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SURFACE WATER TEMPERATURES

AT SHORE STATIONS

United States West Coast

1965

Including surface salinities from
several stations and five-meter
temperatures and salinities at
Scripps Pier

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Approved for distribution:

W. A. Nierenberg
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INTRODUCTION

This report presents three groups of data observed at shoreline stations along the west coast of North America from the Strait of Juan de Fuca, Washington, to La Jolla, California, during 1965.

The first group of data consists of both temperature and salinity monthly means, ranges and standard deviations based on daily observations. The second group consists of single observations taken once a month.

Various agencies and volunteers have participated in the collection of these data. The agencies are: Hopkins Marine Station, U. S. Coast and Geodetic Survey, U. S. Coast Guard, the California State Park System, Pacific Gas and Electric Company, and Scripps Institution of Oceanography of the University of California, San Diego.

We are indebted to all volunteer observers and to staff members of Scripps who have tabulated the data and compiled the statistics.

All stations, excluding the U. S. Coast and Geodetic Survey stations, are maintained in cooperation with the Scripps Institution.

Temperatures are taken by obtaining a sample of water in a container, then measuring the temperature of the sample by immersion of a high-grade mercury thermometer supplied and calibrated by Scripps. Temperatures have been listed as reported with no attempt to screen or eliminate observers' errors.

Scripps Pier, S. E. Farallon Island, and Balboa, California, temperature readings are listed to $.01^{\circ}\text{C}$.

Readings for Avila, California, were listed to 1°F ; for Neah Bay, Washington, and Crescent City, California, to 0.5°F , and for Santa Monica, San Clemente, and Ventura, California, to 0.1°F . These Fahrenheit readings have been converted and are listed to the nearest $.05^{\circ}\text{C}$ equivalent. These conversions do not imply accuracy to $.05^{\circ}\text{C}$.

Temperature readings for all other stations are listed to 0.1°C .

The assumption is made that the thermometer accuracies are equivalent to the reading accuracies as noted.

Salinities for Scripps Pier, Blunts Reef, S. E. Farallon Island, Pacific Grove, Ventura, Balboa, and San Clemente are obtained from sea-water samples in special salinity bottles supplied by Scripps. Water samples are forwarded to Scripps once a month for determination by salinometer. Salinities are listed in hundredths of a part per thousand. Values of maximum salinities may possibly be in error owing to evaporation or contamination of the samples in the bottles.

Each month the U. S. Coast and Geodetic Survey sends to Scripps Institution daily temperature and density values from four tide stations which are located at Neah Bay, Washington, and at Crescent City, Avila and Santa Monica, California. The density values are obtained by hydrometer and are converted at Scripps to salinity values listed in tenths of a part per thousand.

Temperature readings and water samples are obtained from surf and sandy beaches, off rocky cliffs and ledges, over the sides of lightships and off piers, depending upon the station locations.

SURFACE-TEMPERATURE STATIONS
IN GEOGRAPHICAL ORDER

<u>Station Name</u>	<u>Position</u>	<u>Location</u>	<u>Sta. No.</u>	<u>Page</u>
<u>Washington</u>				
Neah Bay	48°22.0'N, 124°37.0'W	USCGS Tide Gauge Station Strait of Juan de Fuca		10
Umatilla Lightship	48°10.0'N, 124°50.0'W	Cape Flattery		10
<u>Oregon</u>				
Columbia River Lightship	46°11.0'N, 124°11.0'W	Mouth of Columbia River Astoria		10
<u>California</u>				
Crescent City	41°45.0'N, 124°12.0'W	USCGS Tide Gauge Station Crescent City		11
Blunts Reef Lightship	40°26.0'N, 124°30.0'W	Off Cape Mendocino		11
Mendocino	39°18.2'N, 123°48.2'W	Russian Gulch State Park near Mendocino		12
Fort Ross	38°30.7'N, 123°14.5'W	Fort Ross Historical Monument Sonoma County		12
Bodega Bay: north of	38°22.7'N, 123°04.9'W	Sonoma Coast State Park Sonoma County		12
Farallon Islands	37°42.0'N, 123°00.0'W	SE Farallon Island Light Station off San Francisco		13
Santa Cruz	36°57.8'N, 122°00.0'W	Twin Lakes Beach State Park		13
Pacific Grove	36°37.2'N, 121°54.2'W	Hopkins Marine Station Pacific Grove		14
Mussel Point	36°37.2'N, 121°54.2'W	Hopkins Marine Station Pacific Grove	2	23
Monterey Pier II	36°36.5'N, 121°53.6'W	Monterey	1	23
Moss Beach	36°36.5'N, 121°57.2'W	Monterey Peninsula Monterey County	3	23
Stillwater Cove	36°33.9'N, 121°56.5'W	Carmel Bay, Carmel	4	23
San Jose Creek	36°31.5'N, 121°55.6'W	Carmel Bay, Carmel	5	23
Point Lobos: north side	36°31.3'N, 121°56.3'W	Point Lobos Reserve State Park Whalers Cove	6	14, 23
Point Lobos: south side	36°30.8'N, 121°56.5'W	Point Lobos Reserve State Park Carmel	7	14, 23
Yankee Point: north of	36°29.7'N, 121°56.6'W	Monterey County	8	23
Yankee Point: south of	36°29.4'N, 121°56.6'W	Monterey County	9	23
Soberanes Point	36°27.3'N, 121°55.5'W	Monterey County	10	23
Garrapata Creek	36°25.2'N, 121°55.0'W	Monterey County	11	23
Rocky Creek	36°22.9'N, 121°54.2'W	Monterey County	12	23

<u>Station Name</u>	<u>Position</u>	<u>Location</u>	<u>Sta. No.</u>	<u>Page</u>
<u>California (cont.)</u>				
Little Sur	36°20.2'N, 121°53.5'W	Monterey County	13	23
Point Sur: north side	36°18.6'N, 121°53.8'W	Monterey County	14	23
Point Sur: south side	36°18.3'N, 121°53.7'W	Monterey County	15	23
Hot Springs Creek	36°07.5'N, 121°38.4'W	Monterey County	17	23
Gamboa Point: north of	36°03.3'N, 121°35.3'W	Monterey County	18	23
Gorda Cove	35°56.9'N, 121°28.7'W	Monterey County	19	23
Point Piedras Blancas: north of	35°40.5'N, 121°17.0'W	Near San Simeon	20	23
Point Piedras Blancas: east of	35°39.9'N, 121°15.6'W	Near San Simeon	21	23
Point Piedras Blancas: east of	35°39.9'N, 121°15.6'W	Light House Station		15
San Simeon Bay	35°38.6'N, 121°11.1'W	San Simeon	22	23
Santa Rosa Creek	35°34.2'N, 121°06.5'W	Near Cambria	23	23
Cayucos	35°26.8'N, 120°54.3'W	Cayucos	24	23
Morro Rock	35°22.2'N, 120°51.8'W	Morro Bay	25	23
Morro Bay	35°22.2'N, 120°51.3'W	Pacific Gas and Electric Plant		15
Morro Bay	35°22.1'N, 120°51.7'W	Morro Bay	26	23
Islay Creek	35°16.5'N, 120°53.4'W	Point Buchon	27	23
Avila	35°10.0'N, 120°44.0'W	USCGS Tide Gauge Station Port San Luis Obispo		15
Gaviota	34°28.2'N, 120°13.7'W	Gaviota Beach State Park Gaviota		16
Santa Barbara	34°24.3'N, 119°41.5'W	Harbor Department Santa Barbara		16
Ventura Marina	34°14.7'N, 119°15.8'W	Ventura County Small Boat Harbor		16
Point Dume: west of	34°01.4'N, 118°50.0'W	Zuma Beach County Park near Malibu		17
Santa Monica	34°00.0'N, 118°30.0'W	USCGS Tide Gauge Station Santa Monica		17
Point Vicente	33°44.6'N, 118°24.2'W	Marineland of the Pacific Palos Verdes		17
Balboa	33°36.0'N, 117°54.0'W	Newport Beach Pier Newport Beach		18
Dana Point: east of	33°27.7'N, 117°41.1'W	Doheny Beach State Park Dana Point		18
San Clemente	33°25.0'N, 117°37.0'W	San Clemente Beach State Park		19

<u>Station Name</u>	<u>Position</u>	<u>Location</u>	<u>Sta. No.</u>	<u>Page</u>
<u>California (cont.)</u> Oceanside	33°11.6'N, 117°23.1'W	Oceanside Pier Oceanside		19
La Jolla: Scripps Pier, surface	32°52.0'N, 117°15.3'W	Scripps Institution of Oceanography La Jolla		20
La Jolla: Scripps Pier, bottom	32°52.0'N, 117°15.3'W	Scripps Institution of Oceanography La Jolla		20

ALPHABETICAL LIST OF
SURFACE-TEMPERATURE STATIONS

<u>Station Name</u>	<u>Type of Data Collected</u>	<u>Agency</u>	<u>Page</u>
	1965		
Avila	TS ^{1/} d ^{2/}	USCGS	15
Balboa	TS d	SIO	18
Blunts Reef Lightship	TS d	USCG	11
Bodega Bay: north of	T ^{3/} d	CSP	12
Cayucos	T m ^{4/}	HMS	23
Columbia River Lightship	T d	USCG	10
Crescent City	TS d	USCGS	11
Dana Point: east of	T d	CSP	18
Farallon Islands	TS d	USCG	13
Fort Ross	T d	CSP	12
Gamboa Point: north of	T m	HMS	23
Garrapata Creek	T m	HMS	23
Gaviota	T d	CSP	16
Gorda Cove	T m	HMS	23
Hot Springs Creek	T m	SIO	23
Islay Creek	T m	HMS	23
La Jolla: Scripps Pier, surface	TS d	SIO	20
La Jolla: Scripps Pier, bottom	TS d	SIO	20
Little Sur	T m	HMS	23
Mendocino	T d	CSP	12
Monterey Pier II	T m	HMS	23
Morro Bay	T d	PG and E	15
Morro Bay	T m	HMS	23
Morro Rock	T m	HMS	23
Moss Beach	T m	HMS	23
Mussel Point	T m	HMS	23

^{1/}S: Surface salinities

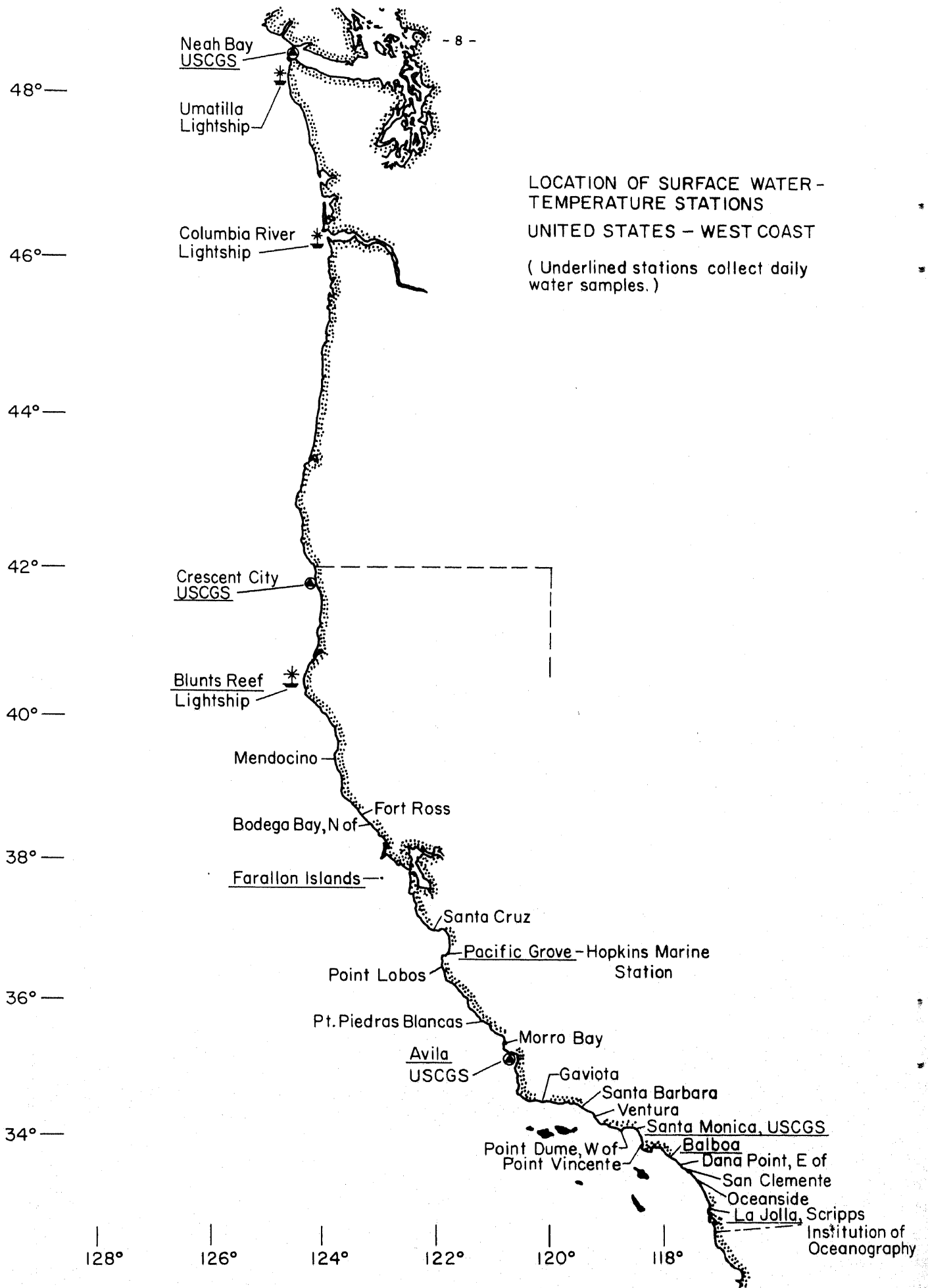
^{2/}d: Values taken daily

^{3/}T: Surface temperature

^{4/}m: Values taken once a month

<u>Station Name</u>	<u>Type of Data Collected</u>	<u>Agency</u>	<u>Page</u>
1965			
Neah Bay	TS d	USCGS	10
Oceanside	T d	SIO	19
Pacific Grove	TS d	HMS	14
Point Dume: west of	T d	SIO	17
Point Lobos: north side	T dm	HMS, CSP	14, 23
Point Lobos: south side	T dm	HMS, CSP	14, 23
Point Piedras Blancas: east of	T m	HMS	23
Point Piedras Blancas: east of	T d	USCG	15
Point Piedras Blancas: north of	T m	HMS	23
Point Sur: north side	T m	HMS	23
Point Sur: south side	T m	HMS	23
Point Vicente	T d	SIO	17
Rocky Creek	T m	HMS	23
San Clemente	TS d	SIO	19
San Jose Creek	T m	HMS	23
San Simeon Bay	T m	HMS	23
Santa Barbara	T d	SIO	16
Santa Cruz	T d	CSP	13
Santa Monica	TS d	USCGS	17
Santa Rosa Creek	T m	HMS	23
Soberanes Point	T m	HMS	23
Stillwater Cove	T m	HMS	23
Umatilla Lightship	T d	USCG	10
Ventura Marina	TS d	SIO	16
Yankee Point: north of	T m	HMS	23
Yankee Point: south of	T m	HMS	23

SIO: University of California, Scripps Institution of Oceanography, La Jolla, California
 CSP: California State Park System
 HMS: Hopkins Marine Station, Pacific Grove, California
 USCG: United States Coast Guard
 USCGS: United States Coast and Geodetic Survey
 PG and E: Pacific Gas and Electric Company



SHORELINE SURFACE WATER-TEMPERATURE DATA

For the daily stations, the data presented show the monthly means, ranges, and standard deviations. A code designates the number of observations from which the averages were computed. This code is as follows:

No Designation	25 or more observations in a month, or 23 or more in February.
S Scattered	Minimum of 5 observations per month with at least one in any 7-day period.
A-B-C	Minimum of 6 or more observations in any group during a 10-day period. These periods are: A, 1 to 10; B, 11 to 20; C, 21 to 30 or 31.

Means, maxima, minima, ranges and standard deviations are included for those months marked "S" but the values are listed in parentheses.

For values designated "A," "B," "C," or any combination of these letters, means, maxima and minima are listed in parentheses. Ranges and standard deviations are omitted.

Standard deviations included in this report were computed from the following formula:

$$\text{Standard Deviation} = \sqrt{\frac{\sum (x - \bar{x})^2}{N-1}}$$

T AND S DATA NEAH BAY

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	6.57	7.09	7.60	8.96	10.15	11.27	11.39	11.76	10.77	11.12	10.67	9.20	9.71		
Max.		7.80	7.80	8.90	12.20	11.65	13.05	14.15	14.15	13.05	12.20	11.65	12.20		14.15	
Min.	T	5.55	6.65	6.65	7.80	8.90	10.00	9.45	9.70	9.45	9.45	9.45	6.40			5.55
Range		2.25	1.15	2.25	4.40	2.75	3.05	4.70	4.45	3.60	2.75	2.20	5.80			
Std. Dev.		0.59	0.29	0.56	1.14	0.67	0.82	1.30	1.16	0.88	0.72	0.61	1.21			
No. Obs.		29	27	31	30	29	26	28	29	30	30	29	31			
Mean	1965	28.04	29.17	30.67	31.41	31.56	32.07	32.56	32.26	32.39	31.42	30.36	30.34	31.02		
Max.		30.7	30.6	32.7	32.4	32.5	32.7	33.0	32.9	33.3	33.0	31.5	31.1		33.3	
Min.	S	25.6	27.2	27.8	28.6	29.7	30.7	31.9	31.1	31.6	29.1	29.0	29.0			25.6
Range		5.1	3.4	4.9	3.8	2.8	2.0	1.1	1.8	1.7	3.9	2.5	2.1			
Std. Dev.		1.61	0.99	1.58	1.12	0.91	0.45	0.29	0.42	0.41	0.88	0.70	0.53			
No. Obs.		29	25	30	27	29	26	28	28	29	29	27	31			

T DATA UMATILLA LIGHTSHIP

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	7.75			8.97	9.67	(9.68)	12.38			12.37	12.33	10.35	-		
Max.		8.5			11.0	11.0	(10.2)	14.5			13.0	13.0	12.0		(14.5)	
Min.	T	6.8			8.0	8.5	(9.2)	10.2			10.5	11.0	8.9			(6.8)
Range		1.7			3.0	2.5	-	4.3			2.5	2.0	3.1			
Std. Dev.		0.46			0.97	0.71	-	0.85			0.66	0.47	0.80			
No. Obs.		31			30	31	6A	22			31	29	31			

T DATA COLUMBIA RIVER LIGHTSHIP

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	(8.42)	8.47	9.85	10.05	10.91	12.63	13.19	15.52	14.29	13.82	13.67	11.11	-		
Max.		(9.0)	10.0	10.6	10.6	13.6	14.6	15.2	17.0	16.5	16.0	14.1	13.0		(17.0)	
Min.	T	(8.0)	7.3	8.0	9.3	9.7	8.0	10.4	12.0	12.0	12.0	13.0	10.0			(7.3)
Range		(1.0)	2.7	2.6	1.3	3.9	6.6	4.8	5.0	4.5	4.0	1.1	3.0			
Std. Dev.		(0.38)	0.78	0.65	0.26	1.12	1.27	1.10	1.19	1.27	0.84	0.31	0.91			
No. Obs.		24S	27	31	30	31	30	31	31	30	29	28	31			

T AND S DATA

CRESENT CITY

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	(9.72)	(9.00)	(9.86)	(10.59)	(10.36)	(11.54)	(12.96)	(15.45)	(12.61)	(13.06)	(12.27)	(10.92)	-		
Max.		(14.70)	(10.00)	(11.10)	(13.05)	(12.50)	(12.80)	(13.90)	(16.65)	(15.30)	(13.90)	(13.05)	(12.80)		(16.65)	
Min.	T	(7.80)	(8.35)	(8.90)	(8.90)	(7.80)	(9.45)	(11.10)	(14.45)	(9.70)	(12.20)	(11.10)	(8.05)			(7.80)
Range		(6.90)	(1.65)	(2.20)	(4.15)	(4.70)	(3.35)	(2.80)	(2.20)	(5.60)	(1.70)	(1.95)	(4.75)			
Std. Dev.		(1.81)	(0.48)	(0.65)	(1.37)	(1.18)	(0.81)	(0.93)	(0.76)	(1.55)	(0.53)	(0.62)	(1.52)			
No. Obs.		11S	13S	17S	14S	14S	16S	14S	14S	19S	14S	12S	13S			
Mean	1965	(23.04)	(30.54)	(30.96)	(28.81)	(32.09)	(32.20)	(32.22)	(32.39)	(32.12)	(32.53)	(30.30)	(30.52)	-		
Max.		(28.9)	(33.6)	(33.3)	(33.6)	(34.0)	(33.8)	(32.9)	(33.0)	(33.4)	(33.3)	(32.4)	(32.3)		(34.0)	
Min.	S	(19.4)	(28.4)	(27.1)	(17.1)	(26.3)	(30.4)	(31.2)	(31.5)	(30.8)	(31.8)	(28.6)	(22.7)			(17.1)
Range		(9.5)	(5.2)	(6.2)	(16.5)	(7.7)	(3.4)	(1.7)	(1.5)	(2.6)	(1.5)	(3.8)	(9.6)			
Std. Dev.		(2.85)	(1.85)	(1.63)	(4.96)	(2.10)	(1.10)	(0.63)	(0.48)	(0.85)	(0.39)	(1.23)	(2.52)			
No. Obs.		11S	13S	17S	14S	14S	16S	14S	14S	19S	14S	12S	13S			

T AND S DATA

BLUNTS REEF LIGHTSHIP

	YEAR	JAN.	FEB.	MAR.	APR.	MAY.	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	11.07	9.10	10.02	10.37	9.00	9.38	9.98	12.02		12.33	13.66	12.50	-		
Max.		11.8	10.8	11.0	11.7	10.5	10.1	11.5	15.0		14.0	15.5	15.0		(15.5)	
Min.	T	10.0	7.2	8.9	9.2	6.9	8.6	8.5	10.0		10.8	11.2	10.2			(6.9)
Range		1.8	3.6	2.1	2.5	3.6	1.5	3.0	5.0		3.2	4.3	4.8			
Std. Dev.		0.40	0.87	0.46	0.83	0.80	0.52	0.95	1.01		0.99	1.12	1.46			
No. Obs.		31	28	31	30	31	30	31	31		31	30	31			
Mean	1965	31.99	33.26	33.01	32.76	33.88	33.92	33.89	33.54		(33.68)	32.55	32.80	-		
Max.		32.87	34.17	33.55	33.30	34.25	34.09	34.20	33.96		(34.27)	33.26	33.22		(34.27)	
Min.	S	28.62	32.31	32.59	31.74	33.34	33.53	33.39	32.94		(32.34)	29.38	32.44			(28.62)
Range		4.25	1.86	0.96	1.56	0.91	0.56	0.81	1.02		(1.93)	3.88	0.78			
Std. Dev.		1.02	0.61	0.27	0.37	0.24	0.16	0.19	0.26		(0.39)	0.89	0.22			
No. Obs.		30	27	30	30	27	28	30	29		22S	30	30			

T DATA MENDOCINO

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	(10.79)	(9.51)	(10.08)	10.63	8.71	9.89	10.53	(11.77)	12.03	(11.71)	(13.90)	11.81	-		
Max.		(11.4)	(10.2)	(11.0)	12.0	9.9	11.1	12.1	(12.5)	13.2	(12.6)	(15.0)	13.9		(15.0)	
Min.	T	(10.2)	(8.6)	(9.2)	9.7	8.1	8.4	9.6	(11.0)	11.1	(10.7)	(12.2)	9.8			(8.1)
Range		(1.2)	-	(1.8)	2.3	1.8	2.7	2.5	(1.5)	2.1	-	-	4.1			
Std. Dev.		(0.36)	-	(0.46)	0.72	0.47	0.50	0.81	(0.52)	0.61	-	-	1.44			
No. Obs.		24S	20ABC	24S	26	29	28	27	11S	24	15C	19AC	28			

T DATA FORT ROSS

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	10.58	9.76	10.18	10.54	8.75	9.99	11.10	11.28	13.02	12.30	13.55	12.52	11.13		
Max.		11.2	10.7	11.0	12.3	10.0	12.2	14.7	13.6	14.7	14.5	14.8	13.9		14.8	
Min.	T	9.9	9.0	9.2	9.5	7.7	8.4	9.0	9.5	12.1	10.5	12.3	11.0			7.7
Range		1.3	1.7	1.8	2.8	2.3	3.8	5.7	4.1	2.6	4.0	2.5	2.9			
Std. Dev.		0.39	0.45	0.52	0.78	0.53	1.03	1.58	1.21	0.66	1.17	0.60	0.95			
No. Obs.		28	28	31	30	29	29	30	31	29	31	29	29			

T DATA BODEGA BAY: north of

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	10.84	9.96	10.49	(10.58)	9.14	10.49	11.43	11.80	13.35	12.54	13.48	12.22	-		
Max.		11.4	11.7	11.4	(12.4)	12.4	12.4	14.6	14.5	14.5	14.5	14.7	13.5		(14.7)	
Min.	T	10.4	8.9	9.5	(9.0)	7.9	9.3	9.4	10.4	11.9	10.8	12.8	10.6			(7.9)
Range		1.0	2.8	1.9	(3.4)	4.5	3.1	5.2	4.1	2.6	3.7	1.9	2.9			
Std. Dev.		0.23	0.66	0.58	(0.90)	0.84	0.89	1.57	1.11	0.71	1.11	0.45	0.76			
No. Obs.		29	28	30	24S	29	30	30	31	30	31	30	31			

T AND S DATA FARALLON ISLANDS

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	10.94	10.18	(10.78)		11.01	11.61	12.25	13.88	14.56	14.43	14.66	12.68	-		
Max.		12.15	11.10	(11.55)		13.35	15.00	14.70	14.30	15.60	15.50	15.60	14.10		(15.60)	
Min.	T	9.90	9.80	(10.03)		10.02	10.10	10.00	12.50	13.80	13.00	13.50	10.00			(9.80)
Range		2.25	1.30	-		3.33	4.90	4.70	1.80	1.80	2.50	2.10	4.10			
Std. Dev.		0.50	0.31	-		0.89	0.97	1.34	0.37	0.44	0.87	0.61	1.14			
No. Obs.		31	28	15A		25	30	30	31	30	31	30	31			
Mean	1965	30.12	32.80	33.19	33.12	(33.92)	33.90	33.46	33.62	33.50	33.32	33.14	33.03	-		
Max.		33.95	33.50	33.60	33.38	(34.08)	34.28	33.90	34.15	33.85	33.53	33.60	33.42		(34.28)	
Min.	S	23.69	30.56	32.42	32.26	(33.62)	33.28	31.00	33.37	33.39	33.06	32.71	32.80			(23.69)
Range		10.26	2.94	1.18	1.12	(0.46)	1.00	2.90	0.78	0.46	0.47	0.89	0.62			
Std. Dev.		2.71	0.88	0.26	0.28	(0.11)	0.18	0.53	0.14	0.08	0.17	0.13	0.24			
No. Obs.		31	27	30	29	22S	28	31	29	30	30	30	31			

T DATA SANTA CRUZ

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	11.49	11.49	12.26	12.98	12.67	13.32	15.41	15.71	15.25	14.52	13.97	12.70	13.48		
Max.		12.0	12.0	13.0	15.1	14.9	14.5	17.2	16.3	16.2	16.0	14.4	13.6		17.2	
Min.	T	10.8	11.0	11.7	11.3	10.1	12.3	14.2	14.5	14.6	13.2	13.4	11.5			10.1
Range		1.2	1.0	1.3	3.8	4.8	2.2	3.0	1.8	1.6	2.8	1.0	2.1			
Std. Dev.		0.36	0.31	0.29	1.09	1.25	0.52	0.52	0.43	0.46	0.76	0.30	0.75			
No. Obs.		28	28	31	30	31	30	31	31	30	31	29	31			

T AND S DATA PACIFIC GROVE

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	11.72	11.56	12.30	13.13	12.36	12.87	14.44	15.00	15.48	14.30	13.81	13.13	13.34		
Max.		12.6	12.1	13.5	14.8	13.2	14.5	16.2	15.7	16.7	15.3	14.7	14.2		16.7	
Min.	T	10.6	10.9	11.4	11.3	11.4	11.1	13.1	13.9	14.0	12.8	12.8	12.2			10.6
Range		2.0	1.2	2.1	3.5	1.8	3.4	3.1	1.8	2.7	2.5	1.9	2.0			
Std. Dev.		0.47	0.32	0.47	1.15	0.57	0.77	0.82	0.54	0.60	0.73	0.50	0.64			
No. Obs.		31	28	31	30	31	30	31	31	30	31	30	31			
Mean	1965	33.26	33.50	33.31	33.12	33.69	33.64	33.36	33.51	33.42	33.21	33.32	33.37	33.39		
Max.		33.52	33.74	33.67	33.28	34.01	33.96	33.90	33.93	33.61	33.78	33.61	33.66		34.01	
Min.	S	32.48	33.19	31.20	32.79	32.80	31.97	31.72	31.37	33.31	29.51	32.83	32.85			29.51
Range		1.04	0.55	2.47	0.49	1.21	1.99	2.18	2.56	0.30	4.27	0.78	0.81			
Std. Dev.		0.20	0.14	0.42	0.10	0.27	0.40	0.48	0.45	0.08	0.97	0.20	0.17			
No. Obs.		31	28	30	29	30	30	30	31	30	31	29	31			

T DATA POINT LOBOS: north side

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	11.54	11.02	11.72	12.14	11.35	12.08	13.23	13.87	14.84	13.34	13.84	13.30	12.69		
Max.		12.9	11.9	12.2	13.9	12.2	13.5	15.5	15.6	16.0	14.9	14.9	14.5		16.0	
Min.	T	10.5	10.2	10.8	10.9	9.7	10.1	11.4	12.7	13.5	12.3	12.7	11.9			9.7
Range		2.4	1.7	1.4	3.0	2.5	3.4	4.1	2.9	2.5	2.6	2.2	2.6			
Std. Dev.		0.68	0.47	0.32	0.62	0.61	0.75	1.12	0.81	0.62	0.71	0.58	0.72			
No. Obs.		29	27	29	29	31	29	30	31	30	30	29	30			

T DATA POINT LOBOS: south side

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	11.62	10.99	11.47	11.56	10.35	11.41	12.30	12.37	14.08	12.64	13.84	13.49	12.18		
Max.		12.7	11.9	12.2	13.0	11.6	13.0	14.3	13.9	15.3	14.1	15.0	14.5		15.3	
Min.	T	10.3	10.1	10.5	10.2	9.2	10.0	10.6	11.6	13.0	11.1	12.7	12.2			9.2
Range		2.4	1.8	1.7	2.8	2.4	3.0	3.7	2.3	2.3	3.0	2.3	2.3			
Std. Dev.		0.64	0.49	0.42	0.76	0.64	0.70	1.00	0.53	0.65	0.83	0.63	0.57			
No. Obs.		30	27	29	29	31	29	30	31	30	30	29	30			

T DATA PIEDRAS BLANCAS: east of

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	11.94	(11.61)	(11.87)		(10.82)	11.51	11.43	11.79	(13.83)	(13.75)	(14.04)	(14.58)	-		
Max.		12.8	(12.1)	(12.5)		(13.4)	12.4	11.9	13.4	(15.6)	(14.8)	(15.1)	(15.8)		(15.8)	
Min.	T	10.9	(11.1)	(11.5)		(10.1)	10.9	11.0	11.1	(12.9)	(12.9)	(12.2)	(13.2)			(10.1)
Range		1.9	(1.0)	(1.0)		-	1.5	0.9	2.3	(2.7)	-	(2.9)	(2.6)			
Std. Dev.		0.45	(0.41)	(0.34)		-	0.47	0.29	0.53	(0.61)	-	(0.82)	(0.55)			
No. Obs.		26	13S	9S		18BC	29	31	27	21S	15AB	16S	17S			

T DATA MORRO BAY

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	11.35	11.32	11.99	12.32	11.90	12.99	13.81	14.60	14.89	13.90	14.37	13.51	13.08		
Max.		12.2	12.2	12.8	15.0	13.8	15.0	16.1	16.7	16.7	15.0	15.6	14.4		16.7	
Min.	T	10.0	11.1	11.1	11.7	10.6	11.7	11.1	12.2	12.8	11.7	13.3	12.2			10.0
Range		2.2	1.1	1.7	3.3	3.2	3.3	5.0	4.5	3.9	3.3	2.3	2.2			
Std. Dev.		0.58	0.39	0.51	0.77	1.00	0.93	1.44	1.31	0.95	0.74	0.72	0.71			
No. Obs.		31	28	31	30	31	30	31	31	30	31	30	31			

T AND S DATA AVILA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	(12.22)	12.35	13.36	14.21	13.15	13.71	15.50	16.43	16.68	16.14	15.37		-		
Max.		(13.35)	13.90	15.00	17.20	17.20	16.10	18.35	18.35	17.80	17.80	16.10			(18.35)	
Min.	T	(11.10)	11.65	12.20	12.20	10.55	11.10	13.35	15.00	15.00	15.00	15.00				(10.55)
Range		-	2.25	2.80	5.00	6.65	5.00	5.00	3.35	2.80	2.80	1.10				
Std. Dev.		-	0.63	0.66	1.35	1.53	1.18	1.07	0.91	0.81	0.82	0.37				
No. Obs.		21BC	28	31	30	31	30	31	31	30	31	28				
Mean	1965	(31.63)	32.56	33.22	32.13	(33.77)	33.74	33.84	33.83	33.62	33.07	32.00		-		
Max.		(33.6)	34.0	34.1	33.8	(34.2)	34.2	34.2	34.2	34.1	33.4	34.2			(34.2)	
Min.	S	(23.0)	29.1	31.1	27.2	(33.3)	33.2	33.2	33.3	33.0	32.7	26.1				(23.0)
Range		-	4.9	3.0	6.6	(0.9)	1.0	1.0	0.9	1.1	0.7	8.1				
Std. Dev.		-	1.11	0.78	1.88	(0.24)	0.26	0.24	0.26	0.26	0.22	1.47				
No. Obs.		18BC	25	29	28	21S	25	27	29	30	31	28				

T DATA GAVIOTA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	12.12	12.74	13.59	13.43	12.93	14.35	16.23	17.92	17.72	16.87	16.46	15.00	14.95		
Max.		12.9	14.0	14.9	15.9	15.3	15.8	17.5	20.6	19.1	18.2	18.8	16.1		20.6	
Min.	T	11.5	11.8	11.5	12.1	10.5	12.4	13.1	15.8	14.8	15.0	15.4	13.6			10.5
Range		1.4	2.2	3.4	3.8	4.8	3.4	4.4	4.8	4.3	3.2	3.4	2.5			
Std. Dev.		0.40	0.47	0.77	1.05	1.57	0.92	1.02	1.70	1.07	0.97	0.59	0.67			
No. Obs.		31	28	31	30	31	30	31	31	30	31	30	31			

T DATA SANTA BARBARA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	12.84	13.44	14.85	15.46	15.55	15.28	16.67	18.34	18.34	17.38	16.76	14.83	15.81		
Max.		13.8	14.9	15.8	18.8	16.8	17.2	17.6	20.2	19.5	18.8	17.6	16.5		20.2	
Min.	T	11.7	12.4	14.2	13.3	14.0	14.3	15.9	16.4	17.2	15.4	16.0	12.9			11.7
Range		2.1	2.5	1.6	5.5	2.8	2.9	1.7	3.8	2.3	3.4	1.6	3.6			
Std. Dev.		0.56	0.70	0.36	1.76	0.77	0.87	0.43	1.17	0.65	0.89	0.53	1.09			
No. Obs.		31	28	30	30	29	29	31	31	29	29	29	29			

T AND S DATA VENTURA MARINA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	12.39	13.35	15.08	15.25	16.01	16.33	17.38	19.21	19.09	17.25	16.37	14.32	16.00		
Max.		13.35	14.45	16.10	17.80	16.95	17.20	18.35	20.85	20.00	18.05	17.50	15.55		20.85	
Min.	T	11.10	12.20	13.90	12.20	14.70	15.00	16.10	15.85	18.35	15.85	14.45	12.20			11.10
Range		2.25	2.25	2.20	5.60	2.25	2.20	2.25	5.00	1.65	2.20	3.05	3.35			
Std. Dev.		0.56	0.65	0.61	1.99	0.48	0.63	0.52	1.60	0.50	0.61	0.67	1.05			
No. Obs.		31	28	31	30	31	30	31	31	30	31	30	31			
Mean	1965	33.42	33.51	33.46	32.69	33.49	33.59	33.51	33.36	33.37	33.40	30.71	32.13	33.05		
Max.		33.65	33.63	33.64	34.02	33.63	33.65	33.64	33.62	33.50	33.63	33.49	33.41		34.02	
Min.	S	33.08	33.37	33.21	28.74	33.37	33.51	33.38	32.25	33.08	33.02	21.40	18.23			18.23
Range		0.57	0.26	0.43	5.28	0.26	0.14	0.26	1.37	0.42	0.61	12.09	15.18			
Std. Dev.		0.14	0.07	0.10	1.10	0.07	0.03	0.06	0.28	0.11	0.11	4.10	3.39			
No. Obs.		31	28	31	29	30	30	30	31	30	31	29	31			

T DATA POINT DUME: west of

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	12.71	13.03	14.35	14.53	15.38	15.00	15.94	19.25	17.64	16.88	16.09	14.93	15.48		
Max.		13.7	14.2	15.7	17.4	16.3	17.6	16.9	21.1	19.6	18.1	16.7	16.0		21.1	
Min.	T	11.8	12.0	12.4	12.2	13.4	12.2	13.9	16.4	16.0	16.0	15.4	13.6			11.8
Range		1.9	2.2	3.3	5.2	2.9	5.4	3.0	4.7	3.6	2.1	1.3	2.4			
Std. Dev.		0.58	0.54	0.65	1.42	0.73	1.43	0.78	1.40	0.98	0.73	0.43	0.52			
No. Obs.		31	28	31	30	30	30	31	31	29	31	31	31			

T AND S DATA SANTA MONICA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	12.85	13.22	14.73	15.38	16.30	16.75	18.12	19.46	19.35	18.10	17.57		-		
Max.		13.65	14.45	15.30	18.70	17.70	18.05	19.50	22.80	21.40	19.10	18.60			(22.80)	
Min.	T	11.90	12.20	14.35	13.90	14.50	15.55	16.10	16.65	17.10	16.65	16.15				(11.90)
Range		1.75	2.25	0.95	4.80	3.20	2.50	3.40	6.15	4.30	2.45	2.45				
Std. Dev.		0.48	0.56	0.27	1.36	0.95	0.79	1.01	1.35	1.27	0.63	0.55				
No. Obs.		31	28	31	30	31	29	26	31	26	31	29				
Mean	1965	33.67	(33.83)	33.91	33.63	33.96	33.78	(33.54)	(33.54)	33.37	33.34	32.95		-		
Max.		34.2	(34.2)	34.2	34.2	34.2	34.2	(34.2)	(34.2)	33.8	33.7	33.6			(34.2)	
Min.	S	32.9	(33.6)	33.4	30.7	33.6	33.0	(30.8)	(32.3)	32.9	32.9	30.0				(30.0)
Range		1.3	(0.6)	0.8	3.5	0.6	1.2	(3.4)	-	0.9	0.8	3.6				
Std. Dev.		0.40	(0.19)	0.21	0.63	0.17	0.36	(0.70)	-	0.27	0.18	0.83				
No. Obs.		26	22S	29	30	30	28	19S	18AB	25	31	29				

T DATA POINT VICENTE

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965		(13.37)					(14.94)	(18.83)	(18.85)	(18.16)	(17.36)	(16.01)	-		
Max.			(13.6)					(16.2)	(20.4)	(20.7)	(20.2)	(17.9)	(16.8)		(20.7)	
Min.	T		(12.9)					(14.1)	(15.6)	(18.0)	(16.0)	(16.7)	(15.1)			(12.9)
Range			-					(2.1)	(4.8)	(2.7)	(4.2)	(1.2)	(1.7)			
Std. Dev.			-					(0.81)	(1.62)	(0.70)	(0.97)	(0.53)	(0.71)			
No. Obs.			7B					5S	7S	10S	14S	5S	7S			

T AND S DATA BALBOA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	13.34	13.47	15.35	15.90	17.33	16.33	16.65	20.21	18.46	17.70	17.42	15.66	16.49		
Max.		14.20	15.00	16.11	18.45	18.11	17.70	18.70	22.70	21.50	18.50	18.90	16.72		22.70	
Min.	T	12.74	12.40	14.40	14.05	16.20	13.10	15.00	15.80	16.00	16.11	16.00	14.61			12.40
Range		1.46	2.60	1.71	4.40	1.91	4.60	3.70	6.90	5.50	2.39	2.90	2.11			
Std. Dev.		0.45	0.52	0.41	1.33	0.42	1.09	0.95	1.94	1.48	0.68	0.57	0.75			
No. Obs.		31	28	31	29	30	30	31	31	30	31	30	31			
Mean	1965	33.51	33.53	33.50	33.19	33.58	33.67	33.67	33.76	33.62	33.59	33.33	33.29	33.52		
Max.		33.65	33.61	33.65	33.61	33.83	33.98	33.81	33.94	34.02	33.75	33.62	33.48		34.02	
Min.	S	33.37	33.23	33.16	31.60	33.33	33.51	33.42	33.55	33.50	33.50	31.52	32.46			31.52
Range		0.28	0.38	0.49	2.01	0.50	0.47	0.39	0.39	0.52	0.25	2.10	1.02			
Std. Dev.		0.07	0.07	0.11	0.46	0.10	0.09	0.10	0.09	0.13	0.06	0.39	0.18			
No. Obs.		30	26	31	29	29	30	29	31	26	27	29	30			

T DATA DANA POINT: east of

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	12.24	12.94	14.76	15.54	17.81	16.80	16.95	21.13	18.65	18.02	16.69	14.21	16.31		
Max.		14.0	14.0	16.5	18.1	19.3	19.2	19.1	23.6	21.0	18.9	17.9	16.0		23.6	
Min.	T	10.2	11.7	13.4	14.1	16.8	14.2	14.8	16.5	16.8	16.9	14.6	11.9			10.2
Range		3.8	2.3	3.1	4.0	2.5	5.0	4.3	7.1	4.2	2.0	3.3	4.1			
Std. Dev.		1.02	0.54	0.78	1.22	0.64	1.46	1.21	1.85	1.20	0.48	0.85	1.14			
No. Obs.		30	27	30	30	31	28	31	31	30	31	27	31			

T AND S DATA SAN CLEMENTE

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965							16.77	20.70	18.76	18.48	17.01	15.37	-		
Max.								18.2	23.0	20.3	20.0	18.6	16.7		(23.0)	
Min.	T							14.1	16.4	17.1	17.4	16.4	14.5			(14.1)
Range								4.1	6.6	3.2	2.6	2.2	2.2			
Std. Dev.								0.84	1.84	1.00	0.50	0.46	0.75			
No. Obs.								31	31	30	31	30	31			
Mean	1965							33.69	33.74	33.68	33.63	33.33	33.30	-		
Max.								34.02	33.83	34.11	33.79	33.67	33.48		(34.11)	
Min.	S							33.61	33.61	33.56	33.55	31.49	32.96			(31.49)
Range								0.41	0.22	0.55	0.24	2.18	0.52			
Std. Dev.								0.07	0.07	0.11	0.06	0.43	0.16			
No. Obs.								30	31	30	31	30	31			

T DATA OCEANSIDE

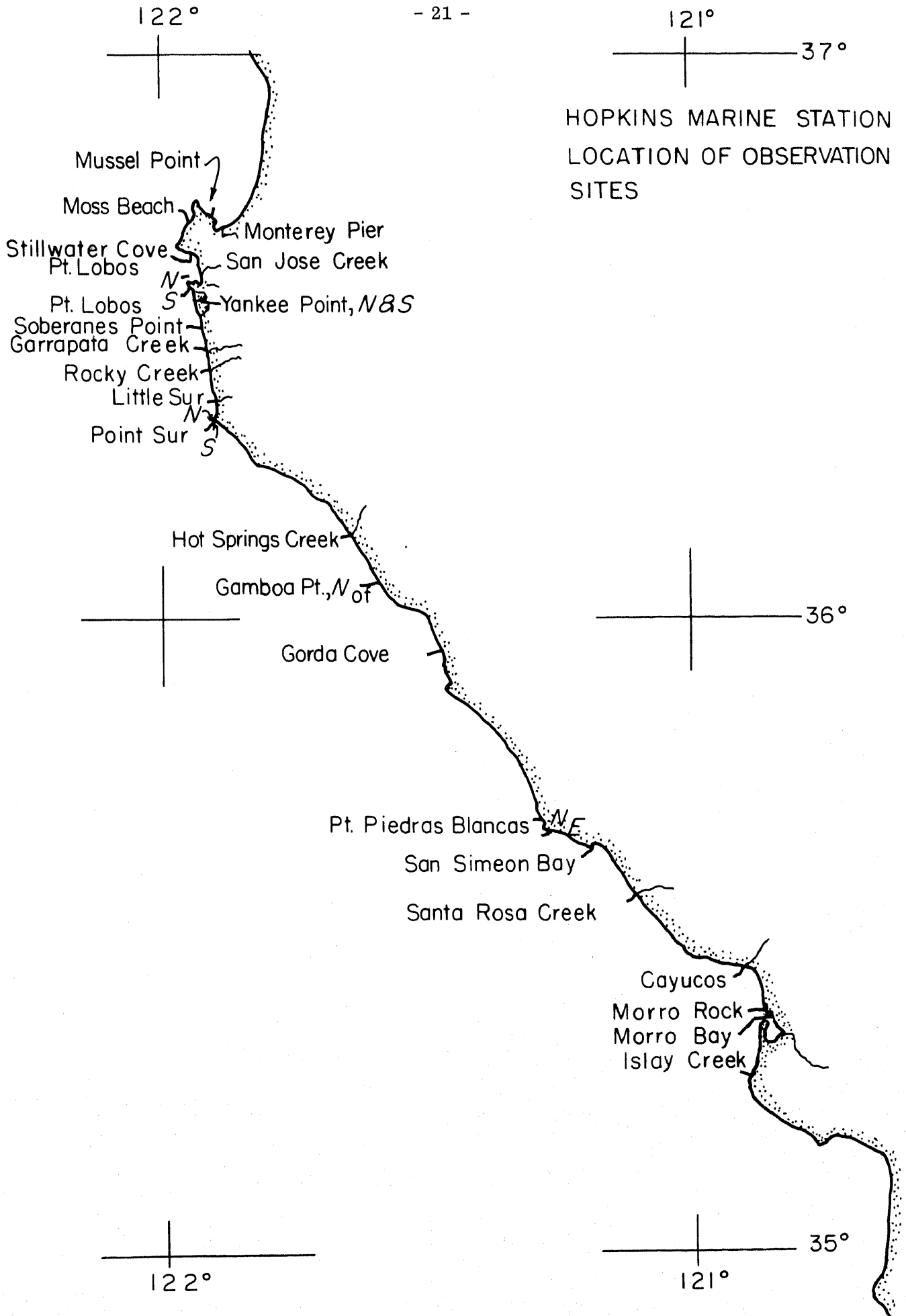
	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	12.94	13.42	15.04	15.60	17.75	16.96	16.93	21.32	18.39	18.12	16.95	15.56	16.58		
Max.		14.0	14.2	15.8	16.6	18.4	18.2	18.6	25.0	20.1	20.0	18.0	16.5		25.0	
Min.	T	12.2	12.5	13.8	14.4	16.9	14.6	13.4	16.8	15.9	16.9	15.5	14.5			12.2
Range		1.8	1.7	2.0	2.2	1.5	3.6	5.2	8.2	4.2	3.1	2.5	2.0			
Std. Dev.		0.48	0.33	0.52	0.72	0.32	0.96	1.38	1.90	0.99	0.76	0.73	0.65			
No. Obs.		31	28	31	30	31	30	31	31	30	31	30	31			

T AND S DATA LA JOLLA: end of Scripps Pier, surface

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	13.07	13.39	14.48	15.78	17.47	16.89	17.23	20.66	18.85	18.07	16.89	15.42	16.52		
Max.		13.80	14.28	15.55	18.38	18.22	18.15	19.30	23.10	20.30	19.58	18.17	16.25		23.10	
Min.	T	12.28	12.40	13.40	14.30	16.40	14.90	14.37	17.98	17.10	15.70	15.34	14.35			12.28
Range		1.52	1.88	2.15	4.08	1.82	3.25	4.93	5.12	3.20	3.88	2.83	1.90			
Std. Dev.		0.38	0.40	0.65	1.16	0.47	0.84	1.61	1.38	0.87	0.87	0.70	0.65			
No. Obs.		31	28	31	30	31	30	31	31	30	31	30	31			
Mean	1965	33.59	33.57	33.58	33.48	33.64	33.72	33.71	33.72	33.66	33.64	33.44	33.32	33.59		
Max.		33.64	33.66	33.66	33.58	33.75	33.94	33.76	33.83	33.84	33.79	33.74	33.46		33.94	
Min.	S	33.54	33.48	33.46	33.30	33.50	33.54	33.64	33.64	33.59	33.51	32.95	33.12			32.95
Range		0.10	0.18	0.20	0.28	0.25	0.40	0.12	0.19	0.25	0.28	0.79	0.34			
Std. Dev.		0.02	0.04	0.04	0.06	0.06	0.08	0.04	0.05	0.05	0.05	0.21	0.08			
No. Obs.		31	28	31	30	31	30	31	31	30	31	29	31			

T AND S DATA LA JOLLA: end of scripps Pier, 5-meter bottom

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1965	13.10	13.40	14.40	15.46	17.35	16.25	15.74	19.55	18.13	17.64	16.83	15.48	16.11		
Max.		13.80	14.20	15.40	18.05	18.20	18.15	19.00	22.45	19.58	19.25	18.05	16.30		22.45	
Min.	T	12.25	12.70	12.95	14.10	15.58	12.80	13.00	16.52	15.62	15.30	15.58	14.46			12.25
Range		1.55	1.50	2.45	3.95	2.62	5.35	6.00	5.93	3.96	3.95	2.47	1.84			
Std. Dev.		0.38	0.36	0.67	0.94	0.55	1.60	1.62	1.91	1.23	1.11	0.66	0.65			
No. Obs.		31	28	31	30	28	30	31	31	30	31	30	31			
Mean	1965	33.57	33.55	33.57	33.48	33.63	33.69	33.67	33.70	33.60	33.60	33.43	33.30	33.57		
Max.		33.65	33.60	33.68	33.66	33.80	33.88	33.75	33.93	33.73	33.82	33.64	33.48		33.93	
Min.	S	33.51	33.48	33.52	33.31	33.46	33.53	33.48	33.60	33.45	33.41	33.06	33.11			33.06
Range		0.14	0.12	0.16	0.35	0.34	0.35	0.27	0.33	0.28	0.41	0.58	0.37			
Std. Dev.		0.03	0.04	0.03	0.07	0.07	0.06	0.05	0.07	0.06	0.09	0.16	0.08			
No. Obs.		31	28	31	30	27	30	31	30	30	30	30	31			



HOPKINS MARINE STATION
LOCATION OF OBSERVATION
SITES

SHORELINE SURFACE WATER-TEMPERATURE DATA BETWEEN
MONTEREY, CALIFORNIA, AND POINT BUCHON, CALIFORNIA

(Taken by Hopkins Marine Station of Stanford University)

Once a month temperature measurements were made at selected sites along the California coast from Monterey to Morro Bay by personnel from the Hopkins Marine Station at Pacific Grove, California.

These temperature values were measured with high-grade bucket thermometers in the surf zone at most locations, and were made during a one- or two-day trip by car along the coast highway once each month when weather permitted.

These data are presented in a different form than in the preceding section to show the date, time and temperature at each of the locations for each month.

This temperature section was terminated June 30, 1965. It will not appear in future temperature reports.

T DATA BY MONTHS

STATION	JAN 20-21		FEB 20-21		MAR 17-18		APR 15-16		MAY 13-14		JUNE 15-16	
	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME
1 Monterey Pier II	12.2	0825	11.9	0910	12.0	0825	13.0	0825	12.7	0800	13.8	0750
2 Mussel Point	12.2	0815	11.5	0900	12.3	0815	12.6	0815	11.5	0810	13.3	0740
3 Moss Beach	12.1	0840	11.3	0925	11.9	0840	12.8	0840	11.6	0825	12.7	0810
4 Stillwater Cove	12.1	0850	11.5	0950	12.0	0900	12.9	0900	11.9	0840	11.7	0820
5 San Jose Creek	11.9	1200	11.5	1005	11.6	0920	12.6	0920	10.5	0855	10.4	0835
6 Point Lobos: north side	12.0	0915	11.5	1015	11.7	0930	12.9	0925	11.8	0900	11.2	0840
7 Point Lobos: south side	12.1	0920	11.2	1025	11.5	0935	12.3	0930	10.5	0910	10.5	0850
8 Yankee Point: north of	11.8	0930	11.5	1040	11.5	0945	12.4	0945	10.6	0925	10.2	0910
9 Yankee Point: south of	11.9	0945	11.8	1050	11.9	0955	12.7	0955	11.5	0940	-	-
10 Soberanes Point	11.9	0950	11.5	1105	11.3	1015	12.4	1015	11.0	1000	9.6	0940
11 Garrapata Creek	11.9	1010	11.6	1125	11.6	1030	12.4	1030	10.3	1015	9.5	0955
12 Rocky Creek	11.9	1025	11.6	1145	11.6	1050	12.6	1050	10.4	1035	9.8	1015
13 Little Sur	12.1	1045	11.8	1205	11.6	1110	12.5	1110	11.5	1055	9.8	1030
14 Point Sur: north side	12.0	1105	11.8	1225	11.8	1125	12.4	1130	10.5	1115	9.8	1050
15 Point Sur: south side	12.2	1120	12.4	1235	12.4	1135	12.7	1140	11.6	1125	10.7	1100
17 Hot Springs Creek	12.4	1200	12.1	1020	11.8	1005	13.2	1115	10.9	0915	10.1	0925
18 Gamboa Point: north of	12.2	1225	12.0	1050	11.5	1025	13.4	1140	10.7	0935	9.6	0950
19 Gorda Cove	12.4	1300	11.8	1120	12.1	1100	13.1	1215	10.9	1000	9.7	1015
20 Point Piedras Blancas: north of	12.2	1115	12.2	1200	13.1	1135	13.9	1300	13.0	1040	11.0	1045
21 Point Piedras Blancas: east of	11.7	1125	12.2	1210	12.7	1145	14.4	1310	12.5	1050	10.6	1100
22 San Simeon Bay	12.3	1140	14.3	1230	13.5	1200	14.9	1330	13.2	1100	11.8	1110
23 Santa Rosa Creek	12.2	1155	13.2	1245	13.2	1215	14.0	1400	13.6	1110	12.1	1150
24 Cayucos	12.7	1230	12.7	1310	14.1	1300	17.6	1430	15.8	1150	14.4	1215
25 Morro Rock	13.0	1250	13.5	1325	13.9	1315	16.6	1445	15.1	1205	13.9	1230
26 Morro Bay	12.1	1300	13.0	1335	13.3	1325	16.1	1455	12.7	1215	12.5	1245
27 Islay Creek	12.3	1325	12.1	1430	13.5	1400	14.1	1500	12.9	1235	11.8	1255