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ROBERT F. A. STUDDS, Director

SPECIAL PUBLICATION NO. 281
FOURTH EDITION
(WITH DATA THROUGH 1953)

DENSITY OF SEA WATER

AT TIDE STATIONS

PACIFIC COAST

NORTH AND SOUTH AMERICA AND PACIFIC OCEAN ISLANDS

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National Oceanic and Atmospheric Administration

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CONTENTS

	Page
Introduction	1
Index map	2
List of stations	4
Table 1. Density of sea water-monthly and yearly means and extremes at tide stations	6
Mean salinity curves - seasonal variation at tide stations	56
Table 2. Corresponding densities and salinities	62
Sea water density at various temperatures	63

INTRODUCTION

The summaries of sea water densities presented in this publication are based on observations made in the Pacific harbor and coastal waters through the year 1953. The densities were observed primarily at tide stations which, in the United States and possessions, were maintained by the Coast and Geodetic Survey, often with the cooperation of other organizations. Summarized data for five places on the California coast, namely Balboa, Port Hueneme, Pacific Grove, North Farallon Island and Blunts Reef Lightship, were supplied by the Scripps Institution of Oceanography. Final results for places in Chile were supplied by the Departamento de Navegación é Hidrografía, Repúbica de Chile, and for the Philippine Islands by the Bureau of Coast and Geodetic Survey of the Republic of the Philippines. For other countries the Coast and Geodetic Survey derived the data from observations made by organizations in the countries concerned. In Latin America the observations were obtained through the cooperation of the Inter American Geodetic Survey.

Table 1 presents monthly means and annual mean and extremes for each year of observations. Maximum and minimum densities are shown for each year in which observations were made, whether or not the observations covered the whole year. In all cases the yearly extremes are from the months of the year for which means are given. If they are from an incomplete year, they are followed by an asterisk.

For each station at which the series of observations covered two or more years, there are given also the following monthly values for the series: the mean of the monthly means together with its corresponding salinity, the maximum density observed, the mean of the monthly maxima, the mean of the monthly minima, and minimum observed.

Following the table of densities are graphs of monthly mean salinities showing the seasonal variation for many places listed in Table 1.

The observations are made by drawing a sample of water from near the surface and observing its density by means of a hydrometer. They are usually made once each weekday at whatever time the observer attends the tide gage. It may be assumed that in the course of a month or a year the distribution of observations is fairly uniform over all phases of the tide. At some stations situated within or near the entrance of an estuary, the density varies with the stage of the tide or with the direction of the tidal current.

The densities in Table 1 are given with respect to the density of pure water at a temperature of 4°C. (39.2°F.) as unity. The actual density of the water may vary from a little less than unity for fresh water at a temperature other than 4°C. to approximately 1.0310 for the heaviest sea water. Since the density of sea water, as observed, depends not only upon the amount of soluble matter contained in a unit volume but also upon the temperature of the water at the time the reading was made, it is necessary to reduce the observed densities to some standard temperature in order that they may be comparable. In this publication the observed densities have been reduced to a standard temperature of 15°C. (59°F.). The density of pure water free from air at a temperature of 15°C. is 0.9991.

The salinity of sea water, denoted by the symbol 0/00, is defined as the number of grams of salts contained in 1000 grams of sea water. Salinity can be determined by several different methods, one of the simplest being based upon the density of the water as obtained from the use of the hydrometer. Table 2 gives the salinity corresponding to different values of density at the standard temperature of 59°F. (15°C.) to which all densities in this publication are referred.

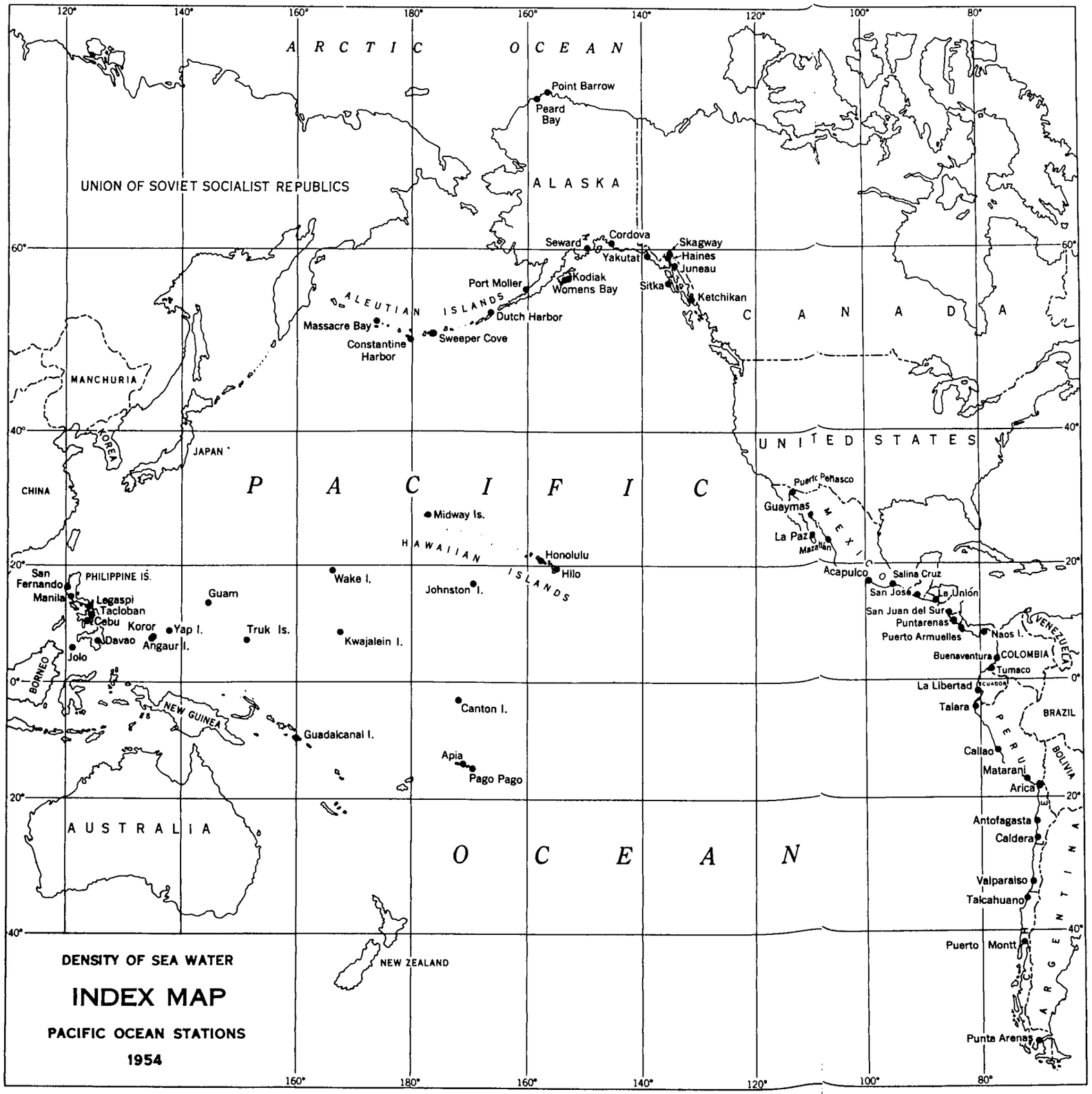
For some practical uses of density data, it is more important to know the density at the temperature apt to be encountered than at the standard temperature. The graph, Sea Water Density at Various Temperatures, provides for converting density at 59°F. (15°C.) to density at other temperatures.

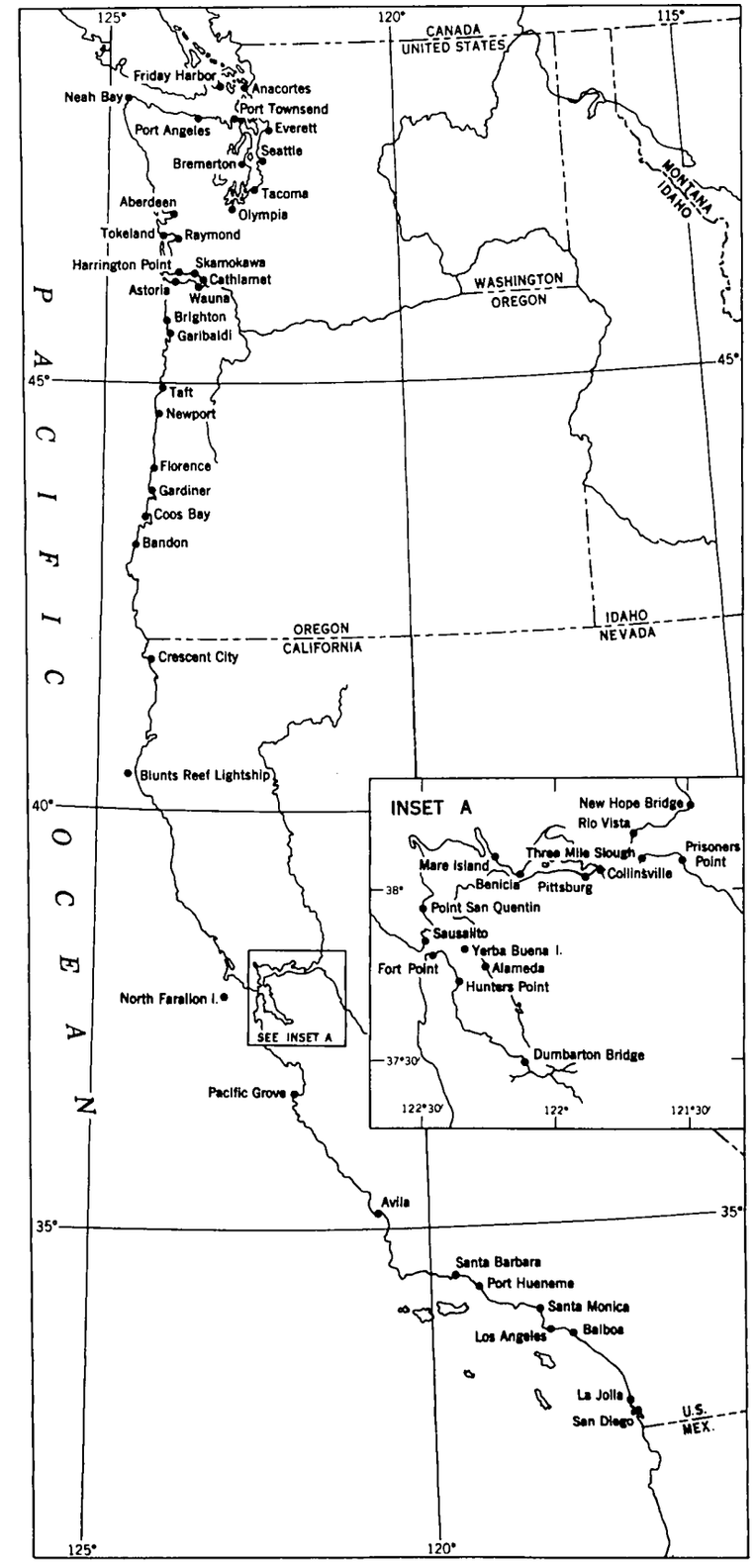
The following publications complete this series:

Special Pub. No. 278. Surface Water Temperatures, Atlantic Coast, North and South America.

Special Pub. No. 279. Density of Sea Water, Atlantic Coast, North and South America.

Special Pub. No. 280. Surface Water Temperatures, Pacific Coast, North and South America and Pacific Ocean Islands.


ARCTIC OCEAN
UNION OF SOVIET SOCIALIST REPUBLICS
ALASKA
Point Barrow
Peard Bay
Seward
Cordova
Yakutat
Skagway
Haines
Juneau
Sitka
Ketchikan
Kodiak
Womens Bay
Port Moller
Dutch Harbor
ALEUTIAN ISLANDS
Massacre Bay
Constantine Harbor
Sweeper Cove
CANADA
UNITED STATES
MANCHURIA
KOREA
JAPAN
CHINA
PACIFIC
Midway Is.
HAWAIIAN ISLANDS
Honolulu
Hilo
Johnston I.
Wake I.
Guam
PHILIPPINE IS.
San Fernando
Manila
Legaspi
Tacloban
Cebu
Davao
Koror
Yap I.
Angaur I.
Truk Is.
Kwajalein I.
Jolo
BORNEO
NEW GUINEA
Guadalcanal I.
Canton I.
Apia
Pago Pago
AUSTRALIA
NEW ZEALAND
OCEAN
Puerto Peñasco
Guaymas
MEXICO
La Paz
Mazatlan
Acapulco
Salina Cruz
San José
La Unión
San Juan del Sur
Puntarenas
Puerto Armuelles
Naos I.
VENEZUELA
Buenaventura
COLOMBIA
Tumaco
La Libertad
ECUADOR
Talara
PERU
BRAZIL
BOLIVIA
Callao
Matarani
Arica
Antofagasta
Caldera
Valparaiso
Talcahuano
Puerto Montt
ARGENTINA
Punta Arenas
DENSITY OF SEA WATER
INDEX MAP
PACIFIC OCEAN STATIONS
1954


CANADA
UNITED STATES
Friday Harbor
Anacortes
Neah Bay
Port Townsend
Port Angeles
Everett
Seattle
Bremerton
Tacoma
Olympia
Aberdeen
Tokeland
Raymond
Harrington Point
Skamokawa
Astoria
Cathlamet
Wauna
Brighton
Garibaldi
MONTANA
IDAHO
WASHINGTON
OREGON
PACIFIC
Taft
Newport
Florence
Gardiner
Coos Bay
Bandon
OREGON
CALIFORNIA
IDAHO
NEVADA
Crescent City
Blunts Reef Lightship
OCEAN
INSET A
New Hope Bridge
Rio Vista
Three Mile Slough
Prisoners Point
Mare Island
Benicia
Pittsburg
Collinsville
Point San Quentin
Sausalito
Yerba Buena I.
Fort Point
Alameda
Hunters Point
Dumbarton Bridge
North Farallon I.
SEE INSET A
Pacific Grove
Avila
Santa Barbara
Port Hueneme
Santa Monica
Los Angeles
Balboa
La Jolla
San Diego
U.S.
MEX.

LIST OF STATIONS

Station	Lat. ° '	Long. ° '	Page
Aberdeen, Grays Harbor, Wash.	46 58N.	123 51W.	21
Acapulco, Mexico	16 51N.	99 55W.	54,61
Alameda, Calif.	37 47N.	122 18W.	13,56
Anacortes, Wash.	48 31N.	122 37W.	25
Angaur Island, Palau Islands	6 54N.	134 08E.	41
Antofagasta, Chile	23 39S.	70 25W.	47
Apia (observatory), Samoa Islands	13 48S.	171 46W.	39,59
Arica, Chile	18 29S.	70 20W.	48
Astoria (Tongue Point), Ore.	46 13N.	123 46W.	18,57
Avila, Calif.	35 10N.	120 44W.	10,56
Balboa, Calif.	33 36N.	117 54W.	7
Bandon, Coquille River, Ore.	43 07N.	124 25W.	17
Benicia, Carquinez Strait, Calif.	38 03N.	122 08W.	14
Blunts Reef Lightship	40 26N.	124 30W.	16,56
Bremerton, Wash.	47 34N.	122 38W.	23
Brighton, Nehalem River, Ore.	45 40N.	123 56W.	18
Buenaventura, Colombia	3 54N.	77 05W.	51
Caldera, Chile	27 04S.	70 50W.	47
Callao, Peru	12 03S.	77 09W.	49,60
Canton Island, Phoenix Islands	2 48S.	171 43W.	38
Cathlamet, Columbia River, Wash.	46 12N.	123 23W.	20
Cebu, Cebu Island, Philippine Islands	10 18N.	123 54E.	43,60
Collinsville, Sacramento River, Calif.	38 04N.	121 51W.	15
Constantine Harbor, Amchitka Island, Alaska	51 25N.	179 17E.	34
Coos Bay entrance, Ore.	43 21N.	124 19W.	17
Cordova, Alaska	60 33N.	145 46W.	31
Crescent City, Calif.	41 45N.	124 12W.	16,56
Davao, Mindanao Island, Philippine Islands	7 05N.	125 38E	43,60
Dumbarton Bridge, San Francisco Bay, Calif.	37 30N.	122 07W.	14
Dutch Harbor, Unalaska Island, Alaska	53 54N.	166 32W.	33,59
Everett, Wash.	47 59N.	122 13W.	22
Florence, Siuslaw River, Ore.	43 58N.	124 06W.	17
Friday Harbor, San Juan Island, Wash.	48 33N.	123 00W.	25,57
Gardiner, Umpqua River, Ore.	43 44N.	124 07W.	17
Garibaldi, Tillamook Bay, Ore.	45 33N.	123 54W.	18
Guadalcanal I. (Kukum), Solomon Islands	9 26S.	160 00E.	39
Guam (Apra Harbor), Marianas	13 26N.	144 39E.	41,60
Guaymas, Mexico	27 55N.	110 55W.	55,61
Haines, Alaska	59 14N.	135 26W.	29
Harrington Point, Columbia River, Wash.	46 16N.	123 39W.	20
Hilo, Hawaiian Islands	19 44N.	155 03W.	37,59
Honolulu, Hawaiian Islands	21 18N.	157 52W.	36,59
Johnston Island, Hawaiian Islands	16 45N.	169 31W.	37
Jolo, Jolo Island, Philippine Islands	6 04N.	121 00E.	44,60
Juneau, Alaska	58 18N.	134 25W.	28,58
Ketchikan, Alaska	55 20N.	131 38W.	26,57
Kodiak, Kodiak Island, Alaska	57 47N.	152 24W.	32
Koror, Koror Island, Palau Islands	7 21N.	134 29E.	41
Kwajalein Island, Marshall Islands	8 44N.	167 44E.	40,59
La Jolla, Calif.	32 52N.	117 15W.	6,56
La Libertad, Ecuador	2 13S.	80 55W.	50,60
La Paz, Mexico	24 10N	110 19W.	55,61
La Unión, El Salvador	13 20N.	87 49W.	53,61
Legaspi, Luzon Island, Philippine Islands	13 09N.	123 45E.	42
Los Angeles (Outer Harbor), Calif.	33 43N.	118 16W.	7,56
Manila, Luzon Island, Philippine Islands	14 35N.	120 58E.	42,60
Mare Island Strait, Calif.	38 06N.	122 16W.	14
Massacre Bay, Attu Island, Alaska	52 50N.	173 12E.	35,59
Matarani, Peru	17 00S.	72 07W.	48

LIST OF STATIONS—*Continued*

Station	Lat. ° ′	Long. ° ′	Page
Mazatlán, Mexico	23 11N.	106 26W.	55
Midway Islands, Hawaiian Islands	28 13N.	177 22W.	36,59
Naos Island, Canal Zone	8 55N.	79 32W.	51,61
Neah Bay, Wash.	48 22N.	124 37W.	21,57
New Hope Bridge, Mokelumne River, Calif.	38 14N.	121 29W.	16
Newport, Yaquina Bay, Ore.	44 38N.	124 03W.	18
North Farallon Island, Calif.	37 46N.	123 06W.	11
Olympia, Wash.	47 03N.	122 54W.	24
Pacific Grove, Calif.	36 38N.	121 55W.	11,56
Pago Pago, Samoa Islands	14 17S.	170 41W.	38
Peard Bay, Alaska	70 48N.	158 28W.	35
Pittsburg, New York Slough, Calif.	38 02N.	121 53W.	15
Point Barrow (Elson Lagoon), Alaska	71 23N.	156 27W.	35
Point Barrow (ocean), Alaska	71 23N.	156 27W.	35
Point San Quentin, San Francisco Bay, Calif.	37 57N.	122 29W.	14
Port Angeles, Wash.	48 08N.	123 26W.	22
Port Hueneme, Calif.	34 09N.	119 12W.	9
Port Moller, Alaska	55 59N.	160 34W.	35
Port Townsend (Fort Worden), Wash.	48 08N.	122 46W.	22
Puerto Armuelles, Panama	8 16N.	82 52W.	52
Puerto Montt, Chile	41 29S.	72 58W.	45,60
Puerto Peñasco, Mexico	31 19N.	113 35W.	55
Prisoners Point, San Joaquin River, Calif.	38 04N.	121 33W.	15
Punta Arenas, Magellan Strait, Chile	53 09S.	70 54W.	45,60
Puntarenas, Costa Rica	9 58N.	84 50W.	52,61
Raymond, Willapa Bay, Wash.	46 41N.	123 45W.	21,57
Rio Vista, Sacramento River, Calif.	38 09N.	121 42W.	15
Salina Cruz, Mexico	16 10N.	95 12W.	54
San Diego, Calif.	32 42N.	117 14W.	6,56
San Fernando, Luzon Island, Philippine Islands	16 37N.	120 18E.	42
San Francisco (Fort Point), Calif.	37 48N.	122 28W.	11,56
San Francisco (Hunters Point), Calif.	37 44N.	122 22W.	13
San José, Guatemala	13 55N.	90 50W.	54,61
San Juan del Sur, Nicaragua	11 15N.	85 53W.	53,61
Santa Barbara, Calif.	34 25N.	119 41W.	10
Santa Monica, Calif.	34 00N.	118 30W.	9,56
Sausalito, Calif.	37 51N.	122 29W.	14
Seattle (Duwamish River), Wash.	47 32N.	122 19W.	24
Seattle (Elliott Bay), Wash.	47 36N.	122 20W.	23,57
Seward, Alaska	60 06N.	149 27W.	31,59
Sitka, Alaska	57 03N.	135 20W.	27,58
Skagway, Alaska	59 27N.	135 19W.	29,58
Skamokawa, Columbia River, Wash.	46 16N.	123 27W.	20
Sweeper Cove, Adak Island, Alaska	51 51N.	176 39W.	33,59
Tacloban, Leyte Island, Philippine Islands	11 15N.	125 00E.	43
Tacoma, Wash.	47 17N.	122 25W.	24
Taft, Siletz Bay, Ore.	44 56N.	124 01W.	18
Talara, Peru	4 35S.	81 17W.	50,60
Talcahuano, Chile	36 41S.	73 06W.	46
Three Mile Slough, San Joaquin River, Calif.	38 05N.	121 41W.	15
Tokeland, Willapa Bay, Wash.	46 42N.	123 58W.	20,57
Truk Islands (Moen Island), Caroline Islands	7 27N.	151 51E.	40
Tumaco, Colombia	1 50N.	78 44W.	51
Valparaiso, Chile	33 02S.	71 38W.	46,60
Wake Island	19 17N.	166 37E.	39
Wauna, Columbia River, Ore.	46 10N.	123 24W.	19
Womens Bay, Kodiak Island, Alaska	57 43N.	152 31W.	32
Yakutat, Alaska	59 33N.	139 44W.	30,58
Yap Island, Caroline Islands	9 30N.	138 08E.	41
Yerba Buena Island, San Francisco Bay, Calif.	37 49N.	122 22W.	12

Table 1. Density of Sea Water

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SAN DIEGO, CALIF.								
1922	1.0240	1.0240	1.0241	1.0244	1.0247	1.0249	1.0251	1.0252	1.0251	1.0248	1.0248	1.0246	1.0246	1.0258	1.0228
1923	246	246	248	249	251	251	255	256	253	250	250	248	250	261	240
1924	248	249	249	249	251	251	253	251	252	250	250	247	250	261	237
1925	248	249	251	251	253	253	254	251	249	246	247	246	250	258	240
Mean Density	1.0246	1.0246	1.0247	1.0248	1.0250	1.0251	1.0253	1.0252	1.0251	1.0248	1.0249	1.0247	1.0249		
Salinity	33.2	33.2	33.3	33.5	33.7	33.8	34.1	34.0	33.8	33.5	33.6	33.3	33.6		
Max.	1.0252	1.0254	1.0255	1.0254	1.0258	1.0258	1.0261	1.0261	1.0261	1.0256	1.0257	1.0253		1.0261	
Mean Max.	1.0251	1.0251	1.0252	1.0252	1.0255	1.0255	1.0258	1.0258	1.0256	1.0252	1.0253	1.0252			
Mean Min.	1.0239	1.0242	1.0241	1.0242	1.0245	1.0248	1.0249	1.0248	1.0247	1.0245	1.0245	1.0242			
Min.	1.0228	1.0233	1.0236	1.0231	1.0240	1.0247	1.0248	1.0246	1.0245	1.0244	1.0244	1.0237			1.0228
							LA JOLLA, CALIF.								
1925	1.0250	1.0249	1.0249	1.0249	1.0250	1.0251	1.0251	1.0252	1.0248	1.0246	1.0248	1.0248	1.0249	1.0256	1.0240
1926	249	249	249	247	249	250	250	249	248	249	249	248	249	251	243
1927	248	243	245	248	248	249	249	250	250	249	249	248	248	250	224
1928	248	248	248	249	249	249	250	250	249	249	249	248	249	251	247
1929	249	249	249	249	250	250	251	250	249	249	250	250	250	252	248
1930	249	249	249	249	249	250	250	250	250	250	250	251	250	252	248
1931	251	250	251	251	250	251	252	251	250	250	250	250	251	252	249
1932	249	246	247	249	250	250	250	249	249	248	249	248	249	250	240
1933	248	248	248	249	250	251	250	250	250	250	250	249	249	251	245
1934	249	248	248	249	250	250	250	249	249	248	248	248	249	251	246
1935	248	247	248	248	249	249	249	249	248	248	248	249	248	250	241
1936	248	247	248	249	249	250	250	250	250	248	249	248	249	251	244
1937	248	246	245	247	249	250	250	250	250	250	250	249	249	251	237
1938	250	249	246	249	250	250	250	250	249	249	249	248	249	251	234
1939	248	248	249	249	250	251	251	251	249	250	250	250	250	252	243
1940	250	249	249	249	250	250	249	250	249	248	248	247	249	251	244
1941	247	247	244	243	246	248	249	248	248	247	247	247	247	250	239
1942	247	247	247	248	249	249	249	249	249	249	249	248	248	250	242
1943	248	247	246	248	250	250	250	250	249	249	249	248	249	250	244
1944	248	247	246	248	249	250	250	250	250	250	249	249	249	250	244
1945	249	248	248	249	250	250	250	250	250	249	249	248	249	251	245
1946	249	249	249	249	250	250	250	249	249	249	249	249	249	251	247
1947	249	249	249	249	250	249	249	249	249	249	249	248	249	250	247
1948	249	249	249	249	249	249	249	249	249	249	249	249	249	250	247
1949	248	248	249	249	249	249	250	250	249	249	249	249	249	250	246
1950	248	249	249	249	249	249	250	249	249	249	249	249	249	250	247
1951	248	248	248	249	249	250	250	250	249	249	249	248	249	250	246
1952	248	249	248	249	250	250	250	250	250	249	249	248	249	251	243
1953	248	248	249	249	249	249	250	250	249	249	249	249	249	251	248
Mean Density	1.0249	1.0248	1.0248	1.0249	1.0249	1.0250	1.0250	1.0250	1.0249	1.0249	1.0249	1.0249	1.0249		
Salinity	33.6	33.5	33.5	33.6	33.6	33.7	33.7	33.7	33.6	33.6	33.6	33.6	33.6		
Max.	1.0255	1.0251	1.0256	1.0252	1.0252	1.0253	1.0254	1.0254	1.0251	1.0252	1.0251	1.0251		1.0256	
Mean Max.	1.0249	1.0249	1.0249	1.0250	1.0250	1.0250	1.0251	1.0251	1.0250	1.0250	1.0249	1.0249			
Mean Min.	1.0247	1.0246	1.0246	1.0247	1.0249	1.0249	1.0249	1.0249	1.0248	1.0248	1.0248	1.0247			
Min.	1.0242	1.0224	1.0234	1.0241	1.0244	1.0247	1.0248	1.0248	1.0245	1.0240	1.0245	1.0244			1.0224
							BALBOA, CALIF.								
1925 –1953															
Mean Salinity	33.50	33.42	33.48	33.59	33.66	33.68	33.71	33.68	33.63	33.61	33.60	33.55	33.59		
							LOS ANGELES (Outer Harbor), CALIF.								
1924	1.0248	1.0249	1.0248	1.0247	1.0249	1.0247	1.0248	1.0248	1.0249	1.0247	1.0246	1.0247	1.0248	1.0254	1.0244
1925	247	247	246	246	247	246	245	245	244	243	243	244	245	250	242
1926	245	243	244	240	244	245	246	247	246	245	245	245	245	250	208
1927	246	233	244	247	250	251	248	250	249	250	247	248	247	258	191
1928	248	248	248	251	250	250	249	250	248	248	249	249	249	254	241
1929	250	249	249	250	251	252	252	252	251	251	251	250	251	256	247

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							LOS ANGELES (Outer Harbor), CALIF. - Continued								
1930	1.0247	1.0249	1.0249	1.0251	1.0251	1.0251	1.0252	1.0252	1.0252	1.0251	1.0251	1.0252	1.0251	1.0255	1.0241
1931	252	250	253	252	252	252	252	252	250	251	250	248	251	257	240
1932	247	244	249	251	251	250	250	249	249	248	---	248	---	255*	228*
1933	247	247	249	249	250	251	251	251	250	250	251	250	250	256	239
1934	243	247	248	249	249	249	250	248	249	248	247	245	248	253	201
1935	245	246	246	247	248	249	249	250	248	248	248	248	248	254	242
1936	248	247	247	249	250	251	251	251	249	249	250	248	249	255	242
1937	246	241	246	248	250	249	251	250	251	249	251	250	248	257	223
1938	249	246	238	248	251	252	252	252	250	249	249	244	248	256	186
1939	247	248	249	251	251	252	252	252	252	251	251	252	251	257	242
1940	249	247	250	250	250	250	251	251	250	250	248	245	249	259	213
1941	244	237	231	---	245	247	249	250	250	249	248	247	---	253*	168*
1942	247	248	250	250	253	252	253	253	251	251	253	249	251	259	237
1943	240	244	246	251	252	252	253	252	251	251	251	248	249	259	190
1944	247	240	242	249	250	250	252	251	251	251	249	247	248	255	171
1945	247	248	247	251	252	252	252	251	250	250	249	246	250	256	238
1946	247	249	249	249	251	250	251	251	251	250	244	245	249	254	228
1947	246	249	249	250	250	250	250	251	250	250	250	249	250	256	237
1948	248	248	249	249	250	251	250	250	250	249	250	248	249	255	245
1949	247	248	249	250	251	251	251	251	251	253	253	251	250	256	245
1950	249	249	252	253	253	255	256	255	254	254	253	252	253	260	242
1951	250	249	250	250	252	253	252	250	251	251	250	250	251	256	245
1952	236	249	244	249	251	251	251	251	250	249	247	245	248	260	169
1953	245	247	251	252	253	255	254	252	252	251	252	250	251	258	242
Mean Density	1.0247	1.0246	1.0247	1.0249	1.0250	1.0251	1.0251	1.0251	1.0250	1.0250	1.0249	1.0248	1.0249		
Salinity	33.3	33.2	33.3	33.6	33.7	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.6		
Max.	1.0255	1.0254	1.0257	1.0256	1.0256	1.0258	1.0260	1.0258	1.0257	1.0260	1.0257	1.0259		1.0260	
Mean Max.	1.0251	1.0251	1.0251	1.0252	1.0253	1.0253	1.0254	1.0254	1.0253	1.0253	1.0253	1.0252			
Mean Min.	1.0238	1.0236	1.0237	1.0245	1.0247	1.0248	1.0248	1.0248	1.0247	1.0247	1.0246	1.0241			
Min.	1.0169	1.0171	1.0168	1.0208	1.0213	1.0242	1.0244	1.0244	1.0243	1.0242	1.0233	1.0205			1.0168
							SANTA MONICA, CALIF.								
1946	1.0249	1.0250	1.0251	1.0252	1.0251	1.0252	1.0253	1.0251	1.0252	1.0249	1.0249	1.0248	1.0251	1.0263	1.0230
1947	248	248	251	252	250	250	250	251	248	249	250	248	250	273	240
1948	247	247	247	249	251	250	250	251	248	248	247	247	248	256	239
1949	247	246	247	249	251	253	253	249	251	251	251	250	250	260	227
1950	247	245	249	252	252	253	252	251	251	250	250	251	250	256	238
1951	250	248	250	251	252	252	251	251	252	250	250	247	250	261	228
1952	246	248	246	249	252	252	252	252	250	250	249	244	249	263	228
1953	245	247	247	248	248	250	249	248	248	247	247	248	248	255	242
Mean Density	1.0247	1.0247	1.0248	1.0250	1.0251	1.0252	1.0251	1.0250	1.0250	1.0249	1.0249	1.0248	1.0249		
Salinity	33.3	33.3	33.5	33.7	33.8	34.0	33.8	33.7	33.7	33.6	33.6	33.5	33.6		
Max.	1.0255	1.0258	1.0256	1.0263	1.0256	1.0258	1.0262	1.0273	1.0260	1.0256	1.0263	1.0255		1.0273	
Mean Max.	1.0252	1.0252	1.0252	1.0255	1.0255	1.0255	1.0257	1.0258	1.0255	1.0253	1.0255	1.0252			
Mean Min.	1.0242	1.0240	1.0243	1.0244	1.0246	1.0247	1.0246	1.0246	1.0246	1.0245	1.0244	1.0243			
Min.	1.0230	1.0227	1.0228	1.0234	1.0244	1.0244	1.0243	1.0244	1.0240	1.0242	1.0236	1.0228			1.0227
							PORT HUENEME, CALIF.								
1919 -1953 Mean Salinity	33.46	33.39	33.32	33.59	33.60	33.62	33.65	33.59	33.57	33.57	33.57	33.49	33.54		

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SANTA BARBARA, CALIF.								
1930	---	---	1.0251	1.0253	1.0253	1.0254	1.0254	1.0254	1.0252	1.0251	1.0252	1.0252	---	1.0262*	1.0244*
1931	1.0251	1.0253	253	254	253	254	255	255	253	253	252	249	1.0253	260	221
1932	250	247	251	252	254	255	---	---	---	---	---	---	---	260*	216*
Mean Density	1.0250	1.0250	1.0252	1.0253	1.0253	1.0254	1.0254	1.0254	1.0253	1.0252	1.0252	1.0251	1.0252		
Salinity	33.7	33.7	34.0	34.1	34.1	34.2	34.2	34.2	34.1	34.0	34.0	33.8	34.0		
Max.	1.0256	1.0258	1.0258	1.0259	1.0262	1.0260	1.0259	1.0259	1.0257	1.0257	1.0258	1.0255		1.0262	
Mean Max.	1.0255	1.0256	1.0257	1.0258	1.0259	1.0257	1.0258	1.0258	1.0256	1.0257	1.0256	1.0254			
Mean Min.	1.0244	1.0232	1.0247	1.0249	1.0249	1.0251	1.0250	1.0251	1.0248	1.0247	1.0244	1.0234			
Min.	1.0239	1.0216	1.0246	1.0248	1.0248	1.0250	1.0249	1.0250	1.0247	1.0244	1.0241	1.0221			1.0216
							AVILA, CALIF.								
1945	---	---	---	---	---	1.0257	1.0256	1.0258	1.0256	1.0253	1.0253	1.0251	---	1.0263*	1.0248*
1946	1.0251	1.0250	1.0252	1.0253	1.0253	254	254	253	252	250	249	247	1.0252	259	240
1947	248	249	250	251	253	250	252	255	252	252	250	252	251	266	244
1948	251	251	252	250	254	254	252	251	250	250	249	249	251	260	246
1949	248	249	249	252	251	252	251	250	252	250	250	250	250	259	239
1950	247	247	251	254	255	253	251	249	250	249	248	247	250	257	239
1951	246	248	250	248	253	250	249	250	251	252	247	248	249	263	241
1952	243	244	244	---	---	---	---	252	250	249	246	246	---	255*	236*
1953	247	249	250	253	253	254	257	256	250	251	249	250	252	268	237
Mean Density	1.0248	1.0248	1.0250	1.0252	1.0253	1.0253	1.0253	1.0253	1.0251	1.0251	1.0249	1.0249	1.0251		
Salinity	33.5	33.5	33.7	34.0	34.1	34.1	34.1	34.1	33.8	33.8	33.6	33.6	33.8		
Max.	1.0256	1.0255	1.0256	1.0257	1.0263	1.0261	1.0262	1.0268	1.0261	1.0266	1.0258	1.0258		1.0268	
Mean Max.	1.0252	1.0253	1.0254	1.0256	1.0258	1.0258	1.0257	1.0258	1.0256	1.0256	1.0253	1.0253			
Mean Min.	1.0242	1.0244	1.0246	1.0248	1.0249	1.0249	1.0249	1.0248	1.0247	1.0246	1.0245	1.0245			
Min.	1.0236	1.0237	1.0237	1.0245	1.0246	1.0244	1.0242	1.0244	1.0243	1.0242	1.0243	1.0239			1.0236
							PACIFIC GROVE, CALIF.								
1919 -1953															
Mean Salinity	33.34	33.22	33.22	33.37	33.59	33.69	33.71	33.69	33.62	33.53	33.45	33.37	33.48		
							NORTH FARALLON ISLAND, CALIF.								
1925 -1942															
Mean Salinity	33.12	32.94	33.02	33.20	33.45	33.68	33.76	33.76	33.66	33.62	33.49	33.40	33.43		
							SAN FRANCISCO (Fort Point), CALIF.								
1922	1.0218	1.0204	1.0180	1.0189	1.0173	1.0170	1.0207	1.0224	1.0231	1.0231	1.0227	1.0214	1.0206	1.0236	1.0124
1923	208	204	210	198	201	204	219	232	238	234	232	231	218	240	158
1924	231	225	223	229	232	238	245	247	249	249	241	230	237	251	210
1925	225	195	196	186	187	200	226	234	237	236	229	228	215	241	149
1926	228	196	200	183	203	223	232	243	242	242	239	213	220	246	132
1927	219	178	168	179	187	196	214	230	238	238	229	225	208	240	110
1928	220	208	206	180	211	222	233	240	241	239	235	228	222	244	125
1929	224	217	218	222	221	224	236	241	241	242	240	231	230	246	194
1930	215	217	191	201	213	227	237	242	241	242	240	234	225	245	164
1931	229	228	224	229	235	241	247	251	250	252	251	241	240	257	214
1932	209	199	210	210	202	203	216	232	237	237	238	235	219	243	148
1933	231	222	220	210	218	218	232	239	242	244	240	237	229	246	180
1934	213	222	212	217	227	235	241	246	251	246	240	229	232	256	178
1935	211	211	201	174	174	185	217	232	237	239	233	231	212	242	124
1936	211	197	170	187	187	200	224	235	238	236	234	232	213	241	114
1937	227	201	173	159	181	196	222	234	239	236	230	198	208	243	098
1938	200	150	131	147	157	167	203	224	230	231	228	224	191	243	050
1939	223	223	222	213	225	234	242	245	248	244	242	236	233	255	200

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SAN FRANCISCO (Fort Point), CALIF. - Continued								
1940	1.0203	1.0182	1.0134	1.0137	1.0188	1.0209	1.0226	1.0237	1.0242	1.0240	1.0231	1.0223	1.0204	1.0246	1.0043
1941	167	143	126	149	163	187	214	224	232	234	218	213	189	239	051
1942	190	138	189	174	187	174	223	229	---	---	---	---	---	238*	094*
1943	204	166	172	184	198	215	233	236	245	238	235	234	213	250	096
1944	231	222	214	228	219	223	235	244	246	243	234	228	231	252	169
1945	225	205	209	217	213	218	231	239	242	240	228	210	223	247	138
1946	186	213	214	---	---	220	235	237	237	237	235	---	---	255*	116*
1947	219	215	209	209	230	229	240	247	246	246	231	---	---	262*	174*
1948	---	---	---	---	193	196	227	231	238	233	232	231	---	258*	156*
1949	---	227	198	204	215	224	238	242	240	238	235	232	---	258*	163*
1950	227	205	213	206	217	215	230	232	237	234	208	166	216	251	099
1951	192	170	191	209	208	218	229	230	231	231	231	214	213	240	100
1952	182	165	175	174	169	183	207	222	227	230	231	221	199	239	086
1953	169	203	224	222	215	214	226	237	239	236	231	231	221	250	106
Mean Density	1.0211	1.0198	1.0194	1.0194	1.0202	1.0210	1.0228	1.0236	1.0240	1.0239	1.0233	1.0224	1.0217		
Salinity	28.6	26.9	26.4	26.4	27.5	28.5	30.8	31.9	32.4	32.3	31.5	30.3	29.4		
Max.	1.0241	1.0236	1.0245	1.0245	1.0251	1.0252	1.0255	1.0255	1.0258	1.0262	1.0253	1.0246		1.0262	
Mean Max.	1.0228	1.0223	1.0225	1.0225	1.0225	1.0229	1.0239	1.0243	1.0244	1.0244	1.0240	1.0236			
Mean Min.	1.0183	1.0163	1.0154	1.0158	1.0174	1.0184	1.0214	1.0229	1.0236	1.0234	1.0223	1.0202			
Min.	1.0094	1.0076	1.0043	1.0075	1.0107	1.0111	1.0179	1.0204	1.0215	1.0225	1.0137	1.0099			1.0043
							YERBA BUENA ISLAND, SAN FRANCISCO BAY, CALIF.								
1937	1.0215	1.0187	1.0143	1.0139	---	---	1.0214	1.0227	1.0235	1.0235	---	---	---	1.0239*	1.0079*

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							ALAMEDA, CALIF.								
1940	1.0174	1.0146	1.0100	1.0098	1.0142	1.0173	1.0196	1.0217	1.0226	1.0228	1.0219	1.0208	1.0177	1.0232	1.0012
1941	128	103	092	108	126	151	180	197	212	219	223	188	161	229	074
1942	148	093	128	133	140	152	176	200	214	216	210	198	167	220	071
1943	164	121	113	122	146	168	193	209	219	226	217	214	176	231	086
1944	206	181	170	184	187	196	210	222	232	232	212	202	203	238	116
1945	194	154	163	171	170	187	202	216	222	217	205	186	190	228	120
1946	137	163	174	176	176	189	208	220	224	221	215	198	192	239	118
1947	200	195	180	185	203	212	224	234	245	230	217	218	212	250	151
1948	216	201	206	178	160	169	191	209	220	218	211	209	199	227	146
1949	204	196	171	175	184	198	212	224	227	224	217	216	204	232	125
1950	201	166	174	175	179	186	203	215	223	221	191	126	188	227	102
1951	144	135	145	165	176	192	205	214	218	218	208	180	183	224	117
1952	135	116	128	128	132	137	173	191	208	211	205	186	162	215	091
1953	136	153	176	182	178	183	196	213	220	211	200	204	188	225	098
Mean Density	1.0170	1.0152	1.0151	1.0156	1.0164	1.0178	1.0198	1.0213	1.0222	1.0221	1.0211	1.0195	1.0186		
Salinity	23.3	20.9	20.8	21.4	22.5	24.3	26.9	28.9	30.1	29.9	28.6	26.5	25.4		
Max.	1.0227	1.0208	1.0214	1.0200	1.0217	1.0220	1.0232	1.0240	1.0250	1.0238	1.0229	1.0220		1.0250	
Mean Max.	1.0190	1.0169	1.0167	1.0167	1.0176	1.0188	1.0209	1.0221	1.0229	1.0226	1.0222	1.0207			
Mean Min.	1.0142	1.0130	1.0127	1.0137	1.0146	1.0167	1.0183	1.0201	1.0215	1.0210	1.0185	1.0171			
Min.	1.0098	1.0071	1.0074	1.0012	1.0109	1.0115	1.0149	1.0173	1.0198	1.0185	1.0120	1.0102			1.0012
							SAN FRANCISCO (Hunters Point), CALIF.								
1945	---	1.0156	1.0183	1.0186	1.0182	1.0198	1.0210	1.0222	1.0228	1.0224	1.0212	1.0185	---	1.0240*	1.0119*
1946	1.0144	185	191	189	186	199	222	230	229	229	---	---	---	237*	110*
--															
1951	---	---	---	---	184	199	222	227	229	228	218	183	---	232*	167*
1952	136	123	144	141	135	143	187	212	219	220	219	191	1.0172	224	069
1953	134	157	---	---	186	189	207	227	230	223	215	207	---	240*	083*

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SAN FRANCISCO (Hunters Point), CALIF. - Continued								
Mean Density	1.0138	1.0155	1.0173	1.0172	1.0175	1.0186	1.0210	1.0224	1.0227	1.0225	1.0216	1.0192	1.0191		
Salinity	19.1	21.3	23.7	23.5	23.9	25.4	28.5	30.3	30.7	30.4	29.3	26.1	26.0		
Max.	1.0184	1.0200	1.0209	1.0203	1.0204	1.0216	1.0233	1.0235	1.0240	1.0237	1.0225	1.0219		1.0240	
Mean Max.	1.0175	1.0179	1.0193	1.0188	1.0192	1.0202	1.0220	1.0230	1.0234	1.0231	1.0223	1.0212			
Mean Min.	1.0087	1.0125	1.0150	1.0148	1.0155	1.0161	1.0191	1.0214	1.0223	1.0218	1.0206	1.0161			
Min.	1.0069	1.0075	1.0113	1.0121	1.0093	1.0095	1.0142	1.0196	1.0216	1.0213	1.0195	1.0119			1.0069
							DUMBARTON BRIDGE, SAN FRANCISCO BAY, CALIF.								
1937	1.0236	1.0195	1.0146	1.0114	1.0144	1.0164	1.0183	1.0204	1.0218	1.0222	---	---	---	1.0261*	1.0091*
--															
1952	128	103	098	112	127	137	152	175	195	204	1.0207	1.0193	1.0153	211	076
							SAUSALITO, CALIF.								
1937	1.0224	1.0224	1.0224	1.0208	1.0161	1.0157	1.0194	1.0198	1.0200	1.0200	---	---	---	1.0238*	1.0122*
--															
1952	121	118	134	145	144	161	187	212	223	222	1.0220	1.0183	1.0172	240	049
							POINT SAN QUENTIN, SAN FRANCISCO BAY, CALIF.								
1937	1.0174	1.0102	1.0078	1.0069	1.0084	1.0113	1.0167	1.0203	1.0201	1.0198	1.0194	---	---	1.0220*	1.0004*
							MARE ISLAND STRAIT, CALIF.								
1937	1.0108	1.0028	1.0023	1.0012	1.0017	1.0029	1.0092	1.0140	1.0159	1.0147	---	---	---	1.0165*	0.9993*
							BENICIA, CARQUINEZ STRAIT, CALIF.								
1937	1.0074	1.0012	1.0001	1.0003	1.0005	1.0010	1.0025	1.0084	1.0125	1.0104	1.0101	---	---	1.0135*	0.9995*
--															
1952	007	0.9998	0.9995	0.9997	0.9996	0.9998	030	078	090	098	097	1.0048	1.0036	121	0.9985

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							PITTSBURG, NEW YORK SLOUGH, CALIF.								
1952	0.9992	0.9992	0.9992	0.9991	0.9993	0.9995	0.9993	0.9997	0.9998	0.9995	0.9995	0.9992	0.9994	1.0007	0.9987
							THREE MILE SLOUGH, SAN JOAQUIN RIVER, CALIF.								
1938	---	---	---	---	---	---	---	---	---	0.9996	0.9995	0.9996	---	0.9998*	0.9992*
1939	0.9996	0.9995	0.9999	0.9999	0.9999	1.0000	1.0012	1.0043	1.0037	1.0011	1.0002	0.9995	1.0007	1.0068	0.9993
1940	0.9993	0.9994	0.9995	0.9994	0.9999	0.9999	---	---	---	---	---	---	---	1.0002*	0.9990*
							PRISONERS POINT, SAN JOAQUIN RIVER, CALIF.								
1939	---	---	---	---	---	---	---	1.0059	1.0014	1.0005	1.0000	0.9997	---	1.0117*	0.9995*
1940	0.9993	0.9992	0.9991	0.9994	0.9999	0.9994	---	---	---	---	---	---	---	1.0009*	0.9989*
							COLLINSVILLE, SACRAMENTO RIVER, CALIF.								
1937	0.9999	0.9995	0.9997	0.9999	1.0001	0.9998	1.0005	1.0033	1.0050	1.0021	1.0000	0.9994	1.0008	1.0070	0.9992
							RIO VISTA, SACRAMENTO RIVER, CALIF.								
1938	---	---	0.9995	0.9995	0.9995	0.9995	0.9995	0.9994	0.9995	0.9993	0.9992	0.9991	---	1.0000*	0.9988*
1939	0.9991	0.9990	0.9991	0.9992	0.9991	0.9991	1.0000	1.0030	1.0020	0.9998	0.9992	0.9990	0.9998	1.0049	0.9986
1940	0.9990	0.9991	0.9993	0.9992	0.9992	0.9991	---	---	---	---	---	---	---	0.9998*	0.9988*
Mean Density	0.9990	0.9990	0.9993	0.9993	0.9993	0.9992	0.9998	1.0012	1.0008	0.9996	0.9992	0.9990	0.9996		
Salinity	0.0	0.0	0.2	0.2	0.2	0.0	0.8	2.6	2.1	0.6	0.0	0.0	0.6		
Max.	0.9993	0.9993	1.0000	0.9998	0.9999	1.0001	1.0015	1.0049	1.0037	1.0005	0.9996	0.9993		1.0049	
Mean Max.	0.9992	0.9993	0.9997	0.9996	0.9996	0.9998	1.0006	1.0024	1.0018	1.0001	0.9996	0.9992			
Mean Min.	0.9989	0.9990	0.9990	0.9990	0.9988	0.9989	0.9991	1.0001	0.9998	0.9991	0.9988	0.9988			
Min.	0.9988	0.9990	0.9988	0.9989	0.9986	0.9988	0.9990	0.9992	0.9990	0.9990	0.9988	0.9988			0.9986

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*
Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
NEW HOPE BRIDGE, MOKELUMNE RIVER, CALIF.															
1938	---	---	---	0.9995	0.9996	1.0006	0.9995	0.9994	0.9992	0.9994	0.9994	0.9993	---	1.0012*	0.9985*
1939	0.9993	0.9994	0.9995	0.9997	0.9996	0.9998	1.0003	1.0004	0.9996	0.9994	0.9992	0.9993	0.9996	1.0009	0.9984
1940	0.9993	0.9992	0.9994	0.9995	0.9996	1.0001	---	---	---	---	---	---	---	1.0010*	0.9990*
Mean Density	0.9993	0.9993	0.9994	0.9996	0.9996	1.0002	0.9999	0.9999	0.9994	0.9994	0.9993	0.9993	0.9996		
Salinity	0.2	0.2	0.3	0.6	0.6	1.3	0.9	0.9	0.3	0.3	0.2	0.2	0.6		
Max.	0.9995	0.9995	0.9997	1.0000	1.0007	1.0012	1.0006	1.0008	1.0006	1.0004	0.9996	0.9995		1.0012	
Mean Max.	0.9995	0.9994	0.9997	1.9998	1.0002	1.0010	1.0003	1.0003	1.0000	1.0001	0.9995	0.9994			
Mean Min.	0.9992	0.9991	0.9992	0.9992	0.9993	0.9995	0.9990	0.9996	0.9987	0.9992	0.9991	0.9992			
Min.	0.9991	0.9990	0.9991	0.9991	0.9993	0.9992	0.9985	0.9991	0.9984	0.9991	0.9991	0.9991			0.9984
BLUNTS REEF LIGHTSHIP															
1922 -1941															
Mean Salinity	33.07	32.99	33.03	33.11	33.49	33.69	33.84	33.77	33.64	33.54	33.28	33.19	33.39		
CRESCENT CITY, CALIF.															
1934	1.0192	1.0222	1.0217	1.0230	1.0229	1.0243	1.0239	1.0239	1.0240	1.0238	1.0210	1.0209	1.0226	1.0283	1.0127
1935	193	200	191	199	223	234	239	236	236	222	232	224	219	270	094
1936	189	195	218	214	219	224	231	233	244	246	245	238	225	251	113
1937	226	227	215	175	231	208	235	243	243	240	194	211	221	251	097
1938	212	168	175	218	230	221	239	244	247	243	234	228	222	261	102
1939	237	224	201	226	238	241	243	243	243	240	243	226	234	252	096
1940	203	183	193	225	225	245	238	242	239	239	229	229	224	269	117
1941	189	201	203	199	201	214	215	227	232	240	230	194	212	252	105
1942	210	211	232	230	217	220	233	240	236	242	212	184	222	254	097
1943	189	192	199	211	236	229	238	236	242	246	233	239	224	258	104
1944	231	227	235	227	232	235	244	242	243	245	223	224	234	256	169
1945	219	221	227	239	211	244	240	243	247	---	211	205	---	256*	147*
1946	206	220	223	224	221	234	244	240	240	242	230	228	229	257	154
1947 --	238	223	224	231	243	242	241	---	240	---	---	---	---	254*	176*
1950	---	---	---	---	242	248	250	248	---	---	---	---	---	261*	234*
1951	194	172	213	231	234	244	240	231	236	229	236	235	225	254	162
1952	211	181	227	236	204	197	228	234	232	---	243	223	---	247*	173*
1953	184	204	232	237	188	225	234	239	233	222	219	196	218	265	126
Mean Density	1.0207	1.0204	1.0213	1.0221	1.0224	1.0230	1.0237	1.0239	1.0240	1.0238	1.0226	1.0218	1.0225		
Salinity	28.1	27.7	28.9	29.9	30.3	31.1	32.0	32.3	32.4	32.1	30.6	29.5	30.4		
Max.	1.0247	1.0260	1.0258	1.0255	1.0257	1.0269	1.0260	1.0254	1.0261	1.0256	1.0253	1.0254		1.0269	
Mean Max.	1.0233	1.0231	1.0239	1.0243	1.0243	1.0252	1.0250	1.0248	1.0249	1.0247	1.0244	1.0237			
Mean Min.	1.0159	1.0165	1.0170	1.0177	1.0191	1.0194	1.0218	1.0228	1.0227	1.0220	1.0194	1.0178			
Min.	1.0094	1.0102	1.0103	1.0096	1.0142	1.0118	1.0166	1.0192	1.0190	1.0144	1.0097	1.0097			1.0094
BANDON, COQUILLE RIVER, ORE.															
1933	---	---	---	---	---	---	---	1.0229	1.0228	1.0227	1.0216	1.0096	---	1.0254*	0.9994*
1934	1.0046	1.0083	1.0106	---	---	---	---	---	---	---	---	---	---	1.0242*	0.9987*
COOS BAY ENTRANCE, ORE.															
1933	---	---	---	1.0220	1.0160	1.0235	1.0262	1.0262	1.0257	---	---	1.0175	---	1.0271*	1.0075*
1934	1.0163	1.0205	1.0201	---	---	---	---	---	---	---	---	---	---	1.0230*	1.0037*
GARDINER, UMPQUA RIVER, ORE.															
1933	---	---	---	---	---	1.0009	1.0091	1.0134	1.0110	1.0117	1.0082	1.0004	---	1.0180*	0.9989*
1934	0.9995	1.0016	1.0015	---	---	---	---	---	---	---	---	---	---	1.0103*	0.9988*
FLORENCE, SIUSLAW RIVER, ORE.															
1933	---	---	---	---	---	---	---	---	1.0163	1.0128	1.0104	1.0024	---	1.0209*	0.9995*
1934	1.0023	1.0092	1.0061	---	---	---	---	---	---	---	---	---	---	1.0237*	0.9994*

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*
Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							NEWPORT, YAQUINA BAY, ORE.								
1933	---	---	---	1.0159	1.0172	1.0212	1.0243	1.0248	1.0244	1.0240	1.0226	---	---	1.0258*	0.9998*
1934	1.0172	1.0213	1.0214	---	---	---	---	---	---	---	---	---	---	1.0239*	1.0039*
							TAFT, SILETZ BAY, ORE.								
1933	---	---	---	---	---	1.0104	1.0221	1.0219	1.0213	1.0177	1.0149	1.0031	---	1.0252*	0.9989*
1934	1.0034	1.0151	1.0087	1.0143	---	---	---	---	---	---	---	---	---	1.0245*	0.9989*
							GARIBALDI, TILLAMOOK BAY, ORE.								
1933	---	---	---	---	1.0119	1.0168	1.0224	1.0229	1.0173	1.0123	1.0113	---	---	1.0253*	1.0006*
1934	---	1.0147	1.0131	1.0121	---	---	---	---	---	---	---	---	---	1.0248*	1.0001*
							BRIGHTON, NEHALEM RIVER, ORE.								
1933	---	---	---	---	1.0089	1.0099	1.0191	1.0202	1.0200	1.0171	1.0155	1.0043	---	1.0282*	0.9991*
1934	1.0041	1.0139	1.0106	1.0117	---	---	---	---	---	---	---	---	---	1.0240*	0.9985*
							ASTORIA (Tongue Point), ORE.								
1925	0.9991	0.9987	0.9991	0.9993	0.9996	0.9997	0.9999	0.9995	0.9999	1.0008	1.0018	1.0007	0.9998	1.0073	0.9984
1926	1.0021	1.0005	1.0000	1.0005	0.9999	0.9999	0.9999	1.0005	1.0006	1.0008	1.0002	0.9996	1.0004	1.0062	0.9991
1927	1.0004	0.9997	0.9998	0.9998	0.9995	0.9997	0.9995	0.9993	0.9995	0.9996	0.9993	0.9991	0.9996	1.0044	0.9984
1928	0.9996	0.9996	0.9996	0.9994	0.9997	0.9996	0.9996	0.9993	0.9999	1.0001	1.0014	1.0022	0.9999	1.0072	0.9986
1929	1.0007	1.0017	0.9995	0.9995	0.9994	0.9996	0.9998	1.0003	1.0000	1.0016	1.0027	1.0016	1.0005	1.0088	0.9998
1930	1.0047	0.9992	1.0004	0.9998	0.9996	0.9997	0.9996	1.0001	1.0007	1.0018	1.0033	1.0042	1.0011	1.0095	0.9987
1931	1.0026	1.0020	1.0001	0.9998	0.9996	0.9995	0.9997	1.0005	1.0009	1.0021	1.0007	1.0022	1.0008	1.0102	0.9987
1932	0.9998	1.0008	0.9993	0.9993	0.9995	0.9998	0.9996	1.0000	1.0003	1.0011	0.9995	1.0003	0.9999	1.0062	0.9982
1933	0.9994	0.9996	0.9994	0.9993	0.9994	0.9995	0.9999	0.9995	0.9996	0.9999	0.9991	0.9990	0.9995	1.0035	0.9984
1934	0.9989	0.9994	0.9992	0.9991	0.9993	0.9993	0.9992	0.9995	1.0001	1.0012	1.0006	0.9997	0.9996	1.0067	0.9986
1935	1.0001	0.9999	0.9999	0.9999	0.9997	0.9999	0.9999	0.9998	1.0007	1.0020	1.0036	1.0051	1.0009	1.0095	0.9990
1936	0.9993	1.0025	0.9996	0.9998	0.9997	0.9997	0.9998	1.0005	1.0013	1.0037	1.0050	1.0037	1.0012	1.0097	0.9984
1937	1.0039	1.0008	1.0004	0.9997	0.9996	0.9993	0.9992	0.9999	1.0010	1.0028	1.0003	0.9996	1.0005	1.0095	0.9988
1938	0.9994	1.0004	0.9998	0.9995	0.9996	0.9997	0.9999	1.0000	1.0013	1.0021	1.0021	1.0009	1.0004	1.0059	0.9988
1939	1.0000	1.0000	0.9996	0.9989	0.9991	0.9991	0.9991	0.9995	1.0007	1.0021	1.0036	1.0011	1.0002	1.0080	0.9986
1940	1.0024	0.9998	0.9994	0.9991	0.9991	0.9992	0.9992	1.0001	1.0009	1.0023	1.0009	1.0021	1.0004	1.0096	0.9988
1941	1.0017	1.0022	1.0004	0.9994	0.9993	0.9990	0.9996	1.0000	1.0000	1.0002	1.0005	0.9994	1.0002	1.0071	0.9982
1942	1.0010	1.0000	0.9994	0.9991	0.9991	0.9992	0.9991	0.9997	1.0002	1.0014	0.9994	0.9991	0.9997	1.0050	0.9986
1943	0.9992	0.9993	0.9999	0.9993	0.9991	0.9994	0.9994	0.9992	1.0010	1.0018	1.0014	1.0008	1.0000	1.0082	0.9986
1944	1.0006	1.0002	1.0000	1.0001	0.9992	0.9992	0.9995	1.0000	1.0010	1.0028	1.0033	1.0041	1.0008	1.0099	0.9988
1945	1.0006	0.9997	0.9999	0.9991	0.9988	0.9991	0.9991	0.9994	1.0002	1.0024	1.0015	1.0015	1.0001	1.0082	0.9985
1946	1.0014	1.0000	---	---	---	---	---	---	1.0016	1.0017	1.0008	0.9999	---	1.0047*	0.9989*
1947	1.0006	0.9994	0.9998	0.9995	0.9998	0.9998	1.0000	1.0004	1.0010	1.0004	0.9994	0.9996	1.0000	1.0050	0.9986
1948	0.9998	0.9999	0.9994	0.9995	0.9994	0.9997	0.9999	0.9999	1.0006	1.0006	1.0000	1.0003	0.9999	1.0072	0.9989
1949	1.0010	0.9997	0.9994	0.9994	0.9992	0.9994	0.9995	0.9999	1.0009	1.0008	1.0017	1.0001	1.0001	1.0046	0.9989
1950	0.9996	0.9994	0.9992	0.9992	0.9992	0.9994	0.9996	0.9998	1.0001	1.0010	0.9994	0.9994	0.9996	1.0043	0.9986
1951	0.9992	0.9994	0.9993	0.9994	0.9994	0.9996	0.9998	1.0000	1.0003	1.0005	1.0013	1.0002	0.9999	1.0055	0.9989
1952	1.0004	0.9997	0.9997	0.9995	0.9996	0.9997	0.9999	1.0002	1.0009	1.0026	1.0036	1.0027	1.0007	1.0092	0.9992
1953	1.0002	0.9993	0.9996	0.9993	0.9995	0.9996	0.9998	1.0002	1.0008	1.0016	1.0016	0.9999	1.0001	1.0044	0.9990
Mean Density	1.0006	1.0001	0.9997	0.9995	0.9994	0.9995	0.9996	0.9999	1.0006	1.0014	1.0013	1.0010	1.0002		
Salinity	1.9	1.2	0.7	0.4	0.3	0.4	0.6	0.9	1.9	2.9	2.8	2.4	1.3		
Max.	1.0102	1.0076	1.0048	1.0029	1.0009	1.0004	1.0014	1.0055	1.0063	1.0099	1.0097	1.0096		1.0102	
Mean Max.	1.0039	1.0030	1.0017	1.0005	0.9999	1.0000	1.0001	1.0013	1.0033	1.0052	1.0049	1.0051			
Mean Min.	0.9990	0.9989	0.9990	0.9990	0.9990	0.9991	0.9992	0.9993	0.9994	0.9994	0.9992	0.9991			
Min.	0.9986	0.9984	0.9986	0.9982	0.9985	0.9985	0.9987	0.9987	0.9988	0.9982	0.9984	0.9984			0.9982
							WAUNA, COLUMBIA RIVER, ORE.								
1940	---	---	---	---	---	---	---	---	---	---	0.9990	0.9990	---	0.9995*	0.9988*
1941	0.9989	0.9990	0.9990	0.9993	0.9992	0.9994	0.9992	0.9995	0.9995	0.9992	0.9990	0.9990	0.9992	0.9999	0.9988
1942	0.9991	0.9990	0.9990	0.9992	0.9994	0.9997	0.9997	---	---	---	---	---	---	1.0000*	0.9988*

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							HARRINGTON POINT, COLUMBIA RIVER, WASH.								
1940	---	---	---	---	---	---	---	---	0.9994	0.9993	0.9990	0.9991	---	0.9996*	0.9989*
1941	0.9991	0.9992	0.9993	0.9995	0.9997	0.9998	0.9995	0.9995	0.9993	0.9991	0.9990	0.9991	0.9993	1.0001	0.9987
1942	0.9991	0.9990	0.9989	0.9992	0.9994	0.9997	1.0001	---	---	---	---	---	---	1.0005*	0.9988*
							SKAMOKAWA, COLUMBIA RIVER, WASH.								
1940	---	---	---	---	---	---	---	---	---	---	0.9989	0.9989	---	0.9992*	0.9985*
1941	0.9989	0.9989	0.9996	0.9991	0.9993	0.9990	0.9992	0.9989	0.9989	0.9990	0.9987	0.9987	0.9990	0.9999	0.9984
1942	0.9988	0.9987	0.9988	0.9988	0.9990	0.9992	0.9991	---	---	---	---	---	---	1.0000*	0.9984*
							CATHLAMET, COLUMBIA RIVER, WASH.								
1940	---	---	---	---	---	---	---	---	0.9992	0.9991	0.9991	0.9991	---	0.9995*	0.9989*
1941	0.9990	0.9993	0.9995	0.9996	0.9995	0.9996	0.9997	0.9994	0.9995	0.9993	0.9994	0.9992	0.9994	1.0000	0.9989
1942	0.9992	0.9996	0.9995	0.9995	0.9995	0.9996	0.9999	---	---	---	---	---	---	1.0002*	0.9991*
							TOKELAND, WILLAPA BAY, WASH.								
1935	1.0131	1.0163	1.0146	1.0166	1.0193	1.0181	1.0203	1.0216	1.0216	1.0213	1.0200	1.0190	1.0185	1.0237	1.0040
1936	126	166	157	160	148	135	175	208	217	218	221	167	175	236	043
1937	189	167	158	153	166	173	201	204	213	201	146	157	177	231	056
1938	136	157	153	131	177	199	205	217	212	210	179	178	180	234	007
1939	150	136	154	174	183	182	183	219	213	216	208	---	---	233*	060*
Mean Density	1.0146	1.0158	1.0154	1.0157	1.0173	1.0174	1.0193	1.0213	1.0214	1.0212	1.0191	1.0173	1.0180		
Salinity	20.1	21.7	21.2	21.6	23.7	23.8	26.3	28.9	29.0	28.8	26.0	23.7	24.6		
Max.	1.0237	1.0209	1.0215	1.0201	1.0223	1.0234	1.0231	1.0233	1.0236	1.0232	1.0235	1.0210		1.0237	
Mean Max.	1.0205	1.0200	1.0203	1.0192	1.0209	1.0214	1.0223	1.0227	1.0230	1.0227	1.0219	1.0203			
Mean Min.	1.0084	1.0074	1.0063	1.0105	1.0138	1.0137	1.0155	1.0197	1.0197	1.0192	1.0151	1.0112			
Min.	1.0041	1.0043	1.0011	1.0007	1.0113	1.0101	1.0117	1.0187	1.0189	1.0187	1.0065	1.0056			1.0007

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							RAYMOND, WILLAPA BAY WASH.								
1935	---	---	1.0010	1.0045	1.0051	1.0070	1.0110	1.0143	1.0143	1.0148	1.0117	1.0091	---	1.0183*	0.9994*
1936	1.0008	1.0080	024	059	051	040	068	---	---	---	105	064	---	196*	0.9994*
1937	052	029	041	017	045	---	---	---	---	---	048	020	---	092*	0.9994*
1938	024	035	036	026	053	101	129	159	166	144	043	050	1.0080	179	1.0002
1939	036	028	030	069	098	071	097	155	163	150	115	057	089	184	004
1940	054	020	025	027	039	112	152	147	148	107	064	053	079	181	004
1941	054	072	085	088	080	084	124	152	084	095	064	039	085	178	005
1942	058	047	048	059	054	---	---	---	---	---	---	---	---	109*	006*
Mean Density	1.0041	1.0044	1.0037	1.0049	1.0059	1.0080	1.0113	1.0151	1.0141	1.0129	1.0079	1.0053	1.0081		
Salinity	6.4	6.8	5.9	7.5	8.8	11.5	15.8	20.8	19.5	17.9	11.4	8.0	11.6		
Max.	1.0139	1.0139	1.0135	1.0135	1.0145	1.0132	1.0178	1.0180	1.0184	1.0183	1.0196	1.0183		1.0196	
Mean Max.	1.0098	1.0101	1.0090	1.0092	1.0106	1.0111	1.0156	1.0174	1.0170	1.0168	1.0137	1.0115			
Mean Min.	1.0006	1.0006	1.0004	1.0014	1.0013	1.0043	1.0070	1.0121	1.0107	1.0070	1.0023	1.0004			
Min.	0.9994	0.9994	0.9994	1.0005	1.0002	1.0011	1.0029	1.0110	1.0032	1.0022	1.0005	0.9995			0.9994
							ABERDEEN, GRAYS HARBOR, WASH.								
1934	---	---	---	---	---	1.0031	1.0075	1.0097	1.0107	1.0082	1.0002	1.0004	---	1.0156*	0.9990*
1935	1.0001	1.0007	0.9998	1.0013	1.0024	049	065	---	---	---	---	---	---	1.0103*	0.9989*
							NEAH BAY, WASH.								
1936	1.0227	1.0238	1.0236	1.0241	1.0232	1.0215	1.0236	1.0244	1.0246	1.0246	1.0242	1.0239	1.0237	1.0251	1.0173
1937	243	240	233	233	236	234	243	246	248	238	231	233	238	253	204
1938	230	229	232	228	242	246	247	250	249	239	241	238	239	255	205
1939	232	236	236	246	236	240	246	245	244	243	236	235	240	254	188
1940	235	227	224	232	228	238	241	245	243	235	238	233	235	252	197
1941	233	233	235	235	234	238	239	243	242	235	232	226	235	259	199
1942	229	233	230	228	233	235	235	242	247	238	234	216	233	253	161
1943	227	224	235	216	233	240	240	244	245	240	242	235	235	255	177
1944	229	237	239	234	241	243	245	245	235	242	234	242	239	255	167

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							NEAH BAY, WASH. - Continued								
1945	1.0231	1.0236	1.0230	1.0234	1.0230	1.0245	1.0244	1.0241	1.0239	1.0234	1.0221	1.0220	1.0234	1.0255	1.0106
1946	213	214	217	216	231	211	224	237	237	238	232	219	224	247	161
1947	224	216	224	231	232	212	234	238	240	226	224	221	227	246	158
1948	219	229	223	221	217	220	232	236	225	233	231	220	226	246	153
1949	232	218	217	232	229	236	239	239	242	239	227	222	231	254	106
1950	226	216	209	218	236	240	236	237	236	228	224	217	229	253	161
1951	214	198	---	---	---	---	---	---	---	230	230	225	---	243*	108*
1952	221	214	227	229	225	232	237	235	238	239	232	226	230	245	197
1953	217	191	224	227	220	232	234	234	233	228	222	212	223	240	099
Mean Density	1.0227	1.0224	1.0228	1.0229	1.0231	1.0233	1.0238	1.0241	1.0241	1.0236	1.0232	1.0227	1.0232		
Salinity	30.7	30.3	30.8	31.0	31.2	31.5	32.1	32.5	32.5	31.9	31.4	30.7	31.4		
Max.	1.0250	1.0248	1.0249	1.0254	1.0250	1.0252	1.0255	1.0253	1.0255	1.0259	1.0250	1.0249		1.0259	
Mean Max.	1.0236	1.0236	1.0238	1.0240	1.0242	1.0244	1.0246	1.0248	1.0249	1.0246	1.0240	1.0236			
Mean Min.	1.0213	1.0191	1.0212	1.0214	1.0209	1.0214	1.0225	1.0228	1.0225	1.0220	1.0209	1.0210			
Min.	1.0189	1.0099	1.0166	1.0177	1.0178	1.0153	1.0198	1.0180	1.0167	1.0190	1.0106	1.0161			1.0099
							PORT ANGELES, WASH.								
1934	---	---	---	---	---	---	---	1.0226	1.0229	1.0228	1.0221	1.0222	---	1.0239*	1.0199*
1935	1.0200	1.0215	1.0217	1.0220	1.0228	1.0230	1.0229	231	231	---	---	---	---	238*	147*
							PORT TOWNSEND (Fort Worden), WASH.								
1935	---	---	---	1.0225	1.0226	1.0227	1.0230	1.0232	1.0234	1.0234	1.0235	1.0234	---	1.0241*	1.0217*
1936	1.0230	1.0229	---	---	---	---	---	---	---	---	---	---	---	237*	224*
							EVERETT, WASH.								
1934	---	---	---	---	---	---	---	1.0176	1.0189	1.0183	1.0146	1.0156	---	1.0221*	0.9985*
1935	1.0153	1.0131	1.0158	1.0140	1.0101	1.0104	1.0113	170	---	---	---	---	---	218*	1.0014*
							BREMERTON, WASH.								
1934	---	---	---	---	---	---	1.0218	1.0221	1.0222	1.0221	1.0218	1.0213	---	1.0228*	1.0147*
1935	1.0198	1.0199	1.0204	1.0208	1.0213	1.0215	216	219	222	222	223	216	1.0213	236	097
1936	217	217	---	---	---	209	219	218	---	223	224	---	---	257*	193*
							SEATTLE (Elliott Bay), WASH.								
1922	1.0189	1.0186	1.0174	1.0146	1.0140	1.0171	1.0199	1.0208	1.0213	---	1.0211	1.0206	---	1.0224*	1.0068*
1923	172	193	188	168	177	180	201	208	213	1.0212	216	200	1.0194	223	117
1924	198	164	185	184	190	205	216	219	223	221	198	189	200	232	099
1925	193	181	190	175	182	195	206	210	214	218	218	212	200	225	110
1926	201	199	185	197	202	206	216	220	218	212	211	203	206	224	149
1927	198	183	177	176	160	164	205	211	210	204	194	189	189	220	101
1928	183	196	182	167	173	187	203	211	216	211	213	216	197	222	138
1929	215	211	203	194	183	176	205	215	218	220	220	214	207	228	111
1930	214	190	193	183	189	194	203	210	212	212	216	214	202	221	136
1931	201	200	191	175	176	190	198	207	210	207	203	206	197	220	137
1932	194	195	166	166	171	177	191	202	208	210	183	187	188	221	123
1933	183	199	184	179	179	171	187	201	203	198	190	168	187	217	126
1934	169	182	177	180	186	196	204	206	210	211	199	199	193	217	127
1935	188	185	185	188	182	190	200	207	210	212	214	215	198	220	145
1936	194	202	190	188	177	174	195	205	211	217	218	209	198	222	143
1937	215	206	194	190	189	184	196	206	211	215	200	192	200	222	150
1938	192	198	190	175	177	186	205	209	216	225	228	226	202	241	132
1939	221	220	218	217	220	215	217	221	224	227	229	226	221	238	206
1940	221	217	216	210	212	216	217	220	223	226	224	222	219	238	196
1941	222	220	220	217	202	210	222	224	227	227	224	223	220	231	167
1942	221	221	220	221	224	221	225	225	226	229	230	228	224	235	216
1943	223	221	221	218	220	222	220	229	232	231	232	230	225	252	206
1944	229	226	227	226	226	224	225	230	232	231	233	226	228	244	215

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SEATTLE (Elliott Bay), WASH. - Continued								
1945	1.0223	1.0228	1.0222	1.0222	1.0223	1.0220	1.0222	1.0223	1.0228	1.0230	1.0229	1.0223	1.0224	1.0263	1.0212
1946	215	216	215	213	212	210	211	217	223	225	225	219	217	231	201
1947	218	214	212	214	211	212	216	220	223	225	218	---	---	229*	198*
1948	215	216	214	214	214	203	209	214	218	219	221	220	215	228	181
1949	220	218	214	213	205	208	216	220	223	225	227	220	217	231	189
1950	220	218	211	208	206	210	208	213	219	223	220	213	214	230	190
1951	211	204	210	213	212	214	216	---	---	204	227	224	---	234*	162*
1952	223	222	220	216	219	218	223	224	228	229	227	225	223	237	203
1953	221	209	211	215	214	215	213	216	220	220	221	217	216	233	200
Mean Density	1.0206	1.0204	1.0200	1.0196	1.0195	1.0199	1.0209	1.0215	1.0218	1.0219	1.0216	1.0212	1.0207		
Salinity	28.0	27.7	27.2	26.7	26.5	27.1	28.4	29.1	29.5	29.7	29.3	28.8	28.1		
Max.	1.0240	1.0257	1.0234	1.0259	1.0263	1.0249	1.0239	1.0252	1.0244	1.0250	1.0254	1.0241		1.0263	
Mean Max.	1.0219	1.0217	1.0214	1.0213	1.0214	1.0214	1.0219	1.0222	1.0225	1.0227	1.0226	1.0223			
Mean Min.	1.0186	1.0183	1.0178	1.0174	1.0172	1.0177	1.0196	1.0206	1.0210	1.0204	1.0203	1.0193			
Min.	1.0123	1.0099	1.0106	1.0104	1.0068	1.0101	1.0154	1.0185	1.0181	1.0137	1.0146	1.0126			1.0068
							SEATTLE (Duwamish River, WASH.								
1924	---	---	---	---	---	---	1.0088	1.0185	1.0188	1.0199	1.0120	1.0105	---	1.0240*	1.0038*
1925	1.0096	1.0099	1.0106	1.0103	---	---	---	---	---	---	---	---	---	134*	091*
							TACOMA, WASH.								
1934	---	---	---	---	---	---	1.0154	1.0160	1.0194	1.0192	1.0161	1.0175	---	1.0230*	1.0062*
1935	1.0160	1.0172	1.0187	1.0172	1.0153	1.0145	140	---	---	---	---	---	---	213*	059*
							OLYMPIA, WASH.								
1923	---	---	---	---	---	---	---	---	---	---	1.0199	1.0171	---	1.0214*	1.0088*
1924	1.0174	1.0135	1.0171	---	---	---	---	---	---	---	---	---	---	194*	014*
1934	---	---	---	---	---	---	1.0184	1.0190	1.0198	1.0192	143	159	---	216*	075*
1935	121	131	141	1.0135	1.0166	1.0169	191	---	---	---	---	---	---	211*	0.9986*
							ANACORTES, WASH.								
1922	1.0220	1.0220	1.0223	1.0224	1.0226	1.0221	1.0217	1.0224	1.0220	1.0224	1.0223	1.0226	1.0222	1.0240	1.0192
1923	220	222	223	225	224	224	222	225	221	224	226	224	223	223	194
1924	222	219	220	224	226	---	---	---	---	---	---	---	---	233*	200*
1934	---	---	---	---	---	---	---	---	---	---	222	219	---	225*	212*
1935	217	210	215	215	217	219	210	215	218	---	---	---	---	230*	190*
Mean Density	1.0220	1.0218	1.0220	1.0222	1.0223	1.0221	1.0216	1.0221	1.0220	1.0224	1.0224	1.0223	1.0221		
Salinity	29.8	29.5	29.8	30.1	30.2	29.9	29.3	29.9	29.8	30.3	30.3	30.2	29.9		
Max.	1.0232	1.0224	1.0230	1.0232	1.0240	1.0233	1.0233	1.0239	1.0229	1.0232	1.0230	1.0232		1.0240	
Mean Max.	1.0226	1.0221	1.0226	1.0228	1.0232	1.0230	1.0231	1.0232	1.0228	1.0230	1.0228	1.0229			
Mean Min.	1.0214	1.0211	1.0216	1.0216	1.0208	1.0206	1.0198	1.0204	1.0196	1.0218	1.0218	1.0218			
Min.	1.0209	1.0200	1.0210	1.0202	1.0197	1.0204	1.0190	1.0194	1.0192	1.0215	1.0215	1.0212			1.0190
							FRIDAY HARBOR, SAN JUAN ISLAND, WASH.								
1935	1.0222	1.0219	1.0221	1.0220	1.0222	1.0222	1.0216	1.0218	1.0225	1.0228	1.0228	1.0229	1.0222	1.0232	1.0185
1936	228	232	227	229	226	223	219	220	222	227	229	231	226	234	195
1937	229	231	230	229	227	226	219	222	214	228	227	214	225	236	195
1938	212	215	224	223	223	221	218	225	228	229	229	228	223	231	176
1939	226	226	228	228	221	225	218	220	226	228	226	224	225	232	190
1940	219	221	220	222	218	218	220	222	225	228	226	226	222	229	195
1941	225	222	224	224	219	224	221	225	226	226	225	224	224	234	189
1942	222	222	224	226	226	---	---	---	---	---	---	---	---	228*	217*
1943	---	---	---	---	---	---	---	---	---	---	228	226	---	233*	223*
1944	226	225	227	228	228	228	227	227	228	225	226	224	227	247	200
1945	222	220	223	220	221	214	---	---	---	---	---	---	---	228*	199*
1946	---	---	---	---	224	224	223	223	---	---	---	---	---	239*	197*
1947	---	---	---	---	227	222	225	221	228	230	226	228	---	236*	186*
1948	223	224	224	225	224	212	210	222	221	221	226	223	221	235	141
1949	224	228	227	229	226	221	225	229	229	229	230	226	227	235	206

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
FRIDAY HARBOR, SAN JUAN ISLAND, WASH. - Continued															
1950	1.0226	1.0227	1.0225	1.0224	1.0226	1.0226	1.0219	1.0221	1.0223	1.0227	1.0228	1.0224	1.0225	1.0233	1.0194
1951	222	222	221	225	226	---	---	223	228	233	230	229	---	237*	209*
1952	230	227	228	229	228	224	223	228	---	---	---	---	---	236*	198*
Mean Density	1.0224	1.0224	1.0225	1.0225	1.0224	1.0222	1.0220	1.0223	1.0225	1.0228	1.0227	1.0225	1.0224		
Salinity	30.3	30.3	30.4	30.4	30.3	30.1	29.8	30.2	30.4	30.8	30.7	30.4	30.3		
Max.	1.0232	1.0232	1.0232	1.0232	1.0233	1.0236	1.0247	1.0237	1.0235	1.0237	1.0235	1.0234		1.0247	
Mean Max.	1.0227	1.0227	1.0227	1.0228	1.0230	1.0229	1.0231	1.0230	1.0231	1.0232	1.0231	1.0229			
Mean Min.	1.0219	1.0221	1.0222	1.0222	1.0214	1.0202	1.0197	1.0202	1.0214	1.0220	1.0223	1.0220			
Min.	1.0193	1.0212	1.0215	1.0216	1.0189	1.0164	1.0141	1.0185	1.0194	1.0200	1.0218	1.0198			1.0141
KETCHIKAN, ALASKA															
1922	---	---	1.0229	1.0226	1.0205	1.0190	1.0210	1.0201	1.0183	1.0182	1.0170	1.0202	---	1.0233*	1.0080*
1923	1.0222	1.0227	214	206	197	185	184	185	183	189	170	---	---	233*	117*
1924	208	205	213	225	200	178	177	192	167	177	191	207	1.0195	238	119
1925	230	231	229	221	200	181	177	183	192	212	197	173	202	239	131
1926	170	197	190	204	201	194	197	192	209	198	201	213	197	228	128
1927	220	227	224	224	216	197	182	191	197	182	206	222	207	242	160
1928	202	208	208	208	189	175	178	185	208	195	197	204	196	229	115
1929	203	227	220	224	218	199	181	177	198	187	170	193	200	236	101
1930	221	224	222	221	212	180	185	188	204	183	173	165	198	237	102
1931	177	197	209	216	197	190	188	183	189	188	187	214	195	254	139
1932	214	225	211	216	203	196	180	177	173	176	181	209	197	233	128
1933	214	220	224	217	203	182	171	162	173	179	171	192	192	230	132
1934	202	189	205	208	196	188	183	190	193	191	186	203	194	227	129
1935	225	206	212	215	216	219	223	222	221	212	210	207	216	230	168
1936	210	207	212	215	212	203	190	212	192	165	111	122	188	231	101
1937	199	202	193	202	192	204	166	121	138	175	170	169	178	226	107
1938	189	195	202	191	207	197	194	196	201	180	198	200	196	223	106
1939	200	216	227	218	195	186	179	170	175	177	173	173	191	267	112
1940	207	217	216	208	213	211	196	171	187	198	193	187	201	231	149
1941	211	215	226	218	214	214	206	205	204	---	174	186	---	238*	139*
1942	---	216	213	225	215	209	205	208	199	183	179	202	---	233*	152*
1943	204	218	221	225	224	224	217	201	---	188	184	192	---	242*	124*
1944	187	202	223	224	224	225	204	178	186	186	189	197	202	244	132
1945	219	230	234	233	222	194	193	198	198	193	198	216	211	246	167
1946	219	225	217	218	207	188	---	---	196	182	192	218	---	230*	112*
1947	214	217	208	208	198	180	173	191	178	169	184	198	193	227	137
1948	202	215	221	228	214	165	173	192	171	185	185	210	197	233	149
1949	218	224	221	204	182	171	167	152	179	171	168	196	188	231	127
1950	225	228	226	223	206	178	172	173	178	189	208	218	202	238	148
1951	215	226	227	222	196	170	186	186	198	196	212	213	204	232	107
1952	231	218	227	217	197	172	179	189	186	180	188	208	199	235	150
1953	223	225	216	215	187	180	180	182	182	177	173	191	194	231	133
Mean Density	1.0209	1.0215	1.0217	1.0216	1.0205	1.0191	1.0187	1.0186	1.0188	1.0185	1.0184	1.0197	1.0198		
Salinity	28.4	29.1	29.4	29.3	27.8	26.0	25.5	25.4	25.6	25.2	25.1	26.8	26.9		
Max.	1.0244	1.0244	1.0250	1.0267	1.0240	1.0244	1.0242	1.0228	1.0228	1.0229	1.0226	1.0233		1.0267	
Mean Max.	1.0225	1.0226	1.0228	1.0230	1.0224	1.0211	1.0206	1.0205	1.0210	1.0208	1.0205	1.0219			
Mean Min.	1.0174	1.0186	1.0188	1.0192	1.0174	1.0163	1.0163	1.0163	1.0161	1.0147	1.0150	1.0166			
Min.	1.0107	1.0101	1.0107	1.0110	1.0111	1.0107	1.0114	1.0113	1.0097	1.0101	1.0080	1.0101			1.0080
SITKA, ALASKA															
1924	---	---	---	---	---	---	---	---	---	---	1.0195	1.0192	---	1.0217*	1.0135*
1925	1.0211	1.0228	1.0213	1.0211	1.0159	1.0164	1.0136	1.0151	1.0157	1.0172	179	179	1.0180	233	082
--															
1943	---	---	---	---	190	177	174	172	166	189	211	200	---	240*	114*
1944	218	221	220	216	197	172	181	184	181	193	206	209	200	234	102

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SITKA, ALASKA - Continued								
1945	1.0220	1.0221	1.0211	1.0212	1.0177	1.0166	1.0165	1.0181	1.0178	1.0185	1.0221	1.0222	1.0196	1.0235	1.0109
1946	223	228	227	---	195	171	178	178	186	194	210	227	---	236*	105*
1947	217	231	202	212	195	195	197	206	161	205	208	219	204	237	124
1948	212	230	232	234	205	188	192	194	186	209	201	227	209	239	136
1949	218	235	227	221	205	200	183	198	203	200	206	226	210	239	122
1950	236	238	236	236	217	192	192	194	208	222	232	237	220	242	128
1951	232	238	235	216	205	186	179	196	193	217	223	228	212	242	137
1952	234	229	229	221	196	185	182	194	180	189	201	225	205	240	132
1953	231	223	223	222	199	175	184	190	188	197	212	211	205	237	130
Mean Density	1.0223	1.0229	1.0223	1.0220	1.0195	1.0181	1.0179	1.0186	1.0182	1.0198	1.0208	1.0216	1.0203		
Salinity	30.2	31.0	30.2	29.8	26.5	24.7	24.4	25.4	24.8	26.9	28.2	29.3	27.6		
Max.	1.0242	1.0242	1.0242	1.0242	1.0235	1.0225	1.0223	1.0232	1.0228	1.0233	1.0242	1.0242		1.0242	
Mean Max.	1.0235	1.0236	1.0236	1.0233	1.0224	1.0213	1.0210	1.0216	1.0215	1.0222	1.0229	1.0229			
Mean Min.	1.0203	1.0216	1.0202	1.0200	1.0156	1.0139	1.0144	1.0142	1.0139	1.0146	1.0170	1.0181			
Min.	1.0172	1.0180	1.0141	1.0177	1.0102	1.0105	1.0093	1.0091	1.0095	1.0111	1.0082	1.0089			1.0082
							JUNEAU, ALASKA								
1937	1.0206	1.0218	1.0218	1.0214	1.0120	1.0094	1.0097	1.0098	1.0116	1.0130	1.0191	1.0206	1.0159	1.0243	1.0012
1938	212	213	211	206	150	124	099	104	120	133	182	192	162	237	032
1939	216	214	224	214	176	110	085	079	093	144	185	196	161	233	005
1940	211	219	224	214	150	129	088	105	---	---	---	---	---	235*	008*
1941	---	---	---	---	---	---	---	---	---	167	187	220	---	225*	061*
1942	192	211	---	208	141	101	090	098	115	132	199	218	---	229*	040*
1943	212	210	214	161	135	090	058	072	104	122	154	---	---	230*	012*
1944	199	205	208	168	128	082	081	095	111	108	158	181	144	228	032
1945	204	217	218	219	140	101	096	091	104	109	202	225	160	244	0.9986
1946	219	226	217	206	132	093	090	083	128	143	159	216	159	249	0.9999
1947	204	216	178	175	135	078	078	114	084	127	151	177	143	259	1.0023
1948	188	212	226	225	112	074	077	086	103	137	152	210	150	245	026
1949	194	228	219	189	148	111	101	117	130	139	129	204	159	275	024
1950	226	227	231	224	169	165	112	101	089	---	192	205	---	246*	022*
1951	219	222	217	190	133	112	148	164	125	175	196	201	175	234	027
1952	222	223	224	213	123	092	081	092	090	096	128	192	148	277	005
1953	214	217	222	193	104	093	062	082	101	137	175	203	150	237	030
Mean Density	1.0209	1.0217	1.0217	1.0201	1.0137	1.0103	1.0090	1.0099	1.0108	1.0133	1.0171	1.0203	1.0157		
Salinity	28.4	29.4	29.4	27.3	19.0	14.5	12.8	14.0	15.2	18.4	23.4	27.6	21.6		
Max.	1.0259	1.0244	1.0277	1.0243	1.0245	1.0206	1.0194	1.0235	1.0201	1.0222	1.0237	1.0249		1.0277	
Mean Max.	1.0232	1.0233	1.0240	1.0231	1.0213	1.0168	1.0142	1.0161	1.0167	1.0187	1.0213	1.0231			
Mean Min.	1.0146	1.0161	1.0165	1.0129	1.0054	1.0045	1.0039	1.0039	1.0043	1.0052	1.0093	1.0142			
Min.	1.0072	1.0095	1.0050	1.0058	1.0005	0.9999	1.0008	1.0005	1.0006	0.9986	1.0028	1.0078			0.9986
							HAINES, ALASKA								
1949	1.0227	---	1.0233	1.0219	1.0181	1.0150	1.0064	1.0039	1.0067	1.0166	1.0184	1.0209	---	1.0247*	1.0009*
1950	---	1.0228	232	228	217	116	064	067	079	184	231	236	---	261*	019*
1951	235	---	---	---	---	---	---	---	---	---	---	---	---	237*	---
							SKAGWAY, ALASKA								
1944	---	---	---	---	---	---	---	1.0036	1.0071	1.0102	1.0214	1.0205	---	1.0259*	0.9997*
1945	1.0230	1.0232	1.0230	1.0228	1.0127	1.0046	1.0027	010	077	095	223	232	1.0146	244	0.9995
1946	234	233	---	---	129	033	010	012	081	153	196	237	---	242*	0.9997*
1947	235	242	216	222	164	050	034	077	057	136	197	200	152	248	1.0001
1948	219	232	238	241	---	---	---	---	---	---	---	---	---	246*	1.0210*
1949	---	---	---	---	167	095	075	023	---	165	158	218	---	235*	0.9999*
1950	239	240	235	234	190	065	035	041	058	196	232	237	167	244	1.0005
1951	237	242	240	228	155	---	015	003	074	209	228	234	---	252*	0.9996*
1952	235	236	234	225	174	074	004	029	079	063	124	213	141	246	0.9988
1953	229	229	230	223	132	041	008	015	070	164	215	214	148	237	0.9995

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SKAGWAY, ALASKA - Continued								
Mean Density	1.0232	1.0236	1.0232	1.0229	1.0155	1.0058	1.0026	1.0027	1.0071	1.0143	1.0199	1.0221	1.0152		
Salinity	31.4	31.9	31.4	31.0	21.3	8.6	4.5	4.6	10.3	19.7	27.1	29.9	20.9		
Max.	1.0248	1.0252	1.0249	1.0246	1.0230	1.0193	1.0143	1.0164	1.0224	1.0238	1.0259	1.0243		1.0259	
Mean Max.	1.0240	1.0241	1.0240	1.0240	1.0222	1.0152	1.0070	1.0080	1.0185	1.0212	1.0228	1.0233			
Mean Min.	1.0224	1.0229	1.0213	1.0173	1.0050	1.0008	0.9999	0.9999	1.0009	1.0037	1.0129	1.0182			
Min.	1.0210	1.0214	1.0135	1.0095	1.0014	1.0000	0.9988	0.9989	0.9999	1.0000	1.0009	1.0108			0.9988
							YAKUTAT, ALASKA								
1941	1.0228	1.0226	1.0219	1.0216	---	---	---	1.0172	1.0204	---	1.0218	1.0225	---	1.0234*	1.0138*
1942	220	216	218	218	1.0205	1.0189	1.0155	169	---	1.0203	218	228	---	265*	105*
1943	221	227	---	217	213	201	192	---	188	200	208	201	---	236*	174*
1944	212	216	215	213	---	179	164	166	184	188	---	---	---	229*	120*
1945	224	224	221	224	204	201	190	177	182	200	222	225	1.0208	237	146
1946	226	227	226	225	210	186	167	169	199	216	221	230	208	235	127
1947	---	234	219	222	217	203	194	192	192	207	219	218	---	242*	126*
1948	221	228	228	230	---	---	---	---	---	---	---	224	---	241*	189*
1949	213	217	215	204	188	182	167	176	184	201	205	216	197	235	103
1950	221	230	229	223	212	199	177	183	193	216	230	233	212	240	101
1951	234	235	235	225	218	205	177	173	170	212	219	229	211	243	118
1952	234	235	236	231	221	184	176	170	175	185	195	212	204	239	114
1953	222	219	219	207	208	188	150	149	174	203	213	215	197	232	101
Mean Density	1.0223	1.0226	1.0223	1.0220	1.0210	1.0192	1.0174	1.0172	1.0186	1.0203	1.0215	1.0221	1.0205		
Salinity	30.2	30.6	30.2	29.8	28.5	26.1	23.8	23.5	25.4	27.6	29.1	29.9	27.8		
Max.	1.0241	1.0242	1.0243	1.0241	1.0239	1.0233	1.0233	1.0231	1.0225	1.0234	1.0238	1.0265		1.0265	
Mean Max.	1.0232	1.0234	1.0233	1.0231	1.0229	1.0224	1.0213	1.0208	1.0214	1.0222	1.0226	1.0232			
Mean Min.	1.0207	1.0213	1.0208	1.0200	1.0180	1.0148	1.0133	1.0132	1.0152	1.0169	1.0197	1.0206			
Min.	1.0189	1.0185	1.0180	1.0156	1.0149	1.0101	1.0103	1.0101	1.0111	1.0118	1.0166	1.0174			1.0101
							CORDOVA, ALASKA								
1949	---	---	---	---	---	1.0216	1.0208	1.0195	1.0180	1.0190	---	1.0224	---	1.0227*	1.0161*
1950	1.0228	1.0232	1.0230	1.0230	1.0220	213	202	191	182	205	1.0224	229	1.0216	235	161
1951	---	229	229	229	228	---	196	170	175	200	214	222	---	232*	140*
1952	229	226	228	---	227	---	---	---	206	205	214	226	---	233*	148*
1953	231	223	235	223	---	---	---	---	187	211	---	---	---	238*	135*
Mean Density	1.0229	1.0228	1.0230	1.0227	1.0225	1.0214	1.0202	1.0185	1.0186	1.0202	1.0217	1.0225	1.0214		
Salinity	31.0	30.8	31.1	30.7	30.4	29.0	27.5	25.2	25.4	27.5	29.4	30.4	29.0		
Max.	1.0234	1.0236	1.0238	1.0234	1.0232	1.0226	1.0220	1.0207	1.0225	1.0223	1.0231	1.0232		1.0238	
Mean Max.	1.0233	1.0233	1.0234	1.0233	1.0231	1.0225	1.0213	1.0195	1.0211	1.0218	1.0227	1.0230			
Mean Min.	1.0225	1.0215	1.0225	1.0217	1.0211	1.0202	1.0185	1.0163	1.0151	1.0177	1.0205	1.0218			
Min.	1.0223	1.0187	1.0224	1.0203	1.0187	1.0201	1.0170	1.0140	1.0135	1.0161	1.0202	1.0213			1.0135
							SEWARD, ALASKA								
1926	1.0181	1.0200	1.0180	1.0176	1.0128	1.0121	1.0037	1.0049	1.0120	1.0162	1.0141	1.0209	1.0142	1.0251	1.0001
1927	216	215	225	220	205	064	019	048	---	194	209	---	---	274*	0.9998*
1928	---	---	218	209	153	135	059	093	137	186	195	208	---	269*	1.0005*
1929	227	227	233	207	175	056	060	086	065	---	158	231	---	274*	1.0009*
1930	250	---	175	216	168	109	064	051	133	204	214	210	---	292*	1.0005*
1931	218	215	224	210	177	082	058	068	145	183	193	220	166	234	1.0000
1932	228	236	222	212	196	139	095	091	158	146	218	218	180	251	1.0005
1933	228	223	235	230	182	133	083	081	158	207	205	237	184	249	1.0001
1934	228	204	211	189	115	087	097	072	108	142	187	187	152	266	0.9998
1935	215	205	223	216	179	097	052	127	138	166	206	217	170	264	1.0000
1936	208	214	223	210	173	084	092	069	145	129	156	193	158	233	0.9999
1937	214	225	218	222	166	080	073	119	108	131	---	---	---	237*	1.0000*
1938	---	---	---	---	175	085	060	090	100	137	190	182	---	265*	1.0001*
1939	215	222	233	229	---	078	052	059	162	184	186	210	---	249*	0.9996*
--															
1944	---	---	---	---	---	---	---	---	---	156	198	200	---	233*	1.0081*

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*
Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SEWARD, ALASKA - Continued								
1945	1.0197	1.0204	1.0215	1.0212	1.0149	1.0061	1.0066	1.0042	1.0127	1.0128	1.0210	1.0207	1.0152	1.0231	1.0002
1946	---	225	227	221	155	071	046	062	083	148	205	230	---	236*	1.0000*
1947	228	208	183	210	139	063	065	092	104	145	---	---	---	236*	0.9996*
1948	---	---	---	---	---	---	---	129	136	153	---	---	---	232*	1.0037*
1949	---	---	---	---	177	116	057	113	078	180	170	215	---	235*	0.9995*
1950	230	233	224	224	185	077	060	053	095	169	225	228	167	249	1.0004
1951	225	---	227	211	197	170	104	127	113	192	203	---	---	260*	0.9987*
1952	---	---	---	---	---	116	057	098	142	091	142	198	---	235*	1.0000*
1953	203	205	222	180	135	090	053	072	121	162	194	212	154	236	0.9995
Mean Density	1.0218	1.0216	1.0217	1.0211	1.0166	1.0096	1.0064	1.0082	1.0122	1.0161	1.0191	1.0211	1.0163		
Salinity	29.5	29.3	29.4	28.6	22.7	13.6	9.4	11.8	17.0	22.1	26.0	28.6	22.4		
Max.	1.0292	1.0255	1.0255	1.0274	1.0260	1.0244	1.0243	1.0228	1.0236	1.0269	1.0266	1.0274		1.0292	
Mean Max.	1.0237	1.0237	1.0240	1.0239	1.0228	1.0203	1.0171	1.0188	1.0214	1.0221	1.0228	1.0237			
Mean Min.	1.0173	1.0168	1.0174	1.0147	1.0069	1.0011	1.0005	1.0011	1.0019	1.0054	1.0101	1.0143			
Min.	1.0064	1.0079	1.0098	1.0062	1.0014	0.9996	0.9987	0.9995	0.9993	0.9996	1.0006	1.0045			0.9987
							KODIAK, KODIAK ISLAND, ALASKA								
1935	---	---	---	---	1.0225	1.0228	1.0232	1.0238	1.0226	1.0228	1.0231	1.0231	---	1.0251*	1.0162*
1936	1.0227	1.0232	1.0237	1.0241	221	229	---	---	---	---	---	---	---	245*	168*
							WOMENS BAY, KODIAK ISLAND, ALASKA								
1950	---	---	---	---	---	1.0111	1.0080	1.0130	1.0079	1.0185	1.0228	1.0236	---	1.0269*	0.9999*
1951	1.0231	1.0224	1.0234	1.0212	1.0178	115	189	207	198	218	213	222	1.0203	244	1.0037
1952	227	224	228	233	202	174	184	213	205	200	197	210	208	285	054
1953	197	219	227	196	153	133	163	197	214	177	177	202	188	249	004
Mean Density	1.0218	1.0222	1.0230	1.0214	1.0178	1.0133	1.0154	1.0187	1.0174	1.0195	1.0204	1.0218	1.0194		
Salinity	29.5	30.1	31.1	29.0	24.3	18.4	21.2	25.5	23.8	26.5	27.7	29.5	26.4		
Max.	1.0244	1.0239	1.0243	1.0242	1.0243	1.0226	1.0231	1.0235	1.0233	1.0273	1.0285	1.0249		1.0285	
Mean Max.	1.0239	1.0236	1.0239	1.0234	1.0231	1.0212	1.0214	1.0222	1.0223	1.0249	1.0248	1.0240			
Mean Min.	1.0179	1.0175	1.0214	1.0146	1.0038	1.0034	1.0052	1.0085	1.0082	1.0092	1.0110	1.0157			
Min.	1.0104	1.0103	1.0206	1.0045	1.0004	1.0003	1.0003	0.9999	1.0000	1.0012	1.0042	1.0062			0.9999
							DUTCH HARBOR, UNALASKA ISLAND, ALASKA								
1946	---	---	---	---	---	---	1.0230	1.0237	1.0232	1.0240	1.0231	1.0237	---	1.0243*	1.0191*
1947	1.0238	1.0235	1.0236	1.0232	1.0233	1.0220	238	239	239	239	235	233	1.0235	254	165
1948	234	234	234	234	241	238	235	239	236	238	239	243	237	262	220
1949	242	240	241	242	242	232	239	242	237	239	237	239	239	275	210
1950	233	239	238	239	237	235	233	235	237	238	243	240	237	254	188
1951	239	238	239	235	230	229	231	238	238	236	241	241	236	249	205
1952	238	239	242	242	238	233	238	241	241	237	236	236	238	253	222
1953	236	237	236	235	233	233	232	238	237	235	235	235	235	250	218
Mean Density	1.0237	1.0237	1.0238	1.0237	1.0236	1.0231	1.0234	1.0239	1.0237	1.0238	1.0237	1.0238	1.0237		
Salinity	32.0	32.0	32.1	32.0	31.9	31.2	31.6	32.3	32.0	32.1	32.0	32.1	32.0		
Max.	1.0246	1.0245	1.0248	1.0252	1.0252	1.0262	1.0248	1.0275	1.0249	1.0254	1.0249	1.0254		1.0275	
Mean Max.	1.0243	1.0242	1.0242	1.0246	1.0247	1.0246	1.0244	1.0250	1.0244	1.0244	1.0244	1.0244			
Mean Min.	1.0225	1.0230	1.0231	1.0219	1.0224	1.0212	1.0217	1.0227	1.0230	1.0231	1.0227	1.0232			
Min.	1.0188	1.0214	1.0228	1.0197	1.0205	1.0165	1.0197	1.0220	1.0223	1.0221	1.0191	1.0229			1.0165
							SWEEPER COVE, ADAK ISLAND, ALASKA								
1944	1.0238	1.0225	1.0210	1.0203	1.0223	1.0237	---	---	---	1.0183	1.0182	1.0185	---	1.0258*	1.0066*
1945	197	204	173	167	186	208	1.0228	1.0227	1.0214	---	---	188	---	251*	077*
1946	178	194	171	110	102	165	188	186	202	182	211	236	1.0177	276	005
1947	215	227	211	196	229	229	239	230	225	231	204	229	222	250	038
1948	233	228	234	228	227	211	217	214	207	192	208	208	217	251	092
1949	---	184	194	169	151	214	165	193	168	---	---	---	---	264*	027*

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
SWEEPER COVE, ADAK ISLAND, ALASKA - Continued															
1950	---	---	1.0192	1.0163	1.0189	1.0226	1.0239	1.0220	1.0227	1.0217	1.0209	1.0227	---	1.0253*	0.9988*
1951	1.0220	1.0232	221	189	160	203	225	247	247	244	245	234	1.0222	259	1.0002
1952	242	242	245	242	242	239	246	250	249	247	245	244	244	259	191
1953	237	239	231	225	228	225	240	234	243	242	242	243	236	268	150
Mean Density	1.0220	1.0219	1.0208	1.0189	1.0194	1.0216	1.0221	1.0222	1.0220	1.0217	1.0218	1.0222	1.0214		
Salinity	29.8	29.7	28.2	25.8	26.4	29.3	29.9	30.1	29.8	29.4	29.5	30.1	29.0		
Max.	1.0251	1.0252	1.0254	1.0264	1.0259	1.0258	1.0268	1.0276	1.0263	1.0258	1.0252	1.0256		1.0276	
Mean Max.	1.0247	1.0247	1.0247	1.0248	1.0249	1.0249	1.0251	1.0252	1.0251	1.0249	1.0245	1.0247			
Mean Min.	1.0170	1.0163	1.0116	1.0099	1.0088	1.0148	1.0162	1.0151	1.0142	1.0164	1.0155	1.0174			
Min.	1.0085	1.0089	1.0038	1.0005	0.9988	1.0035	1.0034	1.0038	1.0091	1.0084	1.0066	1.0092			0.9988
CONSTANTINE HARBOR, AMCHITKA ISLAND, ALASKA															
1944	---	---	---	---	---	1.0248	1.0247	1.0243	1.0243	1.0243	1.0243	1.0243	---	1.0267*	1.0235*
1945	1.0245	---	---	---	---	---	244	245	238	241	242	240	---	251*	210*
1946	243	---	---	---	---	245	243	243	239	244	244	239	---	251*	202*
1947	240	1.0244	---	---	---	245	246	245	245	245	244	244	---	252*	197*
1948	249	255	1.0248	1.0245	---	249	251	252	251	252	---	---	---	278*	229*
Mean Density	1.0244	1.0250	1.0248	1.0245	---	1.0247	1.0246	1.0246	1.0243	1.0245	1.0243	1.0242	---		
Salinity	32.9	33.7	33.5	33.1	---	33.3	33.2	33.2	32.8	33.1	32.8	32.7	---		
Max.	1.0259	1.0278	1.0252	1.0250	---	1.0267	1.0266	1.0256	1.0256	1.0258	1.0248	1.0250		1.0278	
Mean Max.	1.0252	1.0264	---	---	---	1.0254	1.0254	1.0251	1.0249	1.0249	1.0247	1.0248			
Mean Min.	1.0229	1.0235	---	---	---	1.0242	1.0232	1.0232	1.0228	1.0236	1.0235	1.0227			
Min.	1.0197	1.0221	1.0237	1.0229	---	1.0239	1.0221	1.0216	1.0202	1.0223	1.0229	1.0210			1.0197
MASSACRE BAY, ATTU ISLAND, ALASKA															
1946	---	---	---	---	1.0233	1.0224	1.0233	1.0237	1.0239	1.0245	1.0242	---	---	1.0255*	1.0179*
1947	---	---	---	---	---	---	---	---	---	244	238	1.0243	---	247*	219*
1948	1.0244	1.0242	1.0244	1.0234	237	224	241	---	---	---	---	---	---	252*	188*
1949	---	---	250	249	243	243	239	243	243	244	247	245	---	261*	224*
1950	236	242	244	245	245	241	241	244	245	244	240	242	1.0242	252	198
1951	243	247	246	243	---	239	238	239	240	236	241	243	---	251*	191*
1952	243	248	252	248	233	232	216	232	237	---	---	---	---	261*	177*
1953	245	244	244	241	242	232	232	240	244	243	243	244	241	254	195
Mean Density	1.0242	1.0245	1.0247	1.0243	1.0239	1.0234	1.0234	1.0239	1.0241	1.0243	1.0242	1.0243	1.0241		
Salinity	32.7	33.1	33.3	32.8	32.3	31.6	31.6	32.3	32.5	32.8	32.7	32.8	32.5		
Max.	1.0254	1.0261	1.0261	1.0255	1.0251	1.0251	1.0252	1.0252	1.0252	1.0255	1.0252	1.0249		1.0261	
Mean Max.	1.0248	1.0251	1.0251	1.0250	1.0248	1.0247	1.0248	1.0250	1.0248	1.0248	1.0246	1.0247			
Mean Min.	1.0233	1.0239	1.0239	1.0228	1.0212	1.0202	1.0209	1.0218	1.0221	1.0230	1.0229	1.0235			
Min.	1.0207	1.0231	1.0231	1.0212	1.0179	1.0188	1.0177	1.0193	1.0201	1.0211	1.0216	1.0222			1.0177
PORT MOLLER, ALASKA															
1948	---	---	---	---	---	---	---	---	1.0223	1.0222	1.0223	---	---	1.0228*	1.0214*
1949	---	---	1.0222	1.0225	1.0227	1.0227	1.0230	1.0228	228	219	218	1.0216	---	236*	211*
1950	1.0216	---	224	---	---	---	---	---	---	---	---	---	---	227*	211*
PEARD BAY, ALASKA															
1947	---	---	---	---	---	---	---	---	1.0210	---	---	---	---	1.0217*	1.0184*
POINT BARROW (Ocean), ALASKA															
1945 —	---	---	---	---	---	---	---	---	1.0198	---	---	---	---	1.0217*	1.0153*
1951	---	---	---	---	---	---	1.0214	---	---	---	---	---	---	241*	100*
POINT BARROW (Elson Lagoon), ALASKA															
1945 —	---	---	---	---	---	---	---	---	1.0170	---	---	---	---	1.0205*	1.0111*
1951	---	---	---	---	---	---	1.0186	---	---	---	---	---	---	216*	122*

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
MIDWAY ISLANDS, HAWAIIAN ISLANDS															
1944	---	---	1.0262	1.0261	---	1.0262	1.0263	1.0260	1.0256	1.0257	1.0256	1.0256	---	1.0274*	1.0246*
1945	1.0258	1.0256	259	265	1.0265	272	---	---	---	---	---	---	---	281*	251*
1946	---	---	---	---	---	---	268	268	266	269	268	267	---	275*	257*
1947	257	---	263	265	266	265	267	264	267	267	266	262	---	273*	246*
1948	---	---	267	265	265	266	264	267	---	261	264	261	---	279*	244*
1949	264	263	264	268	---	---	---	---	272	---	270	272	---	286*	259*
1950	268	269	269	269	---	---	---	269	267	266	265	264	---	279*	258*
1951	263	262	263	263	263	264	267	267	267	267	266	264	1.0265	273	259
1952	265	265	264	264	265	264	270	268	268	269	268	266	266	273	239
1953	264	265	266	267	266	265	269	266	264	264	263	260	265	276	255
Mean Density	1.0263	1.0263	1.0264	1.0265	1.0265	1.0265	1.0267	1.0266	1.0266	1.0265	1.0265	1.0264	1.0265		
Salinity	35.4	35.4	35.5	35.7	35.7	35.7	35.9	35.8	35.8	35.7	35.7	35.5	35.7		
Max.	1.0278	1.0275	1.0273	1.0281	1.0272	1.0281	1.0279	1.0279	1.0286	1.0274	1.0276	1.0275		1.0286	
Mean Max.	1.0269	1.0268	1.0268	1.0271	1.0269	1.0271	1.0272	1.0271	1.0271	1.0271	1.0270	1.0268			
Mean Min.	1.0256	1.0260	1.0261	1.0261	1.0260	1.0258	1.0261	1.0261	1.0262	1.0260	1.0259	1.0258			
Min.	1.0246	1.0251	1.0256	1.0257	1.0253	1.0239	1.0253	1.0252	1.0254	1.0251	1.0244	1.0251			1.0239
HONOLULU, HAWAIIAN ISLANDS															
1945	---	---	1.0260	1.0258	1.0262	1.0261	1.0260	1.0260	1.0260	1.0261	1.0259	1.0256	---	1.0270*	1.0226*
1946	1.0256	1.0249	254	253	256	258	259	261	261	261	259	256	1.0257	265	200†
1947	257	259	258	257	256	259	260	260	254	259	256	258	258	268	200†
1948	253	254	256	253	256	259	258	259	261	261	261	260	258	266	217
1949	247	253	259	262	262	260	263	263	261	262	266	266	260	269	200†
1950	242	261	260	258	261	259	262	262	263	264	260	---	---	277*	200†
1951	---	---	224	258	260	259	258	260	259	257	254	254	---	287*	099*
1952	258	262	256	260	259	262	256	255	253	---	---	254	---	271*	224*
1953	251	254	250	255	256	257	261	262	256	255	253	251	255	278	223
Mean Density	1.0252	1.0256	1.0253	1.0257	1.0259	1.0259	1.0260	1.0260	1.0259	1.0260	1.0258	1.0257	1.0258		
Salinity	34.0	34.5	34.1	34.6	34.9	34.9	35.0	35.0	34.9	35.0	34.8	34.6	34.8		
Max.	1.0268	1.0266	1.0266	1.0287	1.0270	1.0273	1.0278	1.0270	1.0275	1.0266	1.0269	1.0269		1.0287	
Mean Max.	1.0263	1.0262	1.0262	1.0266	1.0264	1.0266	1.0267	1.0265	1.0264	1.0264	1.0263	1.0263			
Mean Min.	1.0229	1.0235	1.0232	1.0245	1.0246	1.0254	1.0252	1.0253	1.0245	1.0251	1.0247	1.0246			
Min.	1.0200†	1.0200†	1.0099	1.0226	1.0224	1.0247	1.0230	1.0245	1.0200†	1.0227	1.0227	1.0224			1.0099
HILO, HAWAIIAN ISLANDS															
1947	1.0207	1.0194	1.0175	1.0176	1.0150	1.0161	1.0145	1.0154	1.0167	1.0159	1.0159	1.0162	1.0167	1.0265	1.0103
1948	176	---	178	167	162	190	176	189	191	198	185	159	---	254*	069*
1949	163	207	180	122	149	155	149	137	148	163	172	138	157	254	028
1950	173	161	140	139	116	124	124	146	154	157	178	175	149	261	049
1951	170	151	150	135	141	156	145	135	164	154	145	167	151	246	092
1952	153	150	141	141	146	151	160	160	155	169	171	164	155	241	113
1953	182	166	158	161	175	156	160	171	169	173	171	168	168	238	117
Mean Density	1.0175	1.0172	1.0160	1.0149	1.0148	1.0156	1.0151	1.0156	1.0164	1.0168	1.0169	1.0162	1.0161		
Salinity	23.9	23.5	22.0	20.5	20.4	21.4	20.8	21.4	22.5	23.0	23.1	22.2	22.1		
Max.	1.0265	1.0254	1.0249	1.0244	1.0238	1.0243	1.0243	1.0254	1.0243	1.0252	1.0245	1.0241		1.0265	
Mean Max.	1.0235	1.0231	1.0222	1.0211	1.0212	1.0207	1.0223	1.0217	1.0229	1.0232	1.0225	1.0220			
Mean Min.	1.0124	1.0128	1.0103	1.0106	1.0092	1.0115	1.0113	1.0113	1.0123	1.0119	1.0121	1.0112			
Min.	1.0098	1.0116	1.0069	1.0084	1.0028	1.0093	1.0084	1.0092	1.0111	1.0109	1.0101	1.0059			1.0028
JOHNSTON ISLAND, HAWAIIAN ISLANDS															
1947	---	---	---	---	1.0262	1.0260	1.0262	1.0261	1.0261	---	---	---	---	1.0267*	1.0256*
1948	---	1.0262	1.0263	1.0264	263	---	---	---	---	---	---	---	---	268*	259*
1949	---	259	258	263	261	259	261	---	---	---	---	---	---	275*	251*
1950	---	264	264	262	264	261	261	261	263	1.0265	---	---	---	274*	253*
1951	1.0261	260	257	260	261	258	263	---	263	263	1.0263	1.0263	---	270*	254*
1952	262	259	258	255	257	258	260	259	257	257	257	257	1.0258	267	252
1953	258	257	---	---	---	---	262	262	262	261	261	261	---	272*	252*

*Observations for the year are incomplete; extremes are for the months shown.

†Approximate

Table 1. Density of Sea Water - *Continued*
Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
JOHNSTON ISLAND, HAWAIIAN ISLANDS- Continued															
Mean Density	1.0260	1.0260	1.0260	1.0261	1.0261	1.0259	1.0262	1.0261	1.0261	1.0262	1.0260	1.0260	1.0261		
Salinity	35.0	35.0	35.0	35.1	35.1	34.9	35.3	35.1	35.1	35.3	35.0	35.0	35.1		
Max.	1.0267	1.0267	1.0268	1.0274	1.0268	1.0272	1.0275	1.0272	1.0270	1.0269	1.0271	1.0269		1.0275	
Mean Max.	1.0265	1.0264	1.0264	1.0266	1.0265	1.0265	1.0267	1.0266	1.0266	1.0266	1.0266	1.0266			
Mean Min.	1.0256	1.0256	1.0256	1.0256	1.0256	1.0256	1.0257	1.0256	1.0256	1.0258	1.0257	1.0254			
Min.	1.0255	1.0251	1.0251	1.0253	1.0252	1.0255	1.0256	1.0254	1.0252	1.0252	1.0254	1.0253			1.0251
CANTON ISLAND, PHOENIX ISLANDS															
1950	---	---	---	---	---	---	1.0266	1.0264	1.0264	1.0264	1.0264	1.0265	---	1.0270*	1.0262*
1951	1.0263	1.0262	1.0264	1.0264	1.0267	1.0267	266	268	269	268	270	270	1.0266	274	261
1952	273	273	272	271	269	270	268	268	271	273	273	274	271	278	264
1953	273	275	275	264	275	265	266	266	266	266	267	267	269	278	262
Mean Density	1.0270	1.0270	1.0270	1.0266	1.0270	1.0267	1.0266	1.0266	1.0268	1.0268	1.0268	1.0269	1.0268		
Salinity	36.3	36.3	36.3	35.8	36.3	35.9	35.8	35.8	36.0	36.0	36.0	36.2	36.0		
Max.	1.0277	1.0277	1.0277	1.0277	1.0278	1.0277	1.0271	1.0273	1.0276	1.0278	1.0275	1.0276		1.0278	
Mean Max.	1.0273	1.0273	1.0273	1.0271	1.0273	1.0272	1.0270	1.0270	1.0272	1.0272	1.0270	1.0272			
Mean Min.	1.0266	1.0268	1.0266	1.0264	1.0266	1.0264	1.0263	1.0264	1.0264	1.0265	1.0266	1.0266			
Min.	1.0262	1.0261	1.0261	1.0262	1.0261	1.0263	1.0262	1.0262	1.0260	1.0262	1.0262	1.0262			1.0260
PAGO PAGO, SAMOA ISLANDS															
1950	---	1.0260	1.0261	1.0261	1.0252	1.0254	1.0259	1.0259	1.0261	1.0251	1.0256	1.0245	---	1.0273*	1.0222*
1951	1.0253	253	250	253	246	251	256	261	261	259	250	252	1.0254	265	123
1952	256	260	259	260	259	260	261	258	262	255	256	261	259	272	234
1953	264	263	263	261	266	262	260	260	258	264	258	264	262	271	233
Mean Density	1.0258	1.0259	1.0258	1.0259	1.0256	1.0257	1.0259	1.0260	1.0260	1.0257	1.0255	1.0256	1.0258		
Salinity	34.8	34.9	34.8	34.9	34.5	34.6	34.9	35.0	35.0	34.6	34.4	34.5	34.8		
Max.	1.0267	1.0268	1.0273	1.0267	1.0271	1.0267	1.0268	1.0271	1.0269	1.0270	1.0267	1.0272		1.0273	
Mean Max.	1.0264	1.0264	1.0266	1.0264	1.0265	1.0264	1.0264	1.0266	1.0267	1.0264	1.0264	1.0265			
Mean Min.	1.0249	1.0250	1.0250	1.0249	1.0216	1.0247	1.0245	1.0250	1.0250	1.0240	1.0237	1.0237			
Min.	1.0241	1.0247	1.0241	1.0243	1.0123	1.0237	1.0233	1.0239	1.0239	1.0234	1.0222	1.0222			1.0123
APIA (Observatory), SAMOA ISLANDS															
1948	---	---	---	1.0258	1.0255	1.0260	1.0262	1.0264	1.0267	1.0266	1.0263	1.0262	---	1.0274*	1.0243*
1949	1.0259	1.0262	1.0259	259	257	260	262	264	265	266	267	263	1.0262	272	192
1950	262	260	262	262	263	264	269	266	267	269	271	269	265	279	233
1951	267	267	266	262	263	263	267	---	271	271	272	276	---	281*	249*
1952	276	274	267	267	264	266	267	272	273	273	274	273	270	285	238
1953	274	275	272	272	274	274	275	276	277	276	276	271	274	287	209
Mean Density	1.0268	1.0268	1.0265	1.0263	1.0263	1.0264	1.0267	1.0268	1.0270	1.0270	1.0270	1.0269	1.0267		
Salinity	36.0	36.0	35.7	35.4	35.4	35.5	35.9	36.0	36.3	36.3	36.3	36.2	35.9		
Max.	1.0283	1.0287	1.0278	1.0285	1.0277	1.0279	1.0279	1.0280	1.0282	1.0281	1.0280	1.0283		1.0287	
Mean Max.	1.0274	1.0274	1.0271	1.0271	1.0267	1.0270	1.0271	1.0274	1.0275	1.0275	1.0276	1.0276			
Mean Min.	1.0245	1.0258	1.0242	1.0247	1.0255	1.0256	1.0260	1.0261	1.0260	1.0260	1.0262	1.0258			
Min.	1.0192	1.0239	1.0209	1.0238	1.0243	1.0249	1.0248	1.0251	1.0242	1.0254	1.0250	1.0246			1.0192
GUADALCANAL ISLAND (Kukum), SOLOMON ISLANDS															
1948	---	---	---	1.0254	---	1.0253	1.0253	1.0255	1.0256	1.0255	1.0254	1.0253	---	1.0262*	1.0238*
1949	1.0254	1.0255	1.0255	252	1.0252	251	255	255	255	256	256	---	---	261*	204*
WAKE ISLAND															
1950	---	---	---	---	---	1.0263	1.0257	1.0255	1.0254	1.0255	1.0254	1.0254	---	1.0267*	1.0236*
1951	1.0256	1.0257	1.0259	1.0259	1.0259	259	265	266	264	260	261	260	1.0260	273	240
1952	263	264	265	265	264	261	263	258	---	---	265	260	---	277*	240*
1953	262	263	265	265	265	266	262	256	256	253	256	259	261	284	231

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
WAKE ISLAND - Continued															
Mean Density	1.0260	1.0261	1.0263	1.0263	1.0263	1.0262	1.0262	1.0259	1.0258	1.0256	1.0259	1.0258	1.0260		
Salinity	35.0	35.1	35.4	35.4	35.4	35.3	35.3	34.9	34.8	34.5	34.9	34.8	35.0		
Max.	1.0276	1.0272	1.0274	1.0284	1.0275	1.0273	1.0273	1.0272	1.0273	1.0276	1.0277	1.0268		1.0284	
Mean Max.	1.0268	1.0268	1.0273	1.0274	1.0271	1.0269	1.0268	1.0268	1.0268	1.0268	1.0270	1.0266			
Mean Min.	1.0245	1.0253	1.0246	1.0251	1.0250	1.0251	1.0253	1.0247	1.0246	1.0242	1.0242	1.0241			
Min.	1.0241	1.0252	1.0241	1.0242	1.0240	1.0248	1.0251	1.0240	1.0241	1.0231	1.0236	1.0236			1.0231
KWAJALEIN ISLAND, MARSHALL ISLANDS															
1949	---	1.0259	1.0258	1.0258	1.0256	1.0253	1.0256	1.0253	1.0254	1.0254	1.0253	1.0250	---	1.0263*	1.0234*
1950	1.0254	256	256	254	256	256	250	---	---	---	252	247	---	267*	238*
1951	251	254	255	254	258	259	259	257	257	257	253	255	1.0256	264	238
1952	253	255	257	261	257	254	255	256	255	253	252	251	255	273	240
1953	252	254	---	260	263	262	263	263	261	264	262	258	---	268*	247*
Mean Density	1.0252	1.0256	1.0256	1.0257	1.0258	1.0257	1.0257	1.0257	1.0257	1.0257	1.0254	1.0252	1.0256		
Salinity	34.0	34.5	34.5	34.6	34.8	34.6	34.6	34.6	34.6	34.6	34.2	34.0	34.5		
Max.	1.0262	1.0262	1.0266	1.0273	1.0270	1.0267	1.0267	1.0266	1.0267	1.0267	1.0267	1.0263		1.0273	
Mean Max.	1.0260	1.0260	1.0264	1.0264	1.0264	1.0262	1.0262	1.0262	1.0262	1.0262	1.0259	1.0257			
Mean Min.	1.0246	1.0251	1.0250	1.0251	1.0252	1.0249	1.0250	1.0248	1.0247	1.0248	1.0246	1.0246			
Min.	1.0243	1.0247	1.0243	1.0241	1.0249	1.0247	1.0238	1.0234	1.0240	1.0240	1.0238	1.0240			1.0234
TRUK ISLANDS (Moen Island), CAROLINE ISLANDS															
1949	---	---	---	---	---	---	1.0251	1.0250	1.0248	1.0251	1.0249	1.0251	---	1.0269*	1.0226*
1950	1.0253	1.0254	1.0255	1.0255	---	---	---	---	241	247	---	---	---	264*	174*
1951	250	256	256	246	---	---	---	---	---	---	251	252	---	264*	164*
1952	---	---	---	---	---	---	---	---	---	251	253	255	---	273*	221*
1953	256	257	258	255	1.0258	1.0254	254	244	252	253	255	254	1.0254	272	145
YAP ISLAND, CAROLINE ISLANDS															
1951	---	---	1.0256	1.0259	1.0256	1.0248	1.0250	1.0244	1.0246	1.0249	1.0250	1.0246	---	1.0265*	1.0204*
1952	1.0255	1.0255	258	256	231	221	242	237	235	239	243	248	1.0243	261	168
1953	253	246	---	---	---	---	---	---	---	---	---	---	---	261*	223*
Mean Density	1.0254	1.0250	1.0257	1.0258	1.0244	1.0234	1.0246	1.0240	1.0240	1.0244	1.0246	1.0247	1.0247		
Salinity	34.2	33.7	34.6	34.8	32.9	31.6	33.2	32.4	32.4	32.9	33.2	33.3	33.3		
Max.	1.0261	1.0261	1.0262	1.0265	1.0261	1.0257	1.0254	1.0254	1.0255	1.0253	1.0260	1.0256		1.0265	
Mean Max.	1.0259	1.0260	1.0261	1.0263	1.0254	1.0248	1.0254	1.0250	1.0254	1.0253	1.0256	1.0256			
Mean Min.	1.0246	1.0236	1.0250	1.0246	1.0228	1.0191	1.0228	1.0208	1.0192	1.0207	1.0228	1.0206			
Min.	1.0245	1.0223	1.0247	1.0237	1.0206	1.0170	1.0219	1.0207	1.0168	1.0172	1.0217	1.0204			1.0168
ANGAUR ISLAND, PALAU ISLANDS															
1951	---	---	---	---	---	---	---	---	1.0212	1.0210	1.0217	1.0231	---	1.0279*	1.0142*
1952	1.0227	1.0241	1.0244	1.0235	1.0219	---	---	---	---	---	---	---	---	287*	116*
KOROR, KOROR ISLAND, PALAU ISLANDS															
1949	---	---	---	1.0252	1.0248	1.0245	1.0247	---	1.0245	1.0245	---	---	---	1.0255*	1.0234*
1950	---	---	1.0246	246	248	251	249	1.0246	246	---	---	---	---	255*	217*
GUAM (Apra Harbor), MARIANAS															
1949	---	---	---	---	1.0257	1.0256	1.0255	1.0254	1.0251	1.0251	1.0254	1.0255	---	1.0259*	1.0234*
1950	1.0253	1.0255	1.0258	1.0258	257	256	255	254	253	252	256	256	1.0255	264	239
1951	254	255	256	258	262	262	262	257	259	257	257	257	258	267	239
1952	258	258	258	260	258	258	258	255	253	251	251	256	256	266	230
1953	256	256	257	257	261	264	263	254	256	256	256	---	---	269*	232*
Mean Density	1.0255	1.0256	1.0257	1.0258	1.0259	1.0259	1.0259	1.0255	1.0254	1.0253	1.0255	1.0256	1.0256		
Salinity	34.4	34.5	34.6	34.8	34.9	34.9	34.9	34.4	34.2	34.1	34.4	34.5	34.5		
Max.	1.0260	1.0260	1.0260	1.0266	1.0266	1.0269	1.0268	1.0265	1.0262	1.0263	1.0261	1.0260		1.0269	
Mean Max.	1.0257	1.0259	1.0260	1.0262	1.0261	1.0262	1.0264	1.0260	1.0259	1.0258	1.0258	1.0259			
Mean Min.	1.0253	1.0253	1.0255	1.0256	1.0256	1.0257	1.0254	1.0244	1.0247	1.0244	1.0244	1.0252			
Min.	1.0252	1.0252	1.0254	1.0254	1.0255	1.0253	1.0251	1.0232	1.0239	1.0234	1.0230	1.0251			1.0230

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
SAN FERNANDO, LUZON ISLAND, PHILIPPINE ISLANDS															
1948	---	1.0250	1.0251	1.0248	1.0256	1.0243	1.0238	1.0228	1.0212	1.0226	1.0242	1.0246	---	1.0264*	1.0149*
1949	1.0247	247	247	246	254	252	247	224	218	230	240	250	1.0242	260	195
MANILA, LUZON ISLAND, PHILIPPINE ISLANDS															
1947	---	---	---	---	---	---	1.0185	1.0181	1.0150	1.0194	1.0200	1.0206	---	1.0251*	1.0008*
1948	1.0212	1.0215	1.0232	1.0238	1.0244	1.0246	234	229	132	155	225	214	1.0215	258	100
1949	229	229	234	245	251	254	253	224	197	204	236	242	233	260	161
1950	244	248	246	249	256	249	191	139	248	250	247	249	235	265	099
1951	249	254	258	258	255	244	242	230	246	200	209	229	240	268	142
1952	248	243	238	237	241	238	214	125	140	203	191	227	212	268	061
1953	225	222	226	226	239	230	207	149	143	191	193	215	206	251	059
Mean Density	1.0234	1.0235	1.0239	1.0242	1.0248	1.0244	1.0218	1.0182	1.0179	1.0200	1.0214	1.0226	1.0222		
Salinity	31.6	31.8	32.3	32.7	33.5	32.9	29.5	24.8	24.4	27.2	29.0	30.6	30.1		
Max.	1.0268	1.0267	1.0264	1.0263	1.0265	1.0257	1.0260	1.0258	1.0256	1.0254	1.0253	1.0268		1.0268	
Mean Max.	1.0253	1.0251	1.0254	1.0252	1.0256	1.0254	1.0243	1.0233	1.0217	1.0235	1.0244	1.0251			
Mean Min.	1.0203	1.0203	1.0222	1.0222	1.0232	1.0222	1.0188	1.0139	1.0141	1.0149	1.0152	1.0168			
Min.	1.0162	1.0162	1.0194	1.0166	1.0204	1.0177	1.0105	1.0059	1.0078	1.0105	1.0008	1.0112			1.0008
LEGASPI, LUZON ISLAND, PHILIPPINE ISLANDS															
1947	---	---	---	---	1.0206	1.0228	1.0239	1.0227	1.0240	1.0235	1.0230	1.0198	---	1.0261*	1.0126*
1948	1.0211	1.0203	1.0214	1.0222	223	244	235	252	246	245	208	203	1.0226	277	113
1949	199	215	211	214	213	245	239	253	256	236	188	183	221	264	122
1950	172	175	182	206	213	202	210	224	220	215	197	188	200	262	124
1951	186	194	162	187	170	169	165	170	178	175	167	168	174	255	124
1952	170	168	166	163	172	220	231	263	257	257	256	260	215	298	135
1953	267	270	267	275	271	262	266	261	264	259	254	228	262	302	202
Mean Density	1.0201	1.0204	1.0200	1.0211	1.0210	1.0224	1.0226	1.0236	1.0237	1.0232	1.0214	1.0204	1.0217		
Salinity	27.3	27.7	27.2	28.6	28.5	30.3	30.6	31.9	32.0	31.4	29.0	27.7	29.4		
Max.	1.0299	1.0286	1.0297	1.0300	1.0298	1.0296	1.0302	1.0296	1.0298	1.0281	1.0278	1.0296		1.0302	
Mean Max.	1.0237	1.0237	1.0244	1.0242	1.0246	1.0258	1.0265	1.0266	1.0264	1.0261	1.0252	1.0249			
Mean Min.	1.0149	1.0160	1.0164	1.0172	1.0159	1.0180	1.0183	1.0190	1.0192	1.0180	1.0158	1.0151			
Min.	1.0125	1.0124	1.0124	1.0135	1.0126	1.0130	1.0125	1.0131	1.0136	1.0128	1.0113	1.0114			1.0113
TACLOBAN, LEYTE ISLAND, PHILIPPINE ISLANDS															
1951	---	---	---	---	---	1.0225	1.0223	1.0223	1.0223	1.0224	1.0237	1.0237	---	1.0248*	1.0219*
1952	1.0236	---	1.0251	1.0259	1.0246	261	263	251	248	239	246	235	---	264*	226*
1953	239	1.0233	240	250	253	252	---	255	256	253	253	251	---	258*	229*
CEBU, CEBU ISLAND, PHILIPPINE ISLANDS															
1947	---	---	---	---	1.0250	1.0237	1.0246	1.0248	1.0244	1.0244	1.0248	1.0247	---	1.0259*	1.0143*
1948	1.0246	1.0254	1.0253	1.0255	255	249	243	249	249	248	237	238	1.0248	263	138
1949	247	250	254	257	254	252	243	247	243	241	235	239	247	260	127
1950	242	250	252	251	251	245	248	247	243	250	248	247	248	258	157
1951	248	249	254	256	252	251	250	253	246	245	250	242	250	260	186
1952	246	250	251	254	254	249	248	249	248	245	242	243	248	259	208
1953	245	247	253	258	253	252	251	249	249	247	246	245	250	262	231
Mean Density	1.0246	1.0250	1.0253	1.0255	1.0253	1.0248	1.0247	1.0249	1.0246	1.0246	1.0244	1.0243	1.0248		
Salinity	33.2	33.7	34.1	34.4	34.1	33.5	33.3	33.6	33.2	33.2	32.9	32.8	33.5		
Max.	1.0258	1.0260	1.0261	1.0262	1.0260	1.0263	1.0260	1.0260	1.0258	1.0259	1.0257	1.0255		1.0263	
Mean Max.	1.0254	1.0256	1.0258	1.0260	1.0258	1.0257	1.0256	1.0256	1.0254	1.0255	1.0253	1.0252			
Mean Min.	1.0217	1.0232	1.0232	1.0242	1.0233	1.0209	1.0192	1.0217	1.0208	1.0204	1.0204	1.0212			
Min.	1.0189	1.0219	1.0205	1.0221	1.0200	1.0148	1.0127	1.0178	1.0157	1.0149	1.0131	1.0184			1.0127
DAVAO, MINDANAO ISLAND, PHILIPPINE ISLANDS															
1947	---	---	---	---	1.0240	1.0224	1.0218	1.0228	1.0211	1.0225	1.0235	1.0253	---	1.0264*	1.0129*
1948	1.0253	1.0254	1.0258	1.0252	251	237	214	215	214	210	235	252	1.0237	267	130
1949	259	258	256	248	232	195	182	---	174	174	199	214	---	286	040

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
	DAVAO, MINDANAO ISLAND, PHILIPPINE ISLANDS - Continued														
1950	1.0223	1.0246	1.0221	1.0249	1.0208	1.0169	1.0141	1.0169	1.0152	1.0167	1.0211	1.0243	1.0200	1.0261	1.0068
1951	246	249	250	246	238	236	227	242	243	248	248	251	244	288	130
1952	253	252	253	253	221	---	236	249	---	---	---	249	---	266*	121*
1953	256	---	252	244	218	228	205	213	208	209	220	237	---	274*	130*
Mean Density	1.0248	1.0252	1.0248	1.0249	1.0230	1.0215	1.0203	1.0219	1.0200	1.0206	1.0225	1.0243	1.0228		
Salinity	33.5	34.0	33.5	33.6	31.1	29.1	27.6	29.7	27.2	28.0	30.4	32.8	30.8		
Max.	1.0264	1.0262	1.0267	1.0265	1.0274	1.0264	1.0263	1.0286	1.0288	1.0257	1.0270	1.0262		1.0288	
Mean Max.	1.0260	1.0260	1.0261	1.0261	1.0261	1.0258	1.0256	1.0261	1.0261	1.0255	1.0260	1.0259			
Mean Min.	1.0206	1.0203	1.0196	1.0197	1.0130	1.0130	1.0127	1.0135	1.0135	1.0136	1.0142	1.0192			
Min.	1.0085	1.0123	1.0101	1.0150	1.0044	1.0068	1.0058	1.0040	1.0064	1.0057	1.0062	1.0099			1.0040
	JOLO, JOLO ISLAND, PHILIPPINE ISLANDS														
1947	---	---	---	---	---	---	---	---	---	1.0257	1.0244	1.0243	---	1.0265*	1.0229*
1948	1.0247	1.0249	1.0249	1.0251	1.0251	1.0251	1.0250	1.0250	1.0250	249	246	245	1.0249	257	232
1949	249	249	244	249	252	254	252	256	252	250	240	239	249	266	171
1950	249	251	252	258	257	254	257	253	253	246	251	250	253	267	149
1951	253	253	251	254	256	255	255	253	253	253	248	250	253	269	159
1952	---	---	---	---	247	248	232	246	240	238	238	238	---	267*	155*
1953	251	248	246	245	245	238	241	244	242	244	245	247	245	288	184
Mean Density	1.0250	1.0250	1.0248	1.0251	1.0251	1.0250	1.0248	1.0250	1.0248	1.0248	1.0245	1.0245	1.0249		
Salinity	33.7	33.7	33.5	33.8	33.8	33.7	33.5	33.7	33.5	33.5	33.1	33.1	33.6		
Max.	1.0272	1.0267	1.0261	1.0262	1.0269	1.0265	1.0266	1.0262	1.0265	1.0266	1.0288	1.0267		1.0288	
Mean Max.	1.0258	1.0258	1.0256	1.0258	1.0262	1.0260	1.0259	1.0258	1.0256	1.0260	1.0260	1.0257			
Mean Min.	1.0238	1.0225	1.0234	1.0237	1.0230	1.0232	1.0224	1.0232	1.0227	1.0210	1.0208	1.0212			
Min.	1.0226	1.0159	1.0223	1.0198	1.0163	1.0189	1.0155	1.0209	1.0204	1.0149	1.0171	1.0159			1.0149
	PUNTA ARENAS, MAGELLAN STRAIT, CHILE														
1944	---	---	---	---	1.0226	1.0222	1.0225	1.0224	1.0227	1.0229	1.0229	1.0230	---	1.0231*	1.0209*
1947	---	---	---	---	---	214	217	221	224	224	223	223	---	233*	193*
1948	1.0223	1.0223	1.0222	1.0219	218	220	220	221	221	223	224	225	1.0222	229	203
1949	228	226	222	220	217	213	214	---	---	226	---	---	---	232*	198*
1950	---	---	---	227	221	217	220	224	226	220	226	224	---	230*	201*
1951	225	227	228	227	225	222	225	225	225	225	227	227	226	237	215
1952	226	227	227	224	220	220	221	221	222	222	222	222	223	234	212
1953	223	224	222	221	222	222	221	223	220	223	226	238	224	255	217
Mean Density	1.0225	1.0225	1.0224	1.0223	1.0221	1.0219	1.0220	1.0223	1.0224	1.0224	1.0225	1.0227	1.0223		
Salinity	30.4	30.4	30.3	30.2	29.9	29.7	29.8	30.2	30.3	30.3	30.4	30.7	30.2		
Max.	1.0231	1.0232	1.0234	1.0231	1.0230	1.0228	1.0228	1.0233	1.0229	1.0231	1.0237	1.0255		1.0255	
Mean Max.	1.0227	1.0229	1.0228	1.0227	1.0226	1.0226	1.0225	1.0227	1.0227	1.0228	1.0229	1.0232			
Mean Min.	1.0222	1.0221	1.0220	1.0218	1.0215	1.0209	1.0212	1.0218	1.0220	1.0218	1.0222	1.0222			
Min.	1.0220	1.0219	1.0219	1.0203	1.0209	1.0193	1.0198	1.0216	1.0217	1.0201	1.0219	1.0218			1.0193
	PUERTO MONTT, CHILE														
1944	---	---	---	---	1.0238	1.0225	1.0228	1.0235	1.0232	1.0229	1.0199	---	---	1.0251*	1.0176*
1945	---	1.0202	1.0220	1.0226	221	210	230	230	213	---	207	1.0185	---	250*	150*
1946	1.0189	206	213	225	233	233	229	230	228	218	223	183	1.0218	245	152
1947	204	196	223	221	236	230	---	233	229	224	224	203	---	284*	151*
1948	198	221	226	233	234	238	233	227	221	---	241	212	---	278*	167*
1949	194	209	---	232	222	---	231	227	223	---	220	---	---	251*	153*
1950	203	---	229	233	---	230	235	236	231	216	209	---	---	252*	170*
1951	194	197	222	218	235	230	224	232	228	218	221	186	217	247	124
1952	185	203	224	217	235	232	238	243	227	225	228	219	223	253	166
1953	218	219	223	227	237	224	234	237	242	---	---	179	---	251*	142*

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							PUERTO MONTT, CHILE - Continued								
Mean Density	1.0198	1.0207	1.0222	1.0226	1.0232	1.0228	1.0231	1.0233	1.0227	1.0222	1.0219	1.0195	1.0220		
Salinity	26.9	28.1	30.1	30.6	31.4	30.8	31.2	31.5	30.7	30.1	29.7	26.5	29.8		
Max.	1.0251	1.0243	1.0245	1.0251	1.0284	1.0253	1.0255	1.0253	1.0270	1.0251	1.0278	1.0251		1.0284	
Mean Max.	1.0230	1.0234	1.0240	1.0242	1.0248	1.0243	1.0245	1.0243	1.0245	1.0241	1.0242	1.0238			
Mean Min.	1.0170	1.0174	1.0196	1.0202	1.0204	1.0203	1.0206	1.0214	1.0207	1.0189	1.0183	1.0162			
Min.	1.0151	1.0124	1.0180	1.0187	1.0158	1.0159	1.0186	1.0203	1.0171	1.0170	1.0142	1.0142			1.0124
							TALCAHUANO, CHILE								
1950	---	---	---	---	---	---	---	---	---	---	1.0246	1.0257	---	1.0277*	1.0212*
1951	1.0254	1.0253	1.0256	1.0261	1.0242	1.0223	---	1.0227	1.0239	1.0256	255	255	---	306*	191*
1952	256	261	258	256	244	245	---	---	253	252	257	255	---	267*	172*
1953	261	258	256	258	241	216	1.0220	221	210	251	---	---	---	271*	193*
							VALPARAISO, CHILE								
1944	---	---	---	1.0261	1.0262	1.0260	1.0261	1.0256	1.0263	1.0262	1.0263	1.0259	---	1.0277*	1.0240*
1945	1.0263	1.0264	1.0267	261	258	261	259	259	258	260	263	266	1.0262	291	249
1946	264	265	264	259	260	---	---	259	258	262	262	263	---	270*	247*
1947	261	260	260	259	256	255	253	254	255	256	257	259	257	267	247
1948	260	259	260	259	257	255	253	259	263	263	262	258	259	271	246
1949	263	265	263	263	260	256	255	258	263	264	267	263	262	289	237
1950	264	262	264	259	256	258	258	263	257	263	265	265	261	276	238
1951	262	264	264	259	257	255	250	255	261	262	261	260	259	270	228
1952	261	264	262	260	257	255	249	257	259	261	264	259	259	276	211
1953	263	263	262	261	260	258	260	256	254	263	261	250	259	272	221
Mean Density	1.0262	1.0263	1.0263	1.0260	1.0258	1.0257	1.0255	1.0258	1.0259	1.0262	1.0262	1.0260	1.0260		
Salinity	35.3	35.4	35.4	35.0	34.8	34.6	34.4	34.8	34.9	35.3	35.3	35.0	35.0		
Max.	1.0289	1.0280	1.0291	1.0278	1.0270	1.0270	1.0271	1.0271	1.0276	1.0277	1.0276	1.0276		1.0291	
Mean Max.	1.0269	1.0268	1.0269	1.0266	1.0264	1.0262	1.0262	1.0265	1.0266	1.0268	1.0268	1.0267			
Mean Min.	1.0256	1.0257	1.0258	1.0255	1.0250	1.0251	1.0245	1.0250	1.0248	1.0255	1.0258	1.0251			
Min.	1.0237	1.0250	1.0256	1.0249	1.0238	1.0241	1.0211	1.0229	1.0221	1.0250	1.0252	1.0235			1.0211
							CALDERA, CHILE								
1951	1.0254	1.0253	1.0254	---	1.0258	1.0259	1.0259	1.0258	1.0257	1.0258	1.0258	1.0259	---	1.0264*	1.0247*
1952	258	257	255	1.0258	258	261	256	255	255	255	253	248	1.0256	267	244
1953	248	245	250	253	257	259	263	255	255	256	---	---	---	267*	241*
Mean Density	1.0253	1.0252	1.0253	1.0256	1.0258	1.0260	1.0259	1.0256	1.0256	1.0256	1.0256	1.0254	1.0256		
Salinity	34.1	34.0	34.1	34.5	34.8	35.0	34.9	34.5	34.5	34.5	34.5	34.2	34.5		
Max.	1.0267	1.0262	1.0260	1.0264	1.0267	1.0266	1.0265	1.0262	1.0261	1.0260	1.0262	1.0262		1.0267	
Mean Max.	1.0263	1.0255	1.0258	1.0260	1.0262	1.0264	1.0264	1.0259	1.0260	1.0259	1.0258	1.0257			
Mean Min.	1.0248	1.0247	1.0249	1.0251	1.0254	1.0255	1.0256	1.0253	1.0251	1.0252	1.0250	1.0249			
Min.	1.0243	1.0241	1.0245	1.0247	1.0253	1.0254	1.0253	1.0251	1.0250	1.0250	1.0246	1.0244			1.0241
							ANTOFAGASTA, CHILE								
1946	1.0263	1.0259	1.0259	1.0257	1.0256	1.0256	1.0257	1.0258	1.0258	1.0258	1.0258	---	---	1.0267*	1.0253*
1947	259	257	260	261	263	261	262	263	260	264	261	1.0259	1.0261	270	243
1948	263	264	---	---	---	---	---	---	---	---	---	---	---	273*	256*
1949	263	264	263	266	264	261	263	266	263	264	268	267	264	275	258
1950	263	264	---	---	---	---	---	---	---	262	265	264	---	274*	249*
1951	264	265	263	261	263	262	264	261	262	262	263	260	262	272	256
1952	263	259	255	259	257	259	256	256	256	---	---	261	---	265*	253*
1953	260	261	260	259	258	257	258	256	258	257	258	260	258	266	251

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							ANTOFAGASTA, CHILE - Continued								
Mean Density	1.0262	1.0262	1.0260	1.0260	1.0260	1.0259	1.0260	1.0260	1.0260	1.0261	1.0262	1.0262	1.0261		
Salinity	35.3	35.3	35.0	35.0	35.0	34.9	35.0	35.0	35.0	35.1	35.3	35.3	35.1		
Max.	1.0273	1.0272	1.0268	1.0271	1.0272	1.0269	1.0270	1.0270	1.0269	1.0272	1.0275	1.0274		1.0275	
Mean Max.	1.0267	1.0266	1.0265	1.0265	1.0264	1.0263	1.0264	1.0264	1.0264	1.0267	1.0268	1.0268			
Mean Min.	1.0257	1.0257	1.0257	1.0257	1.0257	1.0256	1.0255	1.0257	1.0256	1.0254	1.0258	1.0258			
Min.	1.0249	1.0253	1.0253	1.0254	1.0253	1.0255	1.0251	1.0254	1.0254	1.0243	1.0254	1.0254			1.0243
							ARICA, CHILE								
1951	1.0260	1.0259	1.0258	1.0256	1.0257	---	---	1.0255	1.0254	---	1.0254	1.0255	---	1.0270*	1.0251*
1952	256	251	252	251	250	1.0250	1.0253	254	253	1.0254	256	259	1.0253	264	241
1953	259	257	254	257	254	256	254	254	254	256	260	---	---	271*	250*
Mean Density	1.0258	1.0256	1.0255	1.0255	1.0254	1.0253	1.0254	1.0254	1.0254	1.0255	1.0257	1.0257	1.0255		
Salinity	34.8	34.5	34.4	34.4	34.2	34.1	34.2	34.2	34.2	34.4	34.6	34.6	34.4		
Max.	1.0267	1.0271	1.0259	1.0260	1.0259	1.0261	1.0258	1.0256	1.0256	1.0261	1.0266	1.0262		1.0271	
Mean Max.	1.0264	1.0266	1.0258	1.0258	1.0258	1.0258	1.0258	1.0256	1.0256	1.0259	1.0261	1.0260			
Mean Min.	1.0254	1.0250	1.0251	1.0251	1.0251	1.0250	1.0250	1.0252	1.0252	1.0252	1.0254	1.0254			
Min.	1.0251	1.0241	1.0249	1.0248	1.0248	1.0248	1.0248	1.0250	1.0251	1.0252	1.0251	1.0252			1.0241
							MATARANI, PERU								
1944	---	---	1.0262	1.0262	1.0262	1.0260	1.0264	1.0263	1.0263	1.0264	1.0262	---	---	1.0280*	1.0247*
1945	1.0262	---	---	265	264	263	264	261	264	265	264	1.0264	---	276*	249*
1946	263	1.0264	264	263	263	260	261	264	271	272	267	265	1.0265	281	250
1947	262	262	262	261	261	260	---	---	---	---	262	266	---	274*	251*
1948	267	265	264	264	264	266	266	263	260	261	262	262	264	285	244
1949	260	---	---	---	---	---	---	---	---	259	261	261	---	266*	256*
1950	261	262	261	263	262	263	---	---	---	---	---	269	---	278*	256*
1951	269	---	264	---	264	266	266	266	---	266	271	271	---	274*	264*
Mean Density	1.0263	1.0263	1.0263	1.0263	1.0263	1.0263	1.0264	1.0263	1.0264	1.0264	1.0264	1.0265	1.0264		
Salinity	35.4	35.4	35.4	35.4	35.4	35.4	35.5	35.4	35.5	35.5	35.5	35.7	35.5		
Max.	1.0274	1.0272	1.0269	1.0274	1.0276	1.0274	1.0285	1.0281	1.0281	1.0281	1.0271	1.0278		1.0285	
Mean Max.	1.0268	1.0269	1.0267	1.0269	1.0267	1.0267	1.0273	1.0271	1.0271	1.0270	1.0269	1.0271			
Mean Min.	1.0259	1.0260	1.0258	1.0256	1.0258	1.0258	1.0258	1.0256	1.0259	1.0260	1.0259	1.0262			
Min.	1.0255	1.0257	1.0251	1.0251	1.0249	1.0249	1.0244	1.0247	1.0258	1.0258	1.0252	1.0256			1.0244
							CALLAO, PERU								
1944	---	1.0239	1.0234	1.0235	1.0242	1.0244	---	1.0247	1.0248	1.0250	1.0251	1.0254	---	1.0275*	1.0214*
1945	1.0257	253	248	245	252	245	1.0248	254	256	250	253	252	1.0252	269	227
1946	244	235	247	224	240	---	232	239	244	247	246	236	---	296*	213*
1947	---	249	244	242	239	242	---	253	247	251	257	257	---	269*	220*
1948	256	244	249	248	250	243	243	247	247	254	248	256	249	274	224
1949	251	248	248	248	249	250	251	252	252	254	257	254	251	277	198
1950	248	244	246	244	249	250	248	249	247	248	251	249	248	260	220
1951	245	240	240	245	256	267	---	256	253	249	248	249	---	270*	222*
1952	252	254	252	---	---	---	254	252	252	252	252	253	---	262*	244*
1953	253	245	245	249	254	252	252	253	255	252	251	252	251	264	235
Mean Density	1.0251	1.0245	1.0245	1.0242	1.0248	1.0249	1.0247	1.0250	1.0250	1.0251	1.0251	1.0251	1.0248		
Salinity	33.8	33.1	33.1	32.7	33.5	33.6	33.3	33.7	33.7	33.8	33.8	33.8	33.5		
Max.	1.0296	1.0270	1.0284	1.0277	1.0270	1.0270	1.0267	1.0269	1.0267	1.0270	1.0271	1.0269		1.0296	
Mean Max.	1.0268	1.0260	1.0261	1.0259	1.0260	1.0263	1.0258	1.0260	1.0259	1.0262	1.0261	1.0261			
Mean Min.	1.0238	1.0231	1.0229	1.0228	1.0233	1.0239	1.0235	1.0239	1.0237	1.0233	1.0240	1.0239			
Min.	1.0219	1.0215	1.0220	1.0213	1.0213	1.0220	1.0220	1.0224	1.0216	1.0198	1.0227	1.0216			1.0198

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
TALARA, PERU															
1944	---	---	---	---	---	1.0268	1.0266	1.0268	1.0268	1.0266	1.0266	1.0269	---	1.0275*	1.0259*
1945	1.0260	1.0259	1.0264	1.0270	1.0272	271	273	---	---	---	---	267	---	279*	249*
1946	271	266	270	266	264	263	265	264	262	263	---	265	---	281*	257*
1947	270	270	271	274	268	264	---	272	267	267	263	264	---	295*	256*
1948	259	261	265	264	264	264	265	263	263	262	266	266	1.0264	272	253
1949	265	266	265	267	267	267	265	264	263	264	264	264	265	274	253
1950	267	264	263	267	264	264	264	266	265	263	266	265	265	276	255
1951	259	256	269	268	262	---	266	267	---	268	264	266	---	279*	250*
1952	263	262	260	264	265	264	263	261	---	---	256	258	---	271*	247*
1953	256	253	251	255	259	260	259	261	259	265	259	---	---	270*	229*
Mean Density	1.0263	1.0262	1.0264	1.0266	1.0265	1.0265	1.0265	1.0265	1.0264	1.0265	1.0263	1.0265	1.0264		
Salinity	35.4	35.3	35.5	35.8	35.7	35.7	35.7	35.7	35.5	35.7	35.4	35.7	35.5		
Max.	1.0280	1.0276	1.0281	1.0293	1.0277	1.0279	1.0276	1.0295	1.0274	1.0274	1.0273	1.0275		1.0295	
Mean Max.	1.0270	1.0269	1.0272	1.0275	1.0270	1.0271	1.0270	1.0272	1.0270	1.0271	1.0270	1.0272			
Mean Min.	1.0257	1.0255	1.0255	1.0258	1.0260	1.0260	1.0260	1.0259	1.0259	1.0258	1.0256	1.0260			
Min.	1.0249	1.0244	1.0235	1.0229	1.0255	1.0253	1.0254	1.0254	1.0255	1.0253	1.0247	1.0254			1.0229
LA LIBERTAD, ECUADOR															
1949	1.0254	1.0256	1.0257	---	---	1.0265	---	---	1.0256	1.0256	1.0253	1.0252	---	1.0275*	1.0241*
1950	253	258	260	1.0266	1.0265	261	1.0258	1.0257	263	256	255	252	1.0259	278	237
1951	250	250	262	265	264	261	262	269	254	251	254	256	258	300	245
1952	258	262	267	267	265	257	254	252	253	251	251	251	257	280	246
1953	252	253	241	252	255	254	257	257	261	---	---	---	---	266*	222*
Mean Density	1.0253	1.0256	1.0257	1.0262	1.0262	1.0260	1.0258	1.0259	1.0257	1.0254	1.0253	1.0253	1.0257		
Salinity	34.1	34.5	34.6	35.3	35.3	35.0	34.8	34.9	34.6	34.2	34.1	34.1	34.6		
Max.	1.0264	1.0274	1.0278	1.0276	1.0280	1.0275	1.0286	1.0300	1.0272	1.0265	1.0262	1.0260		1.0300	
Mean Max.	1.0260	1.0263	1.0266	1.0268	1.0270	1.0267	1.0269	1.0270	1.0263	1.0259	1.0259	1.0258			
Mean Min.	1.0248	1.0247	1.0248	1.0255	1.0256	1.0255	1.0251	1.0251	1.0253	1.0249	1.0249	1.0247			
Min.	1.0245	1.0241	1.0222	1.0243	1.0252	1.0248	1.0249	1.0247	1.0250	1.0246	1.0246	1.0237			1.0222
TUMACO, COLOMBIA															
1951	---	---	---	---	---	---	---	---	---	1.0219	1.0223	1.0225	---	1.0237*	1.0195*
1952	1.0227	1.0226	1.0237	1.0219	1.0221	1.0221	1.0228	1.0229	1.0227	220	217	226	1.0225	251	138
1953	222	210	223	225	196	214	219	233	227	207	208	213	216	250	138
Mean Density	1.0224	1.0218	1.0230	1.0222	1.0208	1.0218	1.0224	1.0231	1.0227	1.0215	1.0216	1.0221	1.0221		
Salinity	30.3	29.5	31.1	30.1	28.2	29.5	30.3	31.2	30.7	29.1	29.3	29.9	29.9		
Max.	1.0237	1.0240	1.0251	1.0245	1.0233	1.0238	1.0236	1.0238	1.0236	1.0234	1.0237	1.0234		1.0251	
Mean Max.	1.0236	1.0236	1.0250	1.0244	1.0232	1.0235	1.0236	1.0234	1.0233	1.0229	1.0226	1.0231			
Mean Min.	1.0194	1.0202	1.0206	1.0152	1.0168	1.0175	1.0192	1.0225	1.0222	1.0196	1.0198	1.0204			
Min.	1.0173	1.0186	1.0186	1.0138	1.0138	1.0147	1.0180	1.0224	1.0222	1.0188	1.0177	1.0190			1.0138
BUENAVENTURA, COLOMBIA															
1953	1.0108	---	---	---	1.0100	1.0109	1.0111	1.0108	1.0093	1.0072	1.0064	1.0073	---	1.0140*	1.0025*
NAOS ISLAND, CANAL ZONE															
1949	---	---	---	---	1.0254	1.0228	1.0221	1.0224	1.0209	1.0196	1.0203	1.0209	---	1.0267*	1.0127*
1950	1.0236	1.0250	1.0251	1.0258	238	215	214	211	203	190	199	212	1.0223	262	137
1951	230	242	258	258	244	237	220	231	214	218	214	221	232	264	148
1952	239	254	258	255	248	229	226	227	205	208	199	213	230	262	169
1953	227	239	256	256	236	229	227	229	214	205	210	209	228	260	168

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							NAOS ISLAND, CANAL ZONE - Continued								
Mean Density	1.0233	1.0246	1.0256	1.0257	1.0244	1.0228	1.0222	1.0224	1.0209	1.0203	1.0205	1.0213	1.0228		
Salinity	31.5	33.2	34.5	34.6	32.9	30.8	30.1	30.3	28.4	27.6	27.8	28.9	30.8		
Max.	1.0258	1.0262	1.0262	1.0264	1.0267	1.0249	1.0237	1.0239	1.0229	1.0233	1.0236	1.0241		1.0267	
Mean Max.	1.0248	1.0258	1.0261	1.0260	1.0258	1.0242	1.0233	1.0236	1.0221	1.0222	1.0224	1.0230			
Mean Min.	1.0218	1.0238	1.0249	1.0251	1.0224	1.0212	1.0189	1.0205	1.0191	1.0174	1.0183	1.0179			
Min.	1.0207	1.0228	1.0239	1.0248	1.0209	1.0186	1.0154	1.0168	1.0175	1.0127	1.0137	1.0148			1.0127
							PUERTO ARMUELLES, PANAMA								
1951	---	1.0249	1.0246	1.0249	1.0250	1.0244	1.0236	1.0235	1.0240	1.0228	1.0228	1.0233	---	1.0257*	1.0212*
1952	1.0237	242	252	254	252	248	245	241	238	237	238	231	1.0243	260	217
1953	234	227	231	238	248	242	233	234	234	244	237	226	236	258	220
Mean Density	1.0236	1.0239	1.0243	1.0247	1.0250	1.0245	1.0238	1.0237	1.0237	1.0236	1.0234	1.0230	1.0239		
Salinity	31.9	32.3	32.8	33.3	33.7	33.1	32.1	32.0	32.0	31.9	31.6	31.1	32.3		
Max.	1.0245	1.0251	1.0255	1.0260	1.0259	1.0258	1.0258	1.0255	1.0249	1.0253	1.0253	1.0240		1.0260	
Mean Max.	1.0243	1.0244	1.0248	1.0252	1.0258	1.0257	1.0251	1.0247	1.0246	1.0248	1.0246	1.0237			
Mean Min.	1.0227	1.0234	1.0237	1.0242	1.0231	1.0229	1.0230	1.0229	1.0231	1.0216	1.0220	1.0221			
Min.	1.0224	1.0222	1.0222	1.0229	1.0220	1.0221	1.0225	1.0225	1.0231	1.0212	1.0216	1.0219			1.0212
							PUNTARENAS, COSTA RICA								
1948	1.0204	1.0205	1.0205	1.0203	1.0205	1.0210	1.0226	1.0231	1.0221	1.0212	1.0218	1.0224	1.0214	1.0238	1.0195
1949	228	230	230	230	237	230	224	226	225	214	223	226	227	243	144
1950	227	226	237	231	241	231	227	220	217	215	219	223	226	273	193
1951	226	239	234	237	240	235	232	232	220	215	215	224	229	253	199
1952	226	224	221	227	228	223	223	224	222	190	219	219	220	243	165
1953	218	220	227	238	235	218	221	225	230	222	222	224	225	248	138
Mean Density	1.0222	1.0224	1.0226	1.0228	1.0231	1.0224	1.0226	1.0226	1.0222	1.0211	1.0219	1.0223	1.0224		
Salinity	30.1	30.3	30.6	30.8	31.2	30.3	30.6	30.6	30.1	28.6	29.7	30.2	30.3		
Max.	1.0241	1.0250	1.0273	1.0250	1.0265	1.0245	1.0245	1.0245	1.0247	1.0244	1.0243	1.0243		1.0273	
Mean Max.	1.0233	1.0236	1.0242	1.0240	1.0243	1.0242	1.0239	1.0241	1.0236	1.0228	1.0235	1.0235			
Mean Min.	1.0207	1.0212	1.0211	1.0218	1.0220	1.0205	1.0208	1.0206	1.0206	1.0185	1.0201	1.0207			
Min.	1.0196	1.0194	1.0201	1.0195	1.0196	1.0188	1.0200	1.0193	1.0200	1.0144	1.0186	1.0198			1.0144
							SAN JUAN DEL SUR, NICARAGUA								
1950	1.0254	1.0255	1.0259	1.0260	1.0256	1.0249	1.0248	1.0248	1.0258	1.0249	1.0259	1.0262	1.0255	1.0280	1.0220
1951	259	246	249	264	---	249	257	258	255	255	254	258	---	282*	232*
1952	267	266	263	266	261	250	261	254	262	251	249	256	259	286	231
1953	255	250	261	254	249	253	251	259	254	---	---	---	---	272*	217*
Mean Density	1.0259	1.0254	1.0258	1.0261	1.0255	1.0250	1.0254	1.0255	1.0257	1.0252	1.0254	1.0259	1.0256		
Salinity	34.9	34.2	34.8	35.1	34.4	33.7	34.2	34.4	34.6	34.0	34.2	34.9	34.5		
Max.	1.0284	1.0280	1.0281	1.0286	1.0268	1.0268	1.0274	1.0277	1.0280	1.0269	1.0275	1.0281		1.0286	
Mean Max.	1.0271	1.0266	1.0273	1.0274	1.0267	1.0260	1.0266	1.0273	1.0274	1.0268	1.0269	1.0279			
Mean Min.	1.0246	1.0242	1.0246	1.0250	1.0241	1.0234	1.0239	1.0240	1.0240	1.0229	1.0235	1.0240			
Min.	1.0243	1.0234	1.0240	1.0242	1.0217	1.0231	1.0231	1.0235	1.0233	1.0220	1.0234	1.0238			1.0217
							LA UNIÓN, EL SALVADOR								
1949	---	---	---	---	---	---	---	---	1.0199	1.0174	1.0218	1.0238	---	1.0254*	1.0142*
1950	1.0255	1.0263	1.0268	---	1.0271	1.0214	1.0195	1.0234	170	---	222	245	---	284*	134*
1951	---	---	269	1.0270	262	240	207	214	171	170	220	238	---	276*	133*
1952	254	271	266	267	244	176	195	201	179	185	225	230	1.0224	291	127
1953	246	251	---	265	236	193	204	230	183	179	218	245	---	275*	135*
Mean Density	1.0252	1.0262	1.0268	1.0267	1.0253	1.0206	1.0200	1.0220	1.0180	1.0177	1.0221	1.0239	1.0229		
Salinity	34.0	35.3	36.0	35.9	34.1	28.0	27.2	29.8	24.6	24.2	29.9	32.3	31.0		
Max.	1.0278	1.0291	1.0276	1.0275	1.0284	1.0274	1.0238	1.0243	1.0241	1.0215	1.0243	1.0259		1.0291	
Mean Max.	1.0274	1.0273	1.0273	1.0274	1.0274	1.0248	1.0225	1.0237	1.0219	1.0209	1.0237	1.0254			
Mean Min.	1.0239	1.0238	1.0260	1.0260	1.0224	1.0164	1.0158	1.0183	1.0141	1.0138	1.0185	1.0225			
Min.	1.0223	1.0208	1.0254	1.0253	1.0171	1.0127	1.0142	1.0144	1.0133	1.0134	1.0157	1.0208			1.0127

*Observations for the year are incomplete; extremes are for the months shown.

Table 1. Density of Sea Water - *Continued*

Means and Extremes

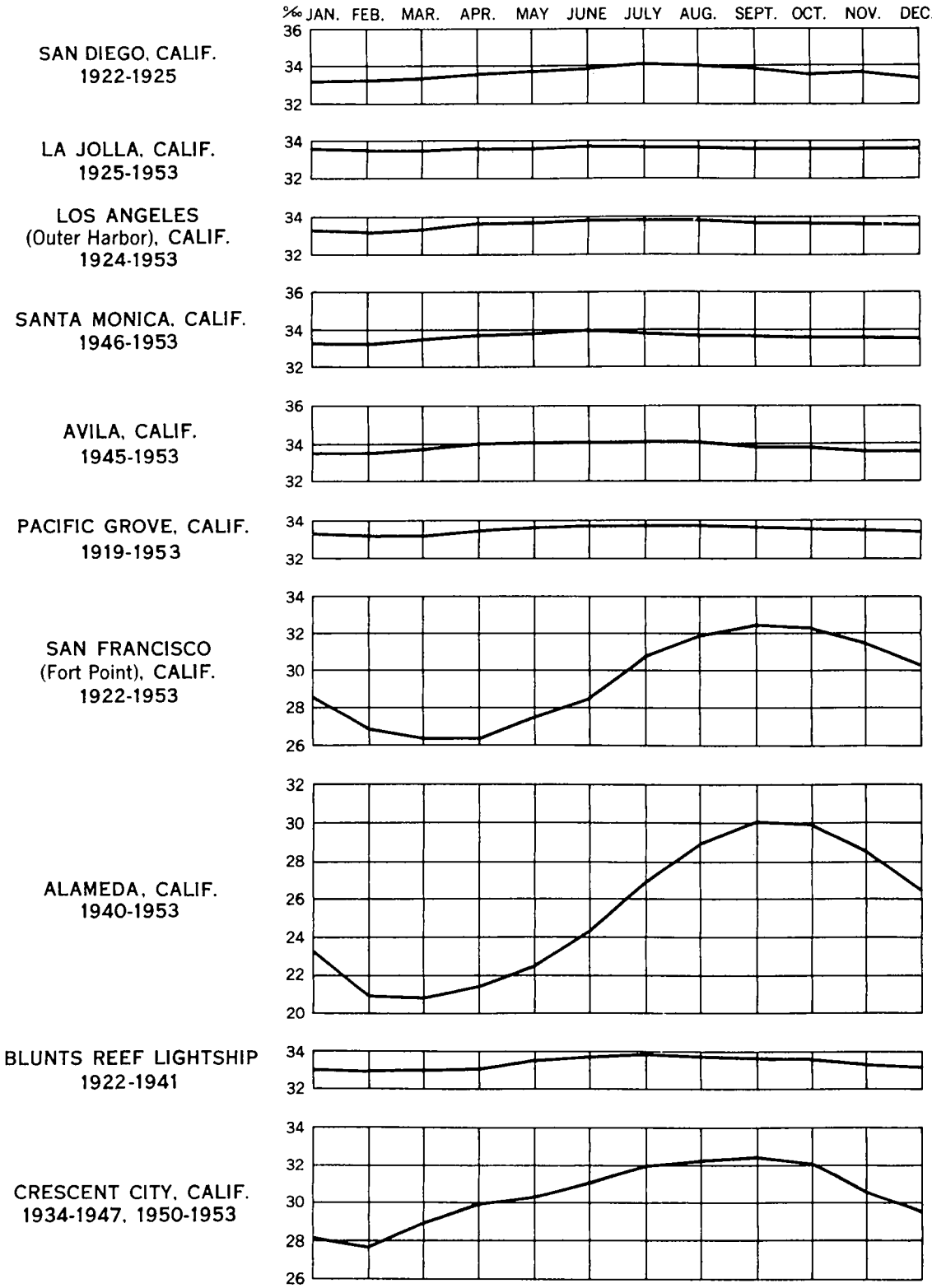
Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Means	Max.	Min.
							SAN JOSÉ, GUATEMALA								
1949	---	---	---	---	---	---	---	---	---	---	1.0245	1.0254	---	1.0258*	1.0245*
1950	1.0256	1.0258	1.0260	1.0262	1.0260	1.0249	1.0240	1.0247	1.0235	1.0235	248	253	1.0250	268	201
1951	255	257	260	258	256	252	---	---	---	238	240	243	---	263*	225*
1952	251	254	255	257	256	245	237	242	236	220	240	246	245	262	194
1953	250	251	253	256	252	248	246	248	239	228	238	246	246	261	206
Mean Density	1.0253	1.0255	1.0257	1.0258	1.0256	1.0248	1.0241	1.0246	1.0237	1.0230	1.0242	1.0248	1.0248		
Salinity	34.1	34.4	34.6	34.8	34.5	33.5	32.5	33.2	32.0	31.1	32.7	33.5	33.5		
Max.	1.0261	1.0263	1.0264	1.0268	1.0263	1.0260	1.0254	1.0258	1.0250	1.0257	1.0262	1.0258		1.0268	
Mean Max.	1.0256	1.0258	1.0260	1.0262	1.0260	1.0258	1.0250	1.0254	1.0247	1.0247	1.0255	1.0253			
Mean Min.	1.0248	1.0249	1.0252	1.0255	1.0247	1.0232	1.0218	1.0227	1.0219	1.0209	1.0230	1.0242			
Min.	1.0243	1.0243	1.0250	1.0252	1.0242	1.0216	1.0201	1.0212	1.0218	1.0194	1.0225	1.0233			1.0194
							SALINA CRUZ, MEXICO								
1952	---	---	---	---	1.0256	1.0246	1.0248	1.0246	1.0241	1.0249	1.0253	1.0254	---	1.0262*	1.0220*
1953	1.0256	1.0258	---	---	---	---	251	255	255	252	258	262	---	278*	243*
							ACAPULCO, MEXICO								
1950	---	---	---	---	---	1.0252	1.0248	1.0252	1.0248	1.0250	1.0251	1.0254	---	1.0261*	1.0219*
1951	1.0256	1.0258	1.0257	1.0258	1.0257	257	244	252	234	246	248	251	1.0252	267	193
1952	254	254	257	257	256	249	248	244	241	238	247	248	249	262	214
1953	250	252	257	257	259	255	249	248	247	244	252	252	252	262	200
Mean Density	1.0253	1.0255	1.0257	1.0257	1.0257	1.0253	1.0247	1.0249	1.0242	1.0244	1.0250	1.0251	1.0251		
Salinity	34.1	34.4	34.6	34.6	34.6	34.1	33.3	33.6	32.7	32.9	33.7	33.8	33.8		
Max.	1.0258	1.0267	1.0261	1.0263	1.0262	1.0267	1.0261	1.0258	1.0262	1.0258	1.0254	1.0257		1.0267	
Mean Max.	1.0256	1.0261	1.0260	1.0262	1.0261	1.0262	1.0256	1.0256	1.0255	1.0252	1.0254	1.0255			
Mean Min.	1.0251	1.0251	1.0253	1.0253	1.0254	1.0233	1.0229	1.0236	1.0217	1.0226	1.0246	1.0247			
Min.	1.0248	1.0249	1.0249	1.0252	1.0251	1.0214	1.0214	1.0234	1.0193	1.0200	1.0240	1.0243			1.0193

							MAZATLÁN, MEXICO								
1953	1.0258	1.0259	1.0260	1.0261	1.0264	1.0266	1.0258	1.0257	1.0243	1.0256	1.0261	1.0260	1.0259	1.0273	1.0077
							GUAYMAS, MEXICO								
1950	---	---	---	---	---	---	1.0269	1.0261	1.0271	1.0273	1.0271	1.0269	---	1.0277*	1.0248*
1951	1.0268	1.0267	1.0270	1.0270	1.0276	1.0280	280	270	271	272	272	272	1.0272	306	232
1952	273	271	267	267	273	278	280	271	267	274	264	266	271	293	252
1953	267	265	262	271	263	267	273	---	---	---	---	---	---	284*	251*
Mean Density	1.0269	1.0268	1.0266	1.0269	1.0271	1.0275	1.0276	1.0267	1.0270	1.0273	1.0269	1.0269	1.0270		
Salinity	36.2	36.0	35.8	36.2	36.4	37.0	37.1	35.9	36.3	36.7	36.2	36.2	36.3		
Max.	1.0293	1.0279	1.0277	1.0284	1.0293	1.0306	1.0297	1.0303	1.0291	1.0293	1.0282	1.0290		1.0306	
Mean Max.	1.0281	1.0275	1.0275	1.0276	1.0281	1.0288	1.0285	1.0284	1.0280	1.0285	1.0276	1.0281			
Mean Min.	1.0261	1.0261	1.0259	1.0258	1.0262	1.0264	1.0267	1.0247	1.0263	1.0265	1.0259	1.0259			
Min.	1.0253	1.0257	1.0252	1.0256	1.0252	1.0251	1.0260	1.0232	1.0261	1.0260	1.0252	1.0254			1.0232
							PUERTO PEÑASCO, MEXICO								
1952	---	---	---	---	1.0268	---	1.0270	1.0268	1.0269	1.0268	1.0269	---	---	1.0278*	1.0263*
1953	---	---	1.0269	1.0270	271	1.0270	274	273	275	---	---	---	---	286*	258*
							LA PAZ, MEXICO								
1950	---	---	---	---	---	---	1.0270	1.0266	---	1.0267	1.0264	1.0263	---	1.0276*	1.0260*
1951	1.0263	1.0264	1.0270	1.0272	1.0270	1.0271	270	270	1.0265	267	263	260	1.0267	302	253
1952	265	267	270	268	271	268	272	265	267	268	269	---	---	281*	256*
1953	---	---	274	275	276	275	276	274	275	275	273	272	---	288*	263*
Mean Density	1.0264	1.0266	1.0271	1.0272	1.0272	1.0271	1.0272	1.0269	1.0269	1.0269	1.0267	1.0265	1.0269		
Salinity	35.5	35.8	36.4	36.6	36.6	36.4	36.6	36.2	36.2	36.2	35.9	35.7	36.2		
Max.	1.0272	1.0275	1.0280	1.0286	1.0282	1.0286	1.0285	1.0302	1.0279	1.0288	1.0282	1.0281		1.0302	
Mean Max.	1.0270	1.0273	1.0278	1.0281	1.0280	1.0281	1.0279	1.0280	1.0273	1.0278	1.0275	1.0272			
Mean Min.	1.0261	1.0262	1.0266	1.0265	1.0264	1.0263	1.0263	1.0261	1.0264	1.0264	1.0262	1.0261			
Min.	1.0261	1.0261	1.0265	1.0263	1.0262	1.0263	1.0256	1.0256	1.0259	1.0261	1.0254	1.0253			1.0253

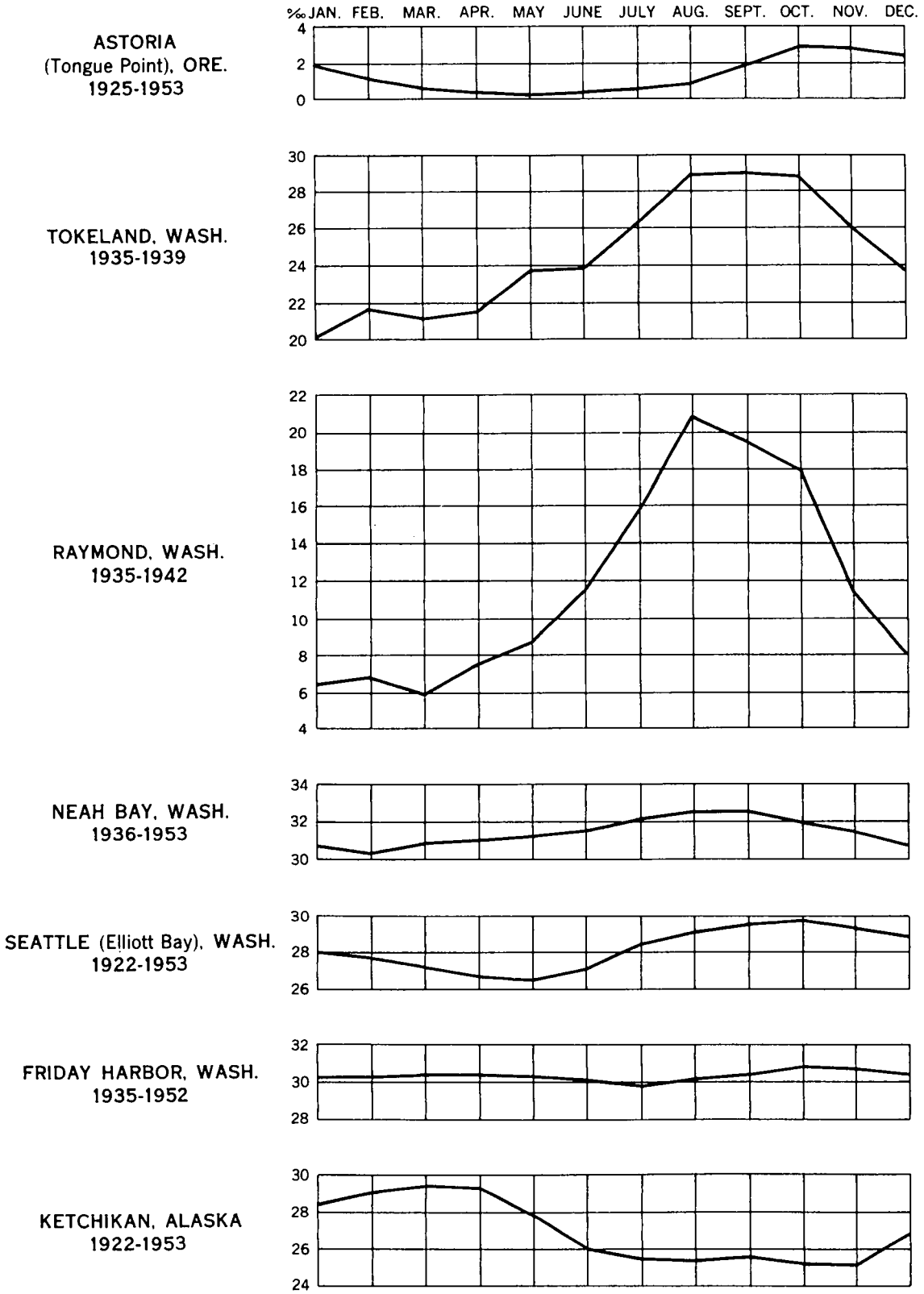
*Observations for the year are incomplete; extremes are for the months shown.

Mean Salinity Curves

Monthly mean salinities in parts per thousand are presented graphically to show the seasonal variation.

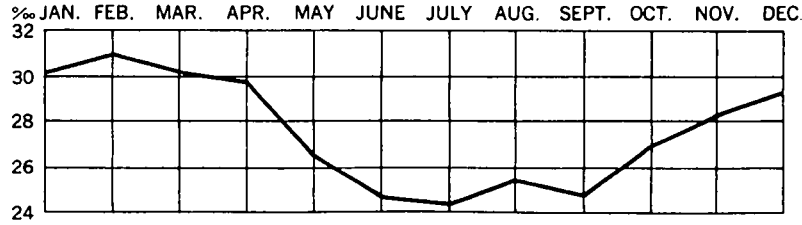


Mean Salinity Curves - *Continued*



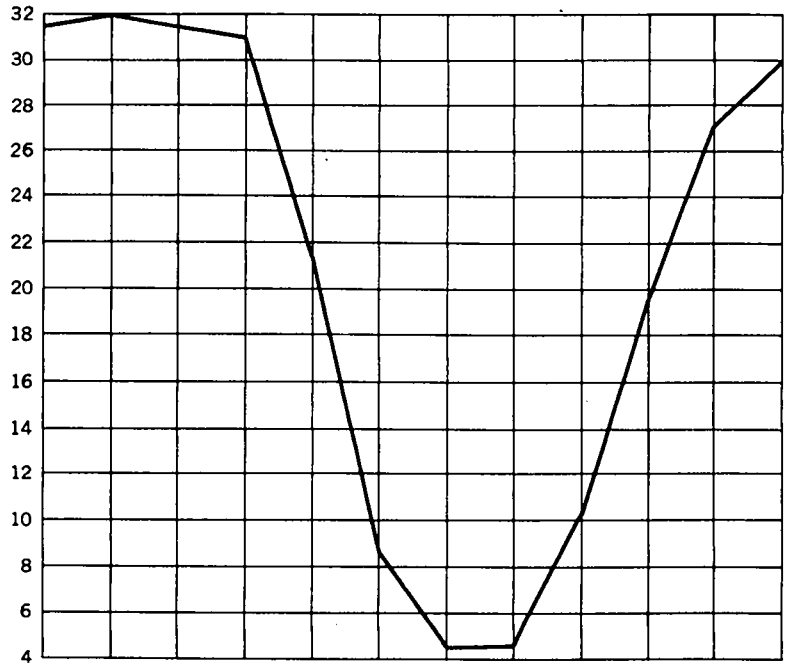
Mean Salinity Curves - *Continued*

SITKA, ALASKA
1924-1925, 1943-1953

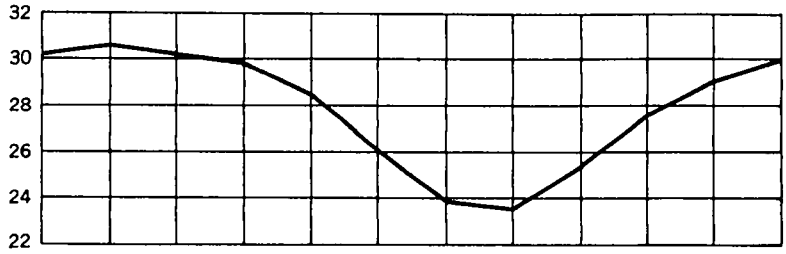


JUNEAU, ALASKA
1937-1953

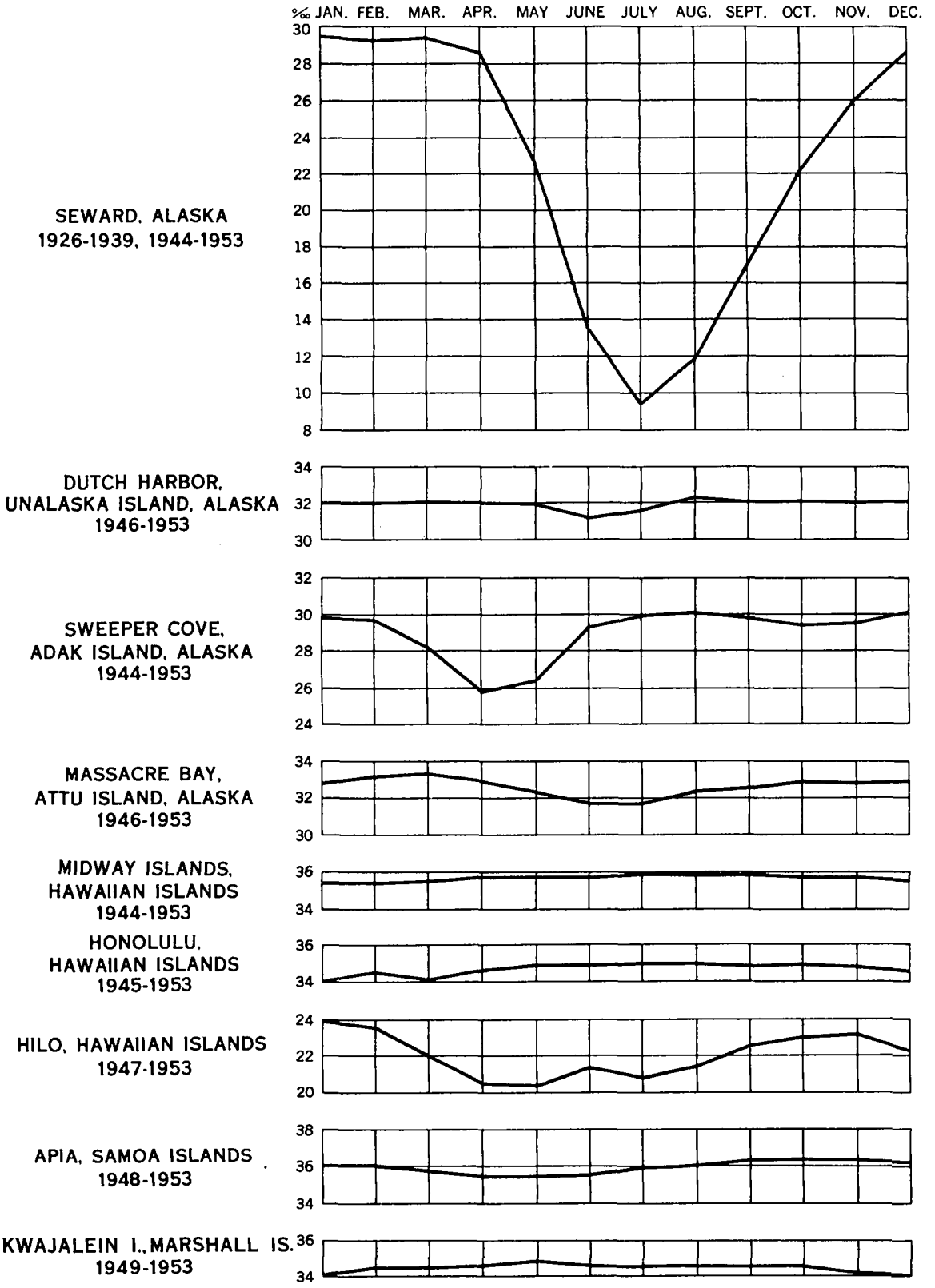
SKAGWAY, ALASKA
1944-1953



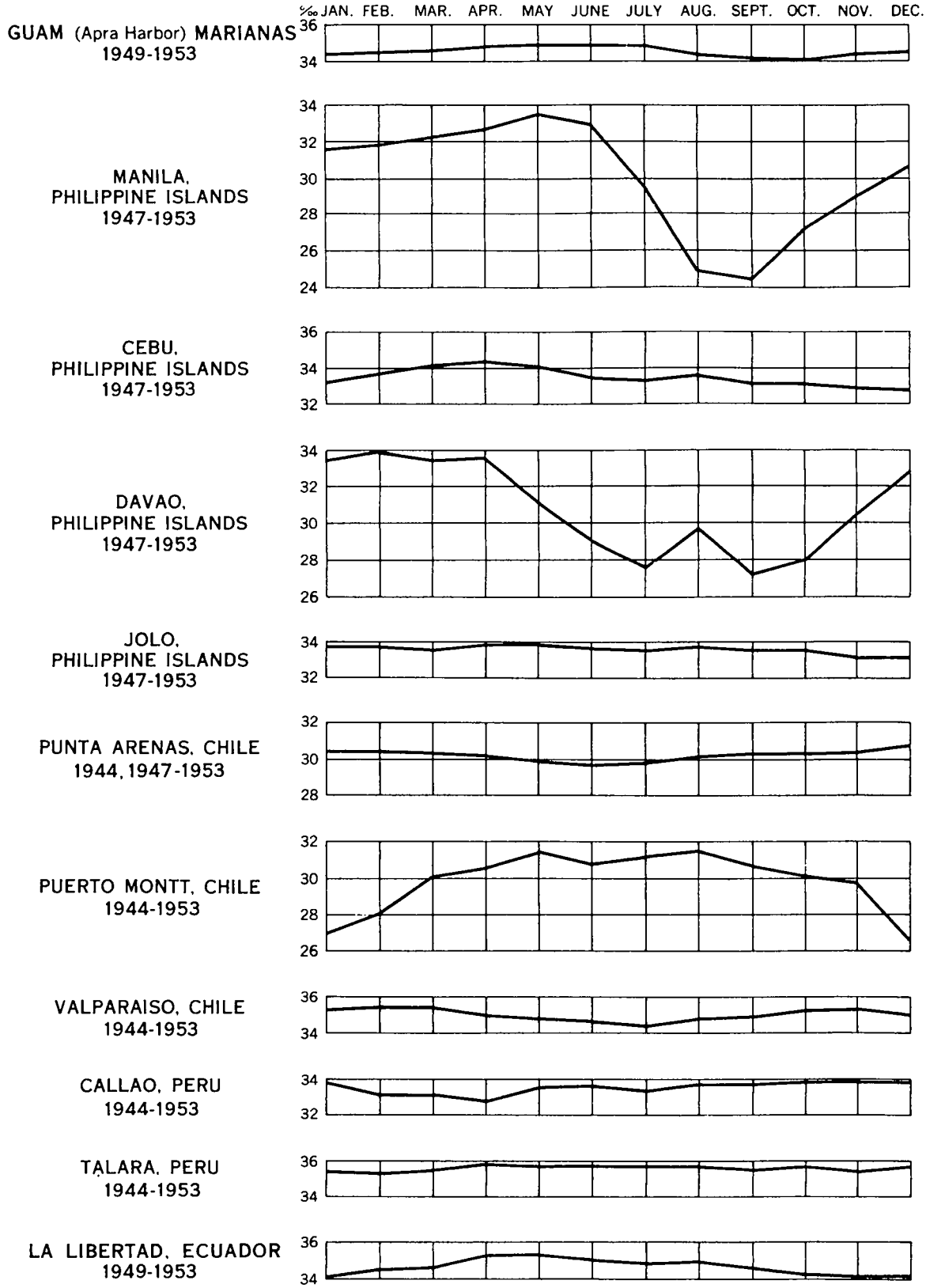
YAKUTAT, ALASKA
1941-1953



Mean Salinity Curves - *Continued*



Mean Salinity Curves - *Continued*



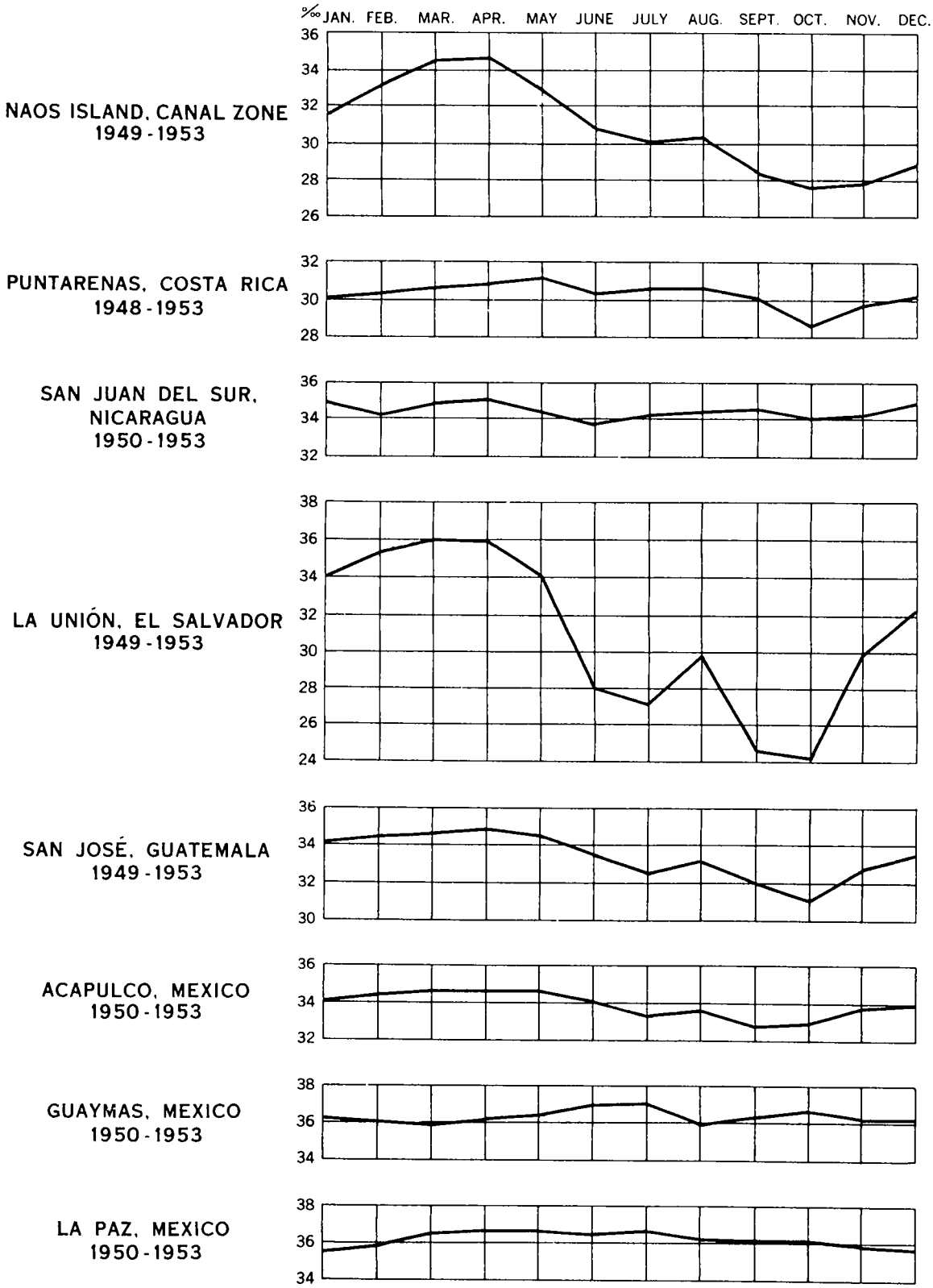

‰ JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
NAOS ISLAND, CANAL ZONE
1949-1953
36
34
32
30
28
26
PUNTARENAS, COSTA RICA
1948-1953
32
30
28
SAN JUAN DEL SUR,
NICARAGUA
1950-1953
36
34
32
LA UNIÓN, EL SALVADOR
1949-1953
38
36
34
32
30
28
26
24
SAN JOSÉ, GUATEMALA
1949-1953
36
34
32
30
ACAPULCO, MEXICO
1950-1953
36
34
32
GUAYMAS, MEXICO
1950-1953
38
36
34
LA PAZ, MEXICO
1950-1953
38
36
34

Table 2. Corresponding Densities and Salinities

(Density at 15°C. -- Salinity in parts per 1000)

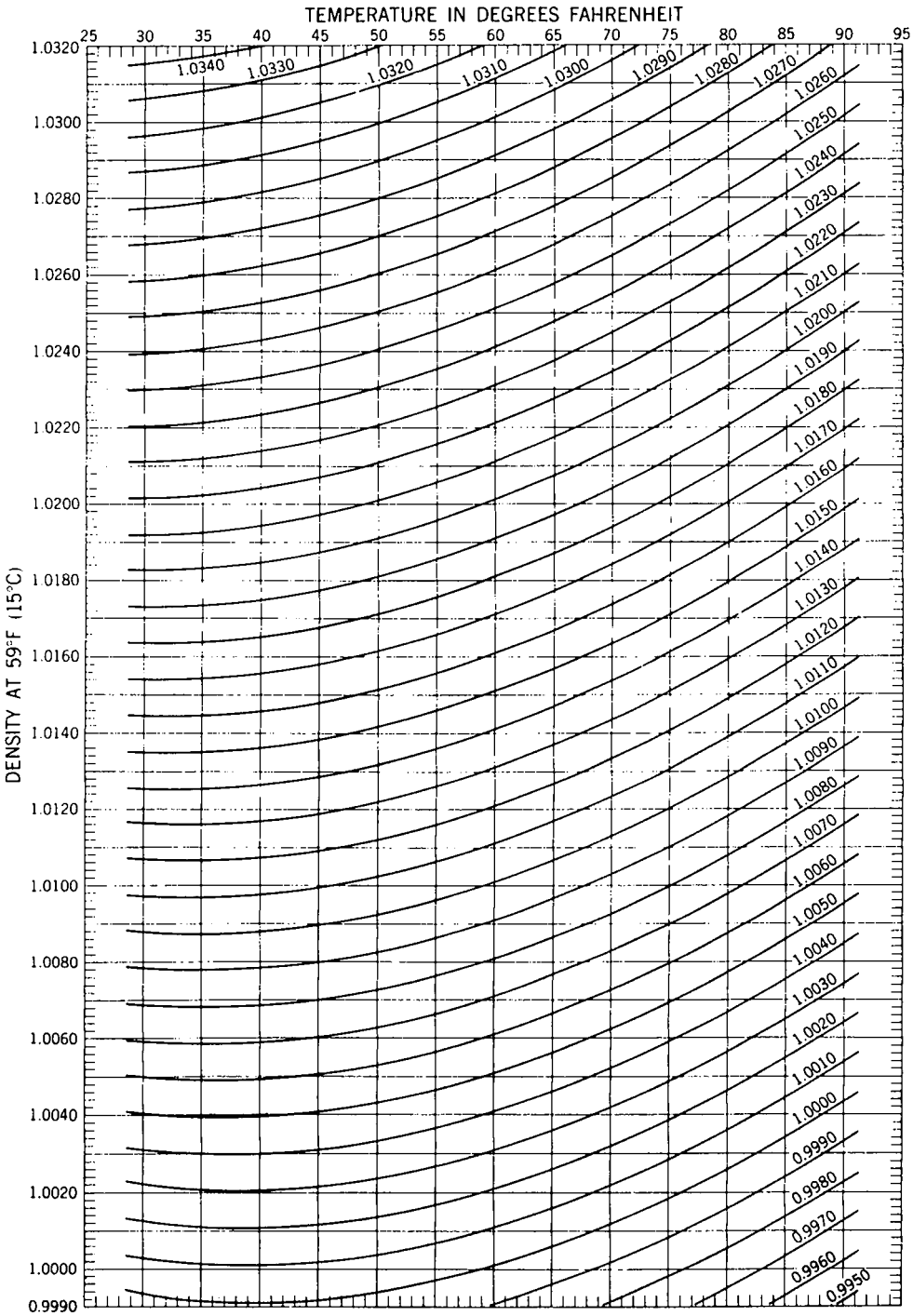
Density	Salinity	Density	Salinity	Density	Salinity	Density	Salinity	Density	Salinity	Density	Salinity
0.9991	0.0	1.0046	7.1	1.0101	14.2	1.0156	21.4	1.0211	28.6	1.0266	35.8
0.9992	0.0	1.0047	7.2	1.0102	14.4	1.0157	21.6	1.0212	28.8	1.0267	35.9
0.9993	0.2	1.0048	7.3	1.0103	14.5	1.0158	21.7	1.0213	28.9	1.0268	36.0
0.9994	0.3	1.0049	7.5	1.0104	14.6	1.0159	21.8	1.0214	29.0	1.0269	36.2
0.9995	0.4	1.0050	7.6	1.0105	14.8	1.0160	22.0	1.0215	29.1	1.0270	36.3
0.9996	0.6	1.0051	7.7	1.0106	14.9	1.0161	22.1	1.0216	29.3	1.0271	36.4
0.9997	0.7	1.0052	7.9	1.0107	15.0	1.0162	22.2	1.0217	29.4	1.0272	36.6
0.9998	0.8	1.0053	8.0	1.0108	15.2	1.0163	22.4	1.0218	29.5	1.0273	36.7
0.9999	0.9	1.0054	8.1	1.0109	15.3	1.0164	22.5	1.0219	29.7	1.0274	36.8
1.0000	1.1	1.0055	8.2	1.0110	15.4	1.0165	22.6	1.0220	29.8	1.0275	37.0
1.0001	1.2	1.0056	8.4	1.0111	15.6	1.0166	22.7	1.0221	29.9	1.0276	37.1
1.0002	1.3	1.0057	8.5	1.0112	15.7	1.0167	22.9	1.0222	30.1	1.0277	37.2
1.0003	1.5	1.0058	8.6	1.0113	15.8	1.0168	23.0	1.0223	30.2	1.0278	37.3
1.0004	1.6	1.0059	8.8	1.0114	16.0	1.0169	23.1	1.0224	30.3	1.0279	37.5
1.0005	1.7	1.0060	8.9	1.0115	16.1	1.0170	23.3	1.0225	30.4	1.0280	37.6
1.0006	1.9	1.0061	9.0	1.0116	16.2	1.0171	23.4	1.0226	30.6	1.0281	37.7
1.0007	2.0	1.0062	9.2	1.0117	16.3	1.0172	23.5	1.0227	30.7	1.0282	37.9
1.0008	2.1	1.0063	9.3	1.0118	16.5	1.0173	23.7	1.0228	30.8	1.0283	38.0
1.0009	2.2	1.0064	9.4	1.0119	16.6	1.0174	23.8	1.0229	31.0	1.0284	38.1
1.0010	2.4	1.0065	9.6	1.0120	16.7	1.0175	23.9	1.0230	31.1	1.0285	38.2
1.0011	2.5	1.0066	9.7	1.0121	16.9	1.0176	24.1	1.0231	31.2	1.0286	38.4
1.0012	2.6	1.0067	9.8	1.0122	17.0	1.0177	24.2	1.0232	31.4	1.0287	38.5
1.0013	2.8	1.0068	9.9	1.0123	17.1	1.0178	24.3	1.0233	31.5	1.0288	38.6
1.0014	2.9	1.0069	10.1	1.0124	17.3	1.0179	24.4	1.0234	31.6	1.0289	38.8
1.0015	3.0	1.0070	10.2	1.0125	17.4	1.0180	24.6	1.0235	31.8	1.0290	38.9
1.0016	3.2	1.0071	10.3	1.0126	17.5	1.0181	24.7	1.0236	31.9	1.0291	39.0
1.0017	3.3	1.0072	10.5	1.0127	17.7	1.0182	24.8	1.0237	32.0	1.0292	39.2
1.0018	3.4	1.0073	10.6	1.0128	17.8	1.0183	25.0	1.0238	32.1	1.0293	39.3
1.0019	3.5	1.0074	10.7	1.0129	17.9	1.0184	25.1	1.0239	32.3	1.0294	39.4
1.0020	3.7	1.0075	10.8	1.0130	18.0	1.0185	25.2	1.0240	32.4	1.0295	39.6
1.0021	3.8	1.0076	11.0	1.0131	18.2	1.0186	25.4	1.0241	32.5	1.0296	39.7
1.0022	3.9	1.0077	11.1	1.0132	18.3	1.0187	25.5	1.0242	32.7	1.0297	39.8
1.0023	4.1	1.0078	11.2	1.0133	18.4	1.0188	25.6	1.0243	32.8	1.0298	39.9
1.0024	4.2	1.0079	11.4	1.0134	18.6	1.0189	25.8	1.0244	32.9	1.0299	40.1
1.0025	4.3	1.0080	11.5	1.0135	18.7	1.0190	25.9	1.0245	33.1	1.0300	40.2
1.0026	4.5	1.0081	11.6	1.0136	18.8	1.0191	26.0	1.0246	33.2	1.0301	40.3
1.0027	4.6	1.0082	11.8	1.0137	19.0	1.0192	26.1	1.0247	33.3	1.0302	40.4
1.0028	4.7	1.0083	11.9	1.0138	19.1	1.0193	26.3	1.0248	33.5	1.0303	40.6
1.0029	4.8	1.0084	12.0	1.0139	19.2	1.0194	26.4	1.0249	33.6	1.0304	40.7
1.0030	5.0	1.0085	12.2	1.0140	19.3	1.0195	26.5	1.0250	33.7	1.0305	40.8
1.0031	5.1	1.0086	12.3	1.0141	19.5	1.0196	26.7	1.0251	33.8	1.0306	41.0
1.0032	5.2	1.0087	12.4	1.0142	19.6	1.0197	26.8	1.0252	34.0	1.0307	41.1
1.0033	5.4	1.0088	12.6	1.0143	19.7	1.0198	26.9	1.0253	34.1	1.0308	41.2
1.0034	5.5	1.0089	12.7	1.0144	19.9	1.0199	27.1	1.0254	34.2	1.0309	41.4
1.0035	5.6	1.0090	12.8	1.0145	20.0	1.0200	27.2	1.0255	34.4	1.0310	41.5
1.0036	5.8	1.0091	12.9	1.0146	20.1	1.0201	27.3	1.0256	34.5	1.0311	41.6
1.0037	5.9	1.0092	13.1	1.0147	20.3	1.0202	27.5	1.0257	34.6	1.0312	41.7
1.0038	6.0	1.0093	13.2	1.0148	20.4	1.0203	27.6	1.0258	34.8	1.0313	41.9
1.0039	6.2	1.0094	13.3	1.0149	20.5	1.0204	27.7	1.0259	34.9	1.0314	42.0
1.0040	6.3	1.0095	13.5	1.0150	20.6	1.0205	27.8	1.0260	35.0	1.0315	42.1
1.0041	6.4	1.0096	13.6	1.0151	20.8	1.0206	28.0	1.0261	35.1	1.0316	42.3
1.0042	6.6	1.0097	13.7	1.0152	20.9	1.0207	28.1	1.0262	35.3	1.0317	42.4
1.0043	6.7	1.0098	13.9	1.0153	21.0	1.0208	28.2	1.0263	35.4	1.0318	42.5
1.0044	6.8	1.0099	14.0	1.0154	21.2	1.0209	28.4	1.0264	35.5	1.0319	42.7
1.0045	6.9	1.0100	14.1	1.0155	21.3	1.0210	28.5	1.0265	35.7	1.0320	42.8

Sea Water Density at Various Temperatures

The purpose of this graph is to provide the density of sea water at any temperature apt to be encountered when the density at the standard temperature of 59°F. (15°C.) is known. It is intended primarily for use with this density publication which gives densities at 59°F. and with Coast and Geodetic Survey Special Publication No. 280 which gives sea water temperatures for the same stations.

To convert a density at 59°F. to density at another temperature, enter the graph horizontally from the left with the known density and downward from the top with the desired temperature; the position of the point of intersection with respect to the curves gives the density at the desired temperature. Interpolate between curves when necessary. For example, by this method, water having a density of 1.0162 at 59°F. is found to have a density of 1.0124 at 85°F.

The densities are referred to the density of fresh water at 4°C. (39.2°F.) as unity.



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