

UNIVERSITY OF CALIFORNIA
SCRIPPS INSTITUTION OF OCEANOGRAPHY

SURFACE WATER TEMPERATURES

AT SHORE STATIONS

United States West Coast

1964

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

Sponsored by:

The Marine Research Committee
of the State of California
The Office of Naval Research
NONR Contract 2016 (01, 23)

This report may be reproduced for
any purpose of the U. S. Government

SIO Reference 65-9

28 May 1965

Approved for distribution:


F. N. Spiess, Director

CONTENTS

	Page
Introduction	1
Surface-Temperature Stations in Geographical Order.	3
Alphabetical List of Surface-Temperature Stations.	5
Shoreline Surface Water-Temperature Data	9
Station Location Charts	7
Summary of Daily Observations	10
Shoreline Surface Water-Temperature Data between Monterey, California, and Point Buchon, California	21
Station Location Chart	20
Monthly Observations	22

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 1964.

The first group of data consists of both temperature and salinity monthly means, ranges and standard deviations based on daily observations. The other groups consist 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, California County Park System, 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.

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. The temperatures for this group have been converted from Fahrenheit to centigrade for inclusion in this report.

All stations, including U. S. Coast Guard stations, are maintained in cooperation with the Scripps Institution. Temperatures are taken using special high-grade thermometers supplied and calibrated by Scripps.

Temperatures are taken by obtaining a sample of water in a container, then measuring the temperature of the sample in a specially constructed "bucket" in which the thermometer is mounted. Temperatures have been listed as reported with no attempt to screen or eliminate observers' errors. Some readings are in tenths, others in hundredths of a degree centigrade.

Salinities are obtained from sea-water samples sealed in special salinity bottles supplied by Scripps. Water samples are forwarded to Scripps once a month for titration. Salinities determined by titration 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.

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 on 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	22, 23
Monterey Pier II	36°36.5'N, 121°53.6'W	Monterey	1	22, 23
Moss Beach	36°36.5'N, 121°57.2'W	Monterey Peninsula Monterey County	3	22, 23
Stillwater Cove	36°33.9'N, 121°56.5'W	Carmel Bay, Carmel	4	22, 23
San Jose Creek	36°31.5'N, 121°55.6'W	Carmel Bay, Carmel	5	22, 23
Point Lobos: north side	36°31.3'N, 121°56.3'W	Point Lobos Reserve State Park Whalers Cove	6	14, 22, 23
Point Lobos: south side	36°30.8'N, 121°56.5'W	Point Lobos Reserve State Park Carmel	7	14, 22, 23
Yankee Point: north of	36°29.7'N, 121°56.6'W	Monterey County	8	22, 23
Yankee Point: south of	36°29.4'N, 121°56.6'W	Monterey County	9	22, 23
Soberanes Point	36°27.3'N, 121°55.5'W	Monterey County	10	22, 23
Garrapata Creek	36°25.2'N, 121°55.0'W	Monterey County	11	22, 23
Rocky Creek	36°22.9'N, 121°54.2'W	Monterey County	12	22, 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	22, 23
Point Sur: north side	36°18.6'N, 121°53.8'W	Monterey County	14	22, 23
Point Sur: south side	36°18.3'N, 121°53.7'W	Monterey County	15	22, 23
Hot Springs Creek	36°07.5'N, 121°38.4'W	Monterey County	17	22, 23
Gamboa Point: north of	36°03.3'N, 121°35.3'W	Monterey County	18	22, 23
Gorda Cove	35°56.9'N, 121°28.7'W	Monterey County	19	22, 23
Point Piedras Blancas: north of	35°40.5'N, 121°17.0'W	Near San Simeon	20	22, 23
Point Piedras Blancas: east of	35°39.9'N, 121°15.6'W	Near San Simeon	21	22, 23
San Simeon Bay	35°38.6'N, 121°11.1'W	San Simeon	22	22, 23
Santa Rosa Creek	35°34.2'N, 121°06.5'W	Near Cambria	23	22, 23
Cayucos	35°26.8'N, 120°54.3'W	Cayucos	24	22, 23
Morro Rock	35°22.2'N, 120°51.8'W	Morro Bay	25	22, 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	22, 23
Islay Creek	35°16.5'N, 120°53.4'W	Point Buchon	27	22, 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		15
Santa Barbara	34°24.3'N, 119°41.5'W	Harbor Department Santa Barbara		16
Point Dume: west of	34°01.4'N, 118°50.0'W	Zuma Beach County Park near Malibu		16
Santa Monica	34°00.0'N, 118°30.0'W	USCGS Tide Gauge Station Santa Monica		16
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		17
Dana Point: east of	33°27.7'N, 117°41.1'W	Doheny Beach State Park Dana Point		17
Oceanside	33°11.6'N, 117°23.1'W	Oceanside Pier Oceanside		18
La Jolla: Scripps Pier, surface	32°52.0'N, 117°15.3'W	Scripps Institution of Oceanography La Jolla		18
La Jolla: Scripps Pier, bottom	32°52.0'N, 117°15.3'W	Scripps Institution of Oceanography La Jolla		19

ALPHABETICAL LIST OF
SURFACE-TEMPERATURE STATIONS

<u>Station Name</u>	<u>Type of Data Collected</u>	<u>Agency</u>	<u>Page</u>
1964			
Avila	TS ^{1/} d ^{2/}	USCGS	15
Balboa	TS d	SIO	17
Blunts Reef Lightship	TS d	USCG	11
Bodega Bay: north of	T ^{3/} d	SIO	12
Cayucos	T m ^{4/}	HMS	22, 23
Columbia River Lightship	T d	USCG	10
Crescent City	TS d	USCGS	11
Dana Point: east of	T d	SIO	17
Farallon Islands	TS d	USCG	13
Fort Ross	T d	SIO	12
Gamboa Point: north of	T m	HMS	22, 23
Garrapata Creek	T m	HMS	22, 23
Gaviota	T d	SIO	15
Gorda Cove	T m	HMS	22, 23
Hot Springs Creek	T m	SIO	22, 23
Islay Creek	T m	HMS	22, 23
La Jolla: Scripps Pier, surface	TS d	SIO	18
La Jolla: Scripps Pier, bottom	TS d	SIO	19
Little Sur	T m	HMS	22, 23
Mendocino	T d	SIO	12
Monterey Pier II	T m	HMS	22, 23
Morro Bay	T d	PG and E	15
Morro Bay	T m	HMS	22, 23
Morro Rock	T m	HMS	22, 23
Moss Beach	T m	HMS	22, 23
Mussel Point	T m	HMS	22, 23

^{1/}S: Surface salinities

^{2/}d: Values taken daily

^{3/}T: Surface temperature

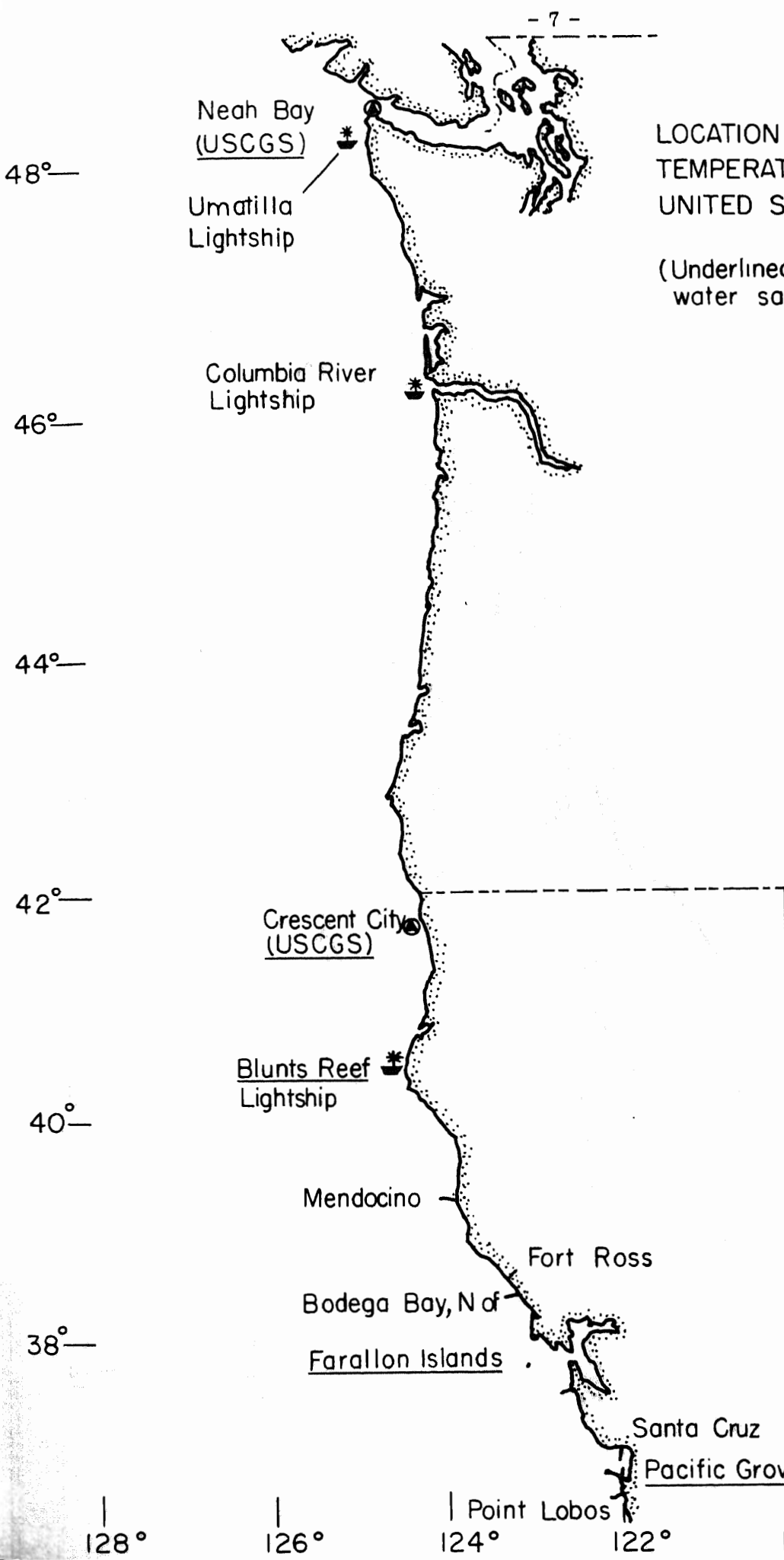
^{4/}m: Values taken once a month

<u>Station Name</u>	<u>Type of Data Collected</u>	<u>Agency</u>	<u>Page</u>
	1964		
Neah Bay	TS d	USCGS	10
Oceanside	T d	SIO	18
Pacific Grove	TS d	HMS	14
Point Dume: west of	T d	SIO	16
Point Lobos: north side	T dm	HMS, SIO	14, 22, 23
Point Lobos: south side	T dm	HMS, SIO	14, 22, 23
Point Piedras Blancas: east of	T m	HMS	22, 23
Point Piedras Blancas: north of	T m	HMS	22, 23
Point Sur: north side	T m	HMS	22, 23
Point Sur: south side	T m	HMS	22, 23
Point Vicente	T d	SIO	17
Rocky Creek	T m	HMS	22, 23
San Jose Creek	T m	HMS	22, 23
San Simeon Bay	T m	HMS	22, 23
Santa Barbara	T d	SIO	16
Santa Cruz	T d	SIO	13
Santa Monica	TS d	USCGS	16
Santa Rosa Creek	T m	HMS	22, 23
Soberanes Point	T m	HMS	22, 23
Stillwater Cove	T m	HMS	22, 23
Umatilla Lightship	T d	USCG	10
Yankee Point: north of	T m	HMS	22, 23
Yankee Point: south of	T m	HMS	22, 23

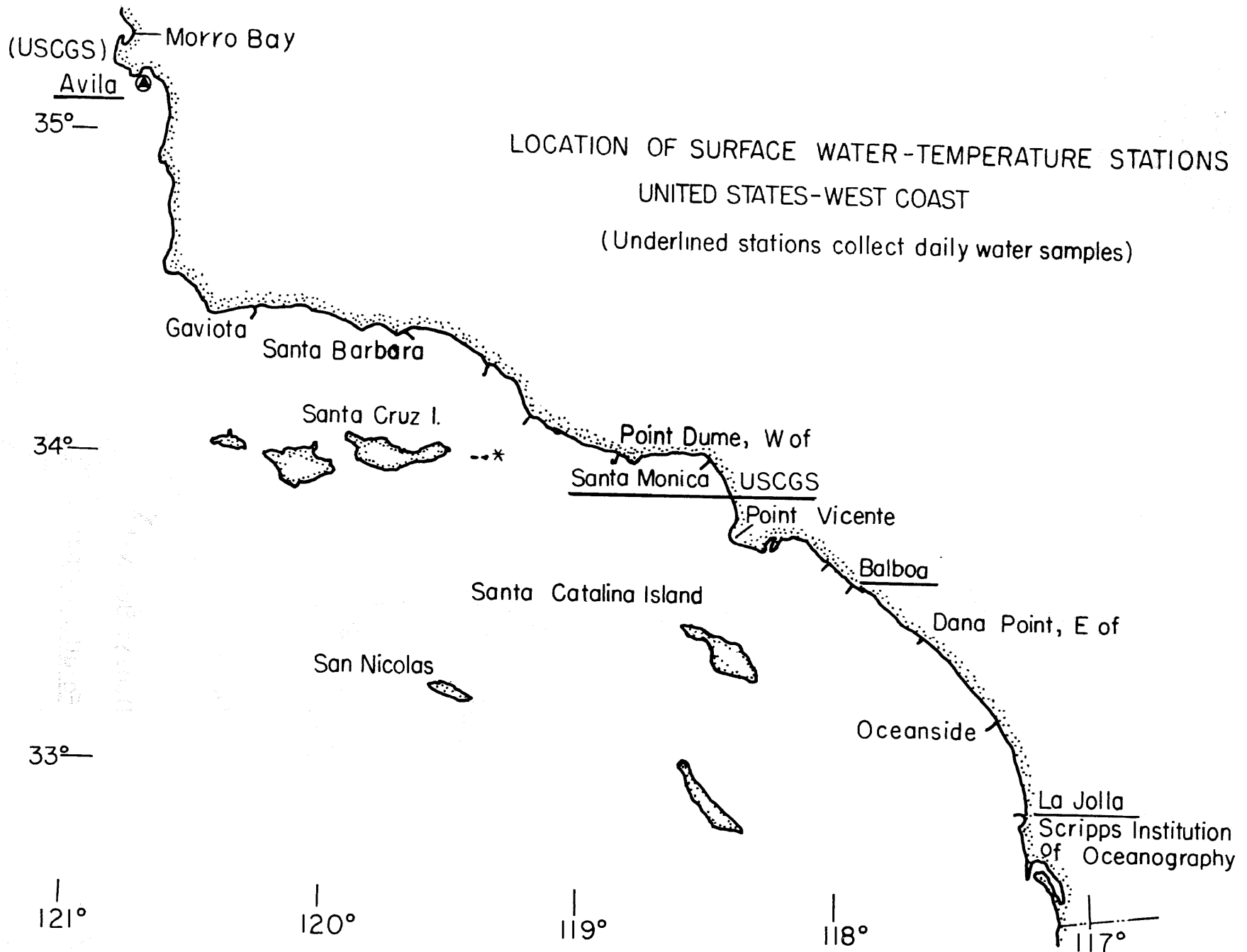
SIO: University of California, Scripps Institution of Oceanography, La Jolla, California
 HMS: Hopkins Marine Station, Pacific Grove, California
 USCG: United States Coast Guard
 USCGS: United States Coast and Geodetic Survey
 PG and E: Pacific Gas and Electric Company

LOCATION OF SURFACE WATER-TEMPERATURE STATIONS
UNITED STATES - WEST COAST

(Underlined stations collect daily water samples)



128° 126° 124° 122° 120°



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	1964	8.08	7.85	7.74	8.73	9.64	12.03	12.10	12.05	10.85	10.16	8.78	6.55	9.55		
Max.		10.00	8.90	8.35	10.55	11.40	15.00	15.55	16.65	12.20	11.65	10.30	9.15		16.65	
Min.	T	7.20	7.20	6.95	7.80	8.35	9.70	10.00	10.00	9.45	8.35	7.50	3.90			3.90
Range		2.80	1.70	1.40	2.75	3.05	5.30	5.55	6.65	2.75	3.30	2.80	5.25			
Std. Dev.		0.70	0.37	0.44	0.61	0.80	1.38	1.50	1.78	0.82	1.03	0.84	1.72			
No. Obs.		30	29	31	30	29	29	31	30	30	30	29	29			
Mean	1964	29.53	30.33	30.87	31.62	33.21	31.66	31.42	31.46	31.64	31.56	30.81	29.89	31.17		
Max.		30.70	31.80	32.30	32.70	34.00	35.10	32.90	32.10	32.70	32.10	31.80	31.10		35.10	
Min.	S	28.20	28.80	28.60	29.90	32.30	29.80	26.70	30.20	27.80	30.70	29.90	28.60			26.70
Range		2.50	3.00	3.70	2.80	1.70	5.30	6.20	1.90	4.90	1.40	1.90	2.50			
Std. Dev.		0.60	0.92	0.84	0.63	0.41	0.91	1.11	0.48	1.03	0.38	0.50	0.67			
No. Obs.		30	29	30	30	29	29	31	30	30	30	29	29			

T DATA UMATILLA LIGHTSHIP

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	9.15	8.43	8.18	8.44	9.91	(13.10)	(12.96)			11.70	10.25	8.06	-		
Max.		10.60	8.90	8.90	8.90	11.00	(15.00)	(14.50)			12.50	11.30	9.50		(15.00)	
Min.	T	8.00	7.80	5.80	7.80	8.50	(11.00)	(11.00)			10.50	8.30	6.80			(5.80)
Range		2.60	1.10	3.10	1.10	2.50	-	(3.50)			2.00	3.00	2.70			
Std. Dev.		0.75	0.31	0.52	0.37	0.87	-	(0.76)			0.58	0.87	0.90			
No. Obs.		31	29	31	30	31	21AB	21S			31	30	31			

T DATA COLUMBIA RIVER LIGHTSHIP

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX	MIN.
Mean	1964	9.60	8.32	8.45	(10.03)		13.22	14.04	(15.72)	14.05	11.94	10.92	9.31	-		
Max.		10.40	10.20	9.60	(10.50)		15.50	16.50	(17.60)	16.40	13.60	12.80	10.40		(17.60)	
Min.	T	8.70	6.80	7.80	(9.00)		11.80	11.00	(14.00)	11.70	10.30	9.80	8.00			(6.80)
Range		1.70	3.40	1.80	(1.50)		3.70	5.50	(3.60)	4.70	3.30	3.00	2.40			
Std. Dev.		0.42	0.79	0.58	(0.42)		0.82	1.51	(1.07)	1.28	1.08	0.85	0.71			
No. Obs.		26	29	27	21S		30	31	24S	30	31	30	31			

T AND S DATA CRESCENT CITY

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	(9.76)	(9.57)	(9.07)					(13.49)	(11.29)	(11.55)	(11.41)	(10.22)	-	(17.20)	
Max.		(11.40)	(10.30)	(10.30)					(17.20)	(13.05)	(13.60)	(12.80)	(11.10)			(5.55)
Min.	T	(5.55)	(8.35)	(8.35)					(7.20)	(4.15)	(3.90)	(2.80)	-			
Range		(5.85)	(1.95)	(1.95)					(2.18)	(1.28)	(1.13)	(1.04)	-			
Std. Dev.		(1.28)	(0.55)	(0.55)					(2.18)	(1.28)	(1.13)	(1.04)	-			
No. Obs.		17S	15S	17S					21S	18S	17S	13S	10AB			
Mean	1964	(28.95)	(31.27)	(31.68)					(32.94)	(32.91)	(32.79)	(30.74)	(27.33)	-	(34.20)	
Max.		(32.00)	(34.20)	(34.00)					(33.80)	(33.70)	(33.70)	(31.90)	(31.60)			(23.80)
Min.	S	(24.70)	(28.40)	(29.70)					(31.90)	(31.90)	(31.50)	(26.50)	(23.80)			
Range		(7.30)	(5.80)	(4.30)					(1.90)	(1.80)	(2.20)	(5.40)	-			
Std. Dev.		(2.33)	(1.67)	(1.33)					(0.61)	(0.62)	(0.56)	(1.57)	-			
No. Obs.		17S	15S	17S					21S	18S	18S	13S	10AB			

T AND S DATA BLUNTS REEF LIGHTSHIP

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	11.19	10.22	9.39	8.65	9.23	9.99			(10.38)	12.02	13.09	11.51	-	(15.20)	
Max.		13.30	11.70	10.40	9.50	11.00	10.50			(10.90)	14.80	15.20	13.10			(8.00)
Min.	T	10.40	9.40	8.20	8.00	8.10	8.80			(9.70)	10.50	10.90	9.80			
Range		2.90	2.30	2.20	1.50	2.90	1.70			-	4.30	4.30	3.30			
Std. Dev.		0.73	0.57	0.50	0.45	0.78	0.34			-	1.27	1.05	1.03			
No. Obs.		31	29	31	30	31	27			12C	31	30	31			
Mean	1964	32.98	33.65	33.77	34.02	34.15	33.91			(33.75)	33.19	32.50	32.33	-	(34.61)	
Max.		33.49	34.27	34.26	34.29	34.61	34.17			(33.94)	33.70	32.98	32.78			(31.51)
Min.	S	32.00	32.76	33.39	33.62	33.55	33.04			(33.44)	32.40	31.72	31.51			
Range		1.49	1.51	0.87	0.67	1.06	1.13			-	1.30	1.26	1.27			
Std. Dev.		0.36	0.31	0.19	0.14	0.23	0.22			-	0.39	0.26	0.30			
No. Obs.		30	29	31	30	31	25			12C	31	29	31			

T DATA MENDOCINO

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964		(9.85)	9.20	8.79	9.08	10.36	10.32	9.99	10.69	11.49	12.07	11.29	-		
Max.			(11.50)	10.30	10.00	10.60	11.10	11.50	11.70	12.00	14.70	14.20	12.30		(14.70)	
Min.	T		(8.90)	8.60	7.90	8.20	9.20	9.80	9.80	9.40	10.30	10.40	9.70			(7.90)
Range			(2.60)	1.70	2.10	2.40	1.90	1.70	1.90	2.60	4.40	3.80	2.60			
Std. Dev.			(0.75)	0.46	0.56	0.77	0.55	0.52	0.49	0.59	1.13	1.12	0.74			
No. Obs.			22S	29	28	29	27	30	30	27	29	27	25			

T DATA FORT ROSS

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	11.07	10.26	9.06	8.46	8.66	9.25	9.64	10.40	11.13	10.86	12.19	10.67	10.14		
Max.		11.80	11.40	9.80	10.50	10.70	12.00	12.50	12.70	13.60	12.70	13.50	12.10		13.60	
Min.	T	10.20	9.30	8.20	7.80	7.70	8.00	8.40	9.30	9.90	9.60	11.00	9.60			7.70
Range		1.60	2.10	1.60	2.70	3.00	4.00	4.10	3.40	3.70	3.10	2.50	2.50			
Std. Dev.		0.31	0.55	0.51	0.57	0.63	1.09	1.08	0.99	0.93	0.83	0.74	0.77			
No. Obs.		29	29	31	29	31	29	29	31	30	30	29	30			

T DATA BODEGA BAY: north of

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	11.10	10.09	9.36	9.27	9.46	9.91	10.67	11.14	12.24	11.36	12.35	11.29	10.69		
Max.		12.90	12.60	10.40	10.30	12.50	12.40	14.40	13.20	13.60	12.90	13.20	12.60		14.40	
Min.	T	10.10	9.20	7.80	8.60	8.30	8.60	9.00	9.50	10.50	10.10	11.00	10.00			7.80
Range		2.80	3.40	2.60	1.70	4.20	3.80	5.40	3.70	3.10	2.80	2.20	2.60			
Std. Dev.		0.73	0.78	0.72	0.39	0.98	1.01	1.47	1.16	1.03	0.74	0.68	0.76			
No. Obs.		27	24	27	28	31	29	29	31	27	27	30	27			

T AND S DATA

FARALLON ISLANDS

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	11.55	11.06	9.84	9.39	9.99	11.00	11.35	11.95	12.16	12.26	12.85	11.87	11.27	14.70	8.90
Max.		12.10	11.80	10.40	10.10	11.50	12.00	12.90	13.60	13.30	13.30	14.70	12.90			
Min.	T	11.10	10.10	9.10	8.90	9.10	10.20	10.50	10.90	11.10	11.50	11.10	10.90			
Range		1.00	1.70	1.30	1.20	2.40	1.80	2.40	1.90	2.50	1.80	3.60	2.00			
Std. Dev.		0.24	0.44	0.37	0.31	0.55	0.38	0.55	0.53	0.65	0.50	0.99	0.56			
No. Obs.		31	29	31	30	31	30	31	31	30	31	30	31			
Mean	1964	33.26	33.40	33.92	34.03	34.04	34.09	34.06	33.88	33.71	33.66	33.23	33.15	33.70	34.52	31.95
Max.		33.41	33.85	34.29	34.12	34.16	34.34	34.52	34.24	34.06	33.80	33.50	33.41			
Min.	S	32.85	32.65	33.46	33.77	33.88	33.97	33.85	31.95	33.45	33.37	32.99	32.57			
Range		0.56	1.20	0.83	0.35	0.28	0.37	0.67	2.29	0.61	0.43	0.51	0.84			
Std. Dev.		0.13	0.38	0.17	0.09	0.07	0.09	0.14	0.38	0.15	0.09	0.12	0.20			
No. Obs.		31	28	31	30	31	25	31	29	29	31	30	30			

T DATA

SANTA CRUZ

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	11.75	11.61	11.14	11.53	12.01	13.62	15.43	15.70	(14.51)	14.18	13.45	12.11	-	(18.30)	(10.00)
Max.		12.40	12.10	11.90	12.80	14.20	15.80	17.50	18.30	(15.30)	15.20	14.90	12.60			
Min.	T	10.80	11.10	10.30	10.00	10.10	10.10	13.40	14.40	(13.20)	13.00	11.80	11.40			
Range		1.60	1.00	1.60	2.80	4.10	5.70	4.10	3.90	(2.10)	2.20	3.10	1.20			
Std. Dev.		0.34	0.29	0.38	0.71	1.04	1.23	0.91	0.91	(0.52)	0.65	1.14	0.35			
No. Obs.		30	28	31	30	31	30	31	30	24S	31	29	27			

T AND S DATA PACIFIC GROVE

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	12.11	11.90	11.39	11.49	12.06	13.13	13.40	13.70	13.78	14.00	13.44	12.23	12.72	15.40	10.30
Max.		13.00	12.50	12.10	12.90	13.40	14.80	15.00	14.70	15.10	15.40	15.00	13.10			
Min.	T	11.50	11.50	10.40	10.30	11.10	11.70	12.10	12.50	12.30	12.60	11.50	10.90			
Range		1.50	1.00	1.70	2.60	2.30	3.10	2.90	2.20	2.80	2.80	3.50	2.20			
Std. Dev.		0.38	0.27	0.44	0.61	0.65	0.69	0.64	0.53	0.75	0.69	1.25	0.58			
No. Obs.		31	29	31	30	31	30	31	31	30	31	30	31			
Mean	1964	34.58	33.68	33.92	33.88	33.82	33.93	33.75	33.86	34.39	33.85	33.42	33.19	33.85	37.38	32.51
Max.		37.38	33.92	35.00	34.04	34.04	34.38	34.00	35.51	36.35	34.16	33.79	33.53			
Min.	S	33.53	33.53	33.72	33.50	33.19	33.19	32.51	33.34	33.78	32.97	33.09	32.75			
Range		3.85	0.39	1.28	0.54	0.85	1.19	1.49	2.17	2.57	1.19	0.70	0.78			
Std. Dev.		1.05	0.11	0.23	0.11	0.23	0.21	0.27	0.34	0.71	0.26	0.17	0.21			
No. Obs.		31	29	31	30	31	30	31	31	29	31	30	31			

T DATA POINT LOBOS: north side

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	12.13	11.35	10.61	10.60	11.53	12.66	12.68	12.91	13.29	13.10	13.16	11.99	12.17	15.30	9.80
Max.		13.00	12.30	11.50	11.50	13.50	14.80	14.90	14.30	15.30	14.80	14.70	13.30			
Min.	T	11.00	10.00	9.80	9.80	10.40	11.10	11.40	11.60	11.60	11.20	11.20	10.70			
Range		2.00	2.30	1.70	1.70	3.10	3.70	3.50	2.70	3.70	3.60	3.50	2.60			
Std. Dev.		0.47	0.65	0.39	0.41	0.89	0.96	0.81	0.71	0.99	0.88	1.14	0.68			
No. Obs.		29	27	30	30	31	30	31	31	28	30	27	29			

T DATA POINT LOBOS: south side

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	12.14	11.28	10.18	9.83	10.41	11.42	11.27	11.85	12.60	12.52	12.82	11.86	11.52	15.20	8.70
Max.		13.10	12.30	11.00	11.30	12.20	14.40	12.70	12.70	15.20	14.80	14.90	13.00			
Min.	T	11.00	9.90	9.40	8.70	9.40	10.00	10.00	11.40	10.90	10.90	10.80	10.60			
Range		2.10	2.40	1.60	2.60	2.80	4.40	2.70	1.30	4.30	3.90	4.10	2.40			
Std. Dev.		0.58	0.68	0.40	0.59	0.67	1.20	0.75	0.35	1.03	1.16	1.26	0.72			
No. Obs.		28	27	30	30	31	30	31	31	29	30	27	29			

T DATA

MORRO BAY

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	12.71	12.13	11.28	11.28	12.01	13.21	13.10	14.02	13.49	13.53	12.73	11.77	12.61		
Max.		13.30	12.80	12.80	13.30	14.40	15.60	16.70	16.10	15.60	14.40	14.40	13.80		16.70	
Min.	T	11.70	11.10	10.00	9.40	9.40	11.70	10.60	12.80	11.70	12.20	11.10	10.60			9.40
Range		1.60	1.70	2.80	3.90	5.00	3.90	6.10	3.30	3.90	2.20	3.30	3.20			
Std. Dev.		0.42	0.42	0.66	1.11	1.51	1.14	1.60	0.95	0.99	0.62	0.95	0.92			
No. Obs.		31	29	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	1964	12.84	12.76	11.51	11.89	12.31	13.63	(14.90)	16.36	(15.14)	(15.11)	(13.84)		-		
Max.		13.90	14.45	12.80	13.90	14.70	16.65	(16.95)	20.55	(17.20)	(16.65)	(15.30)			(20.55)	
Min.	T	11.65	11.65	10.30	10.00	9.70	11.65	(12.80)	14.15	(13.90)	(13.90)	(11.65)				(9.70)
Range		2.25	2.80	2.50	3.90	5.00	5.00	(4.15)	6.40	(3.30)	(2.75)	(3.65)				
Std. Dev.		0.47	0.69	0.83	1.03	1.37	1.21	(1.09)	1.30	(1.00)	(0.73)	(1.21)				
No. Obs.		26	25	25	26	25	26	20S	27	20S	21S	15S				
Mean	1964	33.51	33.77	33.80	(34.30)	(33.86)	34.04	(34.06)	34.11	(33.85)	(33.83)	(33.77)		-		
Max.		34.60	34.60	34.60	(35.00)	(34.60)	34.70	(34.70)	35.40	(34.20)	(34.70)	(34.10)			(35.40)	
Min.	S	32.30	33.30	32.70	(32.70)	(33.40)	33.30	(33.80)	33.60	(33.30)	(32.90)	(32.90)				(32.30)
Range		2.30	1.30	1.90	(2.30)	-	1.40	(0.90)	1.80	(0.90)	(1.80)	(1.20)				
Std. Dev.		0.44	0.44	0.61	(0.45)	-	0.39	(0.25)	0.36	(0.21)	(0.35)	(0.32)				
No. Obs.		26	25	25	23S	17BC	26	20S	27	20S	21S	15S				

T DATA

GAVIOTA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	14.04	13.94	12.46	12.21	12.13	14.37	16.20	(18.10)	16.96	16.54	14.13	12.60	-		
Max.		14.80	14.60	13.90	14.50	14.70	16.70	18.10	(19.70)	18.10	18.70	16.30	13.70		(19.70)	
Min.	T	13.00	13.10	10.80	10.40	8.70	11.30	12.00	(16.00)	16.40	14.90	11.90	11.50			(8.70)
Range		1.80	1.50	3.10	4.10	6.00	5.40	6.10	-	1.70	3.80	4.40	2.20			
Std. Dev.		0.47	0.37	0.88	1.25	1.82	1.35	1.41	-	0.51	0.70	1.45	0.61			
No. Obs.		31	29	31	30	31	30	31	24AC	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	1964	14.23	15.12	13.85	14.08	13.95	15.79	17.16	18.49	18.41	17.62	14.59	13.46	15.56		
Max.		15.40	15.60	15.00	15.60	16.40	17.20	18.60	20.20	19.10	19.60	16.60	14.60		20.20	
Min.	T	13.20	14.40	12.80	12.60	11.10	15.00	16.50	17.20	17.20	16.10	12.00	12.50			11.10
Range		2.20	1.20	2.20	3.00	5.30	2.20	2.10	3.00	1.90	3.50	4.60	2.10			
Std. Dev.		0.68	0.25	0.66	0.86	1.35	0.74	0.42	0.98	0.52	0.94	1.59	0.61			
No. Obs.		31	29	29	28	31	30	31	31	30	31	30	31			

T DATA POINT DUME: west of

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	(14.63)	14.88	13.36	14.07	12.67	14.72	16.26	18.57	(17.50)	16.72	13.84	14.07	-		
Max.		(15.70)	15.90	14.80	14.90	14.60	16.20	17.60	20.80	(19.00)	18.30	15.90	14.70		(20.80)	
Min.	T	(14.10)	14.10	10.20	12.30	10.00	14.00	12.30	17.20	(15.60)	15.20	11.60	12.70			(10.00)
Range		-	1.80	4.60	2.60	4.60	2.20	5.30	3.60	-	3.10	4.30	2.00			
Std. Dev.		-	0.51	1.03	0.72	1.37	0.49	1.22	0.88	-	1.05	1.41	0.56			
No. Obs.		24AC	29	31	26	28	30	31	31	23AC	31	30	30			

T AND S DATA SANTA MONICA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	14.45	14.51	13.39	14.15	14.12	16.16	18.20	20.63	18.83	17.26	13.89	13.76	15.78		
Max.		15.10	15.00	14.60	15.70	16.80	17.40	20.20	21.70	20.60	20.55	16.40	14.30		21.70	
Min.	T	13.80	13.80	12.10	11.90	11.80	14.70	16.20	19.00	17.20	15.60	11.40	12.80			11.40
Range		1.30	1.20	2.50	3.80	5.00	2.70	4.00	2.70	3.40	4.95	5.00	1.50			
Std. Dev.		0.32	0.33	0.64	1.01	1.07	0.79	0.88	0.74	0.86	1.13	1.55	0.37			
No. Obs.		31	29	31	30	31	30	31	31	30	29	30	31			
Mean	1964	33.79	33.84	33.85	33.78	33.88	33.90	33.83	33.94	33.62	33.62	33.25	33.45	33.73		
Max.		34.10	34.10	34.20	34.10	34.40	34.50	34.90	34.50	34.00	34.10	34.10	34.00		34.90	
Min.	S	32.90	33.60	33.40	33.30	33.60	32.70	33.40	33.40	33.30	33.00	30.80	33.20			30.80
Range		1.20	0.50	0.80	0.80	0.80	1.80	1.50	1.10	0.70	1.10	3.30	0.80			
Std. Dev.		0.35	0.15	0.18	0.17	0.22	0.39	0.34	0.26	0.19	0.30	0.56	0.18			
No. Obs.		31	29	31	30	31	30	31	31	30	31	30	31			

T DATA POINT VICENTE

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	(15.34)	(14.82)	(13.28)	(13.09)	(11.92)	(15.02)	(15.25)	(19.19)	(17.67)	(15.88)	(15.20)	(14.20)	-	(21.00)	
Max.		(15.70)	(15.20)	(14.80)	(14.90)	(14.00)	(16.70)	(17.70)	(21.00)	(17.80)	(17.70)	(16.30)	(14.40)			(10.30)
Min.	T	(14.70)	(14.40)	(11.60)	(11.80)	(10.30)	(13.00)	(13.20)	(17.70)	(17.50)	(14.20)	(14.00)	(14.00)			
Range		(1.00)	-	(3.20)	(3.10)	(3.70)	(3.70)	(4.50)	(3.30)	-	(3.50)	-	-			
Std. Dev.		(0.34)	-	(0.86)	(1.01)	(1.06)	(1.17)	(1.54)	(1.01)	-	(1.19)	-	-			
No. Obs.		15S	10BC	17S	11S	8S	8S	13S	17S	3C	8S	3AC	2A			

T AND S DATA BALBOA

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	15.29	14.80	13.74	14.43	13.82	16.55	17.79	20.49	18.47	17.54	14.80	14.25	16.00		
Max.		16.50	15.22	15.00	15.90	15.40	17.85	21.85	23.34	20.50	19.00	17.20	15.39		23.34	
Min.	T	14.50	14.10	11.67	12.72	11.80	15.00	15.05	18.45	16.89	15.28	12.22	13.67			11.67
Range		2.00	1.12	3.33	3.18	3.60	2.85	6.80	4.89	3.61	3.72	4.98	1.72			
Std. Dev.		0.43	0.24	0.76	0.79	0.90	0.86	1.91	1.24	0.91	1.04	1.56	0.40			
No. Obs.		31	29	31	30	31	30	30	31	30	31	30	31			
Mean	1964	33.81	33.80	33.76	33.75	33.91	33.89	33.89	33.92	33.89	33.87	33.63	33.59	33.81		
Max.		35.31	34.21	33.91	33.88	34.03	34.36	34.15	34.18	34.17	34.70	33.86	33.77		35.31	
Min.	S	33.39	33.67	33.43	33.53	33.78	33.75	33.80	33.82	33.60	33.24	33.44	33.12			33.12
Range		1.92	0.54	0.48	0.35	0.25	0.61	0.35	0.36	0.57	1.46	0.42	0.65			
Std. Dev.		0.33	0.10	0.10	0.08	0.05	0.11	0.10	0.09	0.12	0.27	0.09	0.15			
No. Obs.		30	29	30	29	30	28	25	29	30	28	27	30			

T DATA DANA POINT: east of

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	13.95	14.05	13.33	14.61	14.55	17.39	18.57	21.02	18.34	17.35	13.90	13.27	15.86		
Max.		14.90	15.00	14.60	16.40	17.00	19.20	21.90	22.20	22.50	19.70	16.60	14.60		22.50	
Min.	T	12.90	12.80	11.70	12.40	12.30	14.10	15.20	16.60	16.00	14.40	10.60	11.70			10.60
Range		2.00	2.20	2.90	4.00	4.70	5.10	6.70	5.60	6.50	5.30	6.00	2.90			
Std. Dev.		0.61	0.57	0.80	1.07	1.18	1.16	2.07	1.20	1.30	1.35	1.89	0.85			
No. Obs.		31	28	31	30	30	30	31	31	30	31	30	30			

T DATA OCEANSIDE

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	15.42	14.91	13.85	14.71	14.52	17.08	19.16	21.29	18.63	17.96	14.62	13.75	16.32		
Max.		16.70	15.90	15.00	16.20	15.50	18.50	21.60	22.20	20.90	20.40	16.50	15.00		22.20	
Min.	T	14.10	13.20	12.80	13.50	12.80	15.50	16.60	19.80	16.00	15.00	12.30	13.00			12.30
Range		2.60	2.70	2.20	2.70	2.70	3.00	5.00	2.40	4.90	5.40	4.20	2.00			
Std. Dev.		0.45	0.52	0.61	0.77	0.69	0.74	1.27	0.60	1.30	1.56	1.42	0.52			
No. Obs.		31	29	31	30	31	30	31	31	30	31	30	31			

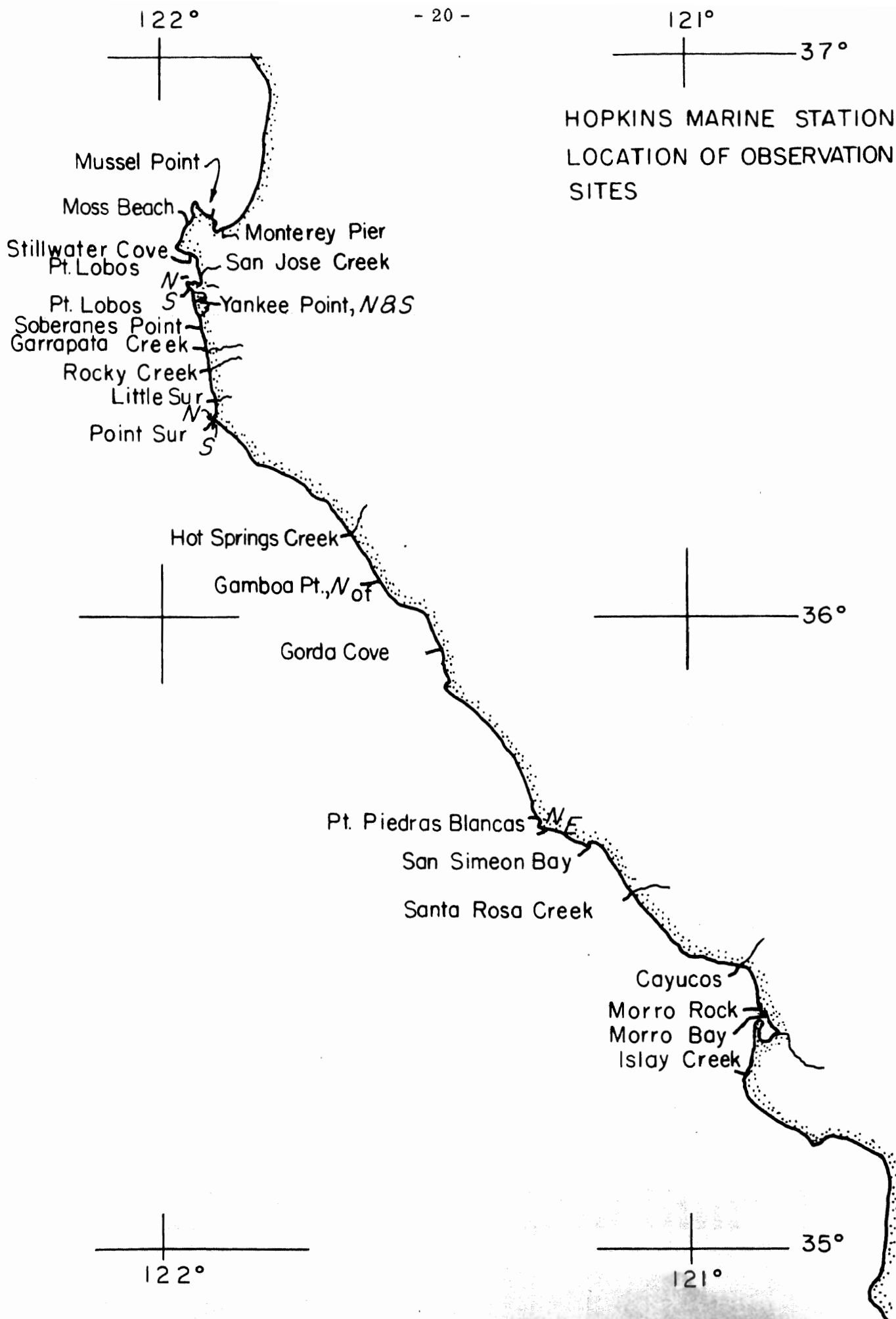
T AND S DATA LA JOLLA: End of Scripps Pier, surface

	YEAR	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	MEAN	MAX.	MIN.
Mean	1964	15.36	14.64	14.25	14.98	14.99	16.98	19.35	21.56	19.13	17.68	14.74	13.42	16.42		
Max.		16.57	15.23	15.50	16.09	16.32	18.56	21.52	22.70	21.04	20.30	16.98	14.10		22.70	
Min.	T	14.78	13.75	13.32	13.52	12.49	15.50	17.19	20.39	14.97	15.45	12.45	12.60			12.45
Range		1.79	1.48	2.18	2.57	3.83	3.06	4.33	2.31	6.07	4.85	4.53	1.50			
Std. Dev.		0.40	0.29	0.55	0.70	0.77	0.85	1.16	0.68	1.24	1.39	1.39	0.42			
No. Obs.		31	29	31	30	31	30	31	31	30	31	30	31			
Mean	1964	33.75	33.77	33.80	33.83	33.92	33.95	33.94	34.01	33.85	33.78	33.71	33.63	33.83		
Max.		33.82	33.81	33.91	33.89	34.03	34.02	34.02	34.08	34.02	33.98	33.96	33.71		34.08	
Min.	S	33.70	33.74	33.75	33.76	33.86	33.90	33.84	33.91	33.47	33.66	33.60	33.56			33.47
Range		0.12	0.07	0.16	0.13	0.17	0.12	0.18	0.17	0.55	0.32	0.36	0.15			
Std. Dev.		0.03	0.02	0.04	0.03	0.04	0.03	0.04	0.04	0.10	0.09	0.07	0.04			
No. Obs.		31	29	31	30	31	30	31	31	28	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	1964	15.33	14.63	14.18	14.81	14.22	16.80	17.46	20.82	18.63	16.73	14.56	13.45	15.97	22.56	
Max.		16.53	15.22	15.10	16.00	16.04	18.49	20.80	22.56	20.00	20.35	16.60	14.10			11.98
Min.	T	14.80	13.81	13.23	13.47	11.98	14.02	13.59	16.04	14.51	14.18	12.32	12.52			
Range		1.73	1.41	1.87	2.53	4.06	4.47	7.21	6.52	5.49	6.17	4.28	1.58			
Std. Dev.		0.41	0.28	0.49	0.72	1.09	0.98	1.74	1.48	1.40	1.72	1.36	0.46			
No. Obs.		31	29	31	30	31	30	31	31	30	31	30	28			
Mean	1964	33.73	33.76	33.78	33.81	33.91	33.95	33.91	33.96	33.82	33.73	33.66	33.62	33.80	34.08	
Max.		33.79	33.79	33.83	33.90	34.07	34.06	34.06	34.08	33.96	33.95	33.71	33.66			33.52
Min.	S	33.65	33.73	33.74	33.74	33.85	33.91	33.83	33.81	33.70	33.61	33.58	33.52			
Range		0.14	0.06	0.09	0.16	0.22	0.15	0.23	0.27	0.26	0.34	0.13	0.14			
Std. Dev.		0.03	0.02	0.02	0.04	0.05	0.03	0.06	0.07	0.07	0.09	0.03	0.04			
No. Obs.		31	29	31	30	31	30	31	31	28	31	29	28			



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.

T DATA BY MONTHS

STATION	JAN 14-15		FEB 14-15		MAR 13-14		APR 13-14		MAY 12-13		JUNE 18-19	
	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME
1 Monterey Pier II	12.5	0910	12.1	0900	11.8	0845	11.9	0745	13.3	0755	13.9	0730
2 Mussel Point	11.8	0900	11.8	0840	11.1	0835	11.6	0800	11.7	0740	12.6	0725
3 Moss Beach	13.0	0915	11.5	0920	11.4	0900	10.8	0815	10.8	0810	12.8	0745
4 Stillwater Cove	12.2	0940	11.0	0940	11.4	0930	10.5	0850	11.9	0835	13.2	0810
5 San Jose Creek	12.5	0955	11.2	1010	11.2	0940	9.6	0905	10.1	0855	11.1	0830
6 Point Lobos: north side	12.5	1005	11.2	1020	11.3	1000	9.5	0915	10.6	0900	12.5	0840
7 Point Lobos: south side	12.4	1010	10.6	1025	11.5	1005	9.1	0925	10.0	0905	11.3	0850
8 Yankee Point: north of	12.4	1020	10.7	1040	10.2	1025	9.2	0940	10.0	0925	10.4	0900
9 Yankee Point: south of	12.6	1030	10.6	1050	10.7	1040	9.5	0950	10.3	0930	11.3	0910
10 Soberanes Point	12.6	1045	11.0	1115	10.6	1100	9.3	1005	10.0	0950	10.4	0930
11 Garrapata Creek	12.8	1105	10.8	1130	10.9	1125	9.3	1025	9.9	1010	10.5	0950
12 Rocky Creek	12.5	1125	11.2	1155	10.4	1140	9.2	1040	9.6	1025	10.8	1005
13 Little Sur	12.8	1145	11.0	1210	11.5	1200	9.4	1105	9.9	1050	11.0	1025
14 Point Sur: north side	13.0	1200	11.7	1230	10.6	1220	9.8	1125	10.0	1110	10.5	1045
15 Point Sur: south side	12.8	1205	11.8	1240	11.5	1230	10.3	1130	10.9	1115	12.1	1055
17 Hot Springs Creek	12.3	1030	11.5	1015	10.9	1100	10.7	0940	10.6	0845	11.0	0930
18 Gamboa Point: north of	12.4	1055	11.9	1040	10.6	1125	10.4	1000	10.3	0910	10.3	1000
19 Gorda Cove	12.9	1140	11.9	1115	10.8	1155	10.1	1035	10.3	0935	11.0	1040
20 Point Piedras Blancas: north of	13.3	1210	12.9	1155	11.7	1235	11.0	1110	11.0	1010	12.6	1115
21 Point Piedras Blancas: south of	13.3	1215	13.0	1205	11.9	1245	11.3	1120	11.2	1030	12.5	1130
22 San Simeon Bay	13.5	1225	13.2	1220	12.7	1255	14.3	1135	12.6	1045	14.3	1145
23 Santa Rosa Creek	13.4	1245	13.1	1240	12.6	1315	12.3	1210	13.1	1120	15.4	1155
24 Cayucos	13.5	1310	13.0	1330	13.3	1400	12.9	1235	15.2	1145	15.9	1245
25 Morro Rock	13.5	1320	13.1	1340	12.8	1415	12.8	1245	14.3	1200	15.6	1300
26 Morro Bay	13.7	1400	12.7	1405	12.8	1425	11.1	1300	11.5	1210	17.0	1310
27 Islay Creek	13.7	1425	12.1	1435	11.9	1445	11.5	1330	12.3	1240	12.6	1335

JULY 16-17		AUG 13-14		SEPT 14-15		OCT 15-16		NOV 15-16		DEC 16-17		STATION
T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME	T°C	TIME	
14.8	0805	14.7	0755	15.0	0715	14.4	0810	12.1	0830	11.3	0835	1 Monterey Pier II
13.9	0800	13.3	0745	14.0	0705	13.8	0800	13.3	0840	11.5	0825	2 Mussel Point
13.9	0820	13.2	0805	13.6	0800	12.3	0820	12.0	0850	12.2	0925	3 Moss Beach
13.6	0835	13.3	0825	12.8	0815	12.8	0835	11.9	0900	11.3	0935	4 Stillwater Cove
11.8	0900	11.1	0840	11.8	0830	12.0	0850	12.1	0920	11.0	0945	5 San Jose Creek
13.2	0915	12.2	0845	13.2	0845	12.7	0900	12.5	0930	11.5	0955	6 Point Lobos: north side
11.1	0925	11.5	0855	11.9	0855	11.8	0910	11.7	0935	10.8	1000	7 Point Lobos: south side
11.8	0935	11.8	0905	11.4	0915	11.8	0925	11.4	0945	10.6	1015	8 Yankee Point: north of
13.8	0940	13.3	0915	13.6	0925	12.2	0935	11.8	0955	11.0	1025	9 Yankee Point: south of
11.4	1000	12.2	0925	11.6	0945	11.7	0955	11.6	1010	10.6	1045	10 Soberanes Point
10.8	1020	11.6	0950	11.5	1000	11.8	1010	12.4	1030	11.0	1105	11 Garrapata Creek
11.1	1035	11.6	1005	12.2	1020	12.0	1025	12.1	1045	10.8	1130	12 Rocky Creek
11.3	1100	11.1	1030	12.5	1045	12.6	1045	11.9	1110	10.9	1150	13 Little Sur
11.4	1120	12.0	1050	12.4	1115	12.3	1110	12.3	1140	10.9	1205	14 Point Sur: north side
11.1	1130	12.8	1100	12.7	1125	13.7	1120	12.5	1145	11.3	1215	15 Point Sur: south side
11.7	0845	11.9	1000	12.3	0920	12.9	0750	11.7	0935	11.4	1000	17 Hot Springs Creek
11.4	0915	11.6	1015	11.9	0945	12.1	0810	12.1	0955	11.6	1025	18 Gamboa Point: north of
11.3	0940	12.0	1100	12.0	1020	12.5	0845	12.5	1020	11.2	1100	19 Gorda Cove
12.5	1015	13.3	1130	14.2	1100	13.8	0920	12.0	1050	11.6	1130	20 Point Piedras Blancas: north of
11.8	1030	12.0	1145	12.9	1115	13.9	0930	12.3	1145	11.4	1140	21 Point Piedras Blancas: south of
13.1	1045	14.3	1200	14.1	1130	14.4	0945	12.6	1200	11.6	1150	22 San Simeon Bay
14.6	1100	14.3	1220	14.6	1215	14.8	1000	13.0	1215	11.7	1205	23 Santa Rosa Creek
15.6	1130	15.5	1310	14.8	1250	15.1	1020	13.1	1235	11.9	1245	24 Cayucos
15.3	1145	16.4	1320	15.0	1300	15.4	1035	12.7	1310	11.6	1300	25 Morro Rock
16.3	1200	14.7	1335	14.1	1315	14.4	1045	11.6	1320	11.2	1310	26 Morro Bay
12.2	1230	13.2	1400	13.7	1350	14.5	1110	12.0	1345	11.6	1330	27 Islay Creek