



NOAA Technical Report

Monthly Sea Surface Salinity and Temperature

Continental Shelf Waters

of the Northwestern

Gulf of Mexico, 1972

Robert F. Temple, David L. Beal, Thomas
and John A. Martin

February 1973

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U.S. DEPARTMENT OF COMMERCE

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Monthly Temperature and Salinity Measurements of Continental Shelf Waters of the Northwestern Gulf of Mexico, 1963-65¹

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ABSTRACT

Temperature and salinity observations made monthly from January 1963 to December 1965 at 48 stations in the northwestern Gulf of Mexico are presented. Off the coasts of Louisiana and Texas monthly average temperatures of surface and bottom waters at station depths of 7, 14, 28, 46, and 73 m exhibited seasonal trends that were similar over a 3-yr period. Monthly average temperatures of surface and bottom waters were generally similar at station depths of 7 and 14 m, but differences were noted at station depths of 28, 46, and 73 m and increased with depth. Maximum average temperatures of bottom waters at station depths generally greater than 14 m occurred after surface temperatures had passed their maximum and were dropping.

Salinities of surface and bottom waters varied markedly at 7- and 14-m stations, whereas at deeper stations seasonal fluctuations were restricted primarily to surface waters. The magnitude of yearly salinity fluctuations decreased with an increase in distance offshore. The effects of the seasonal freshwater inflow of the Mississippi River and other Louisiana rivers on salinities were clearly apparent in Louisiana and Texas offshore waters, although in the latter case there may have been a 1- or 2-mo lag.

INTRODUCTION

Between 1962 and 1965 the Galveston Laboratory of the National Marine Fisheries Service, formerly the Bureau of Commercial Fisheries, conducted an intensive survey of the waters over the continental shelf of the northwestern Gulf of Mexico. This survey was designed primarily to provide biological information on shrimp (Kutkuhn 1963; Temple and Fischer 1965 and 1967; Brusher et al. 1972; and Temple 1973) and finfish (Moore et al. 1970), but hydrographic data also were collected during the study to provide information essential for a more complete understanding of the environment over the continental shelf.

Hydrographic studies have been conducted periodically throughout the offshore waters of the Gulf of Mexico over the past 35 yr, but these studies generally have been either 1) extensive efforts covering large geographical areas of the Gulf on a seasonal or sporadic basis, or, 2) intensive efforts investigating specific phenomena over a restricted geographical area. Studies in the first category include those reported by Collier 1958; Ichiye 1962; Armstrong and Grady 1967 and 1968; and Nowlin and McLellan 1967. Those in the second category include investigations reported by Gunter 1945; Marvin 1955; Drum-

mond and Austin 1958; Curl 1959; Finucane and Dragovich 1959; Wennekens 1959; Dragovich 1961 and 1963; Dragovich et al. 1961 and 1963; Jones et al. 1965; Stevenson and Leipper 1967; Armstrong 1967 and 1969; Armstrong et al. 1967; and Nowlin and Parker 1974. Additional general information is provided by Fuglister 1947; Leipper 1954; and U.S. Naval Oceanographic Office 1972.

The temperature and salinity information presented in this report adds to the hydrographic data base for the Gulf of Mexico, and is unique in several respects. First, measurements were made generally on a monthly basis at specified locations in the northwestern Gulf of Mexico over a 3-yr period, thus providing a time series heretofore unavailable. Second, these measurements were restricted to a portion of the U.S. continental shelf that is noted for its valuable shrimp and mineral resources which must receive adequate consideration in extended jurisdiction and coastal zone management.

PROCEDURES

Between January 1963 and December 1965, 35 cruises were conducted in continental shelf waters with the 27-m chartered shrimp trawler *MV Gus III*. Observations were made monthly at stations positioned on eight transects located west of the mouth of the Mississippi River and extending to just north of the Mexico-U.S. border (Fig. 1). Stations on two additional transects east of the Mississippi River were occupied only in 1963 during every other month beginning in February. Along each transect stations were positioned in predetermined total

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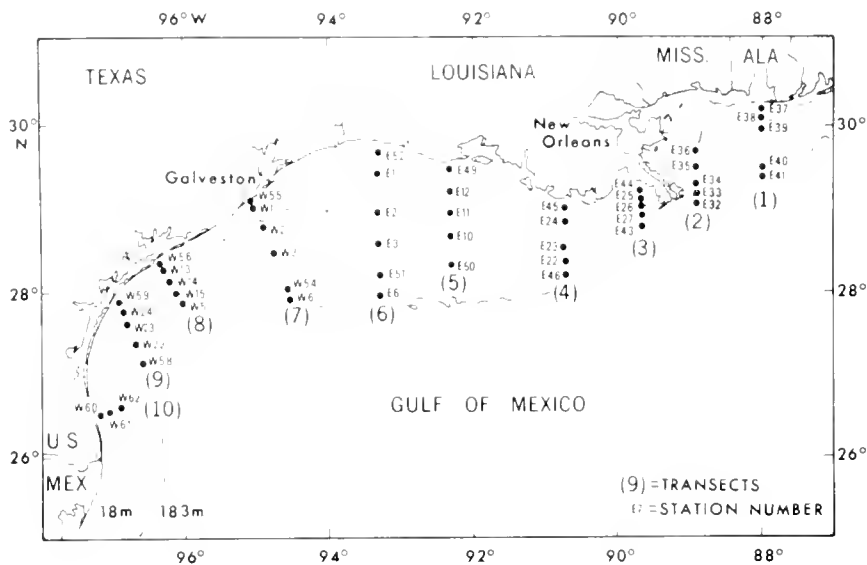


Figure 1.—Transects with stations occupied during the National Marine Fisheries Service's investigation of the continental shelf waters of the northwestern Gulf of Mexico, 1963-65.

water depths recorded originally in fathoms but converted herein to the nearest meter. Operations were conducted around the clock, and the time required to complete a cruise ranged from 10 to 24 days; the average cruise was completed in 14 days. Occasionally some stations could not be occupied because of adverse weather conditions or mechanical breakdowns.

Temperatures were measured with mechanical bathythermographs that were allowed to sound bottom on all casts. Surface bucket temperatures were taken for correction purposes with stem thermometers graduated to 0.1°C. In the laboratory, temperature and depth corrections were calculated for each slide before photography, and bathythermogram profiles were aligned by the average correction process as outlined by LaFond (1951). For tabulation purposes, temperatures at a station were recorded at 0 (surface), 3, 11, 24, 43, 70, 107, and B (bottom) meters, depending on total water depth.

Samples of surface water for salinity determinations were obtained from the bucket samples used for bathythermograph reference temperatures. Samples of subsurface waters were taken at depths of 3, 11, 24, 43, 70, and 107 m with Nansen bottles. The deepest sample at any station was 3 m above the bottom. Depths were determined from the wire angles and precalculated length-of-wire tables. Regardless of the method of collection, all samples were drawn into 200-ml culture tubes with Polyseal caps. Chlorinity was determined in the laboratory by the Knudsen method as soon as possible after each cruise.

All temperature and salinity values obtained at each station during this survey are listed by station and grouped by transects in Tables 1-10.

RESULTS

Temperatures and salinities of waters over the continental shelf of the Gulf of Mexico are affected by a

number of factors such as air temperatures, surface winds, oceanic currents, and freshwater inflow. Of these, one significant factor in the area under consideration is the discharge from the Mississippi River which has a more pronounced or immediate effect on waters off Louisiana than on those off Texas. For this reason and because State agencies in Louisiana and Texas are concerned with natural resources off their respective coasts, the data have been grouped for 1) Louisiana waters (Tables 3-6), and 2) Texas waters (Tables 7-10). Data generated from east of the Mississippi River (Tables 1-2) and from 110 m of water (Table 6, Station E6 and Table 7, Station W6) are listed for informational purposes only.

Louisiana Offshore Waters

Monthly average surface and bottom temperatures (averaged for observations at stations of like bottom depths) over the 3-yr period are plotted for five depth zones in Figure 2. Within each depth zone, the trends were similar between years, and differences between depths were consistent. Surface and bottom water temperatures closely approximated one another at the 7-m stations, but the yearly range from a low of about 13.0°C to the high of 30.5°C was greater at this depth than noted at the deeper zones. As depth increased, the differences between surface and bottom temperatures increased and were greatest at the 73-m stations. Surface temperatures at all stations generally dropped during the fall and winter, warmed during the spring, and attained highest values in the summer. Bottom temperatures at depths greater than 7 m, however, only approximated this general cycle inasmuch as highest values frequently occurred when surface waters were cooling. This was particularly pronounced at the two deepest (46 to 73 m) zones.

Monthly average surface and near-bottom salinities for five depth zones are presented in Figure 3. Also in-

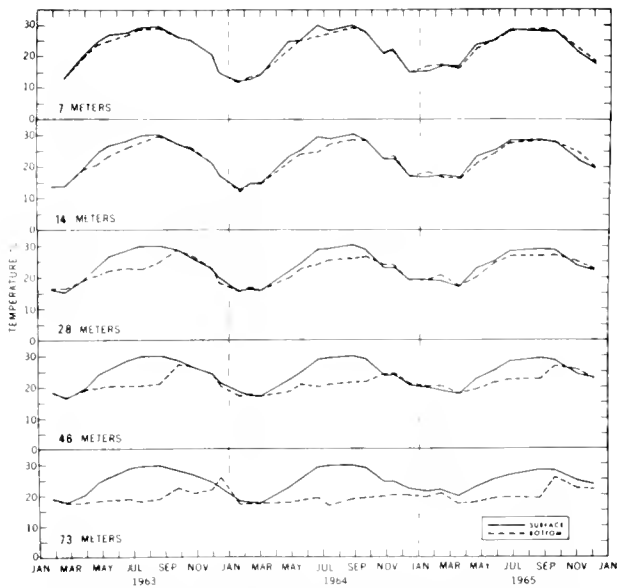


Figure 2.—Temperature trends of surface and bottom waters over the continental shelf off Louisiana, 1963-65.

cluded is the monthly discharge of fresh water from the Mississippi River and other Louisiana rivers. Trends in salinities were generally similar between years at the respective depths, but differences did exist between depths. At the 7-m stations, surface salinities generally reflected near-bottom conditions with values ranging from a low of 16.5‰ to a high of 33.7‰. Annual

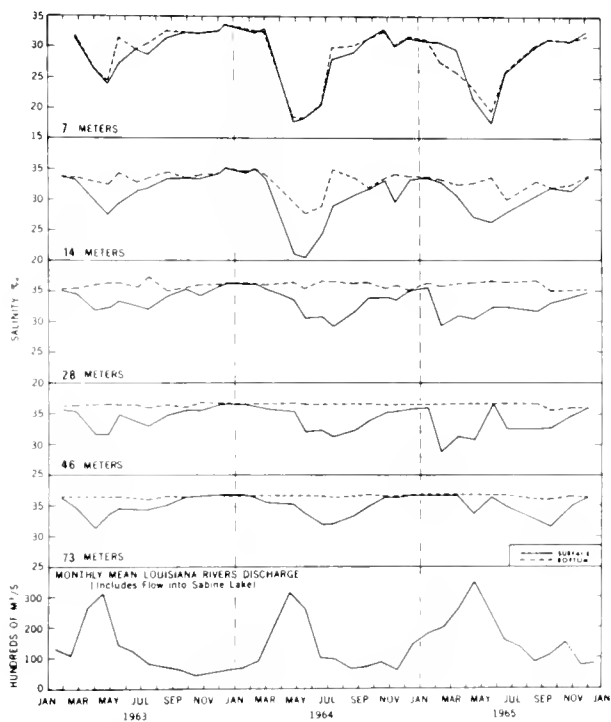


Figure 3.—Salinity trends in surface and bottom waters over the continental shelf off Louisiana, 1963-65.

variations decreased with increasing depth and distance offshore, with near-bottom salinities being virtually invariant at the 46- and 73-m depth zones. The effects and extent of the seasonal discharge of fresh water from the Mississippi River on offshore salinity values were readily apparent over the entire continental shelf off Louisiana.

Texas Offshore Waters

Trends in monthly average temperatures of surface and bottom waters at five depth zones are illustrated in Figure 4. Similar trends were apparent each year, but as in Louisiana waters, differences did occur with increased distance offshore or total depth. Monthly average temperatures of surface and bottom waters at depths of 7 and 14 m were generally similar over the 3-yr period, ranging from a low of about 10.5°C in February 1963 to a high of 30°C in September 1963. Temperature ranges of both surface and bottom waters decreased offshore and with increasing depth. Also, differences between surface and bottom measurements, when they occurred, were more pronounced in the deep waters than in the shallow waters. At depths of 28 m or greater, average monthly values revealed that maximum bottom temperatures occurred generally during a time when temperatures of surface waters were decreasing.

Yearly trends in monthly average salinity values of surface and near-bottom waters off Texas (Fig. 5) were more pronounced at station depths of 7 and 14 m than at the deeper stations (28, 46, and 73 m). Seasonal variations in salinities of surface and near-bottom waters were generally similar out to a depth of 28 m, but beyond that depth near-bottom salinities exhibited little seasonal change. Marked decreases in salinity values, either in surface and/or bottom waters, were related to

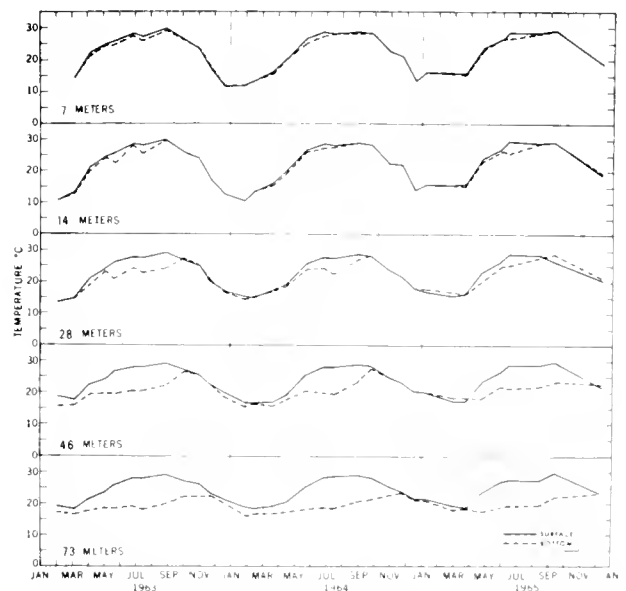


Figure 4.—Temperature trends of surface and bottom waters over the continental shelf off Texas, 1963-65.

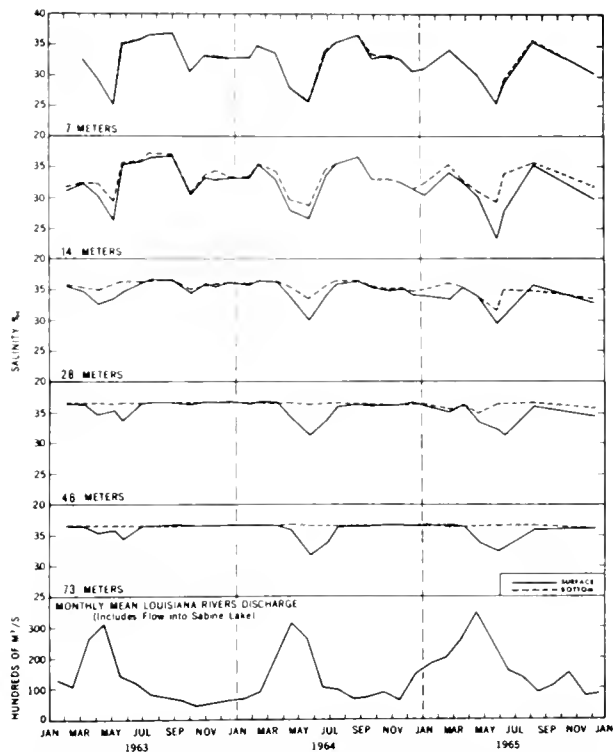


Figure 5.—Salinity trends in surface and bottom waters over the continental shelf off Texas, 1963-65.

peak outflow of fresh water from the Mississippi River although there may be a time lag of 1 to 2 mo. Superimposed on these marked changes were other minor changes evident at the shallower stations and which probably resulted from local river discharges.

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Table 1. Monthly temperature and salinity observations at stations on transect 1, 1963

STATION: E-37
 DEPTH: 7 M
 LATITUDE: 30°12' N
 LONGITUDE: 88°00' W

Cruise	Day	Month	Year	Temperature (°C)								Salinity (o/oo)							
				Depth (M)								Depth (M)							
				0	3	11	24	43	70	107	8	0	3	11	24	43	70	107	
2	26	2	1963	13.8	13.8						13.8	35.48	35.54						
4	26	4	1963	22.4	22.0						19.3	28.34	30.97						
6	19	6	1963	25.0	25.5						20.6	30.48	32.34						
8	21	8	1963	28.6	28.0						27.2	23.41	32.85						
10	25	10	1963	24.1	24.0						24.4	30.76	33.34						
12	14	12	1963	14.3	14.3						15.1	33.54	33.71						

STATION: E-38
 DEPTH: 14 M
 LATITUDE: 30°08' N
 LONGITUDE: 88°00' W

2	26	2	1963	12.9	12.9	12.9					12.9	35.22	36.00	35.11				
4	25	4	1963	13.9	22.4	17.8					17.8	30.40	31.07	35.14				
6	19	6	1963	25.1	24.9	21.7					21.7	31.69	32.73	35.91				
8	21	8	1963	00.0	00.0	00.0					00.0	27.35	33.33	35.80				
10	25	10	1963	24.4	24.3	24.2					24.2	34.04	33.67	34.43				
12	14	12	1963	15.2	15.2	15.4					15.9	34.00	34.12	34.45				

STATION: E-39
 DEPTH: 28 M
 LATITUDE: 29°58' N
 LONGITUDE: 88°00' W

2	28	2	1963	12.4	12.4	12.4	13.6				13.4	32.74	31.72	33.38	35.11			
4	25	4	1963	23.5	23.3	21.1	17.0				17.0	32.45	31.34	32.90	34.00			
6	19	6	1963	27.8	27.8	27.8	20.5				20.2	34.42	34.07	34.22	36.47			
8	21	8	1963	29.5	29.6	30.0	24.7				23.9	32.84	32.44	35.98	36.35			
10	26	10	1963	25.2	25.2	25.2	25.2				24.8	35.70	35.80	35.66	35.11			
12	14	12	1963	17.3	17.3	17.3	17.3				17.3	36.00	35.71	35.71	35.81			

STATION: E-40
 DEPTH: 46 M
 LATITUDE: 29°30' N
 LONGITUDE: 88°00' W

2	28	2	1963	13.8	13.8	13.8	13.8	14.2			15.3	35.33	35.34	35.26	35.36	35.60		
4	25	4	1963	23.4	23.4	23.4	20.0	17.8			17.5	33.00	33.10	33.26	36.32	36.15		
6	18	6	1963	28.1	27.8	27.2	23.6	20.1			20.1	32.22	34.53	34.80	36.32	36.49		
8	21	8	1963	30.2	30.2	30.2	27.8	21.9			21.9	33.51	33.34	35.51	36.42	36.46		
10	26	10	1963	26.0	26.0	26.0	26.0	26.0			25.7	36.17	35.97	36.08	35.92	36.04		
12	14	12	1963	20.8	20.8	20.8	20.7	20.7			20.7	36.39	36.30	36.36	36.36	36.32		

STATION: E-41
 DEPTH: 73 M
 LATITUDE: 29°25' N
 LONGITUDE: 88°00' W

2	28	2	1963	15.2	15.2	15.2	15.0	14.6	15.3		15.3	35.79	36.00	36.00	36.00	36.00	36.00	
4	25	4	1963	23.1	23.2	23.3	21.1	20.3	18.2		17.7	34.66	34.38	34.86	35.53	36.35	36.25	
6	18	6	1963	28.2	27.9	27.7	24.9	20.8	18.6		17.9	32.05	34.18	36.41	36.60	36.54	36.00	
8	21	8	1963	30.1	29.9	30.0	28.9	23.9	19.9		19.9	33.76	33.69	34.75	36.39	36.35	36.42	
10	26	10	1963	26.1	26.1	26.1	26.1	26.7	20.6		17.8	35.84	35.61	36.27	35.86	36.41	36.53	
12	14	12	1963	20.4	20.4	20.4	20.4	20.4	17.6		17.6	36.01	36.02	36.05	36.00	36.00	36.77	

TABLE 1-10
 1963
 DATE: 1-14
 LATITUDE: 29°52' N
 LONGITUDE: 88°52' W

TIME	DAY	MONTH	H	DEPTH (M)	Temperature						Salinity (‰)						
					Depth (M)						Depth (M)						
					2	4	6	8	10	12	2	4	6	8	10	12	
1	14	1	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
4	14	4	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
6	14	6	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
8	14	8	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
10	14	10	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
12	14	12	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97

TABLE 1-11
 1963
 DATE: 1-14
 LATITUDE: 29°52' N
 LONGITUDE: 88°52' W

2	14	2	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
4	14	4	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
6	14	6	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
8	14	8	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
10	14	10	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
12	14	12	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97

TABLE 1-12
 1963
 DATE: 1-14
 LATITUDE: 29°52' N
 LONGITUDE: 88°52' W

2	14	2	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
4	14	4	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
6	14	6	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
8	14	8	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
10	14	10	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
12	14	12	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97

TABLE 1-13
 1963
 DATE: 1-14
 LATITUDE: 29°52' N
 LONGITUDE: 88°52' W

2	14	2	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
4	14	4	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
6	14	6	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
8	14	8	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
10	14	10	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
12	14	12	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97

TABLE 1-14
 1963
 DATE: 1-14
 LATITUDE: 29°52' N
 LONGITUDE: 88°52' W

2	14	2	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
4	14	4	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
6	14	6	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
8	14	8	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
10	14	10	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97
12	14	12	1963	2	14.7	14.7	14.7	14.7	14.7	14.7	14.7	34.97	34.97	34.97	34.97	34.97	34.97

Table 3. Monthly temperature and salinity observations at Stations on transect 1, 1963-1965

STATION E-44
 DEPTH: 7 M
 LATITUDE: 29°05' N
 LONGITUDE: 89°42' W

Cruise	Day	Month	Year	Temperature (°C)						Salinity (depth (M))				
				0	5	11	17	23	29	11	14	17	20	23
2	24	2	1963	14.3	14.3				14.3	34.49	34.50			
3	29	3	1963	19.9	19.9				17.9	34.15	34.50			
4	27	4	1963	27.1	26.8				28.6	34.91	34.77			
5	17	5	1963	28.1	28.1				25.2	34.61	34.64			
6	22	6	1963	27.3	27.3				27.3	34.78	34.44			
7	12	7	1963	26.9	28.3				26.4	34.53	34.07			
8	19	8	1963	29.9	29.4				27.7	34.71	34.09			
9	26	9	1963	27.1	27.0				26.8	34.10	34.13			
10	23	10	1963	25.1	25.1				26.3	34.31	34.46			
11	23	11	1963	21.8	21.9				22.1	34.29	34.13			
12	12	12	1963	16.0	16.0				17.2	34.31	33.19			
13	22	1	1964	13.6	13.7				13.4	34.33	34.09			
14	10	2	1964	15.6	15.6				15.6	34.44	34.46			
15	29	2	1964	14.7	14.8				15.6	34.41	34.86			
16	24	4	1964	27.3	27.2				19.5	34.44	33.93			
17	17	5	1964	25.1	25.1				24.7	34.36	34.22			
18	26	6	1964	30.3	30.3				27.8	34.67	34.73			
19	12	7	1964	29.1	29.1				26.2	34.57	34.16			
20	24	8	1964	24.7	24.7				22.7	34.77	34.29			
21	27	9	1964	28.4	28.4				27.2	34.39	34.55			
22	24	1	1964	22.2	22.2				22.2	34.38	34.34			
23	17	11	1964	21.3	21.9				17.7	34.29	34.86			
24	11	12	1964	17.6	17.6				16.7	34.28	34.29			
25	18	1	1965	15.4	15.7				21.9	34.55	34.41			
26	11	2	1965	18.7	18.7				18.0	34.28	34.51			
27	15	3	1965	17.7	17.9				17.2	34.17	34.57			
28	17	4	1965	23.5	23.5				20.1	34.55	34.47			
29	21	5	1965	25.2	25.3				22.9	34.44	34.18			
30	21	6	1965	28.4	28.4				27.4	34.34	34.47			
32	22	8	1965	28.4	28.3				26.7	34.69	34.66			
34	29	1	1965	22.5	22.5				25.0	34.36	34.44			
35	4	12	1965	19.9	20.0				17.4	34.47	34.42			

STATION E-25
 DEPTH: 14 M
 LATITUDE: 28°11' N
 LONGITUDE: 89°42' W

1	24	1	1963	15.3	15.3	15.3	15.3	15.3	15.3	34.05	34.00	34.95		
2	24	2	1963	14.6	14.6	14.6	14.6	14.6	14.6	32.99	34.42	34.62		
3	22	3	1963	19.4	19.4	17.8	17.8	17.8	17.8	34.08	34.31	33.12		
4	27	4	1963	25.4	25.4	14.2	14.2	14.2	14.2	34.84	34.94	34.55		
5	17	5	1963	26.4	26.4	25.6	25.6	25.6	25.6	34.32	34.44	34.02		
6	21	6	1963	28.4	28.3	27.7	27.7	27.7	27.7	34.99	35.41	34.91		
7	12	7	1963	29.2	29.2	28.3	28.3	28.3	28.3	34.01	34.99	35.40		
8	19	8	1963	30.0	30.3	30.7	30.7	30.7	30.7	32.79	32.76	34.14		
9	26	9	1963	27.8	27.8	27.8	27.8	27.8	27.8	32.54	32.37	32.58		
10	23	10	1963	24.9	24.9	24.1	24.1	24.1	24.1	32.02	32.24	35.61		
11	23	11	1963	22.3	22.3	22.3	22.3	22.3	22.3	34.32	34.11	34.16		
12	12	12	1963	16.7	16.7	16.7	16.7	16.7	16.7	35.48	35.32	35.31		
13	22	1	1964	14.7	14.5	14.6	14.6	14.6	14.6	33.73	33.79	35.11		
14	10	2	1964	16.4	16.4	16.4	16.4	16.4	16.4	34.81	34.44	34.37		
15	28	2	1964	15.5	15.5	15.5	15.5	15.5	15.5	32.86	32.84	34.57		
16	24	4	1964	22.7	22.3	14.3	14.3	14.3	14.3	34.88	34.01	34.20		
17	17	5	1964	24.2	24.3	24.4	24.4	24.4	24.4	33.6	34.47	34.60	34.50	
18	20	6	1964	30.1	30.1	24.1	24.1	24.1	24.1	34.51	34.71	34.36		
19	12	7	1964	29.2	29.2	27.7	27.7	27.7	27.7	31.17	31.14	34.24		
20	24	8	1964	31.7	30.0	24.2	24.2	24.2	24.2	34.07	34.45	34.67		
21	20	9	1964	28.1	27.9	28.1	28.1	28.1	28.1	30.12	30.19	34.64		
22	24	10	1964	22.3	22.3	23.9	23.9	23.9	23.9	33.24	33.11	33.77		
23	13	11	1964	21.8	22.2	22.5	22.5	22.5	22.5	34.67	34.41	34.79		
24	11	12	1964	18.1	18.1	17.7	17.7	17.7	17.7	32.89	32.82	33.52		
25	18	1	1965	16.4	16.9	20.5	20.5	20.5	20.5	33.59	32.48	32.42		
26	12	2	1965	18.6	18.6	18.5	18.5	18.5	18.5	31.25	31.25	32.49		
27	15	3	1965	16.7	16.7	16.5	16.5	16.5	16.5	28.99	28.08	32.52		
28	17	4	1965	22.7	22.3	19.7	19.7	19.7	19.7	34.43	34.53	34.82		
29	22	5	1965	25.3	25.3	23.0	23.0	23.0	23.0	34.00	34.02	35.21		
30	21	6	1965	28.0	28.0	28.0	28.0	28.0	28.0	34.13	34.02	34.64		
32	22	8	1965	28.5	28.5	28.6	28.6	28.6	28.6	30.35	30.67	34.31		
34	29	10	1965	22.6	22.6	25.7	25.7	25.7	25.8	32.01	32.03	33.24		
35	4	12	1965	20.7	20.8	21.2	21.2	21.2	21.2	33.40	33.46	33.82		

Table 3. (Continued)

STATION: E-43
 DEPTH: 7.3 M
 LATITUDE: 28°48' N
 LONGITUDE: 89°42' W

Cruise	Day	Month	Year	Temperature (°C)						Salinity						
				Depth (M)						Depth (M)						
				11	14	17	19	21	23	11	14	17				
1	26	1	1963	17.5	17.7	17.6	17.5	18.4	18.5	18.4	34.99	34.9	34.11	34.98	35.0	34.9
2	25	2	1963	18.4	18.5	18.6	18.8	19.7	19.9	19.8	34.95	34.96	35.0	34.9	34.9	34.9
3	29	3	1963	19.8	19.7	19.3	19.7	18.7	17.1	17.2	34.99	35.1	35.0	34.40	34.9	34.9
4	27	4	1963	20.6	24.2	22.7	22.1	20.7	17.9	17.9	34.15	34.4	34.34	34.3	34.34	34.2
5	16	5	1963	27.5	25.8	24.2	23.1	19.4	17.1	17.2	35.1	34.9	34.7	34.18	34.2	34.2
6	21	6	1963	28.4	28.1	28.2	28.1	27.1	17.4	17.3	34.72	34.5	34.2	34.4	34.3	34.4
7	13	7	1963	24.4	24.6	24.3	25.1	18.4	17.1	17.3	34.49	34.34	34.3	34.2	34.3	34.4
8	20	8	1963	29.6	29.7	30.2	29.3	26.8	18.9	18.6	34.48	34.34	34.2	34.3	34.3	34.17
9	26	4	1963	27.9	27.9	28.1	28.2	26.8	18.4	18.3	34.59	34.40	34.29	34.3	34.3	34.16
10	24	10	1963	26.7	26.8	26.9	27.1	25.7	17.1	18.2	34.18	34.10	34.2	34.57	34.34	34.1
11	23	11	1963	24.1	23.9	24.9	24.9	23.8	17.9	21.9	34.7	34.62	34.7	34.6	34.3	34.3
12	13	12	1963	22.4	22.4	22.4	22.1	21.7	18.9	18.1	34.95	34.62	34.57	34.3	34.3	34.34
13	27	1	1964	19.1	18.1	18.1	18.2	18.1	17.1	18.9	34.63	34.69	34.62	34.3	34.3	34.3
14	10	2	1964	17.2	17.2	17.7	17.6	17.8	17.1	18.1	34.7	34.4	34.4	34.3	34.3	34.34
15	28	2	1964	15.2	15.4	17.3	19.8	18.8	18.1	17.8	32.58	32.17	31.57	31.27	31.27	31.6
16	24	4	1964	21.3	21.7	22.0	22.5	22.1	18.4	18.1	33.63	33.66	33.59	33.52	33.29	33.21
17	17	5	1964	24.6	24.6	25.3	25.3	22.9	18.4	17.6	34.5	34.19	33.89	33.33	33.27	33.2
18	20	6	1964	31.7	30.7	30.5	29.2	24.1	18.1	18.5	34.7	34.3	34.1	34.1	34.1	34.3
19	12	7	1964	29.1	24.4	28.1	27.7	24.1	18.9	18.1	34.34	34.3	34.3	34.3	34.3	34.3
20	24	8	1964	29.7	24.6	28.1	27.4	24.1	18.9	18.9	34.34	34.6	34.5	34.21	34.3	34.4
21	20	9	1964	26.8	26.8	28.0	28.8	27.7	19.1	18.1	34.5	34.3	34.3	34.21	34.3	34.3
22	25	10	1964	24.8	24.8	24.8	24.7	24.1	17.4	17.3	34.52	34.40	34.49	34.52	34.59	34.59
23	13	11	1964	24.1	24.4	24.5	24.4	24.4	18.1	18.4	34.29	34.4	34.27	34.29	34.29	34.51
24	11	12	1964	21.7	22.1	22.5	22.7	22.2	21.9	18.5	34.58	34.58	34.54	34.4	34.3	34.53
25	11	1	1965	21.7	21.8	21.9	21.7	21.5	18.1	18.1	34.72	34.67	34.64	34.76	34.76	34.7
26	17	2	1965	22.5	22.7	22.6	22.4	22.6	18.9	18.7	34.88	34.71	34.7	34.7	34.7	34.74
27	24	5	1965	25.1	25.1	25.1	24.8	23.8	18.1	18.1	34.7	34.7	34.7	34.4	34.4	34.74
28	21	6	1965	24.1	24.4	24.2	24.9	23.2	18.9	18.1	34.46	34.3	34.34	34.53	34.4	34.7
29	21	8	1965	27.1	27.1	26.4	22.5	18.1	18.1	18.4	34.89	34.19	34.1	34.34	34.34	34.7
30	20	9	1965	27.4	27.4	27.4	27.6	27.1	17.1	18.6	34.89	34.58	34.41	34.67	34.6	34.87
31	18	10	1965	24.8	25.0	27.1	26.7	26.7	21.1	18.1	34.78	34.79	34.7	34.72	34.79	34.49

Table 4. Monthly temperature and salinity (average) at station E-43 from 1963 to 1967

STATION: E-43
 DEPTH: 7.3 M
 LATITUDE: 28°48' N
 LONGITUDE: 89°42' W

Cruise	Day	Month	Year	Temperature (°C)						Salinity					
				Depth (M)						Depth (M)					
				11	14	17	19	21	23	11	14	17			
1	23	1	1967	14.1	14.2					17.1	34.5	34.1			
2	20	2	1967	20.1	20.4					18.1	34.89	34.9			
4	28	4	1967	20.7	20.2					18.9	34.5	34.7			
5	17	5	1967	23.2	28.0					18.1	34.7	34.1			
6	22	6	1967	29.8	28.8					20.8	34.4	34.3			
7	12	7	1967	24.8	26.2					20.8	34.6	34.3			
8	14	8	1967	26.4	24.2					20.8	34.57	34.66			
9	27	4	1968	27.7	27.7					21.1	34.63	34.59			
10	22	10	1968	25.1	25.0					18.9	34.69	34.38			
11	21	11	1968	23.8	20.9					18.1	34.1	34.1			
12	11	12	1968	17.2	17.2					17.1	34.3	34.1			
13	25	1	1969	24.7	14.7					14.9	34.7	34.7			
14	9	2	1969	14.1	14.2					14.8	32.4	31.44			
15	23	2	1969	14.8	14.8					14.7	31.77	31.57			
16	25	4	1969	23.8	23.7					21.2	34.21	34.21			
17	17	5	1969	24.7	24.8					24.8	34.7	34.61			
18	20	6	1969	31.7	30.9					24.8	34.9	34.88			
19	12	7	1969	26.4	29.3					24.4	34.38	34.19			
20	25	8	1969	30.1	30.5					25.1	34.37	34.98			
21	21	4	1969	28.7	28.7					25.7	34.3	34.3			
22	24	1	1969	21.7	21.7					21.3	34.69	34.49			
23	13	11	1969	22.6	22.5					22.9	34.69	34.47			
24	10	12	1969	16.8	16.6					15.9	34.7	34.71			
25	17	1	1970	15.5	15.5					15.7	34.48	34.4			
26	14	2	1970	18.2	18.8					18.6	34.45	34.7			
27	16	2	1970	17.1	17.7					18.1	34.4	34.1			
28	18	4	1970	17.7	17.8					18.8	34.7	34.7			
29	22	7	1970	17.4	17.4					24.1	34.61	34.51			
30	22	6	1970	17.9	17.1					23.8	34.4	34.37			
31	22	7	1970	18.5	18.1					24.1	34.74	34.3			
32	14	4	1971	18.7	28.1					24.2	34.2	34.1			
33	23	1	1971	17.8	17.1					21.9	34.1	34.9			
34	23	1	1971	17.8	17.1					21.9	34.1	34.9			
35	12	12	1971	18.1	18.2					18.4	34.74	34.7			

STATION: 1314
 DEPTH: 14 M
 LATITUDE: 28°33' N
 LONGITUDE: 90°41' W

Date	Day	Month	Year	Temperature						Salinity (‰)				
				1	2	3	4	5	6	11	14	19	24	
1	25	1	1963	17.1	17.1	17.1	17.1	17.1	17.1	34.88	35.00	35.14	35.51	
2	27	2	1963	14.7	14.7	14.7	14.7	14.7	14.7	34.88	35.00	35.15	35.18	
3	30	3	1963	17.1	17.1	17.1	17.1	17.1	17.1	34.88	35.00	35.15	35.18	
4	28	4	1963	20.7	20.7	20.7	20.7	20.7	20.7	34.88	35.00	35.15	35.18	
5	17	5	1963	17.1	17.1	17.1	17.1	17.1	17.1	34.88	35.00	35.15	35.18	
6	22	6	1963	21.4	21.4	21.4	21.4	21.4	21.4	34.88	35.00	35.15	35.18	
7	22	7	1963	20.0	20.0	20.0	20.0	20.0	20.0	34.88	35.00	35.15	35.18	
8	17	8	1963	24.4	24.4	24.4	24.4	24.4	24.4	34.88	35.00	35.15	35.18	
9	27	9	1963	18.1	18.1	18.1	18.1	18.1	18.1	34.88	35.00	35.15	35.18	
10	22	10	1963	20.7	20.7	20.7	20.7	20.7	20.7	34.88	35.00	35.15	35.18	
11	22	11	1963	21.3	21.3	21.3	21.3	21.3	21.3	34.88	35.00	35.15	35.18	
12	17	12	1963	18.1	18.1	18.1	18.1	18.1	18.1	34.88	35.00	35.15	35.18	
13	23	1	1964	15.2	15.2	15.2	15.2	15.2	15.2	34.88	35.00	35.15	35.18	
14	24	2	1964	15.7	15.7	15.7	15.7	15.7	15.7	34.88	35.00	35.15	35.18	
15	24	3	1964	14.3	14.3	14.3	14.3	14.3	14.3	34.88	35.00	35.15	35.18	
16	25	4	1964	24.1	24.1	24.1	24.1	24.1	24.1	34.88	35.00	35.15	35.18	
17	17	5	1964	24.1	24.1	24.1	24.1	24.1	24.1	34.88	35.00	35.15	35.18	
18	2	6	1964	17.1	17.1	17.1	17.1	17.1	17.1	34.88	35.00	35.15	35.18	
19	15	7	1964	20.0	20.0	20.0	20.0	20.0	20.0	34.88	35.00	35.15	35.18	
20	25	8	1964	30.2	30.2	30.2	30.2	30.2	30.2	34.88	35.00	35.15	35.18	
21	27	9	1964	28.8	28.8	28.8	28.8	28.8	28.8	34.88	35.00	35.15	35.18	
22	24	1	1964	22.8	22.8	22.8	22.8	22.8	22.8	34.88	35.00	35.15	35.18	
23	13	12	1964	22.7	22.7	22.7	22.7	22.7	22.7	34.88	35.00	35.15	35.18	
24	10	11	1964	18.3	18.3	18.3	18.3	18.3	18.3	34.88	35.00	35.15	35.18	
25	18	1	1965	15.4	15.4	15.4	15.4	15.4	15.4	34.88	35.00	35.15	35.18	
26	12	2	1965	19.1	19.1	19.1	19.1	19.1	19.1	34.88	35.00	35.15	35.18	
27	16	3	1965	17.5	17.5	17.5	17.5	17.5	17.5	34.88	35.00	35.15	35.18	
28	18	4	1965	23.1	23.1	23.1	23.1	23.1	23.1	34.88	35.00	35.15	35.18	
29	22	5	1965	26.0	26.0	26.0	26.0	26.0	26.0	34.88	35.00	35.15	35.18	
30	22	6	1965	27.8	27.8	27.8	27.8	27.8	27.8	34.88	35.00	35.15	35.18	
31	22	7	1965	28.3	28.3	28.3	28.3	28.3	28.3	34.88	35.00	35.15	35.18	
32	17	8	1965	28.3	28.3	28.3	28.3	28.3	28.3	34.88	35.00	35.15	35.18	
33	19	9	1965	22.6	22.6	22.6	22.6	22.6	22.6	34.88	35.00	35.15	35.18	
34	29	10	1965	22.6	22.6	22.6	22.6	22.6	22.6	34.88	35.00	35.15	35.18	
35	3	12	1965	20.8	20.8	20.8	20.8	20.8	20.8	34.88	35.00	35.15	35.18	

STATION: 1323
 DEPTH: 14 M
 LATITUDE: 28°33' N
 LONGITUDE: 90°41' W

1	27	1	1963	17.1	17.1	17.1	17.1	17.1	17.1	34.88	35.00	35.14	35.51
2	23	2	1963	16.4	16.4	16.4	16.4	16.4	16.4	34.88	35.00	35.15	35.18
3	24	3	1963	19.7	19.7	19.7	19.7	19.7	19.7	34.88	35.00	35.15	35.18
4	23	4	1963	23.1	23.1	23.1	23.1	23.1	23.1	34.88	35.00	35.15	35.18
5	16	5	1963	16.7	16.7	16.7	16.7	16.7	16.7	34.88	35.00	35.15	35.18
6	21	6	1963	26.4	26.4	26.4	26.4	26.4	26.4	34.88	35.00	35.15	35.18
7	13	7	1963	29.6	29.6	29.6	29.6	29.6	29.6	34.88	35.00	35.15	35.18
8	19	8	1963	24.9	24.9	24.9	24.9	24.9	24.9	34.88	35.00	35.15	35.18
9	26	9	1963	28.2	28.2	28.2	28.2	28.2	28.2	34.88	35.00	35.15	35.18
10	22	10	1963	26.2	26.2	26.2	26.2	26.2	26.2	34.88	35.00	35.15	35.18
11	22	11	1963	23.1	23.1	23.1	23.1	23.1	23.1	34.88	35.00	35.15	35.18
12	15	12	1963	18.2	18.2	18.2	18.2	18.2	18.2	34.88	35.00	35.15	35.18
13	20	1	1964	17.8	17.8	17.8	17.8	17.8	17.8	34.88	35.00	35.15	35.18
14	9	2	1964	17.1	17.1	17.1	17.1	17.1	17.1	34.88	35.00	35.15	35.18
15	1	3	1964	17.1	17.1	17.1	17.1	17.1	17.1	34.88	35.00	35.15	35.18
16	23	4	1964	22.5	22.5	22.5	22.5	22.5	22.5	34.88	35.00	35.15	35.18
17	14	5	1964	25.1	25.1	25.1	25.1	25.1	25.1	34.88	35.00	35.15	35.18
18	19	6	1964	28.1	28.1	28.1	28.1	28.1	28.1	34.88	35.00	35.15	35.18
19	11	7	1964	29.4	29.4	29.4	29.4	29.4	29.4	34.88	35.00	35.15	35.18
20	23	8	1964	30.8	30.8	30.8	30.8	30.8	30.8	34.88	35.00	35.15	35.18
21	19	9	1964	24.2	24.2	24.2	24.2	24.2	24.2	34.88	35.00	35.15	35.18
22	23	10	1964	23.8	23.8	23.8	23.8	23.8	23.8	34.88	35.00	35.15	35.18
23	12	11	1964	21.3	21.3	21.3	21.3	21.3	21.3	34.88	35.00	35.15	35.18
24	12	12	1964	21.3	21.3	21.3	21.3	21.3	21.3	34.88	35.00	35.15	35.18
25	19	1	1965	20.3	20.3	20.3	20.3	20.3	20.3	34.88	35.00	35.15	35.18
26	14	3	1965	17.0	17.0	17.0	17.0	17.0	17.0	34.88	35.00	35.15	35.18
27	17	4	1965	22.5	22.5	22.5	22.5	22.5	22.5	34.88	35.00	35.15	35.18
28	23	5	1965	24.8	24.8	24.8	24.8	24.8	24.8	34.88	35.00	35.15	35.18
29	20	6	1965	27.1	27.1	27.1	27.1	27.1	27.1	34.88	35.00	35.15	35.18
30	20	8	1965	28.9	28.9	28.9	28.9	28.9	28.9	34.88	35.00	35.15	35.18
31	19	9	1965	28.6	28.6	28.6	28.6	28.6	28.6	34.88	35.00	35.15	35.18
32	29	10	1965	25.2	25.2	25.2	25.2	25.2	25.2	34.88	35.00	35.15	35.18

Table 4. (Continued)

STATION: E-20
 DEPTH: 40 M
 LATITUDE: 26°12' N
 LONGITUDE: 90°40' W

Cruise	Day	Month	Year	Temperature (°C)					Salinity					
				11	1	4	6	8	1	4	6	8		
1	28	1	1963	16.1	15.5	15.1	14.9	14.7	18.7	36.29	36.3	36.4	36.4	36.4
2	22	1	1963	16.2	15.7	15.3	15.0	14.7	17.7	36.29	36.31	36.3	36.3	36.3
3	26	1	1963	20.4	20.4	20.1	20.1	19.4	18.1	36.44	36.4	36.4	36.4	36.4
4	22	4	1963	23.7	23.8	22.6	21.9	19.7	18.4	36.53	36.53	36.5	36.5	36.5
5	16	5	1963	21.4	21.6	20.4	20.6	19.7	18.7	36.54	36.5	36.5	36.5	36.5
6	21	6	1963	24.7	24.7	24.1	23.9	23.0	21.9	36.5	36.5	36.5	36.5	36.5
7	13	7	1963	24.7	24.7	24.7	24.7	24.1	23.4	36.4	36.4	36.5	36.5	36.4
8	19	8	1963	25.0	25.0	24.9	24.9	24.4	23.8	36.33	36.38	36.4	36.4	36.4
9	26	8	1963	25.3	25.3	25.0	25.1	24.6	24.1	36.3	36.3	36.5	36.4	36.4
10	22	10	1963	26.0	26.0	25.4	26.0	25.0	24.6	36.3	36.3	36.6	36.6	36.5
11	22	11	1963	24.7	24.7	23.7	23.6	23.3	22.4	36.31	36.37	36.5	36.6	36.5
12	15	11	1963	20.4	20.4	20.4	20.4	20.4	20.4	36.53	36.54	36.47	36.5	36.5
13	23	1	1964	19.2	19.2	19.7	19.1	18.4	18.4	36.47	36.4	36.4	36.5	36.5
14	9	1	1964	18.1	18.1	18.1	18.1	18.0	18.0	36.5	36.54	36.5	36.5	36.5
15	1	1	1964	17.5	17.5	17.7	17.7	17.7	17.7	36.5	36.51	36.54	36.5	36.5
16	14	1	1964	17.4	17.4	17.7	17.9	18.1	18.1	36.4	36.4	36.5	36.5	36.5
17	14	1	1964	17.1	17.1	17.1	17.1	17.0	17.0	36.4	36.4	36.4	36.5	36.4
18	19	1	1964	17.0	17.0	17.6	17.4	17.0	17.0	36.4	36.4	36.4	36.5	36.4
19	11	1	1964	24.7	24.7	24.4	24.8	24.6	24.7	36.4	36.4	36.4	36.4	36.4
20	23	8	1964	20.6	20.4	20.8	20.7	21.4	21.4	36.5	36.5	36.6	36.6	36.5
21	19	8	1964	20.5	20.4	20.1	20.7	21.1	21.1	36.4	36.4	36.4	36.5	36.5
22	27	1	1964	24.0	24.6	24.9	24.9	24.7	24.7	36.4	36.4	36.5	36.4	36.5
23	11	10	1964	21.9	21.9	21.9	21.9	21.1	21.1	36.4	36.4	36.5	36.4	36.4
24	11	11	1964	21.5	21.6	21.6	21.7	21.6	21.6	36.4	36.4	36.4	36.5	36.5
25	14	1	1967	21.3	21.3	21.7	21.7	21.7	21.7	36.4	36.4	36.4	36.5	36.5
27	15	1	1967	17.4	17.4	17.9	17.9	18.0	18.0	36.4	36.4	36.4	36.5	36.4
28	17	1	1965	23.0	23.0	22.9	22.7	22.7	22.7	36.4	36.4	36.5	36.5	36.5
29	23	1	1965	24.7	24.7	24.7	24.7	24.7	24.7	36.4	36.4	36.4	36.5	36.4
30	21	6	1965	26.1	26.1	26.1	26.1	26.1	26.1	36.4	36.4	36.4	36.5	36.4
31	23	7	1965	24.0	24.0	24.0	24.0	24.0	24.0	36.5	36.5	36.5	36.5	36.5
32	18	8	1965	26.5	26.5	26.0	25.7	25.0	25.0	36.5	36.5	36.5	36.5	36.5
34	3	1	1965	25.5	25.5	25.2	25.2	25.0	25.0	36.5	36.5	36.5	36.5	36.5

STATION: E-46
 DEPTH: 75 M
 LATITUDE: 26°14' N
 LONGITUDE: 90°40' W

1	25	1	1963	19.0	18.0	18.2	18.1	18.0	18.0	36.29	36.3	36.4	36.4	36.4
2	23	1	1963	19.3	18.0	18.2	18.1	18.0	18.0	36.3	36.3	36.5	36.4	36.4
3	26	1	1963	21.4	21.3	20.9	20.9	19.7	18.9	36.4	36.4	36.5	36.4	36.4
4	23	4	1963	24.7	23.3	21.7	20.1	19.6	18.6	36.5	36.5	36.6	36.5	36.5
5	16	5	1963	25.7	25.6	25.1	24.6	23.9	23.2	36.5	36.5	36.6	36.5	36.4
6	21	6	1963	28.4	28.4	28.3	27.2	25.3	24.0	36.5	36.5	36.6	36.5	36.5
7	13	7	1963	24.4	24.4	24.7	24.1	23.9	23.0	36.5	36.5	36.5	36.5	36.4
8	19	8	1963	29.9	29.9	30.0	29.0	27.6	26.0	36.4	36.4	36.4	36.5	36.4
9	26	8	1963	27.7	27.7	27.6	27.0	27.5	24.4	36.4	36.5	36.5	36.5	36.5
10	22	10	1963	27.1	27.0	26.9	26.8	26.8	24.0	36.4	36.4	36.5	36.5	36.5
11	22	11	1963	24.0	24.0	23.9	24.0	23.9	23.1	36.7	36.7	36.7	36.7	36.7
12	15	11	1963	21.9	21.9	21.9	21.9	21.9	21.9	36.7	36.6	36.6	36.6	36.6
13	20	1	1964	16.4	16.3	16.2	16.2	16.4	15.7	36.3	36.3	36.3	36.3	36.3
14	9	1	1964	16.0	16.0	16.0	16.0	16.0	15.1	36.4	36.4	36.4	36.4	36.4
15	1	1	1964	18.0	18.0	18.0	18.0	17.9	17.0	36.4	36.5	36.5	36.5	36.5
16	24	4	1964	23.8	23.8	22.7	22.0	21.0	19.0	36.4	36.4	36.5	36.5	36.5
17	14	5	1964	25.4	25.4	25.2	24.0	22.7	21.0	36.4	36.4	36.4	36.5	36.4
18	19	5	1964	26.3	26.3	26.1	25.7	25.0	24.0	36.4	36.4	36.4	36.5	36.4
19	11	7	1964	29.4	28.9	29.4	28.2	27.7	26.0	36.4	36.5	36.5	36.5	36.5
20	24	8	1964	30.3	30.4	29.6	29.0	28.0	26.0	36.4	36.4	36.4	36.5	36.4
21	19	8	1964	29.6	29.6	29.4	29.1	27.0	26.0	36.4	36.4	36.4	36.5	36.4
22	23	10	1964	25.2	25.2	25.2	24.7	24.0	23.0	36.4	36.5	36.5	36.5	36.4
23	11	11	1964	24.7	24.8	24.8	24.7	24.0	23.4	36.4	36.4	36.4	36.5	36.4
24	11	11	1964	22.5	22.5	22.5	22.3	22.4	22.0	36.4	36.4	36.4	36.5	36.4
25	14	1	1965	22.6	22.6	22.6	22.4	22.0	21.4	36.4	36.4	36.4	36.5	36.4
27	15	1	1965	20.1	20.1	20.1	20.0	19.0	18.0	36.4	36.4	36.4	36.5	36.4
28	17	4	1965	23.1	23.1	23.1	23.0	23.0	23.0	36.4	36.4	36.4	36.5	36.4
29	23	5	1965	24.8	24.8	24.8	24.8	24.7	24.7	36.4	36.4	36.4	36.5	36.4
30	21	6	1965	26.4	26.4	26.3	26.8	26.6	26.0	36.4	36.4	36.4	36.5	36.4
32	20	8	1965	28.7	28.6	28.1	27.9	27.1	26.7	36.4	36.4	36.4	36.5	36.4
33	16	8	1965	28.5	28.5	28.1	27.0	26.0	25.0	36.5	36.4	36.4	36.5	36.4
34	30	10	1965	25.2	25.2	25.2	25.2	25.1	24.5	36.4	36.4	36.4	36.4	36.4

Table 5. Monthly temperature and salinity observations at stations on transect 5, 1963-1965

STATION: E-49
 DEPTH: 7 M
 LATITUDE: 29° 11' N
 LONGITUDE: 42° 00' W

Cruise	Day	Month	Year	Temperature (°C)						Salinity (o/oo)								
				Depth (M)						Depth (M)								
				0	3	11	24	43	70	107	B	0	3	11	24	43	70	107
2	21	2	1963	12.6	12.4						11.1	29.78	30.95					
3	30	3	1963	20.8	20.8						20.2	30.82	30.82					
4	21	4	1963	23.2	23.1						22.0	32.47	32.69					
5	18	5	1963	26.4	26.4						26.3	29.84	29.85					
6	23	6	1963	28.3	28.3						28.3	30.94	30.93					
7	12	7	1963	29.3	29.6						28.4	25.35	27.93					
8	23	8	1963	29.9	29.9						29.9	32.07	32.07					
9	27	9	1963	25.7	25.8						26.3	32.15	31.93					
10	22	10	1963	24.8	24.7						24.6	33.27	33.25					
11	22	11	1963	20.4	20.3						19.9	33.12	33.05					
12	11	12	1963	16.2	16.2						16.0	33.99	33.96					
13	23	1	1964	9.6	9.1						10.1	31.44	31.81					
14	8	2	1964	11.9	12.2						12.8	31.88	32.89					
15	1	3	1964	13.3	13.3						13.6	00.00	31.77					
16	25	4	1964	25.9	25.5						24.5	20.93	20.81					
17	18	5	1964	25.2	25.2						25.4	23.64	23.81					
16	18	6	1964	29.3	29.3						29.2	26.02	25.99					
19	13	7	1964	28.6	28.6						28.5	27.18	27.17					
20	25	8	1964	30.4	30.3						30.0	30.35	30.36					
21	21	9	1964	28.3	28.2						28.2	31.96	31.96					
22	25	10	1964	21.2	21.3						21.3	31.86	31.79					
23	14	11	1964	22.8	22.5						22.6	30.47	30.61					
24	12	12	1964	15.0	15.1						15.4	31.38	33.01					
25	16	1	1965	16.7	16.7						16.7	33.60	33.38					
26	13	2	1965	17.3	17.3						17.3	34.18	20.18					
27	16	3	1965	16.6	15.8						15.2	35.20	20.18					
28	19	4	1965	23.7	23.8						23.5	13.64	20.97					
29	20	5	1965	26.1	26.0						25.9	27.44	27.47					
30	24	6	1965	29.2	29.1						29.0	28.44	28.78					
32	24	8	1965	28.0	28.5						29.1	29.84	29.92					
34	30	10	1965	21.5	21.5						21.5	29.78	29.72					
35	5	12	1965	15.5	17.7						18.3	00.00	30.05					

STATION: E-12
 DEPTH: 14 M
 LATITUDE: 29° 08' N
 LONGITUDE: 92° 20' W

1	22	1	1963	12.1	11.9	11.8					11.9	33.24	33.13	33.14				
2	21	2	1963	13.8	13.8	14.2					14.3	31.95	32.60	34.12				
3	30	3	1963	20.4	20.3	20.2					20.2	33.91	33.82	33.93				
4	22	4	1963	23.4	23.3	22.6					20.8	31.63	31.85	33.83				
5	18	5	1963	26.8	26.8	24.4					24.0	29.15	29.22	35.85				
6	23	6	1963	28.4	28.4	28.4					26.7	31.20	31.05	31.58				
7	12	7	1963	29.6	29.4	25.8					25.6	35.83	30.76	30.21				
8	23	8	1963	30.3	30.3	30.5					30.4	32.82	32.97	34.66				
9	27	9	1963	26.8	26.8	26.8					26.8	32.80	32.70	32.97				
10	22	10	1963	25.3	25.2	25.2					25.1	34.07	33.73	33.74				
11	21	11	1963	19.9	19.9	19.9					19.8	33.47	33.48	33.54				
12	11	12	1963	16.6	16.6	16.1					16.1	34.11	34.09	33.98				
13	23	1	1964	10.6	10.4	9.9					9.9	33.38	33.40	33.56				
15	1	3	1964	13.8	13.7	13.8					14.4	33.09	32.93	33.22				
16	25	4	1964	23.0	22.9	22.7					22.4	20.89	29.98	28.92				
17	16	5	1964	25.2	25.1	25.1					25.0	00.00	00.00	00.00				
18	18	6	1964	29.2	29.1	27.7					25.4	29.24	29.70	32.43				
19	13	7	1964	28.6	28.6	28.7					26.6	27.20	27.43	35.70				
20	25	8	1964	30.4	30.0	29.7					28.1	32.73	31.17	31.92				
21	21	9	1964	28.2	28.2	28.2					28.2	32.17	32.19	32.16				
22	24	10	1964	21.7	21.7	21.2					20.8	32.03	32.23	32.30				
23	14	11	1964	22.9	22.9	22.9					22.9	34.45	34.39	34.45				
24	12	12	1964	15.0	15.3	15.8					15.8	32.58	33.89	34.05				
25	16	1	1965	16.0	16.0	16.0					16.0	33.21	33.20	33.21				
26	13	2	1965	17.4	17.4	17.4					17.4	34.49	34.48	34.50				
27	16	3	1965	16.6	16.4	16.1					16.1	33.56	35.58	34.16				
28	19	4	1965	23.2	23.2	22.6					22.6	32.06	32.01	33.25				
29	20	5	1965	25.4	25.3	25.2					25.0	33.28	33.44	33.60				
30	24	6	1965	29.4	29.3	28.6					28.5	30.48	30.50	33.34				
32	24	8	1965	28.7	28.7	29.1					29.1	30.55	30.42	31.72				
34	30	10	1965	21.6	21.7	24.0					24.5	29.78	29.85	31.60				
35	5	12	1965	17.4	17.4	18.3					18.8	33.42	33.13	33.64				

STATION: E-11
 DEPTH: 28 M
 LATITUDE: 28°55' N
 LONGITUDE: 122°20' W

Cruise	Day	Month	Year	Temperature (°C)						Salinity (0/00)			
				Depth (M)						Depth (M)			
				0	1	11	14	167	0	11	14	167	
1	22	1	1963	15.5	15.5	15.4	15.5	15.5	35.22	35.09	35.13	35.22	
2	21	2	1963	13.9	14.7	14.7	15.7	15.7	35.36	34.12	34.68	35.24	
3	30	3	1963	20.1	20.6	19.9	19.7	19.7	34.91	34.91	35.37	35.38	
4	22	4	1963	22.4	22.4	21.9	21.7	20.6	35.01	35.01	35.10	35.44	
5	15	5	1963	27.0	25.6	24.5	23.7	22.3	35.37	35.76	35.88	36.22	
6	20	6	1963	28.9	28.9	28.3	27.9	24.9	35.11	35.66	35.71	35.79	
7	11	7	1963	27.8	27.7	26.4	26.1	23.4	35.00	35.09	34.57	35.47	
8	18	8	1963	23.7	23.7	20.3	24.4	24.3	32.53	31.87	33.04	35.37	
9	23	9	1963	28.9	28.9	28.9	28.9	26.4	35.08	35.6	35.44	35.70	
10	21	10	1963	20.2	20.2	20.2	20.2	18.2	35.20	35.24	35.6	35.71	
11	21	11	1963	22.3	22.3	22.3	22.3	22.3	35.09	35.63	35.81	35.87	
12	11	12	1963	19.9	19.9	19.8	19.9	18.5	35.31	35.11	36.23	36.21	
13	19	1	1964	16.7	16.7	16.7	16.6	15.1	36.31	36.73	36.8	36.87	
15	2	3	1964	15.3	15.0	15.0	15.0	15.0	34.85	35.31	35.34	35.36	
16	23	4	1964	21.7	21.7	21.7	21.9	21.1	35.35	35.84	36.43	36.89	
17	16	5	1964	14.4	14.4	14.4	14.3	14.3	36.37	36.40	36.51	36.4	
18	18	5	1964	28.1	28.1	27.9	28.1	25.3	35.97	36.37	36.70	36.88	
19	13	7	1964	28.3	28.3	28.0	28.1	25.3	35.99	36.47	36.77	36.84	
20	25	8	1964	29.7	29.7	29.7	29.4	25.4	35.75	32.71	32.1	29.7	
21	19	9	1964	28.4	28.4	28.7	28.4	25.4	35.14	35.08	35.09	35.25	
22	22	10	1964	21.7	21.5	21.7	21.8	21.0	35.95	35.98	34.52	35.30	
23	14	11	1964	23.6	23.6	23.6	23.6	21.6	35.60	35.59	35.08	36.11	
24	12	12	1964	18.6	18.5	18.1	18.7	18.8	35.77	35.54	35.29	36.00	
25	16	1	1965	19.4	19.4	19.4	19.5	18.7	35.44	35.40	35.67	35.42	
27	14	3	1965	17.0	17.0	17.2	16.9	16.5	35.40	35.44	35.70	36.27	
28	19	4	1965	23.3	23.3	23.0	23.7	21.8	35.80	35.87	36.18	36.48	
29	25	5	1965	25.3	25.3	25.0	25.0	23.3	36.30	36.33	36.71	36.72	
30	13	6	1965	28.5	28.3	27.7	27.1	25.1	36.57	36.47	36.54	36.24	
32	24	8	1965	29.3	29.3	29.2	29.1	26.8	36.74	36.98	37.30	36.77	
34	30	10	1965	22.9	23.0	23.5	23.0	24.8	32.82	31.70	33.18	35.45	
35	2	12	1965	22.3	22.3	22.3	22.2	22.2	35.29	35.3	35.25	35.48	

STATION: E-10
 DEPTH: 46 M
 LATITUDE: 28°32' N
 LONGITUDE: 122°20' W

1	29	1	1963	18.7	18.7	18.6	18.4	17.8	36.51	36.37	36.79	36.77
2	21	2	1963	17.3	17.3	17.3	17.2	17.1	36.57	36.37	36.54	36.38
3	28	3	1963	20.2	20.1	20.1	19.7	18.4	36.31	35.64	36.87	36.4
4	28	4	1963	24.8	24.5	24.4	23.6	21.7	36.57	36.57	36.58	36.47
5	15	5	1963	25.2	25.0	24.7	24.3	22.4	36.41	36.30	36.30	36.35
6	20	6	1963	28.7	28.4	28.2	24.9	21.7	36.37	36.30	34.19	35.44
7	11	7	1963	29.6	29.6	29.4	23.8	21.1	33.84	34.23	34.62	35.51
8	18	8	1963	29.7	29.7	29.7	28.3	25.6	35.28	35.26	36.14	36.25
9	23	9	1963	29.0	28.9	28.9	28.7	26.3	36.20	36.30	36.19	36.25
10	21	10	1963	26.7	26.7	26.7	26.7	24.7	36.04	36.33	36.40	36.52
11	21	11	1963	34.3	34.3	34.2	34.7	34.1	36.77	36.86	36.83	36.79
12	11	12	1963	21.9	21.9	21.7	21.7	21.1	36.70	36.70	36.82	36.76
13	19	1	1964	17.6	17.6	17.5	16.8	16.6	36.69	36.69	36.89	36.85
15	2	3	1964	16.7	16.7	16.7	16.8	16.3	36.81	36.64	36.69	36.74
16	23	4	1964	21.7	21.7	21.4	19.9	19.6	36.81	36.81	36.81	36.84
17	14	5	1964	24.6	24.6	24.6	24.3	20.8	36.73	36.71	36.49	36.73
18	21	6	1964	28.3	28.3	27.9	26.8	23.5	36.76	36.76	36.71	36.00
19	11	7	1964	29.3	29.3	28.4	27.0	25.7	36.70	36.61	34.78	36.68
20	23	8	1964	29.7	29.7	29.7	29.7	27.7	36.84	32.82	32.83	36.36
21	19	9	1964	28.7	28.7	28.7	29.7	27.9	33.83	33.80	33.84	35.15
22	22	10	1964	23.3	23.3	23.8	23.9	23.5	35.70	35.67	35.84	35.92
23	12	11	1964	23.6	23.6	23.6	23.8	23.8	36.22	36.14	36.13	36.41
24	10	12	1964	20.3	20.3	20.3	20.3	20.3	36.32	36.30	36.30	36.46
25	16	1	1965	19.3	19.3	19.3	19.3	19.3	36.29	36.45	36.51	36.29
27	14	3	1965	18.6	18.6	18.5	19.0	17.1	36.73	36.73	36.84	36.67
28	16	4	1965	22.3	22.3	22.2	22.2	19.5	36.46	36.38	36.40	36.42
29	25	5	1965	25.4	25.4	25.3	24.7	21.7	36.64	36.64	36.65	36.71
30	14	6	1965	24.3	24.3	24.2	24.8	22.7	36.36	36.06	36.54	36.54
32	20	8	1965	29.3	29.2	29.2	29.5	27.1	32.47	32.97	34.58	36.68
34	30	10	1965	24.1	24.1	24.1	24.1	24.7	35.32	35.34	35.26	35.25
35	2	12	1965	22.9	22.4	22.9	22.8	22.7	35.71	35.71	35.68	35.61

Station	Date	Year	Temperature (°C)						Salinity (‰)				
			Depth (m)						Depth (m)				
			0	1	2	3	4	5	11	24	40	70	107
1	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
2	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
3	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
4	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
5	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
6	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
7	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
8	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
9	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
10	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
11	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
12	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
13	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
14	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
15	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
16	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
17	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
18	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
19	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
20	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
21	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
22	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
23	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
24	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
25	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
26	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
27	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
28	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
29	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1
30	1968	1968	17.1	17.1	17.1	17.1	17.1	17.1	36.1	36.1	36.1	36.1	36.1

Table 1. Monthly temperature and salinity observations at stations on transect 1, 1963-1967

STATION 1
 DATE 1968
 LATITUDE 42° 41' S
 LONGITUDE 173° 18' W

Station	Date	Year	Temperature (°C)						Salinity (‰)				
			Depth (m)						Depth (m)				
			0	1	2	3	4	5	11	24	40	70	107
1	1963	1963	12.2	12.2	12.2	12.2	12.2	12.2	36.30	36.32	36.32	36.32	36.32
2	1963	1963	20.7	20.7	20.7	20.7	20.7	20.7	36.42	36.83	36.83	36.83	36.83
3	1963	1963	23.6	23.6	23.6	23.6	23.6	23.6	36.42	36.83	36.83	36.83	36.83
4	1963	1963	28.4	28.4	28.4	28.4	28.4	28.4	36.42	36.83	36.83	36.83	36.83
5	1963	1963	29.9	29.9	29.9	29.9	29.9	29.9	36.42	36.83	36.83	36.83	36.83
6	1963	1963	30.2	30.2	30.2	30.2	30.2	30.2	36.42	36.83	36.83	36.83	36.83
7	1963	1963	26.2	26.2	26.2	26.2	26.2	26.2	36.42	36.83	36.83	36.83	36.83
8	1963	1963	25.4	25.4	25.4	25.4	25.4	25.4	36.42	36.83	36.83	36.83	36.83
9	1963	1963	18.2	18.2	18.2	18.2	18.2	18.2	36.42	36.83	36.83	36.83	36.83
10	1963	1963	11.1	11.1	11.1	11.1	11.1	11.1	36.42	36.83	36.83	36.83	36.83
11	1963	1963	10.9	10.9	10.9	10.9	10.9	10.9	36.42	36.83	36.83	36.83	36.83
12	1963	1963	14.5	14.5	14.5	14.5	14.5	14.5	36.42	36.83	36.83	36.83	36.83
13	1963	1963	28.3	28.3	28.3	28.3	28.3	28.3	36.42	36.83	36.83	36.83	36.83
14	1963	1963	28.7	28.7	28.7	28.7	28.7	28.7	36.42	36.83	36.83	36.83	36.83
15	1963	1963	28.6	28.6	28.6	28.6	28.6	28.6	36.42	36.83	36.83	36.83	36.83
16	1963	1963	29.6	29.6	29.6	29.6	29.6	29.6	36.42	36.83	36.83	36.83	36.83
17	1963	1963	27.1	27.1	27.1	27.1	27.1	27.1	36.42	36.83	36.83	36.83	36.83
18	1963	1963	25.8	25.8	25.8	25.8	25.8	25.8	36.42	36.83	36.83	36.83	36.83
19	1963	1963	25.8	25.8	25.8	25.8	25.8	25.8	36.42	36.83	36.83	36.83	36.83
20	1963	1963	25.8	25.8	25.8	25.8	25.8	25.8	36.42	36.83	36.83	36.83	36.83
21	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
22	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
23	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
24	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
25	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
26	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
27	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
28	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
29	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83
30	1963	1963	17.1	17.1	17.1	17.1	17.1	17.1	36.42	36.83	36.83	36.83	36.83

STATION: E-1
 DEPTH: 14 M
 LATITUDE: 29°42' N
 LONGITUDE: 93°20' W

ruise	Day	Month	Year	Temp of air (°C)	Temp of surface (°C)	Temp of water (°C)	Temp of bottom (°C)	Temp of air (°C)	Temp of surface (°C)	Temp of water (°C)	Temp of bottom (°C)
1	22	1	1963	12.1	12.0	11.9		11.9	11.8	11.7	11.6
2	29	2	1963	11.1	12.2	11.1		11.1	11.0	10.9	10.8
3	31	3	1963	10.1	10.1	10.1		10.1	10.0	9.9	9.8
4	21	4	1963	11.8	12.9	12.5		12.5	12.4	12.3	12.2
5	14	5	1963	20.5	20.8	20.3		20.3	20.2	20.1	20.0
6	23	6	1963	20.1	20.1	20.1		20.1	20.0	19.9	19.8
7	10	7	1963	20.5	20.5	20.5		20.5	20.4	20.3	20.2
8	23	8	1963	21.7	21.1	20.6		20.6	20.5	20.4	20.3
9	27	9	1963	22.1	22.1	22.1		22.1	22.0	21.9	21.8
10	20	10	1963	25.0	25.0	25.0		25.0	24.9	24.8	24.7
11	20	11	1963	20.7	20.7	20.7		20.7	20.6	20.5	20.4
12	16	12	1963	14.2	14.7	14.2		14.2	14.1	14.0	13.9
13	24	1	1964	11.3	11.3	10.4		10.4	10.3	10.2	10.1
14	5	2	1964	11.5	11.5	11.5		11.5	11.4	11.3	11.2
15	25	3	1964	15.4	15.4	15.0		15.0	14.9	14.8	14.7
17	18	4	1964	15.9	15.9	15.7		15.7	15.6	15.5	15.4
18	18	6	1964	15.9	15.9	15.7		15.7	15.6	15.5	15.4
19	14	7	1964	15.9	15.9	15.4		15.4	15.3	15.2	15.1
20	29	8	1964	16.4	16.4	16.1		16.1	16.0	15.9	15.8
21	21	9	1964	18.0	18.0	18.3		18.3	18.2	18.1	18.0
22	25	10	1964	18.5	18.5	18.1		18.1	18.0	17.9	17.8
22	15	11	1964	12.7	12.7	12.7		12.7	12.6	12.5	12.4
24	13	12	1964	16.9	16.9	16.2		16.2	16.1	16.0	15.9
25	15	1	1965	18.1	18.1	18.1		18.1	18.0	17.9	17.8
26	13	2	1965	14.5	14.5	14.5		14.5	14.4	14.3	14.2
27	17	3	1965	16.2	16.1	14.4		14.4	14.3	14.2	14.1
28	19	4	1965	14.4	14.4	14.1		14.1	14.0	13.9	13.8
29	19	5	1965	20.5	20.5	20.4		20.4	20.3	20.2	20.1
30	24	6	1965	20.1	20.1	20.0		20.0	19.9	19.8	19.7
32	24	6	1965	20.3	20.3	20.1		20.1	20.0	19.9	19.8
35	1	12	1965	19.7	19.6	19.0		19.0	18.9	18.8	18.7

STATION: E-2
 DEPTH: 20 M
 LATITUDE: 29°42' N
 LONGITUDE: 93°20' W

1	30	1	1963	17.8	17.8	17.4		17.4	17.3	17.2	17.1
2	29	2	1963	16.7	16.7	16.6		16.6	16.5	16.4	16.3
3	27	3	1963	15.7	15.6	15.6		15.6	15.4	15.4	15.4
4	24	4	1963	23.9	23.6	23.6		23.6	23.6	23.6	23.6
5	14	5	1963	25.1	24.8	24.7		24.7	24.1	24.1	24.1
6	19	6	1963	20.9	20.9	20.4		20.4	20.3	20.2	20.1
7	13	7	1963	20.1	20.8	19.6		19.6	19.5	19.4	19.3
8	17	8	1963	20.4	20.9	20.9		20.9	20.8	20.7	20.6
9	21	9	1963	20.1	20.1	20.1		20.1	20.1	20.1	20.1
10	20	10	1963	20.9	20.5	20.4		20.4	20.4	20.4	20.4
11	20	11	1963	22.0	22.5	22.7		22.7	22.7	22.7	22.7
12	10	12	1963	19.3	19.3	19.2		19.2	19.1	19.0	18.9
13	19	1	1964	13.3	13.3	13.2		13.2	13.2	13.2	13.2
14	24	2	1964	15.0	15.0	15.0		15.0	15.0	15.0	15.0
15	5	3	1964	15.1	15.1	15.1		15.1	15.1	15.1	15.1
16	22	4	1964	21.4	21.4	21.0		21.0	21.0	21.0	21.0
17	13	5	1964	24.4	24.4	24.1		24.1	24.1	24.1	24.1
18	22	6	1964	20.5	20.3	20.2		20.2	20.2	20.2	20.2
19	10	7	1964	20.0	20.0	19.8		19.8	19.8	19.8	19.8
20	21	8	1964	20.6	20.1	20.6		20.6	20.6	20.6	20.6
21	18	9	1964	20.9	20.9	20.8		20.8	20.8	20.8	20.8
22	21	10	1964	23.6	23.1	23.6		23.6	23.6	23.6	23.6
23	11	11	1964	22.7	22.7	22.8		22.8	22.8	22.8	22.8
24	9	12	1964	19.1	19.1	19.1		19.1	19.1	19.1	19.1
25	15	1	1965	18.7	18.6	18.5		18.5	18.4	18.4	18.4
27	13	3	1965	17.0	17.0	16.9		16.9	16.9	16.9	16.9
28	15	4	1965	22.1	22.1	22.3		22.3	22.3	22.3	22.3
29	20	5	1965	25.5	25.5	25.4		25.4	25.4	25.4	25.4
30	19	6	1965	26.4	26.4	26.7		26.7	26.7	26.7	26.7
32	19	6	1965	20.2	20.1	20.3		20.3	20.3	20.3	20.3
34	21	10	1965	23.7	23.7	23.7		23.7	23.7	23.7	23.7
35	1	12	1965	22.6	22.7	22.7		22.7	22.7	22.7	22.7

TATE, W. E.
DEPTH: 110 M
LATITUDE: 27°50' N
LONGITUDE: 135°20' W

Cruise	Day	Month	Year	Temperature (°C)							Salinity (‰)						
				Depth (M)							Depth (M)						
				0	3	11	24	45	75	107	0	3	11	24	45	75	107
1	09	1	1963	29.5	29.5	29.5	29.5	29.5	29.5	29.5	36.0	36.0	36.0	36.0	36.0	36.0	
2	21	2	1963	15.5	14.1	13.1	12.3	11.7	11.2	10.7	36.3	36.04	35.81	35.6	35.5	35.4	
3	27	3	1963	19.0	14.9	13.0	12.0	11.4	10.8	10.2	36.6	36.3	36.1	36.14	36.1	36.1	
5	15	5	1963	25.0	25.0	25.2	25.1	25.1	25.0	24.9	36.0	36.0	36.0	36.0	36.0	36.0	
6	19	6	1963	24.1	24.1	24.2	24.1	24.0	23.9	23.7	36.0	36.1	36.0	36.0	36.0	36.0	
7	11	7	1963	23.1	23.1	23.1	23.1	23.1	23.0	22.7	36.0	36.1	36.0	36.0	36.0	36.0	
8	17	8	1963	23.9	23.5	23.5	23.5	23.5	23.5	23.4	36.0	36.4	36.2	36.2	36.2	36.2	
8	25	8	1963	23.7	23.4	23.5	23.5	23.5	23.5	23.5	36.0	36.4	36.2	36.2	36.2	36.2	
10	11	10	1963	23.7	23.2	23.2	23.2	23.2	23.2	23.2	36.0	36.3	36.2	36.2	36.2	36.2	
11	21	11	1963	24.5	24.5	24.7	24.7	24.6	24.4	24.3	36.0	36.1	36.1	36.1	36.1	36.1	
12	11	12	1963	23.0	23.0	23.0	23.0	23.0	23.0	23.0	36.0	36.01	36.0	36.0	36.0	36.0	
13	28	1	1964	16.7	16.7	16.8	16.7	16.7	16.7	16.6	36.3	36.37	36.33	36.3	36.3	36.3	
14	24	2	1964	16.5	16.0	16.0	16.0	16.0	16.0	16.0	36.3	36.3	36.3	36.3	36.3	36.3	
15	5	3	1964	18.3	18.0	18.4	18.0	18.0	18.0	18.0	36.3	36.3	36.36	36.3	36.35	36.3	
16	5	4	1964	23.1	23.1	23.1	23.1	23.1	23.1	23.0	36.3	36.34	36.3	36.3	36.3	36.3	
17	17	5	1964	25.7	25.4	25.5	25.4	25.4	25.4	25.4	36.3	36.3	36.3	36.3	36.3	36.3	
18	21	5	1964	25.0	25.3	25.2	25.2	25.2	25.2	25.2	36.3	36.3	36.3	36.3	36.3	36.3	
19	19	7	1964	25.8	25.7	25.8	25.8	25.8	25.8	25.8	36.3	36.3	36.3	36.3	36.3	36.3	
20	21	8	1964	26.1	25.1	25.0	25.0	25.0	25.0	25.0	36.3	36.3	36.3	36.3	36.3	36.3	
21	18	9	1964	26.0	25.0	25.0	25.0	25.0	25.0	25.0	36.3	36.3	36.3	36.3	36.3	36.3	
22	25	10	1964	24.9	24.9	25.0	25.0	25.0	25.0	25.0	36.3	36.3	36.3	36.3	36.3	36.3	
23	11	11	1964	25.5	25.5	25.5	25.5	25.5	25.5	25.5	36.3	36.3	36.3	36.3	36.3	36.3	
24	9	12	1964	22.4	22.4	22.4	22.4	22.4	22.4	22.4	36.3	36.3	36.3	36.3	36.3	36.3	
25	16	1	1965	14.9	14.9	14.9	14.9	14.9	14.9	14.9	36.3	36.3	36.3	36.3	36.3	36.3	
26	15	4	1965	25.0	25.0	25.0	25.0	25.0	25.0	25.0	36.3	36.3	36.3	36.3	36.3	36.3	
27	20	5	1965	25.0	25.0	25.0	25.0	25.0	25.0	25.0	36.3	36.3	36.3	36.3	36.3	36.3	
28	19	6	1965	25.0	25.0	25.0	25.0	25.0	25.0	25.0	36.3	36.3	36.3	36.3	36.3	36.3	
29	19	7	1965	25.0	25.0	25.0	25.0	25.0	25.0	25.0	36.3	36.3	36.3	36.3	36.3	36.3	
30	14	8	1965	25.4	25.4	25.4	25.4	25.4	25.4	25.4	36.3	36.3	36.3	36.3	36.3	36.3	
31	21	10	1965	25.4	25.4	25.4	25.4	25.4	25.4	25.4	36.3	36.3	36.3	36.3	36.3	36.3	

Table 7. Water temperature and salinity profiles at station 131 from 1963 to 1965.

TATE, W. E.
DEPTH: 110 M
LATITUDE: 27°50' N
LONGITUDE: 135°20' W

Cruise	Day	Month	Year	Temperature (°C)							Salinity (‰)						
				Depth (M)							Depth (M)						
				0	3	11	24	45	75	107	0	3	11	24	45	75	107
2	11	3	1963	14.7	14.6						34.8	34.47	34.4				
3	5	4	1963	22.1	22.1						35.4	35.47	35.47				
4	5	5	1963	25.2	25.3						34.9	34.8	34.8				
5	14	5	1963	26.7	26.6						35.7	35.67	35.67				
6	1	7	1963	29.0	28.7						35.8	34.6	34.51				
7	17	7	1963	28.7	28.7						35.4	34.13	34.17				
8	28	7	1963	21.1	21.1						36.1	36.0	36.07				
9	1	11	1965	25.9	25.9						35.9	35.2	35.3				
10	1	11	1963	24.6	24.3						36.0	36.74	36.67				
11	30	11	1963	18.2	18.0						36.5	36.3	36.3				
12	19	12	1965	11.5	11.8						36.5	36.18	36.19				
13	26	1	1964	9.9	10.7						36.4	36.31	36.33				
14	19	2	1964	12.4	12.4						36.7	36.55	36.72				
15	22	2	1964	15.1	15.0						36.6	36.7	36.7				
16	15	4	1964	19.7	19.6						36.4	36.61	36.7				
17	22	5	1964	27.3	27.1						36.2	36.47	36.48				
18	24	6	1964	29.0	29.6						35.8	34.56	34.79				
19	16	7	1964	28.5	28.5						36.5	34.52	34.79				
20	24	8	1964	29.0	29.6						36.0	36.4	36.66				
21	25	8	1964	28.5	28.6						36.5	36.45	36.41				
22	28	1	1964	23.9	23.9						36.9	36.96	36.96				
23	19	11	1964	23.5	23.5						36.5	36.10	36.15				
24	19	12	1964	12.1	12.1						36.1	36.01	36.01				
25	1	1	1965	15.4	15.4						36.6	36.45	36.41				
26	26	2	1965	13.8	14.2						36.2	36.78	36.13				
27	20	7	1965	14.7	14.7						36.5	36.16	36.12				
28	23	4	1965	23.9	23.9						36.8	36.9	36.91				
29	2	6	1965	27.3	27.3						36.4	36.0	36.0				
30	15	6	1965	29.3	28.6						36.4	34.70	35.68				
32	11	8	1965	29.0	28.9						36.7	34.84	35.07				
33	8	9	1965	29.8	29.7						36.6	36.0	36.0				
35	9	12	1965	17.3	17.2						36.1	36.0	36.0				

Date	Time	Lat	Long	Temperature (°C)					Salinity (‰)								
				Depth (m)					Depth (m)								
				0	1	2	3	4	11	24	43	52	107				
1963	22	11	163	17.5	17.0	16.5	16.3	16.2	16.1	16.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	17.0	16.5	16.0	15.8	15.7	15.6	15.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	16.5	16.0	15.5	15.3	15.2	15.1	15.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	16.0	15.5	15.0	14.8	14.7	14.6	14.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	15.5	15.0	14.5	14.3	14.2	14.1	14.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	15.0	14.5	14.0	13.8	13.7	13.6	13.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	14.5	14.0	13.5	13.3	13.2	13.1	13.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	14.0	13.5	13.0	12.8	12.7	12.6	12.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	13.5	13.0	12.5	12.3	12.2	12.1	12.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	13.0	12.5	12.0	11.8	11.7	11.6	11.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	12.5	12.0	11.5	11.3	11.2	11.1	11.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	12.0	11.5	11.0	10.8	10.7	10.6	10.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	11.5	11.0	10.5	10.3	10.2	10.1	10.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	11.0	10.5	10.0	9.8	9.7	9.6	9.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	10.5	10.0	9.5	9.3	9.2	9.1	9.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	10.0	9.5	9.0	8.8	8.7	8.6	8.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	9.5	9.0	8.5	8.3	8.2	8.1	8.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	9.0	8.5	8.0	7.8	7.7	7.6	7.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	8.5	8.0	7.5	7.3	7.2	7.1	7.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	8.0	7.5	7.0	6.8	6.7	6.6	6.5	35.4	35.41	35.41	35.42	35.4	35.41	35.5
1963	22	11	163	7.5	7.0	6.5	6.3	6.2	6.1	6.0	35.4	35.41	35.41	35.42	35.4	35.41	35.5

Table 1. Mean temperature and salinity by month at station W-11 (L-194) during 1963-1965

JAC = Japanese Coast Guard
 USN = U.S. Navy
 ADIT = U.S. Army Detachment
 USIPDE = U.S. Intelligence Personnel

Date	Day	Month	Year	Temperature (°C)					Salinity (‰)						
				Depth (m)					Depth (m)						
				0	1	2	3	4	11	24	43	52	107		
1963	5	2	1963	13.8	13.7	13.6	13.5	13.4	13.3	31.72	31.73	31.73	31.73	31.73	31.73
1963	7	4	1963	20.8	20.6	20.5	20.4	20.3	20.2	35.41	35.41	35.41	35.41	35.41	35.41
1963	10	3	1963	24.5	24.2	24.1	24.0	23.9	23.8	35.41	35.41	35.41	35.41	35.41	35.41
1963	11	3	1963	9.4	9.3	9.2	9.1	9.0	8.9	34.77	34.78	34.78	34.78	34.78	34.78
1963	17	3	1963	26.7	26.7	26.6	26.5	26.4	26.3	35.4	35.4	35.4	35.4	35.4	35.4
1963	24	3	1963	24.1	24.1	24.0	23.9	23.8	23.7	35.4	35.4	35.4	35.4	35.4	35.4
1963	28	3	1963	24.1	24.1	24.0	23.9	23.8	23.7	35.4	35.4	35.4	35.4	35.4	35.4
1963	4	11	1963	13.1	13.0	12.9	12.8	12.7	12.6	31.73	31.73	31.73	31.73	31.73	31.73
1963	11	12	1963	14.7	14.7	14.6	14.5	14.4	14.3	34.78	34.78	34.78	34.78	34.78	34.78
1963	18	12	1963	11.1	11.1	11.0	10.9	10.8	10.7	31.73	31.73	31.73	31.73	31.73	31.73
1964	3	1	1964	13.2	13.2	13.1	13.0	12.9	12.8	31.73	31.73	31.73	31.73	31.73	31.73
1964	13	1	1964	13.4	13.4	13.3	13.2	13.1	13.0	34.78	34.78	34.78	34.78	34.78	34.78
1964	21	1	1964	16.1	16.1	16.0	15.9	15.8	15.7	33.32	33.32	33.32	33.32	33.32	33.32
1964	18	4	1964	21.1	21.0	20.9	20.8	20.7	20.6	34.78	34.78	34.78	34.78	34.78	34.78
1964	25	4	1964	23.7	23.7	23.6	23.5	23.4	23.3	35.4	35.4	35.4	35.4	35.4	35.4
1964	17	6	1964	29.7	29.7	29.6	29.5	29.4	29.3	35.4	35.4	35.4	35.4	35.4	35.4
1964	19	6	1964	29.6	29.6	29.5	29.4	29.3	29.2	35.4	35.4	35.4	35.4	35.4	35.4
1964	1	8	1964	29.3	29.3	29.2	29.1	29.0	28.9	35.4	35.4	35.4	35.4	35.4	35.4
1964	25	8	1964	28.3	28.3	28.2	28.1	28.0	27.9	35.4	35.4	35.4	35.4	35.4	35.4
1964	31	10	1964	22.7	22.7	22.6	22.5	22.4	22.3	32.76	32.76	32.76	32.76	32.76	32.76
1964	8	11	1964	17.7	17.7	17.6	17.5	17.4	17.3	31.73	31.73	31.73	31.73	31.73	31.73
1964	16	12	1964	13.9	13.9	13.8	13.7	13.6	13.5	31.12	31.12	31.12	31.12	31.12	31.12
1965	10	1	1965	15.7	15.7	15.6	15.5	15.4	15.3	30.52	30.52	30.52	30.52	30.52	30.52
1965	1	3	1965	15.9	15.9	15.8	15.7	15.6	15.5	34.53	34.53	34.53	34.53	34.53	34.53
1965	25	3	1965	16.5	16.4	16.3	16.2	16.1	16.0	31.10	31.10	31.10	31.10	31.10	31.10
1965	10	4	1965	24.4	24.4	24.3	24.2	24.1	24.0	30.81	30.81	30.81	30.81	30.81	30.81
1965	29	5	1965	26.8	26.8	26.7	26.6	26.5	26.4	20.15	20.15	20.15	20.15	20.15	20.15
1965	14	6	1965	30.1	30.1	30.0	29.9	29.8	29.7	26.21	26.21	26.21	26.21	26.21	26.21
1965	14	6	1965	29.1	29.1	29.0	28.9	28.8	28.7	34.78	34.78	34.78	34.78	34.78	34.78
1965	12	7	1965	28.3	28.3	28.2	28.1	28.0	27.9	35.4	35.4	35.4	35.4	35.4	35.4
1965	11	12	1965	14.4	14.4	14.3	14.2	14.1	14.0	29.36	29.36	29.36	29.36	29.36	29.36

Table 8. (continued)

STATION: W-13
 DEPTH: 14 M
 LATITUDE: 28°19' N
 LONGITUDE: 96°21' W

Cruise	Day	Month	Year	Temperature (°C)								Salinity		
				Depth (M)								Depth (M)		
				0	3	11	24	43	70	107	8	11	24	
2	8	4	1963	14.1	14.1	12.8					12.9	32.75	32.75	31.75
3	7	4	1964	20.8	20.8	20.8					19.8	30.71	30.71	29.00
4	3	5	1964	24.7	24.7	24.7					24.7	28.45	28.45	25.41
5	22	7	1964	26.2	26.2	24.4					25.1	30.32	30.42	28.72
7	14	7	1964	23.2	23.2	22.0					24.1	30.47	30.39	28.10
8	28	8	1964	20.3	20.3	20.3					20.3	32.03	32.03	30.42
9	5	10	1964	25.4	25.8	26.0					26.2	30.63	30.57	28.71
10	4	11	1964	23.4	23.4	23.3					23.3	32.07	32.04	30.32
11	1	12	1964	17.4	17.4	19.2					19.2	32.61	32.4	30.95
12	20	12	1964	13.3	13.3	13.3					13.2	33.06	33.06	32.50
13	30	1	1964	11.1	11.0	10.9					10.9	32.98	32.84	32.80
14	19	2	1964	13.8	13.8	13.8					13.8	35.73	35.67	35.09
15	21	3	1964	16.2	16.0	15.6					15.0	32.88	32.80	32.04
16	18	4	1964	20.8	20.5	19.9					19.1	27.36	27.61	26.32
17	25	7	1964	00.0	00.0	00.0					0.0	27.17	28.04	27.47
18	27	6	1964	28.9	28.9	27.9					27.9	33.97	33.90	33.47
19	19	7	1964	26.2	26.2	26.1					26.1	32.00	32.1	30.52
20	1	8	1964	29.2	29.0	27.9					27.9	30.28	30.27	28.73
21	25	9	1964	18.4	28.3	28.3					28.3	33.08	32.86	32.23
22	31	10	1964	22.6	22.6	22.6					22.6	32.80	32.82	32.81
23	4	11	1964	18.5	18.5	18.8					18.4	32.05	32.10	30.40
24	18	11	1964	14.4	14.4	14.4					14.4	31.71	31.73	31.77
25	10	1	1965	15.4	15.4	15.4					15.7	32.53	32.46	31.81
26	1	3	1965	16.2	16.2	16.2					16.2	34.19	34.56	33.00
27	24	3	1965	16.7	16.5	15.7					15.0	31.78	31.87	32.25
28	25	4	1965	24.7	24.3	23.3					23.0	32.96	32.7	31.11
29	24	5	1965	27.0	27.0	26.2					25.5	32.12	32.40	29.42
30	14	6	1965	30.6	28.0	25.1					25.1	28.08	28.19	27.88
32	14	8	1965	29.2	29.1	28.4					28.6	34.82	34.86	35.10
33	12	9	1965	29.2	29.2	29.2					29.1	30.00	30.09	29.60
35	12	12	1965	19.0	19.0	20.2					20.1	28.73	30.44	32.74

STATION: W-14
 DEPTH: 28 M
 LATITUDE: 28°17' N
 LONGITUDE: 96°13'30" W

2	8	7	1963	15.6	14.7	14.1	14.7				15.1	30.30	30.20	28.96	25.88
3	4	4	1963	19.5	19.5	19.2	19.7				19.4	33.64	33.81	35.13	30.27
4	2	5	1963	23.6	23.7	23.0	23.6				23.5	33.75	33.84	33.82	24.67
5	21	5	1963	26.0	26.0	25.4	25.7				26.2	35.15	35.10	35.47	33.07
6	27	6	1963	27.5	27.7	27.7	24.7				24.7	36.38	36.36	36.40	36.32
7	16	7	1963	27.8	27.7	27.7	23.9				23.7	36.44	36.45	36.54	36.41
8	30	8	1963	29.3	29.3	29.3	23.9				23.3	37.04	36.94	36.96	36.61
9	3	10	1963	27.5	27.5	27.5	27.5				27.5	36.11	36.14	36.24	36.40
10	1	11	1963	25.6	25.6	25.4	25.6				25.5	36.44	36.32	36.37	36.32
11	1	12	1963	19.4	19.4	19.6	20.4				20.3	35.54	35.05	35.94	36.14
12	20	12	1963	18.6	18.4	18.6	18.7				17.9	36.79	36.69	36.71	36.78
13	28	1	1964	17.4	17.4	17.4	17.3				15.0	36.19	36.03	36.59	36.12
14	19	1	1964	16.1	16.1	16.0	15.9				15.9	36.74	36.78	36.70	36.65
15	22	3	1964	16.8	16.8	16.8	16.8				16.8	36.22	36.18	36.20	36.29
16	16	4	1964	18.8	18.8	18.5	18.2				18.2	35.36	35.46	35.46	36.06
17	23	5	1964	26.3	26.2	25.4	23.6				23.2	26.42	26.48	30.21	35.40
18	26	6	1964	28.5	28.3	28.2	24.0				23.9	33.57	33.35	33.45	35.79
19	17	7	1964	27.5	27.5	27.4	21.8				21.8	36.47	36.39	36.23	36.40
20	30	8	1964	29.3	28.8	28.6	28.1				28.0	36.79	36.60	36.70	36.71
21	28	4	1964	28.4	28.4	28.4	28.3				28.3	35.17	35.16	35.22	35.31
22	29	10	1964	24.0	24.0	24.1	24.3				24.3	35.48	35.52	35.55	35.68
23	26	11	1964	21.6	21.6	21.6	21.6				22.5	35.57	35.49	36.00	35.50
24	17	12	1964	18.6	18.4	18.6	18.5				18.3	35.14	35.11	35.23	35.24
25	6	1	1965	16.9	00.0	00.0	00.0				17.4	34.29	34.29	34.80	35.50
26	27	2	1965	14.7	00.0	00.0	00.0				13.4	31.78	31.53	35.18	36.54
27	22	3	1965	15.7	00.0	00.0	00.0				15.7	35.24	35.14	35.41	35.45
28	24	4	1965	22.0	00.0	00.0	00.0				20.5	35.08	35.05	35.27	35.50
29	29	5	1965	26.1	00.0	00.0	00.0				24.3	31.73	31.20	35.35	26.36
30	13	6	1965	29.1	00.0	00.0	00.0				24.0	27.83	28.03	29.94	35.41
32	12	8	1965	26.7	00.0	00.0	00.0				27.1	35.60	35.63	35.56	31.35
33	11	4	1965	24.3	29.2	29.1	28.9				28.9	00.00	00.00	00.00	00.00
35	10	12	1965	21.3	21.3	21.3	21.2				21.2	34.92	34.87	34.81	34.79

STATION: W-87
DEPTH: 27.4 m
SITE: 16° 45' N
W-87

Date	Time	Month	Year	Temperature			St. No.	Salinity				
				Depth (m)				Depth (m)				
				11	24	41		11	24	41	51	107
1963	1	1	1963	29.3	29.3	29.3	151	35.1	35.1	35.1	35.1	35.1
1963	4	4	1963	29.3	29.3	29.3	152	35.1	35.1	35.1	35.1	35.1
1963	7	7	1963	29.3	29.3	29.3	153	35.1	35.1	35.1	35.1	35.1
1963	10	10	1963	29.3	29.3	29.3	154	35.1	35.1	35.1	35.1	35.1
1963	13	13	1963	29.3	29.3	29.3	155	35.1	35.1	35.1	35.1	35.1
1963	16	16	1963	29.3	29.3	29.3	156	35.1	35.1	35.1	35.1	35.1
1963	19	19	1963	29.3	29.3	29.3	157	35.1	35.1	35.1	35.1	35.1
1963	22	22	1963	29.3	29.3	29.3	158	35.1	35.1	35.1	35.1	35.1
1963	25	25	1963	29.3	29.3	29.3	159	35.1	35.1	35.1	35.1	35.1
1963	28	28	1963	29.3	29.3	29.3	160	35.1	35.1	35.1	35.1	35.1
1963	31	31	1963	29.3	29.3	29.3	161	35.1	35.1	35.1	35.1	35.1
1964	3	3	1964	29.3	29.3	29.3	162	35.1	35.1	35.1	35.1	35.1
1964	6	6	1964	29.3	29.3	29.3	163	35.1	35.1	35.1	35.1	35.1
1964	9	9	1964	29.3	29.3	29.3	164	35.1	35.1	35.1	35.1	35.1
1964	12	12	1964	29.3	29.3	29.3	165	35.1	35.1	35.1	35.1	35.1
1964	15	15	1964	29.3	29.3	29.3	166	35.1	35.1	35.1	35.1	35.1
1964	18	18	1964	29.3	29.3	29.3	167	35.1	35.1	35.1	35.1	35.1
1964	21	21	1964	29.3	29.3	29.3	168	35.1	35.1	35.1	35.1	35.1
1964	24	24	1964	29.3	29.3	29.3	169	35.1	35.1	35.1	35.1	35.1
1964	27	27	1964	29.3	29.3	29.3	170	35.1	35.1	35.1	35.1	35.1
1964	30	30	1964	29.3	29.3	29.3	171	35.1	35.1	35.1	35.1	35.1
1965	1	1	1965	29.3	29.3	29.3	172	35.1	35.1	35.1	35.1	35.1
1965	4	4	1965	29.3	29.3	29.3	173	35.1	35.1	35.1	35.1	35.1
1965	7	7	1965	29.3	29.3	29.3	174	35.1	35.1	35.1	35.1	35.1
1965	10	10	1965	29.3	29.3	29.3	175	35.1	35.1	35.1	35.1	35.1
1965	13	13	1965	29.3	29.3	29.3	176	35.1	35.1	35.1	35.1	35.1
1965	16	16	1965	29.3	29.3	29.3	177	35.1	35.1	35.1	35.1	35.1
1965	19	19	1965	29.3	29.3	29.3	178	35.1	35.1	35.1	35.1	35.1
1965	22	22	1965	29.3	29.3	29.3	179	35.1	35.1	35.1	35.1	35.1
1965	25	25	1965	29.3	29.3	29.3	180	35.1	35.1	35.1	35.1	35.1
1965	28	28	1965	29.3	29.3	29.3	181	35.1	35.1	35.1	35.1	35.1
1965	31	31	1965	29.3	29.3	29.3	182	35.1	35.1	35.1	35.1	35.1
1966	3	3	1966	29.3	29.3	29.3	183	35.1	35.1	35.1	35.1	35.1
1966	6	6	1966	29.3	29.3	29.3	184	35.1	35.1	35.1	35.1	35.1
1966	9	9	1966	29.3	29.3	29.3	185	35.1	35.1	35.1	35.1	35.1
1966	12	12	1966	29.3	29.3	29.3	186	35.1	35.1	35.1	35.1	35.1
1966	15	15	1966	29.3	29.3	29.3	187	35.1	35.1	35.1	35.1	35.1
1966	18	18	1966	29.3	29.3	29.3	188	35.1	35.1	35.1	35.1	35.1
1966	21	21	1966	29.3	29.3	29.3	189	35.1	35.1	35.1	35.1	35.1
1966	24	24	1966	29.3	29.3	29.3	190	35.1	35.1	35.1	35.1	35.1
1966	27	27	1966	29.3	29.3	29.3	191	35.1	35.1	35.1	35.1	35.1
1966	30	30	1966	29.3	29.3	29.3	192	35.1	35.1	35.1	35.1	35.1
1967	1	1	1967	29.3	29.3	29.3	193	35.1	35.1	35.1	35.1	35.1
1967	4	4	1967	29.3	29.3	29.3	194	35.1	35.1	35.1	35.1	35.1
1967	7	7	1967	29.3	29.3	29.3	195	35.1	35.1	35.1	35.1	35.1
1967	10	10	1967	29.3	29.3	29.3	196	35.1	35.1	35.1	35.1	35.1
1967	13	13	1967	29.3	29.3	29.3	197	35.1	35.1	35.1	35.1	35.1
1967	16	16	1967	29.3	29.3	29.3	198	35.1	35.1	35.1	35.1	35.1
1967	19	19	1967	29.3	29.3	29.3	199	35.1	35.1	35.1	35.1	35.1
1967	22	22	1967	29.3	29.3	29.3	200	35.1	35.1	35.1	35.1	35.1
1967	25	25	1967	29.3	29.3	29.3	201	35.1	35.1	35.1	35.1	35.1
1967	28	28	1967	29.3	29.3	29.3	202	35.1	35.1	35.1	35.1	35.1
1967	31	31	1967	29.3	29.3	29.3	203	35.1	35.1	35.1	35.1	35.1
1968	3	3	1968	29.3	29.3	29.3	204	35.1	35.1	35.1	35.1	35.1
1968	6	6	1968	29.3	29.3	29.3	205	35.1	35.1	35.1	35.1	35.1
1968	9	9	1968	29.3	29.3	29.3	206	35.1	35.1	35.1	35.1	35.1
1968	12	12	1968	29.3	29.3	29.3	207	35.1	35.1	35.1	35.1	35.1
1968	15	15	1968	29.3	29.3	29.3	208	35.1	35.1	35.1	35.1	35.1
1968	18	18	1968	29.3	29.3	29.3	209	35.1	35.1	35.1	35.1	35.1
1968	21	21	1968	29.3	29.3	29.3	210	35.1	35.1	35.1	35.1	35.1
1968	24	24	1968	29.3	29.3	29.3	211	35.1	35.1	35.1	35.1	35.1
1968	27	27	1968	29.3	29.3	29.3	212	35.1	35.1	35.1	35.1	35.1
1968	30	30	1968	29.3	29.3	29.3	213	35.1	35.1	35.1	35.1	35.1
1969	1	1	1969	29.3	29.3	29.3	214	35.1	35.1	35.1	35.1	35.1
1969	4	4	1969	29.3	29.3	29.3	215	35.1	35.1	35.1	35.1	35.1
1969	7	7	1969	29.3	29.3	29.3	216	35.1	35.1	35.1	35.1	35.1
1969	10	10	1969	29.3	29.3	29.3	217	35.1	35.1	35.1	35.1	35.1
1969	13	13	1969	29.3	29.3	29.3	218	35.1	35.1	35.1	35.1	35.1
1969	16	16	1969	29.3	29.3	29.3	219	35.1	35.1	35.1	35.1	35.1
1969	19	19	1969	29.3	29.3	29.3	220	35.1	35.1	35.1	35.1	35.1
1969	22	22	1969	29.3	29.3	29.3	221	35.1	35.1	35.1	35.1	35.1
1969	25	25	1969	29.3	29.3	29.3	222	35.1	35.1	35.1	35.1	35.1
1969	28	28	1969	29.3	29.3	29.3	223	35.1	35.1	35.1	35.1	35.1
1969	31	31	1969	29.3	29.3	29.3	224	35.1	35.1	35.1	35.1	35.1

STATION: W-87
DEPTH: 27.4 m
SITE: 16° 45' N
W-87

TABLE 3. W-14
DEPTH 2 M
LATITUDE 32°54' N
LONGITUDE 117°01' W

Date	Day	Month	Year	Temperature (°C)						Salinity (ppt)	
				1	2	3	4	5	6	7	8
	2	8	1963	18.3	18.7					19.9	34.5
	4	8	1963	17.8	20.0					34.41	34.5
	6	8	1963	17.9	20.0					34.4	34.5
	8	8	1963	18.1	20.1					34.4	34.5
	10	8	1963	18.0	20.0					34.4	34.5
	12	8	1963	18.2	20.1					34.4	34.5
	14	8	1963	18.4	20.2					34.4	34.5
	16	8	1963	18.3	20.1					34.4	34.5
	18	8	1963	18.1	19.9					34.4	34.5
	20	8	1963	17.9	19.8					34.4	34.5
	22	8	1963	17.7	19.6					34.4	34.5
	24	8	1963	17.5	19.4					34.4	34.5
	26	8	1963	17.3	19.2					34.4	34.5
	28	8	1963	17.1	19.0					34.4	34.5
	30	8	1963	16.9	18.8					34.4	34.5
	1	9	1964	16.7	18.6					34.4	34.5
	3	9	1964	16.5	18.4					34.4	34.5
	5	9	1964	16.3	18.2					34.4	34.5
	7	9	1964	16.1	18.0					34.4	34.5
	9	9	1964	15.9	17.8					34.4	34.5
	11	9	1964	15.7	17.6					34.4	34.5
	13	9	1964	15.5	17.4					34.4	34.5
	15	9	1964	15.3	17.2					34.4	34.5
	17	9	1964	15.1	17.0					34.4	34.5
	19	9	1964	14.9	16.8					34.4	34.5
	21	9	1964	14.7	16.6					34.4	34.5
	23	9	1964	14.5	16.4					34.4	34.5
	25	9	1964	14.3	16.2					34.4	34.5
	27	9	1964	14.1	16.0					34.4	34.5
	29	9	1964	13.9	15.8					34.4	34.5
	1	10	1964	13.7	15.6					34.4	34.5
	3	10	1964	13.5	15.4					34.4	34.5
	5	10	1964	13.3	15.2					34.4	34.5
	7	10	1964	13.1	15.0					34.4	34.5
	9	10	1964	12.9	14.8					34.4	34.5
	11	10	1964	12.7	14.6					34.4	34.5
	13	10	1964	12.5	14.4					34.4	34.5
	15	10	1964	12.3	14.2					34.4	34.5
	17	10	1964	12.1	14.0					34.4	34.5
	19	10	1964	11.9	13.8					34.4	34.5
	21	10	1964	11.7	13.6					34.4	34.5
	23	10	1964	11.5	13.4					34.4	34.5
	25	10	1964	11.3	13.2					34.4	34.5
	27	10	1964	11.1	13.0					34.4	34.5
	29	10	1964	10.9	12.8					34.4	34.5
	1	11	1964	10.7	12.6					34.4	34.5
	3	11	1964	10.5	12.4					34.4	34.5
	5	11	1964	10.3	12.2					34.4	34.5
	7	11	1964	10.1	12.0					34.4	34.5
	9	11	1964	9.9	11.8					34.4	34.5
	11	11	1964	9.7	11.6					34.4	34.5
	13	11	1964	9.5	11.4					34.4	34.5
	15	11	1964	9.3	11.2					34.4	34.5
	17	11	1964	9.1	11.0					34.4	34.5
	19	11	1964	8.9	10.8					34.4	34.5
	21	11	1964	8.7	10.6					34.4	34.5
	23	11	1964	8.5	10.4					34.4	34.5
	25	11	1964	8.3	10.2					34.4	34.5
	27	11	1964	8.1	10.0					34.4	34.5
	29	11	1964	7.9	9.8					34.4	34.5
	1	12	1964	7.7	9.6					34.4	34.5
	3	12	1964	7.5	9.4					34.4	34.5
	5	12	1964	7.3	9.2					34.4	34.5
	7	12	1964	7.1	9.0					34.4	34.5
	9	12	1964	6.9	8.8					34.4	34.5
	11	12	1964	6.7	8.6					34.4	34.5
	13	12	1964	6.5	8.4					34.4	34.5
	15	12	1964	6.3	8.2					34.4	34.5
	17	12	1964	6.1	8.0					34.4	34.5
	19	12	1964	5.9	7.8					34.4	34.5
	21	12	1964	5.7	7.6					34.4	34.5
	23	12	1964	5.5	7.4					34.4	34.5
	25	12	1964	5.3	7.2					34.4	34.5
	27	12	1964	5.1	7.0					34.4	34.5
	29	12	1964	4.9	6.8					34.4	34.5
	1	1	1965	4.7	6.6					34.4	34.5
	3	1	1965	4.5	6.4					34.4	34.5
	5	1	1965	4.3	6.2					34.4	34.5
	7	1	1965	4.1	6.0					34.4	34.5
	9	1	1965	3.9	5.8					34.4	34.5
	11	1	1965	3.7	5.6					34.4	34.5
	13	1	1965	3.5	5.4					34.4	34.5
	15	1	1965	3.3	5.2					34.4	34.5
	17	1	1965	3.1	5.0					34.4	34.5
	19	1	1965	2.9	4.8					34.4	34.5
	21	1	1965	2.7	4.6					34.4	34.5
	23	1	1965	2.5	4.4					34.4	34.5
	25	1	1965	2.3	4.2					34.4	34.5
	27	1	1965	2.1	4.0					34.4	34.5
	29	1	1965	1.9	3.8					34.4	34.5
	1	2	1965	1.7	3.6					34.4	34.5
	3	2	1965	1.5	3.4					34.4	34.5
	5	2	1965	1.3	3.2					34.4	34.5
	7	2	1965	1.1	3.0					34.4	34.5
	9	2	1965	0.9	2.8					34.4	34.5
	11	2	1965	0.7	2.6					34.4	34.5
	13	2	1965	0.5	2.4					34.4	34.5
	15	2	1965	0.3	2.2					34.4	34.5
	17	2	1965	0.1	2.0					34.4	34.5
	19	2	1965	-0.1	1.8					34.4	34.5
	21	2	1965	-0.3	1.6					34.4	34.5
	23	2	1965	-0.5	1.4					34.4	34.5
	25	2	1965	-0.7	1.2					34.4	34.5
	27	2	1965	-0.9	1.0					34.4	34.5
	29	2	1965	-1.1	0.8					34.4	34.5
	1	3	1965	-1.3	0.6					34.4	34.5
	3	3	1965	-1.5	0.4					34.4	34.5
	5	3	1965	-1.7	0.2					34.4	34.5
	7	3	1965	-1.9	0.0					34.4	34.5
	9	3	1965	-2.1	-0.2					34.4	34.5
	11	3	1965	-2.3	-0.4					34.4	34.5
	13	3	1965	-2.5	-0.6					34.4	34.5
	15	3	1965	-2.7	-0.8					34.4	34.5
	17	3	1965	-2.9	-1.0					34.4	34.5
	19	3	1965	-3.1	-1.2					34.4	34.5
	21	3	1965	-3.3	-1.4					34.4	34.5
	23	3	1965	-3.5	-1.6					34.4	34.5
	25	3	1965	-3.7	-1.8					34.4	34.5
	27	3	1965	-3.9	-2.0					34.4	34.5
	29	3	1965	-4.1	-2.2					34.4	34.5
	1	4	1965	-4.3	-2.4					34.4	34.5
	3	4	1965	-4.5	-2.6					34.4	34.5
	5	4	1965	-4.7	-2.8					34.4	34.5
	7	4	1965	-4.9	-3.0					34.4	34.5
	9	4	1965	-5.1	-3.2					34.4	34.5
	11	4	1965	-5.3	-3.4					34.4	34.5
	13	4	1965	-5.5	-3.6					34.4	34.5
	15	4	1965	-5.7	-3.8					34.4	34.5
	17	4	1965	-5.9	-4.0					34.4	34.5
	19	4	1965	-6.1	-4.2					34.4	34.5
	21	4	1965	-6.3	-4.4					34.4	34.5
	23	4	1965	-6.5	-4.6					34.4	34.5
	25	4	1965	-6.7	-4.8					34.4	34.5
	27	4	1965	-6.9	-5.0					34.4	34.5
	29	4	1965	-7.1	-5.2					34.4	34.5
	1	5	1965	-7.3	-5.4					34.4	34.5
	3	5	1965	-7.5	-5.6					34.4	34.5
	5	5	1965	-7.7	-5.8					34.4	34.5
	7	5	1965	-7.9	-6.0					34.4	34.5
	9	5	1965	-8.1	-6.2					34.4	34.5
	11	5	1965	-8.3	-6.4					34.4	34.5
	13	5	1965	-8.5	-6.6					34.4	34.5
	15	5	1965	-8.7	-6.8					34.4	34.5
	17	5	1965	-8.9	-7.0					34.4	34.5
	19	5	1965	-9.1	-7.2					34.4	34.5
	21	5	1965	-9.3	-7.4					34.4	34.5
	23	5	1965	-9.5	-7.6					34.4	34.5
	25	5	1965	-9.7	-7.8						

Year	Month	Year	Temperature				Precipitation			
			Mean (mm)				Depth (mm)			
			11	12	1	2	11	12	1	2
1963	4	1963	11.5	11.5	11.5	11.5	34.44	34.31	35.1	35.83
1963	5	1963	12.0	12.0	12.0	12.0	29.44	29.55	30.4	31.17
1963	6	1963	12.5	12.5	12.5	12.5	30.66	30.72	31.27	32.11
1963	7	1963	12.7	12.7	12.7	12.7	30.02	30.17	30.1	30.89
1963	8	1963	12.7	12.7	12.7	12.7	26.52	26.4	26.4	26.44
1963	9	1963	12.9	12.9	12.9	12.9	26.49	26.4	26.4	26.44
1963	10	1963	13.0	13.0	13.0	13.0	26.14	26.4	26.47	26.4
1963	11	1963	13.0	13.0	13.0	13.0	31.33	31.4	31.47	31.8
1963	12	1963	13.0	13.0	13.0	13.0	36.18	36.1	36.1	36.1
1964	1	1964	13.2	13.2	13.2	13.2	31.3	31.3	31.3	31.3
1964	2	1964	13.2	13.2	13.2	13.2	30.36	30.1	30.14	30.1
1964	3	1964	13.2	13.2	13.2	13.2	30.1	30.27	30.4	30.44
1964	4	1964	13.2	13.2	13.2	13.2	31.22	31.25	31.24	31.25
1964	5	1964	13.2	13.2	13.2	13.2	30.28	30.28	30.26	30.2
1964	6	1964	13.3	13.3	13.3	13.3	29.07	29.04	29.1	29.1
1964	7	1964	13.3	13.3	13.3	13.3	31.1	31.1	31.1	31.1
1964	8	1964	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1964	9	1964	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1964	10	1964	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1964	11	1964	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1964	12	1964	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	1	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	2	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	3	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	4	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	5	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	6	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	7	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	8	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	9	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	10	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	11	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24
1965	12	1965	13.3	13.3	13.3	13.3	31.24	31.24	31.24	31.24

WINDS W=22
 PRESSURE 98.8
 ALTITUDE 27.11' N
 SLIPPER 9.53' W

1965	1	1965	13.3	13.3	13.3	13.3	14.5	36.29	36.44	36.41	36.46	36.29
1965	2	1965	13.3	13.3	13.3	13.3	14.5	31.43	31.43	31.47	31.47	31.47
1965	3	1965	13.3	13.3	13.3	13.3	14.5	34.74	33.69	33.4	33.46	33.45
1965	4	1965	13.3	13.3	13.3	13.3	14.5	36.51	36.32	36.33	36.38	36.43
1965	5	1965	13.3	13.3	13.3	13.3	14.5	36.57	36.34	36.32	36.35	36.34
1965	6	1965	13.3	13.3	13.3	13.3	14.5	36.46	36.31	36.45	36.46	36.49
1965	7	1965	13.3	13.3	13.3	13.3	14.5	36.42	36.28	36.3	36.35	36.37
1965	8	1965	13.3	13.3	13.3	13.3	14.5	35.44	35.44	35.51	36.12	36.34
1965	9	1965	13.3	13.3	13.3	13.3	14.5	36.54	36.47	36.52	36.56	36.50
1965	10	1965	13.3	13.3	13.3	13.3	14.5	36.50	36.59	36.45	36.54	36.55
1965	11	1965	13.3	13.3	13.3	13.3	14.5	36.60	36.59	36.59	36.61	36.7
1965	12	1965	13.3	13.3	13.3	13.3	14.5	35.74	35.74	35.69	36.05	36.39
1966	1	1966	13.3	13.3	13.3	13.3	14.5	36.62	36.59	36.55	36.67	36.74
1966	2	1966	13.3	13.3	13.3	13.3	14.5	36.39	36.38	36.39	36.37	36.27
1966	3	1966	13.3	13.3	13.3	13.3	14.5	33.18	33.15	33.39	33.45	33.41
1966	4	1966	13.3	13.3	13.3	13.3	14.5	31.70	31.49	31.58	31.59	31.59
1966	5	1966	13.3	13.3	13.3	13.3	14.5	33.73	33.71	34.04	34.39	34.46
1966	6	1966	13.3	13.3	13.3	13.3	14.5	36.72	36.66	36.61	36.64	36.70
1966	7	1966	13.3	13.3	13.3	13.3	14.5	36.78	36.63	36.63	36.73	36.62
1966	8	1966	13.3	13.3	13.3	13.3	14.5	36.32	36.32	36.31	36.48	36.34
1966	9	1966	13.3	13.3	13.3	13.3	14.5	36.49	36.18	36.24	36.31	36.34
1966	10	1966	13.3	13.3	13.3	13.3	14.5	36.16	36.18	36.15	36.18	36.21
1966	11	1966	13.3	13.3	13.3	13.3	14.5	36.12	36.12	36.04	36.03	36.23
1966	12	1966	13.3	13.3	13.3	13.3	14.5	36.28	36.21	36.27	36.31	36.31
1967	1	1967	13.3	13.3	13.3	13.3	14.5	34.43	34.36	34.27	35.09	34.47
1967	2	1967	13.3	13.3	13.3	13.3	14.5	35.89	35.92	35.88	35.82	36.0
1967	3	1967	13.3	13.3	13.3	13.3	14.5	36.00	36.00	36.00	36.00	36.00
1967	4	1967	13.3	13.3	13.3	13.3	14.5	34.85	34.93	35.30	34.92	34.54
1967	5	1967	13.3	13.3	13.3	13.3	14.5	30.57	30.58	30.53	30.50	30.50
1967	6	1967	13.3	13.3	13.3	13.3	14.5	30.63	30.62	30.57	30.55	30.59
1967	7	1967	13.3	13.3	13.3	13.3	14.5	30.00	30.00	30.00	30.00	30.00
1967	8	1967	13.3	13.3	13.3	13.3	14.5	34.22	34.23	34.25	34.09	35.57

Table 9. (Continued)

STATION: W-58
 DEPTH: 24 M
 LATITUDE: 27°06' N
 LONGITUDE: 96°45' W

Cruise	Day	Month	Year	Temperature (°C)								Salinity (‰)				
				Depth (M)								Depth (M)				
				0	3	11	24	45	70	107	8	9	11	24	45	70
2	4	3	1963	16.1	17.0	17.8	17.5	17.8	17.7	16.7	36.31	36.31	36.27	36.27	36.27	36.27
3	5	4	1963	22.2	21.4	20.5	19.4	17.9	17.9	17.4	36.31	36.31	36.29	36.27	36.31	36.31
4	6	5	1963	25.0	18.3	16.2	14.1	14.0	16.0	16.5	36.31	36.29	36.13	36.15	36.27	36.31
5	7	5	1963	27.2	20.4	18.0	15.9	15.9	16.1	16.2	36.29	36.12	36.09	36.03	36.15	36.27
6	24	6	1963	26.4	28.3	28.2	28.1	24.0	19.4	19.3	36.31	36.30	36.34	36.46	36.27	36.31
7	15	7	1963	27.6	27.3	27.6	27.5	24.0	19.1	19.1	36.31	36.30	36.34	36.41	36.44	36.41
8	29	8	1963	28.5	28.4	28.0	27.8	24.0	19.0	19.0	36.30	36.28	36.34	36.41	36.27	36.31
9	4	10	1963	27.3	27.3	27.4	27.7	27.1	24.1	19.1	36.29	36.27	36.34	36.42	36.27	36.31
10	4	11	1963	25.9	25.9	25.9	25.9	25.9	24.0	19.0	36.27	36.27	36.28	36.33	36.27	36.31
11	7	12	1963	25.1	25.1	25.1	25.0	24.9	24.0	19.0	36.28	36.28	36.27	36.27	36.24	36.27
12	22	12	1963	21.7	21.7	21.7	21.7	21.9	19.1	19.1	36.29	36.24	36.24	36.24	36.24	36.24
13	29	1	1964	13.1	13.1	13.0	13.0	12.4	11.0	11.5	36.28	36.28	36.28	36.28	36.28	36.28
14	20	2	1964	13.5	13.7	13.7	13.1	12.9	11.0	11.0	36.28	36.28	36.28	36.28	36.28	36.28
15	13	3	1964	19.3	19.7	19.2	17.9	16.1	14.0	14.0	36.27	36.24	36.24	36.24	36.24	36.24
16	17	4	1964	27.8	26.9	19.2	18.7	16.9	15.8	17.0	36.28	36.24	36.19	36.26	36.27	36.27
17	24	5	1964	27.4	26.4	25.7	25.8	24.0	18.0	18.1	36.28	36.28	36.28	36.28	36.27	36.27
18	29	6	1964	28.3	28.1	27.4	27.8	24.0	18.0	18.0	36.27	36.28	36.28	36.28	36.24	36.24
19	18	7	1964	29.4	28.4	28.4	27.8	24.1	18.0	18.2	36.27	36.27	36.28	36.28	36.27	36.27
20	0	8	1964	28.0	28.0	28.0	27.8	24.0	18.0	18.0	36.28	36.28	36.28	36.28	36.24	36.24
21	26	8	1964	28.4	28.4	28.4	28.4	27.1	21.8	19.8	36.28	36.28	36.24	36.24	36.27	36.27
22	30	10	1964	25.5	25.5	25.5	25.3	25.0	25.0	24.0	36.28	36.28	36.28	36.24	36.28	36.27
23	24	11	1964	23.8	23.8	23.8	23.8	23.8	23.8	22.8	36.28	36.27	36.27	36.28	36.27	36.27
24	17	12	1964	20.4	20.9	20.7	20.7	20.7	20.0	19.0	36.27	36.14	36.17	36.13	36.27	36.21
25	8	1	1965	20.7	20.7	20.6	20.3	20.0	20.1	19.0	36.28	36.28	36.17	36.17	36.20	36.27
26	29	2	1965	19.5	19.5	19.2	19.4	19.4	17.7	17.0	36.28	36.28	36.28	36.28	36.28	36.28
27	22	3	1965	19.4	19.4	19.3	19.7	19.0	19.0	18.0	36.27	36.23	36.21	36.20	36.28	36.28
28	24	4	1965	14.6	14.4	14.1	13.7	13.8	12.0	12.0	36.27	36.27	36.27	36.27	36.28	36.27
29	5	5	1965	17.1	17.1	16.4	16.8	16.0	16.0	16.0	36.28	36.28	36.28	36.28	36.28	36.27
30	13	6	1965	17.5	16.9	16.9	16.3	16.0	18.9	18.0	36.28	36.28	36.28	36.28	36.28	36.28
31	13	8	1965	20.1	20.1	20.0	20.0	20.0	19.4	19.4	36.28	36.28	36.28	36.28	36.28	36.28
32	11	9	1965	20.1	20.1	20.1	20.1	20.0	19.4	19.4	36.28	36.28	36.28	36.28	36.28	36.28
33	11	12	1965	25.0	25.0	25.7	25.7	25.7	24.0	24.0	36.27	36.27	36.27	36.24	36.24	36.24

Table 10. Monthly temperature and salinity observations at station W-58 from 1963-1965

STATION: W-58
 DEPTH: 24 M
 LATITUDE: 26°34' N
 LONGITUDE: 97°18' W

Cruise	Day	Month	Year	Temperature (°C)								Salinity (‰)					
				Depth (M)								Depth (M)					
				0	3	11	24	45	70	107	8	9	11	24	45	70	107
2	4	3	1963	15.3	14.9						14.9	34.27	34.15				
6	28	6	1963	20.3	20.3						24.0	36.41	36.32				
7	15	7	1963	25.1	23.9						22.6	36.49	36.44				
8	24	8	1963	27.8	27.6						24.0	36.47	36.42				
9	4	10	1963	24.2	26.2						26.3	34.77	34.13				
10	3	11	1963	23.5	21.5						23.5	34.95	34.81				
11	2	12	1963	19.8	19.8						19.7	34.43	34.32				
12	22	12	1963	12.2	12.2						12.1	34.17	34.07				
13	30	1	1964	14.2	14.2						14.2	34.38	34.27				
15	20	3	1964	17.8	17.8						18.8	35.42	35.42				
16	17	4	1964	20.7	20.7						20.4	34.88	34.80				
17	24	5	1964	26.1	26.1						24.7	28.13	28.15				
18	27	6	1964	27.4	27.3						27.4	35.49	35.48				
19	16	7	1964	27.1	27.1						26.9	36.40	36.46				
20	31	8	1964	27.3	26.9						24.6	34.73	34.70				
21	26	9	1964	28.8	28.8						28.8	36.00	36.23				
22	30	10	1964	24.0	24.0						24.0	34.45	34.43				
23	24	11	1964	14.4	13.9						14.4	33.88	33.85				
24	18	1	1965	15.2	15.2						15.2	32.09	32.05				
25	9	1	1965	16.9	16.9						16.1	32.67	32.66				
26	28	2	1965	17.2	17.2						17.5	34.90	35.00				
27	23	3	1965	16.7	16.7						16.2	34.32	34.39				
28	25	4	1965	24.0	24.0						23.3	29.72	29.72				
29	31	5	1965	26.2	26.2						26.2	33.20	33.21				
30	14	6	1965	27.2	27.2						27.0	34.21	34.17				
32	14	8	1965	28.0	28.0						27.9	36.65	36.62				
35	11	12	1965	20.1	20.1						20.0	31.76	31.73				

Country		Year		GDP (Current Prices)				GDP (Constant Prices)			
Country	Year	1963	1964	1963	1964	1963	1964	1963	1964	1963	1964
Algeria	1	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	2	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	3	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	4	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	5	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	6	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	7	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	8	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	9	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	10	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100

Million
1964 \$
1977 \$
1977 \$

Country		Year		GDP (Current Prices)				GDP (Constant Prices)			
Country	Year	1963	1964	1963	1964	1963	1964	1963	1964	1963	1964
Algeria	11	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	12	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	13	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	14	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	15	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	16	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	17	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	18	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	19	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
	20	1963	1964	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100

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