001	0.096

Station No.	2-009	Date - GMT	08 SEP 86
Station Name	DSJ862-009	Time - GMT	0429
Latitude	13.09.1 N	Date - LOC	07 SEP 86
Longitude	103.43.7 W	Time - LOC	2129

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.98	34.017	0.123	0.047
20	28.99	34.023	--	--
40	29.05	34.257	--	--
60	26.74	34.457	--	--
80	19.87	34.535	--	--
100	16.62	34.649	--	--
120	14.20	34.788	--	--
140	13.62	34.807	--	--
160	12.94	34.773	--	--
180	12.48	34.801	--	--
200	12.07	34.786	0.006	0.052

Station No.	2-010	Date - GMT	08 SEP 86
Station Name	DSJ862-010	Time - GMT	1120
Latitude	13.13.4 N	Date - LOC	08 SEP 86
Longitude	102.41.5 W	Time - LOC	0420

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.69	33.686	0.147	0.033
20	28.73	33.756	0.218	0.000
40	28.59	33.758	0.171	0.051
60	24.36	34.335	0.401	0.271
80	17.88	34.619	0.128	0.238
100	15.41	34.723	0.009	0.341
120	14.18	34.792	0.019	0.501
140	13.14	34.804	--	--
160	12.77	34.804	0.024	0.146
180	12.43	34.797	0.044	0.123
200	12.21	34.790	0.006	0.142

Station No.	2-011	Date - GMT	09 SEP 86
Station Name	DSJ862-011	Time - GMT	0426
Latitude	13.21.7 N	Date - LOC	08 SEP 86
Longitude	100.33.5 W	Time - LOC	2126

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	--	--	0.166	0.035
20	--	--	0.142	0.038
40	--	--	0.280	0.096
60	--	--	0.447	0.537
80	--	--	0.133	0.249
100	--	--	0.003	0.031
120	--	--	0.023	0.092
140	--	--	0.013	0.058
160	--	--	0.001	0.143
180	--	--	0.029	0.143
200	--	--	--	--

Station No.	2-012	Date - GMT	09 SEP 86
Station Name	DSJ862-012	Time - GMT	1131
Latitude	13.23.5 N	Date - LOC	09 SEP 86
Longitude	99.50.4 W	Time - LOC	0431

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.39	34.006	0.156	0.086
20	29.36	34.058	0.161	0.071
40	29.25	34.087	0.284	0.148
60	26.50	34.344	0.493	0.616
80	21.51	34.516	0.252	0.371
100	17.87	34.612	0.109	0.344
120	14.07	34.794	0.056	0.144
140	13.45	34.816	0.038	0.082
160	12.94	34.816	0.014	0.076
180	12.51	34.800	0.017	0.065
200	12.29	34.795	0.017	0.144

Station No.	2-013	Date - GMT	10 SEP 86
Station Name	DSJ862-013	Time - GMT	0426
Latitude	12.02.0 N	Date - LOC	09 SEP 86
Longitude	101.34.5 W	Time - LOC	2126

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.12	33.405	0.185	0.078
20	28.04	33.437	0.232	0.092
40	27.39	33.664	0.162	0.086
60	21.03	34.311	0.298	0.437
80	14.69	34.722	0.081	0.249
100	13.56	34.798	0.043	0.241
120	13.11	34.779	0.034	0.132
140	12.70	34.783	0.011	0.097
160	12.27	34.780	0.011	0.063
180	11.95	34.763	0.016	0.068
200	11.70	34.758	0.010	0.052

Station No.	2-014	Date - GMT	10 SEP 86
Station Name	DSJ862-014	Time - GMT	1130
Latitude	11.16.7 N	Date - LOC	10 SEP 86
Longitude	101.20.9 W	Time - LOC	0430

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.51	33.760	0.223	0.066
20	28.52	33.761	0.228	0.066
40	21.47	34.428	0.504	0.392
60	15.87	34.710	0.275	0.273
80	14.25	34.745	0.076	0.135
100	13.49	34.798	0.062	0.134
120	12.98	34.799	0.023	0.064
140	12.62	34.789	0.001	0.062
160	12.30	34.778	0.011	0.043
180	11.99	34.764	0.013	0.040
200	11.70	34.757	0.011	0.041

Station No.	2-015	Date - GMT	11 SEP 86
Station Name	DSJ862-015	Time - GMT	0427
Latitude	9.33.8 N	Date - LOC	10 SEP 86
Longitude	104.22.2 W	Time - LOC	2127

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.22	33.465	0.133	0.048
20	28.28	33.573	0.046	0.037
40	20.95	34.427	0.241	0.270
60	17.33	34.455	0.228	0.283
80	13.27	34.690	0.100	0.086
100	12.74	34.699	0.060	0.098
120	12.30	34.690	0.029	0.051
140	11.57	34.692	0.000	0.036
160	11.46	34.705	0.001	0.051
180	11.43	34.716	0.014	0.042
200	11.18	34.725	0.017	0.045

Station No.	2-016	Date - GMT	11 SEP 86
Station Name	DSJ862-016	Time - GMT	1128
Latitude	8.56.5 N	Date - LOC	11 SEP 86
Longitude	105.08.2 W	Time - LOC	0428

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.14	33.659	0.190	0.089
20	28.09	33.656	--	--
40	25.58	33.749	--	--
60	16.28	34.655	--	--
80	13.70	34.771	--	--
100	12.86	34.768	--	--
120	12.65	34.812	--	--
140	12.27	34.786	--	--
160	12.12	34.771	--	--
180	11.75	34.769	--	--
200	11.25	34.728	--	--

Station No.	2-017	Date - GMT	12 SEP 86
Station Name	DSJ862-017	Time - GMT	0426
Latitude	7.31.0 N	Date - LOC	11 SEP 86
Longitude	106.52.6 W	Time - LOC	2126

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.63	33.231	0.194	0.000
20	27.34	33.286	0.185	0.057
40	27.39	33.335	0.218	0.081
60	25.26	34.361	0.275	0.198
80	20.38	34.480	--	--
100	16.55	34.676	--	--
120	13.69	34.737	--	--
140	12.95	34.767	--	--
160	12.50	34.773	0.020	0.059
180	11.97	34.759	--	--
200	11.80	34.751	--	--

Station No.	2-018	Date - GMT	12 SEP 86
Station Name	DSJ862-018	Time - GMT	1125
Latitude	6.54.1 N	Date - LOC	12 SEP 86
Longitude	107.40.0 W	Time - LOC	0425

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.34	33.651	0.104	0.112
20	27.35	33.650	0.152	0.065
40	27.35	33.650	0.137	0.063
60	27.35	33.660	0.242	0.109
80	25.48	34.339	0.284	0.277
100	16.89	34.651	0.242	0.304
120	15.07	34.710	0.095	0.183
140	13.19	34.710	0.070	0.149
160	12.38	34.731	0.038	0.072
180	12.20	34.745	0.011	0.047
200	11.72	34.743	0.011	0.046

Station No.	2-019	Date - GMT	13 SEP 86
Station Name	DSJ862-019	Time - GMT	1158
Latitude	5.01.6 N	Date - LOC	13 SEP 86
Longitude	110.01.3 W	Time - LOC	0458

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.85	33.991	0.190	0.037
20	26.96	33.917	0.199	0.059
40	26.97	33.917	0.209	0.044
60	25.52	34.404	--	--
80	24.42	34.626	--	--
100	22.80	34.897	--	--
120	19.84	34.734	0.166	0.318
140	15.70	34.568	--	--
160	12.74	34.667	--	--
180	11.86	34.655	--	--
200	11.69	34.685	--	--

Station No.	2-020	Date - GMT	13 SEP 86
Station Name	DSJ862-020	Time - GMT	2149
Latitude	3.59.9 N	Date - LOC	13 SEP 86
Longitude	109.59.6 W	Time - LOC	1449

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.66	34.342	--	--
20	25.55	34.330	--	--
40	25.08	34.608	--	--
60	25.03	34.613	--	--
80	22.87	34.906	--	--
100	22.14	34.972	--	--
120	21.10	34.917	--	--
140	17.15	34.864	--	--
160	14.56	34.902	--	--
180	13.82	34.914	--	--
200	13.64	34.909	--	--

Station No.	2-021	Date - GMT	14 SEP 86
Station Name	DSJ862-021	Time - GMT	0634
Latitude	3.00.2 N	Date - LOC	13 SEP 86
Longitude	110.59.7 W	Time - LOC	2334

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.04	34.646	--	--
20	25.04	34.650	--	--
40	25.04	34.651	--	--
60	23.09	34.715	--	--
80	21.46	34.884	--	--
100	21.22	34.884	--	--
120	20.45	34.806	--	--
140	14.82	34.861	--	--
160	14.03	34.930	--	--
180	14.04	34.943	--	--
200	13.78	34.930	--	--

Station No.	2-022	Date - GMT	14 SEP 86
Station Name	DSJ862-022	Time - GMT	1617
Latitude	2.08.2 N	Date - LOC	14 SEP 86
Longitude	110.13.6 W	Time - LOC	0917

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.07	34.601	0.242	0.093
20	25.02	34.578	--	--
40	24.57	34.629	0.228	0.133
60	23.18	34.917	0.190	0.202
80	22.58	34.954	0.171	0.149
100	22.03	34.938	0.095	0.256
120	16.62	34.630	--	--
140	13.96	34.944	--	--
160	13.86	34.947	--	--
180	13.71	34.934	--	--
200	13.56	34.924	0.011	0.044

Station No.	2-023	Date - GMT	14 SEP 86
Station Name	DSJ862-023	Time - GMT	2135
Latitude	1.29.5 N	Date - LOC	14 SEP 86
Longitude	110.00.4 W	Time - LOC	1435

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.98	34.547	0.280	0.009
20	24.97	34.548	--	--
40	24.31	34.663	--	--
60	23.30	34.999	--	--
80	23.10	35.016	--	--
100	22.02	34.955	--	--
120	15.28	34.836	--	--
140	13.88	34.919	--	--
160	13.68	34.941	--	--
180	13.60	34.932	--	--
200	12.93	34.891	--	--

Station No.	2-024	Date - GMT	15 SEP 86
Station Name	DSJ862-024	Time - GMT	0147
Latitude	1.00.0 N	Date - LOC	14 SEP 86
Longitude	110.00.0 W	Time - LOC	1847

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.15	34.719	0.251	0.073
20	24.13	34.721	--	--
40	23.76	34.824	--	--
60	23.13	35.054	--	--
80	22.71	34.990	--	--
100	21.07	34.789	--	--
120	14.63	34.880	--	--
140	14.47	34.848	--	--
160	13.98	34.900	--	--
180	13.71	34.937	--	--
200	13.05	34.884	--	--

Station No.	2-025	Date - GMT	15 SEP 86
Station Name	DSJ862-025	Time - GMT	0524
Latitude	0.29.6 N	Date - LOC	14 SEP 86
Longitude	109.59.8 W	Time - LOC	2224

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.49	34.932	0.289	0.092
20	23.47	34.954	--	--
40	23.20	35.034	--	--
60	23.04	35.059	--	--
80	19.04	34.873	--	--
100	15.29	34.831	--	--
120	14.15	34.880	--	--
140	13.89	34.889	--	--
160	13.75	34.880	--	--
180	13.38	34.888	--	--
200	13.00	34.889	--	--

Station No.	2-026	Date - GMT	15 SEP 86
Station Name	DSJ862-026	Time - GMT	1102
Latitude	0.01.5 S	Date - LOC	15 SEP 86
Longitude	110.01.7 W	Time - LOC	0402

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	22.95	35.051	0.379	0.105
20	22.95	35.051	--	--
40	22.02	34.954	--	--
60	21.89	34.953	--	--
80	18.84	34.896	--	--
100	15.71	34.883	--	--
120	14.58	34.979	--	--
140	14.17	34.947	--	--
160	13.75	34.914	--	--
180	13.18	34.893	--	--
200	13.14	34.891	--	--

Station No.	2-027	Date - GMT	15 SEP 86
Station Name	DSJ862-027	Time - GMT	1643
Latitude	0.31.5 S	Date - LOC	15 SEP 86
Longitude	109.59.0 W	Time - LOC	0943

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	22.93	35.086	0.341	0.158
20	22.90	35.092	--	--
40	22.77	35.085	--	--
60	21.48	35.044	--	--
80	20.62	34.983	--	--
100	19.30	35.245	--	--
120	15.31	35.047	--	--
140	14.19	34.996	--	--
160	13.87	34.971	--	--
180	13.37	34.934	--	--
200	13.16	34.923	--	--

Station No.	2-028	Date - GMT	15 SEP 86
Station Name	DSJ862-028	Time - GMT	2020
Latitude	1.00.0 S	Date - LOC	15 SEP 86
Longitude	109.59.9 W	Time - LOC	1320

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.25	35.157	0.408	0.092
20	23.20	35.154	--	--
40	23.17	35.162	--	--
60	22.97	35.198	--	--
80	19.63	35.394	--	--
100	15.87	35.140	--	--
120	15.17	35.106	--	--
140	14.18	35.004	--	--
160	13.01	34.920	--	--
180	12.98	34.916	--	--
200	12.94	34.912	--	--

Station No.	2-029	Date - GMT	15 SEP 86
Station Name	DSJ862-029	Time - GMT	2358
Latitude	1.30.0 S	Date - LOC	15 SEP 86
Longitude	109.59.8 W	Time - LOC	1658

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.40	35.213	--	--
20	23.34	35.212	--	--
40	23.25	35.217	--	--
60	23.18	35.220	--	--
80	17.95	35.135	--	--
100	15.65	35.098	--	--
120	13.63	34.937	--	--
140	12.70	34.894	--	--
160	12.64	34.884	--	--
180	12.53	34.877	--	--
200	12.44	34.866	--	--

Station No.	2-030	Date - GMT	16 SEP 86
Station Name	DSJ862-030	Time - GMT	0326
Latitude	2.00.7 S	Date - LOC	15 SEP 86
Longitude	109.59.6 W	Time - LOC	2026

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.55	35.198	0.256	0.069
20	23.56	35.197	--	--
40	23.50	35.199	--	--
60	22.37	35.120	--	--
80	16.72	34.917	--	--
100	13.45	34.922	--	--
120	13.17	34.915	--	--
140	12.84	34.891	--	--
160	12.62	34.883	--	--
180	12.51	34.879	--	--
200	12.42	34.869	--	--

Station No.	2-031	Date - GMT	16 SEP 86
Station Name	DSJ862-031	Time - GMT	1052
Latitude	3.00.0 S	Date - LOC	16 SEP 86
Longitude	109.59.8 W	Time - LOC	0352

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.74	35.342	0.251	0.099
20	23.71	35.337	--	--
40	23.71	35.336	--	--
60	21.97	35.158	--	--
80	15.03	34.997	--	--
100	13.40	34.929	--	--
120	13.30	34.923	--	--
140	13.22	34.919	--	--
160	13.18	34.919	--	--
180	12.82	34.896	--	--
200	12.77	34.891	--	--

Station No.	2-032	Date - GMT	16 SEP 86
Station Name	DSJ862-032	Time - GMT	1815
Latitude	3.59.8 S	Date - LOC	16 SEP 86
Longitude	110.00.0 W	Time - LOC	1115

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.51	35.232	0.289	0.051
20	23.50	35.232	--	--
40	23.47	35.231	--	--
60	22.24	35.216	--	--
80	18.77	35.055	--	--
100	15.04	35.001	--	--
120	13.70	34.933	--	--
140	13.40	34.936	--	--
160	13.21	34.915	--	--
180	13.08	34.915	--	--
200	12.99	34.908	--	--

Station No.	2-033	Date - GMT	17 SEP 86
Station Name	DSJ862-033	Time - GMT	0241
Latitude	5.04.4 S	Date - LOC	16 SEP 86
Longitude	109.56.7 W	Time - LOC	1941

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.50	35.255	0.309	0.351
20	23.50	35.259	--	--
40	23.47	35.259	--	--
60	23.41	35.253	--	--
80	19.85	35.071	--	--
100	15.49	35.025	--	--
120	13.89	34.957	--	--
140	13.46	34.946	--	--
160	13.30	34.940	--	--
180	13.12	34.925	--	--
200	13.02	34.918	--	--

Station No.	2-034	Date - GMT	18 SEP 86
Station Name	DSJ862-034	Time - GMT	0337
Latitude	3.00.0 S	Date - LOC	17 SEP 86
Longitude	107.22.0 W	Time - LOC	2037

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.28	35.182	0.398	0.117
20	23.29	35.188	--	--
40	23.27	35.189	--	--
60	23.10	35.184	--	--
80	22.94	35.181	--	--
100	14.50	34.960	--	--
120	13.46	34.925	--	--
140	13.36	34.926	--	--
160	13.23	34.919	--	--
180	13.13	34.912	--	--
200	13.02	34.908	--	--

Station No.	2-035	Date - GMT	19 SEP 86
Station Name	DSJ862-035	Time - GMT	0428
Latitude	0.19.0 S	Date - LOC	18 SEP 86
Longitude	103.48.5 W	Time - LOC	2128

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	21.81	35.122	0.355	0.000
20	22.05	35.002	--	--
40	21.90	34.991	--	--
60	21.86	35.004	--	--
80	19.62	34.905	--	--
100	17.99	34.984	--	--
120	17.57	35.276	--	--
140	15.00	35.017	--	--
160	14.32	34.960	--	--
180	13.61	34.935	--	--
200	13.27	34.933	--	--

Station No.	2-036	Date - GMT	20 SEP 86
Station Name	DSJ862-036	Time - GMT	0439
Latitude	1.55.7 N	Date - LOC	19 SEP 86
Longitude	101.06.2 W	Time - LOC	2139

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.87	34.343	0.389	0.000
20	23.88	34.294	--	--
40	23.67	34.323	--	--
60	21.62	34.671	--	--
80	18.60	34.878	--	--
100	14.47	34.883	--	--
120	14.01	34.933	--	--
140	13.77	34.933	--	--
160	13.48	34.914	--	--
180	13.37	34.920	--	--
200	13.16	34.907	--	--

Station No.	2-037	Date - GMT	21 SEP 86
Station Name	DSJ862-037	Time - GMT	0427
Latitude	4.10.3 N	Date - LOC	20 SEP 86
Longitude	97.45.2 W	Time - LOC	2127

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.73	33.704	0.128	0.058
20	26.73	33.708	--	--
40	26.72	33.708	--	--
60	23.60	34.431	--	--
80	19.37	34.742	--	--
100	14.90	34.842	--	--
120	13.86	34.904	--	--
140	13.63	34.913	--	--
160	13.38	34.900	--	--
180	13.17	34.893	--	--
200	12.92	34.880	--	--

Station No.	2-038	Date - GMT	22 SEP 86
Station Name	DSJ862-038	Time - GMT	0326
Latitude	6.35.4 N	Date - LOC	21 SEP 86
Longitude	94.29.6 W	Time - LOC	2126

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.42	33.071	0.256	0.105
20	27.44	33.084	--	--
40	26.09	33.936	--	--
60	16.94	34.719	--	--
80	14.51	34.857	--	--
100	14.05	34.910	--	--
120	13.58	34.903	--	--
140	13.28	34.868	--	--
160	13.04	34.848	--	--
180	12.95	34.870	--	--
200	12.61	34.837	--	--

Station No.	2-039	Date - GMT	23 SEP 86
Station Name	DSJ862-039	Time - GMT	0336
Latitude	9.03.9 N	Date - LOC	22 SEP 86
Longitude	91.11.9 W	Time - LOC	2136

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.84	33.656	0.332	0.106
20	24.80	34.039	--	--
40	17.00	34.741	--	--
60	14.65	34.751	--	--
80	13.65	34.778	--	--
100	13.56	34.888	--	--
120	13.31	34.885	--	--
140	13.05	34.873	--	--
160	12.79	34.856	--	--
180	12.63	34.842	--	--
200	12.36	34.826	--	--

Station No.	2-040	Date - GMT	24 SEP 86
Station Name	DSJ862-040	Time - GMT	0329
Latitude	9.02.9 N	Date - LOC	23 SEP 86
Longitude	90.05.6 W	Time - LOC	2129

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.33	34.142	0.270	0.163
20	20.93	34.511	--	--
40	14.76	34.710	--	--
60	14.04	34.833	--	--
80	13.24	34.805	--	--
100	13.18	34.839	--	--
120	12.97	34.840	--	--
140	12.92	34.855	--	--
160	12.76	34.839	--	--
180	12.32	34.800	--	--
200	12.34	34.824	--	--

Station No.	2-041	Date - GMT	25 SEP 86
Station Name	DSJ862-041	Time - GMT	0329
Latitude	9.13.3 N	Date - LOC	24 SEP 86
Longitude	91.41.9 W	Time - LOC	2129

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.78	33.277	0.117	0.054
20	28.77	33.272	--	--
40	19.89	34.522	--	--
60	15.76	34.780	--	--
80	14.02	34.816	--	--
100	13.77	34.874	--	--
120	13.51	34.871	--	--
140	13.28	34.873	--	--
160	13.17	34.869	--	--
180	13.01	34.863	--	--
200	12.74	34.837	--	--

Station No.	2-042	Date - GMT	26 SEP 86
Station Name	DSJ862-042	Time - GMT	0327
Latitude	11.58.5 N	Date - LOC	25 SEP 86
Longitude	94.26.7 W	Time - LOC	2127

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.63	33.624	0.119	0.041
20	26.99	33.571	0.185	0.037
40	25.86	34.087	0.813	0.643
60	18.48	34.481	0.584	0.760
80	14.79	34.795	0.036	0.143
100	14.15	34.857	0.016	0.102
120	13.62	34.842	0.004	0.048
140	13.34	34.834	0.010	0.047
160	13.04	34.824	0.004	0.042
180	12.75	34.809	0.023	0.045
200	12.56	34.807	0.009	0.053

Station No.	3-001	Date - GMT	06 OCT 86
Station Name	DSJ863-001	Time - GMT	0327
Latitude	14.26.7 N	Date - LOC	05 OCT 86
Longitude	104.42.6 W	Time - LOC	2127

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.96	34.029	0.090	0.017
20	28.76	34.028	0.332	0.256
40	28.71	34.027	0.298	0.250
60	25.86	34.418	0.081	0.203
80	20.88	34.381	0.024	0.190
100	17.07	34.473	0.000	0.402
120	15.20	34.576	0.000	0.258
140	13.65	34.765	0.010	0.209
160	13.30	34.782	0.016	0.190
180	12.74	34.782	0.024	0.056
200	12.33	34.772	0.010	0.027

Station No.	3-002	Date - GMT	06 OCT 86
Station Name	DSJ863-002	Time - GMT	1025
Latitude	14.25.3 N	Date - LOC	06 OCT 86
Longitude	104.46.2 W	Time - LOC	0425

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.22	33.326	0.228	0.030
20	28.19	33.448	0.275	0.323
40	28.50	33.890	0.123	0.160
60	22.89	34.430	0.000	0.330
80	17.80	34.476	0.000	0.283
100	15.11	34.688	0.016	0.198
120	14.16	34.800	0.011	0.156
140	13.16	34.789	0.003	0.141
160	12.63	34.792	0.017	0.101
180	12.41	34.785	0.003	0.056
200	12.08	34.771	0.007	0.010

Station No.	3-003	Date - GMT	07 OCT 86
Station Name	DSJ863-003	Time - GMT	0231
Latitude	11.19.0 N	Date - LOC	06 OCT 86
Longitude	104.42.0 W	Time - LOC	2031

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.04	33.419	0.123	0.047
20	28.04	33.421	--	--
40	24.04	34.240	--	--
60	16.15	34.662	--	--
80	14.35	34.778	--	--
100	13.54	34.785	--	--
120	12.88	34.786	--	--
140	12.48	34.780	--	--
160	12.28	34.781	--	--
180	12.03	34.773	--	--
200	11.75	34.761	--	--

Station No.	3-004	Date - GMT	07 OCT 86
Station Name	DSJ863-004	Time - GMT	0958
Latitude	10.15.5 N	Date - LOC	07 OCT 86
Longitude	104.51.6 W	Time - LOC	0358

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.24	33.636	0.133	0.025
20	28.23	33.638	0.137	0.038
40	26.19	34.121	0.321	0.302
60	17.76	34.619	0.149	0.386
80	14.13	34.775	0.137	0.105
100	13.56	34.788	0.090	0.116
120	12.63	34.786	0.056	0.081
140	12.23	34.772	0.004	0.059
160	11.92	34.756	0.037	0.025
180	11.72	34.753	0.031	0.043
200	11.62	34.753	0.028	0.209

Station No.	3-005	Date - GMT	08 OCT 86
Station Name	DSJ863-005	Time - GMT	0209
Latitude	7.47.2 N	Date - LOC	07 OCT 86
Longitude	105.13.4 W	Time - LOC	2009

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.60	33.315	0.120	0.017
20	27.61	33.317	0.124	0.046
40	27.58	33.352	0.128	0.000
60	17.96	34.627	0.241	0.307
80	14.30	34.701	0.152	0.147
100	13.49	34.790	0.066	0.140
120	12.95	34.835	0.031	0.069
140	12.65	34.819	0.014	0.042
160	12.08	34.771	0.004	0.031
180	11.87	34.777	0.009	0.016
200	11.63	34.768	0.007	0.032

Station No.	3-006	Date - GMT	08 OCT 86
Station Name	DSJ863-006	Time - GMT	0959
Latitude	6.45.1 N	Date - LOC	08 OCT 86
Longitude	105.18.8 W	Time - LOC	0359

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.21	33.401	0.090	0.023
20	27.24	33.384	0.094	0.030
40	27.25	33.404	0.086	0.031
60	23.98	34.394	0.327	0.276
80	19.38	34.616	0.232	0.278
100	14.59	34.667	0.068	0.114
120	13.39	34.796	0.024	0.109
140	12.74	34.787	0.006	0.022
160	11.83	34.671	0.006	0.030
180	11.53	34.652	0.003	0.044
200	11.24	34.702	0.011	0.016

Station No.	3-007	Date - GMT	09 OCT 86
Station Name	DSJ863-007	Time - GMT	0223
Latitude	7.00.4 N	Date - LOC	08 OCT 86
Longitude	103.49.9 W	Time - LOC	2023

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.44	33.341	0.127	0.025
20	27.44	33.342	0.128	0.027
40	27.44	33.355	0.127	0.022
60	24.23	34.310	0.389	0.059
80	16.80	34.683	0.180	0.330
100	14.18	34.768	0.062	0.175
120	13.66	34.784	0.030	0.116
140	12.85	34.778	0.023	0.053
160	11.80	34.737	0.007	0.035
180	11.71	34.735	0.004	0.031
200	11.46	34.748	0.011	0.038

Station No.	3-008	Date - GMT	09 OCT 86
Station Name	DSJ863-008	Time - GMT	0956
Latitude	7.35.3 N	Date - LOC	09 OCT 86
Longitude	102.48.9 W	Time - LOC	0356

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.36	33.305	0.161	0.035
20	27.36	33.311	0.175	0.046
40	26.60	33.512	0.341	0.153
60	18.63	34.641	0.332	0.241
80	17.12	34.555	0.251	0.279
100	14.28	34.883	0.076	0.171
120	13.99	34.885	0.041	0.129
140	13.28	34.824	0.019	0.028
160	12.67	34.794	0.004	0.021
180	12.46	34.800	0.010	0.033
200	12.19	34.789	0.006	0.019

Station No.	3-009	Date - GMT	10 OCT 86
Station Name	DSJ863-009	Time - GMT	0213
Latitude	9.11.4 N	Date - LOC	09 OCT 86
Longitude	100.35.4 W	Time - LOC	2013

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.96	33.367	0.266	0.000
20	27.86	33.679	0.289	0.005
40	19.04	34.575	0.309	0.301
60	15.79	34.708	0.109	0.174
80	13.58	34.801	0.050	0.110
100	13.00	34.807	0.019	0.070
120	12.69	34.798	0.000	0.054
140	12.26	34.780	0.010	0.029
160	11.86	34.766	0.019	0.019
180	11.60	34.751	0.027	0.035
200	11.41	34.744	0.019	0.051

Station No.	3-010	Date - GMT	10 OCT 86
Station Name	DSJ863-010	Time - GMT	0957
Latitude	9.56.2 N	Date - LOC	10 OCT 86
Longitude	99.46.7 W	Time - LOC	0357

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.91	33.471	0.133	0.099
20	23.63	34.092	--	--
40	17.02	34.687	--	--
60	14.99	34.741	--	--
80	13.65	34.795	--	--
100	13.31	34.803	--	--
120	12.89	34.801	--	--
140	12.55	34.793	--	--
160	12.27	34.781	--	--
180	11.99	34.769	--	--
200	11.83	34.762	--	--

Station No.	3-011	Date - GMT	11 OCT 86
Station Name	DSJ863-011	Time - GMT	0206
Latitude	11.27.7 N	Date - LOC	10 OCT 86
Longitude	98.12.6 W	Time - LOC	2006

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.01	33.236	0.111	0.034
20	28.92	33.453	--	--
40	28.94	33.739	--	--
60	24.65	34.328	--	--
80	15.46	34.753	--	--
100	14.17	34.887	--	--
120	13.72	34.841	--	--
140	13.54	34.833	--	--
160	13.20	34.833	--	--
180	12.91	34.824	--	--
200	12.61	34.810	--	--

Station No.	3-012	Date - GMT	11 OCT 86
Station Name	DSJ863-012	Time - GMT	0953
Latitude	12.00.2 N	Date - LOC	11 OCT 86
Longitude	97.15.9 W	Time - LOC	0353

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.83	33.596	0.161	0.050
20	28.84	33.597	0.147	0.059
40	28.41	33.808	0.266	0.188
60	22.77	34.419	0.493	0.603
80	15.72	34.734	0.152	0.214
100	14.01	34.797	0.066	0.150
120	13.51	34.790	0.044	0.103
140	13.06	34.799	0.007	0.050
160	12.72	34.799	0.040	0.031
180	12.43	34.797	0.000	0.056
200	12.35	34.795	0.006	0.047

Station No.	3-013	Date - GMT	12 OCT 86
Station Name	DSJ863-013	Time - GMT	0957
Latitude	12.08.6 N	Date - LOC	12 OCT 86
Longitude	95.55.0 W	Time - LOC	0357

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	29.08	33.760	0.137	0.058
20	29.08	33.761	--	--
40	28.92	33.856	--	--
60	16.31	34.679	--	--
80	14.36	34.816	--	--
100	13.65	34.810	--	--
120	13.26	34.834	--	--
140	13.01	34.825	--	--
160	12.59	34.801	--	--
180	12.38	34.783	--	--
200	12.21	34.788	0.006	0.038

Station No.	3-014	Date - GMT	13 OCT 86
Station Name	DSJ863-014	Time - GMT	0209
Latitude	9.42.2 N	Date - LOC	12 OCT 86
Longitude	96.52.0 W	Time - LOC	2009

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.68	33.378	0.280	0.091
20	22.78	34.319	--	--
40	15.68	34.702	--	--
60	13.93	34.810	--	--
80	13.59	34.830	--	--
100	13.13	34.833	--	--
120	12.92	34.814	--	--
140	12.63	34.813	--	--
160	12.41	34.798	--	--
180	12.10	34.780	--	--
200	11.97	34.779	--	--

Station No.	3-015	Date - GMT	13 OCT 86
Station Name	DSJ863-015	Time - GMT	0953
Latitude	8.40.2 N	Date - LOC	13 OCT 86
Longitude	97.16.4 W	Time - LOC	0353

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.44	33.334	0.321	0.115
20	27.44	33.335	0.389	0.158
40	14.58	34.750	0.367	0.268
60	13.72	34.750	0.185	0.269
80	12.95	34.795	0.058	0.083
100	12.67	34.791	0.024	0.053
120	12.39	34.787	0.009	0.035
140	12.17	34.788	0.017	0.050
160	11.94	34.778	0.031	0.043
180	11.73	34.765	0.036	0.060
200	11.59	34.762	0.040	0.030

Station No.	3-016	Date - GMT	14 OCT 86
Station Name	DSJ863-016	Time - GMT	0207
Latitude	6.27.5 N	Date - LOC	13 OCT 86
Longitude	97.48.6 W	Time - LOC	2007

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.84	33.159	0.299	0.124
20	26.85	33.160	0.185	0.021
40	26.88	33.205	0.313	0.104
60	21.33	34.437	0.344	0.403
80	16.18	34.678	0.137	0.357
100	13.02	34.754	0.104	0.164
120	12.65	34.787	0.031	0.076
140	12.06	34.757	0.050	0.124
160	11.61	34.711	0.006	0.056
180	11.44	34.716	--	--
200	11.18	34.726	0.006	0.042

Station No.	3-017	Date - GMT	14 OCT 86
Station Name	DSJ863-017	Time - GMT	1003
Latitude	5.50.5 N	Date - LOC	14 OCT 86
Longitude	97.58.9 W	Time - LOC	0403

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.46	33.324	0.341	0.122
20	26.96	33.327	--	--
40	26.96	33.327	--	--
60	23.76	34.262	--	--
80	15.65	34.696	--	--
100	14.12	34.691	--	--
120	12.84	34.775	--	--
140	12.66	34.815	--	--
160	12.31	34.826	--	--
180	12.15	34.813	--	--
200	11.81	34.791	--	--

Station No.	3-018	Date - GMT	15 OCT 86
Station Name	DSJ863-018	Time - GMT	0211
Latitude	3.45.9 N	Date - LOC	14 OCT 86
Longitude	98.33.0 W	Time - LOC	2011

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.29	33.900	0.218	0.065
20	26.30	33.899	0.180	0.057
40	26.30	33.902	0.106	0.045
60	26.26	33.914	0.152	0.157
80	18.07	34.744	0.228	0.303
100	15.26	34.887	0.209	0.399
120	14.48	34.966	0.070	0.108
140	14.31	34.951	0.051	0.110
160	14.08	34.942	--	--
180	13.82	34.934	0.016	0.056
200	13.59	34.920	0.004	0.056

Station No.	3-019	Date - GMT	15 OCT 86
Station Name	DSJ863-019	Time - GMT	0956
Latitude	2.50.5 N	Date - LOC	15 OCT 86
Longitude	98.47.8 W	Time - LOC	0356

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.03	34.024	0.218	0.081
20	26.04	34.020	--	--
40	26.05	34.020	--	--
60	26.02	34.019	--	--
80	17.81	34.832	--	--
100	15.93	34.920	--	--
120	14.72	34.981	--	--
140	14.56	34.968	--	--
160	14.25	34.965	--	--
180	14.08	34.943	--	--
200	13.72	34.928	--	--

Station No.	3-020	Date - GMT	16 OCT 86
Station Name	DSJ863-020	Time - GMT	0208
Latitude	4.45.9 N	Date - LOC	15 OCT 86
Longitude	97.31.1 W	Time - LOC	2008

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.74	33.632	0.109	0.046
20	26.75	33.635	--	--
40	26.76	33.638	--	--
60	23.53	34.387	--	--
80	18.16	34.780	--	--
100	14.77	34.882	--	--
120	14.24	34.908	0.071	0.171
140	13.88	34.906	0.070	0.124
160	13.58	34.897	0.080	0.057
180	13.48	34.900	0.011	0.029
200	13.20	34.888	0.006	0.045

Station No.	3-021	Date - GMT	16 OCT 86
Station Name	DSJ863-021	Time - GMT	0957
Latitude	5.46.9 N	Date - LOC	16 OCT 86
Longitude	96.48.8 W	Time - LOC	0357

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.89	33.387	0.137	0.063
20	26.89	33.387	0.147	0.054
40	26.89	33.390	0.147	0.069
60	22.80	34.314	0.247	0.088
80	18.67	34.516	0.199	0.326
100	14.75	34.598	0.156	0.173
120	13.15	34.673	0.085	0.116
140	12.51	34.712	0.046	0.086
160	12.21	34.781	0.027	0.043
180	11.96	34.805	0.013	0.052
200	11.83	34.799	0.006	0.028

Station No.	3-022	Date - GMT	17 OCT 86
Station Name	DSJ863-022	Time - GMT	0210
Latitude	8.10.0 N	Date - LOC	16 OCT 86
Longitude	95.27.2 W	Time - LOC	2010

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.58	33.630	0.321	0.103
20	26.58	33.630	--	--
40	21.08	34.532	--	--
60	15.75	34.687	--	--
80	14.43	34.747	--	--
100	12.84	34.691	--	--
120	12.37	34.692	--	--
140	12.04	34.704	--	--
160	11.65	34.708	--	--
180	11.54	34.718	--	--
200	11.53	34.754	--	--

Station No.	3-023	Date - GMT	17 OCT 86
Station Name	DSJ863-023	Time - GMT	0956
Latitude	9.09.5 N	Date - LOC	17 0CT 86
Longitude	94.47.0 W	Time - LOC	0356

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.70	33.328	0.298	0.150
20	26.71	33.327	0.321	0.165
40	21.88	34.497	0.344	0.167
60	16.72	34.733	0.504	0.193
80	14.34	34.826	0.123	0.145
100	13.64	34.801	0.056	0.099
120	13.34	34.830	0.036	0.074
140	13.03	34.799	0.041	0.036
160	12.87	34.807	0.007	0.061
180	12.56	34.809	0.009	0.030
200	12.39	34.793	0.006	0.038

Station No.	3-024	Date - GMT	18 OCT 86
Station Name	DSJ863-024	Time - GMT	0211
Latitude	11.02.5 N	Date - LOC	17 OCT 86
Longitude	93.14.7 W	Time - LOC	2011

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.09	33.295	0.242	0.057
20	26.94	33.314	0.247	0.011
40	24.32	33.842	0.424	0.236
60	15.23	34.715	0.263	0.347
80	13.90	34.783	0.147	0.162
100	13.07	34.786	0.033	0.105
120	12.89	34.808	0.021	0.059
140	12.63	34.786	0.010	0.044
160	12.27	34.769	0.070	0.045
180	11.99	34.756	0.009	0.041
200	11.89	34.772	0.007	0.049

Station No.	3-025	Date - GMT	18 OCT 86
Station Name	DSJ863-025	Time - GMT	0955
Latitude	12.00.7 N	Date - LOC	18 OCT 86
Longitude	92.45.6 W	Time - LOC	0355

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.94	33.636	0.275	0.137
20	27.12	33.781	0.309	0.214
40	19.05	34.582	0.447	0.973
60	15.67	34.798	0.104	0.174
80	14.11	34.836	0.036	0.090
100	13.65	34.857	0.003	0.042
120	13.40	34.854	0.003	0.056
140	13.11	34.838	0.003	0.031
160	12.97	34.835	0.024	0.041
180	12.67	34.810	0.004	0.052
200	12.32	34.784	0.000	0.050

Station No.	3-026	Date - GMT	19 OCT 86
Station Name	DSJ863-026	Time - GMT	0211
Latitude	12.14.4 N	Date - LOC	18 OCT 86
Longitude	92.00.9 W	Time - LOC	2011

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.56	33.722	0.470	0.078
20	28.53	33.746	0.527	0.145
40	27.93	33.739	0.493	0.329
60	22.84	34.306	0.344	0.864
80	16.61	34.697	0.123	0.109
100	15.12	34.818	0.019	0.081
120	13.96	34.861	0.006	0.067
140	13.35	34.840	0.001	0.067
160	12.46	34.800	0.058	0.053
180	10.93	34.731	0.006	0.038
200	9.00	34.671	0.020	0.150

Station No.	3-027	Date - GMT	19 OCT 86
Station Name	DSJ863-027	Time - GMT	0959
Latitude	11.06.0 N	Date - LOC	19 OCT 86
Longitude	91.55.3 W	Time - LOC	0359

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.23	33.096	0.175	0.046
20	27.96	33.135	0.218	0.060
40	20.06	34.588	0.722	0.735
60	15.28	34.796	0.175	0.154
80	14.34	34.843	0.053	0.076
100	13.81	34.857	0.017	0.039
120	13.42	34.833	0.009	0.039
140	13.20	34.839	0.004	0.017
160	12.88	34.824	0.058	0.024
180	12.68	34.828	0.011	0.078
200	12.44	34.801	0.010	0.063

Station No.	3-028	Date - GMT	21 OCT 86
Station Name	DSJ863-028	Time - GMT	0209
Latitude	12.20.4 N	Date - LOC	20 OCT 86
Longitude	91.02.8 W	Time - LOC	2009

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.49	33.200	0.088	0.022
20	28.39	33.165	0.284	0.076
40	20.52	34.472	0.527	0.096
60	17.49	34.647	0.470	0.389
80	14.92	34.783	0.171	0.175
100	14.09	34.820	0.053	0.081
120	13.62	34.845	0.009	0.046
140	13.37	34.833	0.004	0.031
160	13.13	34.828	0.147	0.044
180	12.78	34.813	0.009	0.021
200	12.47	34.798	0.010	0.033

Station No.	3-029	Date - GMT	21 OCT 86
Station Name	DSJ863-029	Time - GMT	0955
Latitude	11.13.0 N	Date - LOC	21 OCT 86
Longitude	91.07.7 W	Time - LOC	0355

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.23	33.140	0.266	0.069
20	26.90	33.478	0.527	0.195
40	18.30	34.651	0.628	0.737
60	14.65	34.860	0.057	0.216
80	13.89	34.797	0.053	0.091
100	13.41	34.832	0.021	0.048
120	13.19	34.830	0.011	0.032
140	12.90	34.819	0.004	0.034
160	12.70	34.820	0.011	0.010
180	12.54	34.824	0.007	0.035
200	12.26	34.800	0.010	0.046

Station No.	3-030	Date - GMT	22 OCT 86
Station Name	DSJ863-030	Time - GMT	0210
Latitude	9.13.9 N	Date - LOC	21 OCT 86
Longitude	92.00.6 W	Time - LOC	2010

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.57	33.151	0.147	0.054
20	27.63	33.373	0.256	0.069
40	16.56	34.705	0.367	0.231
60	14.05	34.777	0.114	0.319
80	13.37	34.829	0.085	0.141
100	13.10	34.822	0.058	0.100
120	12.81	34.814	0.011	0.034
140	12.57	34.819	0.009	0.027
160	12.42	34.804	0.011	0.032
180	12.20	34.792	0.004	0.033
200	12.10	34.786	0.014	0.031

Station No.	3-031	Date - GMT	22 OCT 86
Station Name	DSJ863-031	Time - GMT	0956
Latitude	8.03.5 N	Date - LOC	22 OCT 86
Longitude	92.01.5 W	Time - LOC	0356

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.05	32.908	0.209	0.049
20	27.94	33.180	0.322	0.080
40	17.03	34.916	0.447	0.549
60	14.21	34.783	0.147	0.363
80	13.59	34.730	0.109	0.169
100	13.00	34.728	0.054	0.113
120	12.83	34.745	0.036	0.081
140	12.41	34.725	0.033	0.049
160	12.28	34.752	0.024	0.041
180	12.15	34.756	0.014	0.031
200	12.07	34.764	0.024	0.054

Station No.	3-032	Date - GMT	23 OCT 82
Station Name	DSJ863-032	Time - GMT	0208
Latitude	5.32.2 N	Date - LOC	22 OCT 86
Longitude	92.08.4 W	Time - LOC	2008

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.91	33.265	0.152	0.034
20	26.81	33.321	--	--
40	26.77	33.322	--	--
60	23.48	33.571	--	--
80	16.70	34.692	--	--
100	15.39	34.875	--	--
120	14.54	34.899	--	--
140	14.04	34.912	--	--
160	13.81	34.908	--	--
180	13.61	34.899	--	--
200	13.34	34.880	--	--

Station No.	3-033	Date - GMT	23 OCT 86
Station Name	DSJ863-033	Time - GMT	0956
Latitude	4.23.0 N	Date - LOC	23 OCT 86
Longitude	92.07.1 W	Time - LOC	0356

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.73	33.395	0.171	0.046
20	26.74	33.375	0.209	0.023
40	26.70	33.389	0.218	0.060
60	26.64	33.403	0.322	0.183
80	19.81	34.649	0.280	0.323
100	15.81	34.794	0.190	0.382
120	14.43	34.869	0.076	0.208
140	13.95	34.875	0.047	0.066
160	13.54	34.888	0.031	0.045
180	13.34	34.886	0.009	0.024
200	13.28	34.888	0.006	0.019

Station No.	3-034	Date - GMT	24 OCT 86
Station Name	DSJ863-034	Time - GMT	0209
Latitude	1.51.7 N	Date - LOC	23 OCT 86
Longitude	92.10.8 W	Time - LOC	2009

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.11	33.711	0.199	0.000
20	26.11	33.722	0.185	0.001
40	23.15	34.336	0.194	0.000
60	21.23	34.814	0.389	0.084
80	19.89	34.906	0.344	0.229
100	17.34	34.865	0.270	0.317
120	15.23	34.835	0.128	0.083
140	14.16	34.940	0.031	0.034
160	14.06	34.955	0.023	0.019
180	14.01	34.953	0.019	0.012
200	13.91	34.948	0.027	0.026

Station No.	3-035	Date - GMT	24 OCT 86
Station Name	DSJ863-035	Time - GMT	0956
Latitude	0.55.4 N	Date - LOC	24 OCT 86
Longitude	92.10.0 W	Time - LOC	0356

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.14	33.976	0.228	0.061
20	25.15	33.975	0.237	0.052
40	23.82	34.006	0.355	0.081
60	20.69	34.985	0.367	0.131
80	18.83	34.970	0.252	0.184
100	16.03	34.877	0.119	0.108
120	15.31	34.829	0.090	0.168
140	14.36	34.878	0.066	0.083
160	14.16	34.928	0.044	0.044
180	14.17	34.943	0.031	0.037
200	14.15	34.950	0.026	0.039

Station No.	3-036	Date - GMT	25 OCT 86
Station Name	DSJ863-036	Time - GMT	0209
Latitude	2.26.2 N	Date - LOC	24 OCT 86
Longitude	90.50.5 W	Time - LOC	2009

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.34	33.573	0.161	0.024
20	26.35	33.575	0.142	0.033
40	26.35	33.572	0.161	0.029
60	20.22	34.729	0.223	0.153
80	18.46	34.888	0.199	0.316
100	14.71	34.924	0.109	0.159
120	14.37	34.950	0.066	0.083
140	14.28	34.963	0.047	0.037
160	14.11	34.957	0.114	0.038
180	13.98	34.949	0.020	0.036
200	13.89	34.948	0.036	0.040

Station No.	3-037	Date - GMT	25 OCT 86
Station Name	DSJ863-037	Time - GMT	0955
Latitude	3.24.6 N	Date - LOC	25 OCT 86
Longitude	90.14.4 W	Time - LOC	0355

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.58	33.562	0.156	0.039
20	26.56	33.498	0.133	0.053
40	26.56	33.498	0.199	0.038
60	23.01	34.062	0.284	0.226
80	17.70	34.809	0.256	0.321
100	15.10	34.882	0.142	0.218
120	14.40	34.905	0.062	0.139
140	14.14	34.940	0.021	0.048
160	14.00	34.939	0.021	0.048
180	13.77	34.921	0.010	0.035
200	13.46	34.903	0.010	0.024

Station No.	3-038	Date - GMT	26 OCT 86
Station Name	DSJ863-038	Time - GMT	0210
Latitude	5.09.5 N	Date - LOC	25 OCT 86
Longitude	88.30.9 W	Time - LOC	2010

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.76	33.354	0.171	0.046
20	26.76	33.354	0.185	0.037
40	26.70	33.368	0.266	0.085
60	19.34	34.833	0.299	0.268
80	17.11	34.813	0.294	0.273
100	16.04	34.862	0.270	0.121
120	14.77	34.902	0.104	0.195
140	14.25	34.905	0.051	0.119
160	13.95	34.905	0.107	0.043
180	13.69	34.892	0.010	0.018
200	13.31	34.884	0.013	0.015

Station No.	3-039	Date - GMT	26 OCT 86
Station Name	DSJ863-039	Time - GMT	0958
Latitude	5.27.6 N	Date - LOC	26 OCT 86
Longitude	87.18.6 W	Time - LOC	0358

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.56	33.300	0.152	0.054
20	26.57	33.300	--	--
40	26.57	33.301	0.156	0.050
60	19.93	34.620	0.341	0.231
80	15.55	34.874	0.104	0.200
100	14.28	34.911	0.037	0.059
120	14.07	34.905	0.013	0.027
140	13.79	34.905	0.014	0.020
160	13.47	34.883	0.050	0.024
180	13.20	34.876	0.006	0.028
200	13.01	34.866	0.010	0.035

Station No.	3-040	Date - GMT	27 OCT 86
Station Name	DSJ863-040	Time - GMT	0216
Latitude	5.40.4 N	Date - LOC	26 OCT 86
Longitude	87.17.1 W	Time - LOC	2016

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.55	33.344	0.166	0.056
20	26.55	33.355	0.180	0.067
40	26.44	33.407	0.204	0.100
60	22.46	34.267	0.270	0.322
80	16.25	34.826	0.137	0.151
100	15.19	34.896	0.064	0.106
120	14.41	34.914	0.023	0.045
140	14.00	34.902	0.013	0.023
160	13.71	34.906	0.037	0.028
180	13.50	34.896	0.011	0.029
200	13.17	34.870	0.010	0.024

Station No.	3-041	Date - GMT	27 OCT 86
Station Name	DSJ863-041	Time - GMT	0957
Latitude	6.01.5 N	Date - LOC	27 OCT 86
Longitude	88.10.4 W	Time - LOC	0357

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.59	33.350	0.171	0.056
20	26.65	33.494	0.199	0.069
40	22.21	34.420	0.204	0.090
60	17.65	34.779	0.321	0.314
80	16.04	34.838	0.185	0.279
100	15.63	34.867	0.066	0.150
120	14.62	34.910	0.076	0.171
140	14.26	34.909	0.029	0.064
160	13.92	34.907	0.040	0.034
180	13.63	34.894	0.004	0.030
200	13.45	34.884	0.007	0.021

Station No.	3-042	Date - GMT	28 OCT 86
Station Name	DSJ863-042	Time - GMT	0208
Latitude	7.59.9 N	Date - LOC	27 OCT 86
Longitude	87.29.0 W	Time - LOC	2008

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.86	33.870	0.147	0.054
20	21.94	34.351	0.228	0.056
40	16.65	34.780	0.389	0.204
60	15.60	34.866	0.206	0.354
80	14.94	34.894	0.095	0.199
100	14.51	34.906	0.063	0.117
120	14.07	34.911	0.014	0.048
140	13.84	34.904	0.006	0.047
160	13.66	34.902	0.053	0.037
180	13.61	34.901	0.007	0.032
200	13.53	34.892	--	--

Station No.	3-043	Date - GMT	28 OCT 86
Station Name	DSJ863-043	Time - GMT	0956
Latitude	9.02.5 N	Date - LOC	28 OCT 86
Longitude	86.50.8 W	Time - LOC	0356

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.36	33.626	0.147	0.049
20	26.02	33.698	0.261	0.074
40	17.71	34.758	0.389	0.308
60	15.83	34.867	--	--
80	14.85	34.907	0.090	0.121
100	14.07	34.897	0.027	0.052
120	13.96	34.898	0.020	0.048
140	13.66	34.885	0.013	0.046
160	13.35	34.865	0.014	0.038
180	13.07	34.858	0.014	0.038
200	12.94	34.849	0.010	0.029

Station No.	3-044	Date - GMT	29 OCT 86
Station Name	DSJ863-044	Time - GMT	0208
Latitude	8.24.0 N	Date - LOC	28 OCT 86
Longitude	85.07.7 W	Time - LOC	2008

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.18	30.775	0.124	0.036
20	26.49	31.421	0.251	0.084
40	22.95	34.381	0.664	0.705
60	18.94	34.710	0.218	0.417
80	16.58	34.828	0.128	0.269
100	15.55	34.853	0.128	0.222
120	14.60	34.903	0.114	0.329
140	14.27	34.911	0.081	0.151
160	13.89	34.892	0.190	0.140
180	13.55	34.885	0.023	0.048
200	13.26	34.868	0.006	0.035

Station No.	3-045	Date - GMT	29 OCT 86
Station Name	DSJ863-045	Time - GMT	0956
Latitude	7.57.2 N	Date - LOC	29 OCT 86
Longitude	84.09.9 W	Time - LOC	0456

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.31	30.482	0.166	0.061
20	26.68	31.178	0.256	0.094
40	23.68	33.911	0.275	0.236
60	18.91	34.708	0.389	0.831
80	16.84	34.822	0.137	0.275
100	15.92	34.871	0.060	0.157
120	14.92	34.910	0.033	0.083
140	14.58	34.901	0.017	0.063
160	14.27	34.900	0.038	0.050
180	13.84	34.886	0.006	0.049
200	13.66	34.880	0.009	0.035

Station No.	3-046	Date - GMT	30 OCT 86
Station Name	DSJ863-046	Time - GMT	0108
Latitude	6.51.8 N	Date - LOC	29 OCT 86
Longitude	81.59.6 W	Time - LOC	2008

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.33	30.362	0.133	0.048
20	27.22	32.217	0.137	0.048
40	26.73	32.982	0.232	0.082
60	23.98	34.145	0.630	0.578
80	18.54	34.840	0.389	0.320
100	16.55	34.805	0.114	0.185
120	15.62	34.894	0.046	0.052
140	15.03	34.918	0.011	0.032
160	14.65	34.910	0.083	0.034
180	14.24	34.912	0.006	0.038
200	14.09	34.906	0.009	0.033

Station No.	3-047	Date - GMT	30 OCT 86
Station Name	DSJ863-047	Time - GMT	0857
Latitude	5.59.3 N	Date - LOC	30 OCT 86
Longitude	81.09.8 W	Time - LOC	0357

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.03	32.209	0.119	0.062
20	27.02	32.241	0.123	0.073
40	26.88	32.612	0.166	0.081
60	22.49	34.493	0.332	0.402
80	19.10	34.815	0.218	0.318
100	17.48	34.939	0.114	0.216
120	15.79	34.888	0.180	0.397
140	14.87	34.909	0.036	0.071
160	14.32	34.906	0.040	0.033
180	13.94	34.903	0.004	0.010
200	13.79	34.909	0.004	0.014

Station No.	3-048	Date - GMT	31 OCT 86
Station Name	DSJ863-048	Time - GMT	0109
Latitude	4.06.7 N	Date - LOC	30 OCT 86
Longitude	79.33.9 W	Time - LOC	2009

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.26	30.528	0.128	0.024
20	27.25	31.400	0.114	0.067
40	26.97	33.178	0.270	0.127
60	25.22	33.340	0.779	0.516
80	16.61	34.930	0.161	0.184
100	16.36	34.982	0.137	0.213
120	15.52	34.958	0.071	0.176
140	15.38	34.952	0.056	0.089
160	14.75	34.934	0.041	0.035
180	14.35	34.924	0.011	0.020
200	13.98	34.922	0.014	0.021

Station No.	3-049	Date - GMT	31 OCT 86
Station Name	DSJ863-049	Time - GMT	0854
Latitude	3.28.5 N	Date - LOC	31 OCT 86
Longitude	78.37.5 W	Time - LOC	0354

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.22	30.727	0.058	0.028
20	27.28	31.303	0.114	0.072
40	26.97	32.943	0.237	0.160
60	17.74	34.680	0.527	0.643
80	15.54	34.954	0.090	0.121
100	15.20	34.949	0.053	0.059
120	15.04	34.942	0.062	0.459
140	14.72	34.950	0.014	0.021
160	14.34	34.922	0.016	0.018
180	13.94	34.922	0.006	0.019
200	13.88	34.926	0.009	0.022

Station No.	3-050	Date - GMT	01 NOV 86
Station Name	DSJ863-050	Time - GMT	0107
Latitude	5.29.9 N	Date - LOC	31 OCT 86
Longitude	77.49.6 W	Time - LOC	2007

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.15	25.729	0.185	0.047
20	27.45	30.473	0.161	0.081
40	26.96	32.553	0.493	0.279
60	24.53	33.699	0.247	0.191
80	15.46	34.944	0.114	0.092
100	14.98	34.923	0.040	0.034
120	14.64	34.934	0.010	0.019
140	14.27	34.926	0.013	0.024
160	14.08	34.921	0.036	0.022
180	13.90	34.916	0.019	0.019
200	13.62	34.911	0.004	0.016

Station No.	4-001	Date - GMT	09 NOV 86
Station Name	DSJ864-001	Time - GMT	0105
Latitude	6.54.4 N	Date - LOC	08 NOV 86
Longitude	80.15.1 W	Time - LOC	2005

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	28.19	29.434	0.171	0.041
20	28.12	29.867	0.152	0.049
40	27.49	31.835	0.344	0.142
60	22.02	34.338	1.058	0.667
80	16.49	34.842	0.100	0.153
100	15.72	34.922	0.037	0.068
120	15.09	34.900	0.014	0.024
140	14.61	34.905	0.009	0.018
160	14.48	34.906	0.021	0.020
180	14.10	34.895	0.004	0.028
200	13.99	34.894	0.066	0.069

Station No.	4-002	Date - GMT	09 NOV 86
Station Name	DSJ864-002	Time - GMT	0852
Latitude	6.20.0 N	Date - LOC	09 NOV 86
Longitude	81.09.6 W	Time - LOC	0352

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.49	29.658	0.232	0.015
20	27.45	31.833	0.156	0.086
40	26.97	32.928	0.180	0.052
60	22.24	34.413	0.275	0.360
80	19.40	34.705	0.223	0.359
100	17.79	34.828	0.085	0.193
120	16.13	34.885	0.040	0.120
140	14.90	34.892	0.029	0.068
160	14.45	34.902	0.019	0.040
180	14.22	34.902	0.010	0.019
200	13.95	34.898	0.006	0.013

Station No.	4-003	Date - GMT	10 NOV 86
Station Name	DSJ864-003	Time - GMT	0110
Latitude	4.50.5 N	Date - LOC	9 NOV 86
Longitude	83.15.3 W	Time - LOC	2010

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.29	33.049	0.142	0.054
20	26.88	33.005	--	--
40	26.65	33.082	0.275	0.106
60	25.35	33.522	0.367	0.231
80	17.80	34.831	0.298	0.275
100	16.54	34.908	0.156	0.178
120	15.47	34.892	0.071	0.166
140	14.95	34.849	0.066	0.119
160	14.09	34.910	0.036	0.053
180	13.89	34.904	0.010	0.023
200	13.82	34.904	0.009	0.015

Station No.	4-004	Date - GMT	10 NOV 86
Station Name	DSJ864-004	Time - GMT	1043
Latitude	4.00.7 N	Date - LOC	10 NOV 86
Longitude	84.22.7 W	Time - LOC	0443

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.00	33.279	0.090	0.039
20	26.97	33.297	0.100	0.049
40	26.92	33.293	0.114	0.082
60	26.73	33.349	0.228	0.113
80	18.57	34.842	0.195	0.353
100	17.09	34.802	0.109	0.272
120	15.92	34.870	0.066	0.176
140	14.77	34.905	0.027	0.092
160	14.16	34.898	0.016	0.046
180	13.90	34.897	0.007	0.032
200	13.45	34.883	0.003	0.020

Station No.	4-005	Date - GMT	11 NOV 86
Station Name	DSJ864-005	Time - GMT	0140
Latitude	2.41.2 N	Date - LOC	10 NOV 86
Longitude	86.17.7 W	Time - LOC	1940

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.42	33.319	0.199	0.017
20	26.43	33.322	--	--
40	26.37	33.325	0.332	0.278
60	21.46	34.408	0.263	0.309
80	15.97	34.995	0.149	0.250
100	15.71	34.917	0.047	0.128
120	15.13	34.986	0.037	0.088
140	15.06	34.989	0.054	0.113
160	14.92	34.978	0.074	0.056
180	14.78	34.969	0.033	0.065
200	14.45	34.957	0.019	0.039

Station No.	4-006	Date - GMT	11 NOV 86
Station Name	DSJ864-006	Time - GMT	1042
Latitude	1.54.1 N	Date - LOC	11 NOV 86
Longitude	87.24.2 W	Time - LOC	0442

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.30	33.890	0.147	0.080
20	25.30	33.891	0.180	0.072
40	25.27	33.894	0.185	0.047
60	25.22	33.903	0.147	0.219
80	15.69	34.964	0.043	0.075
100	15.20	34.981	0.011	0.024
120	15.01	34.977	0.021	0.038
140	14.86	34.977	0.036	0.065
160	14.76	34.976	0.029	0.051
180	14.67	34.976	0.036	0.037
200	14.55	34.973	0.010	0.032

Station No.	4-007	Date - GMT	12 NOV 86
Station Name	DSJ864-007	Time - GMT	0143
Latitude	1.08.7 N	Date - LOC	11 NOV 86
Longitude	89.19.8 W	Time - LOC	1943

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.65	33.902	0.194	0.048
20	24.64	33.900	0.261	0.074
40	24.27	34.044	0.209	0.080
60	20.43	34.860	0.275	0.276
80	16.62	34.909	0.147	0.188
100	16.05	34.974	0.066	0.096
120	15.35	34.998	0.054	0.102
140	15.12	34.970	0.056	0.087
160	14.88	34.947	0.085	0.105
180	14.75	34.938	0.037	0.062
200	14.48	34.946	0.003	0.022

Station No.	4-008	Date - GMT	12 NOV 86
Station Name	DSJ864-008	Time - GMT	1040
Latitude	1.15.7 N	Date - LOC	12 NOV 86
Longitude	90.44.1 W	Time - LOC	0440

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.11	34.039	0.185	0.057
20	24.10	34.260	--	--
40	23.18	34.526	--	--
60	19.23	34.920	--	--
80	17.77	34.723	--	--
100	15.76	34.975	--	--
120	14.97	34.976	--	--
140	14.65	34.961	--	--
160	14.53	34.951	--	--
180	14.43	34.939	--	--
200	14.20	34.934	--	--

Station No.	4-009	Date - GMT	13 NOV 86
Station Name	DSJ864-009	Time - GMT	0140
Latitude	1.38.2 N	Date - LOC	12 NOV 86
Longitude	92.25.8 W	Time - LOC	1940

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.36	33.685	0.119	0.067
20	26.37	33.686	0.133	0.048
40	26.32	33.702	--	--
60	22.57	34.500	0.228	0.185
80	17.79	34.844	0.298	0.312
100	14.52	34.888	0.043	0.122
120	14.28	34.937	0.033	0.063
140	14.31	34.949	0.020	0.044
160	14.29	34.953	0.027	0.049
180	14.23	34.955	0.007	0.047
200	14.08	34.941	0.009	0.047

Station No.	4-010	Date - GMT	13 NOV 86
Station Name	DSJ864-010	Time - GMT	1041
Latitude	1.31.4 N	Date - LOC	13 NOV 86
Longitude	93.52.6 W	Time - LOC	0441

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.69	33.812	0.213	0.065
20	25.71	33.814	--	--
40	25.70	33.834	--	--
60	19.89	34.790	--	--
80	16.69	34.870	--	--
100	14.91	34.899	--	--
120	14.11	34.939	--	--
140	13.91	34.939	--	--
160	13.83	34.931	--	--
180	13.67	34.921	--	--
200	13.51	34.908	--	--

Station No.	4-011	Date - GMT	20 NOV 86
Station Name	DSJ864-011	Time - GMT	0144
Latitude	1.16.6 N	Date - LOC	19 NOV 86
Longitude	94.43.6 W	Time - LOC	1944

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.02	33.843	0.128	0.063
20	26.04	33.842	0.128	0.063
40	26.05	33.845	0.114	0.072
60	20.86	34.779	0.263	0.297
80	18.41	34.785	0.263	0.247
100	16.19	34.895	0.183	0.277
120	14.87	34.894	0.085	0.126
140	14.28	34.872	0.017	0.046
160	13.66	34.903	0.007	0.039
180	13.50	34.908	0.003	0.028
200	13.38	34.901	0.003	0.031

Station No.	4-012	Date - GMT	20 NOV 86
Station Name	DSJ864-012	Time - GMT	1041
Latitude	1.12.8 N	Date - LOC	20 NOV 86
Longitude	96.06.5 W	Time - LOC	0441

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.84	33.904	0.204	0.059
20	25.84	33.903	0.185	0.047
40	25.84	33.906	0.213	0.060
60	19.80	34.777	0.275	0.236
80	18.64	34.811	0.298	0.337
100	16.17	34.910	0.180	0.376
120	15.36	34.943	0.040	0.072
140	14.41	34.912	0.128	0.181
160	13.81	34.887	0.016	0.045
180	13.50	34.892	0.010	0.035
200	13.22	34.891	0.006	0.033

Station No.	4-013	Date - GMT	21 NOV 86
Station Name	DSJ864-013	Time - GMT	0232
Latitude	1.07.6 N	Date - LOC	20 NOV 86
Longitude	98.52.7 W	Time - LOC	2032

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.12	33.958	0.128	0.063
20	26.13	33.958	0.133	0.068
40	25.99	33.988	0.204	0.085
60	23.14	34.787	0.327	0.204
80	20.55	34.780	0.321	0.289
100	17.03	34.856	0.195	0.341
120	14.80	34.922	0.128	0.145
140	13.94	34.918	0.114	0.206
160	13.59	34.907	0.014	0.040
180	13.15	34.883	0.007	0.033
200	13.03	34.885	0.000	0.034

Station No.	4-014	Date - GMT	21 NOV 86
Station Name	DSJ864-014	Time - GMT	1050
Latitude	1.01.6 N	Date - LOC	21 NOV 86
Longitude	100.19.6 W	Time - LOC	0450

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.56	34.089	0.209	0.085
20	25.58	34.078	0.209	0.070
40	24.36	34.405	0.218	0.081
60	23.21	34.947	0.261	0.136
80	21.09	34.855	0.242	0.268
100	18.13	34.877	0.209	0.286
120	16.11	34.900	0.147	0.250
140	14.92	34.935	0.095	0.132
160	14.21	34.907	0.046	0.058
180	13.75	34.916	0.011	0.043
200	13.51	34.905	0.003	0.039

Station No.	4-015	Date - GMT	22 NOV 86
Station Name	DSJ864-015	Time - GMT	0157
Latitude	1.04.3 N	Date - LOC	21 NOV 86
Longitude	103.01.2 W	Time - LOC	1957

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.69	34.889	0.190	0.032
20	23.69	34.895	0.171	0.061
40	23.42	34.990	0.156	0.050
60	23.34	34.986	0.142	0.100
80	18.82	34.829	0.057	0.232
100	17.14	34.857	0.133	0.187
120	15.16	34.934	0.123	0.212
140	14.49	34.905	0.085	0.203
160	14.21	34.937	0.054	0.062
180	13.90	34.926	0.030	0.055
200	13.62	34.893	0.011	0.038

Station No.	4-016	Date - GMT	22 NOV 86
Station Name	DSJ864-016	Time - GMT	1140
Latitude	0.53.9 N	Date - LOC	22 NOV 86
Longitude	104.38.8 W	Time - LOC	0440

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	23.19	34.897	0.142	0.059
20	23.20	34.896	0.185	0.057
40	23.19	34.895	0.194	0.063
60	23.16	34.892	0.242	0.098
80	19.00	34.802	0.229	0.381
100	15.58	34.862	0.137	0.285
120	14.69	34.931	0.085	0.157
140	13.75	34.888	0.026	0.047
160	13.47	34.869	0.009	0.036
180	13.15	34.881	0.006	0.036
200	13.10	34.884	0.004	0.027

Station No.	4-017	Date - GMT	23 NOV 86
Station Name	DSJ864-017	Time - GMT	0242
Latitude	0.54.2 N	Date - LOC	22 NOV 86
Longitude	107.25.9 W	Time - LOC	1942

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.62	34.362	0.104	0.061
20	24.63	34.365	0.147	0.054
40	24.62	34.367	0.147	0.054
60	21.82	34.600	0.204	0.177
80	18.56	34.862	0.241	0.320
100	14.72	34.871	0.147	0.312
120	14.20	34.878	0.071	0.125
140	14.05	34.873	0.047	0.107
160	13.55	34.867	0.020	0.039
180	13.08	34.870	--	--
200	12.83	34.873	--	--

Station No.	4-018	Date - GMT	23 NOV 86
Station Name	DSJ864-018	Time - GMT	1144
Latitude	0.57.7 N	Date - LOC	23 NOV 86
Longitude	109.07.4 W	Time - LOC	0444

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.78	34.397	0.152	0.044
20	24.89	34.221	0.156	0.075
40	23.57	34.673	0.071	0.053
60	23.16	34.877	0.080	0.061
80	22.41	34.860	0.077	0.092
100	16.29	34.884	0.047	0.082
120	14.31	34.884	0.077	0.084
140	13.44	34.886	--	--
160	13.07	34.884	0.006	0.030
180	12.83	34.869	0.009	0.021
200	12.65	34.862	0.006	0.024

Station No.	4-019	Date - GMT	24 NOV 86
Station Name	DSJ864-019	Time - GMT	0243
Latitude	2.13.3 N	Date - LOC	23 NOV 86
Longitude	110.54.8 W	Time - LOC	1943

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	24.89	34.454	0.171	0.020
20	24.88	34.459	--	--
40	24.65	34.549	--	--
60	24.28	34.707	0.180	0.253
80	23.76	34.928	--	--
100	16.20	34.914	--	--
120	14.89	34.854	--	--
140	13.61	34.894	--	--
160	13.39	34.882	--	--
180	12.97	34.865	--	--
200	12.70	34.857	--	--

Station No.	4-020	Date - GMT	24 NOV 86
Station Name	DSJ864-020	Time - GMT	1146
Latitude	2.20.0 N	Date - LOC	24 NOV 86
Longitude	112.34.5 W	Time - LOC	0446

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.50	34.460	0.119	0.046
20	25.50	34.459	0.180	0.000
40	25.51	34.460	0.137	0.038
60	24.09	34.847	0.266	0.152
80	21.64	34.852	0.241	0.345
100	17.34	34.872	0.137	0.316
120	14.16	34.887	0.058	0.124
140	13.67	34.889	0.014	0.026
160	13.25	34.877	0.006	0.013
180	13.02	34.881	0.004	0.014
200	12.84	34.863	0.003	0.010

Station No.	4-021	Date - GMT	25 NOV 86
Station Name	DSJ864-021	Time - GMT	0242
Latitude	2.54.2 N	Date - LOC	24 NOV 86
Longitude	115.11.6 W	Time - LOC	1942

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.15	34.469	0.085	0.054
20	26.16	34.475	0.119	0.072
40	26.14	34.483	0.152	0.054
60	25.80	34.641	0.199	0.120
80	23.82	34.904	0.284	0.241
100	18.50	34.663	0.024	0.033
120	13.96	34.888	0.057	0.118
140	13.61	34.885	0.033	0.062
160	13.09	34.866	0.010	0.023
180	12.93	34.869	0.006	0.011
200	12.81	34.864	0.003	0.016

Station No.	4-022	Date - GMT	25 NOV 86
Station Name	DSJ864-022	Time - GMT	1141
Latitude	2.54.0 N	Date - LOC	25 NOV 86
Longitude	116.40.9 W	Time - LOC	0441

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	25.91	34.602	0.119	0.072
20	25.91	34.602	0.137	0.053
40	25.92	34.606	0.119	0.062
60	25.92	34.603	0.119	0.082
80	25.98	34.734	0.199	0.120
100	20.08	34.751	0.175	0.252
120	15.01	34.854	0.081	0.084
140	13.89	34.858	0.036	0.073
160	13.41	34.877	0.013	0.034
180	13.21	34.878	0.010	0.024
200	13.12	34.878	0.007	0.015

Station No.	4-023	Date - GMT	26 NOV 86
Station Name	DSJ864-023	Time - GMT	0311
Latitude	3.45.8 N	Date - LOC	25 NOV 86
Longitude	119.07.7 W	Time - LOC	2011

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.67	34.706	0.062	0.093
20	26.64	34.699	0.123	0.052
40	26.55	34.702	0.142	0.074
60	26.36	34.727	0.199	0.089
80	25.95	34.779	0.209	0.090
100	25.04	34.851	--	--
120	22.65	34.823	0.161	0.225
140	15.75	34.740	0.081	0.120
160	13.56	34.842	0.050	0.119
180	13.25	34.862	0.026	0.046
200	12.72	34.833	0.009	0.027

Station No.	4-024	Date - GMT	26 NOV 86
Station Name	DSJ864-024	Time - GMT	1244
Latitude	4.40.8 N	Date - LOC	26 NOV 86
Longitude	120.25.0 W	Time - LOC	0444

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.24	34.449	0.152	0.060
20	27.27	34.446	0.190	0.104
40	26.47	34.699	0.161	0.096
60	26.11	34.726	0.190	0.120
80	25.66	34.771	0.156	0.230
100	24.53	34.754	0.114	0.237
120	20.44	34.677	0.071	0.150
140	16.64	34.571	0.037	0.105
160	13.89	34.521	0.048	0.004
180	12.34	34.538	0.010	0.030
200	11.70	34.601	0.004	0.017

Station No.	4-025	Date - GMT	27 NOV 86
Station Name	DSJ864-025	Time - GMT	0341
Latitude	6.02.6 N	Date - LOC	26 NOV 86
Longitude	122.15.3 W	Time - LOC	1941

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.79	34.359	0.137	0.069
20	27.79	34.368	0.308	0.161
40	27.70	34.390	0.251	0.146
60	27.78	34.614	0.204	0.172
80	27.53	34.759	0.175	0.283
100	27.21	34.866	0.190	0.202
120	25.24	34.805	0.123	0.186
140	17.80	34.683	0.047	0.123
160	14.96	34.618	0.024	0.050
180	12.35	34.706	0.010	0.033
200	11.56	34.722	0.006	0.019

Station No.	4-026	Date - GMT	27 NOV 86
Station Name	DSJ864-026	Time - GMT	1242
Latitude	6.53.7 N	Date - LOC	27 NOV 86
Longitude	123.17.5 W	Time - LOC	0442

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.92	34.089	0.066	0.042
20	27.93	34.090	0.199	0.100
40	27.94	34.273	0.128	0.094
60	27.31	34.720	0.128	0.119
80	26.52	34.791	0.123	0.268
100	26.51	34.809	0.047	0.159
120	25.87	34.805	0.036	0.105
140	17.88	34.514	0.009	0.039
160	13.80	34.696	0.006	0.018
180	12.92	34.742	0.003	0.008
200	12.08	34.711	0.000	0.112

Station No.	4-027	Date - GMT	28 NOV 86
Station Name	DSJ864-027	Time - GMT	0340
Latitude	8.26.9 N	Date - LOC	27 NOV 86
Longitude	124.54.9 W	Time - LOC	1940

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.77	33.150	--	--
20	27.74	33.151	--	--
40	28.05	33.589	0.060	0.021
60	27.18	34.560	0.100	0.065
80	17.52	34.603	0.229	0.319
100	14.25	34.613	0.013	0.032
120	13.04	34.697	0.062	0.175
140	12.52	34.695	0.057	0.149
160	12.10	34.726	0.026	0.043
180	11.68	34.732	0.006	0.033
200	11.45	34.718	0.038	0.061

Station No.	4-028	Date - GMT	28 NOV 86
Station Name	DSJ864-028	Time - GMT	1238
Latitude	9.12.9 N	Date - LOC	28 NOV 86
Longitude	125.53.4 W	Time - LOC	0438

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.41	33.317	0.088	0.025
20	27.36	33.607	0.088	0.032
40	19.77	34.353	0.266	0.106
60	15.77	34.502	0.194	0.197
80	13.89	34.608	0.028	0.322
100	12.74	34.680	0.133	0.279
120	12.38	34.735	0.052	0.247
140	12.12	34.740	0.027	0.040
160	11.66	34.727	0.009	0.029
180	11.34	34.716	0.007	0.038
200	11.18	34.709	0.000	0.045

Station No.	4-029	Date - GMT	28 NOV 86
Station Name	DSJ864-029	Time - GMT	2133
Latitude	9.37.0 N	Date - LOC	28 NOV 86
Longitude	126.50.5 W	Time - LOC	1333

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.62	33.379	0.104	0.021
20	27.28	33.480	0.115	0.024
40	27.25	33.512	--	--
60	15.41	34.394	--	--
80	13.79	34.541	--	--
100	12.93	34.630	--	--
120	12.07	34.698	--	--
140	11.74	34.713	--	--
160	11.48	34.718	--	--
180	11.24	34.712	--	--
200	10.98	34.698	--	--

Station No.	4-030	Date - GMT	29 NOV 86
Station Name	DSJ864-030	Time - GMT	0339
Latitude	10.11.3 N	Date - LOC	28 NOV 86
Longitude	127.22.2 W	Time - LOC	1939

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	27.33	33.622	0.080	0.019
20	27.02	33.657	0.106	0.026
40	25.80	33.763	0.194	0.038
60	16.19	34.349	0.199	0.172
80	13.50	34.412	0.180	0.366
100	12.81	34.594	0.104	0.174
120	12.07	34.683	0.041	0.100
140	11.72	34.707	0.021	0.041
160	11.45	34.714	0.009	0.035
180	11.07	34.702	0.006	0.041
200	10.90	34.690	0.007	0.039

Station No.	4-031	Date - GMT	29 NOV 86
Station Name	DSJ864-031	Time - GMT	1240
Latitude	11.25.6 N	Date - LOC	29 NOV 86
Longitude	126.51.6 W	Time - LOC	0440

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.86	33.581	0.114	0.027
20	26.86	33.581	0.108	0.037
40	22.16	33.967	0.152	0.054
60	17.49	34.544	0.204	0.203
80	14.75	34.599	0.190	0.367
100	13.36	34.667	0.095	0.266
120	12.67	34.672	0.056	0.141
140	12.41	34.722	0.027	0.103
160	11.05	34.730	0.014	0.048
180	11.58	34.718	0.016	0.057
200	11.33	34.705	0.017	0.063

Station No.	4-032	Date - GMT	30 NOV 86
Station Name	DSJ864-032	Time - GMT	0531
Latitude	13.47.4 N	Date - LOC	29 NOV 86
Longitude	125.54.9 W	Time - LOC	2131

Depth (m)	Temp (deg C)	Salinity (ppt)	Chloro (mg/m3)	Phaeo (mg/m3)
0	26.81	33.489	0.123	0.073
20	26.82	33.489	0.119	0.067
40	26.82	33.494	0.133	0.063
60	23.27	34.467	0.303	0.181
80	19.51	34.295	0.204	0.000
100	15.56	34.639	0.109	0.499
120	14.23	34.705	0.019	0.476
140	13.29	34.732	0.019	0.383
160	12.74	34.732	0.009	0.269
180	12.36	34.746	0.013	0.122
200	12.13	34.753	0.011	0.147

APPENDIX B

SCIENTIFIC PERSONNEL

Cruise Leaders	Leg
Rennie Holt, NMFS	1
Wes Parks, NMFS	2-3
Steve Reilly, NMFS	4
Environmental Data Collection	
Bernie Tershey, SWFC	1
Gregg Thomas, AOML	1-2
Victoria Thayer, SWFC	2-4
Keith Rittmaster, Duke Univ. Marine Lab.	2-4
Seabird Observations	
Dawn Breese, U.C. Santa Cruz	1
Bernie Tershey, U.C. Santa Cruz	1
Robert Pitman, SWFC	1-4
Victoria Thayer, SWFC	2-4
Keith Rittmaster, Duke Univ. Marine Lab.	2-4
Marine Mammal Identification Experts	
Robert Pitman, SWFC	1-4
Marc Webber, SWFC	1-4
Marine Mammal Observers	
Andrew Dizon, SWFC	1
Stephen Buckland, IATTC	2
Pete Stangl, SWFC	3
Morgan Lynn, SWFC	4
Rick LeDuc, SWFC	1-4
Bill Irwin, SWFC	1-4

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