UNIVERSITY OF CALIFORNIA SCRIPPS INSTITUTION OF OCEANOGRAPHY

data report

PHYSICAL OCEANOGRAPHIC DATA

CalCOFI Cruise 8012
26 November - 20 December 1980

CalCOFI Cruise 8101
8 - 31 January 1981

CalCOFI Cruise 8102
13 February - 10 March 1981

CalCOFI Cruise 8104
1 - 27 April 1981

SIO Reference 85-9
17 June 1985

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY

PHYSICAL OCEANOGRAPHIC DATA

CalCOFI Cruise 8012
26 November - 20 December 1980

CalCOFI Cruise 8101
8 - 31 January 1981

CalCOFI Cruise 8102
13 February - 10 March 1981

and

CalCOFI Cruise 8104
1 - 27 April 1981

SIO Reference 85-9
17 June 1985

Approved for distribution:

W. A. Nierenberg, Director

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INTRODUCTION

The data in this report were collected during Cruises 8012*, 8101, 8102, and 8104 of the California Cooperative Oceanic Fisheries Investigations (CalCOFI) program aboard the RV *David Starr Jordan* of the National Marine Fisheries Service and the RV *New Horizon* of the Scripps Institution of Oceanography.

These data were collected and processed by personnel of the Marine Life Research Group (MLRG), the Physical and Chemical Oceanographic Data Facility (PACODF), and the Southwest Fisheries Center, National Marine Fisheries Service (NMFS).

STANDARD PROCEDURES

In-situ Conductivity/Temperature/Depth Recorder (CTD) Data

CTD lowerings were made on cardinal CalCOFI line stations on all cruises except 8012 *New Horizon*. Temperature and salinity corrections were applied to the CTD data, based upon comparisons with shallow and deep Nansen cast data or rosette cast data (8102 *New Horizon*).

Hydrographic Cast Data

The hydrographic casts were lowered on cardinal CalCOFI line stations on cruise 8012 *New Horizon*. The casts consisted of 18 or fewer Nansen bottles lowered to a maximum sampling depth of 500 meters, bottom depth permitting. Temperature and salinity were determined for all depths sampled.

Paired protected reversing thermometers were used to determine temperatures which are recorded to hundredths of a degree Celsius. Sampling bottles used below a depth of 100 meters were equipped with unprotected thermometers for determination of the depth of sampling.

Salinity samples were analyzed at sea on inductive-type salinometers standardized with Wormley Standard Seawater. The salinity values are reported to three decimal places.

The observed data have been evaluated using the method described by Klein (1973). This involves consideration of their variation as functions of density or depth and their relationships to each other, and comparisons with adjacent observations.

TABULATED DATA

The time reported is Greenwich Mean Time. For CTD lowerings it is the "start down" time and for Nansen casts it is the time of messenger release.

Bottom depths, determined acoustically, have been corrected using Matthews (1939) tables and are reported in meters. Weather conditions have been coded using WMO code 4051.

Data in this report were obtained by CTD lowerings, rosette samples, or Nansen casts and appear in three forms:

1. Observed and interpolated standard depth data from Nansen casts have been interspersed and are presented together in depth sequence. Interpolated or extrapolated standard level data are noted by the footnote "ISL" printed after the depth. Density related parameters have been calculated from the International Equation of State of Seawater 1980 (EOS80, UNESCO, 1981). Some of the differences between EOS80 and the older equations of state are discussed in the introduction to SIO Ref. 84-18. Computed values of potential temperature, sigma-theta, specific volume anomaly (SVA), dynamic height or geopotential anomaly, and pressure are included with both observed and interpolated standard depth levels.

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* The first two digits represent the year and the second two digits the month of the cruise.

2. Data from CTD lowerings are presented with two stations printed side by side. Temperature and salinity are tabulated at closer standard intervals than the interpolated standard depth bottle data. The computed values are the same as for the bottle data.

3. Ten-meter temperature and salinity data from net tow station 10-meter bottles and CTD 10-meter check bottles appear as separate sections.

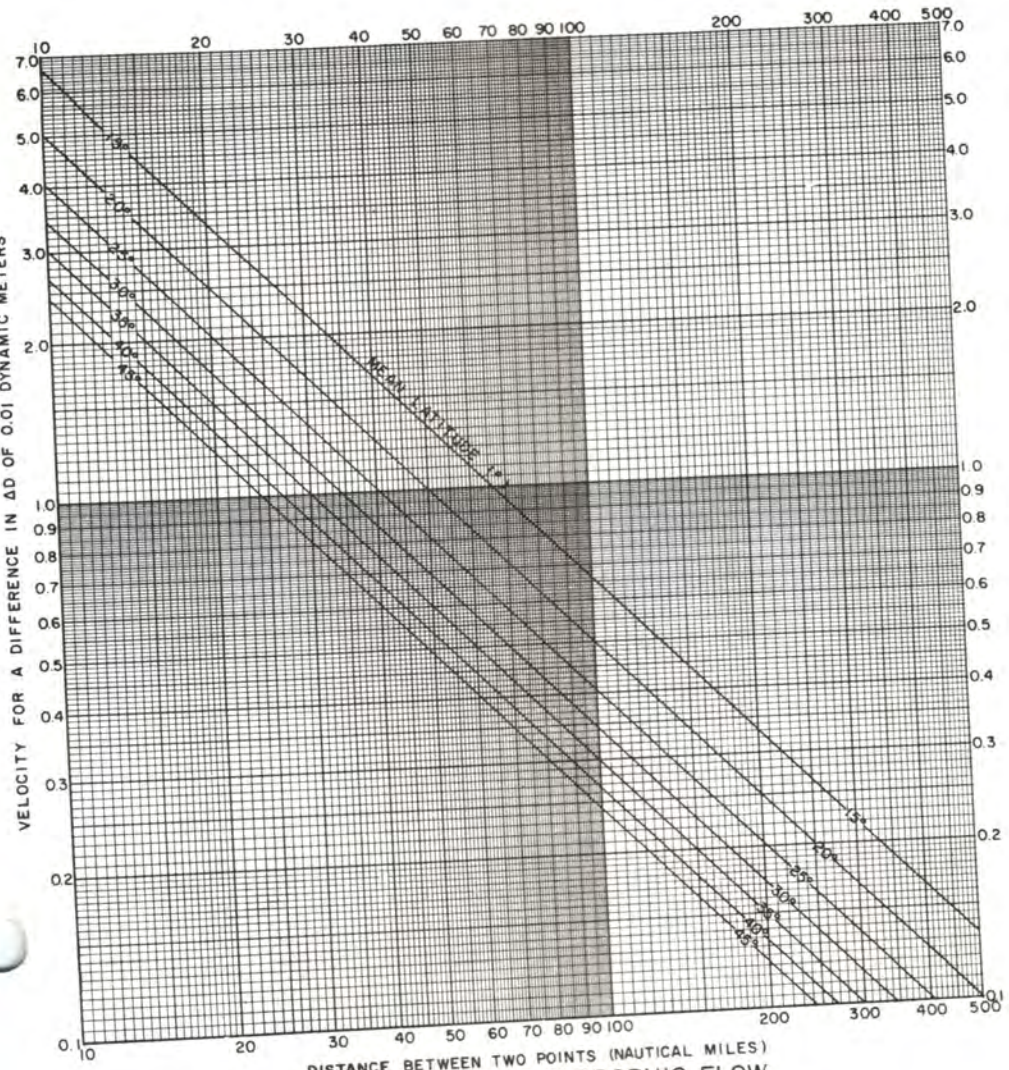
LITERATURE CITED

Klein, Hans T., 1973. A new technique for processing physical oceanographic data. SIO Ref. No. 73-14, 17 pp.

Matthews, D. J., 1939. Tables of the velocity of sound in pure water and seawater for use in echo-sounding and sound-ranging. Second Edition. Hydrographic Department, Admiralty, H. D. 282, 52 pp.

Scripps Institution of Oceanography, University of California, 1984. Physical, Chemical and Biological Data, CalCOFI Cruise 8401, 4-27 January 1984. SIO Ref. No. 84-18, 120 pp.

UNESCO, 1981. Background papers and supporting data on the International Equation of State 1980. UNESCO Tech. Pap. in Mar. Sci., No. 38, 192 pp.



VELOCITY OF GEOSTROPHIC FLOW
(NAUTICAL MILES PER DAY)

cm/sec	0	1	2	3	4	5	6	7	8	9
0	KNOTS / N.M./DAY	0.02 / 0.47	0.04 / 0.93	0.06 / 1.40	0.08 / 1.86	0.10 / 2.33	0.12 / 2.80	0.14 / 3.26	0.16 / 3.73	0.17 / 4.20
10	0.19 / 4.66	0.21 / 5.13	0.23 / 5.59	0.25 / 6.06	0.27 / 6.53	0.29 / 6.99	0.31 / 7.46	0.33 / 7.93	0.35 / 8.39	0.37 / 8.86
20	0.39 / 9.32	0.41 / 9.79	0.43 / 10.26	0.45 / 10.72	0.47 / 11.19	0.49 / 11.66	0.51 / 12.12	0.52 / 12.59	0.54 / 13.05	0.56 / 13.52
30	0.58 / 13.99	0.60 / 14.45	0.62 / 14.92	0.64 / 15.38	0.66 / 15.85	0.68 / 16.32	0.70 / 16.78	0.72 / 17.25	0.74 / 17.72	0.76 / 18.18
40	0.78 / 18.65	0.80 / 19.11	0.82 / 19.58	0.84 / 20.05	0.85 / 20.51	0.87 / 20.98	0.89 / 21.45	0.91 / 21.91	0.93 / 22.38	0.95 / 22.84
50	0.97 / 23.31	0.99 / 23.78	1.01 / 24.24	1.03 / 24.71	1.05 / 25.17	1.07 / 25.64	1.09 / 26.11	1.11 / 26.57	1.13 / 27.04	1.15 / 27.51
60	1.17 / 27.98	1.18 / 28.44	1.20 / 28.90	1.22 / 29.37	1.24 / 29.84	1.26 / 30.30	1.28 / 30.77	1.30 / 31.24	1.32 / 31.70	1.34 / 32.17
70	1.36 / 32.63	1.38 / 33.10	1.40 / 33.57	1.42 / 34.03	1.44 / 34.50	1.46 / 34.96	1.48 / 35.43	1.50 / 35.90	1.52 / 36.36	1.53 / 36.83
80	1.55 / 37.30	1.57 / 37.76	1.59 / 38.23	1.61 / 38.69	1.63 / 39.16	1.65 / 39.63	1.67 / 40.09	1.69 / 40.56	1.71 / 41.03	1.73 / 41.49
90	1.75 / 41.96	1.77 / 42.42	1.79 / 42.89	1.81 / 43.36	1.83 / 43.82	1.85 / 44.29	1.86 / 44.76	1.88 / 45.22	1.90 / 45.69	1.92 / 46.15
100	1.94 / 46.62	1.96 / 47.09	1.98 / 47.55	2.00 / 48.02	2.02 / 48.48	2.04 / 48.95	2.06 / 49.42	2.08 / 49.88	2.10 / 50.35	2.12 / 50.82

CONVERSION TABLE
(CENTIMETERS / SECOND – KNOTS – NAUTICAL MILES / DAY)

1 cm/sec = 0.019 kts = 0.466 NAUTICAL MILES / DAY
1 kt = 24 NAUTICAL MILES / DAY = 51.48 cm/sec
1 NAUTICAL MILE / DAY = 0.042 kts = 2.14 cm/sec

FIGURES

Cruise 8101

1. CalCOFI Cruise 8101, station positions.
2. Horizontal distribution of dynamic height anomaly (0 over 500 m).
3. Horizontal distribution of dynamic height anomaly (200 over 500 m).
4. Horizontal distribution of temperature at 10 meters.
5. Horizontal distribution of salinity at 10 meters.
6. Horizontal distribution of sigma-theta at 10 meters.
7. Horizontal distribution of temperature at 200 meters.
8. Horizontal distribution of salinity at 200 meters.
9. Horizontal distribution of sigma-theta at 200 meters.

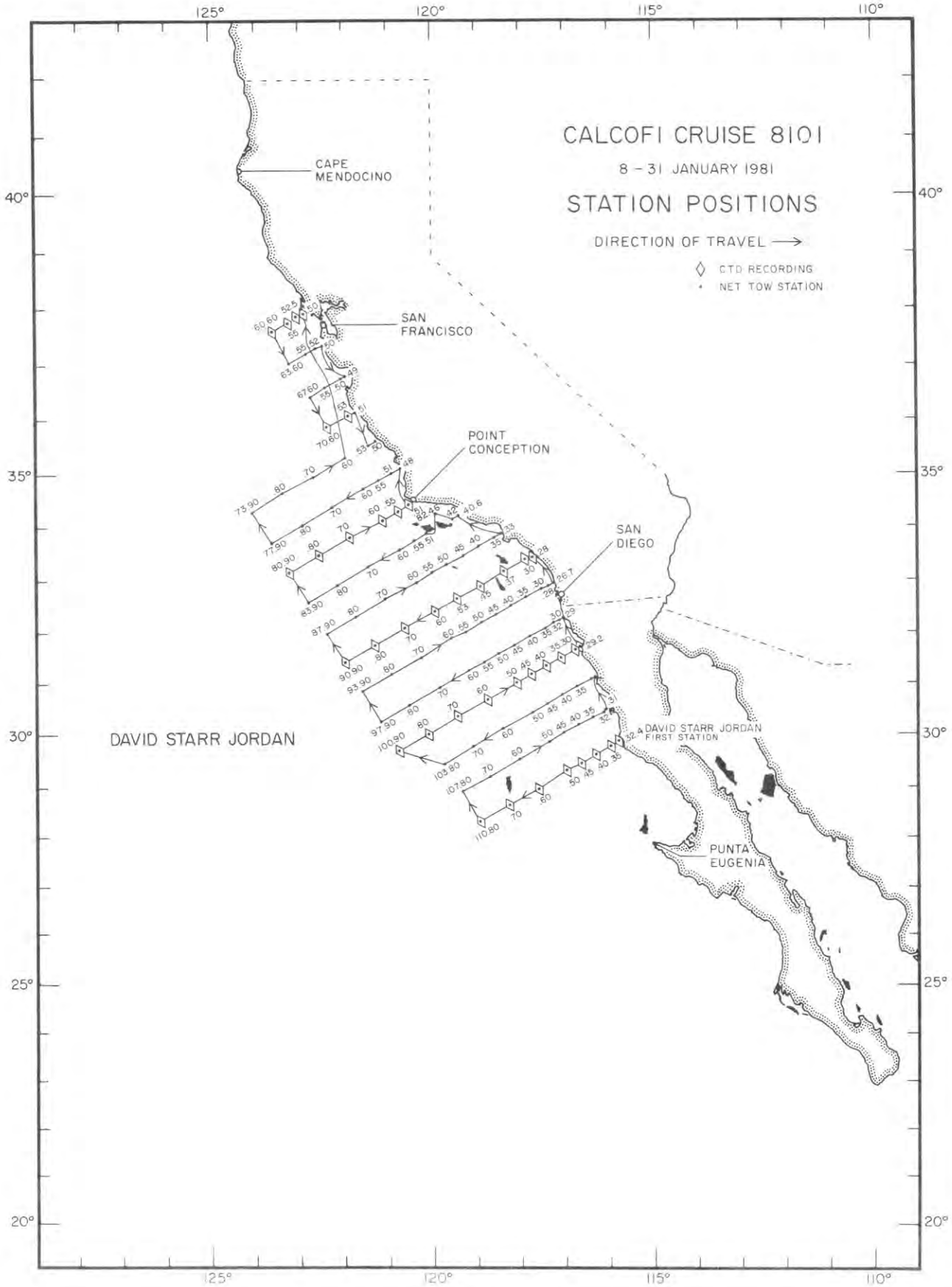

CALCOFI CRUISE 8101
8 – 31 JANUARY 1981
STATION POSITIONS
DIRECTION OF TRAVEL →
◊ CTD RECORDING
• NET TOW STATION
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
DAVID STARR JORDAN
DAVID STARR JORDAN FIRST STATION
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 1

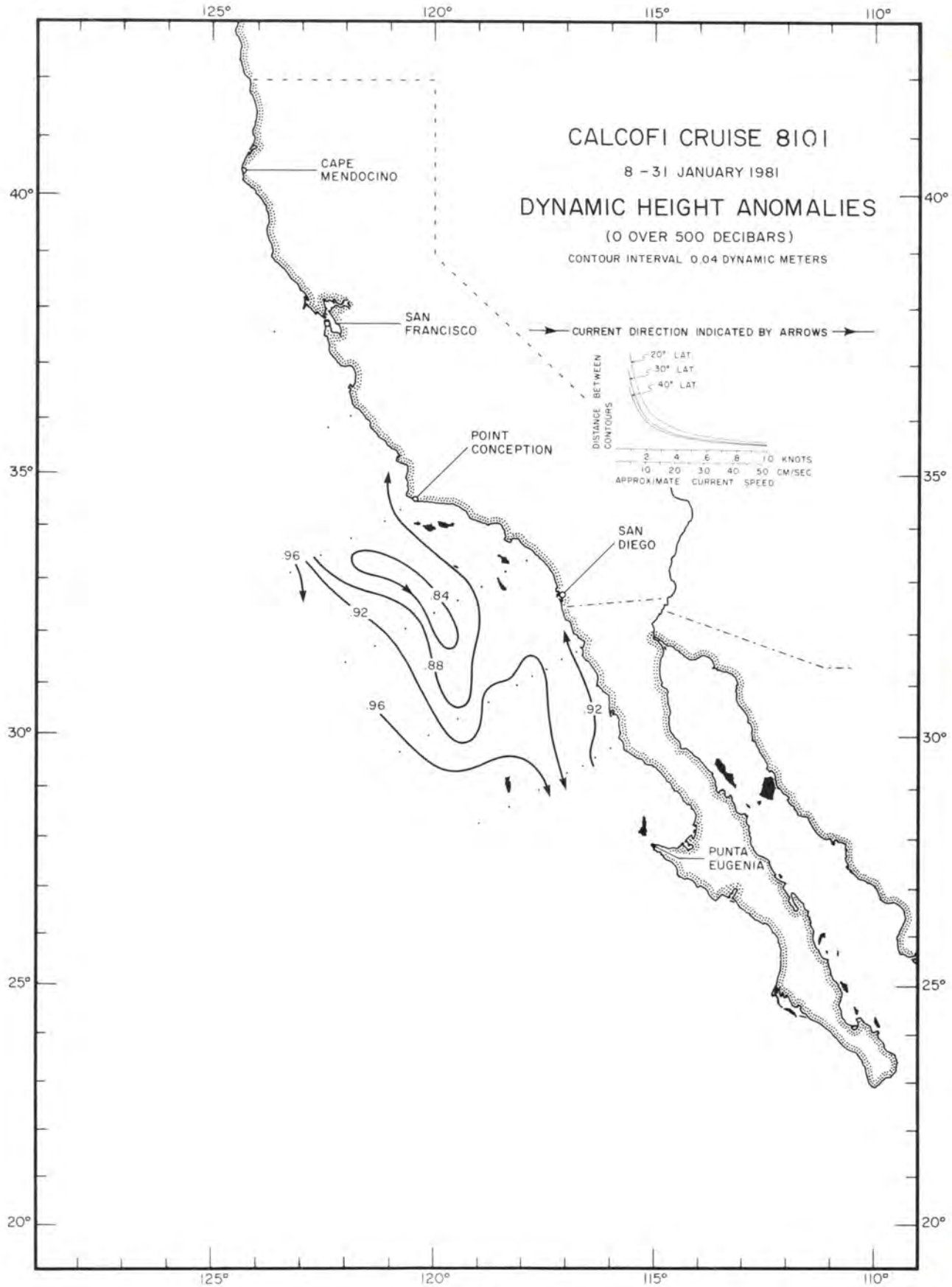

CALCOFI CRUISE 8101
8 - 31 JANUARY 1981
DYNAMIC HEIGHT ANOMALIES
(0 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.04 DYNAMIC METERS
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
CURRENT DIRECTION INDICATED BY ARROWS
DISTANCE BETWEEN CONTOURS
20° LAT.
30° LAT.
40° LAT.
2 4 6 8 10 KNOTS
10 20 30 40 50 CM/SEC
APPROXIMATE CURRENT SPEED
.96
.92
.84
.88
.96
.92
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 2

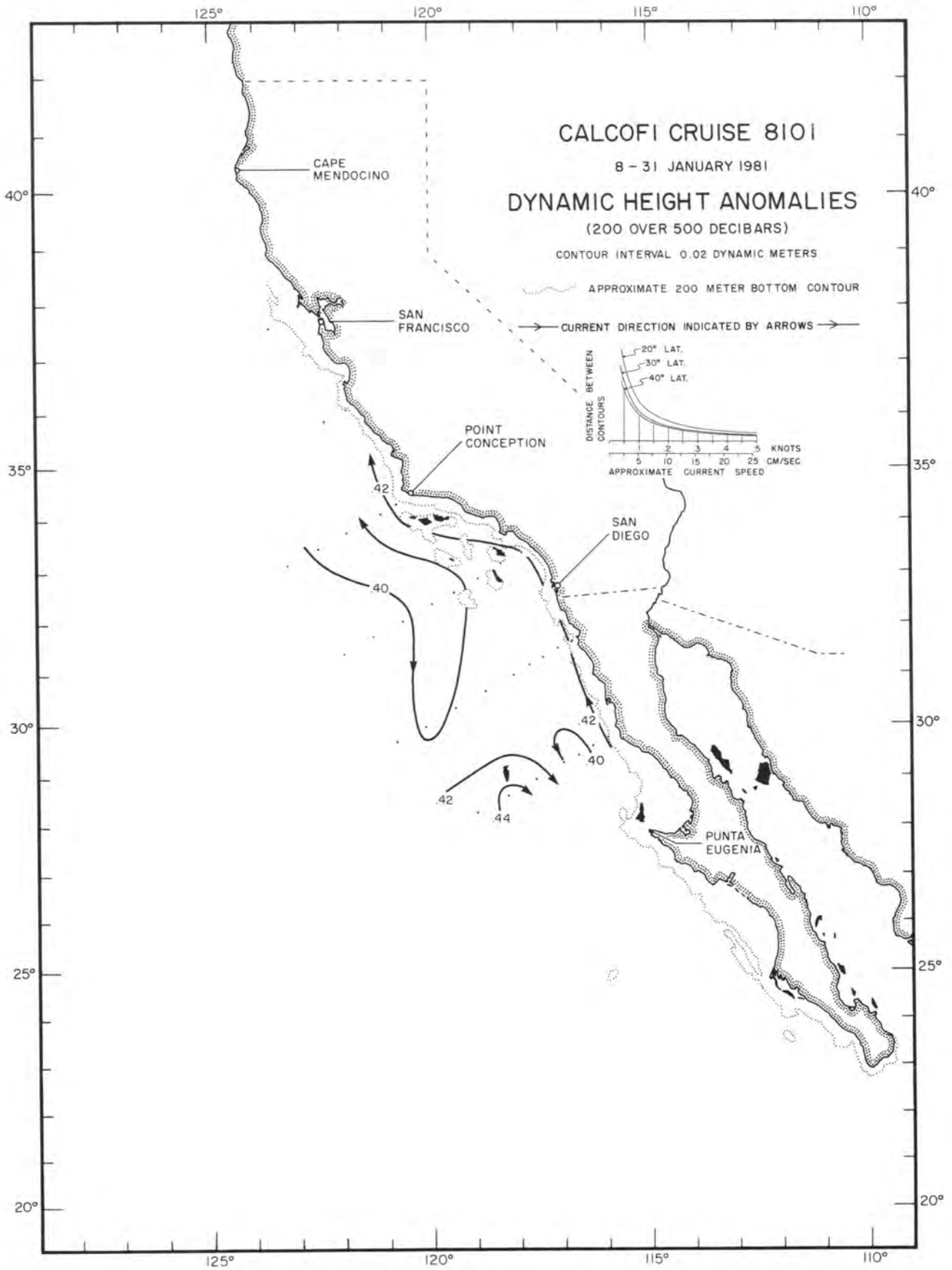

CALCOFI CRUISE 8101
8 - 31 JANUARY 1981
DYNAMIC HEIGHT ANOMALIES
(200 OVER 500 DECIBARS)
CONTOUR INTERVAL 0.02 DYNAMIC METERS
APPROXIMATE 200 METER BOTTOM CONTOUR
CURRENT DIRECTION INDICATED BY ARROWS
DISTANCE BETWEEN CONTOURS
20° LAT.
30° LAT.
40° LAT.
KNOTS
CM/SEC
APPROXIMATE CURRENT SPEED
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
42
40
42
40
42
44
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 3

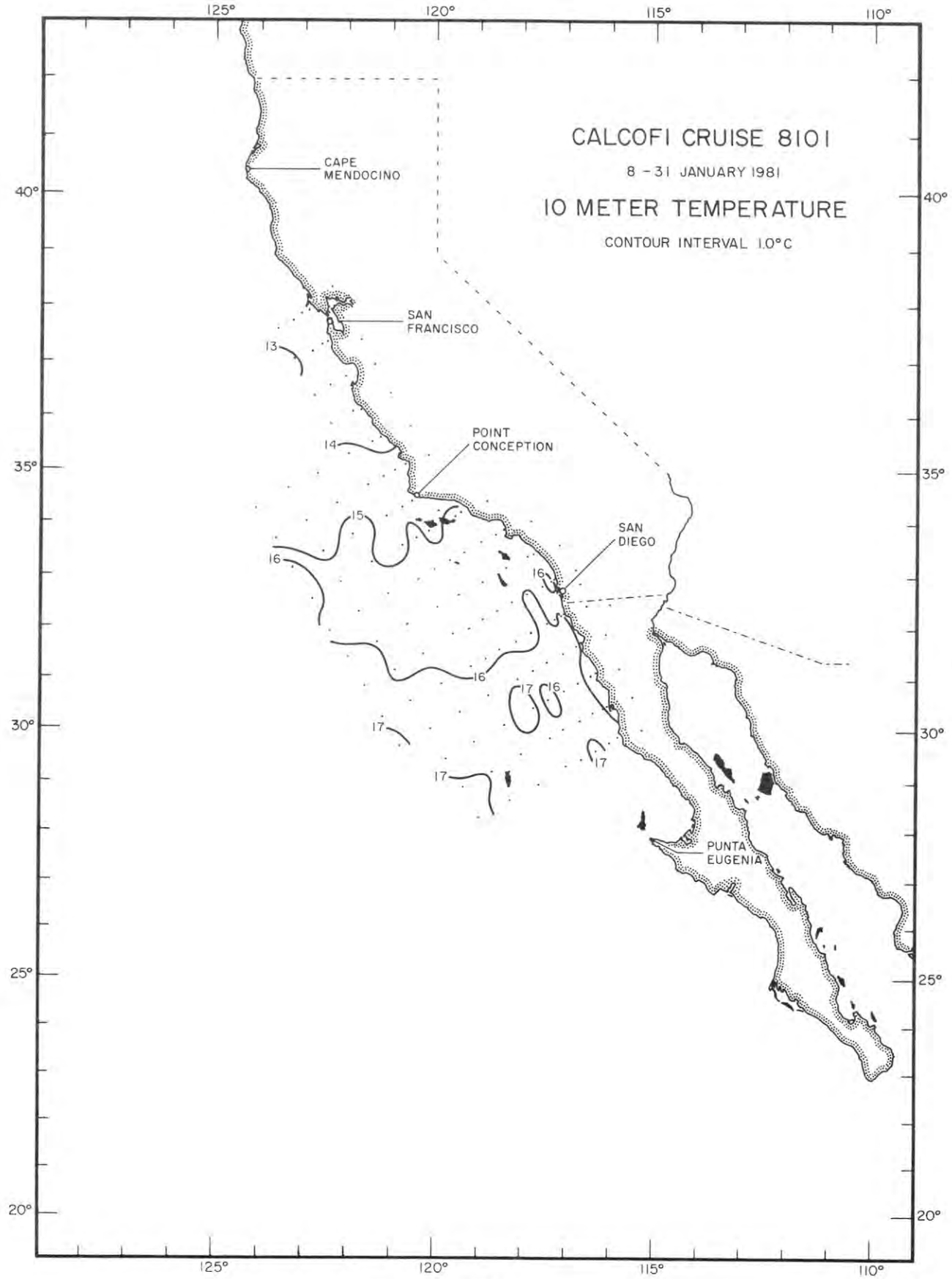

CALCOFI CRUISE 8101
8 - 31 JANUARY 1981
10 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
125°
120°
115°
110°
40°
35°
30°
25°
20°
13
14
15
16
16
16
17
16
17
17

FIGURE 4

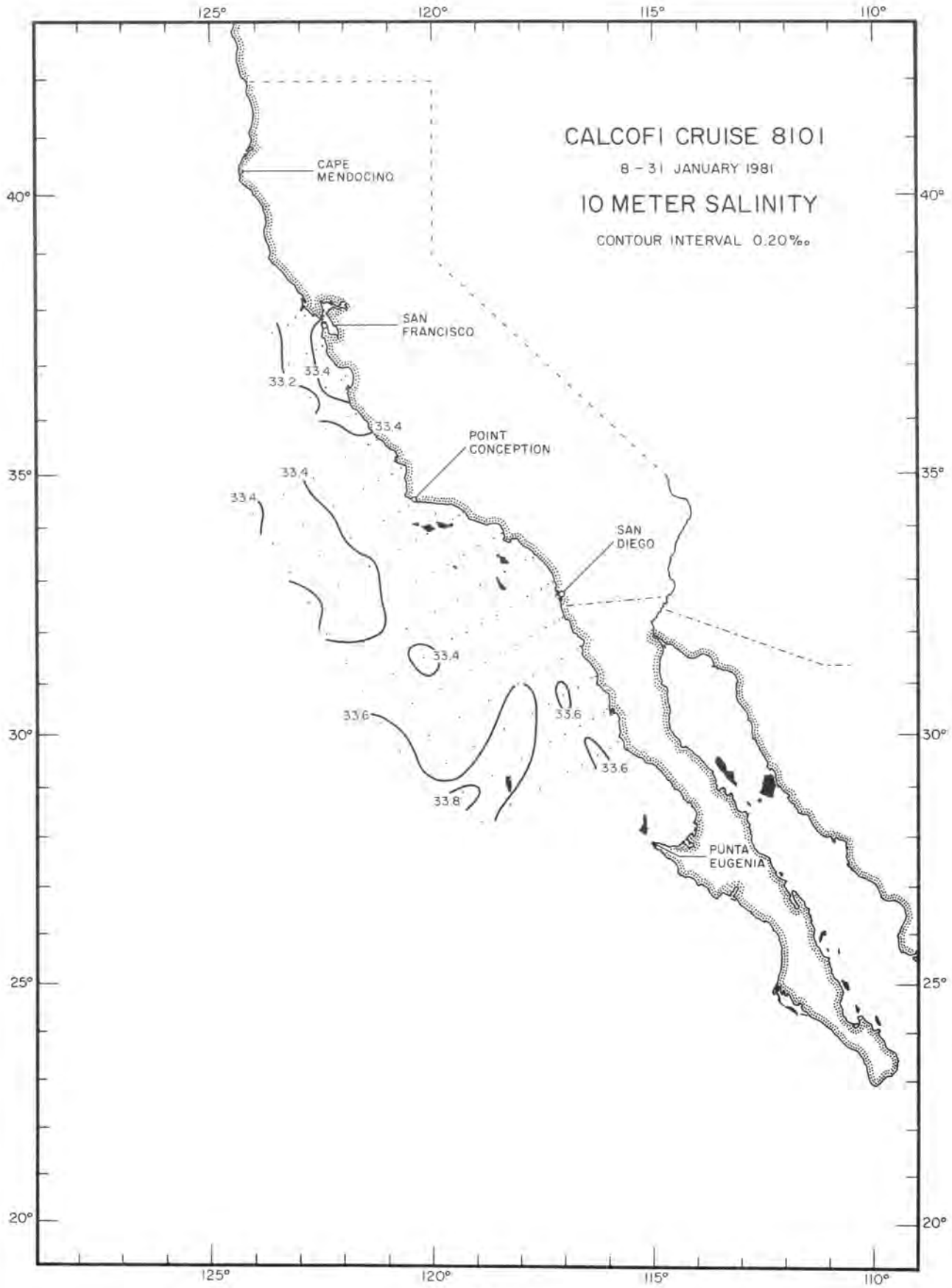

CALCOFI CRUISE 8101
8 - 31 JANUARY 1981
10 METER SALINITY
CONTOUR INTERVAL 0.20‰
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
33.2
33.4
33.4
33.4
33.4
33.4
33.6
33.6
33.6
33.8
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 5

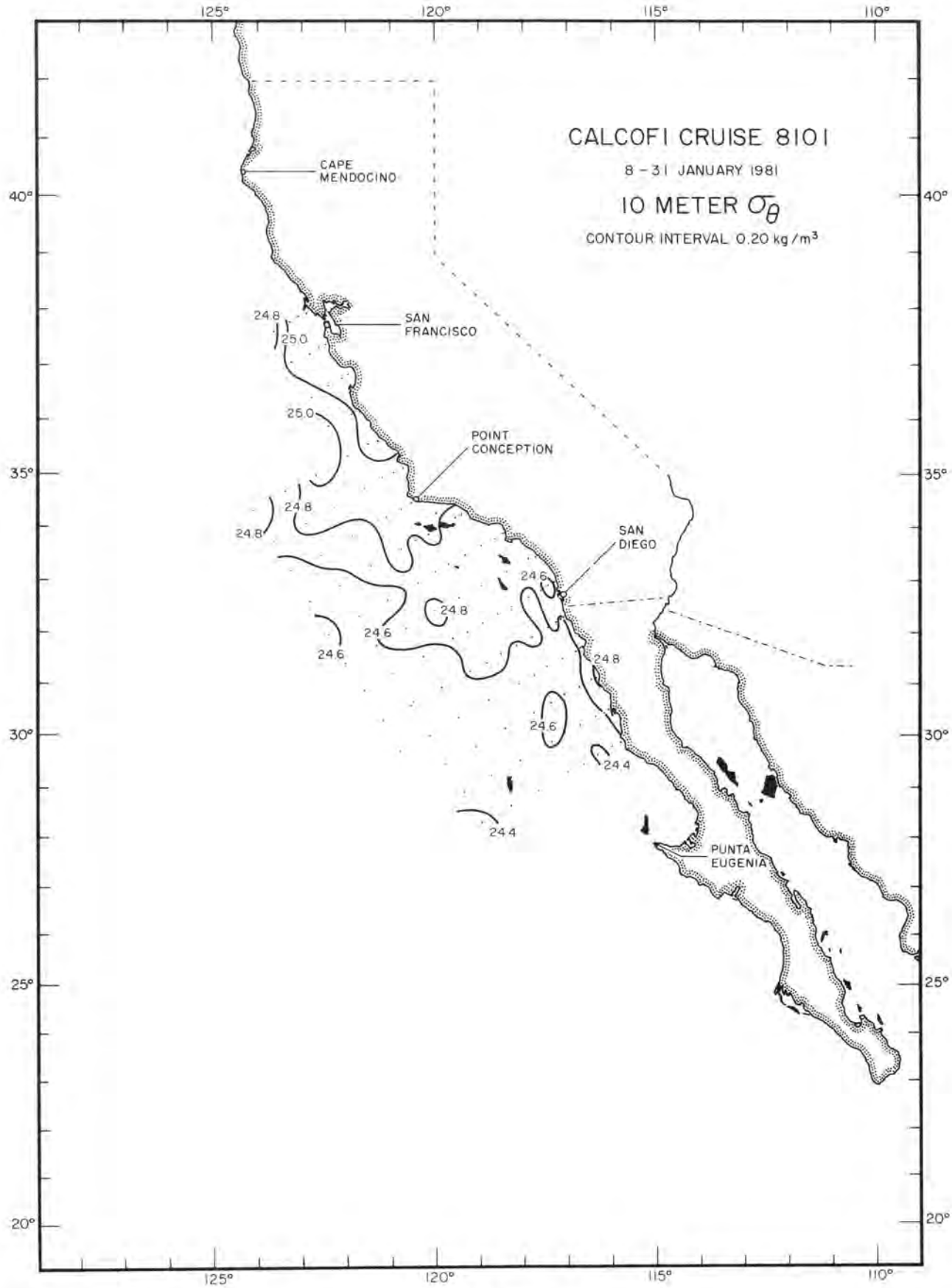

CALCOFI CRUISE 8101
8 - 31 JANUARY 1981
10 METER σ_θ
CONTOUR INTERVAL 0.20 kg/m^3
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
24.8
25.0
25.0
24.8
24.8
24.6
24.8
24.6
24.6
24.8
24.6
24.4
24.4
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 6

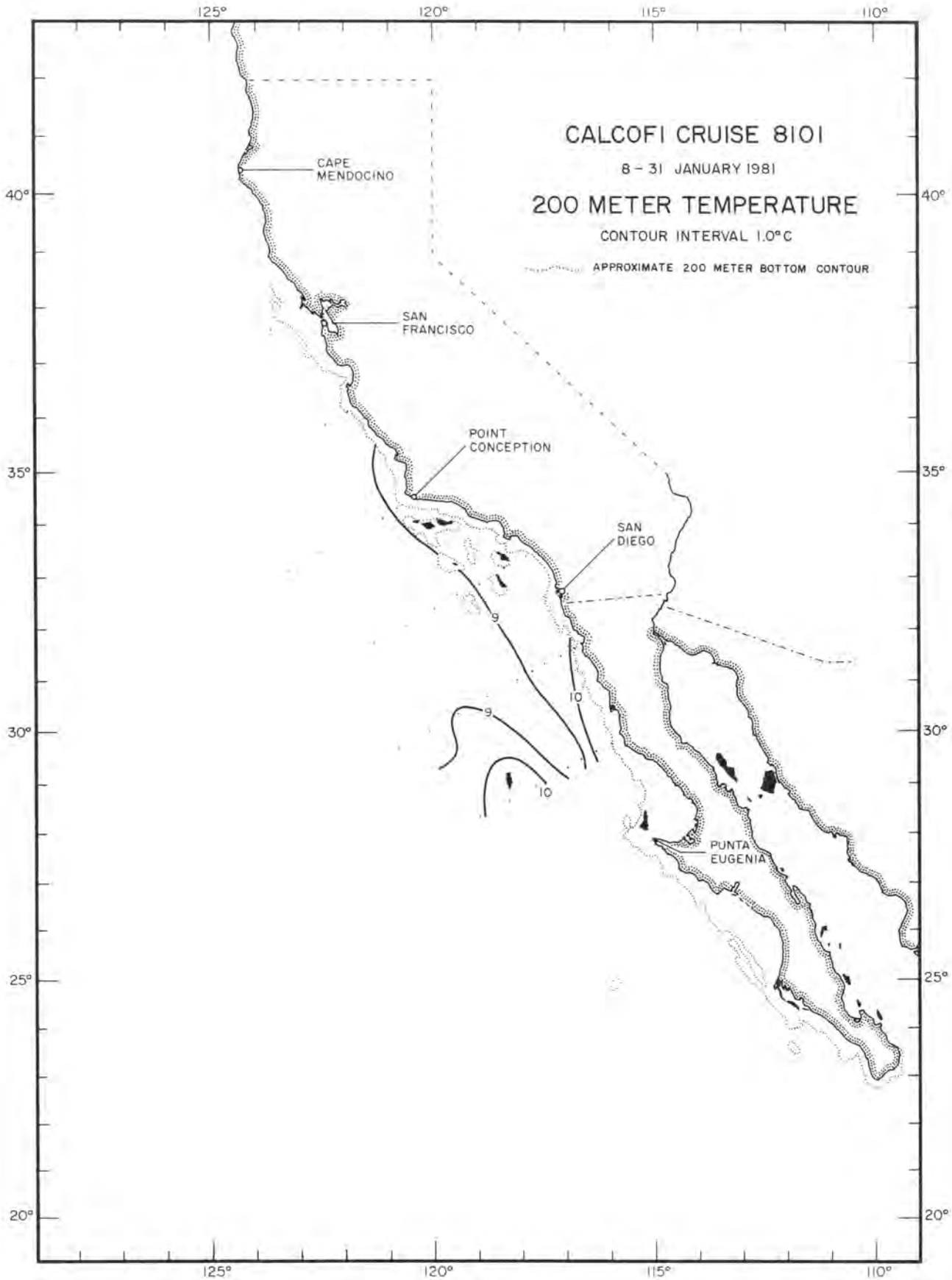

CALCOFI CRUISE 8101
8 - 31 JANUARY 1981
200 METER TEMPERATURE
CONTOUR INTERVAL 1.0°C
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
9
10
9
10
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 7

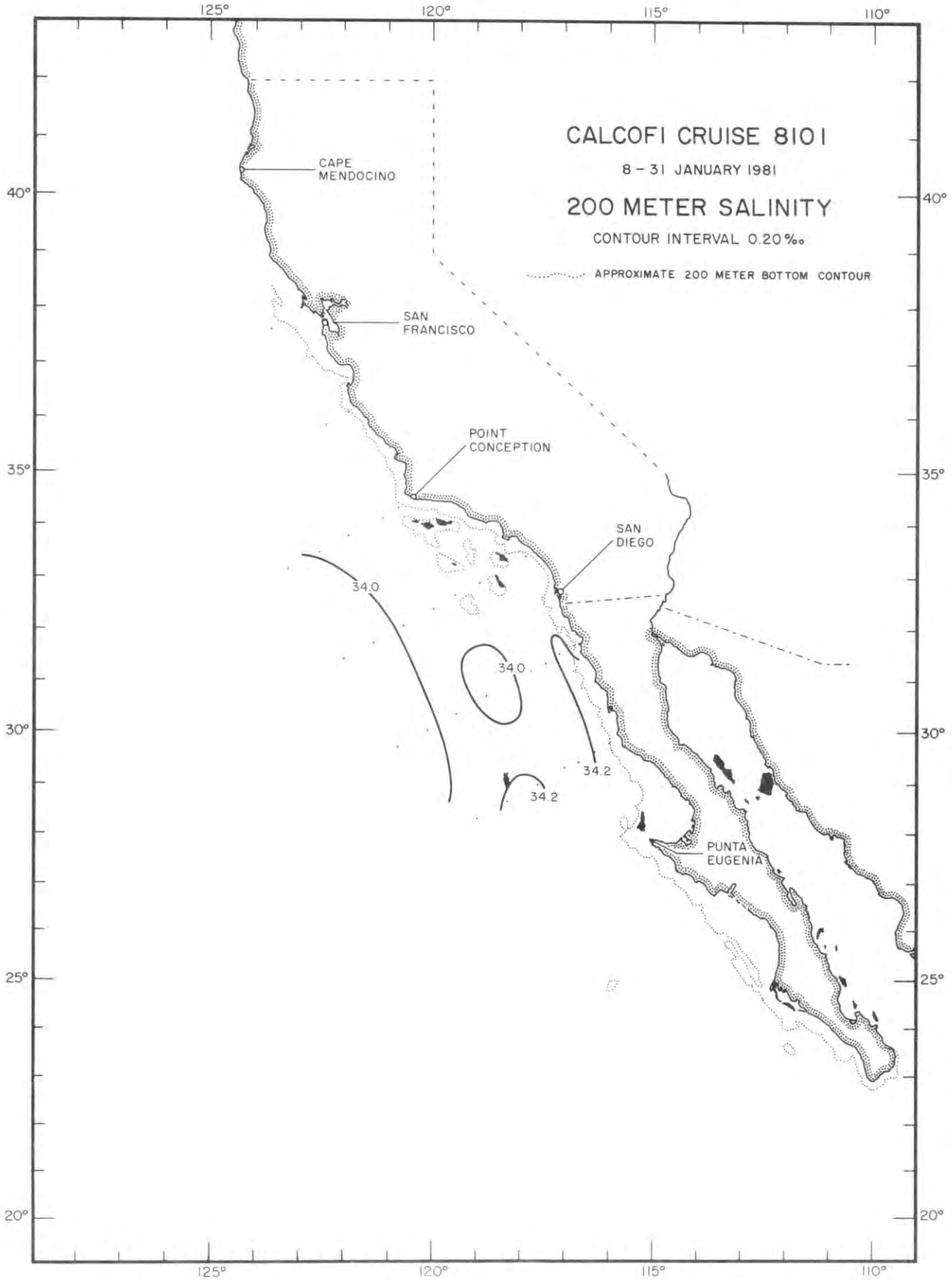

CALCOFI CRUISE 8101
8 – 31 JANUARY 1981
200 METER SALINITY
CONTOUR INTERVAL 0.20‰
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
34.0
34.0
34.2
34.2
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 8

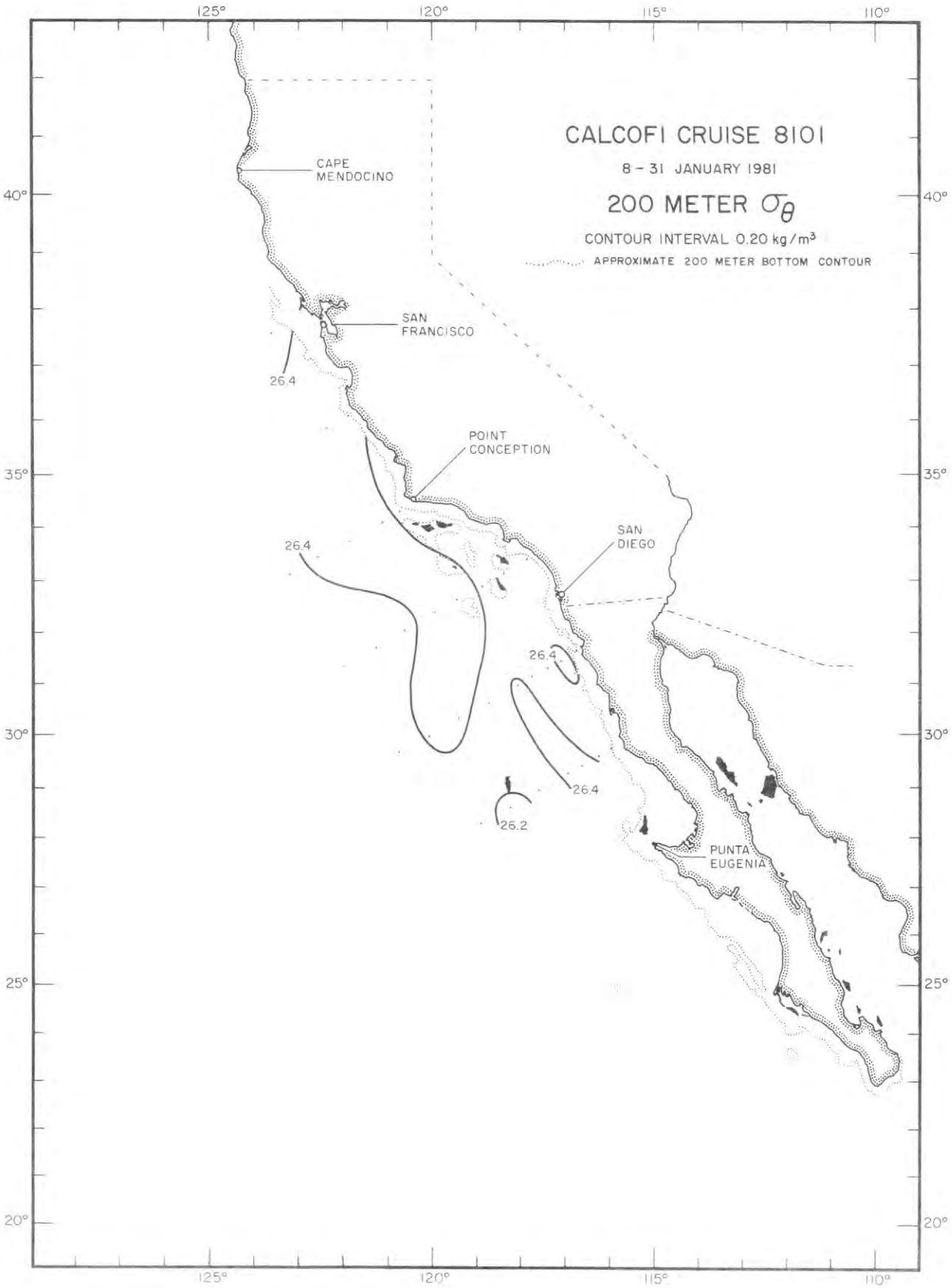

CALCOFI CRUISE 8101
8 – 31 JANUARY 1981
200 METER σ_θ
CONTOUR INTERVAL 0.20 kg/m³
APPROXIMATE 200 METER BOTTOM CONTOUR
CAPE MENDOCINO
SAN FRANCISCO
POINT CONCEPTION
SAN DIEGO
PUNTA EUGENIA
26.4
26.4
26.4
26.2
125°
120°
115°
110°
40°
35°
30°
25°
20°

FIGURE 9

PERSONNEL

Cruise 8101

SHIP'S CAPTAIN

Roll, Milton, RV *David Starr Jordan*

PERSONNEL PARTICIPATING IN THE COLLECTION OF DATA

RV *David Starr Jordan*

Metoyer, Jack D. (in charge)	Biological Technician, NMFS
Abramenkoff, Dimitry N.	Biological Technician, NMFS
Alvarez-Mendoza, Manuel	Oceanographer, INP
Bryan, Walter R.	Marine Technician, SIO
Mead, Richard V.	Marine Technician, SIO
Ortuño-Manzanares, Guillermo	Biological Technician, INP

STATION 60 50 RV DAVID STARR JORDAN CALCOFI CRUISE 8101 STATION 60 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
37 56.8 N	122 52.9 W	29/01/81	1925 GMT	47 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
330	07 KT	280 09 10	1	1013.7 MB	11.0 C	9.6 C	5/8 CR

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	12.56	12.56	32.425	24.485	343.9	.000	0
10	13.08	13.08	33.093	24.901	304.5	.032	10
20	13.28	13.28	33.399	25.098	286.0	.062	20
30	13.25	13.25	33.435	25.132	283.0	.090	30
40	13.25	13.24	33.439	25.136	283.0	.118	40
42	13.25	13.24	33.439	25.136	283.0	.124	42

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
37 51.8 N	123 03.9 W	29/01/81	2207 GMT	96 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
300	20 KT	280 10 10	2	1014.0 MB	11.5 C	9.7 C	7/8 NS

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	12.87	12.87	33.230	25.049	298.2	.000	0
10	12.95	12.95	33.298	25.078	287.7	.029	10
20	13.16	13.15	33.371	25.101	285.7	.057	20
30	13.12	13.12	33.377	25.114	284.9	.086	30
40	13.10	13.09	33.382	25.121	284.3	.114	40
50	13.14	13.13	33.394	25.123	284.4	.142	50
72	12.24	12.23	33.548	25.418	256.8	.201	72

STATION 60 55 RV DAVID STARR JORDAN CALCOFI CRUISE 8101 STATION 60 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
37 46.8 N	123 14.7 W	30/01/81	0026 GMT	134 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
320	30 KT	280 14 12	1	1015.5 MB	12.0 C	10.5 C	5/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.28	13.28	33.370	25.075	287.6	.000	0
10	13.29	13.29	33.370	25.073	288.1	.029	10
20	13.29	13.29	33.368	25.072	288.5	.057	20
30	13.28	13.28	33.370	25.076	288.4	.086	30
40	13.27	13.26	33.371	25.079	288.4	.115	40
50	12.59	12.58	33.544	25.347	263.1	.142	50
75	11.69	11.68	33.603	25.565	242.9	.205	75
100	10.84	10.83	33.667	25.769	224.0	.265	101
116	10.65	10.64	33.695	25.824	219.1	.301	117

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
37 36.8 N	123 36.5 W	30/01/81	0330 GMT	3354 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
340	23 KT			1018.1 MB	11.5 C	8.2 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.27	13.27	33.018	24.805	313.4	.000	0
10	13.29	13.29	33.014	24.798	314.3	.031	10
20	13.29	13.29	33.014	24.798	314.5	.063	20
30	13.29	13.29	33.014	24.799	314.6	.094	30
40	13.30	13.29	33.025	24.805	314.4	.125	40
50	13.27	13.26	33.141	24.901	305.5	.156	50
75	11.16	11.15	33.571	25.636	236.0	.223	75
100	10.37	10.36	33.743	25.910	210.5	.281	101
125	9.56	9.55	33.836	26.119	191.0	.331	126
150	9.36	9.34	33.950	26.241	179.9	.377	151
175	9.19	9.17	34.012	26.318	173.1	.421	176
200	8.91	8.89	34.049	26.391	166.5	.463	201
250	8.08	8.05	34.052	26.522	154.8	.544	252
300	7.41	7.38	34.080	26.641	143.9	.618	302
350	6.84	6.81	34.094	26.731	135.8	.688	352
400	6.44	6.40	34.126	26.811	128.7	.755	403
450	6.32	6.28	34.173	26.864	124.5	.817	453
500	5.89	5.85	34.176	26.921	119.2	.879	504
514	5.77	5.73	34.197	26.952	116.2	.895	518

STATION 70 53 RV DAVID STARR JORDAN CALCOFI CRUISE 8101 STATION 70 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
36 07.1 N	121 52.6 W	31/01/81	1145 GMT	944 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
010	16 KT			1026.2 MB	11.3 C	8.9 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.59	13.59	33.346	24.994	295.4	.000	0
10	13.60	13.60	33.332	24.982	296.8	.029	10
20	13.50	13.50	33.357	25.021	293.3	.059	20
30	12.47	12.47	33.426	25.279	269.0	.087	30
40	12.32	12.31	33.507	25.370	260.5	.113	40
50	11.78	11.77	33.538	25.497	248.8	.138	50
75	10.79	10.78	33.595	25.721	228.0	.198	75
100	10.07	10.06	33.670	25.904	211.0	.254	101
125	9.68	9.67	33.815	26.083	194.5	.305	126
150	9.18	9.16	33.955	26.274	176.7	.351	151
175	9.05	9.03	34.010	26.338	171.1	.394	176
200	8.80	8.78	34.079	26.432	162.6	.436	201
250	8.47	8.44	34.169	26.555	151.9	.515	252
300	7.75	7.72	34.132	26.634	144.9	.589	302
350	7.15	7.12	34.145	26.729	136.3	.659	352
400	6.85	6.81	34.176	26.795	130.6	.726	403
450	6.47	6.43	34.212	26.875	123.4	.789	453
500	6.16	6.12	34.222	26.924	119.2	.850	504
514	6.02	5.97	34.245	26.959	115.9	.867	518

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
35 52.9 N	122 21.9 W	31/01/81	0738 GMT	3164 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
350	20 KT			1027.8 MB	12.2 C	9.1 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	13.75	13.75	33.490	25.073	287.9	.000	0
10	13.74	13.74	33.434	25.030	288.3	.029	10
20	13.74	13.74	33.482	25.069	288.8	.057	20
30	13.75	13.75	33.480	25.066	289.4	.086	30
40	13.75	13.74	33.478	25.064	289.8	.115	40
50	13.54	13.53	33.446	25.083	286.3	.144	50
75	11.07	11.06	33.589	25.667	233.1	.209	75
100	10.07	10.06	33.729	25.950	206.7	.265	101
125	9.61	9.60	33.878	26.144	188.7	.315	126
150	9.28	9.26	33.926	26.235	180.5	.360	151
175	9.10	9.08	34.030	26.346	170.4	.404	176
200	8.90	8.88	34.080	26.417	164.1	.445	201
250	8.14	8.11	34.066	26.524	154.6	.526	252
300	7.93	7.90	34.172	26.639	144.5	.600	302
350	7.36	7.33	34.161	26.713	138.0	.671	352
400	6.90	6.86	34.191	26.801	130.1	.738	403
450	6.44	6.40	34.209	26.876	123.2	.801	453
500	6.12	6.08	34.218	26.925	119.0	.862	504
516	6.03	5.98	34.226	26.943	117.5	.881	520

STATION 80 51 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
34 27.1 N	120 31.5 W	25/01/81	1259 GMT	65 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
360	20 KT		0	1014.8 MB	11.8 C	8.4 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	14.39	14.39	33.513	24.957	298.8	.000	0
10	14.41	14.41	33.513	24.953	299.5	.030	10
20	14.37	14.37	33.511	24.960	299.1	.060	20
30	13.21	13.21	33.573	25.247	272.1	.088	30
40	12.13	12.12	33.654	25.521	246.3	.114	40
50	11.68	11.67	33.600	25.563	242.4	.138	50
60	11.23	11.22	33.653	25.687	230.9	.162	60

CALCOFI CRUISE 8101 STATION 80 55

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
34 19.0 N	120 48.1 W	25/01/81	0930 GMT	768 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
360	30 KT		1	1017.0 MB	12.8 C	9.6 C	5/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	14.78	14.78	32.732	24.272	364.1	.000	0
10	14.78	14.78	33.444	24.821	312.1	.034	10
20	14.78	14.78	33.443	24.821	312.4	.065	20
30	14.78	14.78	33.435	24.815	313.3	.096	30
40	14.39	14.38	33.406	24.876	307.6	.127	40
50	13.08	13.07	33.479	25.201	277.0	.156	50
75	11.54	11.53	33.627	25.611	238.5	.220	75
100	10.61	10.60	33.689	25.826	218.5	.277	100
125	9.95	9.94	33.834	26.053	197.4	.331	126
150	9.69	9.67	33.900	26.148	188.8	.379	151
175	9.42	9.40	33.979	26.255	179.2	.424	176
200	9.28	9.26	34.023	26.312	174.2	.468	201
250	8.89	8.86	34.124	26.454	161.6	.552	251
300	8.21	8.18	34.195	26.615	146.9	.630	302
350	7.77	7.74	34.188	26.675	141.8	.701	352
400	7.38	7.34	34.210	26.749	135.4	.771	403
450	6.87	6.83	34.221	26.829	128.2	.837	453
500	6.37	6.32	34.233	26.905	121.2	.899	503
516	6.24	6.19	34.228	26.918	120.1	.919	520

STATION 80 60 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
34 09.0 N	121 09.0 W	25/01/81	0550 GMT	2222 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
360	27 KT			1020.5 MB	12.9 C	11.0 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	14.83	14.83	33.498	24.852	308.9	.000	0
10	14.84	14.84	33.495	24.847	309.6	.031	10
20	14.84	14.84	33.500	24.852	309.5	.062	20
30	14.69	14.69	33.472	24.863	308.7	.092	30
40	13.90	13.89	33.494	25.046	291.5	.122	40
50	12.83	12.82	33.491	25.260	271.4	.150	50
75	10.78	10.77	33.522	25.666	233.1	.213	75
100	9.60	9.59	33.660	25.975	204.2	.267	100
125	9.24	9.23	33.740	26.096	193.1	.319	126
150	8.84	8.82	33.885	26.273	176.7	.365	151
175	8.76	8.74	34.017	26.390	166.1	.407	176
200	8.85	8.83	34.137	26.470	159.1	.448	201
250	8.37	8.34	34.174	26.574	150.0	.524	251
300	7.83	7.80	34.198	26.674	141.1	.598	302
350	7.38	7.35	34.227	26.762	133.4	.666	352
400	7.11	7.07	34.228	26.801	130.3	.733	403
450	6.72	6.68	34.239	26.863	124.8	.796	453
500	6.38	6.33	34.260	26.925	119.3	.857	503
516	5.99	5.94	34.214	26.939	117.8	.877	520

CALCOFI CRUISE 8101 STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
33 49.0 N	121 50.6 W	24/01/81	2355 GMT	4117 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
350	23 KT	330 10 10	1	1022.2 MB	13.8 C	12.2 C	4/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	15.27	15.27	33.387	24.671	326.1	.000	0
10	15.27	15.27	33.386	24.670	326.5	.032	10
20	15.27	15.27	33.382	24.667	327.1	.065	20
30	14.87	14.87	33.417	24.782	316.5	.097	30
40	14.69	14.68	33.383	24.794	315.6	.129	40
50	13.70	13.69	33.401	25.016	294.7	.159	50
75	11.17	11.16	33.408	25.508	248.2	.226	75
100	10.00	9.99	33.577	25.843	216.7	.284	100
125	9.15	9.14	33.713	26.089	193.7	.337	126
150	8.66	8.64	33.890	26.305	173.6	.383	151
175	8.42	8.40	33.951	26.390	166.0	.425	176
200	8.14	8.12	34.017	26.484	157.4	.465	201
250	7.55	7.53	34.035	26.585	148.4	.541	251
300	6.79	6.76	34.060	26.711	136.9	.613	302
350	6.34	6.31	34.083	26.789	129.9	.680	352
400	5.92	5.89	34.131	26.880	121.6	.743	403
450	5.71	5.67	34.165	26.934	117.0	.802	453
500	5.53	5.49	34.209	26.991	112.1	.859	503
524	5.46	5.42	34.233	27.019	109.8	.887	528

STATION 80 80 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
33 28.9 N	122 32.0 W	24/01/81	1820 GMT	4213 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
010	16 KT	330 10 08	1	1026.0 MB	14.8 C	10.8 C	1/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	14.80	14.80	33.333	24.731	320.4	.000	0
10	14.80	14.80	33.332	24.730	320.7	.032	10
20	14.78	14.78	33.334	24.737	320.4	.064	20
30	14.31	14.31	33.448	24.925	302.8	.095	30
40	14.16	14.15	33.463	24.968	299.0	.125	40
50	13.42	13.41	33.468	25.125	284.3	.154	50
75	10.71	10.70	33.491	25.654	234.3	.218	75
100	9.60	9.59	33.559	25.896	211.7	.274	100
125	8.94	8.93	33.782	26.176	185.4	.325	126
150	8.62	8.60	33.904	26.323	172.0	.370	151
175	8.34	8.32	33.987	26.430	162.1	.411	176
200	8.07	8.05	34.049	26.520	154.0	.450	201
250	7.41	7.39	34.094	26.651	142.1	.524	251
300	6.93	6.90	34.096	26.720	136.1	.594	302
350	6.49	6.46	34.095	26.779	131.0	.660	352
400	5.94	5.91	34.104	26.857	123.9	.725	403
450	5.65	5.61	34.159	26.936	116.8	.785	453
500	5.38	5.34	34.211	27.010	110.1	.841	503
520	5.23	5.19	34.222	27.037	107.7	.864	524

CALCOFI CRUISE 8101 STATION 80 90

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
33 08.9 N	123 13.1 W	24/01/81	1303 GMT	4213 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
360	13 KT	340 10 12	1	1025.3 MB	14.2 C	10.3 C	3/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.15	16.15	33.372	24.463	346.0	.000	0
10	16.15	16.15	33.374	24.464	346.1	.034	10
20	16.15	16.15	33.367	24.459	346.9	.069	20
30	16.15	16.15	33.367	24.460	347.2	.104	30
40	16.18	16.17	33.373	24.458	347.7	.138	40
50	16.17	16.16	33.377	24.464	347.5	.173	50
75	14.87	14.86	33.438	24.799	316.1	.255	75
100	13.10	13.09	33.509	25.221	276.4	.329	100
125	11.23	11.21	33.481	25.555	245.0	.396	126
150	9.67	9.65	33.620	25.933	209.2	.453	151
175	9.12	9.10	33.747	26.121	191.7	.503	176
200	8.71	8.69	33.889	26.297	175.3	.548	201
250	7.90	7.88	34.010	26.515	155.3	.630	251
300	7.13	7.10	34.049	26.655	142.4	.706	302
350	6.51	6.48	34.056	26.745	134.2	.774	352
400	6.12	6.09	34.083	26.818	127.7	.839	402
450	5.70	5.66	34.110	26.891	121.0	.902	453
500	5.40	5.36	34.147	26.957	115.1	.961	503
506	5.35	5.31	34.144	26.961	114.8	.968	509

STATION 90 28 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
33 29.1 N	117 46.1 W	19/01/81	1246 GMT	65 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
020	06 KT		1	1020.4 MB	14.9 C	13.0 C	3/8 CI

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	15.60	15.60	33.515	24.696	323.7	.000	0
10	15.60	15.60	33.516	24.697	323.9	.032	10
20	15.22	15.22	33.513	24.779	316.4	.064	20
30	14.96	14.96	33.505	24.830	311.8	.095	30
40	14.83	14.82	33.494	24.850	310.3	.126	40
50	14.44	14.43	33.498	24.937	302.3	.157	50
64	14.01	14.00	33.526	25.049	292.0	.198	64

CALCOFI CRUISE 8101 STATION 90 30

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
33 25.1 N	117 54.3 W	19/01/81	1423 GMT	611 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
280	04 KT	290 04 10	1	1020.4 MB	15.0 C	14.0 C	4/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	15.87	15.87	33.523	24.642	328.9	.000	0
10	15.87	15.87	33.522	24.642	329.2	.033	10
20	15.81	15.81	33.522	24.656	328.2	.066	20
30	14.02	14.02	33.527	25.046	291.2	.096	30
40	13.85	13.84	33.515	25.073	289.0	.125	40
50	13.39	13.38	33.496	25.152	281.7	.154	50
75	12.68	12.67	33.557	25.341	264.3	.222	75
100	12.00	11.99	33.653	25.546	245.4	.285	100
125	11.26	11.24	33.836	25.826	219.3	.345	126
150	10.31	10.29	33.950	26.083	195.3	.397	151
175	9.62	9.60	34.069	26.292	175.7	.443	176
200	9.24	9.22	34.044	26.335	172.0	.486	201
250	8.76	8.73	34.146	26.492	158.0	.568	251
300	8.22	8.19	34.207	26.623	146.2	.645	302
350	7.78	7.74	34.250	26.723	137.4	.715	352
400	7.27	7.23	34.272	26.813	129.2	.783	403
450	6.83	6.79	34.283	26.883	123.1	.845	453
500	6.51	6.46	34.296	26.937	118.4	.905	503
520	6.35	6.30	34.303	26.963	116.0	.929	524

STATION 90 37 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
33 11.1 N	118 23.1 W	19/01/81	1845 GMT	1202 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
260	07 KT	280 04 08	1	1022.2 MB	15.5 C	14.2 C	4/8 AS

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	15.74	15.74	33.492	24.647	328.3	.000	0
10	15.55	15.55	33.512	24.705	323.1	.032	10
20	15.52	15.52	33.508	24.709	323.1	.065	20
30	15.34	15.34	33.490	24.736	320.9	.097	30
40	15.03	15.02	33.501	24.812	313.9	.128	40
50	14.46	14.45	33.487	24.924	303.5	.159	50
75	12.56	12.55	33.502	25.321	266.2	.230	75
100	11.18	11.17	33.664	25.706	230.1	.292	100
125	10.71	10.69	33.831	25.920	210.2	.348	126
150	9.97	9.95	33.959	26.147	189.0	.398	151
175	9.56	9.54	34.032	26.273	177.5	.444	176
200	9.21	9.19	34.094	26.379	167.8	.486	201
250	8.58	8.55	34.155	26.527	154.6	.567	251
300	8.11	8.08	34.208	26.640	144.5	.642	302
350	7.66	7.63	34.248	26.739	135.8	.712	352
400	7.34	7.30	34.263	26.796	130.9	.779	403
450	6.93	6.89	34.268	26.858	125.5	.843	453
500	6.61	6.56	34.282	26.913	120.8	.904	503
518	6.40	6.35	34.298	26.953	117.0	.926	522

CALCOFI CRUISE 8101 STATION 90 45

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
32 55.1 N	118 56.1 W	19/01/81	2315 GMT	1757 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
320	10 KT	300 09 13	1	1020.6 MB	16.9 C	14.9 C	7/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.09	16.09	33.506	24.579	334.8	.000	0
10	15.97	15.97	33.505	24.606	332.6	.033	10
20	15.90	15.90	33.503	24.620	331.6	.066	20
30	15.85	15.85	33.502	24.631	330.8	.099	30
40	15.08	15.07	33.475	24.781	316.8	.132	40
50	13.84	13.83	33.437	25.015	294.8	.162	50
75	12.46	12.45	33.677	25.476	251.4	.230	75
100	11.82	11.81	33.816	25.707	230.1	.290	100
125	11.37	11.35	33.901	25.856	216.5	.348	126
150	9.79	9.77	33.815	26.065	196.7	.399	151
175	9.92	9.90	34.058	26.234	181.4	.446	176
200	9.19	9.17	34.090	26.379	167.8	.489	201
250	8.58	8.55	34.169	26.538	153.5	.569	251
300	8.09	8.06	34.215	26.649	143.7	.644	302
350	7.69	7.66	34.260	26.743	135.3	.714	352
400	7.12	7.08	34.230	26.801	130.2	.781	403
450	6.79	6.75	34.261	26.871	124.1	.844	453
500	6.40	6.35	34.306	26.959	116.2	.903	503
516	6.21	6.16	34.310	26.987	113.6	.922	519

STATION 90 53 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
32 39.1 N	119 28.8 W	20/01/81	0416 GMT	1369 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
270	07 KT	290 10 12	1	1020.8 MB	16.2 C	15.2 C	4/8 CI

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.00	16.00	33.535	24.622	330.8	.000	0
10	15.88	15.88	33.556	24.666	327.0	.033	10
20	15.72	15.72	33.548	24.696	324.4	.065	20
30	15.08	15.08	33.511	24.809	313.9	.097	30
40	13.99	13.98	33.529	25.055	290.7	.127	40
50	13.51	13.50	33.462	25.101	286.5	.156	50
75	11.03	11.02	33.554	25.646	235.1	.221	75
100	10.09	10.08	33.598	25.844	216.6	.277	100
125	9.56	9.55	33.731	26.037	198.8	.331	126
150	9.08	9.06	33.881	26.232	180.7	.378	151
175	8.63	8.61	33.947	26.355	169.4	.421	176
200	8.32	8.30	34.036	26.472	158.6	.462	201
250	7.94	7.91	34.145	26.615	145.8	.537	251
300	7.43	7.40	34.179	26.716	136.8	.609	302
350	6.91	6.88	34.200	26.806	128.8	.675	352
400	6.56	6.52	34.238	26.883	122.0	.738	403
450	6.32	6.28	34.273	26.943	116.9	.798	453
500	6.02	5.98	34.303	27.005	111.4	.854	503
514	5.99	5.94	34.304	27.010	111.1	.871	518

CALCOFI CRUISE 8101 STATION 90 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
32 25.1 N	119 57.6 W	20/01/81	0820 GMT	873 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
310	08 KT		1	1019.8 MB	15.8 C	15.1 C	7/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	15.24	15.24	33.528	24.786	315.2	.000	0
10	15.03	15.03	33.526	24.830	311.3	.031	10
20	14.87	14.87	33.520	24.861	308.6	.062	20
30	14.50	14.50	33.540	24.956	299.9	.092	30
40	13.80	13.79	33.554	25.113	285.2	.121	40
50	12.54	12.53	33.449	25.283	269.1	.149	50
75	10.53	10.52	33.574	25.750	225.1	.211	75
100	9.77	9.76	33.618	25.914	210.0	.265	100
125	9.09	9.08	33.811	26.175	185.5	.316	126
150	8.80	8.78	33.919	26.306	173.6	.360	151
175	8.44	8.42	33.976	26.406	164.4	.402	176
200	8.14	8.12	34.029	26.494	156.5	.442	201
250	7.93	7.90	34.141	26.614	145.9	.517	251
300	7.18	7.15	34.165	26.740	134.4	.588	302
350	6.80	6.77	34.216	26.833	126.1	.653	352
400	6.34	6.30	34.210	26.890	121.2	.715	403
450	5.99	5.95	34.227	26.948	116.0	.774	453
500	5.74	5.70	34.253	27.000	111.5	.831	503
524	5.67	5.63	34.282	27.032	108.8	.858	528

STATION 90 70 — RV DAVID STARR JORDAN — CALCOFI CRUISE 8101 — STATION 90 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
32 05.1 N	120 38.3 W	20/01/81	1400 GMT	4022 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
100	05 KT	300 12 12	2	1018.0 MB	15.0 C	14.9 C	8/8 NS

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	15.50	15.50	33.440	24.661	327.1	.000	0
10	15.26	15.26	33.455	24.725	321.2	.032	10
20	15.13	15.13	33.461	24.759	318.3	.064	20
30	15.14	15.14	33.489	24.779	316.8	.096	30
40	14.97	14.96	33.493	24.819	313.2	.127	40
50	14.92	14.91	33.487	24.825	312.9	.158	50
75	13.60	13.59	33.455	25.078	289.4	.233	75
100	10.61	10.60	33.569	25.733	227.3	.298	100
125	9.75	9.74	33.716	25.994	202.9	.353	126
150	9.42	9.40	33.810	26.122	191.2	.402	151
175	9.02	9.00	33.918	26.271	177.4	.448	176
200	8.81	8.79	34.015	26.361	167.5	.491	201
250	8.06	8.03	34.081	26.547	152.3	.570	251
300	7.19	7.16	34.095	26.684	139.8	.644	302
350	6.66	6.63	34.111	26.769	132.1	.712	352
400	6.31	6.27	34.167	26.860	124.0	.776	403
450	5.99	5.95	34.211	26.936	117.2	.836	453
500	5.66	5.62	34.226	26.989	112.5	.893	503
518	5.54	5.50	34.242	27.016	110.0	.913	521

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 45.1 N	121 18.9 W	20/01/81	2015 GMT	3926 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
200	10 KT	270 10 12	2	1018.9 MB	16.5 C	15.9 C	8/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.05	16.05	33.430	24.568	335.9	.000	0
10	15.92	15.92	33.493	24.608	332.4	.033	10
20	15.84	15.84	33.470	24.609	332.7	.066	20
30	15.58	15.58	33.458	24.658	328.3	.099	30
40	15.46	15.45	33.466	24.691	325.5	.132	40
50	15.19	15.18	33.436	24.727	322.3	.164	50
75	14.01	14.00	33.475	24.971	299.7	.242	75
100	11.87	11.86	33.475	25.432	256.1	.311	100
125	10.41	10.40	33.592	25.786	222.9	.373	126
150	9.67	9.65	33.697	25.993	203.5	.426	151
175	9.33	9.31	33.803	26.132	190.8	.475	176
200	8.88	8.86	33.953	26.321	173.2	.520	201
250	8.55	8.52	34.128	26.510	156.1	.602	251
300	7.86	7.83	34.173	26.650	143.4	.677	302
350	7.24	7.21	34.176	26.741	135.2	.747	352
400	6.78	6.74	34.197	26.822	128.0	.812	402
450	6.47	6.43	34.222	26.883	122.7	.875	453
500	6.13	6.09	34.244	26.945	117.2	.935	503
516	6.11	6.06	34.270	26.968	115.2	.953	519

STATION 90 90 — RV DAVID STARR JORDAN — CALCOFI CRUISE 8101 — STATION 100 29.2

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 25.2 N	121 59.5 W	21/01/81	0115 GMT	3757 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
160	12 KT	250 10 10	2	1018.2 MB	18.2 C	16.0 C	8/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.64	16.64	33.515	24.460	346.2	.000	0
10	16.65	16.65	33.519	24.461	346.4	.035	10
20	16.66	16.66	33.517	24.458	347.1	.069	20
30	16.55	16.55	33.494	24.466	346.6	.104	30
40	15.97	15.96	33.403	24.529	340.9	.138	40
50	15.41	15.40	33.335	24.601	334.3	.171	50
75	14.18	14.17	33.334	24.865	309.7	.252	75
100	12.56	12.55	33.396	25.240	274.6	.324	100
125	10.71	10.70	33.543	25.695	231.5	.390	126
150	9.32	9.30	33.677	26.034	199.5	.443	151
175	8.86	8.84	33.806	26.208	183.3	.491	176
200	8.40	8.38	33.940	26.385	166.9	.534	201
250	7.86	7.84	34.032	26.538	153.1	.614	251
300	7.00	6.97	34.030	26.659	142.0	.689	302
350	6.53	6.50	34.052	26.740	134.7	.757	352
400	6.17	6.13	34.084	26.812	128.3	.823	402
450	5.98	5.94	34.138	26.879	122.5	.886	453
500	5.73	5.69	34.208	26.966	114.7	.945	503
516	5.67	5.63	34.214	26.978	113.7	.963	519

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 42.8 N	116 43.4 W	15/01/81	0415 GMT	60 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
200	07 KT		1	1017.9 MB	16.2 C	14.8 C	5/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.24	16.24	33.461	24.510	341.4	.000	0
10	16.01	16.01	33.497	24.590	334.1	.034	10
20	15.72	15.72	33.550	24.697	324.2	.066	20
30	15.53	15.53	33.533	24.726	321.7	.099	30
40	14.93	14.92	33.559	24.878	307.5	.130	40
50	14.72	14.71	33.534	24.905	305.4	.160	50
64	14.66	14.65	33.545	24.927	303.7	.203	64

STATION 100 30 — RV DAVID STARR JORDAN — CALCOFI CRUISE 8101 — STATION 100 35

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 41.0 N	116 46.5 W	15/01/81	0220 GMT	427 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
060	03 KT		1	1017.3 MB	16.2 C	14.9 C	6/8 ST

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.37	16.37	33.445	24.469	345.4	.000	0
10	16.24	16.24	33.497	24.539	339.0	.034	10
20	16.08	16.08	33.521	24.594	334.1	.068	20
30	15.90	15.90	33.509	24.625	331.4	.101	30
40	15.60	15.59	33.538	24.715	323.1	.133	40
50	14.82	14.81	33.521	24.873	308.4	.165	50
75	13.91	13.90	33.507	25.055	291.7	.239	75
100	12.71	12.70	33.596	25.366	262.6	.308	100
125	12.01	11.99	33.842	25.691	232.2	.372	126
150	11.19	11.17	33.979	25.950	208.1	.427	151
175	10.65	10.63	34.082	26.127	191.7	.477	176
200	10.16	10.14	34.152	26.267	178.9	.523	201
250	9.31	9.28	34.250	26.486	158.8	.607	251
300	8.76	8.73	34.245	26.570	151.5	.685	302
350	8.12	8.08	34.245	26.669	142.7	.758	352
380	7.95	7.91	34.229	26.682	141.9	.801	382

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 31.2 N	117 06.9 W	14/01/81	2250 GMT	1295 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
320	06 KT	300 05 10	1	1017.0 MB	18.0 C	16.2 C	7/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.99	16.99	33.461	24.337	358.0	.000	0
10	16.61	16.61	33.519	24.470	345.6	.035	10
20	16.48	16.48	33.533	24.511	342.0	.069	20
30	16.17	16.17	33.548	24.594	334.4	.103	30
40	16.07	16.06	33.547	24.617	332.6	.136	40
50	15.69	15.68	33.551	24.706	324.4	.169	50
75	13.32	13.31	33.588	25.238	274.2	.243	75
100	12.08	12.07	33.724	25.586	241.6	.308	100
125	11.31	11.29	33.849	25.827	219.3	.367	126
150	10.64	10.62	34.089	26.134	190.5	.418	151
175	10.32	10.30	34.206	26.281	177.0	.464	176
200	9.84	9.82	34.264	26.408	165.4	.506	201
250	9.07	9.04	34.318	26.578	150.0	.585	251
300	8.39	8.36	34.327	26.692	139.8	.658	302
350	7.89	7.85	34.330	26.769	133.1	.726	352
400	7.36	7.34	34.292	26.814	129.3	.791	402
450	6.76	6.72	34.281	26.891	122.2	.854	453
500	6.55	6.50	34.304	26.938	118.4	.914	503
518	6.31	6.26	34.309	26.973	115.0	.935	521

STATION 100 50 RV DAVID STARR JORDAN CALCOFI CRUISE 8101 STATION 100 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 21.2 N	117 27.1 W	14/01/81	1923 GMT	1949 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
320	05 KT	300 04 10	1	1019.7 MB	16.9 C	16.0 C	4/8 ST

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.80	16.80	33.454	24.376	354.2	.000	0
10	16.54	16.54	33.517	24.485	344.2	.035	10
20	16.45	16.45	33.510	24.501	343.0	.069	20
30	16.02	16.02	33.525	24.611	332.8	.103	30
40	15.68	15.67	33.544	24.702	324.4	.135	40
50	14.23	14.22	33.455	24.948	301.2	.167	50
75	12.26	12.25	33.482	25.363	262.1	.237	75
100	11.26	11.25	33.700	25.719	228.8	.298	100
125	10.60	10.59	33.871	25.970	205.4	.354	126
150	9.66	9.64	33.915	26.167	187.0	.403	151
175	9.36	9.34	33.977	26.263	178.4	.448	176
200	9.16	9.14	34.042	26.346	170.9	.491	201
250	8.58	8.55	34.145	26.519	155.3	.572	251
300	7.94	7.91	34.171	26.636	144.7	.648	302
350	7.58	7.55	34.213	26.722	137.3	.718	352
400	6.81	6.77	34.189	26.811	129.0	.784	402
450	6.56	6.52	34.249	26.892	121.9	.848	453
500	6.28	6.24	34.284	26.957	116.2	.907	503
516	6.20	6.15	34.297	26.978	114.4	.925	519

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 11.0 N	117 47.3 W	14/01/81	1536 GMT	1707 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
320	08 KT	300 04 10	0	1018.7 MB	16.5 C	15.5 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.62	16.62	33.537	24.481	344.2	.000	0
10	16.62	16.62	33.530	24.476	345.0	.034	10
20	16.62	16.62	33.529	24.476	345.3	.069	20
30	16.58	16.58	33.529	24.486	344.8	.103	30
40	16.55	16.54	33.529	24.493	344.4	.137	40
50	16.42	16.41	33.506	24.506	343.5	.172	50
75	13.56	13.55	33.386	25.033	293.7	.251	75
100	11.76	11.75	33.484	25.460	253.5	.319	100
125	10.82	10.80	33.721	25.815	220.2	.380	126
150	10.41	10.39	33.847	25.985	204.5	.433	151
175	9.90	9.88	33.972	26.170	187.4	.482	176
200	9.67	9.65	34.102	26.310	174.6	.527	201
250	8.74	8.71	34.174	26.517	155.6	.609	251
300	8.26	8.23	34.253	26.653	143.4	.684	302
350	7.55	7.52	34.246	26.753	134.4	.753	352
400	7.09	7.05	34.259	26.828	127.7	.818	402
450	6.68	6.64	34.286	26.906	120.8	.881	453
500	6.17	6.08	34.292	26.984	113.5	.939	503
518	6.09	6.04	34.291	26.987	113.4	.960	521

STATION 100 50 RV DAVID STARR JORDAN CALCOFI CRUISE 8101 STATION 100 60

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
31 01.2 N	118 07.3 W	14/01/81	1130 GMT	1763 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
300	09 KT		0	1018.9 MB	16.5 C	15.4 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.94	16.94	33.549	24.416	350.4	.000	0
10	16.97	16.97	33.575	24.429	349.5	.035	10
20	16.94	16.94	33.593	24.451	347.8	.070	20
30	16.87	16.87	33.600	24.473	346.0	.104	30
40	16.23	16.22	33.569	24.597	334.4	.138	40
50	15.04	15.03	33.513	24.819	313.5	.170	50
75	13.12	13.11	33.500	25.210	276.8	.244	75
100	12.47	12.46	33.999	25.415	258.0	.310	100
125	11.15	11.13	33.643	25.695	231.7	.374	126
150	9.54	9.52	33.661	25.986	204.2	.428	151
175	9.01	8.99	33.838	26.210	183.2	.476	176
200	8.52	8.50	34.000	26.414	164.2	.519	201
250	8.15	8.12	34.098	26.547	152.4	.598	251
300	7.55	7.52	34.154	26.679	140.4	.672	302
350	7.44	7.41	34.244	26.767	132.9	.740	352
400	7.12	7.08	34.297	26.854	125.3	.804	402
450	6.84	6.80	34.335	26.923	119.3	.866	453
500	6.30	6.26	34.340	26.999	112.3	.923	503
516	6.22	6.17	34.349	27.016	110.8	.941	519

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
30 41.2 N	118 47.5 W	14/01/81	0616 GMT	2981 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
340	10 KT		1	1020.9 MB	16.7 C	15.5 C	3/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.71	16.71	33.469	24.408	351.1	.000	0
10	16.52	16.52	33.484	24.464	346.1	.035	10
20	16.45	16.45	33.484	24.481	344.9	.069	20
30	16.33	16.33	33.491	24.514	342.0	.103	30
40	16.29	16.28	33.493	24.525	341.3	.137	40
50	16.27	16.26	33.490	24.528	341.4	.171	50
75	15.01	15.00	33.386	24.729	322.8	.254	75
100	12.10	12.09	33.436	25.359	265.2	.327	100
125	10.74	10.73	33.557	25.701	231.0	.391	126
150	9.70	9.68	33.635	25.939	208.6	.446	151
175	9.54	9.52	33.912	26.183	186.0	.495	176
200	8.93	8.91	33.974	26.329	172.4	.539	201
250	7.90	7.88	34.051	26.547	152.2	.620	251
300	7.34	7.31	34.101	26.667	141.4	.694	302
350	6.88	6.85	34.125	26.751	134.0	.762	352
400	6.39	6.35	34.134	26.823	127.5	.827	402
450	5.93	5.89	34.161	26.904	120.1	.890	453
500	5.71	5.67	34.198	26.960	115.2	.948	503
518	5.60	5.56	34.215	26.988	112.8	.969	521

STATION 100 70 RV DAVID STARR JORDAN CALCOFI CRUISE 8101 STATION 100 80

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
30 21.3 N	119 27.5 W	14/01/81	0033 GMT	3757 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
100	05 KT	320 07 12	1	1018.4 MB	19.9 C	16.8 C	1/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.59	16.59	33.485	24.448	347.3	.000	0
10	16.35	16.35	33.525	24.535	339.4	.034	10
20	16.34	16.34	33.534	24.544	338.8	.068	20
30	16.33	16.33	33.542	24.553	338.3	.102	30
40	16.19	16.18	33.559	24.599	334.3	.135	40
50	14.75	14.74	33.558	24.917	304.2	.167	50
75	11.93	11.92	33.548	25.477	251.3	.236	75
100	10.78	10.77	33.676	25.786	222.3	.295	100
125	10.12	10.11	33.781	25.982	204.1	.350	126
150	9.56	9.54	33.923	26.188	185.1	.399	151
175	9.19	9.17	34.022	26.325	172.4	.443	176
200	9.03	9.01	34.098	26.411	164.7	.485	201
250	8.38	8.35	34.169	26.568	150.5	.563	251
300	7.53	7.50	34.173	26.697	138.7	.636	302
350	7.11	7.08	34.194	26.773	132.0	.704	352
400	6.66	6.62	34.239	26.871	123.3	.767	402
450	6.07	6.03	34.189	26.908	119.8	.828	453
500	6.08	6.04	34.272	26.973	114.5	.886	503
524	5.96	5.91	34.306	27.015	110.7	.913	527

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
30 01.1 N	120 07.4 W	13/01/81	1815 GMT	3546 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
330	08 KT	290 06 08	1	1021.3 MB	17.2 C	16.9 C	6/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.17	16.17	33.388	24.470	345.2	.000	0
10	16.06	16.06	33.450	24.543	338.6	.034	10
20	16.06	16.06	33.445	24.540	339.2	.068	20
30	16.05	16.05	33.445	24.542	339.3	.102	30
40	16.03	16.02	33.439	24.543	339.6	.135	40
50	16.00	15.99	33.440	24.551	339.2	.169	50
75	14.99	14.98	33.423	24.762	319.7	.251	75
100	12.71	12.70	33.422	25.231	275.4	.325	100
125	11.02	11.00	33.677	25.745	226.9	.390	126
150	9.83	9.81	33.654	25.933	209.3	.445	151
175	8.87	8.85	33.834	26.229	181.4	.493	176
200	8.39	8.37	33.979	26.417	163.9	.536	201
250	7.69	7.67	34.047	26.575	149.5	.614	251
300	7.16	7.13	34.097	26.690	139.2	.687	302
350	6.76	6.73	34.128	26.769	132.2	.754	352
400	6.49	6.45	34.189	26.854	124.7	.818	402
450	5.94	5.90	34.235	26.961	114.8	.879	453
500	5.96	5.92	34.301	27.011	110.8	.934	503
516	5.94	5.89	34.340	27.045	107.8	.954	521

STATION 100 90 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
29 41.2 N	120 46.9 W	13/01/81	1220 GMT	1757 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
040	08 KT			1017.6 MB	17.5 C	16.0 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	17.28	17.28	33.723	24.469	345.4	.000	0
10	17.27	17.27	33.725	24.473	345.3	.034	10
20	17.29	17.29	33.731	24.474	345.6	.069	20
30	17.40	17.40	33.770	24.478	345.6	.103	30
40	17.40	17.39	33.770	24.478	345.9	.138	40
50	17.40	17.39	33.770	24.479	346.2	.172	50
75	15.91	15.90	33.670	24.748	321.1	.255	75
100	13.83	13.82	33.609	25.151	283.3	.330	100
125	12.15	12.13	33.593	25.472	253.1	.400	126
150	10.31	10.29	33.565	25.782	223.7	.459	151
175	9.37	9.35	33.738	26.074	196.2	.511	176
200	8.96	8.94	33.877	26.249	180.0	.558	201
250	8.38	8.35	34.116	26.527	154.5	.641	251
300	7.74	7.71	34.191	26.641	140.4	.716	302
350	7.39	7.36	34.248	26.777	131.9	.783	352
400	7.17	7.13	34.315	26.861	124.7	.847	402
450	6.85	6.81	34.328	26.916	120.0	.909	453
500	6.42	6.37	34.336	26.980	114.3	.967	503
512	6.33	6.28	34.332	26.989	113.5	.981	515

CALCOFI CRUISE 8101 STATION 110 32.4

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
29 52.4 N	115 49.5 W	08/01/81	2340 GMT	39 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
310	12 KT	300 05 07	1	1017.5 MB	16.9 C	14.5 C	6/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.26	16.26	33.583	24.584	334.4	.000	0
10	16.24	16.24	33.544	24.575	335.6	.033	10
20	15.80	15.80	33.480	24.625	331.1	.067	20
30	15.15	15.15	33.559	24.831	311.8	.099	30
32	15.09	15.09	33.543	24.831	311.8	.105	32

STATION 110 35 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
29 47.2 N	115 59.8 W	09/01/81	0050 GMT	836 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
320	11 KT	300 08 07	1	1017.0 MB	15.7 C	13.8 C	3/8 SC

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.63	16.63	33.567	24.502	342.2	.000	0
10	16.63	16.63	33.567	24.502	342.5	.034	10
20	16.59	16.59	33.570	24.514	341.7	.068	20
30	16.59	16.59	33.567	24.512	342.2	.102	30
40	16.49	16.48	33.543	24.518	342.0	.136	40
50	15.41	15.40	33.449	24.688	326.0	.170	50
75	12.86	12.85	33.447	25.220	275.8	.245	75
100	11.80	11.79	33.657	25.587	241.5	.309	100
125	10.86	10.84	33.878	25.930	209.3	.367	126
150	10.74	10.72	34.036	26.075	196.1	.418	151
175	10.41	10.39	34.193	26.256	179.5	.464	176
200	10.25	10.23	34.303	26.369	169.2	.508	201
250	9.53	9.50	34.256	26.455	161.9	.590	251
300	8.67	8.64	34.300	26.627	146.1	.668	302
350	8.22	8.18	34.341	26.729	137.1	.739	352
400	7.83	7.79	34.370	26.811	130.1	.804	402
450	7.42	7.38	34.361	26.863	125.6	.869	453
500	6.77	6.72	34.349	26.944	118.1	.930	503
512	6.60	6.55	34.347	26.965	116.0	.943	515

CALCOFI CRUISE 8101 STATION 110 40

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
29 37.2 N	116 19.6 W	09/01/81	0445 GMT	2227 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
340	09 KT			1018.0 MB	16.0 C	14.1 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	17.29	17.29	33.630	24.396	352.4	.000	0
10	17.30	17.30	33.625	24.389	353.3	.035	10
20	17.31	17.31	33.623	24.386	354.0	.070	20
30	17.29	17.29	33.619	24.388	354.1	.106	30
40	17.27	17.26	33.616	24.391	354.1	.141	40
50	16.63	16.62	33.600	24.529	341.3	.176	50
75	13.79	13.78	33.373	24.976	299.2	.255	75
100	12.03	12.02	33.573	25.479	251.9	.324	100
125	10.60	10.59	33.666	25.810	220.6	.385	126
150	10.43	10.41	33.935	26.050	198.3	.437	151
175	9.88	9.86	34.145	26.308	174.3	.483	176
200	10.12	10.10	34.208	26.318	174.1	.527	201
250	8.90	8.87	34.187	26.502	157.1	.609	251
300	8.20	8.17	34.206	26.625	146.0	.686	302
350	7.56	7.53	34.216	26.728	136.7	.756	352
400	7.41	7.37	34.312	26.825	128.3	.822	402
450	6.79	6.75	34.340	26.934	118.3	.884	453
500	6.51	6.46	34.358	26.986	113.8	.941	503
516	6.33	6.28	34.374	27.022	110.5	.959	519

STATION 110 45 RV DAVID STARR JORDAN

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
29 27.2 N	116 39.5 W	09/01/81	0828 GMT	502 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
350	10 KT			1017.4 MB	15.3 C	13.8 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.32	16.32	33.477	24.504	342.0	.000	0
10	16.32	16.32	33.478	24.505	342.2	.034	10
20	16.33	16.33	33.476	24.502	342.8	.068	20
30	16.34	16.34	33.477	24.502	343.1	.102	30
40	16.19	16.18	33.467	24.528	341.0	.136	40
50	15.71	15.70	33.441	24.616	332.9	.170	50
75	14.21	14.20	33.566	25.038	293.3	.248	75
100	11.83	11.82	33.490	25.451	254.3	.316	100
125	10.27	10.26	33.629	25.839	217.8	.377	126
150	9.90	9.88	33.748	25.995	203.4	.430	151
175	9.15	9.13	33.951	26.276	177.0	.477	176
200	8.51	8.49	34.040	26.446	161.1	.519	201
250	8.04	8.01	34.153	26.607	146.7	.595	251
300	7.63	7.60	34.212	26.714	137.2	.667	302
350	7.38	7.35	34.248	26.778	131.8	.734	352
400	7.11	7.07	34.261	26.828	127.7	.791	402

CALCOFI CRUISE 8101 STATION 110 50

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
29 17.0 N	116 59.5 W	09/01/81	1157 GMT	3452 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
350	13 KT			1017.2 MB	15.4 C	13.9 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.96	16.96	33.585	24.439	348.2	.000	0
10	16.96	16.96	33.593	24.445	347.9	.035	10
20	16.96	16.96	33.591	24.444	348.4	.069	20
30	16.78	16.78	33.546	24.452	347.9	.104	30
40	16.42	16.41	33.490	24.493	344.4	.139	40
50	15.99	15.99	33.459	24.567	337.6	.173	50
75	13.22	13.21	33.450	25.151	282.4	.250	75
100	11.37	11.36	33.586	25.612	239.0	.315	100
125	10.35	10.34	33.749	25.919	210.3	.373	126
150	9.87	9.85	33.913	26.128	190.8	.422	151
175	8.94	8.92	33.944	26.304	174.3	.468	176
200	8.76	8.74	34.076	26.436	162.2	.510	201
250	8.16	8.14	34.122	26.560	151.2	.587	251
300	7.73	7.70	34.177	26.672	141.3	.662	302
350	6.90	6.87	34.186	26.796	129.7	.729	352
400	6.73	6.69	34.232	26.856	124.7	.792	402
450	6.32	6.28	34.276	26.945	116.7	.853	453
500	6.25	6.21	34.307	26.979	114.1	.910	503
516	6.19	6.15	34.319	26.998	112.5	.928	519

STATION 110 60 RV DAVID STARR JORDAN CALCOFI CRUISE 8101

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
28 57.1 N	117 38.7 W	09/01/81	1750 GMT	3738 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
020	11 KT	020 02 07	1	1018.8 MB	16.7 C	14.8 C	3/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.62	16.62	33.516	24.465	345.7	.000	0
10	16.62	16.62	33.518	24.467	345.9	.034	10
20	16.61	16.61	33.518	24.470	345.9	.069	20
30	16.61	16.61	33.514	24.467	346.5	.103	30
40	16.61	16.60	33.512	24.466	347.0	.138	40
50	16.61	16.60	33.511	24.466	347.3	.173	50
75	14.27	14.26	33.365	24.871	309.3	.254	75
100	11.94	11.93	33.567	25.490	250.6	.324	100
125	11.27	11.25	33.841	25.828	219.1	.385	126
150	11.27	11.25	34.052	25.992	204.1	.437	151
175	11.09	11.07	34.137	26.092	195.2	.487	176
200	10.76	10.74	34.229	26.223	183.3	.534	201
250	9.98	9.95	34.305	26.418	165.6	.621	251
300	8.79	8.76	34.266	26.582	150.4	.701	302
350	7.97	7.93	34.250	26.695	140.2	.773	352
400	7.46	7.42	34.256	26.774	133.1	.841	402
450	6.57	6.53	34.206	26.857	125.2	.906	453
500	6.47	6.42	34.310	26.953	116.8	.966	503
518	6.40	6.35	34.307	26.960	116.4	.987	521

STATION 110 70

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
28 37.2 N	118 18.0 W	09/01/81	2347 GMT	3263 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
040	08 KT	300 06 07	1	1015.8 MB	16.8 C	14.1 C	7/8 CU

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	16.66	16.66	33.520	24.459	346.3	.000	0
10	16.54	16.54	33.528	24.493	343.3	.034	10
20	16.53	16.53	33.519	24.488	344.2	.069	20
30	16.51	16.51	33.516	24.492	344.2	.103	30
40	16.28	16.27	33.494	24.528	341.0	.137	40
50	15.90	15.89	33.461	24.589	335.5	.171	50
75	13.80	13.79	33.381	24.980	298.8	.250	75
100	12.00	11.99	33.541	25.459	253.6	.318	100
125	11.44	11.42	33.831	25.789	222.9	.380	126
150	11.34	11.32	33.990	25.931	209.9	.434	151
175	11.16	11.14	34.105	26.054	199.8	.485	176
200	10.85	10.83	34.202	26.186	186.8	.533	201
250	10.16	10.15	34.293	26.375	169.9	.621	251
300	9.10	9.07	34.282	26.546	154.1	.703	302
350	8.41	8.37	34.236	26.619	147.8	.778	352
400	7.34	7.30	34.190	26.739	136.3	.849	402
450	7.11	7.07	34.287	26.848	126.6	.915	453
500	6.44	6.39	34.266	26.922	119.7	.976	503
516	6.42	6.37	34.266	26.925	119.7	.995	519

STATION 110 80 RV DAVID STARR JORDAN CALCOFI CRUISE 8101

LATITUDE	LONGITUDE	DAY/MO/YR	MESSENGER	BOTTOM
28 17.2 N	118 57.1 W	10/01/81	0510 GMT	3926 M

WIND	SPEED	WAVES	WEA	BAROMETER	DRY	WET	CLOUDS
040	06 KT	020 04 06		1016.9 MB	16.8 C	14.5 C	

DEPTH M	TEMP DEG C	POT TEMP DEG C	SALINITY	SIGMA THETA	SVA	DYN HT	PRESS D.BAR
0	17.35	17.35	33.634	24.384	353.4	.000	0
10	17.36	17.36	33.634	24.382	354.0	.035	10
20	17.36	17.36	33.631	24.380	354.5	.071	20
30	17.34	17.34	33.628	24.383	354.6	.106	30
40	17.32	17.31	33.626	24.387	354.6	.141	40
50	17.25	17.24	33.608	24.390	354.6	.177	50
75	16.20	16.19	33.580	24.614	334.0	.262	75
100	13.54	13.53	33.537	25.155	282.9	.339	100
125	11.50	11.48	33.637	25.627	238.2	.406	126
150	10.17	10.15	33.703	25.914	211.2	.462	151
175	9.96	9.94	33.949	26.142	190.1	.512	176
200	9.81	9.79	34.017	26.220	183.1	.559	201
250	8.90	8.87	34.147	26.470	160.1	.644	251
300	8.67	8.64	34.259	26.595	149.1	.722	302
350	8.61	8.57	34.393	26.710	139.2	.794	352
400	7.69	7.65	34.292	26.770	133.8	.861	402
450	6.88	6.84	34.259	26.858	125.5	.927	453
500	6.22	6.18	34.232	26.924	119.3	.988	503
514	6.27	6.22	34.273	26.950	117.1	1.004	517

LINE	STA		10 METER DATA Z	T	S	OB	OB-NET	SIG-TH	SVA
60	50	29/01/81 1937GMT 37 56.8N 122 52.9W WEATH 1 BOTTOM 47M WIND 330 07 KT WAVES 260 06 10 BAR 1013.7MB DRY 11.0C WET 9.6C CLOUDS 3/8 CU	10	13.24	33.366			25.080	297.4
60	52.5	29/01/81 2216GMT 37 51.8N 123 03.8W WEATH 2 BOTTOM 86M WIND 300 20 KT WAVES 280 10 10 BAR 1014.0MB DRY 11.3C WET 9.7C CLOUDS 7/8 NS	10	13.04	33.332			25.094	286.1
60	55	30/01/81 0037GMT 37 46.8N 123 14.7W WEATH 1 BOTTOM 134M WIND 320 30 KT WAVES 290 14 12 BAR 1015.5MB DRY 12.0C WET 10.5C CLOUDS 5/8 SC	10	13.30	33.371			25.073	288.2
60	60	30/01/81 0349GMT 37 36.8N 123 36.5W WEATH BOTTOM 5354M WIND 340 23 KT WAVES BAR 1018.1MB DRY 11.5C WET 8.2C CLOUDS	10	13.30	33.012			24.795	314.6
63	50	30/01/81 1458GMT 37 22.6N 122 28.4W WEATH 1 BOTTOM 30M WIND 330 19 KT WAVES 310 02 08 BAR 1020.5MB DRY 11.8C WET 8.8C CLOUDS 6/8 CU	10	13.42	33.444			25.104	285.1
63	52	30/01/81 1343GMT 37 18.7N 122 37.5W WEATH BOTTOM 90M WIND 320 20 KT WAVES BAR 1020.1MB DRY 12.0C WET 8.4C CLOUDS	10	13.51	33.463			25.101	285.4
63	55	30/01/81 1140GMT 37 12.6N 122 50.1W WEATH BOTTOM 297M WIND 300 18 KT WAVES BAR 1020.0MB DRY 11.1C WET 7.9C CLOUDS	10	13.42	33.324			25.012	293.9
63	60	30/01/81 0848GMT 37 02.6N 123 11.7W WEATH BOTTOM 2660M WIND 300 20 KT WAVES BAR 1019.8MB DRY 11.8C WET 8.9C CLOUDS	10	12.96	33.244			25.042	291.1
67	49	30/01/81 1938GMT 36 49.2N 121 59.1W WEATH 1 BOTTOM 205M WIND 320 04 KT WAVES 310 10 10 BAR 1024.8MB DRY 12.5C WET 9.0C CLOUDS 5/8 CU	10	13.77	33.460			25.046	290.7
67	50	30/01/81 2052GMT 36 47.2N 122 03.4W WEATH 1 BOTTOM 205M WIND 280 10 KT WAVES 310 10 10 BAR 1024.8MB DRY 12.0C WET 9.0C CLOUDS 5/8 CB	10	13.80	33.477			25.053	290.0
67	55	31/01/81 0012GMT 36 37.2N 122 24.9W WEATH 1 BOTTOM 2785M WIND 330 19 KT WAVES 310 12 10 BAR 1024.8MB DRY 12.3C WET 9.1C CLOUDS 2/8 CU	10	13.69	33.410			25.023	292.8
67	60	31/01/81 0305GMT 36 27.3N 122 46.4W WEATH BOTTOM 2974M WIND 330 20 KT WAVES 310 12 10 BAR 1025.6MB DRY 12.0C WET 9.0C CLOUDS	10	13.85	33.173			24.808	313.4
70	51	31/01/81 1435GMT 36 10.7N 121 43.9W WEATH 1 BOTTOM 205M WIND 010 06 KT WAVES 280 06 08 BAR 1026.2MB DRY 10.7C WET 7.3C CLOUDS 1/8 CU	10	13.60	33.373			25.013	293.8
70	53	31/01/81 1227GMT 36 07.1N 121 52.6W WEATH BOTTOM 944M WIND 010 16 KT WAVES BAR 1026.2MB DRY 11.3C WET 8.9C CLOUDS	10	13.60	33.326			24.977	297.3
70	60	31/01/81 0803GMT 35 52.9N 122 21.9W WEATH BOTTOM 3164M WIND 350 20 KT WAVES BAR 1027.8MB DRY 12.2C WET 9.1C CLOUDS	10	13.74	33.484			25.070	288.3
73	50	31/01/81 2130GMT 35 38.6N 121 15.3W WEATH 1 BOTTOM 34M WIND 300 09 KT WAVES 270 06 10 BAR 1027.3MB DRY 12.3C WET 9.3C CLOUDS 3/8 AS	10	13.49	33.428			25.078	287.7
73	53	31/01/81 1920GMT 35 32.6N 121 28.0W WEATH 1 BOTTOM 694M WIND 140 07 KT WAVES 270 06 10 BAR 1027.8MB DRY 12.6C WET 9.0C CLOUDS 4/8 AS	10	13.83	33.487			25.054	289.9
73	60	27/01/81 1803GMT 35 18.6N 121 57.7W WEATH 5 BOTTOM 2410M WIND 170 28 KT WAVES 200 10 05 BAR 1010.2MB DRY 15.0C WET 13.8C CLOUDS 8/8 SC	10	14.15	33.477			24.980	297.0
73	70	27/01/81 1306GMT 34 58.3N 122 40.1W WEATH 1 BOTTOM 4111M WIND 200 26 KT WAVES BAR 1009.7MB DRY 14.3C WET 13.3C CLOUDS 5/8 CU	10	14.12	33.518			25.018	293.4
73	80	27/01/81 0810GMT 34 38.8N 123 21.9W WEATH BOTTOM 3926M WIND 200 23 KT WAVES BAR 1012.0MB DRY 15.3C WET 14.0C CLOUDS	10	14.38	33.225			24.738	320.0
73	90	27/01/81 0312GMT 34 18.4N 124 03.4W WEATH 2 BOTTOM 3263M WIND 230 21 KT WAVES 270 06 10 BAR 1014.7MB DRY 14.1C WET 14.1C CLOUDS 8/8 SC	10	14.40	33.433			24.894	305.2
77	48	25/01/81 1906GMT 35 07.3N 120 42.3W WEATH 1 BOTTOM 30M WIND 040 11 KT WAVES 300 05 06 BAR 1018.9MB DRY 14.0C WET 9.9C CLOUDS 1/8 CU	10	14.54	33.487			24.906	304.1
77	51	25/01/81 2057GMT 35 01.3N 120 55.1W WEATH 0 BOTTOM 220M WIND 350 15 KT WAVES 290 10 08 BAR 1017.2MB DRY 13.3C WET 9.6C CLOUDS	10	14.56	33.509			24.918	302.8
77	55	26/01/81 0445GMT 34 53.3N 121 11.8W WEATH 0 BOTTOM 574M WIND 350 20 KT WAVES BAR 1017.8MB DRY 12.8C WET 10.4C CLOUDS	10	14.48	33.439			24.881	306.4
77	60	26/01/81 0718GMT 34 43.2N 121 32.9W WEATH 0 BOTTOM 888M WIND 350 21 KT WAVES BAR 1018.1MB DRY 13.0C WET 10.9C CLOUDS	10	14.46	33.455			24.898	304.8
77	70	26/01/81 1158GMT 34 23.3N 122 14.7W WEATH 1 BOTTOM 4015M WIND 340 18 KT WAVES BAR 1018.3MB DRY 13.5C WET 11.3C CLOUDS 5/8 CU	10	14.64	33.402			24.819	312.3

LINE	STA		Z	T	S	O2	O2 PCT	SIG TH	SVA
77	80	26/01/81 1704GMT 34 03.3N 122 56.4W WEATH 1 BOTTOM 4117M WIND 270 09 KT WAVES 260 07 08 BAR 1018.9MB DRY 15.0C WET 12.7C CLOUDS 7/8 ST	10	14.61	33.397			24.810	333.2
77	90	26/01/81 2153GMT 33 43.3N 123 38.0W WEATH 2 BOTTOM 3926M WIND 230 15 KT WAVES 270 09 10 BAR 1017.2MB DRY 15.3C WET 14.0C CLOUDS 8/8 SC	10	14.60	33.294			24.736	320.2
80	51	25/01/81 1255GMT 34 27.1N 120 31.5W WEATH 0 BOTTOM 65M WIND 360 20 KT WAVES BAR 1014.8MB DRY 11.8C WET 8.4C CLOUDS	10	14.44	33.320			24.952	299.6
80	55	25/01/81 1007GMT 34 19.0N 120 48.1W WEATH 1 BOTTOM 768M WIND 360 30 KT WAVES BAR 1017.0MB DRY 12.8C WET 9.6C CLOUDS 3/8 CU	10	14.76	33.455			24.834	310.9
80	60	25/01/81 0614GMT 34 09.0N 121 09.0W WEATH BOTTOM 2222M WIND 360 27 KT WAVES BAR 1020.5MB DRY 12.9C WET 11.0C CLOUDS	10	14.84	33.503			24.854	309.0
80	70	25/01/81 0018GMT 33 49.0N 121 50.6W WEATH 1 BOTTOM 4117M WIND 350 23 KT WAVES 330 10 10 BAR 1022.2MB DRY 13.8C WET 12.2C CLOUDS 4/8 CU	10	15.26	33.405			24.687	324.9
80	80	24/01/81 1839GMT 33 28.9N 122 32.0W WEATH 1 BOTTOM 4213M WIND 010 16 KT WAVES 330 10 08 BAR 1026.0MB DRY 14.8C WET 10.8C CLOUDS 1/8 CU	10	14.80	33.331			24.730	320.8
80	90	24/01/81 1322GMT 33 08.9N 123 13.1W WEATH 1 BOTTOM 4213M WIND 360 13 KT WAVES 340 10 12 BAR 1025.3MB DRY 14.2C WET 10.3C CLOUDS 3/8 CU	10	16.12	33.373			24.470	345.5
82	46	23/01/81 0627GMT 34 16.2N 119 56.2W WEATH 8 BOTTOM 51YM WIND 270 15 KT WAVES BAR 1019.2MB DRY 13.0C WET 12.9C CLOUDS 8/8 NS	10	14.84	33.516			24.864	308.1
83	40.6	23/01/81 0149GMT 34 13.5N 119 24.7W WEATH 7 BOTTOM 34M WIND 140 09 KT WAVES BAR 1021.0MB DRY 16.0C WET 14.2C CLOUDS 7/8 AS	10	15.48	33.525			24.731	320.7
83	42	23/01/81 0300GMT 34 10.7N 119 30.5W WEATH 2 BOTTOM 157M WIND 100 18 KT WAVES BAR 1020.5MB DRY 15.3C WET 14.1C CLOUDS 8/8 AS	10	15.54	33.521			24.715	322.3
83	51	23/01/81 1050GMT 33 52.7N 120 08.0W WEATH 5 BOTTOM 95M WIND 020 03 KT WAVES BAR 1019.7MB DRY 13.6C WET 12.4C CLOUDS 8/8 SC	10	14.62	33.499			24.898	304.8
83	55	23/01/81 1306GMT 33 44.7N 120 24.6W WEATH 1 BOTTOM 1036M WIND 250 08 KT WAVES 250 11 09 BAR 1019.8MB DRY 14.8C WET 13.3C CLOUDS 3/8 CU	10	15.41	33.425			24.669	326.6
83	60	23/01/81 1614GMT 33 34.6N 120 45.3W WEATH 1 BOTTOM 1498M WIND 300 11 KT WAVES 260 11 10 BAR 1021.2MB DRY 14.8C WET 12.4C CLOUDS 3/8 CU	10	14.87	33.519			24.860	308.5
83	70	23/01/81 2134GMT 33 14.7N 121 26.6W WEATH 1 BOTTOM 3738M WIND 300 13 KT WAVES 260 10 10 BAR 1023.0MB DRY 14.7C WET 12.0C CLOUDS 2/8 CU	10	15.02	33.399			24.735	320.4
83	80	24/01/81 0237GMT 32 54.7N 122 07.7W WEATH 1 BOTTOM 4117M WIND 320 13 KT WAVES 260 10 10 BAR 1024.8MB DRY 14.4C WET 12.0C CLOUDS 4/8 CU	10	15.53	33.262			24.517	341.1
83	90	24/01/81 0757GMT 32 34.7N 122 48.7W WEATH 1 BOTTOM 3926M WIND 360 19 KT WAVES BAR 1025.2MB DRY 14.2C WET 11.8C CLOUDS 4/8 CU	10	16.28	33.455			24.497	343.0
87	33	22/01/81 1337GMT 33 53.4N 118 29.4W WEATH 2 BOTTOM 52M WIND 00 WAVES BAR 1019.0MB DRY 15.2C WET 14.5C CLOUDS 8/8 AS	10	15.20	33.460			24.742	319.6
87	35	22/01/81 1143GMT 33 49.4N 118 37.7W WEATH 1 BOTTOM 778M WIND 270 03 KT WAVES BAR 1018.9MB DRY 15.3C WET 14.4C CLOUDS 7/8 AS	10	15.28	33.469			24.732	320.6
87	40	22/01/81 0813GMT 33 39.4N 118 58.5W WEATH 1 BOTTOM 787M WIND 100 03 KT WAVES BAR 1020.1MB DRY 15.8C WET 14.8C CLOUDS 7/8 AS	10	15.64	33.507			24.681	325.4
87	45	22/01/81 0514GMT 33 29.4N 119 19.4W WEATH 1 BOTTOM 1701M WIND 250 05 KT WAVES BAR 1021.5MB DRY 16.0C WET 14.8C CLOUDS 3/8 SC	10	15.86	33.540			24.658	327.7
87	50	22/01/81 0239GMT 33 19.4N 119 39.8W WEATH BOTTOM 73M WIND 200 06 KT WAVES BAR 1020.3MB DRY 16.2C WET 14.8C CLOUDS	10	15.56	33.517			24.707	323.0
87	55	21/01/81 2350GMT 33 09.4N 120 00.4W WEATH 1 BOTTOM 1202M WIND 170 10 KT WAVES 250 09 10 BAR 1019.9MB DRY 16.3C WET 15.1C CLOUDS 6/8 CC	10	15.48	33.460			24.681	325.5
87	60	21/01/81 2105GMT 32 59.4N 120 21.0W WEATH 1 BOTTOM 558M WIND 180 09 KT WAVES 250 10 10 BAR 1019.9MB DRY 17.6C WET 15.9C CLOUDS 5/8 CS	10	15.59	33.455			24.653	328.2
87	70	21/01/81 1658GMT 32 39.4N 121 01.9W WEATH 7 BOTTOM 3926M WIND 180 11 KT WAVES 250 10 10 BAR 1019.0MB DRY 17.0C WET 15.0C CLOUDS 8/8 SC	10	15.89	33.414			24.556	337.1
87	80	21/01/81 1125GMT 32 19.4N 121 42.9W WEATH 1 BOTTOM 3926M WIND 180 14 KT WAVES 250 10 10 BAR 1018.6MB DRY 15.5C WET 14.8C CLOUDS 7/8 AS	10	15.52	33.561			24.596	333.6

LINE	STA		Z	T	S	10 METER DATA O2	O2 PCT	SIG TH	SVA
87	90	21/01/81 0636GMT 31 59.3N 122 23.5W WEATH BOTTOM 4117M WIND 160 14 KT WAVES BAR 1018.9MB DRY 16.9C WET 15.7C CLOUDS	10	15.34	33.341			24.620	331.3
90	28	19/01/81 1257GMT 33 29.1N 117 46.1W WEATH 1 BOTTOM 65M WIND 020 06 KT WAVES BAR 1020.4MB DRY 14.9C WET 13.0C CLOUDS 3/8 CI	10	15.61	33.526			24.703	323.4
90	30	19/01/81 1453GMT 33 25.1N 117 54.3W WEATH 1 BOTTOM 611M WIND 280 04 KT WAVES 290 04 10 BAR 1020.4MB DRY 15.0C WET 14.0C CLOUDS 4/8 SC	10	15.84	33.522			24.648	329.6
90	32	19/01/81 1901GMT 33 11.1N 118 23.1W WEATH 1 BOTTOM 1202M WIND 260 07 KT WAVES 280 04 08 BAR 1022.2MB DRY 15.5C WET 14.2C CLOUDS 4/8 AS	10	15.58	33.516			24.702	323.5
90	45	19/01/81 2352GMT 32 55.1N 118 56.1W WEATH 1 BOTTOM 1757M WIND 320 10 KT WAVES 300 09 13 BAR 1020.6MB DRY 16.9C WET 14.9C CLOUDS 7/8 SC	10		33.503				
90	55	20/01/81 0438GMT 32 39.1N 119 28.8W WEATH 1 BOTTOM 1369M WIND 270 07 KT WAVES 290 10 12 BAR 1020.8MB DRY 16.2C WET 15.2C CLOUDS 4/8 CI	10	15.88	33.537			24.651	328.3
90	60	20/01/81 0848GMT 32 25.1N 119 57.6W WEATH 1 BOTTOM 873M WIND 310 08 KT WAVES BAR 1019.8MB DRY 15.8C WET 15.1C CLOUDS 7/8 SC	10	15.00	33.508			24.823	311.9
90	70	20/01/81 1421GMT 32 05.1N 120 38.3W WEATH 2 BOTTOM 4022M WIND 100 05 KT WAVES 300 12 12 BAR 1018.0MB DRY 15.0C WET 14.8C CLOUDS 8/8 NS	10	15.24	33.455			24.730	320.8
90	80	20/01/81 2011GMT 31 45.1N 121 18.9W WEATH 2 BOTTOM 3926M WIND 200 10 KT WAVES 270 10 12 BAR 1019.9MB DRY 16.5C WET 15.9C CLOUDS 8/8 SC	10	15.94	33.484			24.597	333.5
90	90	21/01/81 0135GMT 31 25.2N 121 59.5W WEATH 2 BOTTOM 3757M WIND 160 12 KT WAVES 250 10 10 BAR 1018.2MB DRY 18.2C WET 16.0C CLOUDS 8/8 SC	10	16.64	33.525			24.468	345.8
93	26.7	19/01/81 0815GMT 32 57.4N 117 18.3W WEATH BOTTOM 63M WIND 090 05 KT WAVES BAR 1021.3MB DRY 15.1C WET 13.6C CLOUDS	10	15.68	33.528			24.689	324.7
93	28	19/01/81 0643GMT 32 54.7N 117 23.7W WEATH BOTTOM 593M WIND 270 07 KT WAVES BAR 1020.9MB DRY 16.7C WET 15.5C CLOUDS	10	16.02	33.503			24.593	333.9
93	30	19/01/81 0453GMT 32 50.7N 117 31.9W WEATH BOTTOM 778M WIND 300 05 KT WAVES BAR 1021.0MB DRY 16.2C WET 15.1C CLOUDS	10	15.98	33.503			24.602	333.0
93	35	19/01/81 0159GMT 32 40.7N 117 52.3W WEATH BOTTOM 667M WIND 320 09 KT WAVES BAR 1021.3MB DRY 17.3C WET 15.9C CLOUDS	10	16.08	33.494			24.573	335.8
93	40	18/01/81 2255GMT 32 30.8N 118 12.8W WEATH 1 BOTTOM 1572M WIND 300 08 KT WAVES 300 08 10 BAR 1020.5MB DRY 18.2C WET 16.3C CLOUDS 5/8 CI	10	15.84	33.491			24.625	330.8
93	45	18/01/81 1950GMT 32 20.8N 118 33.3W WEATH 1 BOTTOM 1757M WIND 270 04 KT WAVES 290 08 10 BAR 1022.0MB DRY 15.9C WET 14.7C CLOUDS 4/8 CS	10	15.80	33.547			24.677	325.9
93	50	18/01/81 1648GMT 32 10.8N 118 53.6W WEATH 1 BOTTOM 1498M WIND 320 06 KT WAVES 290 10 10 BAR 1022.0MB DRY 15.7C WET 14.3C CLOUDS 1/8 CI	10	15.79	33.539			24.673	326.3
93	55	18/01/81 1355GMT 32 00.8N 119 14.4W WEATH 0 BOTTOM 1763M WIND 320 04 KT WAVES 290 08 10 BAR 1021.3MB DRY 15.0C WET 13.3C CLOUDS	10	15.88	33.565			24.672	326.3
93	60	18/01/81 1045GMT 31 50.8N 119 34.3W WEATH 1 BOTTOM 2265M WIND 320 06 KT WAVES BAR 1020.5MB DRY 14.9C WET 13.3C CLOUDS 1/8 AC	10	15.60	33.409			24.615	331.8
93	70	18/01/81 0529GMT 31 30.7N 120 14.8W WEATH 1 BOTTOM 4117M WIND 310 06 KT WAVES 290 09 10 BAR 1019.5MB DRY 15.6C WET 13.1C CLOUDS 6/8 AC	10	15.86	33.398			24.548	338.1
93	80	18/01/81 0018GMT 31 10.8N 120 55.2W WEATH 1 BOTTOM 3917M WIND 320 06 KT WAVES 290 10 10 BAR 1020.0MB DRY 16.8C WET 14.3C CLOUDS 3/8 CU	10	15.96	33.462			24.575	335.6
93	90	17/01/81 1905GMT 30 50.7N 121 35.3W WEATH 1 BOTTOM 4117M WIND 080 09 KT WAVES 320 08 10 BAR 1020.0MB DRY 16.3C WET 14.2C CLOUDS 6/8 CU	10	16.64	33.535			24.476	345.1
97	29	15/01/81 0919GMT 32 17.4N 117 04.8W WEATH BOTTOM 52M WIND 080 04 KT WAVES BAR 1016.0MB DRY 15.0C WET 14.0C CLOUDS	10	15.82	33.541			24.667	326.8
97	30	15/01/81 1027GMT 32 15.4N 117 08.8W WEATH BOTTOM 58M WIND 120 02 KT WAVES BAR 1016.0MB DRY 15.0C WET 14.0C CLOUDS	10	16.22	33.548			24.582	334.9
97	32	15/01/81 1200GMT 32 11.4N 117 17.0W WEATH BOTTOM 1184M WIND 280 08 KT WAVES BAR 1016.0MB DRY 15.8C WET 15.0C CLOUDS	10	15.58	33.545			24.724	321.4
97	35	16/01/81 0514GMT 32 05.4N 117 29.1W WEATH 1 BOTTOM 1036M WIND 340 11 KT WAVES BAR 1015.2MB DRY 15.8C WET 14.9C CLOUDS 6/8 CU	10	16.28	33.517			24.545	338.5

LINE	STA		10 METER DATA Z	T	S	O2	O2 PCT	SIG TH	SVA
97	40	16/01/81 0815GMT 31 55.4N 117 49.5W WEATH 1 BOTTOM 1387M WIND 020 06 KT WAVES BAR 1014.9MB DRY 15.8C WET 14.0C CLOUDS 2/8 CU	10	15.64	33.493			24.671	326.4
97	45	16/01/81 1130GMT 31 45.4N 118 09.8W WEATH BOTTOM 1572M WIND 350 06 KT WAVES BAR 1015.3MB DRY 15.6C WET 14.0C CLOUDS	10	15.73	33.426			24.599	333.3
97	50	16/01/81 1453GMT 31 35.6N 118 30.1W WEATH 1 BOTTOM 2416M WIND 030 07 KT WAVES 280 06 12 BAR 1015.5MB DRY 15.3C WET 14.0C CLOUDS 2/8 CC	10	15.95	33.559			24.652	328.2
97	55	16/01/81 1825GMT 31 25.4N 118 50.3W WEATH 1 BOTTOM 780M WIND 280 04 KT WAVES 280 06 12 BAR 1017.0MB DRY 15.9C WET 14.3C CLOUDS 7/8 CS	10	15.80	33.535			24.667	326.8
97	60	16/01/81 2142GMT 31 15.4N 119 10.5W WEATH 1 BOTTOM 3642M WIND 290 07 KT WAVES 280 06 12 BAR 1015.3MB DRY 16.7C WET 15.1C CLOUDS 3/8 CU	10	15.74	33.434			24.603	332.9
97	70	17/01/81 0236GMT 30 55.4N 119 50.5W WEATH 1 BOTTOM 3642M WIND 020 10 KT WAVES BAR 1016.0MB DRY 16.5C WET 15.0C CLOUDS 2/8 CU	10	16.16	33.448			24.519	340.9
97	80	17/01/81 0809GMT 30 35.4N 120 30.8W WEATH 1 BOTTOM 3926M WIND 310 10 KT WAVES BAR 1019.9MB DRY 16.0C WET 14.6C CLOUDS 6/8 CU	10	16.09	33.456			24.541	338.8
97	90	17/01/81 1325GMT 30 15.3N 121 10.8W WEATH BOTTOM 4022M WIND 030 05 KT WAVES 280 08 08 BAR 1018.6MB DRY 15.9C WET 13.0C CLOUDS	10	16.82	33.608			24.490	343.7
100	29.2	15/01/81 0430GMT 31 42.8N 116 43.4W WEATH 1 BOTTOM 60M WIND 200 07 KT WAVES BAR 1017.9MB DRY 16.2C WET 14.8C CLOUDS 5/8 CU	10	15.98	33.521			24.616	331.6
100	30	15/01/81 0237GMT 31 41.0N 116 46.5W WEATH 1 BOTTOM 427M WIND 060 03 KT WAVES BAR 1017.3MB DRY 16.2C WET 14.9C CLOUDS 6/8 ST	10	16.18	33.531			24.578	335.2
100	35	14/01/81 2314GMT 31 31.2N 117 06.9W WEATH 1 BOTTOM 1295M WIND 320 06 KT WAVES 300 05 10 BAR 1017.0MB DRY 18.0C WET 16.2C CLOUDS 7/8 CU	10	16.61	33.528			24.477	344.9
100	40	14/01/81 1937GMT 31 21.2N 117 27.1W WEATH 1 BOTTOM 1849M WIND 320 05 KT WAVES 300 04 10 BAR 1019.7MB DRY 16.9C WET 16.0C CLOUDS 4/8 ST	10	16.56	33.529			24.490	343.7
100	45	14/01/81 1556GMT 31 11.0N 117 47.3W WEATH 0 BOTTOM 1707M WIND 320 08 KT WAVES 300 04 10 BAR 1018.7MB DRY 16.5C WET 15.5C CLOUDS	10	16.60	33.540			24.489	343.8
100	50	14/01/81 1155GMT 31 01.2N 118 07.3W WEATH 0 BOTTOM 1763M WIND 300 09 KT WAVES BAR 1018.9MB DRY 16.5C WET 15.4C CLOUDS	10	16.98	33.600			24.446	347.9
100	60	14/01/81 0634GMT 30 41.2N 118 47.5W WEATH 1 BOTTOM 2981M WIND 340 10 KT WAVES BAR 1020.9MB DRY 16.7C WET 15.5C CLOUDS 3/8 CU	10	16.59	33.489			24.452	347.3
100	70	14/01/81 0032GMT 30 21.3N 119 27.5W WEATH 1 BOTTOM 3757M WIND 100 05 KT WAVES 320 07 12 BAR 1018.4MB DRY 19.9C WET 16.8C CLOUDS 1/8 CU	10	16.37	33.561			24.558	337.2
100	80	13/01/81 1830GMT 30 01.1N 120 07.4W WEATH 1 BOTTOM 3546M WIND 330 08 KT WAVES 290 06 08 BAR 1021.3MB DRY 17.2C WET 16.9C CLOUDS 6/8 SC	10	16.06	33.454			24.546	338.3
100	90	13/01/81 1240GMT 29 41.2N 120 46.9W WEATH BOTTOM 3757M WIND 040 08 KT WAVES BAR 1017.6MB DRY 17.5C WET 16.0C CLOUDS	10	17.28	33.735			24.479	344.8
103	29	11/01/81 2233GMT 31 08.9N 116 20.5W WEATH 1 BOTTOM 22M WIND 210 07 KT WAVES 290 06 07 BAR 1013.0MB DRY 19.1C WET 16.4C CLOUDS 6/8 CU	10	15.26	33.569			24.813	312.9
103	30	11/01/81 2340GMT 31 06.9N 116 24.5W WEATH 1 BOTTOM 62M WIND 180 10 KT WAVES 270 06 07 BAR 1013.5MB DRY 19.5C WET 16.0C CLOUDS 7/8 SC	10	15.79	33.564			24.692	324.4
103	35	12/01/81 0225GMT 30 56.9N 116 44.6W WEATH 9 BOTTOM 1479M WIND 060 09 KT WAVES BAR 1016.0MB DRY 17.3C WET 16.0C CLOUDS 8/8 AS	10	16.30	33.557			24.571	336.0
103	40	12/01/81 0555GMT 30 46.9N 117 04.6W WEATH 1 BOTTOM 1943M WIND 140 15 KT WAVES 270 07 08 BAR 1015.5MB DRY 17.8C WET 17.0C CLOUDS 7/8 SC	10	16.81	33.607			24.491	343.6
103	45	12/01/81 0908GMT 30 36.9N 117 24.7W WEATH BOTTOM 2043M WIND 130 13 KT WAVES BAR 1014.5MB DRY 16.9C WET 16.8C CLOUDS	10	15.57	33.521			24.708	322.9
103	50	12/01/81 1303GMT 30 26.9N 117 44.7W WEATH 5 BOTTOM 2791M WIND 130 13 KT WAVES BAR 1014.6MB DRY 17.0C WET 16.5C CLOUDS	10	17.04	33.612			24.441	348.3
103	60	12/01/81 1820GMT 30 06.8N 118 24.6W WEATH 1 BOTTOM 3738M WIND 130 08 KT WAVES 300 08 10 BAR 1018.1MB DRY 19.0C WET 18.0C CLOUDS 7/8 NS	10	16.98	33.661			24.493	343.4
103	70	12/01/81 2338GMT 29 46.9N 119 04.4W WEATH 1 BOTTOM 3452M WIND 170 05 KT WAVES 310 11 12 BAR 1015.9MB DRY 18.8C WET 17.0C CLOUDS 7/8 SC	10	16.76	33.586			24.487	344.0

LINE	STA		10 METER DATA Z	T	S	O2	O2 PCT	SIG TH	SVA
103	80	13/01/81 0507GMT 29 26.9N 119 44.0W WEATH 1 BOTTOM 3546M WIND 350 09 KT WAVES BAR 1017.2MB DRY 16.3C WET 15.8C CLOUDS 7/8 SC	10	16.19	33.450			24.516	341.7
107	31	11/01/81 1710GMT 30 29.5N 116 05.8W WEATH 6 BOTTOM 22M WIND 100 03 KT WAVES 330 02 04 BAR 1016.4MB DRY 19.0C WET 17.8C CLOUDS 8/8 NS	10	15.74	33.592			24.725	321.3
107	32	11/01/81 1513GMT 30 27.5N 116 09.6W WEATH 6 BOTTOM 187M WIND 300 08 KT WAVES 330 02 06 BAR 1014.8MB DRY 16.8C WET 15.1C CLOUDS 8/8 NS	10	16.26	33.577			24.595	333.6
107	35	11/01/81 1242GMT 30 21.5N 116 21.8W WEATH 2 BOTTOM 1849M WIND 360 10 KT WAVES BAR 1014.5MB DRY 17.1C WET 14.9C CLOUDS 8/8 SC	10	16.37	33.583			24.575	335.6
107	40	11/01/81 0922GMT 30 11.5N 116 41.8W WEATH 2 BOTTOM 2602M WIND 330 11 KT WAVES BAR 1013.2MB DRY 17.6C WET 15.1C CLOUDS 8/8 ST	10	16.32	33.586			24.588	334.3
107	45	11/01/81 0559GMT 30 01.5N 117 01.7W WEATH 5 BOTTOM 2043M WIND 230 08 KT WAVES BAR 1014.5MB DRY 16.3C WET 15.8C CLOUDS 8/8 ST	10	16.41	33.485			24.490	343.6
107	50	11/01/81 0238GMT 29 51.3N 117 21.7W WEATH 2 BOTTOM 2791M WIND 030 11 KT WAVES 320 10 12 BAR 1012.2MB DRY 17.2C WET 16.3C CLOUDS 8/8 ST	10	16.12	33.548			24.605	332.7
107	60	10/01/81 2113GMT 29 31.5N 118 01.3W WEATH 2 BOTTOM 2322M WIND 020 06 KT WAVES 320 10 12 BAR 1014.3MB DRY 17.0C WET 15.6C CLOUDS 8/8 ST	10	16.96	33.614			24.461	346.4
107	70	10/01/81 1555GMT 29 11.4N 118 40.7W WEATH 1 BOTTOM 3169M WIND 010 12 KT WAVES 310 10 11 BAR 1015.5MB DRY 16.5C WET 15.3C CLOUDS 4/8 CS	10	16.94	33.653			24.496	343.1
107	80	10/01/81 1045GMT 28 51.5N 119 20.2W WEATH BOTTOM 3546M WIND 030 12 KT WAVES BAR 1015.7MB DRY 15.8C WET 14.0C CLOUDS	10	17.78	33.918			24.499	342.9
110	32.4	08/01/81 2050GMT 29 52.4N 115 49.5W WEATH 1 BOTTOM 39M WIND 310 12 KT WAVES 300 05 07 BAR 1017.5MB DRY 16.9C WET 14.5C CLOUDS 6/8 CU	10	16.20	33.552			24.590	334.1
110	35	09/01/81 0106GMT 29 47.2N 115 59.8W WEATH 1 BOTTOM 836M WIND 320 11 KT WAVES 300 08 07 BAR 1017.0MB DRY 15.7C WET 13.8C CLOUDS 3/8 SC	10	16.62	33.559			24.499	342.9
110	40	09/01/81 0507GMT 29 37.2N 116 19.6W WEATH BOTTOM 2227M WIND 340 09 KT WAVES BAR 1018.0MB DRY 16.0C WET 14.1C CLOUDS	10	17.31	33.625			24.387	353.5
110	45	09/01/81 0845GMT 29 27.2N 116 39.5W WEATH BOTTOM 502M WIND 350 10 KT WAVES BAR 1017.4MB DRY 15.3C WET 13.8C CLOUDS	10	16.36	33.482			24.500	342.8
110	50	09/01/81 1223GMT 29 17.0N 116 59.5W WEATH BOTTOM 3452M WIND 350 13 KT WAVES BAR 1017.2MB DRY 15.4C WET 13.9C CLOUDS	10	16.92	33.585			24.449	347.6
110	60	09/01/81 1809GMT 28 57.1N 117 38.7W WEATH 1 BOTTOM 3738M WIND 020 11 KT WAVES 020 02 07 BAR 1018.8MB DRY 16.7C WET 14.8C CLOUDS 3/8 CU	10	16.62	33.522			24.470	345.6
110	70	10/01/81 0004GMT 28 37.2N 118 18.0W WEATH 1 BOTTOM 3263M WIND 040 08 KT WAVES 300 06 07 BAR 1015.8MB DRY 16.8C WET 14.1C CLOUDS 7/8 CU	10	16.55	33.522			24.486	344.0
110	80	10/01/81 0535GMT 28 17.2N 118 57.1W WEATH BOTTOM 3926M WIND 040 06 KT WAVES 020 04 06 BAR 1016.9MB DRY 16.8C WET 14.5C CLOUDS	10	17.36	33.634			24.382	354.0

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