DENSITY OF SEA WATER

AT TIDE STATIONS

PACIFIC COAST

NORTH AND SOUTH AMERICA

AND PACIFIC OCEAN ISLANDS

C&GS PUBLICATION 31-4

FIFTH EDITION

(WITH DATA THROUGH 1957)

U. S. DEPARTMENT OF COMMERCE

COAST AND GEODETIC SURVEY

WASHINGTON

GC
151
U 58

Coast and Geodetic Survey Publications on Sea Water Temperatures and Densities

- C&GS Special Publication No. 278, Surface Water Temperatures, Atlantic Coast, North and South America (Fifth Edition) 1955
- C&GS Publication 31-2, Density of Sea Water, Atlantic Coast, North and South America (Fifth Edition) 1957. (Formerly Special Publication No. 279)
- C&GS Special Publication No. 280, Surface Water Temperatures, Pacific Coast, North and South America and Pacific Ocean Islands (Fifth Edition) 1956
- C&GS Publication 31-4, Density of Sea Water, Pacific Coast, North and South America and Pacific Ocean Islands (Fifth Edition) 1958. (Formerly Special Publication No. 281.)
- C&GS Special Publication No. 298, Sea Water Temperature and Density Reduction Tables, 1953

Sold by the Superintendent of Documents, U. S. Government Printing Office,
Washington 25, D. C.

U. S. DEPARTMENT OF COMMERCE
SINCLAIR WEEKS, Secretary
COAST AND GEODETIC SURVEY
H. ARNOLD KARO, Director

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GOVERNMENT PRINTING OFFICE
WASHINGTON : 1958

For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. - Price 45 cents

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Introduction

The summaries of sea water densities presented in this publication are based on observations made in Pacific harbors and coastal waters through the year 1957. 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. The data for six places on the California coast, namely, La Jolla, Balboa, Port Hueneme, Pacific Grove, North Farallon Island and Blunts Reef Lightship, were supplied by the Scripps Institution of Oceanography. The data for places in Chile were supplied by the Departamento de Navegación é Hidrografía, Republica 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 variations 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 o/oo, 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.

List of Stations

Station	Lat.	Long.	Page
Aberdeen, Grays Harbor, Wash-----	46 58N.	123 51W.	29
Acapulco, Mexico-----	16 51N.	99 55W.	71, 77
Alameda, Calif-----	37 47N.	122 18W.	20, 75
Anacortes, Wash-----	48 31N.	122 37W.	33
Angaur Island, Palau Islands-----	6 54N.	134 08E.	53
Antofagasta, Chile-----	23 39S.	70 25W.	61, 77
Apia (observatory), Samoa Islands-----	13 48S.	171 46W.	50, 76
Arica, Chile-----	18 29S.	70 20W.	62, 77
Astoria (Tongue Point), Ore-----	46 13N.	123 46W.	26, 75
Avila Beach, Calif-----	35 10N.	120 44W.	15, 75
Balboa, Calif-----	33 36N.	117 54W.	9, 75
Bandon, Coquille River, Ore-----	43 07N.	124 25W.	25
Benicia, Carquinez Strait, Calif-----	38 03N.	122 08W.	22
Blunts Reef Lightship-----	40 26N.	124 30W.	23, 75
Bremerton, Wash-----	47 34N.	122 38W.	31
Brighton, Nehalem River, Ore-----	45 40N.	123 56W.	26
Buenaventura, Colombia-----	3 54N.	77 05W.	67
Caldera, Chile-----	27 04S.	70 50W.	61
Callao (La Punta), Peru-----	12 04S.	77 11W.	64
Callao (Naval Arsenal), Peru-----	12 03S.	77 09W.	64, 77
Canton Island, Phoenix Islands-----	2 48S.	171 43W.	49, 76
Cathlamet, Columbia River, Wash-----	46 12N.	123 23W.	28
Cebu, Cebu Island, Philippine Islands-----	10 18N.	123 54E.	56, 77
Chimbote, Peru-----	9 05S.	78 38W.	65
Christmas Island-----	1 59N.	157 29W.	49
Collinsville, Sacramento River, Calif-----	38 04N.	121 51W.	22
Constantine Harbor, Amchitka Island, Alaska-----	51 25N.	179 17E.	44
Coos Bay entrance, Ore-----	43 21N.	124 19W.	25
Cordova, Alaska-----	60 33N.	145 46W.	40
Crescent City, Calif-----	41 45N.	124 12W.	24, 75
Davao, Mindanao Island, Philippine Islands-----	7 05N.	125 38E.	57, 77
Dumbarton Bridge, San Francisco Bay, Calif-----	37 30N.	122 07W.	21
Dutch Harbor, Amaknak Island, Alaska-----	53 54N.	166 32W.	42, 76
Easter Island-----	27 09S.	109 26W.	63
Ensenada, Mexico-----	31 51N.	116 38W.	74
Everett, Wash-----	47 59N.	122 13W.	31
Florence, Siuslaw River, Ore-----	43 58N.	124 06W.	26
Friday Harbor, San Juan Island, Wash-----	48 33N.	123 00W.	34, 75
Gardiner, Umpqua River, Ore-----	43 44N.	124 07W.	25
Garibaldi, Tillamook Bay, Ore-----	45 33N.	123 54W.	26
Guadalcanal I. (Kukum), Solomon Islands-----	9 26S.	160 00E.	51
Guam (Apra Harbor), Marianas-----	13 26N.	144 39E.	54, 76
Guaymas, Mexico-----	27 55N.	110 55W.	73, 77
Haines, Alaska-----	59 14N.	135 26W.	38
Harrington Point, Columbia River, Wash-----	46 16N.	123 39W.	28
Hilo, Hawaiian Islands-----	19 44N.	155 03W.	48, 76
Honolulu, Hawaiian Islands-----	21 18N.	157 52W.	47, 76
Johnston Island, Hawaiian Islands-----	16 45N.	169 31W.	48, 76
Jolo, Jolo Island, Philippine Islands-----	6 04N.	121 00E.	57, 77
Juneau, Alaska-----	58 18N.	134 25W.	37, 75
Kaneohe Bay (Mokuoloe I.), Oahu I., Hawaiian Islands--	21 26N.	157 48W.	47
Ketchikan, Alaska-----	55 20N.	131 38W.	35, 75
Kodiak, Kodiak Island, Alaska-----	57 47N.	152 24W.	42
Koror, Koror Island, Palau Islands-----	7 21N.	134 29E.	53
Kwajalein Island, Marshall Islands-----	8 44N.	167 44E.	52, 76
La Jolla, Calif-----	32 52N.	117 15W.	6, 8, 75
La Libertad, Ecuador-----	2 13S.	80 55W.	66
La Paz, Mexico-----	24 10N.	110 19W.	74, 77
La Unión, El Salvador-----	13 20N.	87 49W.	69, 77
Legaspi, Luzon Island, Philippine Islands-----	13 09N.	123 45E.	55, 77
Los Angeles (Outer Harbor), Calif-----	33 43N.	118 16W.	11, 75
Manila, Luzon Island, Philippine Islands-----	14 35N.	120 58E.	54, 76
Manzanillo, Mexico-----	19 03N.	104 20W.	72, 77
Mare Island Strait, Calif-----	38 06N.	122 16W.	22

List of Stations -Continued

Station	Lat.	Long.	Page
Massacre Bay, Attu Island, Alaska-----	52 50N.	173 12E.	45,76
Matarani, Peru-----	17 00S.	72 07W.	63,77
Mazatlán, Mexico-----	23 11N.	106 26W.	72,77
Midway Islands, Hawaiian Islands-----	28 13N.	177 22W.	46,76
Naos Island, Canal Zone-----	8 55N.	79 32W.	68,77
Neah Bay, Wash-----	48 22N.	124 37W.	29,75
New Hope Bridge, Mokelumne River, Calif-----	38 14N.	121 29W.	23
Newport Bay, Calif-----	33 36N.	117 53W.	9
Newport, Yaquina Bay, Ore-----	44 38N.	124 03W.	26
North Farallon Island, Calif-----	37 46N.	123 06W.	17,75
Olympia, Wash-----	47 03N.	122 54W.	33
Pacific Grove, Calif-----	36 38N.	121 55W.	16,75
Pago Pago, Samoa Islands-----	14 17S.	170 41W.	50,76
Peard Bay, Alaska-----	70 48N.	158 28W.	45
Pittsburg, New York Slough, Calif-----	38 02N.	121 53W.	22
Point Barrow (Elson Lagoon), Alaska-----	71 23N.	156 27W.	46
Point Barrow (ocean), Alaska-----	71 23N.	156 27W.	46
Point San Quentin, San Francisco Bay, Calif-----	37 57N.	122 29W.	21
Port Angeles, Wash-----	48 08N.	123 26W.	31
Port Hueneme, Calif-----	34 09N.	119 12W.	13,75
Port Moller, Alaska-----	55 59N.	160 34W.	45
Port Townsend (Fort Worden), Wash-----	48 08N.	122 46W.	31
Prisoners Point, San Joaquin River, Calif-----	38 04N.	121 33W.	22
Puerto Armuelles, Panama-----	8 16N.	82 52W.	68,77
Puerto Montt, Chile-----	41 29S.	72 58W.	59,77
Puerto Peñasco, Mexico-----	31 19N.	113 35W.	73,77
Punta Arenas, Magellan Strait, Chile-----	53 09S.	70 54W.	58,77
Raymond, Willapa Bay, Wash-----	46 41N.	123 45W.	29,75
Rio Vista, Sacramento River, Calif-----	38 09N.	121 42W.	22
Salina Cruz, Mexico-----	16 10N.	95 12W.	71
San Diego, Calif-----	32 42N.	117 14W.	6,75
San Fernando, Luzon Island, Philippine Islands-----	16 37N.	120 18E.	54
San Francisco (Fort Point), Calif-----	37 48N.	122 28W.	18,75
San Francisco (Hunters Point), Calif-----	37 44N.	122 22W.	21
San José, Guatemala-----	13 55N.	90 50W.	70,77
San Juan del Sur, Nicaragua-----	11 15N.	85 53W.	69
Santa Barbara, Calif-----	34 25N.	119 41W.	15
Santa Monica, Calif-----	34 00N.	118 30W.	12,75
Sausalito, Calif-----	37 51N.	122 29W.	21
Seattle (Duwamish River), Wash-----	47 32N.	122 19W.	33
Seattle (Elliott Bay), Wash-----	47 36N.	122 20W.	31,75
Seward, Alaska-----	60 06N.	149 27W.	40,76
Sitka, Alaska-----	57 03N.	135 20W.	36,75
Skagway, Alaska-----	59 27N.	135 19W.	38,76
Skamokawa, Columbia River, Wash-----	46 16N.	123 27W.	28
Sweeper Cove, Adak Island, Alaska-----	51 51N.	176 39W.	43,76
Tacloban, Leyte Island, Philippine Islands-----	11 15N.	125 00E.	56
Tacoma, Wash-----	47 17N.	122 25W.	33
Taft, Siletz Bay, Ore-----	44 56N.	124 01W.	26
Talara, Peru-----	4 35S.	81 17W.	65,77
Talcahuano, Chile-----	36 41S.	73 06W.	60
Three Mile Slough, San Joaquin River, Calif-----	38 05N.	121 41W.	22
Tokeland, Willapa Bay, Wash-----	46 42N.	123 58W.	28,75
Topolobampo, Mexico-----	25 36N.	109 03W.	73
Truk Islands (Moen Island), Caroline Islands-----	7 27N.	151 51E.	52,76
Tumaco, Colombia-----	1 50N.	78 44W.	67,77
Unalaska, Unalaska Island, Alaska-----	53 53N.	166 32W.	43
Valparaiso, Chile-----	33 02S.	71 38W.	60,77
Wake Island-----	19 17N.	166 37E.	51,76
Wauna, Columbia River, Ore-----	46 10N.	123 24W.	28
Womens Bay, Kodiak Island, Alaska-----	57 43N.	152 31W.	42,76
Yakutat, Alaska-----	59 33N.	139 44W.	39,76
Yap Island, Caroline Islands-----	9 30N.	138 08E.	53
Yerba Buena Island, San Francisco Bay, Calif-----	37 49N.	122 22W.	20

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	1.0246	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	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		
Density	33.2	33.2	33.3	33.5	33.7	33.8	34.1	34.0	33.8	33.5	33.6	33.5	33.6		
Salinity															
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.- surface															
1916	---	---	---	---	---	---	---	---	1.0248	1.0248	1.0248	1.0248	---	1.0254*	1.0230*
1917	1.0247	1.0248	1.0248	1.0249	1.0249	1.0250	1.0250	1.0250	250	253	253	252	1.0250	259	245
1918	251	249	247	248	252	251	251	251	251	251	251	250	250	254	241
1919	250	250	250	251	251	252	251	250	249	248	248	248	250	255	245
1920	248	247	247	248	249	250	249	249	249	248	249	248	248	251	245
1921	248	248	248	249	249	249	250	249	248	248	249	246	248	251	238
1922	245	246	246	247	250	250	251	250	249	249	249	248	248	251	236
1923	248	247	248	248	249	250	250	251	250	251	251	250	249	251	247
1924	250	250	250	250	251	251	250	251	250	250	250	250	250	252	248
1925	250	249	249	249	250	251	251	252	248	246	248	248	249	256	240
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

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.
LA JOLLA, CALIF.-bottom															
1927	1.0248	1.0245	1.0246	1.0248	1.0248	1.0249	1.0249	1.0249	1.0249	1.0249	1.0248	1.0248	---	1.0250*	1.0232*
1928	247	247	248	249	249	249	250	1.0250	249	249	248	248	1.0249	251	247
1929	249	248	249	249	250	251	251	251	249	249	250	250	250	252	247
1930	---	249	249	249	249	250	250	250	250	250	251	251	---	252*	248*
1931	251	250	251	251	251	251	252	251	250	250	251	250	251	252	249
1932	249	---	248	249	250	249	250	248	248	248	248	248	---	250*	246*
1933	248	248	248	249	250	251	251	250	249	249	250	249	249	252	247
1934	248	248	248	249	250	250	249	248	249	248	248	248	249	251	246
1935	248	247	248	248	249	249	249	248	248	248	248	248	248	250	245
1936	248	247	248	249	249	250	250	250	249	248	249	248	249	251	245
1937	248	247	246	248	249	250	250	250	250	249	250	249	249	251	239
1938	250	250	246	250	250	251	251	250	---	248	249	248	---	251*	235*
1939	248	248	249	249	251	251	251	251	249	250	250	251	250	251	244
1940	250	249	249	249	250	250	249	249	249	---	248	247	---	251*	246*
1941	247	247	244	244	247	248	249	248	248	247	247	247	247	249	240
1942	247	247	247	248	249	249	249	249	249	250	249	248	248	250	242
1943	248	247	247	248	250	250	249	249	248	249	249	248	248	251	244
1944	248	247	246	248	249	250	250	250	249	250	249	249	249	251	244
1945	249	248	248	249	250	250	250	250	250	249	249	248	249	251	246
1946	249	249	249	250	250	250	250	249	249	249	249	249	249	251	248
1947	249	249	249	249	250	249	249	249	249	249	249	248	249	251	248
1948	249	249	249	249	250	249	249	249	249	249	249	249	249	251	247
1949	248	248	249	249	249	250	250	250	249	---	249	249	---	251*	247*
1950	248	249	249	249	249	249	250	249	249	249	249	249	249	250	247
1951	248	248	248	249	249	250	249	249	249	249	248	248	249	251	247
1952	248	249	248	249	249	249	249	250	249	249	248	248	249	251	245
1953	248	248	249	249	249	249	250	250	249	249	249	249	249	251	248
1954	249	248	249	249	249	250	250	250	249	249	249	249	249	250	244

1955	---	---	---	---	249	249	249	---	250	249	249	---	252*	248*
1956	249	248	249	249	249	249	249	250	249	249	249	249	251	247
1957	249	249	248	249	249	249	249	249	249	249	250	249	251	248
Mean	1.0248	1.0248	1.0249	1.0250	1.0250	1.0250	1.0250	1.0249	1.0249	1.0249	1.0249	1.0249		
Density	33.5	33.5	33.6	33.6	33.7	33.7	33.7	33.6	33.6	33.6	33.6	33.6		
Salinity														
Max.	1.0251	1.0252	1.0252	1.0251	1.0252	1.0252	1.0251	1.0251	1.0252	1.0252	1.0252	1.0252	1.0252	
Mean Max.	1.0249	1.0249	1.0249	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250		
Mean Min.	1.0247	1.0247	1.0248	1.0248	1.0249	1.0249	1.0248	1.0248	1.0248	1.0248	1.0248	1.0248		
Min.	1.0242	1.0232	1.0235	1.0241	1.0247	1.0248	1.0248	1.0247	1.0246	1.0245	1.0245		1.0232	
NEWPORT BAY, CALIF.														
1955	---	---	---	---	---	---	---	1.0253	1.0250	1.0247	1.0250	1.0247	---	
1956	1.0243	1.0243	1.0245	1.0246	1.0247	1.0249	247	247	246	251	250	1.0246	1.0260*	1.0245*
1957	247	246	244	246	244	248	250	248	---	247	245	---	262	221
Mean	1.0245	1.0244	1.0244	1.0246	1.0245	1.0246	1.0248	1.0250	1.0248	1.0246	1.0249	1.0246	254*	237*
Density	33.1	32.9	32.9	33.2	33.1	33.2	33.5	33.7	33.5	33.2	33.3	33.2		
Salinity														
Max.	1.0252	1.0249	1.0251	1.0250	1.0250	1.0251	1.0262	1.0260	1.0254	1.0254	1.0255	1.0253	1.0262	
Mean Max.	1.0250	1.0249	1.0250	1.0248	1.0250	1.0258	1.0258	1.0254	1.0252	1.0251	1.0254	1.0251		
Mean Min.	1.0232	1.0236	1.0240	1.0242	1.0244	1.0245	1.0245	1.0247	1.0245	1.0244	1.0245	1.0244		
Min.	1.0221	1.0229	1.0237	1.0241	1.0242	1.0243	1.0245	1.0244	1.0243	1.0244	1.0243	1.0241	1.0221	
BALBOA, CALIF.														
1925	1.0249	1.0249	1.0249	1.0250	1.0249	1.0249	1.0249	1.0248	1.0247	1.0247	1.0248	1.0248	1.0254	1.0247
1926	248	248	248	249	249	249	249	249	249	248	248	248	251	241
1927	248	241	247	249	250	250	250	249	249	249	---	---	251*	226*
1928	---	---	---	250	250	249	250	250	249	249	248	---	255*	248*
1929	249	249	249	250	251	251	251	250	250	249	250	250	256	247
1930	250	250	249	249	251	251	251	251	251	251	251	250	262	247
1931	251	251	252	251	251	251	252	251	247	250	249	250	268	247
1932	248	247	248	250	251	250	250	249	249	249	249	249	251	244
1933	248	248	249	249	251	251	251	251	250	250	249	250	253	238
1934	249	249	249	249	250	250	250	249	249	249	247	249	254	246

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

Max. Mean Max. Mean Min. Min.	1.0253	1.0258	1.0256	1.0254	1.0259	1.0255	1.0268	1.0268	1.0263	1.0258	1.0262	1.0255	1.0268
1.0250	1.0250	1.0250	1.0250	1.0250	1.0252	1.0251	1.0252	1.0251	1.0251	1.0251	1.0251	1.0250	
1.0247	1.0245	1.0246	1.0247	1.0247	1.0248	1.0249	1.0249	1.0249	1.0248	1.0248	1.0248	1.0247	
1.0239	1.0226	1.0231	1.0241	1.0245	1.0245	1.0247	1.0246	1.0247	1.0247	1.0247	1.0246	1.0244	1.0226
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	1.0244
1925	247	247	246	246	247	244	245	245	244	243	243	244	242
1926	245	243	244	240	244	245	246	247	246	245	245	245	250
1927	246	233	244	247	250	251	248	250	249	250	247	248	258
1928	248	248	248	251	250	250	249	250	248	248	249	249	254
1929	250	249	249	250	251	252	252	252	251	251	251	250	256
1930	247	249	249	251	251	251	252	252	252	251	251	252	255
1931	252	250	253	252	252	252	252	252	250	251	250	248	240
1932	247	244	249	251	251	250	250	249	249	248	---	248	255*
1933	247	247	249	249	250	251	251	251	250	250	251	250	256
1934	243	247	248	249	249	249	250	248	249	248	247	245	201
1935	245	246	246	247	248	249	249	250	248	248	248	248	254
1936	248	247	247	249	250	251	251	251	249	249	250	248	255
1937	246	241	246	248	250	249	251	250	251	249	251	250	257
1938	249	246	238	248	251	252	252	252	250	249	249	244	256
1939	247	248	249	251	251	252	252	252	252	251	251	252	257
1940	249	247	250	250	250	250	251	251	250	250	248	245	259
1941	244	237	231	---	245	247	249	250	250	249	248	247	253*
1942	247	248	250	250	253	252	253	253	251	251	253	249	259
1943	240	244	246	251	252	252	253	252	251	251	251	248	259
1944	247	240	242	249	250	250	252	251	251	251	249	247	255
1945	247	248	247	251	252	252	252	251	250	250	249	246	256
1946	247	249	249	249	251	250	251	251	251	250	244	245	254
1947	246	249	249	250	250	250	250	251	250	250	250	249	256
1948	248	248	249	249	250	251	250	250	250	249	250	248	255
1949	247	248	249	250	251	251	251	251	251	253	253	251	256

*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.
LOS ANGELES (Outer Harbor), CALIF. -Continued															
1950	1.0249	1.0249	1.0252	1.0253	1.0253	1.0255	1.0256	1.0255	1.0254	1.0254	1.0253	1.0252	1.0253	1.0260	1.0242
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
1954	246	247	246	245	247	249	248	249	247	248	249	246	247	255	238
1955	242	245	246	247	245	247	247	249	248	245	245	245	246	255	236
1956	238	241	246	244	246	247	248	248	250	248	248	247	246	259	190
1957	244	245	244	246	246	248	247	248	247	247	247	248	246	254	239
Mean	1.0246	1.0246	1.0247	1.0249	1.0250	1.0250	1.0250	1.0250	1.0250	1.0249	1.0249	1.0248	1.0249		
Density	33.2	33.2	33.3	33.6	33.7	33.7	33.7	33.7	33.7	33.6	33.6	33.5	33.6		
Salinity														1.0260	
Max.	1.0255	1.0254	1.0257	1.0256	1.0256	1.0258	1.0260	1.0258	1.0259	1.0260	1.0257	1.0259			
Mean Max.	1.0250	1.0250	1.0251	1.0252	1.0253	1.0253	1.0254	1.0254	1.0253	1.0253	1.0253	1.0252			
Mean Min.	1.0237	1.0236	1.0238	1.0244	1.0246	1.0248	1.0248	1.0247	1.0247	1.0246	1.0246	1.0242			
Min.	1.0169	1.0171	1.0168	1.0208	1.0213	1.0242	1.0244	1.0244	1.0243	1.0239	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
1954	247	246	247	247	248	247	249	249	248	247	244	244	247	255	238

1955	244	247	247	248	247	247	252	251	250	249	250	249	248	256	234
1956	248	249	250	248	250	250	251	250	249	250	252	253	250	265	235
1957	252	248	249	251	251	251	251	250	249	248	249	249	250	261	209
Mean	1.0248	1.0247	1.0248	1.0250	1.0250	1.0251	1.0251	1.0250	1.0250	1.0249	1.0249	1.0248	1.0249		
Density	33.5	33.3	33.5	33.7	33.7	33.8	33.8	33.7	33.7	33.6	33.6	33.5	33.6		
Salinity														1.0273	
Max.	1.0256	1.0258	1.0256	1.0263	1.0256	1.0261	1.0262	1.0273	1.0260	1.0256	1.0265	1.0258			
Mean Max.	1.0252	1.0252	1.0252	1.0254	1.0254	1.0255	1.0256	1.0256	1.0254	1.0253	1.0255	1.0252			
Mean Min.	1.0242	1.0237	1.0243	1.0243	1.0246	1.0246	1.0246	1.0246	1.0245	1.0245	1.0243	1.0243			
Min.	1.0230	1.0209	1.0228	1.0234	1.0243	1.0241	1.0243	1.0243	1.0240	1.0242	1.0236	1.0228		1.0209	
PORT HUENEME, CALIF.															
1920	1.0248	1.0248	1.0247	1.0249	1.0249	1.0249	1.0249	1.0248	1.0249	1.0249	1.0249	1.0249	1.0249	1.0254	1.0242
1921	248	247	249	251	249	249	249	248	249	249	249	248	249	254	239
1922	247	247	249	252	251	251	250	250	249	249	249	248	249	256	236
1923	248	249	250	248	251	251	251	251	251	252	253	252	251	257	242
1924	252	252	251	251	252	251	251	251	251	252	252	251	252	255	249
1925	251	249	250	251	250	250	248	248	248	248	249	250	249	255	245
1926	251	250	250	248	249	249	249	249	249	250	249	248	249	257	247
1927	248	246	247	248	249	249	249	248	249	248	248	248	248	251	242
1928	248	247	248	250	249	249	249	249	249	248	248	248	248	251	246
1929	248	248	250	250	251	251	251	249	249	250	250	250	250	251	245
1930	249	249	249	249	251	250	249	250	249	250	250	251	250	251	247
1931	251	250	251	251	251	251	251	251	250	250	249	249	250	252	246
1932	248	247	248	250	250	250	250	249	248	249	249	249	249	251	244
1933	247	248	248	249	252	251	251	250	249	249	250	249	249	253	245
1934	248	248	248	249	249	249	249	248	248	248	248	248	248	250	245
1935	247	247	248	248	249	249	249	248	248	247	248	248	248	250	245
1936	248	247	248	250	250	250	250	248	248	249	249	248	249	252	244
1937	248	246	247	249	250	250	249	249	249	249	249	248	249	251	242
1938	247	247	246	250	250	251	251	249	248	248	249	248	249	252	226
1939	247	249	249	250	251	251	251	250	250	250	248	245	249	252	227

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.
PORT HUENEME, CALIF. - Continued															
1940	1.0247	1.0249	1.0249	1.0250	1.0249	1.0250	1.0250	1.0249	1.0249	1.0249	1.0248	1.0246	1.0249	1.0251	1.0225
1941	245	239	232	245	236	243	247	245	245	246	246	245	243	251	216
1942	246	246	247	246	247	245	248	249	249	247	248	247	247	251	227
1943	244	247	246	247	246	247	248	247	248	249	248	247	247	250	218
1944	247	245	244	248	248	249	249	249	248	248	248	248	248	251	238
1945	247	247	247	248	248	248	249	249	248	248	248	247	248	250	246
1946	248	247	247	248	250	249	250	250	249	249	248	248	249	251	245
1947	248	247	247	248	249	---	250	250	249	249	249	248	---	251*	245*
1948	248	247	247	249	248	249	249	249	249	248	248	248	248	251	246
1949	248	248	247	248	249	250	250	249	249	249	248	247	248	252	245
1950	248	248	247	248	249	249	250	249	249	248	248	248	248	251	245
1951	248	248	248	248	249	249	249	249	249	248	248	247	248	251	245
1952	247	248	248	249	249	249	250	250	249	248	248	248	249	251	246
1953	248	248	248	249	249	249	250	249	249	249	249	248	249	251	247
1954	248	248	248	248	249	249	250	250	249	248	249	248	249	251	247
1955	248	248	248	249	249	247	248	246	247	247	248	245	248	253	229
1956	238	245	247	245	247	243	243	243	242	247	248	248	245	256	173
1957	246	246	245	239	241	239	242	244	245	246	248	242	244	255	189
Mean Density Salinity	1.0248	1.0247	1.0248	1.0249	1.0249	1.0249	1.0249	1.0249	1.0249	1.0249	1.0249	1.0248	1.0249	1.0257	1.0173
	33.5	33.3	33.5	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.5	33.6		
Max.	1.0254	1.0256	1.0254	1.0256	1.0256	1.0252	1.0253	1.0255	1.0253	1.0257	1.0256	1.0255			
Mean Max.	1.0249	1.0250	1.0250	1.0251	1.0251	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250	1.0250			
Mean Min.	1.0243	1.0244	1.0244	1.0245	1.0247	1.0245	1.0246	1.0247	1.0247	1.0247	1.0247	1.0244			
Min.	1.0173	1.0216	1.0219	1.0216	1.0218	1.0191	1.0216	1.0231	1.0232	1.0240	1.0244	1.0189			

SANTA BARBARA, CALIF.

1930	---	---	1.0251	1.0253	1.0253	1.0254	1.0254	1.0252	1.0252	1.0251	1.0252	1.0252	---	1.0262*	1.0244*
1931	1.0251	1.0253	253	254	253	254	255	253	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	1.0256	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 BEACH, 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
1954	247	248	248	251	251	254	253	254	252	250	250	250	251	259	240
1955	249	248	250	251	253	254	256	253	250	249	248	249	251	263	225
1956	242	247	251	252	---	---	256	256	256	255	253	254	---	265*	212*
1957	252	251	251	251	249	251	252	252	---	---	249	250	---	257*	243*
Mean															
Density	1.0248	1.0248	1.0250	1.0251	1.0252	1.0253	1.0253	1.0253	1.0252	1.0251	1.0249	1.0249	1.0251		
Salinity	33.5	33.5	33.7	33.8	34.0	34.1	34.1	34.1	34.0	33.8	33.6	33.6	33.8	1.0268	
Max.	1.0256	1.0255	1.0260	1.0257	1.0263	1.0261	1.0265	1.0268	1.0261	1.0266	1.0258	1.0258			
Mean Max.	1.0252	1.0253	1.0254	1.0256	1.0257	1.0257	1.0258	1.0258	1.0256	1.0256	1.0253	1.0253			
Mean Min.	1.0240	1.0244	1.0245	1.0248	1.0249	1.0249	1.0249	1.0249	1.0247	1.0247	1.0246	1.0244			
Min.	1.0212	1.0234	1.0237	1.0245	1.0246	1.0243	1.0242	1.0244	1.0243	1.0242	1.0243	1.0225			1.0212

*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.
PACIFIC GROVE, CALIF.															
1919	---	1.0247	1.0247	1.0248	1.0248	1.0250	1.0250	1.0249	1.0249	1.0248	1.0247	1.0246	---	1.0254*	1.0240*
1920	1.0248	247	246	247	251	251	250	251	250	248	247	247	1.0249	252	240
1921	247	242	245	248	250	250	248	248	249	248	248	246	247	254	228
1922	247	244	244	248	251	250	248	248	248	247	245	246	247	252	235
1923	246	243	247	247	250	251	251	251	248	248	248	249	248	251	241
1924	249	248	249	249	250	250	250	250	249	248	249	248	249	251	244
1925	249	247	248	247	248	250	250	249	248	248	247	248	248	252	243
1926	248	247	246	244	248	250	251	251	250	250	248	248	248	251	235
1927	248	246	246	247	251	250	251	251	250	250	249	248	249	252	239
1928	248	248	246	245	249	251	252	251	251	250	249	249	249	253	241
1929	249	248	249	251	252	251	252	251	249	250	250	249	250	254	241
1930	248	248	247	249	251	251	251	251	250	249	248	249	249	252	246
1931	249	250	249	251	250	249	251	252	251	249	248	247	250	254	244
1932	245	245	246	248	248	249	249	249	247	247	247	248	247	251	238
1933	248	248	248	249	249	249	250	248	249	248	246	245	248	253	239
1934	245	245	245	248	247	249	248	250	249	248	247	244	247	252	239
1935	244	242	245	245	247	250	250	251	250	249	248	248	247	252	212
1936	247	245	245	248	249	249	251	251	250	249	248	248	248	252	236
1937	248	244	243	246	250	251	251	250	250	249	248	247	248	252	231
1938	248	245	241	248	248	248	249	248	249	248	248	247	247	252	231
1939	245	248	248	251	251	251	251	250	249	248	248	248	249	254	240
1941	244	239	239	239	246	249	249	249	248	248	248	247	245	251	223
1942	246	245	246	245	249	251	251	251	249	249	248	248	248	252	237
1943	248	246	241	246	249	250	251	250	249	249	247	247	248	252	220
1944	247	247	247	249	250	251	251	250	249	249	249	248	249	251	244

1945	247	247	247	247	248	250	250	249	248	247	245	248	251	244
1946	246	246	247	247	249	250	249	249	249	248	246	248	251	244
1947	246	246	247	247	248	250	250	249	248	247	247	248	251	244
1948	247	247	247	247	249	249	250	249	248	248	247	248	251	244
1949	247	246	247	248	249	250	250	250	249	248	247	248	251	244
1950	247	247	245	247	248	249	250	249	248	248	248	248	251	243
1951	248	248	247	248	249	249	250	249	249	248	247	248	251	245
1952	246	247	247	247	248	249	250	249	249	248	247	248	251	244
1953	247	248	248	248	248	249	249	249	249	249	247	248	251	245
1954	247	248	247	247	248	250	250	249	248	248	248	248	251	245
1955	247	247	247	248	249	250	251	250	---	249	247	---	252*	237*
1956	245	246	248	250	250	250	250	250	249	249	248	249	252	242
1957	248	248	245	248	247	249	248	249	248	248	248	248	251	240
Mean	1.0247	1.0246	1.0246	1.0247	1.0249	1.0250	1.0250	1.0249	1.0249	1.0248	1.0247	1.0248		
Density	33.3	33.2	33.2	33.3	33.6	33.7	33.7	33.6	33.6	33.5	33.3	33.5		
Salinity														
Max.	1.0250	1.0251	1.0254	1.0254	1.0254	1.0253	1.0254	1.0252	1.0251	1.0251	1.0252		1.0254	
Mean Max.	1.0248	1.0248	1.0248	1.0250	1.0251	1.0251	1.0251	1.0251	1.0250	1.0249	1.0249			
Mean Min.	1.0245	1.0242	1.0242	1.0245	1.0246	1.0247	1.0248	1.0248	1.0247	1.0246	1.0245			
Min.	1.0237	1.0212	1.0220	1.0231	1.0240	1.0237	1.0242	1.0239	1.0243	1.0242	1.0228			1.0212
NORTH FARALLON ISLAND, CALIF.														
1926	1.0245	1.0245	1.0245	1.0244	1.0248	1.0251	1.0251	1.0251	1.0250	1.0248	1.0245	1.0248	1.0253	1.0238
1927	246	242	245	245	250	250	251	250	250	247	247	248	252	205
1928	245	245	245	246	249	251	251	252	251	250	246	248	256	234
1929	247	247	250	249	251	251	251	251	248	249	247	249	252	241
1930	247	245	246	247	251	252	251	251	250	249	248	249	253	239
1931	248	249	248	250	249	249	251	251	251	250	247	249	252	243
1932	245	245	247	248	247	250	248	250	248	247	247	248	252	242
1933	248	247	247	248	249	251	251	249	249	248	247	249	252	245
1934	246	245	244	248	249	250	251	251	250	249	247	248	252	237

*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.
NORTH FARALLON ISLAND, CALIF. - Continued															
1935	1.0244	1.0244	1.0243	1.0243	1.0244	1.0250	1.0251	1.0251	1.0250	1.0249	1.0248	1.0247	1.0247	1.0252	1.0231
1936	243	241	242	245	247	247	250	251	251	250	249	249	247	253	221
1937	248	242	241	247	250	248	250	251	251	249	249	249	248	252	238
1938	246	244	241	245	249	250	251	250	249	248	249	248	248	252	230
1939	248	249	251	251	250	251	251	251	250	250	249	249	250	254	243
1940	242	241	243	247	249	250	250	251	250	250	249	249	248	254	232
1941	243	---	238	238	242	247	250	251	249	249	247	247	---	257*	218*
1942	239	236	242	241	246	250	250	249	250	249	248	246	246	256	216
Mean Density	1.0245	1.0244	1.0245	1.0246	1.0248	1.0250	1.0251	1.0251	1.0250	1.0249	1.0248	1.0247	1.0248		
Salinity	33.1	32.9	33.1	33.2	33.5	33.7	33.8	33.8	33.7	33.6	33.5	33.3	33.5		
Max.	1.0251	1.0254	1.0254	1.0254	1.0254	1.0256	1.0256	1.0257	1.0253	1.0252	1.0253	1.0252		1.0257	
Mean Max.	1.0248	1.0248	1.0248	1.0250	1.0251	1.0252	1.0252	1.0252	1.0251	1.0251	1.0250	1.0249			
Mean Min.	1.0240	1.0236	1.0237	1.0240	1.0243	1.0246	1.0249	1.0249	1.0248	1.0247	1.0246	1.0245			
Min.	1.0226	1.0205	1.0218	1.0221	1.0229	1.0234	1.0246	1.0247	1.0247	1.0242	1.0231	1.0241			1.0205
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	178
1933	231	222	210	210	218	218	232	239	244	242	240	237	229	246	180
1934	213	222	212	217	227	235	241	246	251	251	240	229	232	256	178
1935	211	211	201	174	174	185	217	232	237	237	233	231	212	242	124
1936	211	197	170	187	187	200	224	235	236	238	234	232	213	241	114
1937	227	201	173	159	181	196	222	234	239	239	236	198	208	243	098
1938	200	150	131	147	157	167	203	224	230	230	228	224	191	243	050
1939	223	223	222	213	225	234	242	245	248	244	242	236	233	255	200
1940	203	182	134	137	188	209	226	237	242	240	231	223	204	246	043
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
1954	226	189	189	191	210	227	240	244	243	241	233	223	221	252	105
1955	219	221	224	236	228	230	---	247	242	239	236	214	---	251*	105*
1956	135	168	178	206	202	203	221	226	229	227	223	226	204	250	074
1957	229	226	188	220	217	216	234	238	233	227	219	221	222	243	146
Mean	1.0210	1.0199	1.0194	1.0196	1.0203	1.0211	1.0228	1.0236	1.0239	1.0238	1.0233	1.0224	1.0218	1.0262	1.0043
Density	28.5	27.1	26.4	26.7	27.6	28.6	30.8	31.9	32.3	32.1	31.5	30.3	29.5		
Salinity															
Max.	1.0241	1.0237	1.0246	1.0247	1.0251	1.0252	1.0255	1.0255	1.0258	1.0262	1.0253	1.0246			
Mean Max.	1.0228	1.0224	1.0226	1.0226	1.0227	1.0230	1.0239	1.0243	1.0245	1.0243	1.0239	1.0237			
Mean Min.	1.0182	1.0163	1.0153	1.0161	1.0176	1.0185	1.0214	1.0229	1.0235	1.0233	1.0222	1.0200			
Min.	1.0074	1.0076	1.0043	1.0075	1.0107	1.0111	1.0179	1.0204	1.0215	1.0215	1.0137	1.0099			

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

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*
1954	201	162	161	162	182	208	227	234	237	230	220	200	202	---	241 108
1955	192	195	197	207	202	207	219	228	230	227	221	183	209	---	234 063
1956	090	121	145	180	174	176	206	218	221	216	---	---	---	---	226* 061*
Mean															
Density	1.0150	1.0157	1.0170	1.0178	1.0179	1.0190	1.0212	1.0225	1.0228	1.0225	1.0218	1.0192	1.0194	---	
Salinity	20.6	21.6	23.3	24.3	24.4	25.9	28.8	30.4	30.8	30.4	29.5	26.1	26.4	---	
Max.	1.0215	1.0208	1.0209	1.0212	1.0208	1.0220	1.0235	1.0240	1.0241	1.0237	1.0231	1.0219	---	---	1.0241
Mean Max.	1.0180	1.0186	1.0190	1.0190	1.0194	1.0204	1.0222	1.0231	1.0234	1.0230	1.0225	1.0213	---	---	
Mean Min.	1.0111	1.0122	1.0147	1.0157	1.0161	1.0169	1.0196	1.0217	1.0223	1.0218	1.0207	1.0147	---	---	
Min.	1.0061	1.0064	1.0100	1.0121	1.0093	1.0095	1.0142	1.0196	1.0214	1.0210	1.0195	1.0063	---	---	1.0061

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

[illegible]

Mean Density Salinity	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	0.6
	0.0	0.0	0.2	0.2	0.2	0.0	0.8	2.6	2.1	0.6	0.0	0.0		
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	
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	---	---
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	0.6
1940	0.9993	0.9992	0.9994	0.9995	0.9996	1.0001	---	---	---	---	---	---	---	---
Mean Density Salinity	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	0.6
	0.2	0.2	0.3	0.6	0.6	1.3	0.9	0.9	0.3	0.3	0.2	0.2		
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	0.9998	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														
1923	1.0242	1.0246	1.0250	1.0247	1.0250	1.0249	1.0247	1.0247	1.0248	1.0247	1.0247	1.0247	1.0247	1.0238
1924	247	245	249	251	251	251	251	250	248	246	239	243	248	225
1925	241	242	246	245	246	246	248	249	248	249	247	247	246	235
1926	246	244	247	246	247	252	252	251	250	248	245	245	248	228
1927	243	241	239	245	249	251	252	248	245	248	245	248	246	218
1928	246	247	243	236	248	252	252	252	251	248	245	243	247	207
1929	244	246	248	248	250	249	249	248	248	248	249	247	248	215
1930	247	246	246	245	251	252	254	251	249	249	248	246	249	242
1931	245	246	248	248	249	249	251	252	249	248	245	244	248	242
1932	245	245	244	240	247	251	251	249	250	249	248	247	247	222
1933	247	245	244	248	248	251	252	252	250	249	246	242	248	230
1934	249	244	242	245	244	250	252	251	249	248	244	246	247	230

*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.
BLUNTS REEF LIGHTSHIP -Continued															
1935	1.0242	1.0244	1.0240	1.0241	1.0251	1.0253	1.0254	1.0253	1.0252	1.0250	1.0248	1.0245	1.0248	1.0256	1.0224
1936	239	243	246	248	244	244	251	252	252	251	251	249	248	254	212
1937	249	246	245	244	249	250	250	252	252	249	248	249	249	255	226
1938	248	244	239	241	248	249	251	252	251	248	249	248	247	254	218
1939	248	247	247	250	250	252	251	249	250	249	249	246	249	253	234
1940	243	243	244	249	250	251	251	251	250	250	247	245	248	252	237
1941	243	239	242	243	244	247	251	250	248	249	247	---	---	254*	231*
1957	247	247	241	246	246	249	251	249	248	246	247	246	247	258	232
Mean															
Density	1.0245	1.0244	1.0244	1.0245	1.0248	1.0250	1.0251	1.0250	1.0249	1.0248	1.0247	1.0246	1.0247		
Salinity	33.1	32.9	32.9	33.1	33.5	33.7	33.8	33.7	33.6	33.5	33.3	33.2	33.3		
Max.	1.0258	1.0251	1.0254	1.0257	1.0254	1.0256	1.0256	1.0255	1.0255	1.0257	1.0254	1.0254		1.0258	
Mean Max.	1.0249	1.0248	1.0249	1.0250	1.0251	1.0252	1.0252	1.0253	1.0252	1.0251	1.0250	1.0249			
Mean Min.	1.0238	1.0239	1.0236	1.0236	1.0243	1.0247	1.0249	1.0247	1.0246	1.0245	1.0243	1.0242			
Min.	1.0212	1.0229	1.0218	1.0207	1.0233	1.0241	1.0242	1.0241	1.0243	1.0238	1.0225	1.0228			1.0207
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	1.0254	1.0127
1935	193	200	191	199	223	234	239	236	236	222	232	224	219	254	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
1954	215	203	213	207	231	228	241	245	238	244	229	210	225	264	154
1955	226	230	225	217	246	248	252	248	247	237	236	192	234	259	151
1956	163	223	222	241	224	215	243	---	243	237	218	229	---	255*	141*
1957	229	219	177	174	---	252	257	255	244	229	227	218	---	265*	154*
Mean	1.0207	1.0207	1.0212	1.0219	1.0225	1.0231	1.0239	1.0240	1.0240	1.0238	1.0227	1.0217	1.0225	---	---
Density	28.1	28.1	28.8	29.7	30.4	31.2	32.3	32.4	32.4	32.1	30.7	29.4	30.4	---	---
Salinity	1.0247	1.0260	1.0258	1.0255	1.0257	1.0269	1.0264	1.0265	1.0261	1.0256	1.0253	1.0254	---	1.0269	---
Max.	1.0233	1.0231	1.0237	1.0240	1.0244	1.0252	1.0252	1.0249	1.0250	1.0247	1.0244	1.0236	---	---	---
Mean Max.	1.0161	1.0172	1.0174	1.0179	1.0193	1.0199	1.0222	1.0230	1.0228	1.0221	1.0197	1.0178	---	---	---
Mean 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	---
Min.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
BANDON, COQUILLE RIVER, ORE.															
1933	---	---	---	---	---	---	---	---	---	1.0229	1.0228	1.0227	1.0216	1.0096	---
1934	1.0046	1.0083	1.0106	---	---	---	---	---	---	---	---	---	---	1.0254*0.9994*	---
---	---	---	---	---	---	---	---	---	---	---	---	---	---	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	---	---	---	---	---	---	---	---	---	---	---	---	---	1.0180*0.9989*	---
1934	0.9995	1.0016	1.0015	---	---	---	---	---	---	---	---	---	---	1.0103*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.
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*
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	0.9997	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	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	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	0.9999	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	0.9993	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	0.9999	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	0.9997	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	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	1.0000	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	0.9991	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	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	0.9990	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	0.9992	0.9994	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	0.9994	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	0.9992	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	0.9991	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*	0.9985*
1947	1.0006	0.9994	0.9998	0.9995	0.9998	0.9998	1.0000	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	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	0.9995	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	0.9996	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	0.9996	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	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	1.0002	1.0008	1.0016	1.0016	0.9999	1.0001	1.0044	0.9990
1954	0.9996	0.9995	0.9996	0.9995	0.9998	0.9998	0.9999	0.9999	1.0000	1.0004	1.0011	1.0013	1.0024	1.0002	1.0072	0.9991
1955	0.9999	0.9998	0.9994	0.9994	0.9992	0.9991	0.9993	0.9993	0.9996	1.0002	0.9999	0.9991	0.9990	0.9995	1.0022	0.9982
1956	0.9989	0.9994	0.9990	0.9990	0.9992	0.9992	0.9994	0.9994	0.9998	1.0003	1.0002	0.9999	0.9995	0.9995	1.0025	0.9988
1957	1.0001	0.9996	0.9991	0.9991	0.9992	0.9992	0.9993	0.9996	1.0001	1.0008	1.0009	1.0006	1.0006	0.9999	1.0051	0.9988
Mean	1.0005	1.0000	0.9996	0.9995	0.9994	0.9995	0.9995	0.9996	0.9999	1.0005	1.0013	1.0012	1.0009	1.0002		
Density	1.7	1.1	0.6	0.4	0.3	0.4	0.6	0.6	0.9	1.7	2.8	2.6	2.2	1.3		
Salinity																
Max.	1.0102	1.0076	1.0048	1.0029	1.0009	1.0004	1.0014	1.0014	1.0055	1.0063	1.0099	1.0097	1.0096		1.0102	
Mean Max.	1.0036	1.0028	1.0015	1.0004	0.9999	0.9999	1.0001	1.0001	1.0012	1.0032	1.0049	1.0045	1.0049			
Mean Min.	0.9990	0.9989	0.9990	0.9990	0.9990	0.9991	0.9992	0.9992	0.9992	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	0.9987	0.9988	0.9982	0.9982	0.9984		0.9982	

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

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
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	---
1936	1.0008	1.0080	024	059	051	040	068	---	---	---	105	064	---
1937	052	029	041	017	045	---	---	---	---	---	048	020	---
1938	024	035	036	026	053	101	129	159	166	144	043	050	---
1939	036	028	030	069	098	071	097	155	163	150	115	057	---
1940	054	020	025	027	039	112	152	147	148	107	064	053	---
1941	054	072	085	088	080	084	124	152	084	095	064	039	---
1942	058	047	048	059	054	---	---	---	---	---	---	---	---
Mean	1.0041	1.0044	1.0037	1.0049	1.0059	1.0080	1.0113	1.0151	1.0141	1.0129	1.0079	1.0053	---
Density	6.4	6.8	5.9	7.5	8.8	11.5	15.8	20.8	19.5	17.9	11.4	8.0	---
Salinity													---
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	---
1935	1.0001	1.0007	0.9998	1.0013	1.0024	049	065	---	---	---	---	---	---
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	1.0251
1937	243	240	233	233	236	234	243	246	248	238	231	233	253
1938	230	229	232	228	242	246	247	250	249	239	241	238	204
1939	232	236	236	246	236	240	246	245	244	243	236	235	205
													188

*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															
1940	1.0235	1.0227	1.0224	1.0232	1.0228	1.0238	1.0241	1.0245	1.0243	1.0235	1.0238	1.0233	1.0235	1.0252	1.0197
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
1945	231	236	230	234	230	245	244	241	239	234	221	220	234	255	106
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
1954	215	---	224	226	238	222	236	237	226	231	225	224	---	244*	178*
1955	225	227	236	216	235	238	235	233	241	236	226	219	231	249	200
1956	213	226	222	230	240	220	240	244	242	230	225	---	---	254*	185*
1957	226	233	224	227	232	236	237	235	240	235	232	226	232	245	202
Mean	1.0226	1.0225	1.0227	1.0229	1.0232	1.0232	1.0238	1.0240	1.0240	1.0236	1.0231	1.0226	1.0232		
Density	30.6	30.4	30.7	31.0	31.4	31.4	32.1	32.4	32.4	31.9	31.2	30.6	31.4		
Salinity															
Max.	1.0250	1.0248	1.0249	1.0254	1.0250	1.0252	1.0255	1.0254	1.0255	1.0259	1.0250	1.0249		1.0259	
Mean Max.	1.0235	1.0236	1.0238	1.0239	1.0242	1.0243	1.0245	1.0248	1.0248	1.0246	1.0240	1.0235			
Mean Min.	1.0213	1.0195	1.0213	1.0213	1.0212	1.0212	1.0224	1.0227	1.0226	1.0220	1.0211	1.0211			
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

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	1.0215	1.0214	1.0214	1.0214	1.0219	1.0222	1.0225	1.0227	1.0226	1.0223	
Mean Min.	1.0188	1.0185	1.0180	1.0176	1.0174	1.0179	1.0197	1.0206	1.0210	1.0205	1.0203	1.0195	1.0068
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	
SEATTLE (Duwamish River, WASH.)													
1924	---	---	---	---	---	---	---	1.0088	1.0185	1.0188	1.0199	1.0120	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	1.0062*
1935	1.0160	1.0172	1.0187	1.0172	1.0153	1.0145	1.40	---	---	---	---	---	213* 059*
OLYMPIA, WASH.													
1923	---	---	---	---	---	---	---	---	---	---	1.0199	1.0171	1.0214*
1924	1.0174	1.0135	1.0171	---	---	---	---	---	---	---	---	---	194* 014*
---	---	---	---	---	---	---	---	---	---	---	---	---	216* 075*
1934	---	---	---	---	---	---	1.0184	1.0190	1.0198	1.0192	1.43	159	211* 0.9986*
1935	1.21	131	141	1.0135	1.0166	1.0169	191	---	---	---	---	---	
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
1923	220	222	223	225	224	224	222	225	221	224	226	224	233 194
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

*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.															
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
1950	226	227	225	224	226	226	219	221	223	227	228	224	225	233	194
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	1.0220	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

	1.0222	1.0227	1.0229	1.0226	1.0205	1.0190	1.0210	1.0201	1.0183	1.0182	1.0170	1.0202			
1922	---	---	---	214	206	197	185	184	185	183	189	170	---	---	1.0233*1.0080*
1923	1.0222	1.0227	208	205	213	225	178	177	192	167	177	191	207	---	233* 117*
1924														1.0195	238 119
1925	230	231	229	221	200	200	181	177	183	192	212	197	173	202	239 131
1926	170	197	190	204	201	201	194	197	192	209	198	201	213	197	228 128
1927	220	227	224	224	216	216	197	182	191	197	182	206	222	207	242 160
1928	202	208	208	208	189	189	175	178	185	208	195	197	204	196	229 115
1929	203	227	220	224	218	218	199	181	177	198	187	170	193	200	236 101
1930	221	224	222	221	212	212	180	185	188	204	183	173	165	198	237 102
1931	177	197	209	216	197	197	190	188	183	189	188	187	214	195	254 139
1932	214	225	211	216	203	203	196	180	177	173	176	181	209	197	233 128
1933	214	220	224	217	203	203	182	171	162	173	179	171	192	192	230 132
1934	202	189	205	208	196	196	188	183	190	193	191	186	203	194	227 129
1935	225	206	212	215	216	216	219	223	222	221	212	210	207	216	230 168
1936	210	207	212	215	212	212	203	190	212	192	165	111	132	188	231 101
1937	199	202	193	202	192	192	204	166	121	138	175	170	169	178	226 107
1938	189	195	202	191	207	207	197	194	196	201	180	198	200	196	223 106
1939	200	216	227	218	195	195	186	179	170	175	177	173	173	191	267 112
1940	207	217	216	208	213	213	211	196	171	187	198	193	187	201	231 149
1941	211	215	226	218	214	214	214	206	205	204	---	174	186	---	238* 139*
1942	---	216	213	225	215	215	209	205	208	199	183	179	202	---	233* 152*
1943	204	218	221	225	224	224	224	217	201	---	188	184	192	---	242* 124*
1944	187	202	223	224	224	224	225	204	178	186	186	189	197	202	244 132
1945	219	230	234	233	222	222	194	193	198	198	193	198	216	211	246 167
1946	219	225	217	218	207	207	188	---	---	196	182	192	218	---	230* 112*
1947	214	217	208	208	198	198	180	173	191	178	169	184	198	193	227 137
1948	202	215	221	228	214	214	165	173	192	171	185	185	210	197	233 149
1949	218	224	221	204	182	182	171	167	152	179	171	168	196	188	231 127

*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.
KETCHIKAN, ALASKA -Continued															
1950	1.0225	1.0228	1.0226	1.0223	1.0206	1.0178	1.0172	1.0173	1.0178	1.0189	1.0208	1.0218	1.0202	1.0238	1.0148
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
1954	209	200	219	222	207	185	174	177	191	184	174	184	194	230	141
1955	203	199	220	218	209	191	178	169	181	179	202	224	198	232	153
1956	232	232	232	222	199	188	192	183	182	190	192	203	204	243	154
1957	208	228	229	226	210	180	174	190	196	201	200	197	203	231	148
Mean Density	1.0210	1.0215	1.0218	1.0217	1.0205	1.0191	1.0186	1.0185	1.0188	1.0186	1.0185	1.0197	1.0199		
Salinity	28.5	29.1	29.5	29.4	27.8	26.0	25.4	25.2	25.6	25.4	25.2	26.8	27.1		
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	1.0229	1.0230	1.0225	1.0211	1.0205	1.0204	1.0209	1.0208	1.0205	1.0219			
Mean Min.	1.0177	1.0187	1.0191	1.0194	1.0174	1.0163	1.0164	1.0164	1.0162	1.0150	1.0152	1.0167			
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															
1925	1.0211	1.0228	1.0213	1.0211	1.0159	1.0164	1.0136	1.0151	1.0157	1.0172	1.0195	1.0192	1.0180	1.0217*	1.0135*
														233	082
1943															
1944	218	221	220	216	197	172	181	184	181	193	206	209	200	240*	114*
														234	102
1945	220	221	211	212	177	166	165	181	178	185	221	222	196	235	109
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
1954	225	212	225	227	190	179	195	191	192	205	203	200	204	236	107
1955	213	211	213	219	198	178	157	169	192	204	219	229	200	236	111
1956	234	230	231	218	188	189	185	178	188	205	203	211	205	237	136
1957	225	229	231	222	208	200	202	207	209	218	210	227	216	237	163
Mean	1.0223	1.0227	1.0224	1.0220	1.0195	1.0182	1.0180	1.0186	1.0186	1.0200	1.0208	1.0216	1.0204		
Density	30.2	30.7	30.3	29.8	26.5	24.8	24.6	25.4	25.4	27.2	28.2	29.3	27.7		
Salinity														1.0242	
Max.	1.0242	1.0242	1.0242	1.0242	1.0235	1.0225	1.0224	1.0232	1.0228	1.0233	1.0242	1.0242			
Mean Max.	1.0234	1.0235	1.0235	1.0232	1.0225	1.0214	1.0212	1.0214	1.0217	1.0223	1.0228	1.0230			
Mean Min.	1.0203	1.0208	1.0203	1.0200	1.0155	1.0140	1.0145	1.0143	1.0140	1.0155	1.0168	1.0180			
Min.	1.0172	1.0159	1.0141	1.0169	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	---	223*	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

*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.
JUNEAU, ALASKA -Continued															
1950	1.0226	1.0227	1.0231	1.0224	1.0169	1.0165	1.0112	1.0101	1.0089	---	1.0192	1.0205	---	1.0246*	1.0022*
1951	219	222	217	190	133	112	148	164	125	1.0175	196	201	1.0175	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
1954	213	210	227	228	157	097	094	106	133	165	175	171	165	245	014
1955	205	211	220	217	153	095	073	089	110	147	197	219	161	245	0.9997
1956	223	224	229	225	169	130	108	085	125	168	174	190	171	235	1.0053
1957	212	227	229	215	133	075	085	103	113	170	162	201	160	240	0.9991
Mean Density Salinity	1.0210	1.0218	1.0219	1.0205	1.0140	1.0102	1.0090	1.0098	1.0110	1.0139	1.0172	1.0201	1.0159		
	28.5	29.5	29.7	27.8	19.3	14.4	12.8	13.9	15.4	19.2	23.5	27.3	21.8		
Max.	1.0259	1.0244	1.0277	1.0245	1.0245	1.0206	1.0194	1.0235	1.0201	1.0222	1.0237	1.0249		1.0277	
Mean Max.	1.0232	1.0233	1.0239	1.0232	1.0215	1.0165	1.0142	1.0158	1.0169	1.0191	1.0214	1.0230			
Mean Min.	1.0147	1.0161	1.0170	1.0141	1.0056	1.0044	1.0039	1.0041	1.0041	1.0063	1.0094	1.0135			
Min.	1.0072	1.0095	1.0050	1.0058	0.9991	0.9999	1.0008	1.0005	0.9997	0.9986	1.0028	1.0070		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*
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
1954	226	229	230	236	168	059	030	036	117	186	202	212	161	243 0.9998
1955	222	223	225	225	193	100	022	022	068	164	232	234	161	247 1.0007
1956	234	234	234	235	183	083	029	031	061	190	200	218	161	249 0.9996
1957	226	228	234	235	183	057	094	076	021	168	194	209	160	240 0.9995
Mean	1.0230	1.0233	1.0231	1.0230	1.0164	1.0064	1.0032	1.0032	1.0070	1.0153	1.0201	1.0220	1.0155	
Density	31.1	31.5	31.2	31.1	22.5	9.4	5.2	5.2	10.2	21.0	27.3	29.8	21.3	
Salinity														
Max.														1.0259
Mean Max.	1.0248	1.0252	1.0249	1.0249	1.0242	1.0193	1.0181	1.0193	1.0224	1.0240	1.0259	1.0243		
Mean Min.	1.0238	1.0239	1.0238	1.0241	1.0226	1.0156	1.0075	1.0089	1.0169	1.0212	1.0229	1.0233		
Min.	1.0222	1.0224	1.0216	1.0191	1.0066	1.0008	1.0001	1.0003	1.0011	1.0057	1.0129	1.0186		0.9988
	1.0202	1.0206	1.0135	1.0095	1.0014	0.9995	0.9988	0.9989	0.9997	1.0000	1.0009	1.0108		
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
1954	215	220	220	222	199	191	176	175	187	203	206	211	202	249 130
1955	212	210	216	216	193	191	151	175	180	202	217	219	198	233 054
1956	221	220	218	217	---	198	183	155	175	205	192	211	---	232* 124*
1957	216	220	220	215	216	189	182	176	171	193	200	209	201	251 118

*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.
YAKUTAT, ALASKA - Continued															
Mean Density	1.0221	1.0224	1.0222	1.0219	1.0208	1.0192	1.0173	1.0172	1.0184	1.0202	1.0212	1.0219	1.0204		
Salinity	29.9	30.3	30.1	29.7	28.2	26.1	23.7	23.5	25.1	27.5	28.8	29.7	27.7		
Max.	1.0241	1.0242	1.0251	1.0249	1.0239	1.0233	1.0233	1.0231	1.0225	1.0234	1.0233	1.0265		1.0265	
Mean Max.	1.0232	1.0233	1.0234	1.0232	1.0230	1.0223	1.0212	1.0208	1.0213	1.0220	1.0225	1.0231			
Mean Min.	1.0212	1.0206	1.0204	1.0198	1.0173	1.0149	1.0127	1.0132	1.0149	1.0169	1.0189	1.0202			
Min.	1.0168	1.0176	1.0177	1.0156	1.0100	1.0101	1.0054	1.0101	1.0111	1.0118	1.0144	1.0174		1.0054	
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	151
1951	---	229	229	229	228	---	196	170	175	200	214	222	---	232*	140*
1952	229	226	228	---	227	---	---	---	206	205	214	226	---	239*	148*
1953	231	223	235	223	---	---	---	---	187	211	---	---	---	233*	135*
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1957	---	---	---	---	---	223	211	198	---	---	---	---	---	238*	127*
Mean Density	1.0229	1.0228	1.0230	1.0227	1.0225	1.0217	1.0204	1.0188	1.0186	1.0202	1.0217	1.0225	1.0215		
Salinity	31.0	30.8	31.1	30.7	30.4	29.4	27.7	25.6	25.4	27.5	29.4	30.4	29.1		
Max.	1.0234	1.0236	1.0238	1.0234	1.0232	1.0238	1.0222	1.0219	1.0225	1.0223	1.0231	1.0232		1.0238	
Mean Max.	1.0233	1.0233	1.0234	1.0233	1.0231	1.0229	1.0215	1.0201	1.0211	1.0218	1.0227	1.0230			
Mean Min.	1.0225	1.0215	1.0225	1.0217	1.0211	1.0203	1.0187	1.0154	1.0151	1.0177	1.0205	1.0218			
Min.	1.0223	1.0187	1.0224	1.0203	1.0187	1.0201	1.0170	1.0127	1.0135	1.0161	1.0202	1.0213			1.0127
SEWARD, ALASKA															
1926	1.0131	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	197	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	---	---	---	---	---	---	---	---	---	155	198	200	---	233*1.0081*
1945	197	204	215	212	149	061	066	042	127	128	210	207	152	231 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*0.9995*
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	190	135	090	053	072	121	162	194	212	154	236 0.9995
1954	220	219	216	201	095	080	082	077	151	169	176	220	159	236 0.9987
1955	209	224	226	224	175	114	066	---	---	195	215	227	---	236*1.0008*
1956	226	228	228	224	187	089	036	089	147	203	208	224	174	234 1.0001
1957	225	233	226	---	---	---	---	141	102	177	170	218	---	236*1.0031*
Mean	1.0219	1.0218	1.0218	1.0212	1.0165	1.0096	1.0064	1.0085	1.0123	1.0164	1.0191	1.0213	1.0164	---
Density	29.7	29.5	29.5	28.8	22.6	13.5	9.4	12.2	17.1	22.5	26.0	28.9	22.5	---
Salinity	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
Max.	1.0237	1.0237	1.0239	1.0238	1.0227	1.0203	1.0172	1.0189	1.0213	1.0220	1.0227	1.0236	---	---
Mean Max.	1.0173	1.0174	1.0178	1.0150	1.0068	1.0011	1.0006	1.0011	1.0022	1.0066	1.0097	1.0153	---	---
Mean Min.	1.0064	1.0079	1.0098	1.0062	0.9987	0.9996	0.9987	0.9995	0.9993	0.9996	1.0006	1.0045	---	0.9987
Min.	---	---	---	---	---	---	---	---	---	---	---	---	---	---

*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.
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	1.0054
1953	197	219	227	196	153	133	163	197	214	177	177	202	188	249	1.0004
1954	226	229	---	228	153	130	151	128	234	190	172	221	---	273*	1.0003*
1955	208	225	224	224	163	149	135	204	180	198	218	220	196	240	1.0015
1956	229	166	220	216	143	111	138	156	209	226	214	209	186	236	1.0027
1957	221	224	217	213	156	140	178	220	157	183	141	219	189	249	0.9998
Mean Density	1.0220	1.0216	1.0225	1.0217	1.0164	1.0133	1.0152	1.0182	1.0184	1.0197	1.0195	1.0217	1.0192		
Salinity	29.8	29.3	30.4	29.4	22.5	18.4	20.9	24.8	25.1	26.8	26.5	29.4	26.1		
Max.	1.0244	1.0251	1.0243	1.0248	1.0243	1.0226	1.0231	1.0249	1.0273	1.0273	1.0285	1.0249		1.0285	
Mean Max.	1.0236	1.0240	1.0238	1.0235	1.0231	1.0207	1.0215	1.0224	1.0232	1.0243	1.0238	1.0236			
Mean Min.	1.0189	1.0172	1.0205	1.0173	1.0037	1.0035	1.0044	1.0096	1.0093	1.0091	1.0102	1.0160			0.9998
Min.	1.0104	1.0055	1.0186	1.0045	1.0004	1.0003	1.0003	0.9999	1.0000	1.0006	0.9998	1.0062			
DUTCH HARBOR, AMAKNAK 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
1954	238	234	235	229	231	226	---	236	239	237	235	234	---	246*	179*
1955	234	239	240	241	235	---	235	---	---	---	---	---	---	247*	215*
Mean Density	1.0237	1.0237	1.0238	1.0237	1.0236	1.0231	1.0235	1.0238	1.0237	1.0238	1.0237	1.0238	1.0237		
Salinity	32.0	32.0	32.1	32.0	31.9	31.2	31.8	32.1	32.0	32.1	32.0	32.1	32.0		
Max.	1.0246	1.0246	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	1.0245	1.0246	1.0246	1.0244	1.0249	1.0244	1.0244	1.0244	1.0244			
Mean Min.	1.0226	1.0230	1.0230	1.0217	1.0220	1.0212	1.0217	1.0227	1.0230	1.0231	1.0227	1.0231			
Min.	1.0188	1.0214	1.0220	1.0181	1.0179	1.0165	1.0197	1.0220	1.0223	1.0221	1.0191	1.0228		1.0165	
UNALASKA, UNALASKA ISLAND, ALASKA															
1955	---	---	---	---	---	---	---	---	---	---	---	---	---	1.0243*	1.0049*
1956	1.0219	1.0204	1.0206	1.0211	187	161	159	192	174	140	204	199	1.0188	241	1.0023
1957	170	136	---	188	159	167	210	221	127	---	---	---	---	252*	0.9998*
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*
1950	---	---	192	163	189	226	239	220	227	217	209	227	---	253*	0.9988*
1951	220	232	221	189	160	203	225	247	247	244	245	234	222	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
1954	229	217	230	237	236	236	241	244	244	247	243	234	237	270	170

*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															
1955	1.0240	---	1.0236	1.0236	1.0246	1.0242	1.0234	1.0247	1.0245	1.0244	1.0231	1.0240	---	1.0262*	1.0117*
1956	239	1.0235	235	---	---	245	243	248	225	245	237	236	---	261*	132*
1957	---	---	---	---	---	231	242	240	242	243	245	240	---	250*	148*
Mean															
Density	1.0224	1.0221	1.0214	1.0197	1.0202	1.0222	1.0227	1.0229	1.0226	1.0226	1.0225	1.0226	1.0220		
Salinity	30.3	29.9	29.0	26.8	27.5	30.1	30.7	31.0	30.6	30.6	30.4	30.6	29.8		
Max.														1.0276	
Mean Max.	1.0251	1.0270	1.0262	1.0264	1.0259	1.0261	1.0268	1.0276	1.0263	1.0258	1.0252	1.0256			
Mean Min.	1.0247	1.0249	1.0249	1.0249	1.0250	1.0250	1.0252	1.0252	1.0251	1.0251	1.0246	1.0247			
Min.	1.0178	1.0164	1.0128	1.0115	1.0110	1.0162	1.0172	1.0172	1.0158	1.0186	1.0175	1.0179		0.9983	
	1.0085	1.0089	1.0038	1.0005	0.9938	1.0035	1.0034	1.0038	1.0091	1.0084	1.0066	1.0092			
CONSTANTINE HARBOR, AMCHITKA ISLAND, ALASKA															
1945	---	---	---	---	---	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.														1.0278	
Mean Max.	1.0259	1.0278	1.0252	1.0250	---	1.0267	1.0266	1.0256	1.0256	1.0258	1.0248	1.0250			
Mean Min.	1.0252	1.0264	---	---	---	1.0254	1.0254	1.0251	1.0249	1.0249	1.0247	1.0248			
Min.	1.0229	1.0235	---	---	---	1.0242	1.0232	1.0232	1.0228	1.0236	1.0235	1.0227			
	1.0197	1.0221	1.0237	1.0229	---	1.0239	1.0221	1.0216	1.0202	1.0223	1.0229	1.0210		1.0197	

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.
POINT BARROW (Ocean), ALASKA															
1945	---	---	---	---	---	---	---	---	1.0193	---	---	---	---	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*
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
1954	262	263	265	264	267	267	268	266	266	269	264	266	266	275	256
1955	263	263	264	264	267	269	270	268	268	265	266	---	---	275*	259*
1956	263	262	262	265	267	267	264	262	265	263	264	262	264	271	248
1957	263	264	---	264	266	267	265	260	261	261	265	264	---	272*	251*

Mean Density Salinity	1.0263 35.4	1.0263 35.4	1.0264 35.5	1.0265 35.7	1.0266 35.8	1.0266 35.8	1.0267 35.9	1.0267 35.7	1.0265 35.8	1.0265 35.7	1.0265 35.7	1.0264 35.5	1.0265 35.7
Max.	1.0278	1.0275	1.0273	1.0281	1.0272	1.0281	1.0279	1.0279	1.0286	1.0275	1.0276	1.0275	1.0286
Mean Max.	1.0268	1.0267	1.0267	1.0270	1.0270	1.0271	1.0272	1.0270	1.0270	1.0271	1.0270	1.0269	
Mean Min.	1.0257	1.0259	1.0260	1.0261	1.0262	1.0259	1.0261	1.0259	1.0261	1.0260	1.0259	1.0258	
Min.	1.0246	1.0251	1.0256	1.0257	1.0253	1.0239	1.0253	1.0248	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	---
1946	1.0256	1.0249	254	253	256	258	259	261	261	261	259	256	1.0270*1.0226*
1947	257	259	258	257	256	259	260	260	254	259	256	258	265 200†
1948	253	254	256	253	256	259	258	259	261	261	261	260	268 200†
1949	247	253	259	262	262	260	263	263	261	262	266	266	266 217
1950	242	261	260	258	261	259	262	262	263	264	260	266	269 200†
1951	---	---	224	258	260	259	258	260	259	257	254	254	277* 200†
1952	258	262	256	260	259	262	256	255	253	---	---	254	287* 099*
1953	251	254	250	255	256	257	261	262	256	255	253	251	271* 224*
1954	250	252	254	255	255	256	258	255	257	255	249	250	278 223
1955	254	253	253	258	259	257	258	259	258	259	256	246	276 223
1956	248	251	255	255	254	249	241	248	253	254	252	260	272 190
1957	---	254	260	261	261	260	264	262	262	262	263	264	269 161
Mean Density Salinity	1.0252 34.0	1.0255 34.4	1.0254 34.2	1.0257 34.6	1.0258 34.8	1.0258 34.8	1.0258 34.8	1.0259 34.9	1.0258 34.8	1.0259 34.9	1.0257 34.6	1.0256 34.5	1.0257 34.6
Max.	1.0272	1.0267	1.0271	1.0287	1.0271	1.0273	1.0278	1.0270	1.0275	1.0270	1.0279	1.0272	1.0287
Mean Max.	1.0263	1.0263	1.0263	1.0266	1.0265	1.0265	1.0268	1.0265	1.0265	1.0265	1.0265	1.0264	
Mean Min.	1.0229	1.0231	1.0233	1.0245	1.0246	1.0252	1.0247	1.0249	1.0244	1.0249	1.0238	1.0240	
Min.	1.0200	1.0190	1.0099	1.0226	1.0224	1.0235	1.0191	1.0228	1.0200	1.0227	1.0161	1.0192	1.0099
Kaneohe Bay (Mokuoloe I.) Oahu I., Hawaiian Islands													
1957	---	---	---	---	1.0258	1.0262	1.0261	1.0264	1.0264	1.0262	1.0251	1.0249	1.0268*1.0219*

*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.
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
1954	190	195	165	177	163	172	164	165	160	166	172	150	170	256	110
1955	157	165	170	152	148	138	149	154	152	166	171	180	158	245	118
1956	194	159	142	140	140	141	161	135	141	159	152	157	152	259	073
1957	155	159	165	148	140	141	149	141	158	158	158	154	152	229	086
Mean Density	1.0175	1.0171	1.0160	1.0151	1.0148	1.0153	1.0153	1.0153	1.0160	1.0166	1.0167	1.0161	1.0160		
Salinity	23.9	23.4	22.0	20.8	20.4	21.0	21.0	21.0	22.0	22.7	22.9	22.1	22.0		
Max.	1.0265	1.0254	1.0249	1.0256	1.0240	1.0243	1.0255	1.0254	1.0243	1.0252	1.0245	1.0248		1.0265	
Mean Max.	1.0236	1.0224	1.0221	1.0210	1.0210	1.0201	1.0218	1.0210	1.0218	1.0226	1.0223	1.0223			
Mean Min.	1.0128	1.0126	1.0110	1.0111	1.0103	1.0117	1.0118	1.0110	1.0123	1.0121	1.0123	1.0115			
Min.	1.0098	1.0073	1.0069	1.0084	1.0028	1.0093	1.0084	1.0086	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*
1954	263	264	263	262	261	264	264	263	265	263	264	264	263	274	255

1955	264	263	261	262	263	264	264	264	265	263	261	259	263	279	231
1956	260	260	260	261	264	263	267	268	272	269	266	---	---	276*	249*
1957	---	265	267	267	268	266	268	269	268	268	267	265	---	282*	255*
Mean															
Density	1.0261	1.0261	1.0261	1.0262	1.0262	1.0261	1.0263	1.0263	1.0264	1.0264	1.0263	1.0262	1.0262		
Salinity	35.1	35.1	35.1	35.3	35.3	35.1	35.4	35.4	35.5	35.5	35.4	35.3	35.3	1.0282	
Max.															
Mean Max.	1.0272	1.0276	1.0278	1.0282	1.0275	1.0277	1.0276	1.0276	1.0279	1.0279	1.0276	1.0280			
Mean Min.	1.0266	1.0266	1.0267	1.0268	1.0267	1.0267	1.0269	1.0268	1.0270	1.0270	1.0269	1.0270			
Min.	1.0256	1.0257	1.0256	1.0257	1.0256	1.0256	1.0259	1.0258	1.0259	1.0259	1.0258	1.0252			
	1.0250	1.0251	1.0251	1.0249	1.0252	1.0255	1.0256	1.0254	1.0252	1.0252	1.0254	1.0231			1.0231
CHRISTMAS ISLAND															
1956	1.0281	1.0280	1.0276	1.0258	1.0263	1.0265	---	---	1.0272	1.0277	1.0277	1.0278	---	1.0287*	1.0222*
1957	279	279	283	275	269	262	1.0267	1.0272	276	276	273	262	1.0273	288	241
CANTON ISLAND, PHOENIX ISLANDS															
1950	---	---	---	---	---	---	---	---	1.0266	1.0264	1.0264	1.0265	---	1.0270*	1.0260*
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
1954	267	274	271	268	267	268	269	268	268	270	271	271	269	279	263
1955	271	270	270	268	270	271	271	271	270	270	271	272	270	277	264
1956	274	273	272	272	268	270	270	272	271	274	271	270	271	278	263
1957	271	271	269	271	269	268	266	268	269	269	268	268	269	276	261
Mean															
Density	1.0270	1.0271	1.0270	1.0268	1.0269	1.0268	1.0268	1.0268	1.0268	1.0268	1.0269	1.0270	1.0269		
Salinity	36.3	36.4	36.3	36.0	36.2	36.0	36.0	36.0	36.0	36.0	36.2	36.3	36.2	1.0279	
Max.															
Mean Max.	1.0278	1.0278	1.0277	1.0277	1.0278	1.0277	1.0277	1.0276	1.0276	1.0278	1.0279	1.0276			
Mean Min.	1.0274	1.0275	1.0274	1.0272	1.0273	1.0272	1.0272	1.0271	1.0272	1.0273	1.0273	1.0273			
Min.	1.0267	1.0268	1.0267	1.0265	1.0265	1.0265	1.0264	1.0265	1.0264	1.0266	1.0266	1.0265			
	1.0262	1.0261	1.0261	1.0262	1.0261	1.0263	1.0262	1.0262	1.0260	1.0262	1.0262	1.0261			1.0260

*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.
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
1954	255	259	260	254	254	251	253	250	255	256	250	258	255	264	228
1955	261	262	262	259	257	263	266	258	259	259	260	258	260	274	231
1956	254	256	---	---	---	---	---	262	263	265	262	261	---	268*	230*
1957	262	260	261	254	257	256	260	263	262	260	252	257	259	267	233
Mean Density	1.0258	1.0259	1.0259	1.0257	1.0256	1.0257	1.0259	1.0259	1.0260	1.0259	1.0256	1.0257	1.0258		
Salinity	34.8	34.9	34.9	34.6	34.5	34.6	34.9	34.9	35.0	34.9	34.5	34.6	34.8		
Max.														1.0274	
Mean Max.															
Mean Min.															
Min.															1.0123
APIA (Observatory), SAMOA ISLANDS															
1948	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1949	1.0259	1.0262	1.0259	1.0258	1.0255	1.0260	1.0262	1.0262	1.0264	1.0267	1.0266	1.0262	---	1.0274*	1.0243*
				259	257	260	262	262	264	265	266	267	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	267	273	273	274	273	270	285	238
1953	274	275	272	272	274	274	275	276	277	276	276	271	274	287	209
1954	268	270	265	259	256	254	257	258	260	260	258	261	260	281	210
1955	263	263	260	260	262	264	267	266	266	267	265	265	264	283	174
1956	264	261	264	268	268	267	271	271	271	273	---	271	---	279*	204*
1957	273	---	---	---	---	---	---	---	275	277	274	273	---	281*	254*

Mean Density Salinity	1.0267 35.9	1.0266 35.8	1.0264 35.5	1.0263 35.4	1.0262 35.3	1.0264 35.5	1.0266 35.8	1.0267 35.9	1.0269 36.2	1.0270 36.3	1.0269 36.2	1.0268 36.0	1.0266 35.8	1.0287
Max.	1.0283	1.0287	1.0278	1.0285	1.0277	1.0279	1.0279	1.0280	1.0282	1.0281	1.0283	1.0283	1.0287	
Mean Max.	1.0274	1.0274	1.0272	1.0271	1.0268	1.0270	1.0271	1.0273	1.0274	1.0275	1.0276	1.0275	1.0287	
Mean Min.	1.0251	1.0254	1.0226	1.0245	1.0254	1.0254	1.0259	1.0259	1.0261	1.0255	1.0260	1.0254	1.0287	
Min.	1.0192	1.0220	1.0174	1.0210	1.0242	1.0243	1.0248	1.0246	1.0242	1.0211	1.0250	1.0236	1.0174	
GUADALCANAL ISLAND (Kukum), SOLOMON ISLANDS														
1948	---	---	---	1.0254	---	1.0253	1.0253	1.0255	1.0256	1.0255	1.0254	1.0253	---	
1949	1.0254	1.0255	1.0255	252	1.0252	251	255	255	255	256	256	---	1.0262* 261*	
WAKE ISLAND														
1950	---	---	---	---	---	1.0263	1.0257	1.0255	1.0254	1.0255	1.0254	1.0254	---	
1951	1.0256	1.0257	1.0259	1.0259	264	259	265	266	264	260	261	260	1.0260	
1952	263	264	265	265	264	261	263	258	---	---	265	260	---	
1953	262	263	265	265	265	266	262	256	256	253	256	259	261	
1954	263	264	265	265	264	264	266	263	256	255	254	253	261	
1955	264	266	265	258	257	262	268	259	254	254	258	260	260	
1956	257	254	257	255	257	262	263	260	263	258	255	257	258	
1957	253	254	257	261	261	262	267	264	259	264	262	261	260	
Mean Density Salinity	1.0260 35.0	1.0260 35.0	1.0262 35.3	1.0261 35.1	1.0261 35.1	1.0262 35.3	1.0264 35.5	1.0260 35.0	1.0258 34.8	1.0257 34.6	1.0258 34.8	1.0258 34.8	1.0260 35.0	
Max.	1.0276	1.0276	1.0276	1.0284	1.0276	1.0276	1.0276	1.0272	1.0273	1.0276	1.0277	1.0272	1.0284	
Mean Max.	1.0269	1.0269	1.0272	1.0273	1.0271	1.0272	1.0271	1.0269	1.0269	1.0269	1.0269	1.0268	1.0284	
Mean Min.	1.0244	1.0246	1.0244	1.0245	1.0246	1.0247	1.0253	1.0249	1.0242	1.0240	1.0240	1.0239	1.0284	
Min.	1.0233	1.0220	1.0224	1.0228	1.0235	1.0238	1.0243	1.0240	1.0233	1.0229	1.0225	1.0230	1.0220	

*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.
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*
1954	255	260	259	255	254	253	259	262	260	260	259	259	258	272	158
1955	261	264	262	266	267	258	257	259	255	258	259	261	261	270	199
1956	261	263	264	268	262	259	258	259	255	253	255	259	260	276	239
1957	257	258	258	258	261	264	263	265	263	264	264	263	262	271	244
Mean Density	1.0256	1.0258	1.0259	1.0259	1.0259	1.0258	1.0258	1.0258	1.0258	1.0258	1.0257	1.0256	1.0258		
Salinity	34.5	34.8	34.9	34.9	34.9	34.8	34.8	34.9	34.8	34.8	34.6	34.5	34.8		
Max.	1.0266	1.0268	1.0269	1.0276	1.0270	1.0274	1.0271	1.0271	1.0269	1.0268	1.0272	1.0272		1.0276	
Mean Max.	1.0262	1.0262	1.0264	1.0265	1.0265	1.0264	1.0264	1.0265	1.0265	1.0263	1.0263	1.0262			
Mean Min.	1.0248	1.0253	1.0248	1.0250	1.0254	1.0243	1.0248	1.0250	1.0245	1.0246	1.0243	1.0239			
Min.	1.0241	1.0247	1.0218	1.0240	1.0245	1.0199	1.0238	1.0234	1.0233	1.0224	1.0223	1.0158		1.0158	
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
1954	256	259	257	258	252	252	249	237	241	242	250	255	251	264	158

1955	253	259	260	256	---	254	251	253	251	251	251	251	255	255	256	256	274*	225*
1956	256	256	256	256	255	255	257	255	257	255	255	255	256	256	256	256	278	206
1957	257	259	261	260	259	262	261	264	258	259	259	258	259	258	259	260	272	247
Mean	1.0255	1.0257	1.0258	1.0255	1.0256	1.0255	1.0254	1.0250	1.0250	1.0251	1.0251	1.0253	1.0255	1.0255	1.0255	1.0254		
Density	34.4	34.6	34.8	34.4	34.5	34.4	34.2	33.7	33.7	33.8	33.8	34.1	34.4	34.2	34.2	34.2		
Salinity																		
Max.	1.0278	1.0265	1.0274	1.0274	1.0264	1.0270	1.0268	1.0272	1.0269	1.0273	1.0273	1.0272	1.0270				1.0278	
Mean Max.	1.0265	1.0262	1.0264	1.0264	1.0261	1.0264	1.0263	1.0262	1.0261	1.0261	1.0261	1.0262	1.0261					
Mean Min.	1.0235	1.0251	1.0250	1.0234	1.0245	1.0241	1.0241	1.0214	1.0222	1.0224	1.0224	1.0242	1.0243					
Min.	1.0175	1.0247	1.0244	1.0164	1.0225	1.0232	1.0228	1.0145	1.0174	1.0158	1.0158	1.0230	1.0220				1.0145	
YAP ISLAND, CAROLINE ISLANDS																		
1951	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1952	1.0255	1.0255	258	256	231	221	242	237	235	239	239	243	248	1.0243	---	---	1.0265*	1.0204*
1953	253	246	---	---	---	---	---	---	---	---	---	---	---	---	---	---	261*	223*
Mean	1.0254	1.0250	1.0257	1.0258	1.0244	1.0234	1.0246	1.0240	1.0240	1.0244	1.0244	1.0246	1.0247	1.0247	1.0247	1.0247		
Density	34.2	33.7	34.6	34.8	32.9	31.6	33.2	32.4	32.4	32.9	32.9	33.2	33.3	33.3	33.3	33.3		
Salinity																		
Max.	1.0261	1.0261	1.0262	1.0265	1.0261	1.0257	1.0254	1.0254	1.0255	1.0253	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	1.0253	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	1.0207	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	1.0172	1.0217	1.0204				1.0168	
ANGAUR ISLAND, PALAU ISLANDS																		
1951	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1952	1.0227	1.0241	1.0244	1.0235	1.0219	---	---	---	1.0212	1.0210	1.0210	1.0217	1.0231	---	---	---	1.0279*	1.0142*
																	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	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	255*	217*

*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.
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*
1954	261	259	261	260	262	263	260	258	252	256	256	259	259	268	247
1955	260	259	261	264	264	265	263	262	261	254	257	257	261	268	245
1956	258	257	259	260	260	261	261	260	255	256	256	251	258	265	231
1957	253	253	254	256	256	255	255	255	253	253	253	251	254	267	244
Mean Density	1.0257	1.0256	1.0258	1.0259	1.0260	1.0260	1.0259	1.0257	1.0255	1.0254	1.0255	1.0255	1.0257	1.0269	
Salinity	34.6	34.5	34.8	34.9	35.0	35.0	34.9	34.6	34.4	34.2	34.4	34.4	34.6		
Max.	1.0267	1.0263	1.0264	1.0267	1.0268	1.0269	1.0268	1.0268	1.0265	1.0263	1.0263	1.0262			
Mean Max.	1.0260	1.0260	1.0261	1.0263	1.0263	1.0263	1.0264	1.0262	1.0261	1.0259	1.0259	1.0259			
Mean Min.	1.0254	1.0252	1.0255	1.0256	1.0257	1.0256	1.0253	1.0248	1.0248	1.0246	1.0247	1.0250			
Min.	1.0250	1.0249	1.0250	1.0253	1.0252	1.0251	1.0249	1.0232	1.0239	1.0234	1.0230	1.0231			1.0230
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
1954	219	217	224	234	248	251	235	195	148	173	203	234	215	260	101
1955	224	220	232	252	259	256	240	228	211	208	233	223	232	267	153
1956	224	223	243	251	249	253	231	180	108	195	213	224	216	259	075
1957	202	206	219	234	249	250	226	169	123	176	219	217	208	256	069
Mean	1.0228	1.0228	1.0235	1.0242	1.0249	1.0247	1.0223	1.0186	1.0168	1.0195	1.0215	1.0225	1.0220		
Density	30.8	30.8	31.8	32.7	33.6	33.3	30.2	25.4	23.0	26.5	29.1	30.4	29.8		
Salinity															
Max.	1.0268	1.0267	1.0264	1.0263	1.0265	1.0264	1.0260	1.0258	1.0256	1.0254	1.0267	1.0268		1.0268	
Mean Max.	1.0252	1.0250	1.0253	1.0253	1.0257	1.0256	1.0245	1.0234	1.0206	1.0235	1.0246	1.0250			
Mean Min.	1.0190	1.0186	1.0209	1.0220	1.0234	1.0232	1.0192	1.0134	1.0128	1.0138	1.0158	1.0165			
Min.	1.0140	1.0101	1.0160	1.0166	1.0204	1.0177	1.0105	1.0059	1.0075	1.0101	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
1954	206	223	192	197	189	210	229	240	255	238	241	---	---	275*	135*
1955	157	200	214	212	223	227	240	241	243	243	204	210	218	267	121
1956	200	198	188	209	175	126	199	236	237	222	219	159	197	263	048
1957	177	210	205	194	218	235	226	238	249	224	222	206	217	262	108
Mean	1.0194	1.0206	1.0200	1.0208	1.0207	1.0215	1.0225	1.0237	1.0240	1.0232	1.0217	1.0200	1.0215		
Density	26.4	28.0	27.2	28.2	28.1	29.1	30.4	32.0	32.4	31.4	29.4	27.2	29.1		
Salinity															
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.	1.0228	1.0236	1.0239	1.0239	1.0242	1.0246	1.0261	1.0264	1.0264	1.0260	1.0251	1.0243			
Mean Min.	1.0144	1.0166	1.0162	1.0159	1.0152	1.0168	1.0173	1.0191	1.0191	1.0174	1.0150	1.0144			
Min.	1.0108	1.0124	1.0124	1.0117	1.0083	1.0086	1.0048	1.0131	1.0136	1.0128	1.0110	1.0112			1.0048

*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.
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*
1954	254	250	243	237	240	244	247	250	251	253	253	249	1.0248	256	236
1955	243	246	249	248	247	---	245	247	247	248	---	245	---	252*	239*
1956	---	247	---	248	250	250	---	---	---	---	---	---	---	250*	246*
1957	---	219	---	---	---	---	244	245	244	---	---	---	---	250*	215*
Mean	1.0243	1.0239	1.0246	1.0248	1.0247	1.0246	1.0244	1.0245	1.0245	1.0243	1.0247	1.0243	1.0245		
Density	32.8	32.3	33.2	33.5	33.3	33.2	32.9	33.1	33.1	32.8	33.3	32.8	33.1		
Salinity															
Max.	1.0256	1.0252	1.0254	1.0262	1.0256	1.0264	1.0264	1.0257	1.0258	1.0256	1.0256	1.0254		1.0264	
Mean Max.	1.0248	1.0242	1.0251	1.0251	1.0249	1.0249	1.0247	1.0247	1.0247	1.0249	1.0252	1.0247			
Mean Min.	1.0238	1.0237	1.0242	1.0244	1.0245	1.0244	1.0239	1.0240	1.0238	1.0239	1.0242	1.0239			
Min.	1.0229	1.0215	1.0234	1.0236	1.0237	1.0219	1.0219	1.0219	1.0219	1.0221	1.0225	1.0229			1.0215
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
1954	246	252	251	254	253	251	251	250	248	245	248	245	250	258	207
1955	244	248	250	253	252	250	251	250	250	250	248	247	249	260	220
1956	248	252	251	249	248	251	251	246	250	244	247	247	249	261	193
1957	236	243	253	257	258	261	254	253	258	251	252	254	252	270	197

Mean Density Salinity	1.0245 33.1	1.0250 33.7	1.0252 34.0	1.0254 34.2	1.0253 34.1	1.0250 33.7	1.0249 33.6	1.0249 33.6	1.0246 33.2	1.0248 33.5	1.0249 33.6	1.0246 33.2	1.0245 33.1	1.0245 33.6
Max.	1.0258	1.0260	1.0261	1.0263	1.0270	1.0270	1.0260	1.0260	1.0264	1.0264	1.0260	1.0259	1.0260	1.0270
Mean Max.	1.0253	1.0256	1.0257	1.0259	1.0259	1.0258	1.0256	1.0256	1.0255	1.0255	1.0254	1.0254	1.0253	1.0261
Mean Min.	1.0214	1.0235	1.0231	1.0242	1.0233	1.0233	1.0211	1.0222	1.0219	1.0219	1.0214	1.0214	1.0219	1.0219
Min.	1.0189	1.0219	1.0205	1.0221	1.0200	1.0148	1.0127	1.0178	1.0157	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*
1950	223	246	221	249	208	169	141	169	152	167	211	243	200	261 068
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*
1954	248	229	245	225	226	224	217	196	---	---	228	242	---	277* 136*
1955	232	252	242	231	222	205	197	202	213	210	217	246	222	275 134
1956	249	231	244	220	201	216	197	---	---	223	238	237	---	271* 135*
1957	243	248	246	---	231	213	226	228	229	224	238	262	---	266* 145*
Mean Density Salinity	1.0246 33.2	1.0247 33.3	1.0247 33.3	1.0241 32.5	1.0226 30.6	1.0215 29.1	1.0205 27.8	1.0216 29.3	1.0206 28.0	1.0210 28.5	1.0227 30.7	1.0244 32.9	1.0228 30.8	1.0288
Max.	1.0271	1.0274	1.0275	1.0274	1.0270	1.0264	1.0263	1.0286	1.0288	1.0257	1.0276	1.0277	1.0288	1.0288
Mean Max.	1.0262	1.0262	1.0262	1.0264	1.0261	1.0258	1.0254	1.0258	1.0259	1.0254	1.0262	1.0262	1.0262	1.0262
Mean Min.	1.0199	1.0188	1.0185	1.0179	1.0142	1.0144	1.0135	1.0142	1.0147	1.0145	1.0150	1.0197	1.0197	1.0197
Min.	1.0085	1.0123	1.0101	1.0136	1.0044	1.0068	1.0058	1.0040	1.0064	1.0057	1.0062	1.0099	1.0099	1.0040
JOLO, JOLO ISLAND, PHILIPPINE ISLANDS														
1947	---	---	---	---	---	---	---	---	---	---	---	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	1.0250	246	245	1.0249	257 232
1949	249	249	244	249	252	254	252	256	252	250	240	239	249	266 171

*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.
JOLO, JOLO ISLAND, PHILIPPINE ISLANDS -Continued															
1950	1.0249	1.0251	1.0252	1.0258	1.0257	1.0254	1.0257	1.0253	1.0253	1.0246	1.0251	1.0250	1.0253	1.0267	1.0149
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
1954	253	253	253	251	251	243	238	243	244	244	236	247	246	311	169
1955	248	248	250	250	254	252	254	254	252	253	---	---	---	262*	213*
Mean Density	1.0250	1.0250	1.0249	1.0251	1.0252	1.0249	1.0247	1.0250	1.0248	1.0248	1.0244	1.0245	1.0249		
Salinity	33.7	33.7	33.6	33.8	34.0	33.6	33.3	33.7	33.5	33.5	32.9	33.1	33.6		
Max.	1.0272	1.0296	1.0261	1.0262	1.0311	1.0285	1.0266	1.0268	1.0265	1.0266	1.0288	1.0267		1.0311	
Mean Max.	1.0260	1.0264	1.0257	1.0258	1.0268	1.0262	1.0258	1.0259	1.0256	1.0261	1.0259	1.0256			
Mean Min.	1.0235	1.0224	1.0233	1.0233	1.0232	1.0229	1.0224	1.0230	1.0226	1.0210	1.0204	1.0215			
Min.	1.0213	1.0159	1.0221	1.0198	1.0163	1.0189	1.0155	1.0202	1.0193	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
1954	225	225	225	223	222	221	222	223	224	226	226	224	224	238	210

1955	227	227	226	228	224	222	222	222	223	223	224	236	213
1956	221	222	226	230	231	227	224	226	230	230	227	245	204
1957	230	231	230	231	230	228	233	226	228	228	229	243	218
Mean	1.0225	1.0226	1.0225	1.0225	1.0223	1.0221	1.0222	1.0224	1.0224	1.0225	1.0227	1.0224	
Density	30.4	30.6	30.4	30.4	30.2	29.9	30.1	30.3	30.3	30.4	30.7	30.3	
Salinity													
Max.	1.0240	1.0236	1.0237	1.0236	1.0245	1.0234	1.0235	1.0243	1.0235	1.0242	1.0237	1.0255	
Mean Max.	1.0230	1.0231	1.0230	1.0229	1.0228	1.0227	1.0226	1.0230	1.0238	1.0231	1.0230	1.0232	
Mean Min.	1.0220	1.0221	1.0221	1.0219	1.0217	1.0212	1.0215	1.0218	1.0220	1.0218	1.0221	1.0221	
Min.	1.0204	1.0212	1.0219	1.0203	1.0209	1.0193	1.0198	1.0205	1.0217	1.0201	1.0210	1.0210	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	150*
1946	1.0189	206	213	225	233	233	229	230	228	218	223	183	152
1947	204	196	223	221	236	230	---	233	229	224	224	203	284*
1948	198	221	226	233	234	238	233	227	221	---	241	212	278*
1949	194	209	---	232	222	---	231	227	223	---	220	---	251*
1950	203	---	229	233	---	230	235	236	231	216	209	---	170*
1951	194	197	222	218	235	230	224	232	228	218	221	186	124
1952	185	203	224	217	235	232	238	243	227	225	228	219	166
1953	218	219	223	227	237	224	234	237	242	---	---	179	142*
1954	189	210	210	228	---	---	---	---	---	---	---	---	154*
1955	228	224	218	230	---	234	222	---	---	---	---	247*	167*
1956	212	205	224	224	226	232	235	231	230	211	212	207	169
1957	212	225	222	227	232	236	239	239	230	---	190	203	141*
Mean	1.0202	1.0210	1.0221	1.0226	1.0232	1.0230	1.0232	1.0233	1.0228	1.0220	1.0216	1.0200	1.0221
Density	27.5	28.5	29.9	30.6	31.4	31.1	31.4	31.5	30.8	29.8	29.3	27.2	29.9
Salinity													
Max.	1.0251	1.0247	1.0245	1.0251	1.0284	1.0253	1.0255	1.0253	1.0270	1.0251	1.0278	1.0251	
Mean Max.	1.0233	1.0234	1.0239	1.0241	1.0246	1.0243	1.0246	1.0243	1.0244	1.0240	1.0240	1.0235	
Mean Min.	1.0173	1.0183	1.0197	1.0205	1.0206	1.0207	1.0209	1.0217	1.0208	1.0191	1.0183	1.0164	
Min.	1.0151	1.0124	1.0180	1.0187	1.0158	1.0159	1.0184	1.0203	1.0171	1.0170	1.0142	1.0141	1.0124

*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.
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*
1954	254	258	---	---	---	150	201	211	---	245	252	246	---	272*	005*
1955	---	255	259	258	250	232	244	239	245	254	256	258	---	274*	198*
1956	251	259	253	252	244	241	234	238	239	249	260	256	1.0248	290	202
1957	257	262	263	264	247	237	242	217	236	251	261	257	250	269	189
Mean Density Salinity	1.0256	1.0258	1.0258	1.0258	1.0245	1.0221	1.0228	1.0226	1.0237	1.0251	1.0255	1.0255	1.0246		
	34.5	34.8	34.8	34.8	33.1	29.9	30.8	30.6	32.0	33.8	34.4	34.4	33.2		
Max.	1.0269	1.0271	1.0290	1.0306	1.0268	1.0274	1.0265	1.0260	1.0266	1.0266	1.0272	1.0277		1.0306	
Mean Max.	1.0266	1.0266	1.0271	1.0272	1.0262	1.0252	1.0252	1.0252	1.0254	1.0263	1.0267	1.0265			
Mean Min.	1.0237	1.0248	1.0239	1.0242	1.0207	1.0178	1.0168	1.0185	1.0214	1.0227	1.0239	1.0238			
Min.	1.0227	1.0231	1.0208	1.0225	1.0172	1.0014	1.0005	1.0117	1.0189	1.0208	1.0212	1.0216			1.0005
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	259	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
1954	254	257	256	253	256	250	254	256	262	261	259	259	256	267	235

1955	259	260	257	262	264	257	263	263	266	263	262	262	270	247
1956	267	266	264	262	262	259	256	259	265	267	266	263	278	251
1957	261	265	265	264	---	---	254	254	258	258	257	---	273*	234*
Mean	1.0262	1.0263	1.0262	1.0260	1.0259	1.0257	1.0256	1.0258	1.0260	1.0262	1.0260	1.0260		
Density	35.3	35.4	35.3	35.0	34.9	34.6	34.5	34.8	35.0	35.3	35.0	35.0		
Salinity													1.0291	
Max.	1.0289	1.0280	1.0291	1.0278	1.0270	1.0270	1.0271	1.0271	1.0276	1.0277	1.0278	1.0276		
Mean Max.	1.0268	1.0268	1.0268	1.0266	1.0264	1.0262	1.0262	1.0264	1.0266	1.0267	1.0268	1.0267		
Mean Min.	1.0255	1.0256	1.0257	1.0255	1.0251	1.0250	1.0247	1.0250	1.0248	1.0256	1.0257	1.0252		
Min.	1.0235	1.0240	1.0252	1.0249	1.0238	1.0237	1.0211	1.0229	1.0221	1.0250	1.0250	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	267	244
1953	248	245	250	253	257	259	263	255	255	256	---	---	267*	241*
1954	255	253	252	253	253	255	255	255	255	255	257	255	266	247
1955	255	256	256	255	254	254	254	255	255	253	255	254	268	248
1956	254	254	255	256	256	257	256	257	257	259	257	252	267	246
1957	---	---	---	---	---	---	---	---	---	254	254	257	260*	249*
Mean	1.0254	1.0253	1.0254	1.0255	1.0256	1.0258	1.0257	1.0256	1.0256	1.0256	1.0256	1.0254		
Density	34.2	34.1	34.2	34.4	34.5	34.8	34.6	34.5	34.5	34.5	34.5	34.2	1.0255	
Salinity													34.4	
Max.	1.0267	1.0268	1.0263	1.0265	1.0267	1.0266	1.0265	1.0262	1.0263	1.0267	1.0266	1.0262	1.0268	
Mean Max.	1.0260	1.0258	1.0258	1.0260	1.0260	1.0262	1.0262	1.0259	1.0260	1.0260	1.0261	1.0259		
Mean Min.	1.0250	1.0249	1.0249	1.0250	1.0253	1.0254	1.0254	1.0253	1.0252	1.0251	1.0251	1.0250		
Min.	1.0243	1.0241	1.0245	1.0246	1.0249	1.0249	1.0250	1.0251	1.0250	1.0248	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	270	243
1948	263	264	---	---	---	---	---	---	---	---	---	---	273*	256*
1949	263	264	263	266	264	261	263	266	263	264	268	267	275	258

*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															
1950	1.0263	1.0264	---	---	---	---	---	---	---	1.0262	1.0265	1.0264	---	1.0274*	1.0249*
1951	264	265	1.0263	1.0261	1.0263	1.0262	1.0264	1.0261	1.0262	262	263	260	1.0262	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
1954	259	257	257	255	255	255	256	257	---	258	260	263	---	265*	252*
1955	263	258	258	256	258	---	259	258	256	255	257	257	---	267*	253*
1956	258	257	258	258	257	257	258	261	259	257	257	257	258	264	252
1957	257	257	254	255	255	257	256	254	253	255	255	257	255	265	248
Mean Density Salinity	1.0261	1.0260	1.0259	1.0259	1.0259	1.0258	1.0259	1.0259	1.0258	1.0259	1.0260	1.0260	1.0259		
	35.1	35.0	34.9	34.9	34.9	34.8	34.9	34.9	34.8	34.9	35.0	35.0	34.9		
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.	1.0266	1.0265	1.0264	1.0263	1.0263	1.0262	1.0262	1.0263	1.0263	1.0264	1.0265	1.0266			
Mean Min.	1.0257	1.0256	1.0255	1.0255	1.0255	1.0256	1.0255	1.0255	1.0255	1.0254	1.0256	1.0257			
Min.	1.0249	1.0252	1.0251	1.0251	1.0252	1.0252	1.0251	1.0248	1.0250	1.0243	1.0251	1.0253			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*
1954	265	260	254	254	254	260	260	259	258	257	257	253	258	268	247
1955	256	258	259	256	254	255	255	254	254	255	254	256	256	260	251
1956	255	251	254	255	255	254	254	257	257	257	260	259	256	264	246
1957	257	259	258	258	259	258	257	257	256	258	259	260	258	267	253
Mean Density Salinity	1.0258	1.0256	1.0256	1.0255	1.0255	1.0256	1.0256	1.0256	1.0255	1.0256	1.0257	1.0257	1.0256		
	34.8	34.5	34.5	34.4	34.4	34.5	34.5	34.5	34.4	34.5	34.6	34.6	34.5		

Max.	1.0268	1.0271	1.0263	1.0262	1.0264	1.0263	1.0262	1.0261	1.0263	1.0266	1.0267	1.0271
Mean Max.	1.0263	1.0263	1.0259	1.0258	1.0258	1.0259	1.0258	1.0257	1.0258	1.0259	1.0261	
Mean Min.	1.0255	1.0250	1.0252	1.0252	1.0252	1.0252	1.0253	1.0253	1.0253	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	1.0241
EASTER ISLAND												
1957	1.0265	1.0263	1.0265	1.0263	1.0260	1.0254	1.0260	1.0256	1.0255	1.0253	1.0265	1.0277 1.0210
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	276*
1946	263	1.0264	264	263	263	260	261	264	271	272	267	281
1947	262	262	262	261	261	260	---	---	---	---	262	274*
1948	267	265	264	264	264	266	266	263	260	261	262	285
1949	260	---	---	---	---	---	---	---	---	259	261	266*
1950	261	262	261	263	262	263	---	---	---	---	269	278*
1951	269	---	264	---	264	266	266	266	---	266	271	274*
1954	---	---	---	262	262	---	260	260	264	265	---	280*
1955	---	---	---	---	266	265	266	268	267	266	262	279*
1956	265	265	269	266	267	268	265	261	260	262	263	278
1957	264	263	270	---	270	269	---	264	263	264	259	275*
Mean	1.0264	1.0264	1.0264	1.0263	1.0264	1.0264	1.0264	1.0263	1.0264	1.0264	1.0265	
Density	35.5	35.5	35.5	35.4	35.5	35.5	35.5	35.4	35.5	35.5	35.4	
Salinity	1.0274	1.0272	1.0278	1.0274	1.0279	1.0274	1.0285	1.0281	1.0281	1.0281	1.0271	1.0285
Max.	1.0274	1.0272	1.0278	1.0274	1.0279	1.0274	1.0285	1.0281	1.0281	1.0281	1.0271	
Mean Max.	1.0268	1.0268	1.0269	1.0269	1.0269	1.0268	1.0271	1.0270	1.0272	1.0270	1.0267	
Mean Min.	1.0259	1.0260	1.0259	1.0257	1.0259	1.0260	1.0259	1.0258	1.0259	1.0260	1.0258	
Min.	1.0255	1.0257	1.0251	1.0251	1.0249	1.0249	1.0244	1.0247	1.0255	1.0258	1.0252	1.0244

*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.
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 Salinity	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	1.0296	
	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			
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
CALLAO (La Punta) , PERU															
1954	---	1.0263	1.0264	1.0262	1.0260	1.0257	1.0258	1.0257	1.0258	1.0259	1.0260	1.0260	---	1.0267*	1.0239*
1955	1.0261	257	260	262	261	259	262	266	265	265	266	266	1.0262	273	250
1956	268	265	262	261	263	263	---	263	263	265	265	265	---	273*	253*
1957	266	264	268	269	268	262	262	260	---	---	---	---	---	274*	254*
Mean Density Salinity	1.0265	1.0262	1.0264	1.0264	1.0263	1.0260	1.0261	1.0262	1.0262	1.0263	1.0264	1.0264	1.0263		
	35.7	35.3	35.5	35.5	35.4	35.0	35.1	35.3	35.3	35.4	35.5	35.5	35.4		

Max.	1.0273	1.0271	1.0274	1.0273	1.0270	1.0269	1.0265	1.0269	1.0267	1.0267	1.0267	1.0273	1.0272	1.0274
Mean Max.	1.0270	1.0268	1.0270	1.0268	1.0266	1.0265	1.0263	1.0264	1.0264	1.0264	1.0265	1.0267	1.0268	
Mean Min.	1.0261	1.0253	1.0258	1.0258	1.0258	1.0254	1.0258	1.0257	1.0259	1.0259	1.0259	1.0261	1.0259	
Min.	1.0258	1.0250	1.0254	1.0253	1.0253	1.0239	1.0255	1.0248	1.0255	1.0255	1.0257	1.0258	1.0257	1.0239
CHIMBOTE, PERU														
1955	1.0257	1.0258	1.0257	1.0259	1.0257	1.0257	1.0255	1.0257	1.0255	1.0255	1.0255	1.0256	1.0256	1.0262
1956	256	257	256	256	256	258	257	257	256	255	255	256	257	265
1957	257	255	256	255	257	258	256	256	257	256	255	256	256	260
Mean														
Density	1.0257	1.0257	1.0256	1.0257	1.0257	1.0258	1.0256	1.0257	1.0256	1.0255	1.0255	1.0256	1.0256	1.0256
Salinity	34.6	34.6	34.5	34.6	34.6	34.8	34.5	34.6	34.5	34.4	34.5	34.5	34.5	34.5
Max.	1.0260	1.0264	1.0262	1.0262	1.0261	1.0261	1.0265	1.0263	1.0259	1.0259	1.0258	1.0261	1.0261	1.0265
Mean Max.	1.0260	1.0261	1.0260	1.0260	1.0259	1.0260	1.0261	1.0261	1.0258	1.0257	1.0258	1.0260	1.0260	
Mean Min.	1.0254	1.0254	1.0253	1.0252	1.0254	1.0254	1.0254	1.0252	1.0253	1.0252	1.0253	1.0254	1.0254	
Min.	1.0254	1.0253	1.0251	1.0251	1.0254	1.0252	1.0253	1.0250	1.0251	1.0251	1.0251	1.0252	1.0252	1.0250
1944	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1945	1.0260	1.0259	1.0264	1.0270	1.0272	271	273	---	---	---	---	---	267	1.0275*1.0259*
1946	271	266	270	266	264	263	265	264	262	263	263	265	265	279*
1947	270	270	271	274	268	264	---	272	267	267	263	264	265	281*
1948	259	261	265	264	264	264	265	263	263	262	266	266	266	295*
1949	265	266	265	267	267	267	265	264	263	264	264	264	264	272
1950	267	264	263	267	264	264	264	266	265	263	266	265	265	274
1951	259	256	269	268	262	---	266	267	---	268	264	266	266	276
1952	263	262	260	264	265	264	263	261	---	---	256	258	258	279*
1953	256	253	251	255	259	260	259	261	259	265	259	---	---	271*
1954	264	258	259	262	261	260	259	260	261	---	---	---	---	270*
1955	---	262	258	260	261	260	261	260	261	263	261	260	260	270*
1956	259	259	261	263	264	264	261	261	260	260	260	259	259	278*
1957	258	255	253	259	261	262	---	263	262	263	260	260	263	275
														270*
														251*
														250
														241*

*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 -Continued															
Mean Density Salinity	1.0263 35.4	1.0261 35.1	1.0262 35.3	1.0265 35.7	1.0264 35.5	1.0264 35.5	1.0264 35.5	1.0264 35.5	1.0263 35.4	1.0264 35.5	1.0262 35.3	1.0264 35.5	1.0263 35.4	1.0295	1.0229
Max.	1.0280	1.0278	1.0281	1.0293	1.0277	1.0279	1.0276	1.0295	1.0274	1.0274	1.0273	1.0275			
Mean Max.	1.0270	1.0270	1.0270	1.0272	1.0269	1.0270	1.0268	1.0271	1.0269	1.0270	1.0270	1.0270			
Mean Min.	1.0255	1.0253	1.0254	1.0257	1.0259	1.0259	1.0259	1.0258	1.0258	1.0257	1.0255	1.0258			
Min.	1.0248	1.0244	1.0235	1.0229	1.0255	1.0253	1.0254	1.0253	1.0255	1.0251	1.0247	1.0252			
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*
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1955	---	256	262	265	266	262	262	264	261	260	257	256	---	275*	243*
1956	252	---	---	---	---	---	---	256	257	255	---	---	---	262*	242*
1957	---	253	251	257	258	261	255	255	254	252	250	256	---	269*	234*
Mean Density Salinity	1.0253 34.1	1.0255 34.4	1.0257 34.6	1.0262 35.3	1.0262 35.3	1.0260 35.0	1.0258 34.8	1.0259 34.9	1.0257 34.6	1.0254 34.2	1.0253 34.1	1.0254 34.2	1.0257 34.6	1.0300	1.0222
Max.	1.0264	1.0274	1.0278	1.0276	1.0280	1.0275	1.0286	1.0300	1.0272	1.0266	1.0262	1.0261			
Mean Max.	1.0260	1.0264	1.0265	1.0268	1.0268	1.0267	1.0269	1.0268	1.0262	1.0260	1.0259	1.0259			
Mean Min.	1.0247	1.0245	1.0248	1.0255	1.0256	1.0256	1.0251	1.0251	1.0253	1.0250	1.0249	1.0247			
Min.	1.0242	1.0234	1.0222	1.0243	1.0252	1.0248	1.0246	1.0247	1.0250	1.0246	1.0245	1.0237			

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															
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
1954	231	256	249	249	233	214	211	220	200	191	202	214	222	260	172
1955	230	237	256	255	249	225	218	207	191	180	182	200	219	260	121
1956	234	239	250	252	242	214	222	222	218	203	205	211	226	260	187
1957	230	248	255	258	246	242	233	233	229	219	217	227	236	261	203
Mean	1.0232	1.0246	1.0254	1.0255	1.0243	1.0226	1.0221	1.0223	1.0209	1.0201	1.0203	1.0213	1.0227	1.0267	
Density	31.4	33.2	34.2	34.4	32.8	30.6	29.9	30.2	28.4	27.3	27.6	28.9	30.7		
Salinity															
Max.	1.0258	1.0262	1.0262	1.0264	1.0267	1.0252	1.0238	1.0239	1.0235	1.0233	1.0236	1.0241		1.0267	
Mean Max.	1.0248	1.0255	1.0259	1.0260	1.0256	1.0241	1.0233	1.0233	1.0221	1.0218	1.0221	1.0228			
Mean Min.	1.0218	1.0238	1.0248	1.0250	1.0224	1.0210	1.0198	1.0207	1.0193	1.0174	1.0181	1.0187			
Min.	1.0207	1.0228	1.0239	1.0240	1.0206	1.0186	1.0154	1.0168	1.0175	1.0121	1.0134	1.0148		1.0121	
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
1954	226	232	251	259	256	256	253	239	236	235	---	---	---	268*	223*
1955	---	---	---	---	254	---	---	237	234	224	228	225	---	261*	155*
1956	224	235	239	247	246	245	237	231	229	220	219	219	233	264	196
1957	223	231	245	252	250	246	239	237	232	229	227	230	237	263	210

Mean Density Salinity	1.0229 31.0	1.0236 31.9	1.0244 32.9	1.0250 33.7	1.0251 33.8	1.0247 33.3	1.0240 32.4	1.0236 31.9	1.0235 31.8	1.0231 31.2	1.0230 31.1	1.0227 30.7	1.0238 32.1
Max.	1.0245	1.0251	1.0261	1.0266	1.0264	1.0268	1.0267	1.0260	1.0252	1.0253	1.0253	1.0240	1.0268
Mean Max.	1.0237	1.0242	1.0250	1.0258	1.0258	1.0256	1.0253	1.0248	1.0246	1.0242	1.0241	1.0234	
Mean Min.	1.0221	1.0229	1.0236	1.0244	1.0234	1.0233	1.0229	1.0228	1.0222	1.0206	1.0213	1.0217	
Min.	1.0210	1.0215	1.0222	1.0229	1.0220	1.0221	1.0218	1.0220	1.0200	1.0155	1.0199	1.0204	1.0155
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
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	286 231
1953	255	250	261	254	249	253	251	259	254	---	---	---	272* 217*
Mean Density Salinity	1.0259 34.9	1.0254 34.2	1.0258 34.8	1.0261 35.1	1.0255 34.4	1.0250 33.7	1.0254 34.2	1.0255 34.4	1.0257 34.6	1.0252 34.0	1.0254 34.2	1.0259 34.9	1.0256 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	291 127
1953	246	251	---	265	236	193	204	230	183	179	218	245	275* 135*
1954	255	259	266	270	220	180	189	214	---	---	224	241	278* 138*
1955	252	---	267	266	268	264	201	202	---	---	197	229	278* 131*
1956	244	---	---	265	252	199	223	---	194	---	225	243	276* 129*
1957	253	258	263	268	251	204	211	213	200	189	222	240	272 134

*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.
LA UNIÓN, EL SALVADOR -Continued															
Mean Density	1.0251	1.0260	1.0266	1.0267	1.0250	1.0209	1.0203	1.0215	1.0185	1.0179	1.0219	1.0239	1.0229		
Salinity	33.8	35.0	35.8	35.9	33.7	28.4	27.6	29.1	25.2	24.4	29.7	32.3	31.0		
Max.	1.0278	1.0291	1.0278	1.0278	1.0284	1.0275	1.0259	1.0243	1.0241	1.0215	1.0245	1.0259		1.0291	
Mean Max.	1.0267	1.0269	1.0274	1.0275	1.0272	1.0244	1.0229	1.0232	1.0224	1.0210	1.0236	1.0252			
Mean Min.	1.0241	1.0243	1.0260	1.0260	1.0217	1.0170	1.0166	1.0181	1.0141	1.0137	1.0186	1.0225			
Min.	1.0223	1.0208	1.0254	1.0253	1.0157	1.0127	1.0139	1.0144	1.0129	1.0134	1.0131	1.0217			1.0127
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
1954	251	253	255	257	253	238	234	236	234	224	244	248	244	262	168
1955	249	253	255	256	254	255	239	231	236	226	236	241	244	266	131
1956	234	250	251	255	255	240	239	243	238	231	239	240	243	266	214
1957	247	251	255	249	255	254	248	244	235	238	245	249	248	266	215
Mean Density	1.0249	1.0253	1.0256	1.0256	1.0255	1.0248	1.0240	1.0242	1.0236	1.0230	1.0242	1.0247	1.0246		
Salinity	33.6	34.1	34.5	34.5	34.4	33.5	32.4	32.7	31.9	31.1	32.7	33.3	33.2		
Max.	1.0264	1.0263	1.0266	1.0268	1.0266	1.0266	1.0264	1.0258	1.0254	1.0257	1.0262	1.0258		1.0268	
Mean Max.	1.0254	1.0258	1.0260	1.0261	1.0260	1.0258	1.0251	1.0250	1.0247	1.0246	1.0253	1.0252			
Mean Min.	1.0243	1.0246	1.0251	1.0251	1.0246	1.0232	1.0222	1.0214	1.0214	1.0206	1.0230	1.0240			
Min.	1.0227	1.0231	1.0244	1.0242	1.0238	1.0209	1.0201	1.0131	1.0193	1.0194	1.0219	1.0228			1.0131

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*
1954	262	258	1.0261	1.0259	260	255	251	257	246	---	---	---	---	---	275*	176*
1955	---	260	265	259	262	---	---	---	219	242	---	---	---	---	281*	158*
1956	---	---	---	---	---	---	---	252	250	---	---	252	---	---	265*	243*
1957	255	256	257	259	259	254	254	252	252	251	254	257	1.0255	---	262	245
Mean																
Density	1.0258	1.0258	1.0261	1.0259	1.0259	1.0252	1.0251	1.0252	1.0244	1.0248	1.0255	1.0256	1.0254			
Salinity	34.8	34.8	35.1	34.9	34.9	34.0	33.8	34.0	32.9	33.5	34.4	34.5	34.2			
Max.														1.0281		
Mean Max.																
Mean Min.																
Min.																1.0158
1950	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1951	1.0256	1.0258	1.0257	1.0258	1.0257	1.0252	1.0248	1.0252	1.0248	1.0250	1.0251	1.0254	---	---	1.0261*	1.0219*
1952	254	254	257	257	256	249	248	244	241	238	247	248	1.0252	---	267	193
1953	250	252	257	257	259	255	249	248	247	244	252	252	249	---	262	214
1954	255	255	257	257	259	---	---	248	241	236	250	---	252	---	262	200
													---	---	261*	155*
1955	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1956	253	255	256	257	256	245	247	248	241	245	251	253	251	---	271*	159*
1957	255	258	256	258	258	254	250	246	243	246	249	251	252	---	265	214
															265	192
Mean																
Density	1.0254	1.0255	1.0257	1.0257	1.0258	1.0253	1.0245	1.0248	1.0241	1.0243	1.0250	1.0252	1.0251			
Salinity	34.2	34.4	34.6	34.6	34.8	34.1	33.1	33.5	32.5	32.8	33.7	34.0	33.8			
Max.																
Mean Max.																
Mean Min.																
Min.																1.0155

ACAPULCO, MEXICO

*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.
MANZANILLO, MEXICO															
1953	---	---	---	1.0259	1.0260	1.0262	1.0265	1.0268	---	---	---	1.0265	---	1.0270*	1.0257*
1954	1.0270	1.0262	1.0260	264	264	260	265	261	1.0256	---	---	---	---	279*	253*
1955	---	---	---	---	---	259	258	---	239	1.0216	1.0232	244	---	263*	192*
1956	251	265	264	---	266	269	269	262	262	261	261	259	---	279*	238*
1957	261	265	261	263	271	262	263	258	254	257	254	253	1.0260	278	244
Mean															
Density	1.0261	1.0264	1.0262	1.0262	1.0265	1.0262	1.0264	1.0262	1.0253	1.0245	1.0249	1.0255	1.0258		
Salinity	35.1	35.5	35.3	35.3	35.7	35.3	35.5	35.3	34.1	33.1	33.6	34.4	34.8		
Max.	1.0279	1.0275	1.0270	1.0272	1.0278	1.0279	1.0277	1.0271	1.0265	1.0265	1.0265	1.0270		1.0279	
Mean Max.	1.0268	1.0269	1.0268	1.0267	1.0271	1.0269	1.0269	1.0268	1.0258	1.0255	1.0258	1.0262			
Mean Min.	1.0251	1.0259	1.0254	1.0258	1.0259	1.0256	1.0259	1.0258	1.0246	1.0233	1.0240	1.0246			
Min.	1.0238	1.0258	1.0252	1.0254	1.0257	1.0255	1.0254	1.0252	1.0227	1.0192	1.0214	1.0220			1.0192
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
1954	261	261	261	263	263	264	258	248	257	---	261	261	---	268*	216*
1955	259	261	263	262	262	264	256	255	211	248	260	262	255	271	036
1956	263	264	265	267	266	267	260	259	258	263	263	---	---	279*	243*
1957	---	259	258	260	260	261	260	255	---	258	---	---	---	271*	234*
Mean															
Density	1.0260	1.0261	1.0261	1.0263	1.0263	1.0264	1.0258	1.0255	1.0242	1.0256	1.0261	1.0261	1.0259		
Salinity	35.0	35.1	35.1	35.4	35.4	35.5	34.8	34.4	32.7	34.5	35.1	35.1	34.9		
Max.	1.0267	1.0269	1.0271	1.0279	1.0273	1.0273	1.0268	1.0263	1.0263	1.0271	1.0272	1.0266		1.0279	
Mean Max.	1.0266	1.0265	1.0268	1.0269	1.0270	1.0271	1.0267	1.0261	1.0261	1.0264	1.0266	1.0264			
Mean Min.	1.0256	1.0257	1.0257	1.0258	1.0258	1.0260	1.0241	1.0238	1.0152	1.0240	1.0257	1.0258			
Min.	1.0254	1.0255	1.0253	1.0253	1.0254	1.0255	1.0231	1.0216	1.0036	1.0216	1.0257	1.0258			1.0036

TOPOLOBAMPO, MEXICO

1956	---	1.0273	1.0274	1.0277	1.0283	---	1.0279	1.0278	1.0280	1.0278	1.0276	---	1.0288*	1.0265*
1957	1.0274	1.0276	276	278	280	281	1.0284	---	---	275	---	---	293*	260*

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	306	232	
1952	273	271	267	267	273	278	280	271	267	274	264	266	293	252	
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
1957	262	265	268	270	276	274	273	265	270	261	---	264	280*	250*	

Mean
Density
Salinity

1.0270	1.0269	1.0268	1.0274	1.0279	1.0276	1.0267	1.0270	1.0273	1.0269	1.0269	1.0271	36.4	1.0306	1.0232
36.3	36.2	36.0	36.0	36.8	37.5	37.1	35.9	36.3	36.7	36.2	36.2	36.2	1.0306	1.0232

Max.

Mean Max.

Mean Min.

Min.

PUERTO PEÑASCO, MEXICO

1952	---	---	---	---	---	---	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*
1954	1.0270	1.0270	271	276	275	274	273	274	275	275	271	1.0268	291	262
1955	266	267	270	271	---	273	273	---	274	274	269	269	286*	241*

Mean

Density

Salinity

1.0268	1.0268	1.0270	1.0272	1.0271	1.0272	1.0272	1.0272	1.0273	1.0272	1.0270	1.0268	1.0271	1.0291	1.0241
36.0	36.0	36.3	36.6	36.4	36.6	36.6	36.6	36.7	36.6	36.3	36.0	36.4	1.0291	1.0241

Max.

Mean Max.

Mean Min.

Min.

1.0275	1.0273	1.0278	1.0291	1.0283	1.0280	1.0285	1.0286	1.0286	1.0285	1.0275	1.0280	1.0271	1.0291	1.0241
1.0272	1.0272	1.0276	1.0282	1.0279	1.0279	1.0280	1.0278	1.0280	1.0281	1.0274	1.0276	1.0271	1.0291	1.0241
1.0262	1.0264	1.0265	1.0264	1.0265	1.0263	1.0266	1.0265	1.0268	1.0267	1.0266	1.0252	1.0271	1.0291	1.0241
1.0262	1.0263	1.0263	1.0258	1.0263	1.0258	1.0262	1.0263	1.0264	1.0265	1.0265	1.0241	1.0271	1.0291	1.0241

*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.
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*
1954	272	273	277	277	275	272	270	268	269	267	268	---	---	286*	259*
1955	---	268	269	270	270	272	---	271	264	265	266	266	---	283*	253*
1956	268	268	270	273	---	278	274	272	273	271	271	272	---	285*	259*
1957	271	273	273	269	271	271	272	269	270	269	269	---	---	286*	257*
Mean	1.0268	1.0269	1.0272	1.0272	1.0272	1.0272	1.0272	1.0269	1.0269	1.0269	1.0268	1.0267	1.0270	1.0302	1.0253
Density	36.0	36.2	36.6	36.6	36.6	36.6	36.6	36.2	36.2	36.2	36.0	35.9	36.3		
Salinity															
Max.	1.0280	1.0281	1.0286	1.0286	1.0286	1.0286	1.0285	1.0302	1.0280	1.0288	1.0282	1.0281			
Mean Max.	1.0274	1.0276	1.0280	1.0280	1.0280	1.0281	1.0280	1.0279	1.0274	1.0276	1.0275	1.0272			
Mean Min.	1.0263	1.0265	1.0266	1.0265	1.0264	1.0264	1.0265	1.0263	1.0263	1.0264	1.0261	1.0261			
Min.	1.0261	1.0261	1.0260	1.0257	1.0261	1.0259	1.0256	1.0256	1.0253	1.0261	1.0254	1.0253			
ENSENADA, MEXICO															
1956	---	---	---	---	---	1.0252	1.0251	1.0252	1.0251	1.0250	1.0250	1.0250	---	1.0259*	1.0243*
1957	1.0247	1.0249	1.0251	1.0251	1.0252	251	252	251	251	249	251	251	1.0250	262	241

* 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

Table 2. Corresponding Densities and Salinities
(Density at 15°C. -- Salinity in parts per 1000)

Den- sity	Sal- inity	Den- sity	Sal- inity	Den- sity	Sal- inity	Den- sity	Sal- inity	Den- sity	Sal- inity	Den- sity	Sal- inity
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.