

## PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON

CALCOFI CRUISE 9809

STATION 77 60

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 43.6 N	121 33.1 W	27/ 9/98	1837 UTC	25 m		1151 - 1822 PST	1157 PST	1821 PST	642.8 mg C/m <sup>2</sup>

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE (mg C/m <sup>3</sup> )			
													1	2	MEAN	DARK
1	17.82	33.403	24.094	5.62	103.4	1.7	0.26	0.0	0.00	0.22	0.05	94. A	5.5	5.2	5.4	0.14
9	17.29	33.382	24.206	5.70	103.8	1.3	0.26	0.0	0.00	0.38	0.12					
18	16.53	33.361	24.368	5.84	104.8	1.4	0.28	0.0	0.00	0.46	0.14	33.	13.2	12.0	12.6	0.16
26	16.45	33.376	24.398	5.86	105.0	1.9	0.29	0.0	0.00	0.44	0.15					
34	16.09	33.383	24.486	5.91	105.1	1.8	0.30	0.0	0.00	0.90	0.30	12.	19.0	14.1	16.5	0.12
43	13.61	33.234	24.905	5.65	95.5	3.6	0.54	2.7	0.11	2.78	1.07					
52	12.37	33.330	25.224	5.02	82.7	8.7	0.92	9.0	0.09	0.75	0.73	4.1	4.8	4.8	4.8	0.06
59	12.12	33.414	25.337	4.63	75.9	10.5	1.03	11.0	0.05	0.40	0.60					
67	11.84	33.502	25.458	4.30	70.1	13.3	1.22	13.9	0.04	0.41	0.58	1.6	1.1	1.0	1.1	0.03
81	11.15	33.599	25.660	3.83	61.6	17.0	1.45	17.5	0.02	0.15	0.28					
95	10.67	33.649	25.784	3.68	58.6	18.5	1.52	18.7	0.02	0.09	0.16	0.29	0.02	0.02	0.02	0.02

RV NEW HORIZON

CALCOFI CRUISE 9809

STATION 77 100

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 23.3 N	124 19.7 W	26/ 9/98	1754 UTC	32 m		1205 - 1830 PST	1208 PST	1832 PST	190.0 mg C/m <sup>2</sup>

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE (mg C/m <sup>3</sup> )			
													1	2	MEAN	DARK
1	18.03	33.131	23.835	5.59	103.1	1.7	0.27	0.1	0.00	0.14	0.03	95. A	2.3	2.2	2.3	0.10
12	17.99	33.128	23.843	5.54	102.1	1.7	0.27	0.1	0.00	0.13	0.04					
25	17.95	33.124	23.850	5.53	101.8	1.6	0.27	0.1	0.00	0.15	0.03	30.	2.7	2.7	2.7	0.10
34	17.81	33.108	23.872	5.62	103.2	1.6	0.27	0.1	0.00	0.17	0.04					
44	16.71	33.098	24.125	5.76	103.5	1.7	0.31	0.1	0.00			12.	2.9	2.8	2.8	0.06
56	16.74	33.468	24.403	5.88	106.0	1.8	0.21	0.1	0.00	0.34	0.15					
67	15.45	33.437	24.672	5.90	103.6	2.0	0.23	0.0	0.00	0.38	0.07	4.0	1.3	1.4	1.4	0.03
78	14.98	33.473	24.802	5.92	103.0	2.2	0.22	0.0	0.00	0.31	0.21					
86	14.66	33.538	24.922	5.96	103.1	2.3	0.22	0.0	0.00	0.26	0.30	1.6	0.55	0.44	0.50	0.01
97	14.28	33.545	25.008	5.86	100.6	2.5	0.25	0.1	0.01	0.24	0.39					
109	13.76	33.555	25.124	5.58	94.8	3.6	0.35	1.1	0.13	0.20	0.35					
119	12.61	33.485	25.299	5.13	85.0	6.3	0.68	6.0	0.03	0.17	0.23	0.33	0.05	0.04	0.05	0.01

RV NEW HORIZON

CALCOFI CRUISE 9809

STATION 80 70

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
33 49.1 N	121 51.3 W	25/ 9/98	1824 UTC	18 m		1153 - 1826 PST	1157 PST	1828 PST	293.7 mg C/m <sup>2</sup>

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE (mg C/m <sup>3</sup> )			
													1	2	MEAN	DARK
1	17.82	33.433	24.117	5.56	102.3	1.7	0.26	0.1	0.00	0.27	0.07	92. A	3.5	3.3	3.4	0.15
13	17.82	33.433	24.118	5.59	102.9	1.7	0.26	0.1	0.00	0.29	0.05	33.	6.4	6.6	6.5	0.20
24	17.80	33.433	24.123	5.56	102.3	1.7	0.26	0.1	0.00	0.31	0.08	13.	4.8	4.8	4.8	0.17
37	17.62	33.426	24.161	5.56	101.9	1.8	0.27	0.1	0.00	0.56	0.22	4.3	4.1	4.2	4.2	0.10
48	14.48	33.459	24.898	5.34	92.0	5.5	0.65	4.6	0.19	1.65	0.86	1.7	5.6	5.9	5.8	0.11
58	12.08	33.561	25.458	4.23	69.4	13.4	1.23	13.9	0.07	0.71	0.75					
67	10.59	33.529	25.704	3.92	62.3	17.9	1.50	18.3	0.02	0.13	0.20	0.33	0.02	0.02	0.02	0.03

RV NEW HORIZON

CALCOFI CRUISE 9809

STATION 83 42

LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE
34 10.7 N	119 30.6 W	24/ 9/98	1755 UTC	18 m		1144 - 1819 PST	1151 PST	1823 PST	546.4 mg C/m <sup>2</sup>

DEPTH m	TEMP DEG C	SALINITY	SIGMA THETA	OXYGEN mL/L	OXY PCT	SI03 uM/L	P04 uM/L	N03 uM/L	N02 uM/L	CHL-A ug/l	PHAE0 ug/l	LIGHT PCT	UPTAKE (mg C/m <sup>3</sup> )			
													1	2	MEAN	DARK
1	19.17	33.396	23.754	5.77	108.9	1.2	0.17	0.1	0.00	1.38	0.12	92. A	14.2	13.3	13.8	0.26
8	19.12	33.394	23.765	5.75	108.5	1.3	0.18	0.1	0.00	1.31	0.17					
14	18.76	33.384	23.849	5.83	109.2	1.3	0.19	0.1	0.00	1.12	0.22	30.	16.3	19.5	17.9	0.27
25	17.32	33.375	24.194	5.75	104.8	2.3	0.28	0.4	0.02	1.51	0.41	12.	16.0	15.4	15.7	0.15
32	15.08	33.400	24.723	5.80	101.1	3.5	0.37	0.4	0.03	0.57	0.28					
37	14.04	33.459	24.990	5.18	88.5	5.1	0.56	2.4	0.22	0.39	0.33	4.3	2.7	2.9	2.8	0.05
48	13.41	33.482	25.137	4.92	82.9	6.9	0.74	6.0	0.11	0.28	0.41	1.7	1.2	0.79	0.99	0.03
57	12.99	33.507	25.240	4.66	77.9	8.5	0.87	8.3	0.06	0.22	0.39					
67	12.39	33.547	25.389	4.38	72.3	10.6	1.03	10.9	0.03	0.16	0.26	0.33	0.05	0.05	0.05	0.03

A) INCUBATION LIGHT INTENSITIES WERE 94, 31, 12, 3.8, 1.5, 0.30 PERCENT RESPECTIVELY.

## PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON			CALCOFI CRUISE 9809										STATION 83 70					
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE									
33 14.7 N	121 26.4 W	23/ 9/98	1803 UTC	20 m		1157 - 1823 PST	1158 PST	1822 PST	339.3 mg C/m <sup>2</sup>									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )					
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK		
1	17.70	33.439	24.151	5.68U	104.3	1.9	0.27	0.0	0.00	0.29	0.09	93. A	4.7	5.1	4.9	0.15		
15	17.60	33.439	24.175	5.56	101.9	1.9	0.26	0.0	0.00	0.34	0.07	32.	7.3	7.7	7.5	0.11		
28	17.56	33.429	24.178	5.61	102.7	1.8	0.27	0.0	0.00	0.42	0.09	12.	6.4	6.5	6.4	0.11		
42	14.03	33.101	24.716	5.97	101.7	2.4	0.36	0.0	0.00	0.90	0.45	4.0	6.0	6.3	6.2	0.12		
48	13.59	33.158	24.850	5.87	99.1	2.8	0.45	1.0	0.25	1.16	0.74							
54	13.19	33.145	24.921	5.66	94.8	3.2	0.53	1.9	0.43	0.84	0.59	1.6	2.0	1.7	1.9	0.05		
65	12.19	33.121	25.096	5.26	86.2	6.0	0.72	5.6	0.08	0.29	0.41							
75	11.36	33.318	25.403	4.56	73.5	11.0	1.09	11.9	0.02	0.13	0.24	0.32	0.05	0.05	0.05	0.02		

RV NEW HORIZON			CALCOFI CRUISE 9809										STATION 83 110					
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE									
31 55.0 N	124 9.6 W	22/ 9/98	1802 UTC	42 m		1208 - 1831 PST	1210 PST	1833 PST	224.3 mg C/m <sup>2</sup>									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )					
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK		
1	19.15	33.572	23.893	5.39	101.8	1.9	0.23	0.0	0.00	0.08	0.01	96. A	1.7	1.7	1.7	0.06		
17	19.09	33.573	23.910	5.39	101.7	1.9	0.22	0.0	0.00	0.08	0.02							
32	19.09	33.600	23.931	5.40	101.9	1.8	0.21	0.0	0.00	0.10	0.01	31.	2.4	2.3	2.3	0.07		
45	19.36	33.830	24.039	5.40	102.6	1.8	0.19	0.0	0.00	0.16	0.03							
58	17.82	33.839	24.430	5.79	106.8	1.9	0.17	0.0	0.00	0.15	0.04	12.	2.0	1.9	2.0	0.08		
69	17.11	33.810	24.579	5.86	106.6	2.0	0.18	0.0	0.00	0.17	0.06							
78	16.87	33.848	24.665	5.77	104.5	2.0	0.18	0.0	0.00	0.19	0.09							
88	16.71	33.928	24.764	5.63	101.7	2.0	0.18	0.0	0.00	0.24	0.18	4.0	1.4	1.4	1.4	0.06		
97	16.59	33.991	24.840	5.57	100.4	2.2	0.18	0.0	0.00	0.22	0.35							
105	16.55	34.018	24.871	5.53	99.6	2.2	0.18	0.0	0.01	0.21	0.47							
115	16.25	33.997	24.924	5.57	99.7	2.4	0.18	0.0	0.05	0.21	0.40	1.5	1.1	0.99	1.0	0.01		
126	16.04	34.001	24.976	5.52	98.4	2.5	0.20	0.0	0.11	0.19	0.36							
136	15.83	34.008	25.029	5.42	96.3	2.7	0.24	0.5	0.11	0.14	0.26							
147	14.89	33.908	25.160	5.22	90.9	3.7	0.39	2.4	0.02	0.11	0.19							
156	14.11	33.839	25.272	5.18	88.8	4.7	0.49	3.8	0.02	0.07	0.18	0.33	0.04	0.04	0.04	0.02		

RV NEW HORIZON			CALCOFI CRUISE 9809										STATION 87 50					
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE									
33 19.5 N	119 40.2 W	20/ 9/98	1835 UTC	22 m		1154 - 1827 PST	1152 PST	1825 PST	461.8 mg C/m <sup>2</sup>									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )					
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK		
1	18.82	33.358	23.813	5.54	103.9	1.9	0.24	0.0	0.00	0.54	0.09	93. A	12.1	12.0	12.0	0.22		
9	18.63	33.354	23.858	5.63	105.2	1.8	0.24	0.0	0.00	0.54	0.09							
17	15.98	33.287	24.436	5.84	103.6	2.4	0.29	0.1	0.01	0.86	0.18	31.	18.9	18.8	18.9	0.24		
24	14.12	33.388	24.918	5.40	92.3	4.8	0.54	3.2	0.12	0.61	0.38							
30	12.98	33.462	25.207	4.94	82.5	7.5	0.78	7.0	0.11	0.39	0.44	12.	3.9	3.5	3.7	0.04		
39	12.49	33.500	25.332	4.71	77.9	9.6	0.93	9.3	0.12	0.32	0.40							
47	12.04	33.535	25.445	4.51	73.9	11.1	1.03	10.9	0.13	0.25	0.34	3.8	1.5	1.5	1.5	0.05		
54	11.61	33.574	25.556	4.28	69.5	13.3	1.17	13.2	0.10	0.16	0.24							
59	11.31	33.602	25.633	4.13	66.7	14.6	1.26	14.6	0.08	0.13	0.25	1.6	0.40	0.42	0.41	0.02		

RV NEW HORIZON			CALCOFI CRUISE 9809										STATION 87 80					
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE									
32 19.4 N	121 42.8 W	21/ 9/98	1753 UTC	28 m		1201 - 1830 PST	1200 PST	1834 PST	131.7 mg C/m <sup>2</sup>									
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )					
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK		
1	17.87	33.161	23.897	5.50	101.2	1.9	0.25	0.0	0.00	0.14	0.04	95. A	1.8	1.7	1.8	0.16		
11	17.84	33.156	23.901	5.53	101.7	1.9	0.25	0.0	0.00	0.13	0.03							
21	17.83	33.153	23.901	5.55	102.0	1.9	0.25	0.0	0.00	0.13	0.04	32.	2.5	2.8	2.6	0.10		
30	17.82	33.150	23.902	5.52	101.4	1.9	0.25	0.0	0.00	0.13	0.04							
38	17.82	33.155	23.906	5.55	102.0	1.8	0.25	0.0	0.00	0.15	0.03	12.	1.6	1.5	1.5	0.08		
50	17.82	33.152	23.904	5.53	101.6	1.7	0.25	0.0	0.00	0.14	0.04							
60	16.47	33.335	24.363	5.89	105.5	1.9	0.25	0.0	0.00	0.39	0.10	3.7	1.1	1.1	1.1	0.08		
67	15.74	33.316	24.514	5.93	104.7	1.9	0.25	0.0	0.00	0.22	0.13							
76	15.45	33.406	24.648	5.83	102.4	2.0	0.25	0.0	0.00	0.25	0.20	1.6	0.56	0.62	0.59	0.02		
86	15.27	33.558	24.805	5.67	99.3	2.4	0.26	0.1	0.02	0.25	0.41							
97	14.90	33.652	24.958	5.51	95.8	3.1	0.32	0.5	0.20	0.20	0.34							
104	14.51	33.643	25.035	5.35	92.3	3.7	0.38	1.7	0.18	0.19	0.36	0.33	0.05	0.04	0.05	0.01		

A) INCUBATION LIGHT INTENSITIES WERE 94, 31, 12, 3.8, 1.5, 0.30 PERCENT RESPECTIVELY.

## PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON		CALCOFI CRUISE 9809										STATION 90 28				
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE							
33 29.0 N	117 45.8 W	19/ 9/98	1842 UTC	13 m		1143 - 1838 PST	1145 PST	1818 PST	1092.7 mg C/m <sup>2</sup>							
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
1	18.69	33.339	23.831	6.21	116.2	2.6	0.21	0.1	0.00	1.78	0.06	89. A	43.3	41.4	42.3	0.46
9	18.44	33.318	23.878	6.41	119.3	2.8	0.20	0.1	0.00	2.49	0.06	35.	62.4	72.9	67.6	0.43
18	15.97	33.338	24.478	6.05	107.3	2.8	0.27	0.1	0.00	1.47	0.31	12.	21.6	21.2	21.4	0.75
28	14.83	33.317	24.713	5.19	90.0	5.2	0.53	0.2	0.05	2.07	0.42	3.7	9.3	9.5	9.4	0.41
36	14.42	33.456	24.908	5.43	93.4	4.3	0.46	1.4	0.12	0.55	0.33	1.4	1.7	1.8	1.8	0.04
42	14.15	33.478	24.982	5.24	89.7	5.1	0.56	2.6	0.18	0.49	0.36					
48	13.46	33.494	25.136	4.71	79.5	8.3	0.84	6.4	0.21	0.33	0.37	0.35	0.14	0.09	0.12	0.05

RV NEW HORIZON		CALCOFI CRUISE 9809										STATION 90 60				
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE							
32 24.4 N	119 57.8 W	18/ 9/98	1801 UTC	21 m		1153 - 1822 PST	1153 PST	1826 PST	307.2 mg C/m <sup>2</sup>							
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
1	18.01	33.262	23.940	5.54	102.2	2.0	0.24	0.1	0.00	0.22	0.05	93. A	2.3	2.2	2.2	0.12
16	18.01	33.265	23.943	5.54	102.2	1.9	0.24	0.1	0.00	0.24	0.07	31.	5.3	5.3	5.3	0.14
31	17.44	33.243	24.064	5.65	103.1	2.0	0.26	0.1	0.00	0.34	0.12	10.	5.3	5.4	5.3	0.11
45	15.35	33.243	24.544	5.77	101.0	2.7	0.31	0.3	0.02	0.81	0.58	3.7	6.2	6.3	6.3	0.08
51	14.86	33.256	24.660	5.73	99.4	2.9	0.34	0.5	0.03	0.85	0.61					
58	14.68	33.242	24.688	5.74	99.2	2.9	0.35	0.6	0.04	0.77	0.62	1.4	2.8	2.9	2.8	0.04
68	13.83	33.303	24.914	5.43	92.2	4.2	0.49	2.5	0.13	0.45	0.50					
78	12.94	33.506	25.250	4.86	81.1	7.6	0.78	7.3	0.05	0.20	0.35	0.33	0.09	0.09	0.09	0.02

RV NEW HORIZON		CALCOFI CRUISE 9809										STATION 90 90				
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE							
31 25.0 N	121 59.6 W	17/ 9/98	1910 UTC	26 m		1210 - 1831 PST	1203 PST	1833 PST	129.2 mg C/m <sup>2</sup>							
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
1	18.08	33.184	23.863	5.47	101.0	2.1	0.25	0.0	0.00	0.11	0.04	94. A	2.0	2.0	2.0	0.12
9	18.07	33.177	23.861	5.47	101.0	1.9	0.25	0.0	0.00	0.13	0.03					
20	18.04	33.176	23.868	5.48	101.1	1.8	0.25	0.0	0.00	0.12	0.03	31.	2.5	2.4	2.5	0.13
36	18.03	33.172	23.868	5.48	101.1	1.9	0.25	0.0	0.00	0.13	0.04	12.	1.6	1.5	1.5	0.12
46	17.95	33.168	23.885	5.51	101.5	1.9	0.25	0.0	0.00	0.19	0.07					
56	16.94	33.160	24.120	5.72	103.3	2.0	0.26	0.0	0.00	0.30	0.12	3.7	1.3	1.3	1.3	0.14
64	16.11	33.212	24.351	5.83	103.6	2.1	0.27	0.0	0.00	0.31	0.20					
70	15.53	33.310	24.556	5.85	102.9	2.0	0.27	0.0	0.00	0.34	0.27	1.6	0.75	0.67	0.71	0.04
80	15.34	33.385	24.656	5.79	101.5	2.1	0.26	0.0	0.00	0.31	0.39					
88	15.17	33.457	24.749	5.72	99.9	2.3	0.26	0.0	0.01	0.24	0.36					
97	14.65	33.598	24.970	5.44	94.1	3.4	0.34	1.1	0.18	0.18	0.29	0.33	0.05	0.06	0.06	0.01

RV NEW HORIZON		CALCOFI CRUISE 9809										STATION 93 26.7				
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE							
32 57.4 N	117 18.4 W	13/ 9/98	1821 UTC	20 m		1145 - 1825 PST	1145 PST	1823 PST	977.0 mg C/m <sup>2</sup>							
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
1	21.23	33.300	23.140	5.99	117.4	2.5	0.17	0.0	0.00	2.39	0.09	93. A	55.5	61.7	58.6	0.59
8	16.10	33.257	24.386	6.07	107.9	3.1	0.27	0.0	0.00	0.44	0.14					
15	15.10	33.279	24.625	5.78	100.7	3.3	0.35	0.0	0.00	0.53	0.19	32.	14.0	15.6	14.8	0.14
22	14.93	33.320	24.694	5.74	99.7	3.5	0.38	0.0	0.00	0.55	0.24					
27	14.66	33.384	24.801	5.71	98.7	3.6	0.39	0.0	0.01	0.99	0.43	13.	15.6	15.3	15.5	0.16
36	14.52	33.415	24.855	5.60	96.5	3.9	0.41	0.1	0.04	1.10	0.48					
43	14.37	33.472	24.931	5.24	90.1	5.1	0.53	0.9	0.19	1.18	0.42	3.7	6.3	6.7	6.5	0.37
55	14.00	33.496	25.027	4.78	81.6	7.5	0.74	4.4	0.42	0.39	0.35	1.5	1.4	1.3	1.3	0.07

A) INCUBATION LIGHT INTENSITIES WERE 94, 31, 12, 3.8, 1.5, 0.30 PERCENT RESPECTIVELY.

## PRIMARY PRODUCTIVITY CASTS

RV NEW HORIZON		CALCOFI CRUISE 9809										STATION 93 50				
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE							
32 10.8 N	118 53.7 W	14/ 9/98	1823 UTC	27 m		1150 - 1832 PST	1152 PST	1829 PST	349.8 mg C/m <sup>2</sup>							
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
1	20.25	33.475	23.535	5.25	101.2					0.20	0.04	94. A	6.4	5.5	5.9	0.08
11	20.18	33.467	23.547	5.26	101.2					0.21	0.05					
20	19.99	33.456	23.589	5.32	102.0	1.8	0.20	0.1	0.00	0.25	0.06	32.	5.3	5.3	5.3	0.12
38	16.07	33.465	24.553	6.11	108.7	2.2	0.28	0.1	0.00	0.42	0.22	12.	5.5	5.4	5.5	0.11
48	14.82	33.459	24.825	5.67	98.4	3.1	0.38	0.2	0.01	0.57	0.41					
57	14.21	33.480	24.971	5.37	92.0	4.1	0.50	1.3	0.12	0.66	0.50	3.9	3.3	3.7	3.5	0.04
66	13.41	33.459	25.120	5.02	84.6	6.2	0.70	5.6	0.20	0.50	0.50					
74	13.44	33.531	25.170	4.78	80.6	6.6	0.77	6.2	0.27	0.43	0.37	1.5	1.1	1.1	1.1	0.02
83	12.69	33.566	25.346	4.36	72.4	9.5	1.00	10.3	0.14	0.28	0.32					
91	12.08	33.601	25.490	4.10	67.3	11.9	1.18	12.9	0.06	0.20	0.23					
102	11.63	33.633	25.599	3.91	63.5	13.7	1.27	14.6	0.04	0.16	0.19	0.30	0.02	0.02	0.02	0.03

RV NEW HORIZON		CALCOFI CRUISE 9809										STATION 93 80				
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE							
31 10.1 N	120 55.7 W	15/ 9/98	1826 UTC	23 m		1156 - 1834 PST	1159 PST	1838 PST	270.2 mg C/m <sup>2</sup>							
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
1	17.70	33.278	24.027	5.54	101.6	2.3	0.28	0.1	0.00	0.22	0.04	94. A	4.8	5.1	5.0	0.22
18	17.53	33.299	24.085	5.58	102.0	2.2	0.27	0.1	0.00	0.28	0.08	30.	5.2	5.4	5.3	0.11
32	17.22	33.288	24.151	5.59	101.6	2.2	0.29	0.1	0.00	0.43	0.16	12.	5.3	5.5	5.4	0.10
40	16.43	33.239	24.298	5.72	102.3	2.3	0.30	0.1	0.00	0.45	0.27					
48	14.94	33.134	24.549	5.93	102.9	2.4	0.32	0.1	0.01	0.57	0.36	4.1	2.7	2.9	2.8	0.04
56	14.47	33.204	24.703	5.85	100.6	2.6	0.33	0.3	0.08	0.50	0.40					
62	14.73	33.366	24.773	5.75	99.5	2.7	0.28	0.3	0.04	0.35	0.39	1.6	0.85	0.91	0.88	0.01
75	14.40	33.432	24.895	5.76	99.1	2.8	0.26	0.2	0.04	0.26	0.27					
87	13.46	33.400	25.065	5.33	89.9	4.8	0.50	3.4	0.08	0.18	0.24	0.30	0.03	0.03	0.03	0.02

RV NEW HORIZON		CALCOFI CRUISE 9809										STATION 93 120				
LATITUDE	LONGITUDE	DAY/MO/YR	CAST TIME	SECCHI	FOREL	INCUBATION TIME	LAN	CIVIL TWILIGHT	INTEGRATED VALUE							
29 50.8 N	123 35.9 W	16/ 9/98	1817 UTC	35 m		1205 - 1841 PST	1209 PST	1842 PST	183.8 mg C/m <sup>2</sup>							
DEPTH	TEMP	SALINITY	SIGMA	OXYGEN	OXY	SI03	P04	N03	N02	CHL-A	PHAE0	LIGHT	UPTAKE (mg C/m <sup>3</sup> )			
m	DEG C		THETA	mL/L	PCT	uM/L	uM/L	uM/L	uM/L	ug/l	ug/l	PCT	1	2	MEAN	DARK
2	19.82	33.718	23.832	5.29	101.3	2.2	0.19	0.0	0.00	0.13	0.03	92. A	2.4	2.5	2.5	0.10
14	19.81	33.714	23.833	5.29	101.3	2.2	0.19	0.0	0.00	0.13	0.03					
27	19.82	33.722	23.837	5.31	101.7	2.2	0.20	0.1	0.00	0.13	0.04	31.	2.4	2.5	2.5	0.07
38	19.84	33.729	23.837	5.31	101.7	2.2	0.19	0.0	0.00	0.14	0.04					
49	19.63	33.734	23.896	5.37	102.5	2.2	0.19	0.0	0.00	0.23	0.06	12.	2.3	2.3	2.3	0.06
62	17.39	33.746	24.463	5.77	105.5	2.3	0.17	0.0	0.00	0.22	0.08					
75	16.72	33.734	24.612	5.77	104.1	2.4	0.18	0.0	0.00	0.24	0.08	3.7	0.82	0.92	0.87	0.02
85	16.52	33.757	24.677	5.69	102.3	2.5	0.18	0.0	0.00	0.29	0.16					
95	16.49	33.834	24.743	5.63	101.2	2.4	0.18	0.0	0.00	0.25	0.21	1.6	0.45	0.45	0.45	0.01
104	16.34	33.885	24.817	5.54	99.3	2.7	0.19	0.1	0.01	0.20	0.29					
114	15.54	33.812	24.942	5.38	94.9	3.2	0.27	0.5	0.11	0.18	0.33					
122	15.10	33.796	25.027	5.22	91.2	4.0	0.37	1.9	0.08	0.16	0.34					
132	13.93	33.689	25.193	5.02	85.6	5.5	0.54	4.3	0.03	0.14	0.20	0.31	0.04	0.03	0.04	0.01

A) INCUBATION LIGHT INTENSITIES WERE 94, 31, 12, 3.8, 1.5, 0.30 PERCENT RESPECTIVELY.

